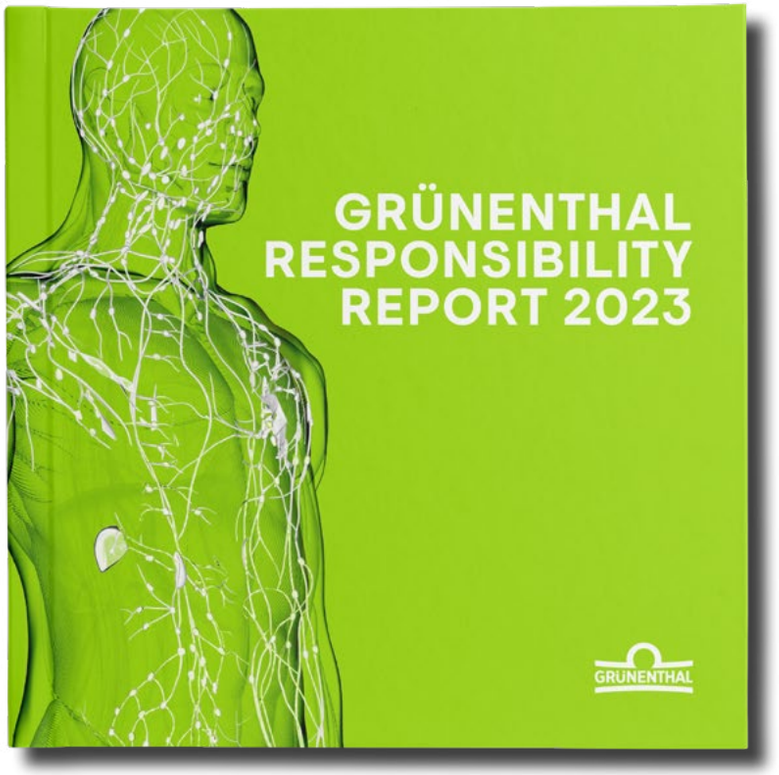
GRÜNENTHAL REPORT 2023/2024

GO TO ››

Our Grünenthal Report provides information about our key objectives and activities, as well as our recent business development highlights and financial performance.

GRÜNENTHAL RESPONSIBILITY REPORT 2023

GO TO ››

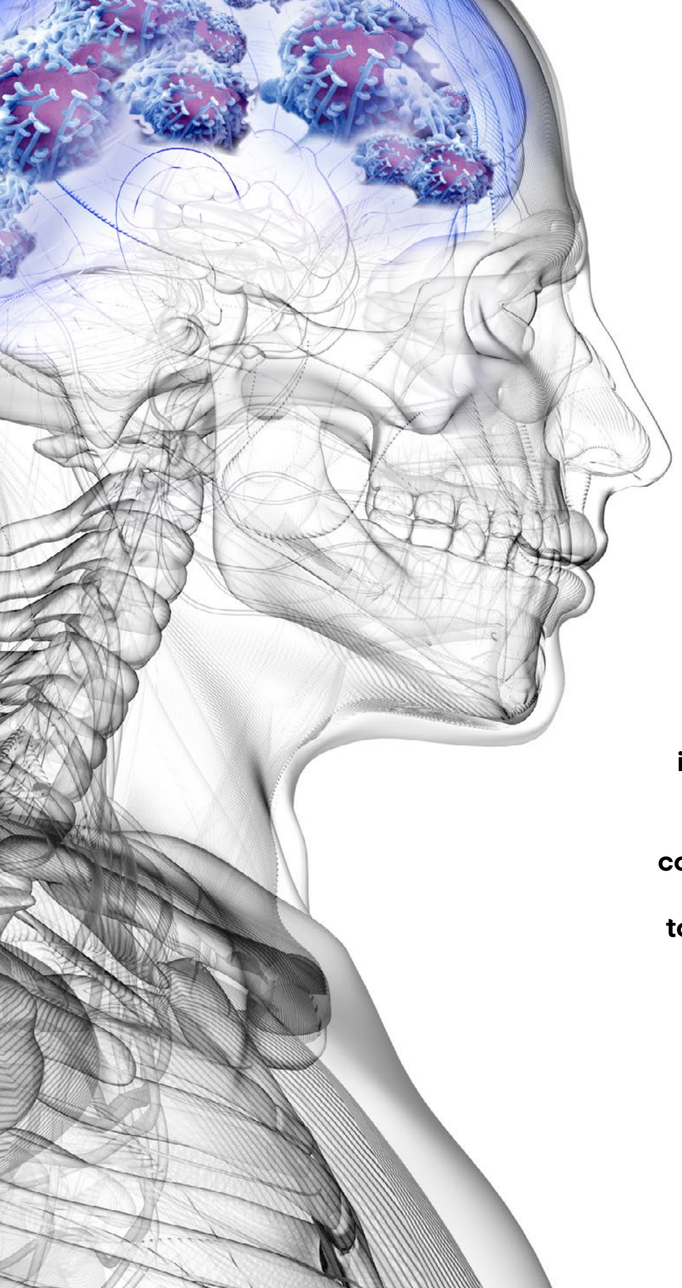


Our Responsibility Report shares insights into how we conduct our business responsibly, as well as details about our impact on society and the environment.

GRÜNENTHAL

GRÜNENTHAL REPORT 2023/2024

GRÜNENTHAL



CORPORATE PROFILE

Grünenthal is a global leader in pain management and related diseases. We have a long track record of bringing innovative treatments to patients worldwide. As a fully integrated pharmaceutical company, we cover the entire value chain – from drug research and development to commercialisation of portfolios with growth products and established medicines. We operate in accordance with the highest ethical and regulatory standards, and we focus our efforts on our vision of a World Free of Pain.

LETTER FROM THE CEO

Dear Friends and Partners,

One out of five people worldwide suffers from chronic pain.[1] The need for better pain treatments remains high and will further increase in the future. Grünenthal, with its vision of a World Free of Pain, is uniquely positioned to meet this demand and deliver the next generation of pain medicine.

Leveraging Grünenthal's transformative momentum

Our people have fundamentally transformed Grünenthal over the last few years: Grünenthal scientists have advanced our R&D pipeline, which is solely focused on bringing innovative, non-opioid treatment options to patients suffering from various forms of pain. Through strategic acquisitions, our portfolio has been complemented by established brands that have propelled Grünenthal's growth and often outperform the market in which they compete. Our medicines today help more patients than ever before as we are growing our presence in key pharmaceutical markets, especially the United States. Many new talents have joined Grünenthal, and we are recognised as a Great Place to Work™ in most of our offices worldwide. As a responsible business, we aim to positively impact our employees, partners and society, and we have been recognised with an outstanding ESG rating.

Exceptional business performance

This momentum put us in an excellent position to deliver outstanding financial performance: The 2023 revenue of €1.8 billion marks an all-time high and an increase of 10 percent compared to 2022. The adjusted EBITDA reached €427 million, close to last year's record level, despite continuous investments in growing our US business and advancing our pipeline. Grünenthal's portfolio underwent a significant transformation: the first generic versions of our key brand Palexia™ have entered major markets after the brand lost its exclusivity. Anticipating that typical erosion curve, we have future-proofed our portfolio ahead of the patent expiry by acquiring established brands like Crestor™, Nebido™ and the portfolio of established brands from Kyowa Kirin International. Already in 2023, the loss of revenue from Palexia™ was partly compensated by the strong growth of key brands like Qutenza™ and Vimovo™ worldwide. Our business in Latin America achieved 10 percent growth driven by our pain brands. In the US, we doubled the sales of Qutenza™, further increasing our footprint in this critical market.

Strategy for growth

Grünenthal's portfolio of established medicines has outperformed its respective markets. Since 2017, we have invested more than €2 billion in successful acquisitions of established brands that immediately contributed to our business results. Our teams have successfully integrated them into Grünenthal and created a manufacturing platform to deliver consistent patient supply with impactful cost improvement. In 2023, we continued that M&A journey by creating a joint venture with Kyowa Kirin that includes a portfolio of 13 brands across six therapeutic areas – with the majority of revenue from pain management medicines.

To finance our acquisitions and enhance the company's capital structure, we successfully placed a new €300 million bond, providing additional flexibility for implementing our strategy.

Developing the next generation of pain medicine

Through strategic acquisitions and our own research, Grünenthal has drastically progressed its R&D pipeline over the past years and in 2024 expects to have development projects in all three Phases of clinical development with three programmes in Phase III. That makes Grünenthal's pipeline industry-leading, focused on non-opioid innovations for the treatment of various forms of chronic and acute pain.
Our priority asset, resiniferatoxin (RTX), developed by Grünenthal for treating pain related to knee osteoarthritis, made important steps forward in 2023. We have finalised the patient enrolment for the two pivotal studies in our global development programme, and preparations for manufacturing and commercialisation are on track. Based on data from clinical Phases I and II, indicating significant pain relief and a favourable safety profile, RTX received the Breakthrough Therapy Designation from the US Food and Drug Administration (FDA). Our Phase III programme aims to enable market authorisation in the US, EU and Japan as of 2026. The unmet medical need is increasing, with more than 360 million people affected by knee osteoarthritis.[2] The global osteoarthritis market has significant potential. It is projected to have strong growth from $8.5bn in 2022 to $12.8bn in 2032.[3]

2023 also saw solid progress for other key pipeline projects that have the potential to replace opioid therapies, including our Phase III trial to achieve a US label extension for Qutenza™ to treat post-surgical neuropathic pain (PSNP). With our Glucocorticoid Receptor Modulator (GRM) programme, we develop clinical candidates with broad anti-inflammatory efficacy and the potential of significantly reduced side effects compared with available glucocorticoid-based therapies. The lead compound has successfully completed Phase I. We are currently planning for a clinical Phase II trial in 2024.

With our Nociceptin/Orphanin-FQ receptor peptide agonist (NOP) programme, we are pursuing the development of an oral treatment with a unique mechanism of action for chronic pain that offers a more favourable safety profile than current therapies. Our lead molecule successfully completed pre-clinical development in 2023 and received a positive decision to progress into clinical development.

Among those are candidates addressing voltage-gated sodium (Na_v) channels. Na_v channels are genetically and clinically well validated human pain targets known to play a key role in pain signalling. We have developed highly potent and selective candidates that have the potential to provide a significant analgesic effect across a number of chronic and acute pain conditions, adding to our industry-leading pipeline of non-opioid investigational medicines.

Conducting our business responsibly

Grünenthal aims to positively impact its employees, partners and society – while reducing the environmental footprint of its business activities. We now send zero waste to landfills from almost all offices worldwide, and we underlined our commitment to reducing our environmental footprint by signing the 'Science-Based Targets initiative', committing to significantly reduce CO_2 emissions. An increasing number of employees spend a 'Grünenthal Gives' day supporting local communities. Our best-ever ESG rating from June 2023 puts us among the top two percent in the pharmaceuticals subindustry and ahead of our key peers. Grünenthal's 'low risk' rating confirms our strong focus on corporate responsibility and risk management.

As we strive to develop and add talent across the organisation, I am particularly proud that we welcomed Janneke van der Kamp as our new Chief Commercial Officer during 2023, responsible for further strengthening Grünenthal's commercial activities and growing our key brands.

On behalf of the Executive Board Team, I invite you to join us as we continue our efforts to move closer to our vision of a World Free of Pain.

Gabriel Baertschi
Chief Executive Officer

ABOUT US

We are proud to work for a World Free of Pain.

BY THE NUMBERS

Pain, especially chronic pain, places a significant burden on people and society. However, there is still an urgent and unmet medical need to relieve pain. Grünenthal is leading the search for more effective pain treatments to lift this heavy burden.

As a family-owned company, we have been providing innovative medicines for more than 75 years – and we are passionate about transforming the future of pain management. Our work in the last five decades has focused on developing, manufacturing and commercialising new pain treatments. We aim to strengthen our leadership in this field by creating innovative, non-opioid therapies. From research to distribution, our capabilities cover the entire value chain. Teams from Grünenthal also work closely with leading scientific organisations to generate more value for patients and healthcare systems. Acquisitions of established brands have played a key role in driving our company's profitability and growth. In turn, this helps secure our financial stability and enables us to reinvest in pain research. Grünenthal's strategy and culture are built around a deep commitment to conducting business responsibly.

Leadership position in pain-related markets*

#1

in Latin America** and Europe***

Products sold in around

100

countries

Solid revenue base

1.8

billion euro in 2023

Focus on innovation

160

priority patent applications filed in the last 10 years

Strong and capable team

4,400

employees worldwide

Long-standing commitment more than

75

years of developing innovative medicines for patients

Production capacities

5

manufacturing sites in Europe and Latin America

International R&D network

2

R&D sites – one R&D Unit in Aachen (Germany) and an Innovation Hub in Boston, (US)

* Including Anti-Calcitonin Gene-Related Peptides (CGRPs). Defined Pain Market incl.: Strong opioids, weak opioids (Codeine, Dihydrocodeine, Hydrocodone, Meptamizol, Nalbuphine, Tilidine, Tramadol), NSAIDs & plain Cox2 Inhibitors, oral solid Rx, Antimigraine Triptans, Lidocaine & Capsaicine Patches, Anti-epileptics & Anti-depressants with their respective share in Localized Neuropathic Pain acc. Rx information (Pregabalin, Gabapentin, Carbamazepin, Amitriptylin & Duloxetin). Accumulated evaluation of countries where Grünenthal is present through its own sales force:
** Argentina, Brazil, Central America, Chile, Colombia, Ecuador, Mexico, Peru
*** Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK.

OUR EXECUTIVE BOARD TEAM

Gabriel Baertschi
Chief Executive Officer

Gabriel joined Grünenthal in 2016 as Chairman of the Corporate Executive Board and CEO. As a biologist, his love of science and dedication to improving patients' lives led him to work for the pharma industry. His strong leadership and clear vision have enabled Grünenthal to transform its business. He has executed a diligent strategy with EBITDA-accretive acquisitions, a promising R&D pipeline and strong financial performance that has tripled the company value since 2017. Gabriel is a non-executive board member at DKSH, a Swiss stock-listed company where he serves on the Compensation and Remuneration and the M&A committees. He is a non-executive board member at MedXCell, a Swiss biotech company.

Jan Adams, MD
Chief Scientific Officer

Jan has more than 15 years of experience in healthcare and biopharmaceuticals, and took over the role of Chief Scientific Officer in 2020. Under his leadership, Grünenthal has transformed its R&D strategy and operating model, significantly strengthening its pipeline of highly innovative non-opioid pain assets. Jan joined Grünenthal in July 2017 as Head of Corporate Strategy and Portfolio Management, and has been instrumental in many transformational initiatives working at the interface between Strategy, Business Development, Research, Development and Commercial.

Janneke van der Kamp
Chief Commercial Officer

Janneke joined Grünenthal in 2023 as Chief Commercial Officer. She brings more than 20 years of experience in the pharmaceutical industry, including global leadership roles with a focus on product and portfolio strategy, and in launching and growing brands across several disease areas. At Grünenthal, Janneke is leading the commercial organisation to maximise growth of our current portfolio and prepare the launch of our pipeline assets, in order to improve patient care for people suffering from pain. She enjoys leading a diverse team and creating a collaborative culture where everyone can bring their best self to work.

Fabian Raschke
Chief Financial Officer

In his 15-year career, Fabian has a proven track record of success in projects ranging from completely modernising a company's Finance function to increasing efficiency, driving growth and taking advantage of the full range of financing models. Fabian joined Grünenthal in 2016 as Head Group Controlling, before assuming the role of Chief Financial Officer in 2019. He was pivotal in Grünenthal's move to the capital markets with the first bond placement in 2021. Fabian is also responsible for the realignment of the IT function, supporting our digital roadmap and substantially increasing our cyber defence capabilities.

OUR EXECUTIVE BOARD TEAM

Victor Barbosa
Head Global Operations

Since joining Grünenthal in 2006, Victor has worked across the organisation's supply chain and operations teams. With extensive experience in diverse markets, he has been instrumental in redefining Grünenthal's organisation of product supply. As Head Global Operations (GO), Victor is accountable for Grünenthal's product quality, cost and service to patients and customers worldwide. He leads around 2,100 people in the GO unit, spanning the full value chain of product supply, and is also accountable for Grünenthal's Contract Manufacturing Business.

Leen Hofkens
Head Global Human Resources

Leen joined Grünenthal in 2018 and has driven a high-performance culture where individuals can thrive and make an impact on Grünenthal's success. She was instrumental in launching the organisation's Values & Behaviours, which guide our decision-making and help shape the culture at Grünenthal. Leen also played a key role in strengthening the Performance, Development and Compensation approach. She is also passionately driving Grünenthal's Diversity and Engagement agenda and related activities.

Sebastian Köhler
General Counsel

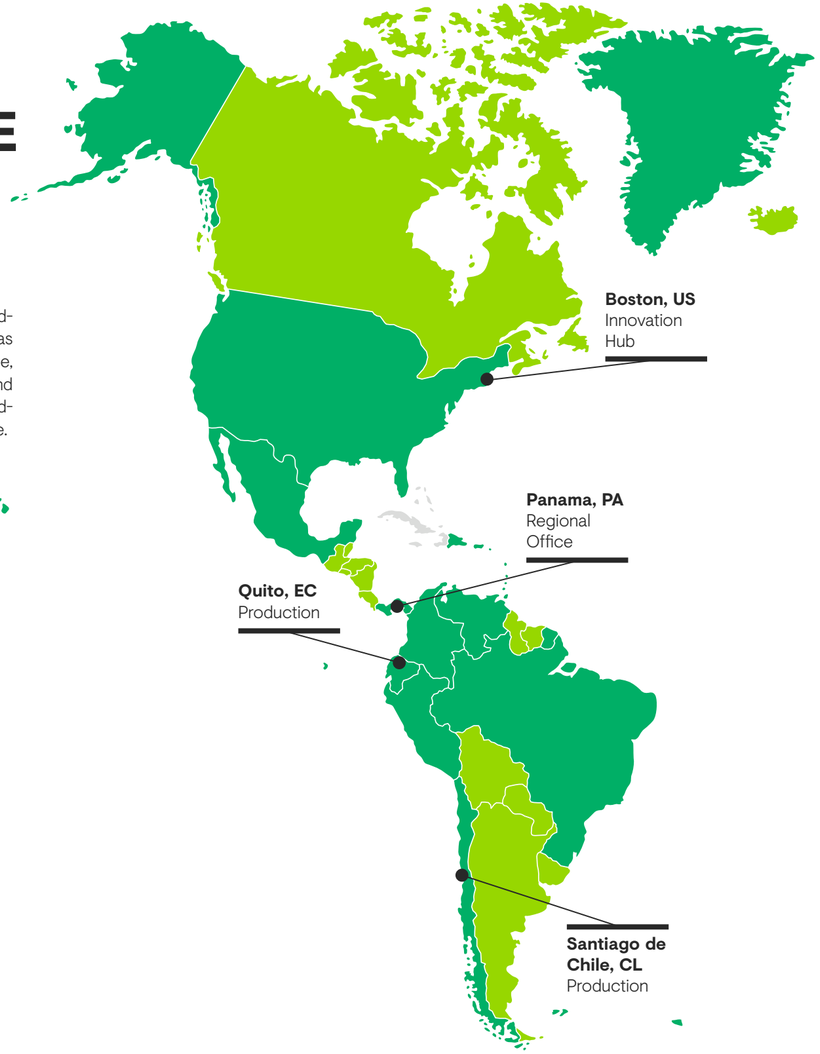
Sebastian joined Grünenthal in 2018, bringing with him more than 10 years of expertise in executive roles and strategic legal consultancy, to build and lead the General Counsel area, which comprises Legal, Responsibility, Compliance, Risk, Internal Audit, Patents and Trademarks, and Legal Operations. In his role, Sebastian ensures that Grünenthal receives best-in-class, in-house advice to support the sustainable implementation and evolution of its strategy. Examples include our strategic mergers and acquisitions such as the joint venture with Kyowa Kirin International in 2023.

Quentin Le Masne de Chermont
Head Corporate Strategy and Portfolio Management

Before joining Grünenthal in 2019, Quentin spent 8 years consulting companies in the healthcare sector on game-changing business strategies. His career began in research. He now drives our business goals at the intersection of Strategy, Commercial, R&D and Operations. Quentin has additional responsibility for deal assessment of established brand acquisitions.

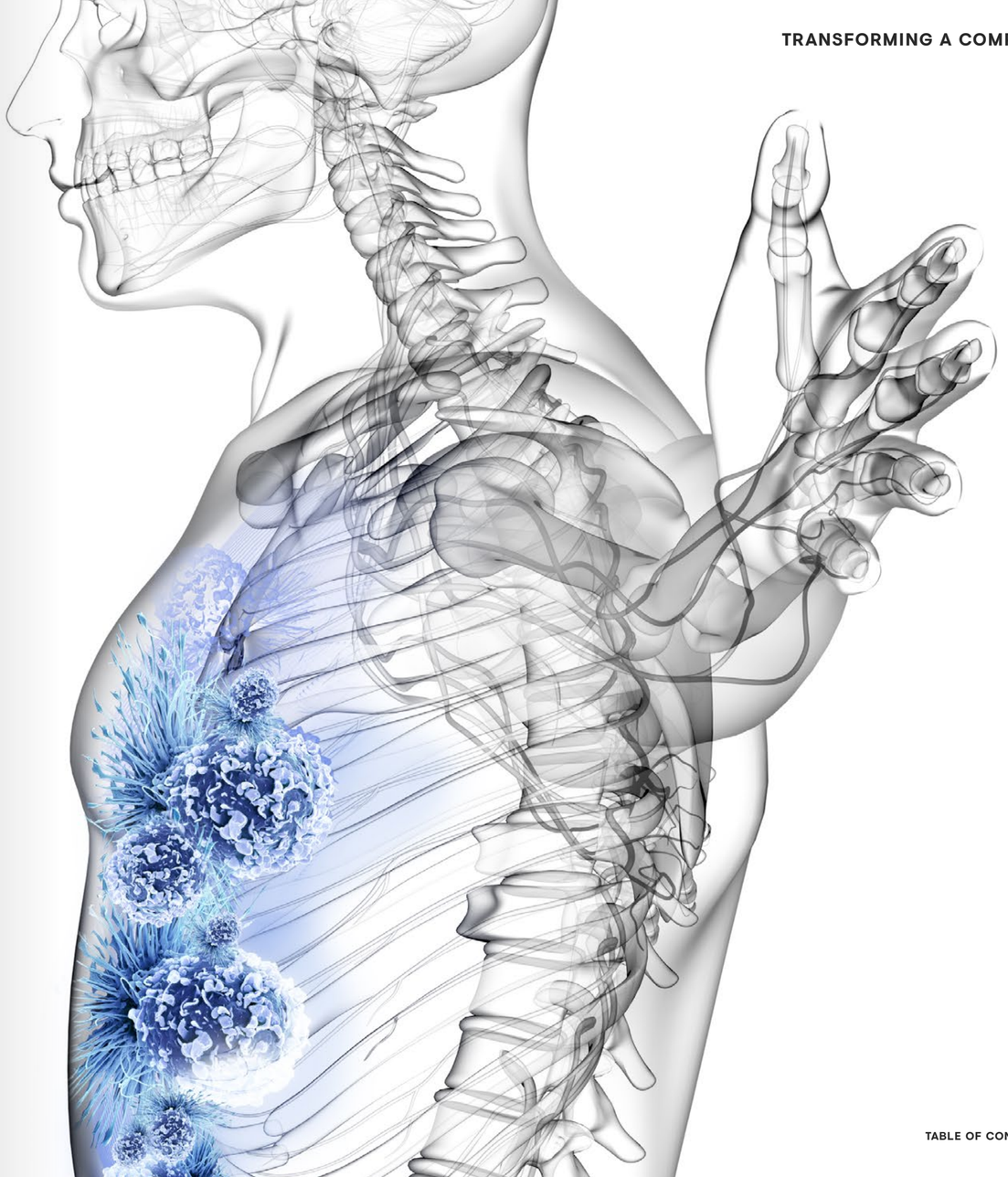
MARKET PRESENCE

Grünenthal is a global company headquartered in Aachen, Germany. It has affiliates in 27 countries across Europe, Latin America and the US. Patients and customers benefit from Grünenthal products in around 100 countries worldwide.



TRANSFORMING A COMPANY

Our path to a World Free of Pain.



STORY OF TRANSFORMATION

Since 2017, Grünenthal has made far-reaching changes that put us in a strong position to achieve future growth and reach more patients with life-changing treatments.

Our vision and strategic approach

Over the past few years, Grünenthal has fundamentally transformed its business. We have created solid growth, diversified our portfolio and built an innovation pipeline to provide patients with better, non-opioid treatments to manage their pain. And we have evolved our culture to make Grünenthal an attractive workplace for international talents. Today, Grünenthal touches the lives of millions of patients worldwide with innovative treatments that can give patients the quality of life they deserve.

Transformation milestones since 2017

Financial growth
More than tripled company value, entered debt capital market and received favourable credit ratings.

R&D transformation
Built promising R&D pipeline with projects in all three Phases of clinical development and innovative pre-clinical platforms.

M&A
Closed successful acquisitions outperforming benchmark M&A in the pharmaceutical market, with total expected deal value of more than €2.0 billion since 2017.

Patient supply
Continued reliable supply of medicines despite strong headwinds in recent years.

Latin America
Focused promotion on innovative products in pain for better profitability and sustainable growth.

US presence
Fully represented in the USA with our research site Boston Innovation Hub and our commercial affiliate Averitas Pharma.

Inclusive culture and responsible business
Became a workplace with winning culture, ensured highest standards for conducting business responsibly.

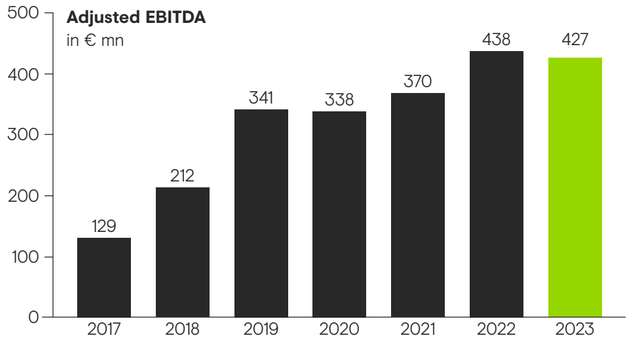
> The transformative momentum we have built over the last few years positions Grünenthal to further propel our growth strategy.

Gabriel Baertschi
Chief Executive Officer

Financial growth

Our company has achieved remarkable progress with its financial performance since 2017. Grünenthal's profitability, measured by adjusted EBITDA, has more than tripled during the last half-decade. Our company value is now more than three times higher, in terms of our equity market value and operating cash flow. Grünenthal has successfully entered the capital market with multiple bonds yielding strong investor demand. Three major independent credit rating agencies regularly assess Grünenthal and have confirmed our solid financial position.

Grünenthal's business results 2017-2023



Driving innovation in pain

Since 2017, we have dramatically expanded our innovation pipeline. Several exciting candidates are making their way through the development process. This growing pipeline of innovative investigational medicines reflects the success of our R&D strategy launched in 2019. It has created a modern operating model that enables our scientists to pursue high-potential assets in a modality-agnostic manner. Since adopting this new setup, we have become a more diverse and international organisation, with a global approach that includes partnerships with organisations who share our passion for scientific progress. As part of this approach, we set up our Innovation Hub in Boston in 2020. It establishes a centre of excellence for pain research, where our experts can identify and develop promising external innovation opportunities by collaborating with institutions in the Boston area, one of the world's largest life science hotspots.

Pipeline development 2019-2024

2019	RESEARCH/ PRE-CLINICAL	PHASE I	PHASE II	PHASE III
Qutenza™ LCM				
RTX (Resiniferatoxin)				
MPC-06-ID* (Rexlemestrocel-L)				
GRM (Glucocorticoid Receptor Modulator)	Chronic inflammatory diseases			
NOP (Nociceptin/Orphanin Peptide Receptor Agonist)	Chronic pain			
Further research projects	Acute and chronic pain			

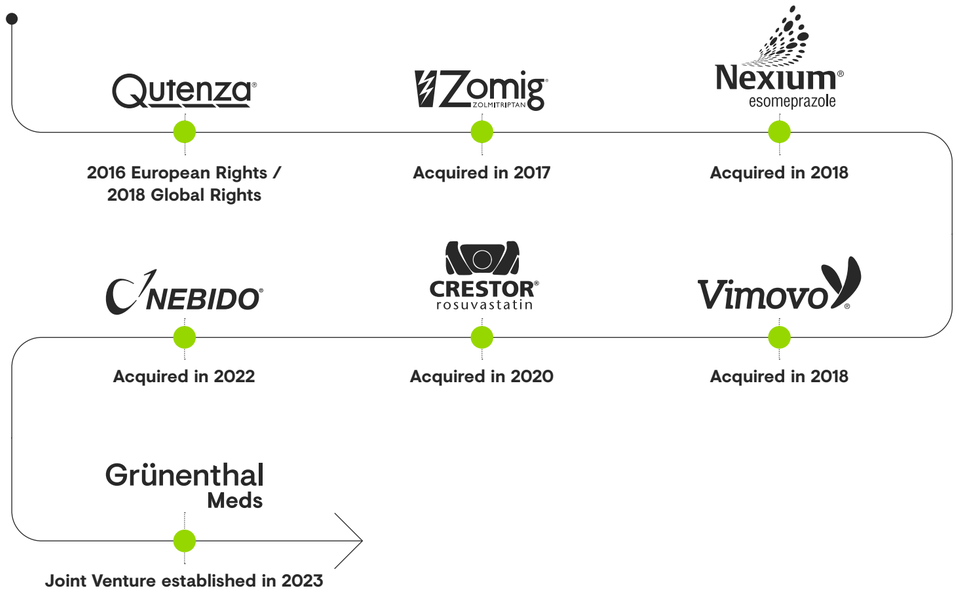
2024	RESEARCH/ PRE-CLINICAL	PHASE I	PHASE II	PHASE III
Qutenza™ LCM	Post-surgical neuropathic pain			
RTX (Resiniferatoxin)	Osteoarthritis knee pain			
MPC-06-ID* (Rexlemestrocel-L)	Chronic back pain			
GRM (Glucocorticoid Receptor Modulator)	Chronic inflammatory diseases			
NOP (Nociceptin/Orphanin Peptide Receptor Agonist)	Chronic pain			
Further research projects	Acute and chronic pain			

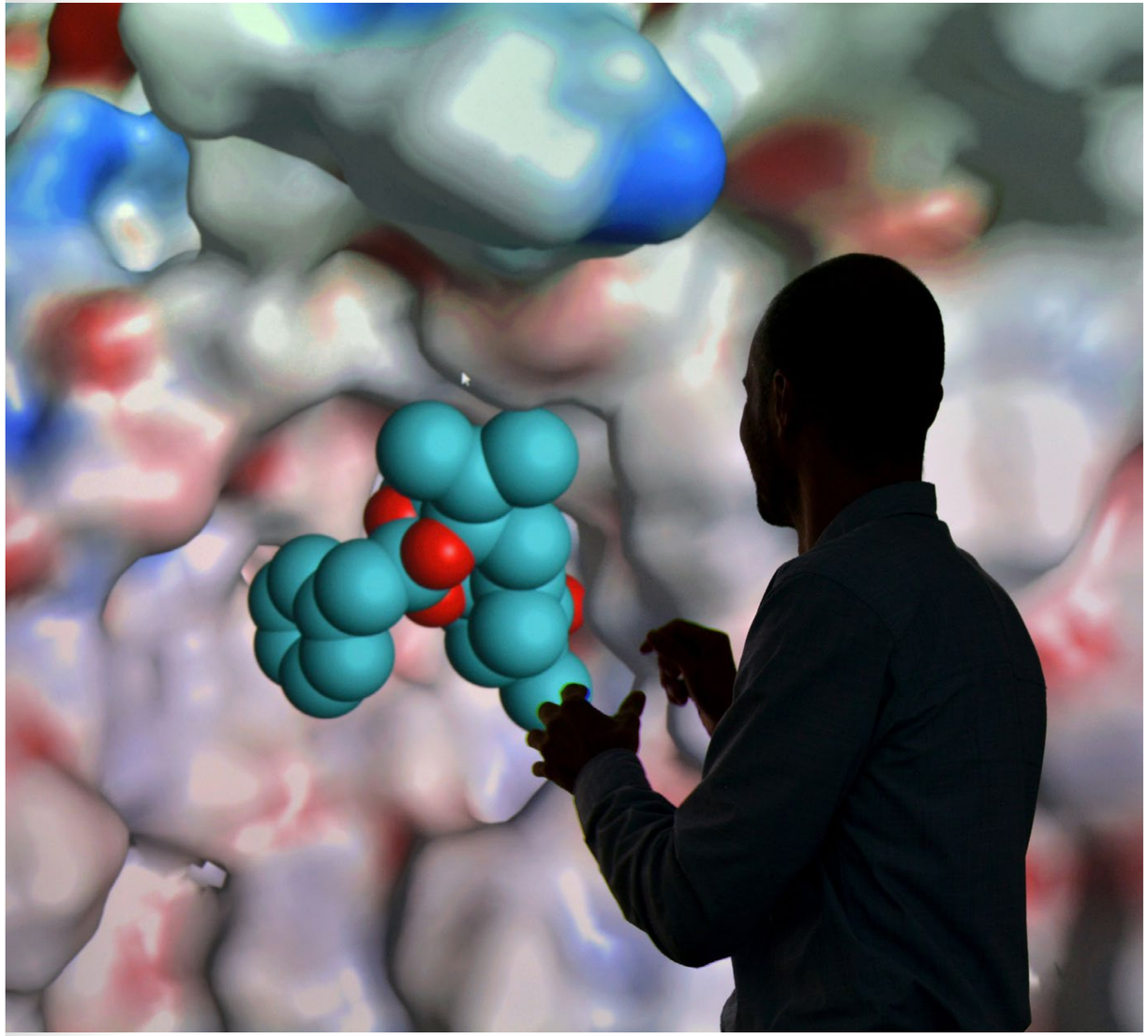
* Collaboration with Mesoblast

The right deals

Mergers and Acquisitions (M&A) are a key driver of our growth strategy. Our M&A strategy has increased profitability and diversified Grünenthal's brand portfolio. Since 2017, Grünenthal has invested more than €2 billion in successful acquisitions of established brands that immediately contributed to our business results. We also expanded our portfolio of established brands through a joint venture collaboration with Kyowa Kyrin, which gives Grünenthal access to 13 life-changing brands across six therapeutic areas.

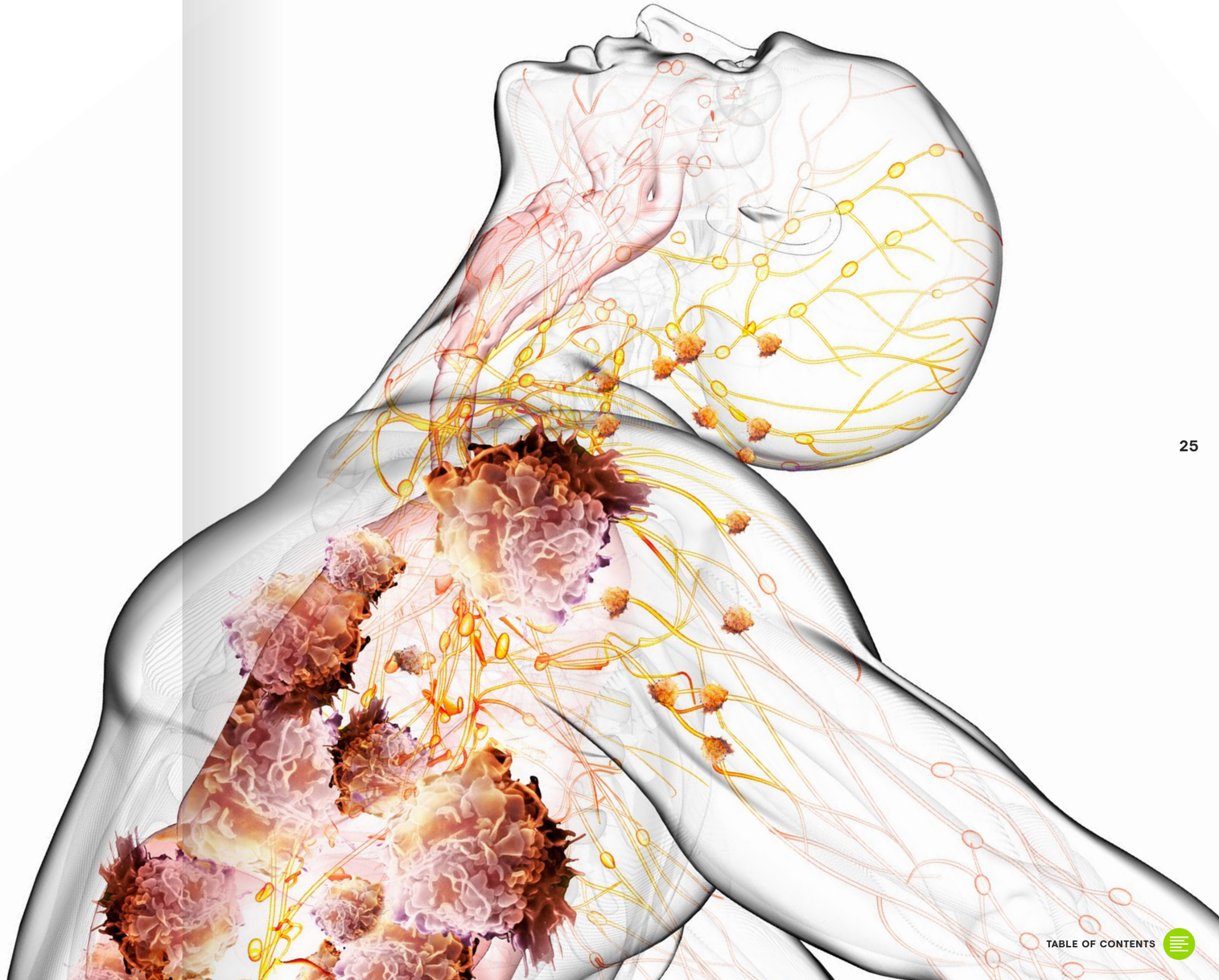
Grünenthal's experts around the globe join forces across functions to maximise the return on our investments by integrating new products and businesses into our company quickly and effectively. This begins with our due diligence approach, where we evaluate possible targets with a focus on potential synergies in our production, logistics and commercial activities. Our teams actively strive to reduce costs and generate additional value from all brands at every stage in the product life cycle. And we strongly focus on identifying deals for brands that will make an immediate positive contribution to profitability and cash flow.





STRATEGY AND FINANCIALS

A strong corporate strategy is driving the transformation of Grünenthal and our financial performance is a clear indication that we are heading the right direction.



MOVING CLOSER TO OUR VISION

We are committed to our vision of a World Free of Pain.
Our company's strategy is designed to bring that vision to life.

The five pillars of our corporate strategy

1. Innovation
Be a leading innovator in pain treatments to address critical unmet medical needs, with a focus on non-opioid treatments.

2. Growth
Drive the commercial success of our growth brands and evolve our go-to-market model towards digital and omnichannel approaches.

3. Acquisitions
Complement our portfolio with deals for established brands, irrespective of therapeutic area.

4. Efficiency
Drive profitability through efficiencies across the value chain and manufacture at the best safety, quality and cost level.

5. People
Invest in building capabilities of our people, and operate in line with the highest ethical and regulatory standards.

Our vision and strategy

Grünenthal introduced its vision of a World Free of Pain in 2017. This vision emphasises our focus on making life better for people around the globe. Our company touches the lives of millions of patients every year by providing innovative treatments to manage their pain.

We are striving to achieve our vision by pursuing two key strategic approaches. First, we are targeting organic growth by focusing our R&D activities on pain management. Second, we are tapping into inorganic growth by acquiring assets that strengthen our established brand portfolio – no matter which therapeutic area. These deals significantly boost our profitability, which enables us to continue investing in pain innovation.

Our corporate strategy is built on five pillars: innovation, growth, acquisitions, efficiency and people. All five elements are essential and closely linked.

Innovation

As a science-driven company, we focus on developing novel non-opioid treatments for pain therapy. We develop promising candidates through proof of concept and beyond, and take a world-leading role in creating pain treatments that address unmet medical needs. Grünenthal focuses on four key pain indications: peripheral neuropathic pain, chronic post-surgical pain, chronic low back pain and osteoarthritis.

Our proprietary Nociceptin/Orphanin FQ Peptide receptor (NOP) agonist franchise of molecules reflects many years of pioneering research. These molecules have a unique mechanism of action for treating chronic pain and are predicted to provide robust relief without the side effects that are commonly associated with opioids. You can explore further specific examples of our innovative R&D projects in the chapter a World Free of Pain.

We also selectively source early-stage and late-stage projects to complement our R&D pipeline. Grünenthal secured the global rights for resiniferatoxin (RTX) when it acquired Mestex AG in 2021. Phase III trials for RTX are underway. This attractive late-stage asset offers a potential non-opioid therapy option for patients suffering pain associated with osteoarthritis of the knee, which affects over 360 million people worldwide[2].

Sharing the costs and risks of late-stage development with partners is a key element of our R&D strategy. In March 2022, Grünenthal entered an agreement with NovaQuest Capital Management for the global clinical Phase III programme for RTX. This agreement contributes to securing the development costs for RTX while opening up potential for Grünenthal to advance promising pipeline assets into the clinic. It is Grünenthal's first ever strategic collaboration of this type.

Growth

Grünenthal is in a strong position to maximise business opportunities and build successful brands – now and in the future. We aim to drive further growth for Qutenza™ in all key markets, especially the US. Since 2020, this product has been approved for treating neuropathic pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults in the US. This offers a unique growth opportunity and allows us to reach more patients than with the original label for treating neuropathic pain associated with postherpetic neuralgia (PHN).

In August 2023, Grünenthal and Kyowa Kirin International (KKI) agreed a joint venture collaboration. It includes 13 established brands across six therapeutic areas, with the majority of revenue resulting from pain management medicines. As part of this deal, we created a new enterprise called Grünenthal Meds to market KKI's portfolio.

Our omnichannel engagement model gives customers a consistent and seamless experience whenever they engage with Grünenthal's brands, whether online or offline. Our Commercial team ran more than 240 omnichannel campaigns during 2023, including webinars and hybrid meetings for several brands. We have substantially expanded our use of channels that enable remote interaction and are placing an increasing focus on personalisation to better meet the needs of healthcare professionals.

Acquisitions

We keep growing our business through targeted acquisitions of established brands based on clearly defined acquisition criteria:

- Established brands with high brand loyalty and predictable, stable sales.
- Synergistic products with significant overlaps to our existing infrastructure and regulatory expertise, ideally in territories where Grünenthal has a commercial footprint.
- Acquisitions that enhance our portfolio diversification with products in areas with high medical needs.
- Immediate positive EBITDA and cash flow contributions, with an acquisition at attractive multiples, guaranteeing short payback periods and fast deleveraging.

We enforce a disciplined acquisition strategy supported by robust due diligence. Leveraging our many years of experience, we ensure fast and effective integration of acquisitions while maintaining an uninterrupted market supply. Partners benefit from our commercial, regulatory and manufacturing expertise to achieve valuable synergies.

Since 2017, Grünenthal has closed successful acquisitions with a total expected deal value of more than €2.0 billion.

Some Grünenthal acquisitions are also made through collaborations and joint venture arrangements, like our latest joint venture collaboration with KKI.

Synergies play an important role after the integration of acquired brands. Through cost-effective integration, we have achieved savings of €3.7 million per year through in-house bulk production and packaging for Zomig™ and €12.7 million per year through in-house packaging for Nexium™ and Vimovo™.

Efficiency

We are always looking for ways to boost efficiency throughout our value chain. Key ongoing projects include operational excellence programmes, leveraging digital technologies and automation, technical product re-development and direct spend optimisation. These improvements are integrated end-to-end in our manufacturing process – for our own medicines and for products we manufacture for other companies as a trusted supplier.

At all times, we apply strict measures to control costs and we follow a prudent financial policy that is supported by the long-term commitment of our shareholders.

People

Our employees are the key to our success – and our company's culture is the backbone of everything we achieve. We continued to make substantial progress on our cultural journey last year. We are certified as a Great Place to Work® in 24 entities across 19 countries. To further bolster our high-performance culture, we introduced additional opportunities for personal and professional development, including Learning Labs, the GO Academy and LinkedIn Learning.

We strongly believe diversity is the foundation of an innovative business. In 2023, we continued to make progress with our Diversity and Engagement Strategy, particularly around the areas of gender, and generational and cultural diversity. We will further progress our ambitions in this area in 2024.

We are committed to maintaining the highest ethical and regulatory standards in our business operations and our role as an advocate for the responsible use of our products – including medically necessary opioids. We have created a culture that gives our company an ethically minded and fully engaged workforce. This helps to ensure highly effective compliance processes.

In 2023, Grünenthal was attributed a low ESG risk. This places our company in the top two percent of the global pharmaceuticals subindustry. The latest assessment by Sustainalytics, a leading ESG risk rating provider, awarded Grünenthal even stronger scores than in 2022.

You can learn more about our approach in the chapters People and Culture, and Responsible Business.

A GREAT FIT FOR GRÜNENTHAL

Grünenthal Meds: A flying start for our new joint venture

Christoph Stolle,
Chief Executive Officer Grünenthal Meds

In 2023, Grünenthal entered a joint venture collaboration with Kyowa Kirin International, a Japan-based global specialty pharmaceutical company. The joint venture collaboration includes a portfolio of 13 brands across six therapeutic areas, with the majority of revenue resulting from pain management medicines. The new enterprise, branded as Grünenthal Meds, was launched in August 2023. Grünenthal owns a 51 percent share and will acquire the remaining share in 2026.

Find insights into the integration of the new medicine portfolio and the progress to bring that portfolio to patients worldwide in this conversation with Quentin Le Masne de Chermont, Head Corporate Strategy and Portfolio Management, and Christoph Stolle, Chief Executive Officer of Grünenthal Meds.

How does Grünenthal Meds fit into Grünenthal's overall strategy?

Quentin: Everything we do is about making life better for patients and building a strong future for our business. Grünenthal has a strong and well-balanced portfolio of established and growth brands – and we enrich that portfolio with M&A activities like this joint venture with KKI, which we now call Grünenthal Meds. It adds 13 brands across six therapeutic areas into our range of treatments. That makes it a great fit for our business and empowers Grünenthal to reach more patients around the globe.

Christoph: Grünenthal Meds is a strong fit for our strategy. It strengthens Grünenthal's capacity to invest into its future by channelling money into innovative R&D and further acquisitions too.

What was the process involved in agreeing this deal?

Quentin: It was a complex process – and we are still working hard to integrate Grünenthal Meds into every aspect of our company. We carefully planned the approach that is now bringing products and brands from KKI into Grünenthal Meds.

And we defined clear service agreements for both parties in the joint venture. It is an unusual deal because it comes via a joint venture instead of an immediate acquisition. The full acquisition of all shares will happen at the beginning of 2026. At that point, it will be very similar to our other established brand acquisitions.

Christoph: It was important that the spirit from that negotiation process continued into the phase of setting up the joint venture. The deal with KKI covers more than 300 stock keeping units (SKUs) that are commercialised in over 40 countries worldwide. The teams from Grünenthal and KKI worked on setting up legal entities, integrating Grünenthal's compliance framework, defining the right strategy for the transfer of marketing authorisations and agreeing on the best integration strategy. Success was only possible because we joined forces, embraced a solution-oriented mindset and maintain a constant focus on patients.

What are the next steps in the integration process?

Quentin: In 2024, we will further integrate the business into Grünenthal. We are on track with transferring marketing authorisations from KKI to Grünenthal, for example.

Christoph: It takes real sensitivity to bring together people and teams from different cultural backgrounds, and who are used to relying on different systems during their daily work. Everybody at Grünenthal Meds has experienced the enormous positive impact of teamwork and collaboration. I am sure those experiences will give us a strong foundation for the next steps in this exciting integration project.

We have already successfully migrated the commercial digital platforms into Grünenthal. In 2024 we will integrate the business of Grünenthal Meds in several European markets into Grünenthal.

This is exciting, yet very demanding work, which is only possible due to the tremendous team spirit created between the two companies.

Quentin Le Masne de Chermont, Head Corporate Strategy and Portfolio Management Grünenthal

A JOURNEY OF GROWTH WITH OUR PARTNERS

Our company has the vision of creating a World Free of Pain. By joining forces with like-minded companies, we are able to grant access to our products to more patients around the world.

Partner Business has defined a strategy of maximising the value of our brands on a global level by partnering our products in markets where we do not have a direct presence. João Simões, Head Partner Business, explains more in this interview.

Why is Partner Business important for Grünenthal?

João: Partner Business is a unit that expands the reach of our brands to more patients around the world by working with partners where Grünenthal has decided not to do it by itself. With Partner Business, Grünenthal can be a global company without the need to be directly present in all countries or business segments. This gives the company a lot of flexibility in the way we operate.

How does Partner Business work?

João: Partner Business tries to expand the value of our existing portfolio. When there is a benefit to partner our products in certain territories with other companies, Partner Business leads the out-partnering process and later the support to the launch and operations of our partners. By choosing the right partners and supporting them throughout the different stages of the brands' life cycle we are able to maximise the value for Grünenthal for a very long time.

What are the areas of interest for Partner Business?

João: Partner Business is interested in building a strong network of partners around the world that allow us to have a strong presence at a global scale. By working with partners we are able to work with the best companies in each specific market and segment. Main areas of interest for Partner Business are the launch of our most innovative portfolio in new geographies, managing our established portfolio through a strong network of partners and integrating the acquired assets in such network. After a couple of years where there was a clear focus on the last two, we are now focused on the geographical expansion of our most innovative portfolio, Qutenza™ and resiniferatoxin (RTX).

What contribution is Partner Business making to RTX?

João: RTX is currently the most exciting product in our pipeline and the main priority of our expansion. The partnership entered in 2022 with Shionogi for Japan was the first concrete example of the big potential of this product, with more than $500 million in potential consideration. Our Partner Business team will work closely together with the RTX team to understand the potential of RTX in additional markets and expand the access of patients to such a breakthrough innovation. Looking ahead, any innovations we develop in-house or acquire via M&A will offer even more growth possibilities. And the Partner Business team will be ready to work with our colleagues and partners to grab those opportunities.

Strong network

100

partners

Global partnerships

60

partner countries

Significant revenues

37%

of Group revenues (actual 2023 revenues) come from partnering and licensing

> "By partnering our brands with other like-minded companies, we are improving the access of patients to our therapies around the globe. The flexibility of the partnering model allows Grünenthal to focus more of its resources on the development of innovative therapies.

João Simões
Head Partner Business

STRONG FINANCIAL PERFORMANCE

Revenue growth across all product categories and regions enabled strategic investments into the future of our company during 2023.

Financial results enable investment

2023 was a strong year for Grünenthal. Revenue reached €1,819 million, an increase of 10 percent compared to 2022. Adjusted EBITDA reached €427 million, which is 3 percent lower than in the previous year. Grünenthal also made important strategic investments throughout 2023 to advance its R&D pipeline, continue its M&A strategy and grow the business in the United States.

Solid business performance

The 2023 results were made possible by strong revenue growth across all product categories and regions, despite headwinds from the loss of exclusivity of Palexia™ in Germany. Our teams also continued to exercise a proactive approach to cost management.
Revenue was driven by recent acquisitions such as Crestor™ and Nebido™, as well as positive developments in the continuing expansion of Qutenza™ in the US. Operational revenue from growth brands and established brands increased again. Overall, Grünenthal is making solid progress with its ambitious strategy for business growth.

Key brands such as Versatis™ and Vimovo™ grew faster than the market. Versatis™'s operational revenue reached €153 million (+€12 million; +9%) and Vimovo™'s operational revenue reached €78 million (+€12 million; +17%). Operational revenue from Qutenza™ reached €117 million (+€42 million; +55%). The surge in demand for this topical non-opioid treatment for various neuropathic pain conditions was particularly evident in the US, where the product is indicated for treating post-herpetic neuralgia and pain related to diabetic neuropathy of the feet. The neuropathic pain market is significant, with an estimated size of $4.5 billion in the US, which is the largest global neuropathic pain market.[4]

For information about the sales performance of our other brands, please see the table in the chapter a World Free of Pain.

Expanding our portfolio

In August 2023, we successfully completed a deal to enter a joint venture collaboration with Kyowa Kirin International (KKI). This deal covers KKI's established medicines portfolio, which comprises 13 brands across six therapeutic areas. In 2024, we will begin distributing all products through Grünenthal affiliates in seven European countries. Other markets will transition over time. The joint venture includes a network of partners in various territories worldwide.

Outlook

Our strong liquidity profile is supported by high cash generation, existing cash on the balance sheet and €500 million of Revolving Credit Facility. In April 2023, we successfully placed a new €300 million bond. This new financing will enhance our capital structure and provide additional flexibility for the implementation of our growth strategy.

Going forward, we will continue to finance our M&A strategy with our established funding mix. We will maintain our disciplined approach to acquiring established products with attractive multiples that contribute to EBITDA. Our financial policy is supported by our family shareholders and their long-term commitment to the sustainable growth of Grünenthal.

We anticipate further solid performance in 2024. Strong Qutenza™ growth is expected to continue and we will also see the first full-year contribution from Grünenthal Meds. However, generic erosion of Palexia™ will continue. Grünenthal will continue to invest into further growth, including optimisation projects in Latin America, as well as preparing our innovative knee osteoarthritis treatment resiniferatoxin (RTX) for potential market authorisation in 2026.

Solid financial position confirmed

Leading independent credit rating agencies have confirmed Grünenthal's solid financial position.

RATING AGENCY	GRÜNENTHAL	OUTLOOK
Fitch Ratings (March 2023)	BB	stable
Moody's Investors Service (April 2024)	B1	stable
Standard & Poor's (April 2023)	BB-	stable

Profit and loss statement*

IN € MILLION	ACTUAL 2022	ACTUAL 2023
Revenue**	**1,654**	**1,819**
Cost of sales***	-519	-625
Gross profit#	**1,134**	**1,194**
Marketing, Sales & Medical costs##	-479	-519
Core Research & Development cost	-164	-162
Other Costs	-238	-325
Depreciation Fixed Assets###	155	202
EBITDA	**408**	**390**
Adjusted EBITDA+	**438**	**427**
Earnings before taxes	**203**	**123**

* **Management view** Profit and loss statements (P&L) can be displayed in Accounting and Management view. Both P&Ls include the same information, but are designed to serve different needs. The Accounting P&L is used for reporting according to German Commercial Code (HGB) while the Management P&L is used for internal steering and tracking. Both views are similar for Revenue, Cost of sales and thus Gross profit. But they differ in terms of the recognition of depreciation on acquired product rights and medical affairs costs. Depreciation of acquired products rights are recognised in Management view as part of "other costs" whereas Accounting view shows it as part of "selling expenses". Medical commercial R&D costs comprise post approval product costs, e.g. for the maintenance of registration, for clinical studies for Phase IIIb/IV and the support of investigator initiated studies as well as structural costs. These costs are part of "Marketing, Sales & Medical costs" in Management view whereas shown as "Research & Development costs" in Accounting view

** **Revenue** primarily comprises sales of products and revenue from licensing, as well as milestone payments. It also includes service income from our contract manufacturing business, such as customer refunds for the purchase of machines required to produce a certain product or for customisation of product formulations

*** **Cost of sales** are any costs that can be directly associated with products sales

\# **Gross profit** reveals how much money a company earns taking into consideration the costs that it incurs for producing its products and/or services

\## **Marketing, Sales & Medical costs** consists of all costs to promote, sell and distribute our products to the customer. This excludes depreciation on acquired products which is part of "other costs"

\### **Depreciation** of machines, IT equipment and several other items is an incremental part of CoGs, Marketing, Sales and Medical costs, R&D costs. In order to derive the Earnings before interest, taxes, depreciation and amortisation (EBITDA), it needs to be added back

\+ **Adjusted EBITDA**, short for adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation, is a key performance indicator for the Grünenthal Group. It is calculated by adjusting the operating result for amortisation, depreciation and impairment and special effects, in particular from restructuring and acquisition-related expenses

> "We have established a great platform which enables continuous growth.

Fabian Raschke
Chief Financial Officer

BUILDING TRUST WITH INVESTORS

Interactions with the financial community are a key area of focus that have gained further importance since Grünenthal issued its first bonds in 2021 and placed additional bonds in 2023.

To gain insights into our company's approach to investor relations, Andrew Duncan, Deputy Head of Treasury and Head of Investor Relations, and Anna Carduck, Investor Relations Manager, answered four questions about their work.

What are the main responsibilities of Grünenthal's Investor Relations team?

Anna: Everything we do is about building trust in Grünenthal to secure our company's long-term financing. We share information about our business performance, expectations and any significant changes in financial performance or corporate strategy to provide strategic and financial transparency. And this allows us to create strong relationships with investors, analysts, ratings agencies and other financial stakeholders.

Andrew: On top of that commitment to regular and open contact, we also help to ensure Grünenthal complies with regulations related to financial information at all times. We also work closely with our colleagues across the business to lead new capital markets-related financing projects.

How exactly do you interact with people from the financial community?

Andrew: Our approach begins with being open for dialogue via email or telephone and placing a sharp focus on responding quickly. Beyond this, we have several ways of engaging with this community. We hold four scheduled conference calls each year to discuss quarterly financial performance plus an annual review call with each of the three ratings agencies. In addition, our team is present at several conferences and events too.

Anna: It is a two-way communication that also involves a flow of information from investors and bankers that supports our work. They have knowledge about lots of companies, so they can provide broad insights into our industry and its market conditions. We constantly use feedback from our financial stakeholders to improve our reporting and proactively address the topics they raise with us. And we always aim to anticipate their concerns by considering our company's performance from their perspective.

Why is Grünenthal an attractive company for investors?

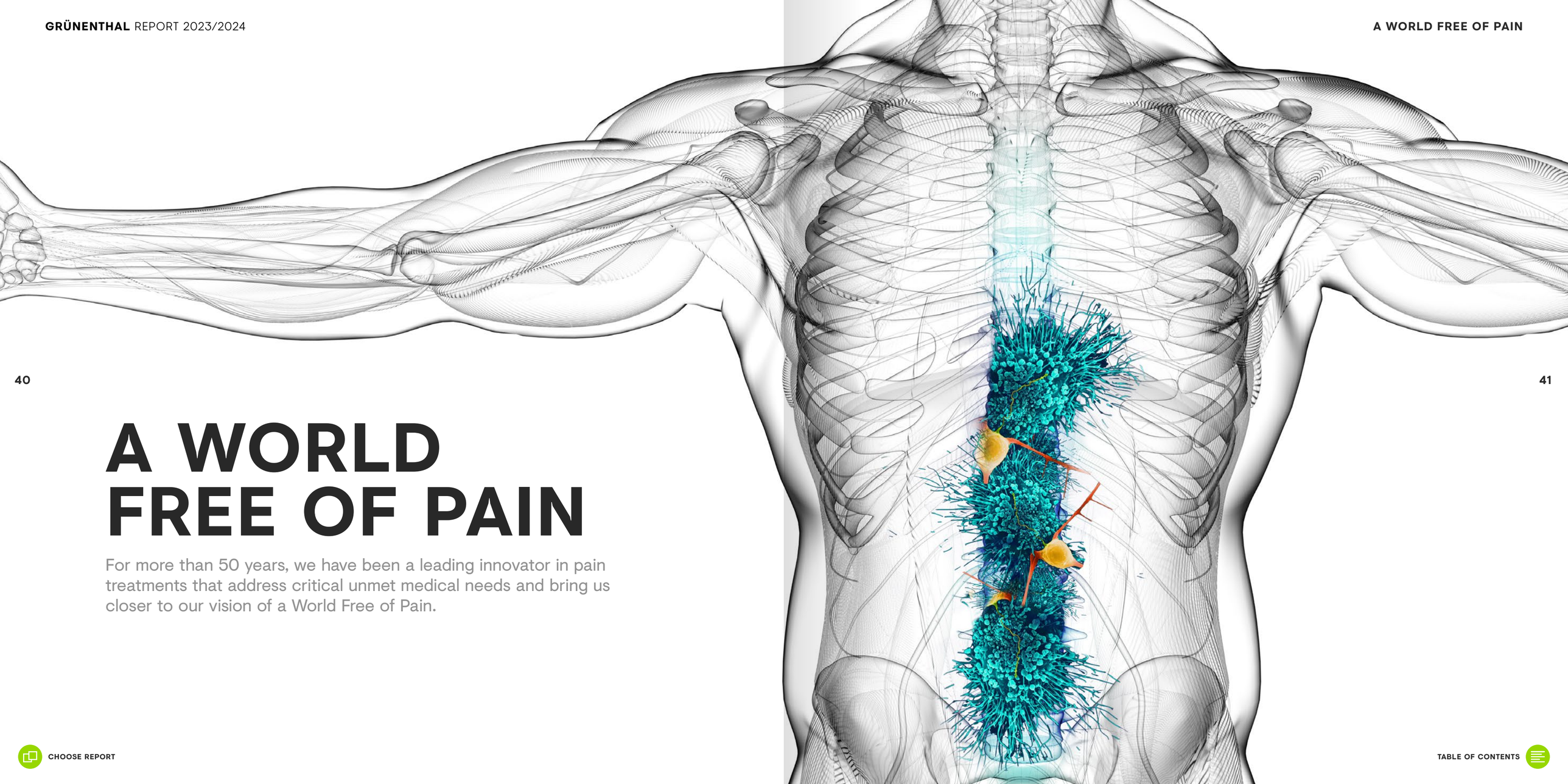
Anna: Most importantly, Grünenthal is delivering on its promises for financial performance. We also have very stable and risk-aware ownership, combined with a clear two-part strategy that targets innovative R&D and acquisitions of established brands.

Andrew: Pain is a growing and underserved segment of the pharmaceutical industry. That also makes our company attractive to investors. And our dedicated Corporate Responsibility Programme is another powerful factor. Today, it is essential to conduct business responsibly in order to attract investment.

What do you enjoy most about your work?

Andrew: I love talking to people and telling Grünenthal's story to investors. It is fascinating to listen to our financial stakeholders and hear what they say about our company, as well as gathering their view of the market.

Anna: It is great to make an active contribution to Grünenthal's acquisition strategy by securing funding that unlocks our ambitious plans for growth. It is work that carries unique challenges. But they are challenges I really enjoy.



A WORLD FREE OF PAIN

For more than 50 years, we have been a leading innovator in pain treatments that address critical unmet medical needs and bring us closer to our vision of a World Free of Pain.

UNDERSTANDING PAIN

More than 1.5 billion patients suffer from chronic pain[1] – which is almost one in five people worldwide.

Chronic pain is a disease with a substantial burden on people and society. It is one of the most common reasons for patients seeking medical help. It is a frequent cause of people withdrawing from the labour market early and a significant contributor to disability retirement.[5] But many patients struggle to find medicines that deliver effective relief.

Chronic pain is a disease

At Grünenthal, we consider pain a disease in its own right rather than just a symptom of another condition. For more than 50 years, our company has been dedicated to creating innovative treatments for people affected by pain. We successfully brought six innovative pain medicines to patients, and we are a global leader in pain research and management.

This success story began in the 1970s with Tramal™ (Tramadol), which is still one of the most frequently prescribed opioid analgesics in the world. Another example is Palexia™ (Tapentadol), which was the first innovative molecule in the opioid analgesic class to be approved for over 25 years. And our non-opioid product Qutenza™, which leverages Nobel Prize-winning science, is leading valuable progress for pain management, particularly in the treatment of painful diabetic neuropathy (pDPN).

Pain patients are still seriously underserved. That is why we are determined to develop the next generation of pain medicines. Our R&D activities focus on four strategic indications that are characterised by a substantial unmet medical need in large patient populations:

- Peripheral neuropathic pain.
- Chronic post-surgical pain.
- Chronic low back pain.
- Osteoarthritis.

For more than half a century, our innovators have been driving progress towards our vision of a World Free of Pain. With every research project we launch and every pain treatment we create, Grünenthal seeks to make life better for patients and their families.

Grünenthal employees in the chemistry laboratory in front of a flash chromatography device

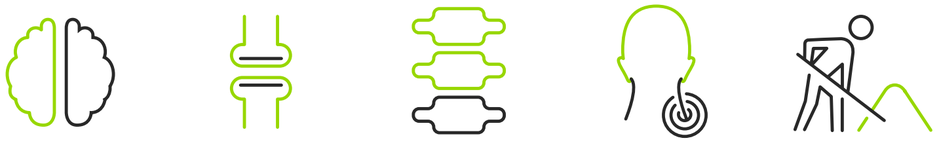
A GLOBAL BURDEN

Pain generates an increasingly large burden around the world.[6] It impacts patients and their families, as well as caregivers and society as a whole.

Chronic pain refers to pain that lasts longer than three months.[7] In chronic pain syndromes, pain can be the sole or a leading complaint, or can be secondary to an underlying disease.[8] The condition is influenced by multiple interconnected biological, psychological and social factors. This might include injury, illness or nerve damage, poor sleep, anxiety or depression.[9] In 2019, the International Association for the Study of Pain and the World Health Organization recognised chronic pain as a health condition in its own right.[10]

Patients need better solutions to manage pain because many available treatments do not provide sufficient relief or have severe side effects. Grünenthal is investing in research into innovative, non-opioid pain medicines that offer effective relief for patients.

Some of the most common types of chronic pain are:[10]



Migraine | Pain associated with osteoarthritis | Low back pain or lumbar pain | Neck pain | Musculoskeletal pain

1 in 5
people suffer from chronic pain worldwide.[1]

60%
of permanent work incapacity in Europe is related to musculoskeletal pain.[11]

13%
Lower back pain prevalence in Southern Latin America in 2017.[12]

78%
of chronic pain patients in Europe are not satisfied with the efficacy of their treatment.[13]

53-90%
of adults with chronic pain experience a clinically significant degree of insomnia.[14]

$560-635 bn
estimated medical costs and lost productivity per year caused by chronic pain in the US.[9]

€300 bn
estimated total cost of the consequences of chronic pain across Europe.[13]

DEVELOPING LIFE-CHANGING TREATMENTS

Driving innovation in the therapeutic area of pain to meet the unmet medical needs of patients worldwide.

> As a leader in pain research, we are committed to advancing non-opioid pain medicines to patients, leveraging our deep understanding of human biology, a broad range of therapeutic modalities, and collaborations with top global institutions.

Jan Adams, MD
Chief Scientific Officer

Existing pain therapies work for some patients – but not for all of them. One European survey revealed that 40 percent of patients were unsatisfied with their pain management.[15] This shows the clear need for innovative treatments that provide better outcomes for more patients.

Grünenthal is uniquely positioned in the therapeutic area of pain. Since the 1970s, we have focused on developing innovative pain therapies and have become a leading company. Our scientists have developed several life-changing pain medicines for patients. And in 2023, we made significant progress in strengthening our pipeline and moving forward with high-priority projects.

	RESEARCH/ PRE-CLINICAL	PHASE I	PHASE II	PHASE III
Qutenza™ LCM	Post-surgical neuropathic pain			
RTX (Resiniferatoxin)	Osteoarthritis knee pain			
MPC-06-ID* (Rexlemestrocel-L)	Chronic back pain			
GRM (Glucocorticoid Receptor Modulator)	Chronic inflammatory diseases			
NOP (Nociceptin/Orphanin Peptide Receptor Agonist)	Chronic pain			
Further research projects	Acute and chronic pain			

* Collaboration with Mesoblast

OUR KEY PROJECTS IN R&D

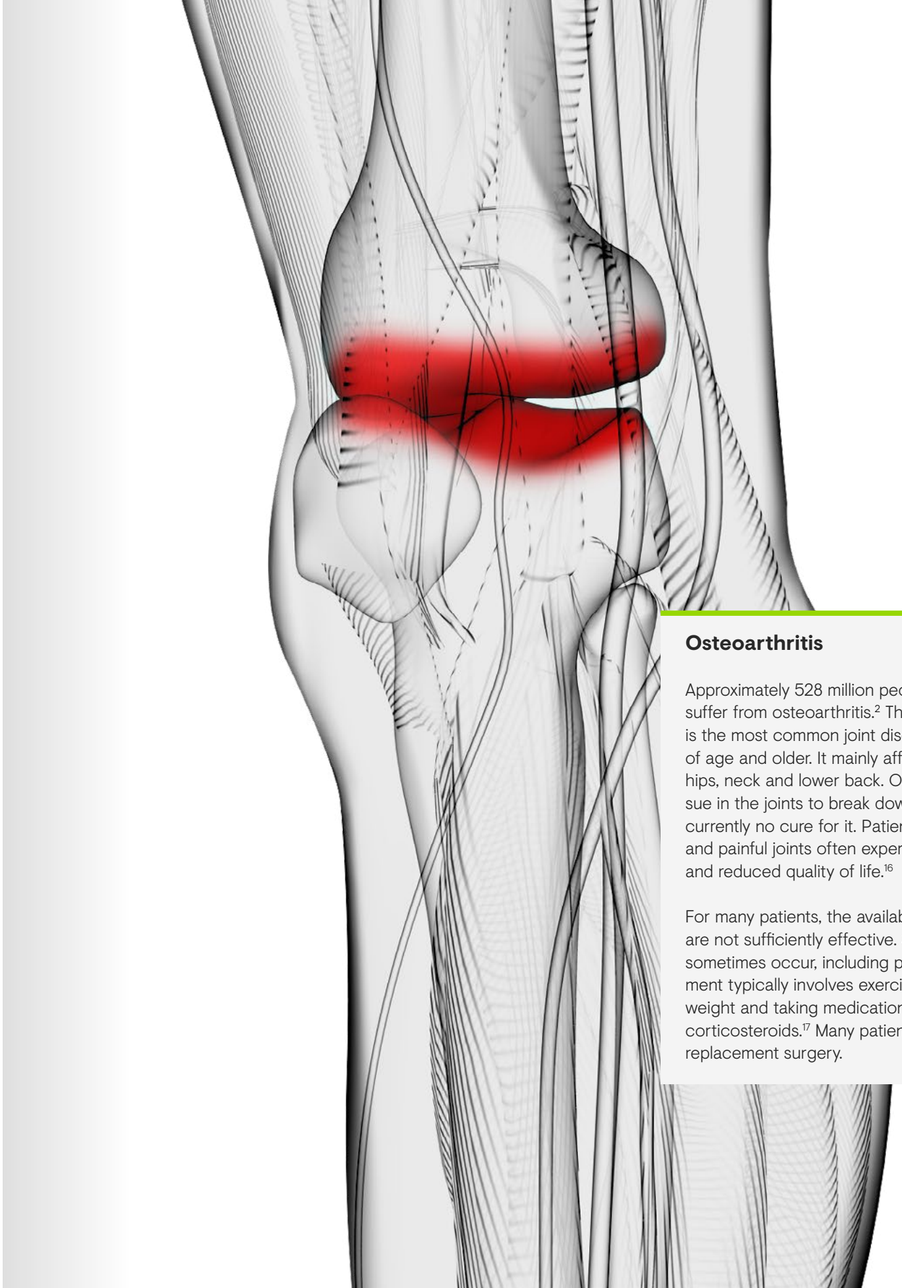
We are pursuing a range of programmes that aim to move us closer towards achieving our vision of a World Free of Pain.

In April 2021, we acquired the Swiss biotech company Mestex AG and its innovative investigational medicine resiniferatoxin (RTX). This is a developmental-stage intra-articular treatment opportunity for pain associated with osteoarthritis (OA) of the knee, a condition that currently cannot be cured. RTX is a highly potent TRPV1 agonist with a well-validated mechanism of action. Initial data indicates a long-lasting and significant analgesic effect, as well as a favourable safety profile and functional improvements compared to placebo.

In 2022, Phase III trials started investigating the efficacy and safety of intra-articular injections of RTX in adults with moderate to severe pain associated with knee osteoarthritis who have inadequate relief from available treatment options. These studies are part of a global development programme that aims to meet requirements for approval in the EU, the US and Japan. Grünenthal entered an agreement with NovaQuest Capital Management in March 2022 to support these trials. NovaQuest is a life science investment firm and will reimburse Grünenthal's investments into the clinical Phase III programme for RTX, while also sharing the clinical development and approval risks with us. In case of successful development and marketing approval, NovaQuest will receive one-time payments or milestones and revenue-based payments over the course of the commercialisation.

In addition, we signed a licensing agreement with the Japanese pharmaceutical company Shionogi in August 2022. Shionogi obtained the exclusive rights to commercialise RTX for pain associated with OA of the knee in Japan if the Phase III trials are successful. Grünenthal will carry out manufacturing and supply under the terms of this partnership.

RTX has the potential to be a transformative asset for patients and for Grünenthal. It strengthens our late-stage pipeline with a global development programme covering Europe, the US and Japan. In this way, it opens up a significant business opportunity.



Osteoarthritis

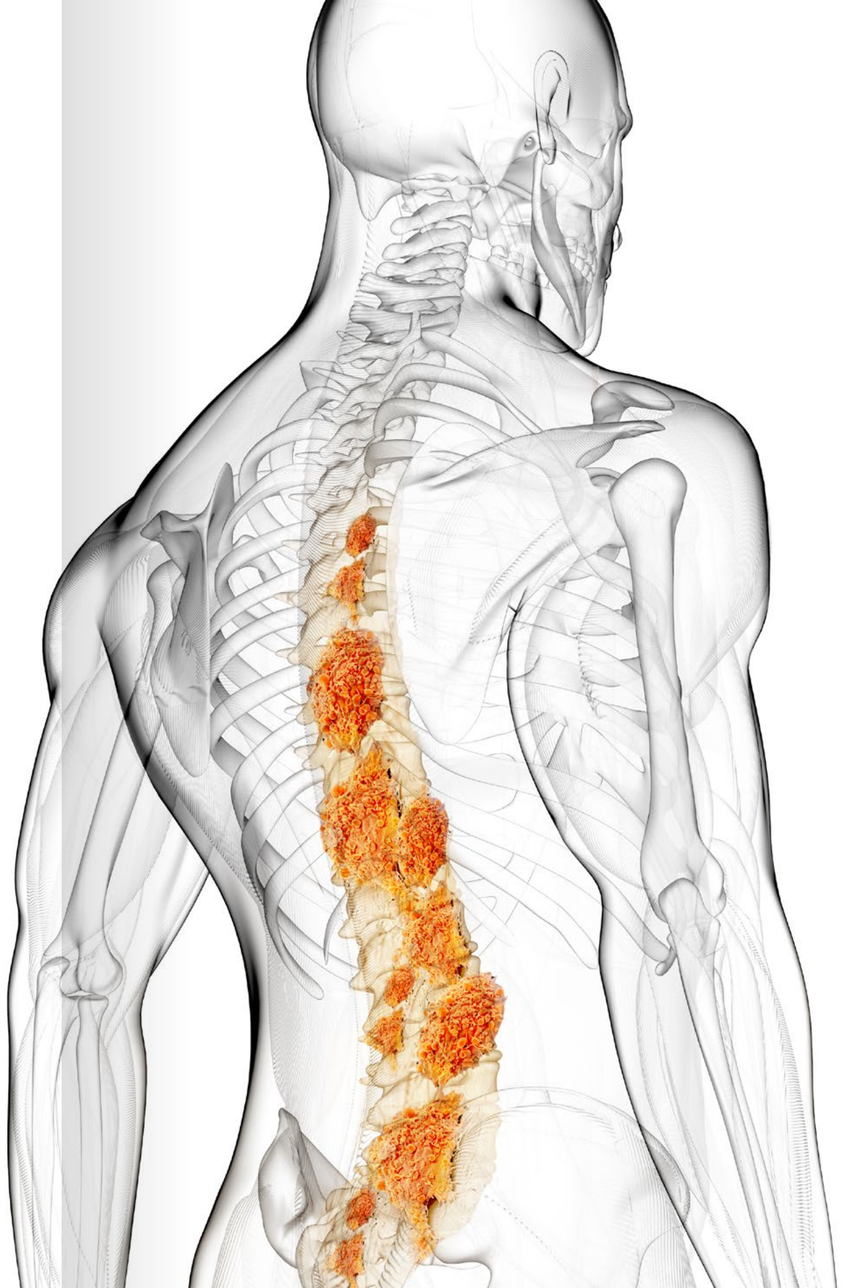
Approximately 528 million people around the world suffer from osteoarthritis.[2] This progressive condition is the most common joint disease in people 65 years of age and older. It mainly affects the knees, hands, hips, neck and lower back. Osteoarthritis causes tissue in the joints to break down over time and there is currently no cure for it. Patients with inflamed, swollen and painful joints often experience limited mobility and reduced quality of life.[16]

For many patients, the available treatment options are not sufficiently effective. Severe symptoms can sometimes occur, including pain. Osteoarthritis treatment typically involves exercise, maintaining a healthy weight and taking medication such as intra-articular corticosteroids.[17] Many patients eventually require joint replacement surgery.

Qutenza™ – Reaching more patients in the US

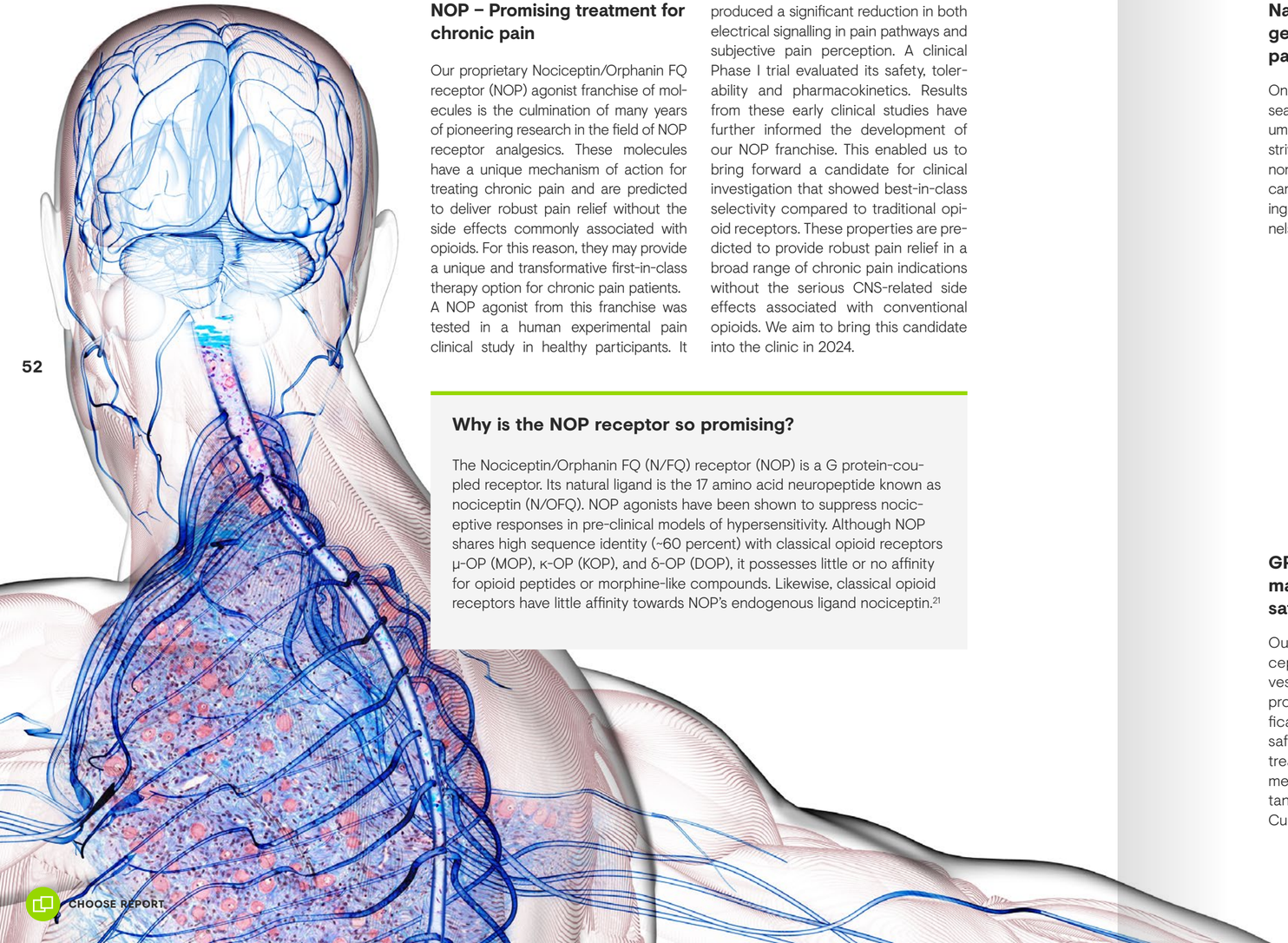
Qutenza™ is a topical system that contains prescription-strength capsaicin. It is a non-opioid treatment that can provide prolonged pain relief for several months. Its most frequently reported adverse effects were usually transient, self-limiting, mild-to-moderate reactions on the application site.[18]
In Europe, it is approved for treating peripheral neuropathic pain. Until 2020, in the US, Qutenza™ was only approved for treating peripheral neuropathic pain associated with post-herpetic neuralgia. In 2020, Qutenza™ additionally received approval for treating pain associated with DPN of the feet in adults[19] in the US. The US FDA approval of Qutenza™ for the treatment of pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults marks a major milestone in our efforts to bring this treatment to more patients. Painful DPN is a progressive and debilitating complication of diabetes that affected more than five million Americans in 2020. It is difficult to diagnose, treat and manage effectively.[20] Our life cycle management activities aim to make Qutenza™ more widely available by expanding the label – particularly in the US. Since 2021, we are conducting an additional Phase III trial to investigate the efficacy, safety and tolerability of Qutenza™ in post-surgical neuropathic pain (PSNP). Enrolment is currently ongoing. We are also pursuing further exploratory activities for other indications in collaboration with external partners.

Qutenza™ is applied to the feet via a patch



MPC-06-ID – Cell therapy for chronic low back pain

In 2019, we partnered with Mesoblast to develop a highly innovative mesenchymal precursor cell therapy for patients with chronic low back pain associated with degenerative disc disease who have not found effective relief from available treatment options.
Early in 2021, Mesoblast published results from the Phase III trial MSB-DR003 that was carried out in the US and Australia. The trial provided several important findings, including a significant and long-lasting treatment effect on pain relief. However, it did not achieve its primary outcome measure between the treatment groups.
After analysing the data obtained through this trial, Mesoblast anticipated conducting another confirmatory trial in the US and received positive feedback from the FDA regarding a new Phase III programme for MPC-06-ID in patients with chronic low back pain due to degenerative disc disease. The new trial will be conducted with up to 20 percent of the patient population involved being from Europe to support potential product approvals in both the US and Europe.



NOP – Promising treatment for chronic pain

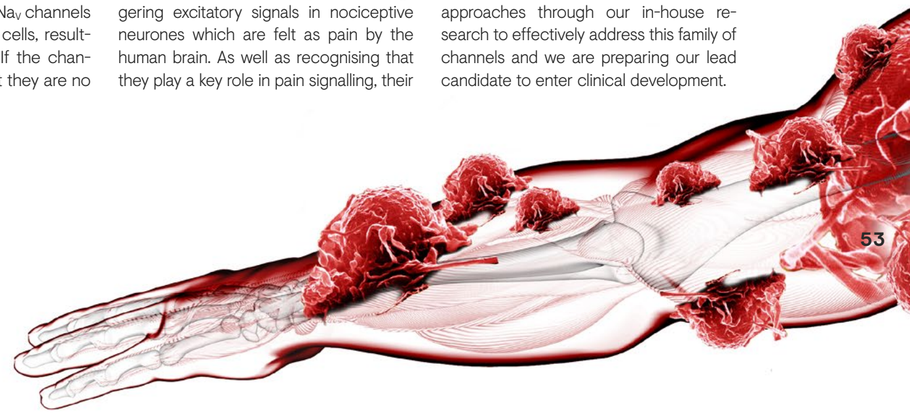
Our proprietary Nociceptin/Orphanin FQ receptor (NOP) agonist franchise of molecules is the culmination of many years of pioneering research in the field of NOP receptor analgesics. These molecules have a unique mechanism of action for treating chronic pain and are predicted to deliver robust pain relief without the side effects commonly associated with opioids. For this reason, they may provide a unique and transformative first-in-class therapy option for chronic pain patients.
A NOP agonist from this franchise was tested in a human experimental pain clinical study in healthy participants. It produced a significant reduction in both electrical signalling in pain pathways and subjective pain perception. A clinical Phase I trial evaluated its safety, tolerability and pharmacokinetics. Results from these early clinical studies have further informed the development of our NOP franchise. This enabled us to bring forward a candidate for clinical investigation that showed best-in-class selectivity compared to traditional opioid receptors. These properties are predicted to provide robust pain relief in a broad range of chronic pain indications without the serious CNS-related side effects associated with conventional opioids. We aim to bring this candidate into the clinic in 2024.

Why is the NOP receptor so promising?

The Nociceptin/Orphanin FQ (N/FQ) receptor (NOP) is a G protein-coupled receptor. Its natural ligand is the 17 amino acid neuropeptide known as nociceptin (N/OFQ). NOP agonists have been shown to suppress nociceptive responses in pre-clinical models of hypersensitivity. Although NOP shares high sequence identity (~60 percent) with classical opioid receptors μ-OP (MOP), κ-OP (KOP), and δ-OP (DOP), it possesses little or no affinity for opioid peptides or morphine-like compounds. Likewise, classical opioid receptors have little affinity towards NOP's endogenous ligand nociceptin.[21]

Na_V – Creating the next generation of non-opioid pain medicines

One of Grünenthal's promising early research areas is our voltage-gated sodium channels (Na_V) programme where we strive to create the next generation of non-opioid pain medicines. Na_V channels can carry sodium ions into cells, resulting in an excitatory signal. If the channels are manipulated so that they are no longer able to carry sodium ions, they will no longer be able to evoke excitatory signals. Of the family of nine voltage-gated sodium channels, we are particularly interested in those expressed in dorsal root ganglion neurones (Na_V 1.7, Na_V 1.8 and Na_V 1.9).
These family members play roles in triggering excitatory signals in nociceptive neurones which are felt as pain by the human brain. As well as recognising that they play a key role in pain signalling, their genetic and clinical validation make then promising human pain targets. Manipulating these Na_V channels in a way that suppresses or prevents their excitatory signalling will provide significant analgesic effect across a range of chronic and acute pain conditions. Grünenthal has created excellent, selective therapeutic approaches through our in-house research to effectively address this family of channels and we are preparing our lead candidate to enter clinical development.



GRM – Potential anti-inflammatory with an improved safety profile

Our proprietary Glucocorticoid Receptor Modulator (GRM) is an oral investigational medicine developed to provide broad anti-inflammatory efficacy. It is also aiming to achieve a safety profile that allows longer-term treatments, which will address unmet medical needs and make an important difference to patients' lives.
Current glucocorticoid-based therapies like prednisolone are highly effective anti-inflammatory drugs, but they come with side effects. This includes reduced bone formation, which may lead to osteoporosis. They are also connected to increased glucose levels, which raises the risk of diabetes and means their use must be limited to short-term treatments.
Our new GRM compound has the potential to combine the efficacy of the current glucocorticoid-based therapies with a significantly improved safety profile. This may enable longer-term treatment, which is an unmet need for many indications. The clinical Phase I study for our GRM involved 88 healthy participants and primarily aimed to characterise the safety and tolerability profile, while also confirming the pharmacokinetic characteristics of the compound.
Biomarker data informed our experts about the compound's potential to offer a therapy option that combines high efficacy with a favourable safety profile. We are now working to initiate a clinical Phase II trial in 2024.

CHOOSE REPORT

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Osteoarthritis – Hope for millions of patients

Osteoarthritis (OA) is the most common form of arthritis and is not a normal part of ageing.[17] It is a serious, debilitating and painful condition where tissues in the joints break down over time. And it can have a profound impact on almost every aspect of a person's life.[17,22,23]

With more than 500 million people worldwide suffering from OA today[24], it is already the leading cause of disability worldwide.[22]

Since the 1990s, OA cases have increased by more than 100 percent[23] and more than 40 million people are now being diagnosed each year.[17] Despite the available treatment options, many of these patients are still living with pain.[17,22]

OA is a complex disease with a range of symptoms. Patients often experience joint pain, stiffness and swelling as well as joint instability.[17] The most commonly affected joints include the knees, hips, hands, lower back and neck.[17]

Painful, inflamed and swollen joints can significantly reduce mobility for patients while also negatively impacting quality of life and limiting their ability to perform everyday tasks.[25,26,27,28] Pain is the most disabling symptom of OA.[22] However, the disease has several implications for patients. 70 percent of people with this condition have trouble sleeping[29], and rates of depression and anxiety are between two and ten times higher for OA patients than for people without this condition.

60 percent of OA cases occur in the knee joint.[29] More than 360 million people are thought to suffer from knee osteoarthritis worldwide. This can affect one or both knees. Pain may become a constant burden and can worsen over time, making activities such as walking extremely painful.[30,31]

OA is a progressive condition and currently there are no effective treatments to prevent or slow its progression.[22,32] Approaches to managing OA range from maintaining a healthy weight and increasing exercise through to wearing braces to support joint stability or taking medication.[22,32] However, as the disease progresses, many patients need to undergo knee replacement surgery as a last remaining treatment option.[22,32]

Prescribed medications can include nonsteroidal anti-inflammatory drugs (NSAIDs) and intra-articular injections of corticosteroids and hyaluronic acid.[17] However, inadequate pain relief is common among patients with knee osteoarthritis.[25] There is a huge unmet medical need for innovative treatments that can effectively address the pain associated with OA without causing side effects like those related to treatments such as corticosteroids.

Working in Grünenthal's biology laboratories

> "We need safe analgesics that can be used long term, without deteriorating kidney and liver function. There is also a need for good, new treatment options for patients who are ineligible for surgery, especially for those who are yet to benefit from injections.

Orthopaedic Surgeon
Tertiary/Teaching Hospital, UK

> "I want to resume life like it was before. I don't want my children to see me with my leg up and an icepack on my knee. I just want to have a normal life.

Osteoarthritis Patient
Spain

> "If I could change one thing about my treatment, I would want it to be effective for pain, so I didn't feel any pain and have more mobility.

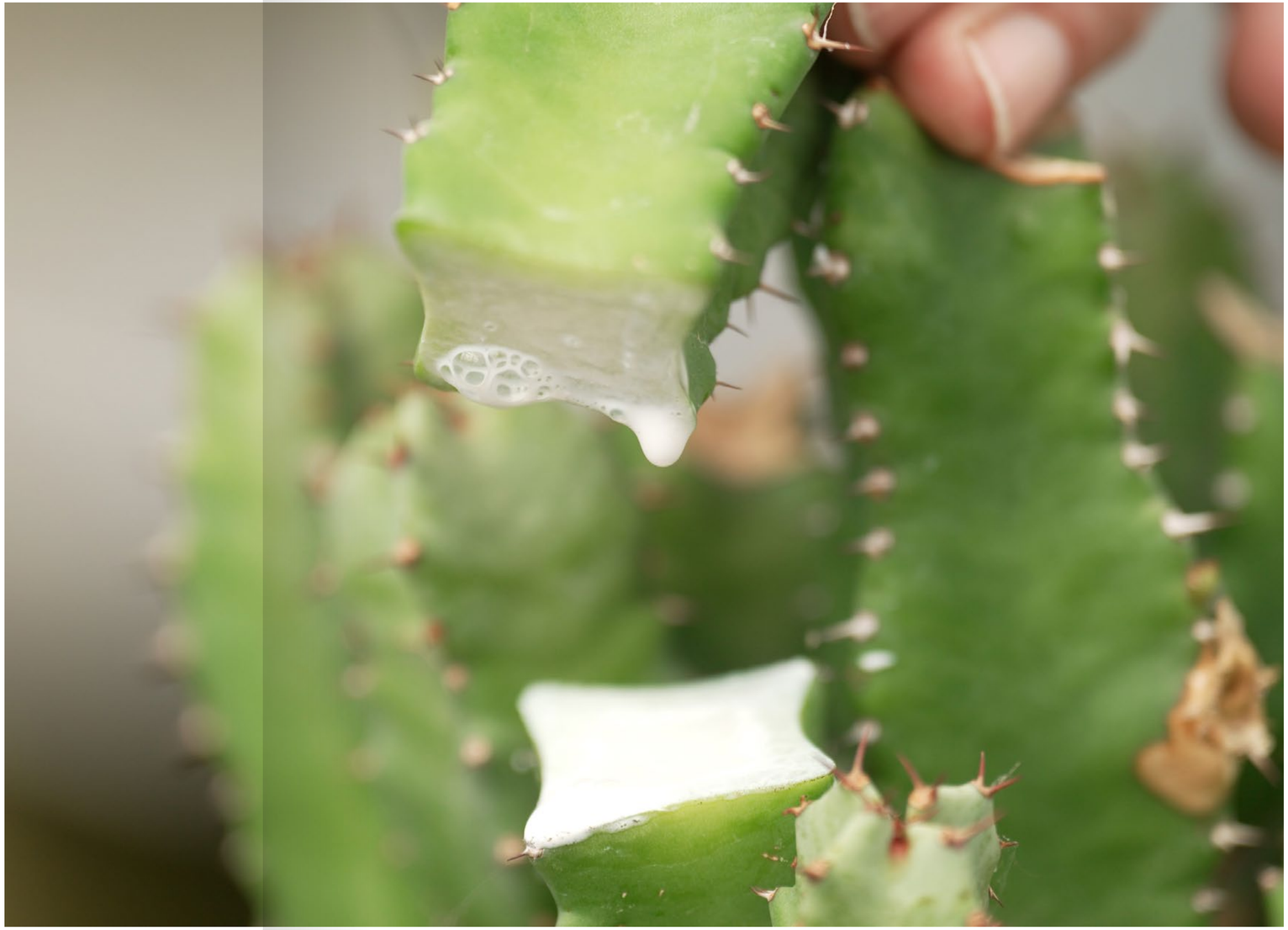
Osteoarthritis Patient
Spain

RTX – DEVELOPING A NEW TREATMENT FOR OSTEOARTHRITIS

Since acquiring the promising investigational medicine RTX in 2021, our experts have achieved solid progress to bring this potential life-changer closer to market authorisation.

RTX is a highly potent Transient Receptor Potential Vanilloid 1 (TRPV1) agonist. It was developed based on research that won the Nobel Prize in Physiology or Medicine in 2021. Initial data gathered by Mestex AG indicated that this investigational medicine achieved a long-lasting, significant analgesic effect and functional improvements when compared to placebo (saline injection). It also demonstrated a favourable safety profile. If further data confirms this performance, RTX could offer patients a non-opioid therapy option that provides long-lasting pain relief and functional improvement of the affected joints.

Acquiring innovative investigational medicines is the first step in a complex process. Grünenthal's teams bring together wide-ranging expertise in how to drive investigational medicines through clinical development – and tap into their potential to generate positive outcomes for patients. Our progress with resiniferatoxin (RTX) is a powerful example of this approach in action. This investigational medicine entered our portfolio in April 2021, when Grünenthal acquired the Swiss biotech company Mestex AG. Since then, we have taken decisive steps to advance this potential treatment on its journey into the lives of patients suffering from pain associated with osteoarthritis of the knee.



Latex is extracted from an euphorbia resinifera plant

A comprehensive Phase III programme

Grünenthal is now conducting three trials across approximately 200 sites in Europe, the US, Latin America, South Africa and Japan to investigate the efficacy and safety of intra-articular injections of RTX in adults. These trials, which commenced in August 2022, include more than 1,700 adult patients with moderate to severe pain associated with knee osteoarthritis who have inadequate relief from available treatment options. If successful, the Phase III programme aims to enable market authorisation for RTX in the EU, the US and Japan.

Partners for developing RTX

Our partnership with the US-based life science investment firm NovaQuest Capital Management supports these Phase III trials. Grünenthal entered an agreement with NovaQuest in March 2022, and the two companies are now advancing the RTX development together. Under the terms of the agreement, NovaQuest will reimburse Grünenthal's investments into the clinical Phase III programme for RTX, and will share the clinical development and approval risks with Grünenthal. If RTX achieves market authorisation, NovaQuest will receive one-time payments or milestones and revenue-based payments throughout the commercialisation. This agreement frees up Grünenthal's resources to make further investments in executing its growth strategy and advancing its promising pipeline into the clinic.

Reaching patients worldwide

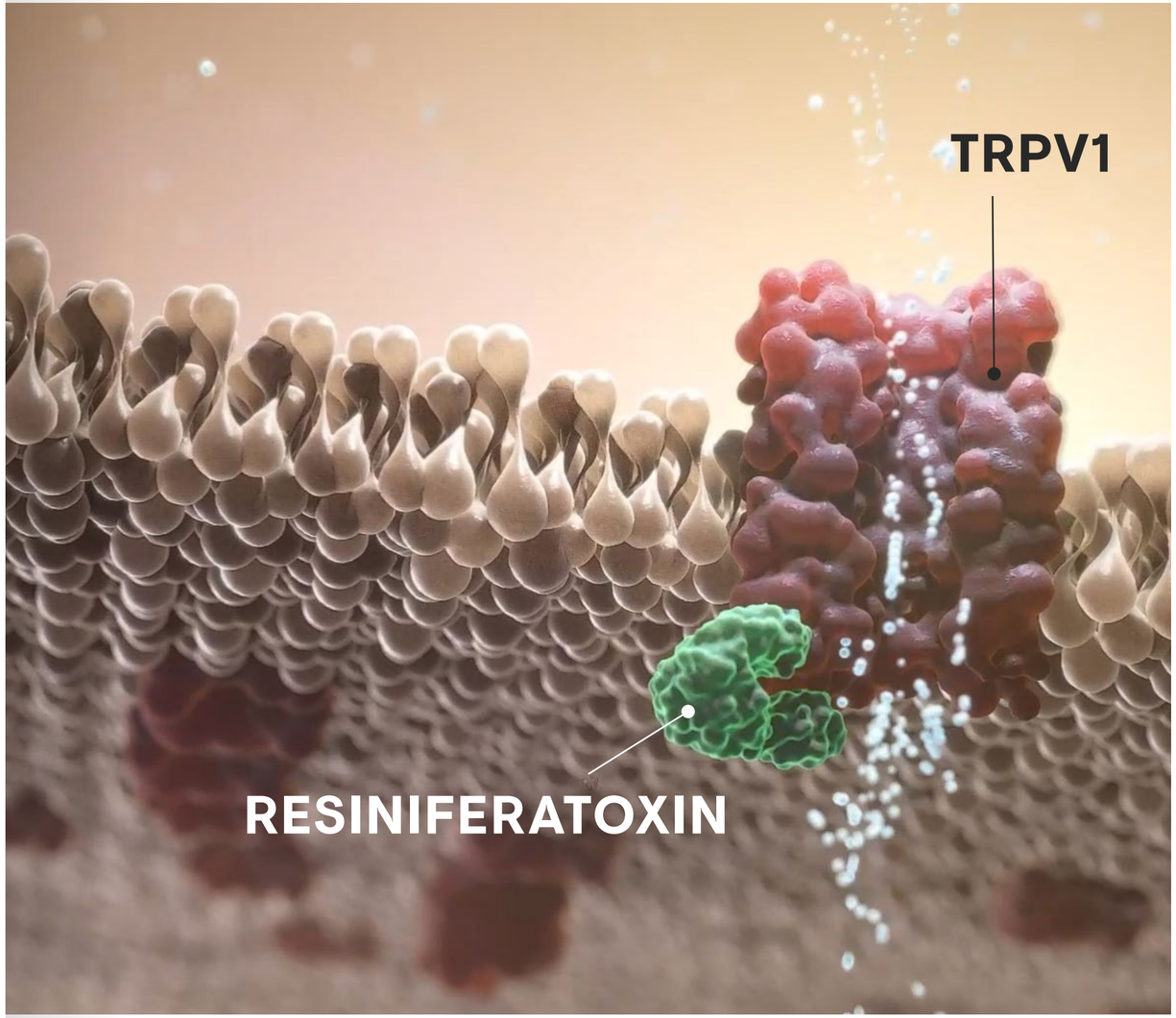
Grünenthal is also engaging in partnerships that aim to maximise the patient population that can benefit from access to RTX if it receives market authorisation. For example, we entered a licensing agreement with Shionogi in August 2022. Shionogi is a leading global research-driven pharmaceutical company based in Japan. With this deal, it obtained exclusive rights to commercialise RTX in Japan for pain associated with knee osteoarthritis for a total consideration of up to $525 million plus additional sales-based payments. The agreement includes competitive investment commitments for launch and commercialisation. Grünenthal will manufacture and supply RTX, and Shionogi will leverage its strong commercial presence in Japan to bring RTX to patients in need.

The osteoarthritis market

Grünenthal holds the global rights for this potential new treatment for OA of the knee. If the outcome of the Phase III programme is positive, Grünenthal intends to explore the potential of RTX for treating OA-related pain. The osteoarthritis market is projected to have strong growth from $8.5bn in 2022 to $12.8bn in 2032.[3]

> "Resiniferatoxin is a promising non-opioid asset with the potential to address the most debilitating symptom of osteoarthritis, which affects more than half a billion people worldwide.[33]

Gabriel Baertschi
Chief Executive Officer



IMPROVING CARE FOR PATIENTS

We empower healthcare professionals to provide better treatment for patients worldwide.

Grünenthal aims to improve the lives of people living with pain by developing and delivering life-changing treatments.

Our products are available in around 100 countries, either directly from our 27 affiliates or indirectly from our strategic partners. We serve a diverse customer base of approximately 250,000 customers.

Over the last 50 years, we have built a strong presence in Europe and Latin America. This makes it possible to provide millions of people with access to effective pain treatments.

Grünenthal recently expanded its geographical footprint to the US. We have seen significant growth of our non-opioid cutaneous system Qutenza™ in this important market. In the years ahead, we expect this rapid growth to continue.

Even though effective treatments are available for some forms of pain, there is still a significant unmet medical need among patients. One out of five people worldwide suffers from chronic pain.[1] We work to provide them better treatments.

Engaging with diverse markets and customer groups in today's world requires new ways of operating. It is particularly important to ensure a strong focus on our customers' needs at all times. With our omnichannel engagement model, we are providing a tailored customer experience and meaningful interactions for our customers – everywhere and at any time.

Key brands outperform the market

Qutenza™ made an outstanding contribution to our business in 2023. Global sales of this non-opioid topical system grew by 55 percent year-on-year. This included growth of almost 100 percent within the US market. In 2023, revenue from Qutenza™ passed the milestone of €100mn and 90,000 patients worldwide were treated with this innovative product.

Many brands in the established medicine portfolio (Crestor™, Nexium™ and Versatis™) are outperforming the markets they compete in. Revenue from these medicines was higher than expected in 2023. The loss of exclusivity of Palexia™ in many markets led to price pressure from generic treatments. We were able to compensate for that decline with strict cost management, as well as valuable contributions from across our established medicine portfolio. Vimovo™ achieved growth of 17 percent, for example, while Crestor™ benefitted from an out-of-stock situation at generic competitors. The increase was mainly due to the acquisition of Nebido™ in Q4 2022, with €120.2 million operational revenue in the twelve months of 2023. Overall, our portfolio of established medicines without Palexia™ grew by 19 percent in 2023.

We continued transforming our portfolio and made significant progress with expanding our omnichannel approach. During 2023 our Commercial team ran 240 omnichannel campaigns, including webinars and hybrid meetings. This delivered almost approx. 90,000 relevant interactions with healthcare professionals. Approximately half of all our HCP interactions are now delivered digitally. We have established a standardised methodology for optimising the customer experience in key European markets, as well as Latin America. Our teams are now focusing on an even greater personalisation of this approach to better meet the needs of healthcare professionals.

Solid strategy in Latin America

In Latin America, our business saw 10 percent growth during 2023. This was driven by our portfolio of pain brands. These results continue the upward trend for Grünenthal in this important market. Our local team has achieved this success by focusing on innovative pain treatments and channelling investment into the most differentiated brands with the highest potential for success. We are now in a strong position to keep investing in future growth across Latin America.

Shaping our future setup

Grünenthal closed a joint venture deal with Kyowa Kirin International (KKI) in August 2023. This expands our portfolio with 13 brands across six therapeutic areas, with the highest revenue contribution coming from pain medicines. As part of this collaborative agreement, we have created a new enterprise called Grünenthal Meds to bring these medicines to patients. It is already contributing strongly to our results. In 2024, we will begin integrating this business into our affiliates in Europe.

The integration activities for our acquired brands Crestor™, Nebido™, Vimovo™ and Zomig™ progressed as planned in 2023. Integration supports our growth strategy by quickly tapping into the potential positive impact that acquired brands can contribute to Grünenthal.

> Our teams focus on truly understanding our customers' needs. This enables us to deliver a tailored experience that helps our customers to provide the best possible care for patients.

Janneke van der Kamp
Chief Commercial Officer

STRONG PRODUCT PORTFOLIO

Grünenthal's product portfolio has a well-balanced and resilient mix of innovative growth brands and established medicines.

The **established medicines** include all mature and off-patent products. They are characterised by high brand awareness, predictable and stable sales, and high profitability. Examples include Nexium™, Crestor™, Nebido™ and Tramal™.

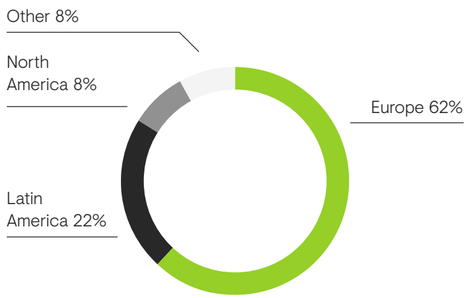
The **growth brands** are innovative and patent-protected products like Qutenza™, as well as brands that continue to have valuable growth potential like Vimovo™.

Combining these two product categories provides us with a well-balanced and resilient business. Profit from that portfolio finances our innovation to create new pain treatments.

Revenue by geography

Diversifying products and geographies enables us to manage our business risks more effectively, making us less dependent on a single product or market.

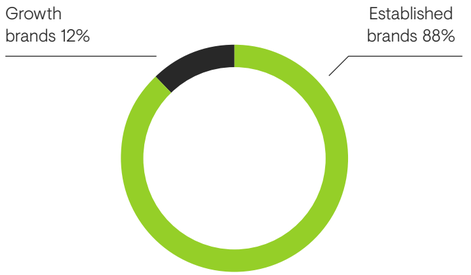
Revenue by geography



Diversified product mix

Revenue from pain products accounted for 52 percent of our revenue in 2023. In recent years, we have diversified our product portfolio beyond the pain segment through successful acquisitions of established brands.

Revenue by product typology*



Revenue by therapeutic area

* Revenue split as of December 31, 2023. Based on operational revenue of products.
** Includes Nexium™, Andromaco branded generics, contract manufacturing, partner business in APAC, R&D cost reimbursement, and Women's Healthcare.

MAXIMISING BRANDS ALONG THE LIFE CYCLE

Grünenthal operates a portfolio that features eleven global brands with various levels of market maturity.

Our portfolio consists of growth brands and established medicines. Combining these product profiles gives our company a well-balanced and resilient overall market presence.
Our established brands are mature and off-patent products such as Crestor™, Nexium™, Nebido™, Versatis™ and Zomig™, Tramal™, Transtec™ and Zaldiar™. Established brands are characterised by high brand awareness, predictable sales and strong profitability.

Managing the late life cycle

Vimovo™ was an important part of our portfolio in 2023. Active promotion of this brand helped to achieve significant growth of 17 percent. Nebido™, which we acquired in Q4/2022, contributed to our overall revenue with €120 million. These successes reflect our constant effort to unlock further potential from our late life cycle brands worldwide via an omnichannel approach that leverages digital and face-to-face promotion.

We proactively manage our established medicines through a customer-centric approach delivered via a range of channels. These brands are at a later stage of the life cycle and already face generic competition or other market pressures.
In 2023, our established medicines delivered revenue above expected levels. Overall, they contributed operational revenue of €1,483 million. This was made possible by differentiated strategies that reflected the specific market conditions for each treatment and market archetype, as well as cross-business transparency to boost synergies.

88%

of Grünenthal's operational revenue is from established medicines (incl. Palexia™).

> Our well-established portfolio benefits millions of patients.
> We bring those treatments to patients with a customer-centric, omnichannel approach.

Ana Inacio
Global Head Established Medicines

OUTSTANDING GROWTH FOR QUTENZA™

2023 was an important year for Qutenza™, with increasing revenue and continuing expansion to reach more patients worldwide.

With Qutenza™, we aim to improve the lives of patients living with various forms of neuropathic pain through a laser focus on the customer experience for patients, healthcare professionals and payers.

Qutenza™ is a topical non-opioid patch that is approved for the treatment of peripheral neuropathic pain in Europe. In the United States, it is approved for the treatment of neuropathic pain associated with post-herpetic neuralgia and neuropathic pain associated with diabetic peripheral neuropathy of the feet in adults.

Globally, millions of patients suffer from neuropathic pain associated with diabetic peripheral neuropathy (DPN) of the feet. More than five million people suffer from this condition in the US alone. DPN is a debilitating complication of diabetes and has the potential to impact the everyday lives of people living with this disease.

The impact of neuropathic pain is far-reaching. For this reason, we are conducting ongoing clinical studies seeking to expand the Quentza™ indication in the US to allow treatment of patients with post-surgical neuropathic pain.

Investing for growth

Grünenthal is taking decisive action to accelerate the positive momentum of this brand. Our commercial strategy is dynamic and we are constantly adding talented new colleagues to our key account management, market access and medical affairs teams. We continue to focus on and communicate the science behind this transformative asset through peer-to-peer education programmes.

Grünenthal aims to make the customer and patient experience as smooth as possible through our healthcare professional and patient portals, meeting our customers where they are through our omnichannel strategies.

Key milestones in 2023

Approx. 90,000 patients treated

Doubled in-market volume (compared to 2022)

€115 million revenue

Patient-centric strategy

Our approach for Qutenza™ places a sharp focus on patients' needs.

- Our team's focus on keeping the patient voice front and centre of our approach has led to the creation of our global Patient Advisory Council where people living with pain share their experiences and insights.
- We strive to broaden access to Qutenza™. For example, we increased the number of covered lives through health insurance companies to 193 million in the US, and launched the first-ever Grünenthal patient copay support programme to ensure eligible patients can afford this treatment.

Trusted by the medical community

Leading guidelines and compendiums now include Qutenza™, which clearly indicates the medical community's confidence in this treatment.

- In the EU, Quentza is included in The Neuropathic Pain Guidelines (NeuPSIG), the guideline of the International Association for the Study of pain (IASP).
- The American Diabetes Association (ADA) and American Association of Clinical Endocrinology (AACE) have both recommended Qutenza™ for DPN.
- In 2023, the American Society of Pain and Neuroscience (ASPN) and the American Limb Preservation Society also included Qutenza™ in their updated treatment guidelines for managing painful diabetic neuropathy (pDPN).

Expanding access to therapies

Overall, our commercial strategy for Qutenza™ around the globe reflects our deep commitment to reaching patients with treatments that improve their quality of life. Teams at Grünenthal are dedicated to improving our interactions with healthcare professionals, payers and other institutions to strengthen the customer experience and expand access to innovative therapies. In this way, we can sustain our company's long-term growth and drive progress toward our vision of a World Free of Pain.

"We are proud that Qutenza™ is available to patients around the world and will continue our patient-centred approach in 2024.

Arvashni Seeripat
Head of Global Innovative Medicines

GLOBAL BRANDS

Providing solutions for patients with high medical needs.

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2023 IN € MILLION
Qutenza®	**Capsaicin**	**EU indication:** Treatment of peripheral neuropathic pain in adults either alone or in combination with other medicinal products for the treatment of pain. **US indication:** Treatment of neuropathic pain associated with postherpetic neuralgia (PHN) and for neuropathic pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults.	**117.5**
Vimovo®	**Fixed-dose combination of Esomeprazole and Naproxen**	In adults for the symptomatic treatment of osteoarthritis, rheumatoid arthritis and ankylosing spondylitis, in patients who are at risk for developing non-steroidal anti-inflammatory drug (NSAID)-associated gastric and/or duodenal ulcers and where treatment with lower doses of naproxen or of other NSAIDs is not considered sufficient.	**78.2**
versatis®	**Lidocaine**	**EU and Peru indication:** Symptomatic relief of neuropathic pain associated with previous herpes zoster infection (postherpetic neuralgia, PHN) in adults. **Latin America indication:** Treatment of localised neuropathic pain, including pain associated with a previous herpes zoster infection (postherpetic neuralgia).	**153.4**
Zomig® ZOLMITRIPTAN AscoTop® Nasal	**Zolmitriptan**	**Oral formulations:** In adults aged 18 years and older for acute treatment of migraine headache with or without aura. **Nasal spray:** In adults and adolescents aged 12 years and older for the acute treatment of migraine headache with or without aura, and in adults for the treatment of cluster headache.***	**74.0**
NEBIDO®	**Testosterone undecanoate**	Treatment of male hypogonadism, when testosterone deficiency has been confirmed by clinical features and biochemical tests.	**120.2**
Nexium® esomeprazole	**Esomeprazole**	**20 mg; 40 mg gastro-resistant tablets:** **Indicated in adults for:** **Gastroesophageal Reflux Disease (GERD)** • treatment of erosive reflux esophagitis • long-term management of patients with healed esophagitis to prevent relapse • symptomatic treatment of gastroesophageal reflux disease (GERD) **In combination with appropriate antibacterial therapeutic regimens for the eradication of Helicobacter pylori and:** • healing of Helicobacter pylori associated duodenal ulcer and • prevention of relapse of peptic ulcers in patients with Helicobacter pylori associated ulcers **Patients requiring continued NSAID therapy:** • Healing of gastric ulcers associated with NSAID therapy. • Prevention of gastric and duodenal ulcers associated with NSAID therapy, in patients at risk. **Prolonged treatment after i.v. induced prevention of rebleeding of peptic ulcers. Treatment of Zollinger Ellison Syndrome** **Indicated in adolescents from the age of 12 years for:** **Gastroesophageal Reflux Disease (GERD)** • treatment of erosive reflux esophagitis • long-term management of patients with healed esophagitis to prevent relapse • symptomatic treatment of gastroesophageal reflux disease (GERD) **In combination with antibiotics in treatment of duodenal ulcer caused by Helicobacter pylori** Nexium™ is also available in other dosage forms with slightly varying indications.#	**191.7**

* Status: January 2024. If not otherwise mentioned the EU SmPC approved at the time of review is used as a basis. Please note that indications and formulations may vary from country to country. Please refer to the respective local product information or Summary of Product Characteristics (SmPC)
** without license and milestone income
*** Indication in UK: Zomig Nasal Spray is indicated for the acute treatment of migraine with or without aura.
# see SmPC for 'Nexium™ 10 mg gastro-resistant granules for oral suspension, sachet' and for 'Nexium™ 40 mg Powder for solution for injection/infusion'

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2023 IN € MILLION
CRESTOR® rosuvastatin	**Rosuvastatin**	**Treatment of hypercholesterolaemia** Adults, adolescents and children aged 6 years or older with primary hypercholesterolaemia (type IIa including heterozygous familial hypercholesterolaemia) or mixed dyslipidaemia (type IIb) as an adjunct to diet when response to diet and other non-pharmacological treatments (e.g. exercise, weight reduction) is inadequate. Adults, adolescents and children aged 6 years or older with homozygous familial hypercholesterolaemia as an adjunct to diet and other lipid lowering treatments (e.g. LDL apheresis) or if such treatments are not appropriate. **Prevention of cardiovascular events** Prevention of major cardiovascular events in patients who are estimated to have a high risk for a first cardiovascular event, as an adjunct to correction of other risk factors.	**97.6**
PALEXIA	**Tapentadol**	**Prolonged-release tablet:** Management of severe chronic pain in adults which can be adequately managed only with opioid analgesics. **Film-coated IR tablet:** Relief of moderate to severe acute pain in adults which can be adequately managed only with opioid analgesics. **Oral solution:** Relief of moderate to severe acute pain in children*** from 2 years of age and in adults, which can be adequately managed only with opioid analgesics.	**Palexia™ 232.4**
Tramal	**Tramadol**	**EU and Latin America indication:** Treatment of moderate to severe pain.	**91.9**
ZALDIAR®	**Fixed-dose combination of Tramadol and Paracetamol**	Symptomatic treatment of moderate to severe pain; use should be restricted to patients whose moderate to severe pain is considered to require a combination of tramadol and paracetamol.	**63.1**
Transtec® NORSPAN® DAS 7-TAGE-SCHMERZPFLASTER	**Buprenorphine**	Transtec™: Treatment of moderate to severe cancer pain and severe pain which does not respond to non-opioid analgesics. Transtec™ is not suitable for the treatment of acute pain. Norspan™: Management of moderate to severe chronic pain in adults.# Norspan™ is not suitable for the treatment of acute pain.	**54.0**
Portfolio of Grünenthal Meds		Portfolio of 13 brands across six therapeutic areas, of which more than 60 percent of operational revenue is generated in the area of pain – key brands Abstral™, PecFent™, Oramorph™, Moventig™ and Rectogesic™.	**68.7##**

* Status: January 2024. If not otherwise mentioned the EU SmPC approved at the time of review is used as a basis. Please note that indications and formulations may vary from country to country.
Please refer to the respective local product information or Summary of Product Characteristics (SmPC)
** without license and milestone income
*** in children restricted to hospital use where appropriate equipment to enable respiratory support is available and for a maximum treatment duration of 3 days
# Please note that for Norspan™ Grünenthal is only the Market Authorisation Holder in Latin America
Grünenthal Meds portfolio represents the operational revenue with the product portfolio of the joint venture collaboration with Kyowa Kirin, following the closing of the joint venture collaboration in August 2023. Revenues from Aug-Dec 2023.

RESPONSIBLE USAGE
opioid-info.com

STATEMENT REGARDING THE RESPONSIBLE USE OF OPIOID-BASED MEDICINES

General considerations for the management of pain with any medication that contains an opioid mechanism of action. All opioid medications are not authorized for all types of pain indication. Always refer to the product prescribing information.

An individualised, patient-centred approach for the diagnosis and treatment of pain is essential to establish a therapeutic alliance between patient and clinician.[34]

To optimize opioid treatment:

- It is important to optimally use multimodal, non-opioid approaches in acute and chronic pain before escalating to opioids or in conjunction with opioid therapy.[34]
- Opioids should be used only when benefits for pain and function are expected to outweigh risks.[35]
- Consider patient variables that may affect opioid dose for each patient prior to opioid use.[34]
- During ongoing opioid therapy, clinician should collaborate with patients to evaluate and carefully weigh benefits and risks of continuing opioid therapy and exercise care when increasing, continuing, or reducing opioid dosage.[35]
- Make a careful selection of patients, abuse risk factors evaluated, and regular monitoring and follow-up implemented to ensure that opioids are used appropriately and in alignment with treatment goals (pain intensity and functionality) as agreed with the patient.[36,37]
- Make patients aware of the potential side effects of opioids and the potential for developing tolerance, dependence and addiction.[36,37]
- Addiction is possible even when opioids are taken as directed.[38]
- Signs of opioid use disorder should be monitored and addressed.[36,37]

If an opioid is authorized and selected for treatment of acute pain, please consider:

- The use should be for the shortest necessary time.[34]

If an opioid is authorized and selected for treatment of chronic pain, please consider:

- To continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.[35]
- Regular monitoring, clinical reviews, re-evaluations are required for long-term opioid treatment to assess pain control, impact on lifestyle, physical and psychological well-being, side effects and continued need for treatment.[36,37,39]
- How opioid therapy will be discontinued if benefits do not outweigh risks (CDC new ref), incl. tapering down the dose where possible.[36,37]

Patients and the general public can benefit from clear educational materials and awareness interventions to support the responsible use of opioids.[40]

Scan here to see the Grünenthal Statement on the Responsible Use of Opioids

PROMOTING PAIN RESEARCH

We are dedicated to creating a better future for patients, so getting involved with diverse initiatives that support this goal is vital.

Three early-career scientists who won the E-G-G 2023 celebrate together

EFIC-Grünenthal-Grant (EGG)

Through the EFIC-Grünenthal-Grant (E-G-G), Grünenthal supports young scientists early in their career in carrying out innovative clinical pain research with up to €110,000 provided every two years. Research grants are intended for clinical and human experimental pain research, including innovative educational initiatives aimed at improving diagnosis and treatment of pain. Since 2004, the E-G-G has successfully funded 73 innovative research projects, awarding almost €1.8 million to participants in more than 14 countries.
The three recipients of the 2023 E-G-G were recognised at the 13th Congress of the European Pain Federation EFIC in September 2023.

www.grunenthal.com/en/world-free-of-pain/initiatives/e-g-g

CHANGE PAIN

In 2009, we established our CHANGE PAIN initiative in 12 European countries. The initiative is endorsed by the European Pain Federation EFIC and Pain Alliance Europe (PAE). The initiative's mission is to improve patient outcomes by improving pain management through appropriate research, communication and education. We educate healthcare professionals about pain management and both healthcare professionals and patients about pain conditions with our CHANGE PAIN initiative. The goal is to build up knowledge about the responsible use of pain medicine to reduce risks related to misuse of medication and create trust among patients and healthcare professionals.
Through CHANGE PAIN, many tools have been developed, such as web-based learning modules and workshops across Europe.
In 2023, we reached 38,614 healthcare professionals through virtual educational events and 730,246 visitors through our educational websites. This was part of our effort to educate the healthcare sector about pain management and improve patient outcomes from pain treatment by providing practical tools for pain therapy via effective communication and education.

www.grunenthal.com/en/world-free-of-pain/initiatives/change-pain

Brain, Mind and Pain (BMP) Grant

To drive patient-centric innovation in chronic pain and neurological disorders, while also rewarding patient-centric and scientifically robust innovation, we support the Brain, Mind and Pain Patient-Centred Innovation Grant. It awards €60,000 every two years to research proposals to encourage patient-centred innovation that leads to improvements in life conditions for pain patients. The theme of the 2022/2023 BMP grant was "Healthy sleep for people living with brain, mind and pain conditions" and the first results have been published online.

www.bmp-grant.eu

Raising awareness – The Societal Impact of Pain platform

The Societal Impact of Pain (SIP) platform is a multi-stakeholder partnership led by the European Pain Federation and Pain Alliance Europe, and Grünenthal is one of the main sponsors. The partnership aims to raise awareness about pain and encourage changes to pain policies by providing opportunities for discussion among healthcare professionals, pain advocacy groups, politicians, healthcare insurance providers, representatives of health authorities, regulators and budget holders.

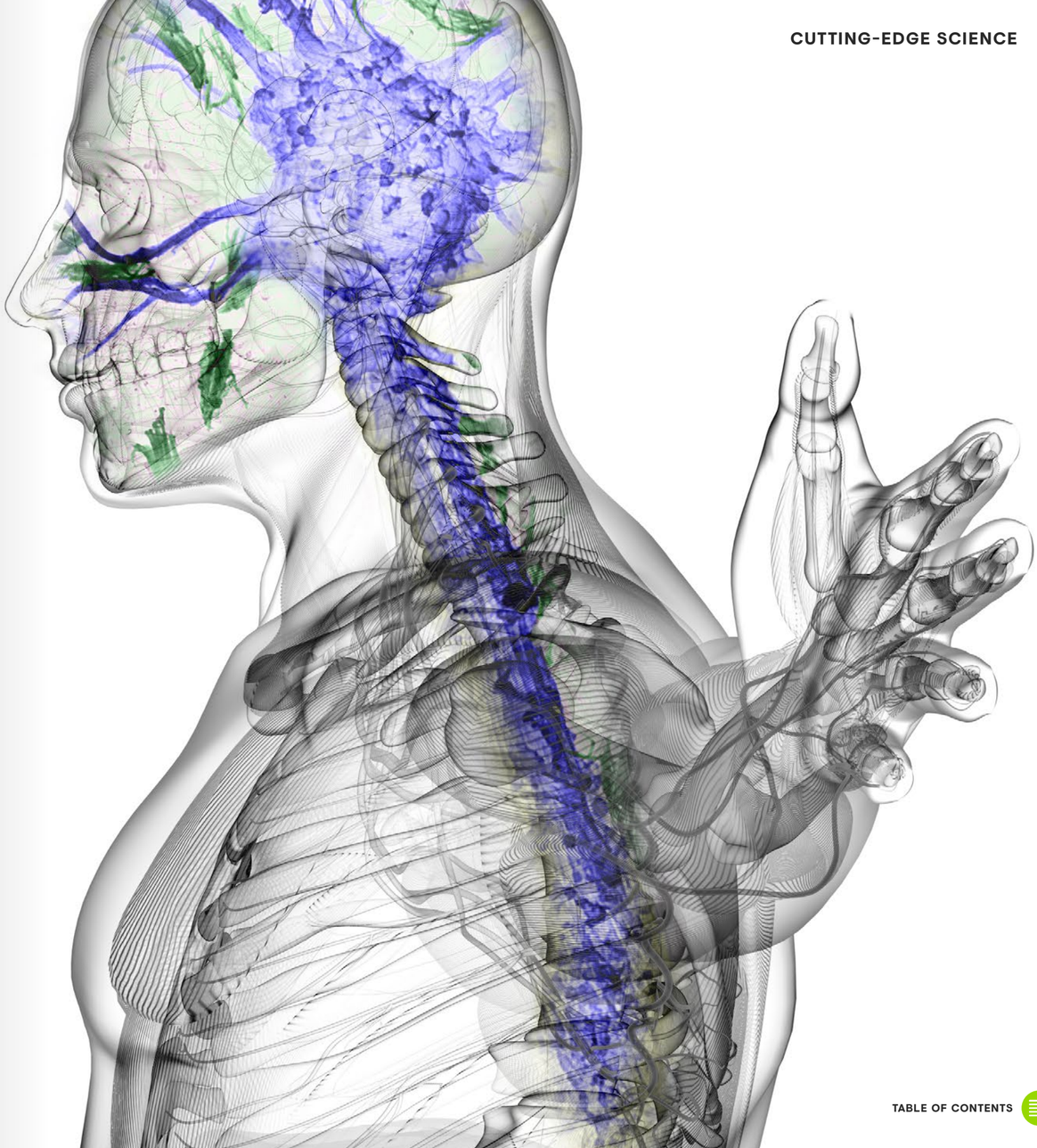
SIP is endorsed by more than 310 European and national patient and healthcare organisations, and collaborates with organisations from other disease areas to advocate for improved management of pain, for example in cancer and rheumatology.

In 2023, SIP released several position papers to demonstrate the relevance of pain to EU policy makers. Main priority areas were pain in the International Classification of Diseases (ICD-11), as well as pain and mental health – with impactful events in the European Parliament.

www.sip-platform.eu

CUTTING-EDGE SCIENCE

Our experts conduct pioneering research to develop next-generation pain medicines with the power to change the lives of patients in need – wherever they are in the world.



CREATING INNOVATIVE MEDICINES

Scientists at Grünenthal develop promising new treatments by identifying the best potential targets – and pursuing them by leveraging our deep expertise in bioinformatics, systems biology and pain biology.

Predictive validity

Pain scientists now understand that pre-clinical behavioural models are not capable of predicting the performance of potential new targets with the necessary level of accuracy. The expression profile of proteins varies between species, for example. The function of a target may also be different.

Grünenthal's experts in this field select targets by working on human genetic and clinical data, and by developing pre-clinical models using human tissues and cells. This helps to minimise the number of potential targets that ultimately fail to demonstrate efficacy during clinical development. For example, we investigate human cells such as nociceptive neurones that carry pain signals from the periphery to the spinal cord. By working on these neurones and examining how they interact with other cell types, we can understand how they work in healthy patients and patients with pain conditions.

Our research teams investigate the role of key targets in processing pain signals. Based on these investigations, they evaluate whether natural variation in a target, such as genetic differences, may have functional consequences. Beyond genetic evidence, we look for existing clinical evidence that modulating the activity or function of a target may impact pain. We consider a target very promising if it is possible to combine an understanding of its function in pain processing with clinical and genetic evidence for a role in pathophysiology. In addition, we consider the safety implications of modulating a target before adding it to our portfolio.

Nuclear Magnetic Resonance (NMR) spectroscopy at Grünenthal

Turning data into knowledge

We use our expertise in bioinformatics and systems biology to screen, analyse and process large volumes of omics data (see infobox below). Our scientists then turn that data into knowledge that can guide our research. We build strong collaborative relationships with external partners such as academic groups and other experts to mine this data together – and deepen our understanding of how cells and tissues communicate in painful conditions.

Omics data

Omics approaches are high-throughput technologies that can be used to analyse large sets of biological data – like genomics, transcriptomics and proteomics. Genomics analyses the entire set of genes within an organism and studies their interrelationships. Proteomics studies all proteins produced by an organism. And transcriptomics looks into all RNA molecules, including mRNA, rRNA, tRNA, and other non-coding RNAs.

“Grünenthal’s R&D organisation is able to address pain holistically and deliver innovative potential treatments. Our teams include talented scientists from around the globe and we work closely with leading organisations that share our vision of a World Free of Pain.

Gillian Burgess
Head of Research

Pain research at Grünenthal

Focused therapeutic area strategy
We focus our R&D efforts on four pain indications characterised by high unmet medical need.

Comprehensive disease understanding
Deep understanding of the underlying human disease biology enables us to identify well validated, highly promising targets.

Double down on most promising targets
We pursue targets holistically and leverage a wide range of modalities to minimise compound-specific risks and maximise probability of success.

Teaming up
We collaborate with leading institutions around the world to tap into the best science and technologies wherever they exist.

A concise therapeutic area strategy

Substantial in-house research including identification and validation to disease understanding. Projects in all Phases from research up to clinical development are potential interest

Peripheral neuropathic pain

Chronic low back pain

Osteoarthritis

Chronic post-surgical pain

Focus on identifying and establishing collaborative partnerships for projects undergoing clinical development.

Peri-surgical pain

Migraine

Fibromyalgia

CRPS

EXPLORING NEW MODALITIES FOR TREATING PAIN

Scientists at Grünenthal are leveraging genetic medicine to develop innovative approaches for treating pain.

Grünenthal is broadening its approach to pain management by integrating the advanced field of genetic medicine into its established portfolio of small molecule treatments. Our teams are placing a particular emphasis on RNA therapeutics. Our objective is to harness the distinctive characteristics of RNA-based treatments – such as their precise design, their reversible yet long-lasting impact, and their ability to modulate targets that were previously inaccessible to small molecules. We aim to develop molecules that offer transformative specificity and efficacy.

The utilisation of the base genetic code in molecule design is central to RNA therapeutics. By using genetic coding when designing our molecules, we can create drugs aimed at specific pain targets with remarkable levels of precision. This approach enables a high degree of selectivity and ensures the effectiveness of our interventions while also significantly reducing the likelihood of off-target effects. This is vital for patient safety.

A prime example of this strategy is the use of specifically designed antisense oligonucleotides (ASOs) to target messenger RNA (mRNA). These ASOs can selectively inhibit the production of specific proteins involved in human pain sensation, addressing targets that were previously beyond the reach of conventional pain management modalities.

Our genetic medicine strategy also includes efforts to develop an advanced RNA therapeutics delivery platform. This platform will optimise the precise delivery of RNA-based treatments to pain-relevant sensory neurones. This ‘plug-and-play’ concept, where different RNA sequences can be seamlessly integrated into the existing chemistry framework, allows for rapid customisation and development of new therapies for various indications. It offers potential to significantly accelerate the expansion of our portfolio in an efficient manner.

Grünenthal’s exploration of RNA therapeutics represents a transformative shift in our approach to pain management. By integrating the targeted precision and adaptability of RNA-based treatments with our established range of small molecule therapies, we are investigating new therapeutic hypotheses. These hypotheses, previously untestable with small molecules, open up new opportunities for understanding and treating pain.

Working in Grünenthal's biology laboratories

A PARTNER OF CHOICE FOR PAIN R&D

We collaborate with organisations worldwide to drive progress for pain R&D. From evaluating new molecules to successful commercialisation, Grünenthal is a strong partner with a proven track record of turning bright ideas into life-changing treatments.

Today, most clinical R&D involves reformulating existing drugs or seeking approvals for the same drug to treat additional diseases. This trend reflects the cost and difficulty of developing therapies for pain. However, the pain R&D landscape is transforming because of breakthroughs related to genomics, investigating biological processes at the level of single cells and moving away from rodent models to better translatable models. These methods are making it possible to identify new targets and mechanisms with potential to treat pain conditions.

Investment is the key to innovation. However, pain research attracts less funding from industry or venture capital than other disease areas like oncology or immunology. Many large pharmaceutical companies have exited pain. As a result, innovation in this field is being led by smaller companies and academic institutions. Several small biotech companies are pursuing applications like gene therapy or cell therapy that carry a higher risk but may have better patient outcomes in the long run. Companies are also investigating novel modalities that may have better traction for well-known pain targets.

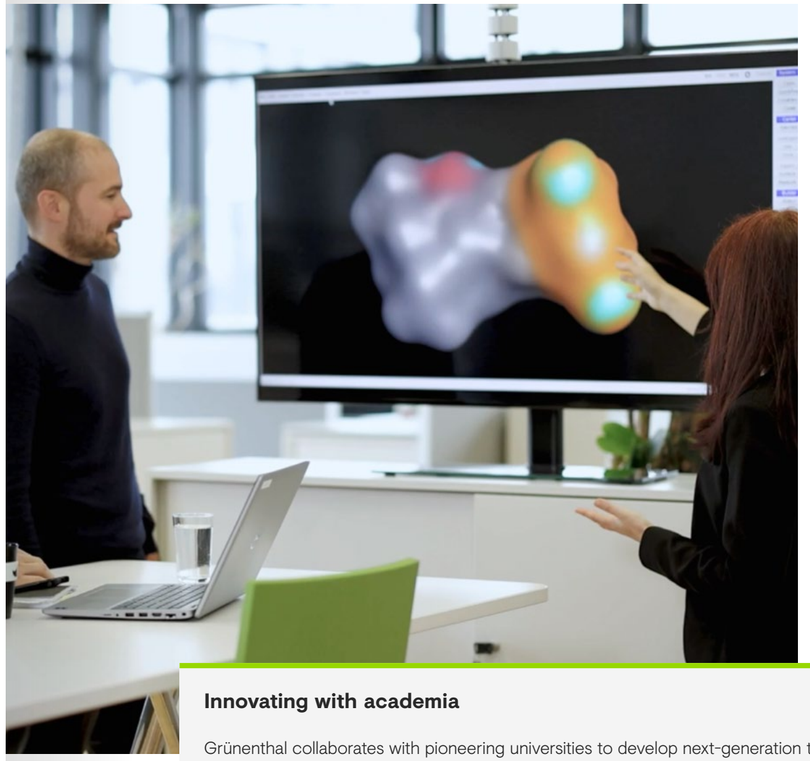
At Grünenthal, we believe it is vital for businesses to work closely with academia to drive progress in pain R&D. Universities have strong relationships with hospitals and can leverage their academic networks to access human tissue, proprietary models or biomarker research. Grünenthal collaborates with pioneers from academia who are targeting progress for pain.

A powerful partner for pain R&D

Grünenthal is committed to leadership in pain R&D. This makes us an attractive partner for small or large companies that are seeking deep expertise to support progress for pain assets, as well as organisations that need a source of non-dilutive revenue through licensing or are keen to divest their pain programmes completely.

Our partnering approach is flexible depending on the stage of the asset and the aspirations of our partner. It may involve an early research collaboration and access to our capabilities, co-development or co-commercialisation, or a geographic-split deal for an asset in clinical development. We also engage in standard licensing deals and asset acquisition.

Grünenthal has a leading position in pain and a long tradition of driving progress for pain management. We are committed to continuing that progress in the future. That makes us a popular partner for innovation.



Finding the perfect collaborator

Our company is strongly focused on pain – and we are always open to pain programmes in any stage of development, as well as novel technology platforms with transformative potential for patients. Grünenthal is seeking selective and potent molecules, of any modality, that address the key pain pathways and where there is strong target validation. Since animal models of pain have low translatability to the clinic, we are particularly interested in collaboration with companies that use more “human-relevant” models or cell systems and are investigating credible biomarkers for pain.

There remains a huge unmet medical need in the many pain indications Grünenthal is pursuing. Ultimately, our collaborative approach is all about connecting expert scientists and entrepreneurs who share a deep passion for providing relief to patients suffering from pain.

In-silico research at Grünenthal

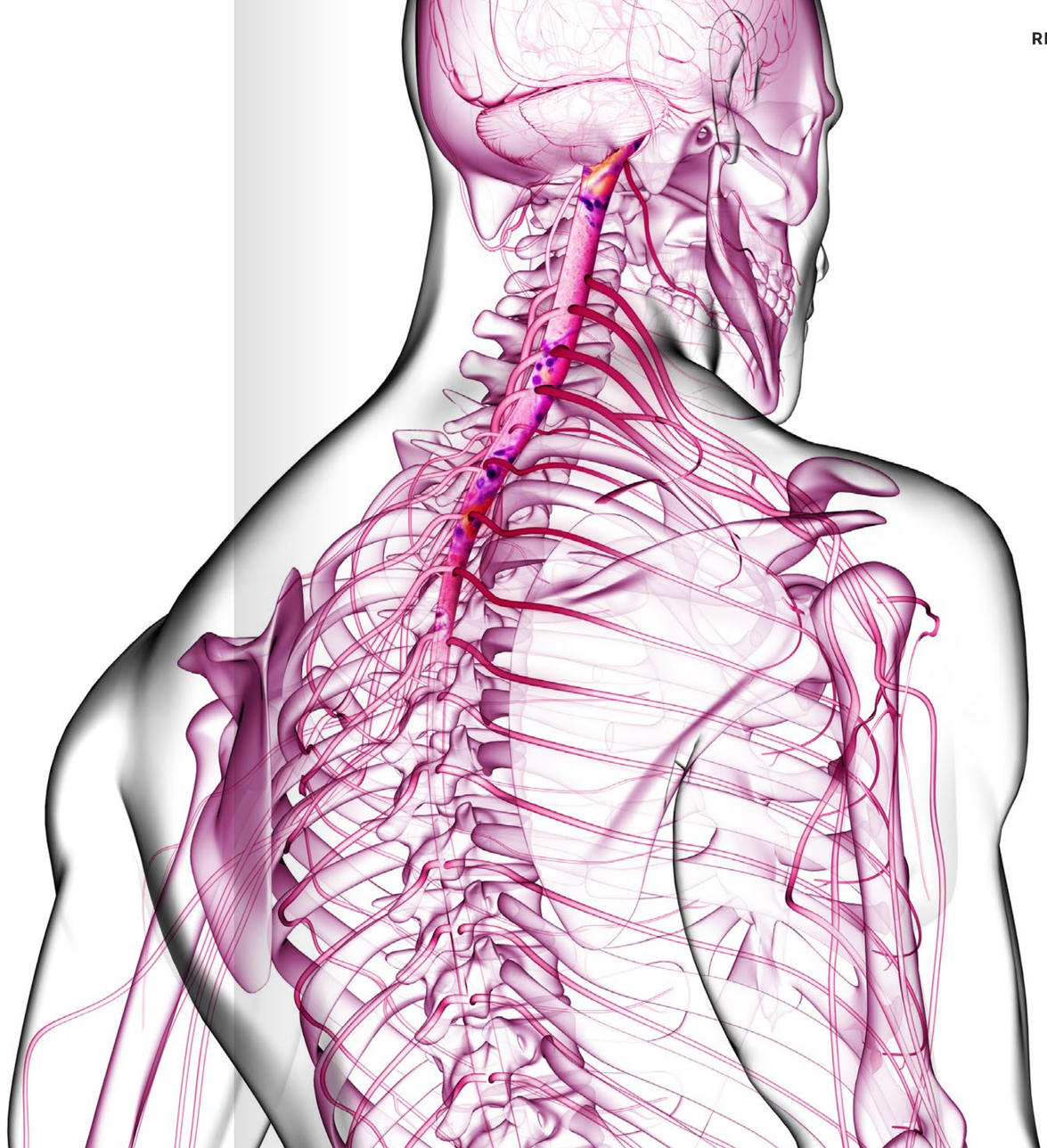
Innovating with academia

Grünenthal collaborates with pioneering universities to develop next-generation treatments and research methodologies. We are joining together with Uniklinik RWTH Aachen and RTWH Aachen University, for example, to explore new methods for drug development. This includes closely examining differences between human and non-human models to identify the best surrogate species for supporting mechanistic translation into the clinic.

With McGill University in Montreal, Canada, we are enhancing our access to high-quality human tissue for pain R&D. Together, we are developing a process to treat samples with Cryofreeze, which would expand the availability of tissue gained through our global network. And Grünenthal is also working with King’s College London to develop microfluidic culture (MFC) models based on human induced pluripotent stem cells (iPSCs) that are customised for supporting pain research. If successful, this could significantly strengthen our understanding of how investigational medicines modulate pain in the human body.

RELIABLE SUPPLY TO PATIENTS

Our Global Operations team brings together 2,100 committed people to supply 95 unique products to patients in around 100 countries.



MANAGING THE END-TO-END VALUE CHAIN

Our Global Operations team ensures the highest levels of safety, quality and cost-efficiency in all of our activities – and at every stage in our value chain.

Every day, our Global Operations (GO) team strives to ensure patients have reliable access to medicines in around 100 countries worldwide. We are proud that we successfully maintained an uninterrupted supply of treatments in 2023, despite several local and global challenges.

People in GO share a strong sense of commitment and responsibility. Together, they improve patients' lives and support growth for Grünenthal by ensuring outstanding quality and excellent processes. Around 2,100 people manage the full end-to-end value chain for our products. We operate five specialised production facilities – in Chile, Ecuador, Germany, Italy and Switzerland. Alongside manufacturing Grünenthal products at those sites, we also support external customers. In 2023, third-party manufacturing accounted for 48 percent of our production volume.

Victor Barbosa, Head Global Operations, shares his opinions about...

... GO's contribution to growth for Grünenthal

Victor: Grünenthal has ambitious growth plans – and GO is a powerful force driving that growth.

Our GO team is very proud of its achievements in 2023. It was a record year in terms of volume produced and distributed, with 180 million packs of Grünenthal products reaching patients worldwide.

These accomplishments are a powerful example of how GO contributes to Grünenthal's build-muscle strategy. Our capacity to integrate acquired products helps to drive value from our company's investments by improving the cost of goods sold (COGS) and ensuring resilient global supply chains. GO has a proven track record of managing these integrations quickly and effectively to maintain outstanding levels of quality and ensure a dependable supply of medicines to patients. At all times, we place a strong focus on continuous improvement within Grünenthal's operations to boost safety, sustainability and efficiency.

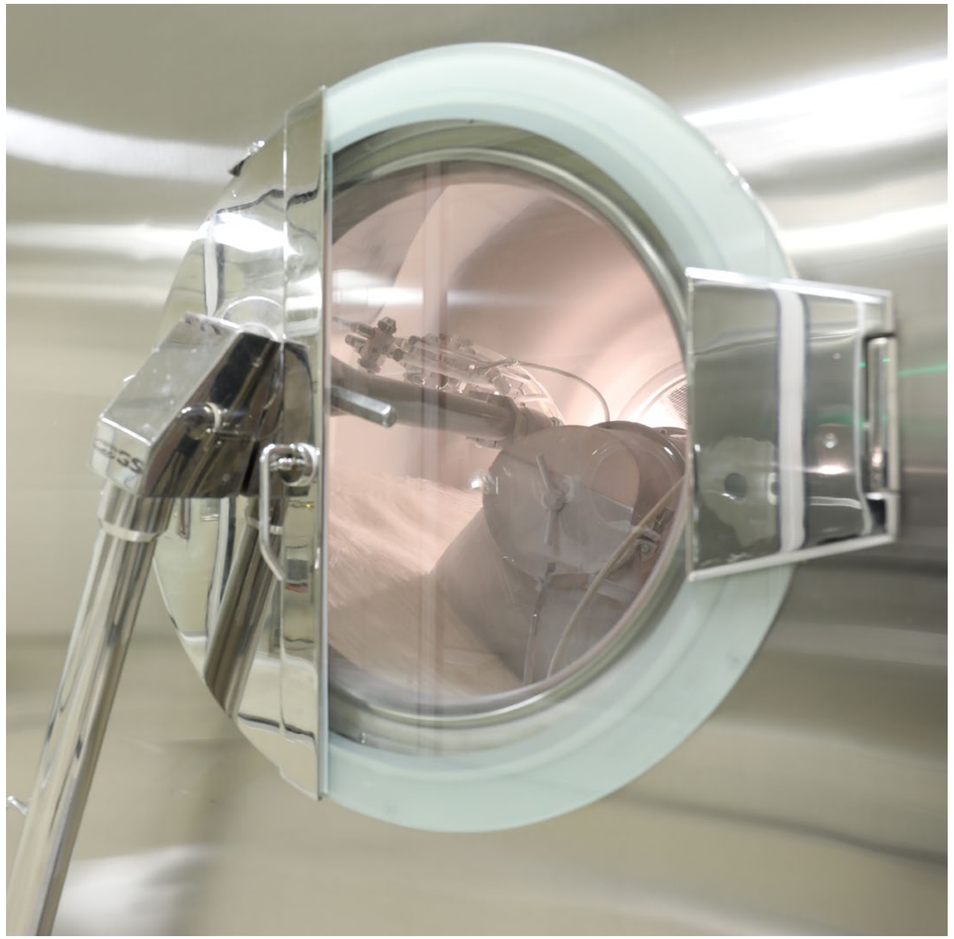
... GO's constant transformation

Victor: In today's rapidly shifting business environment, it is essential to stay agile and adapt to new challenges. These priorities are a key factor in our work related to procurement, manufacturing, product integration, supply chain management, contract manufacturing and quality assurance. Our GO2025 strategic plan guides our efforts to constantly future-proof Grünenthal's profitability by striving for outstanding levels of cost-efficiency, quality and safety along the entire value chain. Achieving operational excellence in our manufacturing operations and implementing digital technologies are two significant aspects of this journey. We invest in our people, our sites and our technologies to improve our operations – and ensure a reliable supply of high-quality treatments for patients worldwide.

... GO's people and culture

Victor: GO is going through a transformation to become a high-performing organisation. People and culture are the heartbeat of everything we do. As the latest step, we recently launched our GO Leadership Academy to empower the almost 300 leaders across all functions in our global team with new skills and tools to drive progress on our shared journey of change. And we offer an educational training module that helps operators and technicians in our manufacturing sites continuously improve their skills and capabilities in a changing working environment. We take immense pride in achieving Great Place to Work® certification at all of our manufacturing sites – based on an anonymous employee survey in 2022. Now, we are offering new pathways for professional growth like job rotations and upskilling activities. This will develop our people and give them future-facing skills. Through constant dialogue with our teams, we are shaping the way forward for GO and Grünenthal.

Victor Barbosa during a visit to our site in Origgio



Machine for Tablets Coating

Investing in the future

Our production sites play an important role in ensuring a safe, reliable supply of medicines to patients. Pursuing excellence is the key to maintaining our strong competitive position. For this reason, we are committed to investing in our manufacturing capabilities worldwide.

Between 2020 and the end of 2024, we will have invested more than €170 million in our sites. The major investments include:

- €50 million to ensure world-class infrastructure and robust product quality at our site in Santiago, Chile.
- €50 million for integrating and in-sourcing newly acquired products such as Crestor™, Nexium™ and Vimovo™, as well as expanding our Contract Manufacturing Business.
- €4.5 million invested in automation and digitalisation.

GO2025 – Our way forward

Our Global Operations team is driving progress towards Grünenthal's vision of a World Free of Pain. Alongside our mission to deliver a safe, effective and reliable supply of medicines to patients, we have a clear strategic plan called GO2025. This plan guides our efforts to boost Grünenthal's profitability by making sure we achieve optimal quality, safety and cost-efficiency throughout the entire value chain.

Digital technologies are a significant part of this journey. We take advantage of smart innovations inspired by Industry 4.0 to maximise productivity, improve our reactions to market changes and make our manufacturing processes more resilient. These technologies include data capture, advanced analytics and assembly line robotics. We are also creating a Global Operations Business System (GOBS) across our main end-to-end processes to further strengthen our operational excellence.

Digitalisation – Our facilitator

Digital technologies are opening up exciting opportunities for our Global Operations team. We are determined to explore every possible way of creating value through modern solutions – from embracing automation to unleashing the power of data. Our core focus is on creating more efficient processes and enabling smoother end-to-end operations. Here are just a few examples:

- We have introduced cobots in the packaging centre at our site in Aachen, Germany. Cobots are used for highly repetitive activities like carton handling. This boosts efficiency and gives our people more freedom to focus on other tasks.
- We are introducing robots in the biopharma business at our site in Origgio, Italy.
- We use an automated and standardised digital performance system across all sites. It provides ongoing global data transparency while also improving the efficiency of our packaging and bulk operations.
- Our data collection systems have been extended to reach from our manufacturing lines to the bulk manufacturing areas of our sites. This further deepens our understanding of the manufacturing process and enables us to improve performance.
- We have applied innovative advanced analytics algorithms to increase the yield of our Active Pharmaceutical Ingredient (API) sites.
- Our eProcurement platform for tendering, offer comparison and Supplier Relationship Management (SRM) is helping to increase efficiency in our procurement activities.
- We have implemented the E2Open platform to connect to our Enterprise Resource Planning (ERP) systems. This platform takes our digitalisation to the next level, increases transparency and improves our process management. The system also allows automatic exchange of supply chain data such as information about orders, updates, inventory levels and deliveries.

Data & Analytics – Driving innovation

The ongoing evolution of Artificial Intelligence (AI) and Machine Learning (ML) is a significant driver of value within Data & Analytics (D&A). The ability to derive meaningful insights from large, complex datasets is becoming more sophisticated. This enables us to make more accurate predictions, optimise processes and identify new opportunities.

Generative AI (GenAI) is a particularly promising technology. Integrating GenAI into everyday tools and applications can enhance accessibility and user-friendliness, while empowering people across our company – including the GO team.

In 2023, Grünenthal and GO began to invest in D&A processes, target operating models and platforms. These serve as the backbone for leveraging advanced analytics such as AI and ML. We expect these technologies to enable significant efficiency improvements.

The integration of D&A throughout our value chain is becoming increasingly seamless. Our interconnected approach brings together data from various sites and sources to create a holistic overview of GO. It also supports collaboration and opens up synergies across the entire company. Overall, these technologies will generate more nuanced insights and will enhance decision-making in every area of our business.

€170 mn

Invested in our sites between 2020 and the end of 2024

Digital control and monitoring of the production line via touchscreen

ADVANCING OPERATIONAL EXCELLENCE WORLDWIDE

Interview with Philipp Schaffrath, Head of Strategy & Development for Global Operations.

What is Grünenthal's approach to operational excellence?

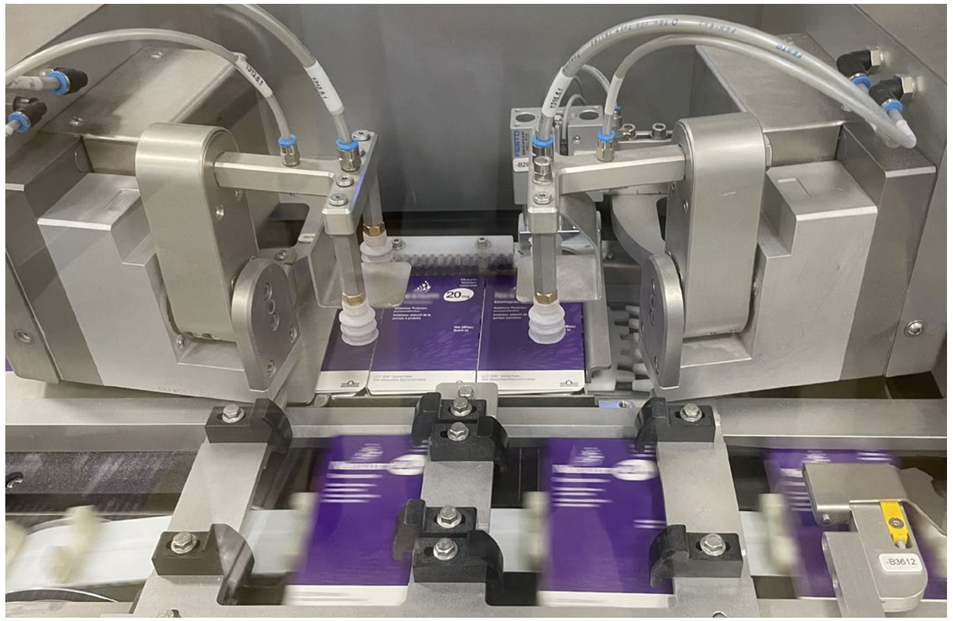
Philipp: Our Global Operations Business System (GOBS) encompasses the essential components for fostering excellence. It is a comprehensive framework of standards, processes, practices, principles, tools and templates aimed at achieving outstanding performance across all areas of an organisation. Implementing this system ensures measurable results, accelerates growth and cultivates culture. Most importantly, it fulfils our promise to patients – by ensuring a safe, reliable and efficient product supply.

Can you share an example of GOBS in practice?

Philipp: Our newly revamped site in Santiago, Chile, has seen notable gains this year due to the integration of GOBS. The focus in Santiago is on engaging employees, fostering ownership and instilling pride. We believe in making excellence a habit rather than a one-off action. By modernising the facilities and using automation, we have optimised our processes and reduced energy consumption, while also cutting costs. This has positively influenced EBITDA and helped enable the company to invest in innovation and growth. We are eager to implement these achievements at our other sites.

What are the future ambitions?

Philipp: Our aim is to enhance our production sites to make them highly competitive, technologically advanced, flexible and sustainable manufacturing facilities. We envision our sites around the world to be data-driven, lean, standardised and resilient. While embracing digitalisation and automation, we recognise the vital role of human capabilities. In this context, we will continue to invest in training programmes that encourage innovation among our workforce.



Packaging of Nexium™ at our Aachen site

Building growth capabilities

Acquisitions are a key factor in our company's growth strategy – and successful acquisitions depend on integrating new brands into our supply chain quickly and effectively. Our GO team has a strong track record of helping to unleash the full growth potential of Grünenthal's acquired products and technologies. Our dedicated team for integrating acquisitions ensures that we get maximum value for our investments, and we are often able to achieve substantial cost reductions in production.

The successful acquisitions of the European rights for Nexium™ and the global rights for Vimovo™ (excluding the US and Japan) are both strong examples of this approach in action. Since acquiring these two brands in 2018, we have invested €11.8 million in state-of-the-art packaging equipment at our Aachen site. Following the takeover of packaging activities from AstraZeneca in 2022, we have already achieved cost savings of approximately €12.7 million per year.

We continue looking for value after integrating acquisitions into our network. In Quito, Ecuador, we are now investing €24 million for a new Vimovo™ production facility with capacity to manufacture up to 200 million tablets per year. It will begin production in 2025 and will supply 17 European countries. This will lead to cost savings of up to €11 million annually.

Zomig™ is another integration success story. We acquired this brand from AstraZeneca in 2017. Now, we expect to achieve synergies worth up to €3.7 million annually through our in-house bulk and packaging capabilities.

From 2023 onwards, Grünenthal's site in Italy will take over production of the Zomig™ nasal spray formulation and supply it to Europe, Canada and the US. After investing around €10 million in a new 10,000 m² facility and the related equipment, we can now ensure patients have access to this valuable treatment beyond AstraZeneca's original supply agreement that ended in 2022.

For the integration of Crestor™, we will completely insource the product end-to-end – from API production through to bulk manufacturing and packaging. We expect to take over production and packaging activities in all relevant markets in 2025. We anticipate substantial synergies worth up to €15 million per annum through in-house bulk and packaging, as well as an additional €5 million through in-house API production from 2027 onwards. The investment of €12 million will reduce of cost of goods by 63 percent.

This complete insourcing also increases our supply chain resilience. In today's dynamic market environment, it is more important than ever to have a robust supply chain in place to absorb sudden uncertainties and delays. With our product integrations, we are able to control our supply chain much better and ensure an uninterrupted supply of treatments. The cost savings achieved by our integration efforts enable the company to grow. This is a valuable contribution to Grünenthal's future and it helps our company to continue investing in R&D.

Integration for the product portfolio of Kyowa Kirin International's established medicines business unit is a slightly unusual project. Grünenthal and Kyowa Kirin have now transformed this portfolio into a joint venture called Grünenthal Meds. It is owned by Grünenthal, as major shareholder, as well as Kyowa Kirin International. This new setup enables the integration of 13 brands into Grünenthal's portfolio, including 200 marketing authorisations. In this way, we will further improve our range of therapies worldwide – and will be able to reach more patients. In 2024, we will begin integrating this business into some of our Grünenthal affiliates in Europe.

From 2017 until end of 2024

25

end-to-end integrations into Global Operations (finalised or in progress)

Through cost-effective integration, we have achieved savings of:

€12.7 mn

per year through in-house packaging for Nexium™ and Vimovo™.

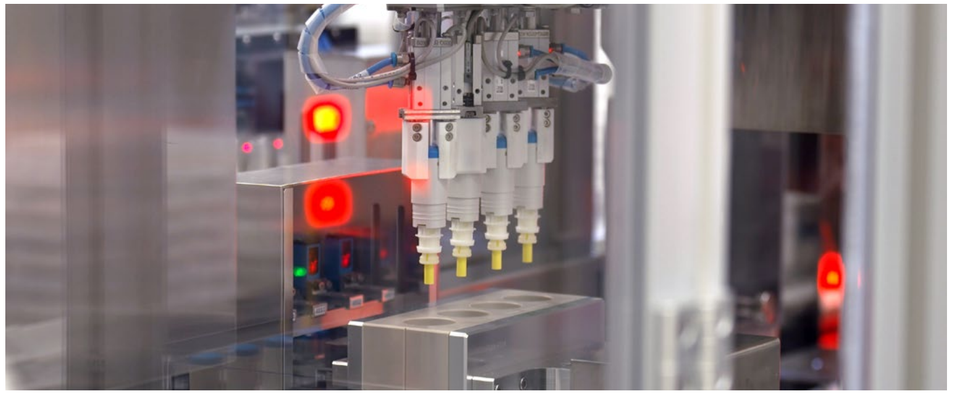
€3.7 mn

per year through in-house bulk production and packaging for Zomig™.

Expected savings of

€20 mn

per year through in-house API, bulk production and packaging for Crestor™.



Assembly of pre-filled pens at our Origgio site

Grünenthal PRO – Serving our customers

Our Contract Manufacturing Business, called Grünenthal PRO, offers high-quality manufacturing services for customers around the globe:

- Biopharma assembly and packaging,
- Unit-dose nasal-spray filling and packaging,
- Bulk production of solids, semi-solids, liquids,
- Packaging of patches, blisters, in wallets, sachets or sticks,
- Hormone and controlled drug production,
- Production of selected APIs.

Grünenthal PRO is constantly growing. In 2023, the business grew by 14 percent and reached an all-time high. The main driver of this global growth was our service related to biopharma assembly and packaging.

We launched several new products for our customers by offering high levels of flexibility, agile service and excellent quality. One of our core customers recognised us with its "best supplier award" in 2023. We are also preparing to supply our first batches of single-unit-dose nasal spray to the US, following successful certification of our production line by the FDA in 2023. Our site in Quito, Ecuador will begin supplying European markets in 2025 following re-qualification from the EMA.

We extended our relationships with six satisfied clients, while also successfully transferring four new products from customers' sites into our production facilities.

Our Grünenthal PRO team takes deep pride in exceeding expectations. We aim for 100 percent customer satisfaction. Our people constantly seek to build trust-based relationships, while proactively mitigating market risks and striving for win-win situations.

In today's environment, we place a sharp focus on managing the supply flow from end-to-end to ensure a reliable delivery of medicines – even when disruptions occur. Of course, we are also constantly exploring opportunities to shrink the CO_2 footprint of our operations in partnership with our customers.

48 %

of our overall production volume is for external customers.
For more information:
www.grunenthal-pro.com

Filling of tablets into bottles in our production site in Aachen.

Production volume 2023

3.2 billion tablets

180 million packs

325 tons API and Starting Material

Strong results and high expectations

For the Global Operations team, 2023 was a record year in terms of volume produced and distributed. 180 million packs of Grünenthal products reached patients worldwide, which is a production volume increase of 13 percent compared to 2022. This growth was driven by the success of our brands and our Partner Business, across all of our markets worldwide.

- The production volume at our site in Aachen, Germany, increased by 16 percent in 2023 compared to 2022 – and we expect a slight contraction in 2024. In total, the last three years have seen the production volume at this site increase by 50 percent. This is driven by the integration of acquired products such as Nexium™ and Vimovo™. Due to this rapid expansion, we aim to make Aachen our Centre of Excellence for packaging in Europe.
- Our Contract Manufacturing Business has continued to earn trust from customers. This trust is opening up new possibilities. In particular, biopharma customers are awarding Grünenthal opportunities to enter new markets because of the outstanding service levels at our site near Milan, Italy. The bulk production volume at this site grew by 20 percent in 2023 compared to the previous year and we expect a further 3 percent growth in 2024.
- In Latin America, we are also achieving growth for our Contract Manufacturing Business. Grünenthal's modern manufacturing site in Quito, Ecuador, already meets European standards. It is one of a few factories in Latin America with a European license. We have started exporting from Ecuador to Brazil and will begin exporting to Europe soon. Our overall production volume in Latin America increased by 6 percent in 2023 compared to 2022. We expect this to remain stable for 2024.
- Our production sites that make Active Pharmaceutical Ingredients (APIs) are also performing very strongly. The facilities in Mitlödi and Aachen achieved record production volumes of more than 325 tons, which is an increase of 8 percent compared to 2022. We have been manufacturing the API Tramadol in Mitlödi, Switzerland, for over 30 years. This site now covers about one-third of the world's demand for this prescription pain medication.

We will continue to move forward with the strategy for our Contract Manufacturing Business, and will structure our activities and target our investments in line with this approach. Our site in Ecuador, for example, has now become a regional manufacturing and distribution centre for liquids and semi-solids. At the end of 2023, we completed the transfer of all production of liquids and semi-solids from our site in Chile to our site in Ecuador.

We also invested €56 million to revamp our site in Santiago, Chile. This will ensure the same approach to product robustness, quality and regulatory compliance at all of our sites worldwide. In this way, the Santiago site is getting ready for future integrations and volumes, and will actively support our build-muscle strategy.

People in GO share a strong sense of responsibility for ensuring outstanding quality and excellent processes

Safety first

One element of our company's approach to manufacturing will never change: We always put safety first. Every accident is one accident too many. In this spirit, we continuously develop preventative measures and provide training activities to improve the level of occupational safety at Grünenthal.

Every step, however small, brings us closer to achieving our goal of zero accidents. This requires safe framework conditions and safe behaviour. To promote these two components of workplace safety, we actively search for unsafe situations and behaviour – and then make sure they are corrected. We also analyse every accident at one of our locations and then share key learnings with other sites around the world.

Here are some examples of our success with boosting safety:

- Over 98 percent of our GO staff have taken part in the Behaviour Safety Observation programme. This simple and effective approach supports employees in identifying potential hazards and taking corrective actions.
- Lost Working Day (LWD) accidents decreased by 27 percent across our manufacturing sites in 2023 compared to 2022. We have now achieved a reduction of 62 percent in the last three years. LWD accidents at our manufacturing sites are now at a single-digit level for the first time, which reflects the collective efforts of our entire GO team.
- Grünenthal's site in Aachen was accident-free for the entire year during 2023.

We also celebrated Grünenthal's first ever Global EHS Day in 2023. This event raised awareness about how to keep safe, stay healthy and look after the environment. Each manufacturing site hosted activities that highlighted these topics. Our teams placed a particular focus on preventing occupational accidents and diseases, as well as safe approaches to handling hazardous materials, waste and wastewater.

Quality always

At Grünenthal, we have an unwavering commitment to providing medications that patients can trust. Adhering to stringent regulatory standards and our robust Quality Management System (QMS) ensures compliance and upholds quality throughout our global value chain.

Pharmaceutical Quality System (PQS) and digitalisation:

Our Pharmaceutical Quality System (PQS) is under constant scrutiny through a comprehensive set of Quality Key Performance Indicators (QKPIs). These indicators allow us to meticulously track progress and evaluate the success of meeting our ambitious quality targets. By embracing digitalisation, our QMS is reshaping and streamlining our processes. This will foster an even more efficient, digital and global working culture.

Certifications and inspections:

Grünenthal maintained and extended several certifications in 2023. Our manufacturing facility in Origgio, Italy that produces nasal sprays for migraine treatment received a flawless inspection from the U.S. Food and Drug Administration (FDA). Our hormone production facility in Chile was re-certified by the Brazilian health authorities (ANVISA) for producing non-sterile solids and non-sterile semi-solids. The Grünenthal site in Quito, Ecuador passed its fifth GMP/GDP inspection from a European inspectorate. And we achieved multiple re-certifications in Germany and Switzerland. Grünenthal's sites continue to hold multiple valid certifications from national health authorities worldwide.

PQS confirmation and audits:

Regulatory inspectorates confirmed the appropriateness and maturity of our PQS at our headquarters, manufacturing sites and sales affiliates during 23 inspections in 2023. Additionally, our manufacturing sites successfully passed numerous client audits. To maintain effective oversight of our supplier and vendor network, we conducted more than 440 audits that ensured the adequacy of our partners' operations. Our GMP/GDP supplier network expanded by 134 suppliers compared to 2022. This necessitated 144 additional audits due to changes and network extensions. These audits, including onsite and remote assessments, concluded with a remarkable 98.7 percent satisfaction rate.

Outlook for 2024:

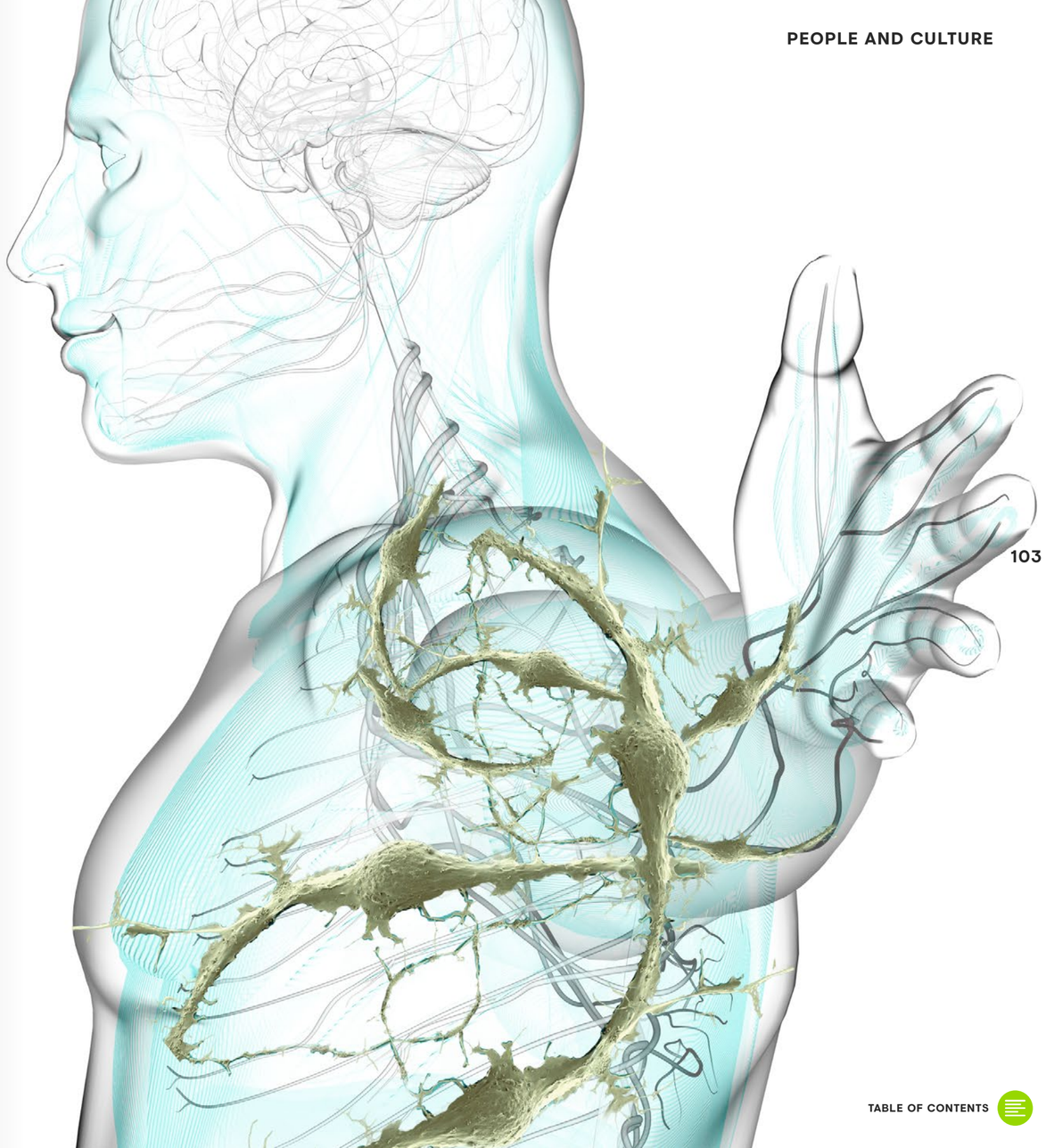
Looking ahead, Grünenthal will continue to put quality at the forefront of its mission to ensure the safe, reliable and efficient supply of medicines to patients around the world.

> "Quality is a key driver for our continuing journey towards operational excellence. Grünenthal is committed to ensuring the same approaches to product robustness, quality and regulatory compliance at all of its sites worldwide.

Joachim Bauer
Head of Global Quality Assurance

PEOPLE AND CULTURE

By exemplifying our Values & Behaviours, our people make the biggest impact towards Grünenthal's vision of a World Free of Pain.



ENGAGING OUR PEOPLE

We strive to maintain a high level of engagement across the organisation and take action based on feedback gathered from our people through targeted initiatives.

In 2023, following the successful Great Place to Work® accreditations we received, we continued implementing actions to strengthen our organisation further. This way, we continue to build a working culture where people feel respected, fairly treated, are proud of the impact they can make, enjoy the collaboration and experience credible leadership.

- We continue our transparent communication with the organisation on the progress we are making and how we bring our strategy to life, including through townhall events and regular updates with our leaders.
- To increase connectivity among colleagues, all teams have implemented new initiatives and we installed a monthly 'Week at the Campus' to increase both formal and informal interactions with colleagues across different functions.
- We also celebrate successes more often and share best practices more broadly.
- We also acknowledge some areas requiring further improvement, which vary across the business. Each area has defined actions where we can further drive engagement. We have identified some common themes across the different areas, such as recognition, prioritisation and simplification.

Towards the end of 2023, our US affiliate Averitas Pharma was named one of the top 30 Best Workplaces in BioPharma (Small and Medium) by Fortune Magazine, further building on the Great Place to Work® recognition.

More Grünenthal entities are now certified than ever before

OUR DIVERSITY AND INCLUSION JOURNEY

Our passion for diversity and inclusion is widely shared and we are making visible progress year after year.

Our Diversity and Engagement strategy:

2023 was the first full year with our Diversity and Engagement strategy implemented. It brings together global and local initiatives under three core pillars:

Enhancing our diversity

Enhancing our talent pool through attraction, retention and enablement of diverse talent.

Driving conscious inclusion

Creating psychological safety and belonging through our people processes and leadership.

Positively impacting our local communities

Inspiring younger generations, partnering with diverse suppliers and supporting communities through volunteering.

Our vision is to create an environment where all employees feel valued, respected, included and empowered to do their best, bring great ideas to the table and develop their full potential as a contributor to the success of Grünenthal and the communities we serve.

When nobody gets left behind,
everybody moves forward

While we still strive to make further progress on our journey, we have achieved forward steps to become a more equitable organisation. This was demonstrated by increased diversity in terms of gender, generation and cultural background. In 2023, we championed an inclusive leadership development strategy to ensure a continuous learning cycle for people managers and those in senior leadership roles. Leadership Learning Labs were held to drive further conscious inclusion. Forty-seven percent of our leaders spent 1,335 hours across four key topics covering resilience, psychological safety and empathy.

46%
Millennials and Gen Z

40%
female leaders

66
nationalities

Diversity and inclusion reign in Spain

Two Spanish institutions – Adecco Foundation and the Excellence in Sustainability Club – recognised Grünenthal Spain with the 'Best Diversity and Inclusion Strategic Plan' award, highlighting every colleague's work as an ambassador for change.

A place for parents and carers

We adapted our people policies to better support flexible working. We also prioritised hiring for global roles without the need for relocation, which is particularly beneficial for working parents and people with carer responsibilities. In addition, we continued to encourage male colleagues to take extended paternity leave throughout the year.

Challenging stereotypes in Italy

Our colleagues in Italy challenged each other on the most common stereotypes associated with the LGBTQ+ community, before creating an action plan to address the most prominent and relevant cliches and prejudices.

Fortune favours Averitas

Fortune Magazine named our US affiliate, Averitas Pharma, as one of the 30 Best Workplaces in BioPharma (Small and Medium). The top drivers for this accolade were our affiliate's culture, people and benefits.

Committing to D&I in Chile

Under its 'At Grünenthal, we are unique' banner, our Chilean site saw three colleagues certified as Diversity and Inclusion Managers by ChileValora. Together, they are creating a more inclusive and respectful environment for our people.

Bring Pride to work

Each year, we celebrate Pride Month with events across Grünenthal. This activity recognises our LGBTQ+ colleagues and reinforces our commitment to creating an inclusive workplace for everyone – all year round. In this way, we aim to become champions for diversity in all its forms.

GRÜNENTHAL GIVES

Colleagues across the organisation gave more than 3,000 hours of their time to community volunteering in 2023.

Our people got together throughout 2023 to support their local communities and give back to society via our Grünenthal Gives initiative.
Employees can take a day's paid leave, separate from their annual leave entitlement, to support people in need. In 2023, this included helping with the logistics of a local marathon, cooking for disadvantaged families, cleaning beaches, planting trees and supporting youth groups.

> "It has been amazing to see how Grünenthal Gives has been so warmly embraced across the organisation. I am constantly inspired by the pictures and videos of our supportive colleagues and their fulfillment when giving back to the community.

Leen Hofkens
Head Global Human Resources

NURTURING TALENT

We welcomed hundreds of new colleagues to the business, while also continuing to invest in our people who are already helping us to realise our vision.

We have strengthened our position as an attractive employer, which is evidenced by our ability to attract new talents and by a lower voluntary turnover in the last three years.

We are proud of the progress we are making in developing and growing our people and the talent mobility we have seen in recent years. Throughout 2023, we welcomed more than 670 new colleagues to Grünenthal. Many of these employees joined to support the growth strategy of our Global Operations team, particularly in global roles and at our manufacturing sites in Italy and Germany.

We saw increased activity on social media, which supports the positioning of Grünenthal as an attractive employer. Around 60 percent of applications for jobs at our company were generated via LinkedIn in 2023.

In 2023, we continued to encourage lateral moves for people across our diverse functions and geographies worldwide by supporting job moves and job rotations.

Our flourishing Global Graduate Programme is another ongoing highlight. In 2023, we welcomed 11 new graduates to the programme and celebrated a 100% takeover of graduates who completed the programme and entered roles within our business. Our pipeline of future leaders and experts is fuelled by this two-year programme. Graduates gather valuable skills and experience, and can positively impact our company through hands-on training and action. In addition, they develop a solid professional network and gain a well-rounded view of our organisation by rotating through roles, affiliates and sites. Each graduate partners with a senior leader who acts as a mentor.

Feedback from our new hires highlights that we can do a better job in onboarding new talents to the organisation and make them feel welcomed, informed and equipped to start their journey with Grünenthal. We have started to act on their feedback and strengthen our on-boarding activities.

Join forces. Make an impact. Innovate for a World Free of Pain.

Our Employer Brand helps us attract, develop and retain talented and diverse colleagues. Follow us on LinkedIn for regular updates, or check out open positions at **careers.grunenthal.com**

LEARNING AND DEVELOPING, TOGETHER

Inspiring our people to adopt a growth mindset, we continued to invest in our people's development throughout 2023. These efforts enable our employees to further develop in their role and achieve their career aspirations.

More than 80 percent of colleagues now have a Personal Development Plan (PDP) to guide them on their respective development journeys through Grünenthal, while also identifying and capturing opportunities to create further added value for the employee and our business.

To ensure a consistent approach to learning and development, we take a 70/20/10 approach:

- 70 % of learning takes place 'on-the-job' in the workplace.
- 20 % involves learning from others.
- 10 % comes from 'off the job' activities such as courses or special training.

In 2023, we offered access to LinkedIn Learning for all colleagues worldwide. More than 2,000 employees are now actively using this learning platform.

Leadership development

We have introduced a set of essential leadership attributes and skills to enable leaders to exemplify our Values & Behaviours. Within this framework, we conducted a 360° feedback survey that saw more than 2,400 pieces of feedback provided to senior leaders. This feedback will be considered within each leader's Personal Development Plan.

To further strengthen the accountability of leaders, we make 'Organisational and People Leadership' a standard priority in their annual objectives. Various learning resources were provided to support their individual development, including a comprehensive online development guide, self-assessment tools, peer coaching opportunities, the Leadership Learning Labs and access to online learning platforms.

We also initiated new Group-wide development formats, such as a three-day Leadership Academy within our Global Operations business and a new capability programme for our Commercial colleagues. These formats support leaders of tomorrow to have the necessary skills to excel in their roles.

Embracing new challenges for professional development

Sebastian Hoppe, Commercial Planning Lead, Global Innovative Medicines, joined Grünenthal in 2022 in the Global IT department. Here, he explains the opportunity he has had to benefit from Grünenthal's approach to talent mobility and personal development.

"After spending eight years in commercial roles at another global pharmaceutical company, I joined Grünenthal to gain a fresh perspective on the industry and embrace new challenges. My goal was to join a different environment and explore a new set of challenges to expand my professional profile. Grünenthal stood out to me as an organisation of the perfect size, offering the right balance of impact-making opportunities and a supportive environment conducive to learning and growth.

Since my start at Grünenthal, each challenge has been a learning opportunity. A notable example was when my manager led by example and encouraged me to temporarily step into the role of Planning Lead in the Commercial Global Innovative Medicines team. This assignment, which began at the start of 2024, pushed me out of my comfort zone and allowed me to grow in unexpected ways. I know this is not exclusive to my manager, but keeping a team member's development potential at the forefront of their mind is a testament to how Grünenthal's leadership prioritises employee development and transforms good leaders into great ones.

Working in the Commercial sector requires adapting to a different operational style, mindset and focus. It has been exhilarating to make decisions and take bold steps, supported by an ethos of bravery that permeates the entire organisation. My time at Grünenthal has been instrumental in driving my professional growth and expanding my network, aspects of my career that I continue to value and nurture each day."

Sebastian Hoppe
Commercial Planning Lead, Global Innovative Medicines

ONE TEAM. ONE VISION. ONE GRÜNENTHAL – THE CORPORATE HUB

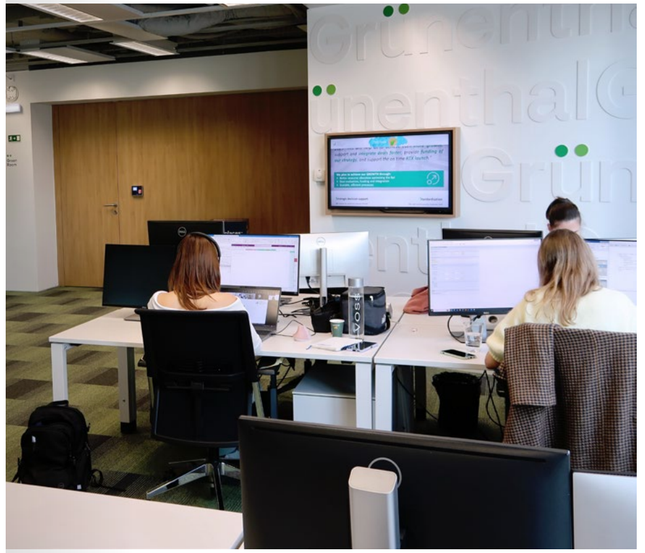
The office in Lisbon, Portugal, is a global centre of excellence for our company.

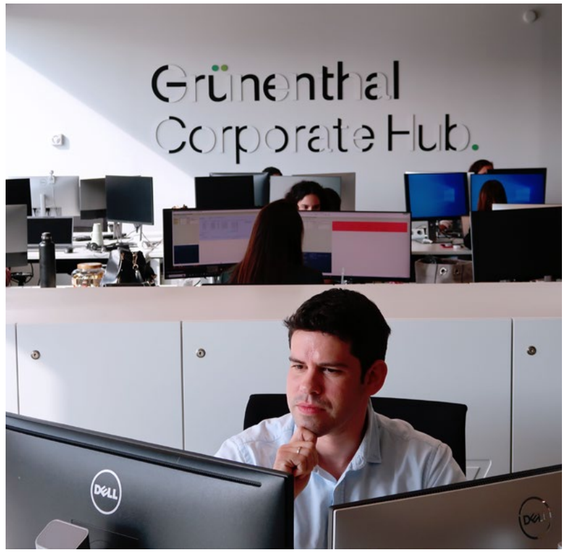
What started as our internal shared service centre for transactional finance activities in 2016 has grown to become our Corporate Hub. The facility in Lisbon, Portugal, provides global business services and centres of expertise across many different functions – including Global Supply Chain, Global IT, Global Procurement, Quality Assurance, Strategy and Development Operations, Regulatory Affairs, and Finance and Controlling. This supports the establishment of new standards, while helping to drive forward innovation and digitalisation.

Towards the end of 2023, our Corporate Hub celebrated its growth into a team of more than 200 employees. In the same year, new joiners rated its approach to onboarding as 4.5 out of 5. To support Grünenthal's global talent development aspirations, 25 Corporate Hub colleagues undertook job rotations or were internally promoted.

"Grünenthal is an inspiring organisation. The company has helped me grow and develop my skills. Improving my critical thinking and problem resolution has been vital to me, both personally and professionally. I am very proud to work in the Corporate Hub.

Catarina Baptista
OCM Senior Specialist





RESPONSIBLE BUSINESS

Conducting business responsibly is a core part of our company's strategy and culture. Everything we do is guided by our deep commitment to integrity, transparency and high ethical standards.

MAKING A POSITIVE IMPACT

As a global leader in pain management, we are always seeking positive outcomes for patients and their families. Grünenthal also aims to maximise its beneficial effect on employees, partners and society – while reducing the environmental footprint of our business. These ambitions shape our approach to Corporate Responsibility.

Our holistic Corporate Responsibility Programme brings Grünenthal's strong commitment to life. It focuses on four modules: Fields of Action, Ethical Framework, ESG Risk Management and ESG Governance.

I Fields of Action

Based on insights from a detailed materiality analysis, we have defined four dedicated Fields of Action: "Patient", "People", "Planet" as well as "Compliance, Ethics and Transparency". Within these Fields, we have identified twelve environmental, social and governance (ESG) topics that are most relevant to our business and our stakeholders. Each year, we set ambitious targets and key performance indicators (KPIs) for each of these key material topics to measure progress. You can find details about how each material topic impacts strategic and operational activities along our value chain in our Responsibility Report.

II Ethical Framework

It is our fundamental responsibility to meet the highest ethical standards in everything we do. We aim to build trust and give confidence to patients, employees, partners and communities. Our strict ethical framework – including our bioethics and data ethics frameworks – provides guidance in areas that lack clear legal regulations.

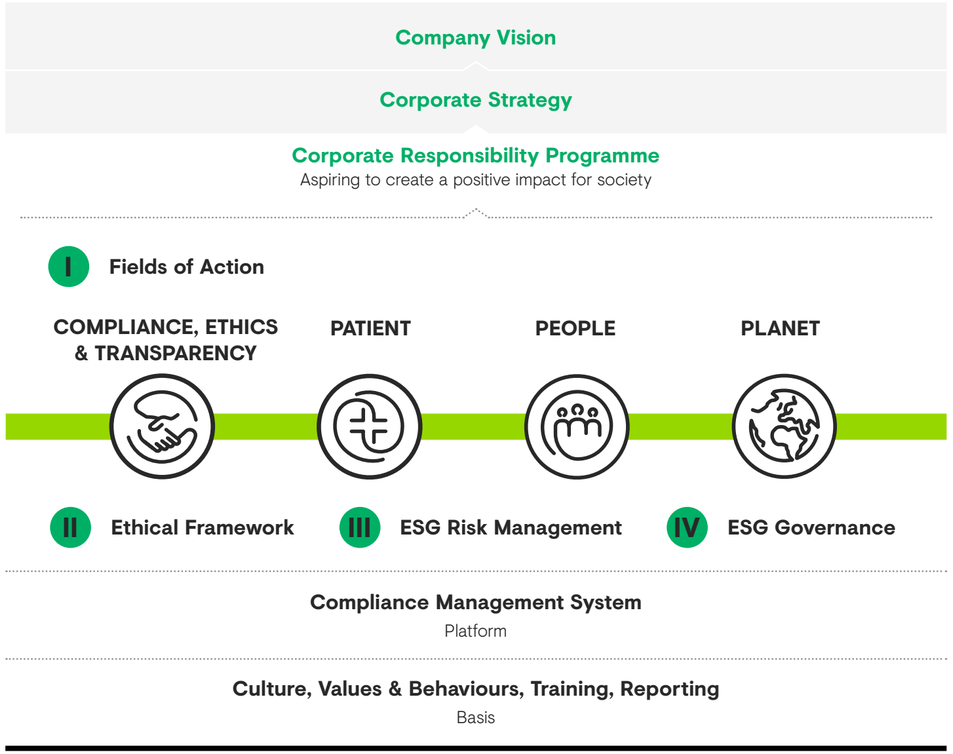
III ESG Risk Management

Managing risks is an essential aspect of Corporate Responsibility. Potential risks in this area can be clustered into Environmental, Social and Governance (ESG) categories. Independent agencies regularly assess our approach to managing these ESG risks.

IV ESG Governance

Our ESG governance system ensures that we always act in line with our belief in decent entrepreneurship. Our dedicated Responsibility Board is responsible for driving the implementation and development of our Corporate Responsibility Programme.

Our Corporate Responsibility Programme is embedded in our strategy



OUR IMPACT INITIATIVES

We have set up impact initiatives for our Fields of Action Patient, People and Planet. They are designed to boost our positive impact around the world.

Patient

Educating patients and healthcare professionals – To better support patients on their journey to achieving optimal pain management, we have established an initiative to educate healthcare professionals about the responsible use of pain medication. With regard to opioid medications, our Charter on the Responsible Use of Opioids sets out Grünenthal's commitment to exploring and endorsing measures that minimise the risk of inappropriate and illegitimate use of prescription opioids – while striving to ensure that individual patients with a clear need for opioid-based pain relief are not denied access.

Data-driven human disease understanding – To enhance our ability to create truly novel medicines for patients in need, we are expanding our understanding of human disease based on reliable and specific data.

Awareness and Accessibility – Our Awareness and Accessibility Initiative aims to positively impact patients' lives by improving access to adequate pain management and raising awareness about chronic pain and palliative care.

People

Circle of Trust – Our Diversity & Engagement Council fosters a culture of trust among employees, partners and communities. It raises awareness, identifies needs, governs initiatives and monitors impact. Our Diversity & Engagement strategy guides our work to build an inclusive and diverse workplace with engaged colleagues.

Planet

Driving environmental sustainability – We aim to reduce the environmental impact of our business. To achieve this, we have established a range of initiatives to ensure we use resources more sustainably, avoid waste in our operations and switch to low-carbon or renewable energy sources at our sites.
Three major areas of action are guiding progress towards our environmental goals:

- Sustainable Operations: This aims to reduce emissions from our sites, while also reducing waste and improving wastewater treatment.
- Sustainable Procurement: This focuses on working with key suppliers to reduce carbon emissions, as well as aligning with waste and wastewater standards.
- Sustainable Products: This strives to reduce the environmental impact associated with our product packaging, while also embedding sustainable design principles into the development and manufacture of our products.

Signing the commitment letter of the Science Based Targets initiative, aligning our climate ambitions with international standards.

Responsibility Report

Our Responsibility Report provides regular and transparent information about our progress, and is published alongside this report. It shares insights into how we conduct our business responsibly, as well as details about our impact on society and the environment – and how we reflect external factors in our daily work. The report offers updates on the goals and KPIs that measure our progress along the value chain. We report in line with the Global Reporting Initiative (GRI) standards and our report is subject to external auditing.

VALUES AND ETHICAL FRAMEWORK

Our deep commitment to ethical behaviour guides everything we do, every day.

We want our patients, customers, employees, partners, suppliers, investors and the communities we serve to have confidence and trust when they do business with us. This is key to our long-term success. We have a shared set of Values & Behaviours that make clear how we work together to achieve successful outcomes for patients and our company. These Values & Behaviours guide our decision-making and give a clear indication of how we behave – as individuals and as an organisation.

Business ethics

Our Code of Conduct provides a framework for our actions and decisions. Everyone in our organisation has the responsibility to live up to these standards in their daily work. All employees are trained in the Code of Conduct when joining the company and periodically throughout the employment period. We bring it to life through face-to-face and online training. We also offer a 24-hour Ethics Helpline for anyone within or outside Grünenthal with questions, concerns or doubts. Every complaint or concern is reviewed by our Compliance organisation, which is fully integrated within the business.

Our Compliance Officers sit on decision-making bodies across the company and report to the Global Compliance & Responsibility Officer, who regularly reports to the Executive Board and the Supervisory Board.

In addition, we insist that our business partners act lawfully and with integrity in line with this framework. To ensure this, we have established our Code of Conduct for Business Partners. It clearly sets out our expectations related to compliance, ethics and integrity for all business partners.

Bio ethics

We are committed to conducting our research activities within a strict bioethical framework. We adhere to clear rules about animal trials, human biological sampling and emerging technologies. In addition, we share clinical information that is necessary for conducting legitimate research, serving patients' safety and improving public health.

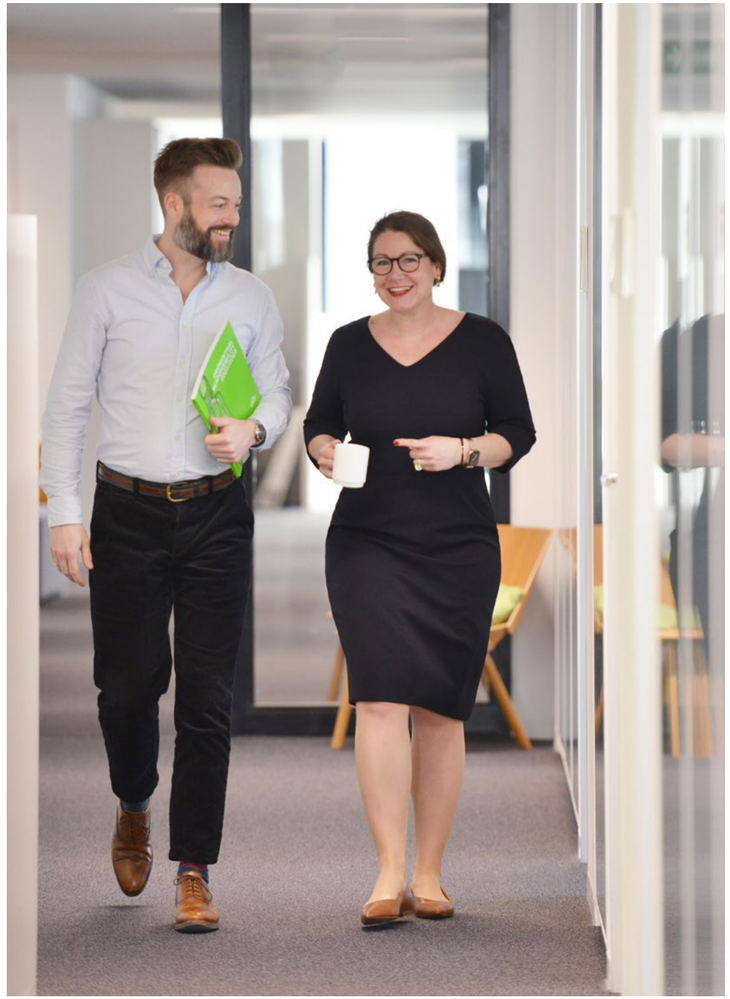
Data and digital ethics

We handle all personal data responsibly and conduct all of our data processing activities in line with applicable legal standards. In addition, we observe the principles set out in our Digital Ethics Charter:

- Human beings keep oversight and accountability of our digital activities.
- Safety and security are embedded into all of our digital activities as cornerstones to protect our values.
- We can explain all of our digital activities.
- Our digital activities do not cause bias and discrimination.
- Digital ethics are engrained in our decision-making processes.
- All digital activities must be conducted in line with this charter.

> "Our ethical framework creates clarity for our employees to help them make the right decisions and do the right thing - at all times.

Hannah Engels
Global Compliance &
Responsibility Officer



OUR ENVIRONMENTAL, SOCIAL AND GOVERNANCE RATING

Independent, external raters have ranked Grünenthal as a leader in managing risks related to Environmental, Social and Governance (ESG) criteria.

> Our excellent ESG rating is a testament to our strong risk and governance approaches.

Sebastian Köhler
General Counsel

Managing non-financial risks effectively is a key part of our Corporate Responsibility Programme. Possible risks for our business can be clustered into three main categories: Environmental, Social and Governance (ESG). Examples include pollution, discrimination or corruption.

Confirmed performance

Each year, our performance within the ESG criteria is recognised by external ratings. The most recent example is from Sustainalytics.

Sustainalytics

In June 2023, Grünenthal received its latest ESG risk rating from Sustainalytics. This leading ESG risk rating provider ranked our company in the top 2 percent for the pharmaceuticals subindustry – with even stronger scores than in 2022. Grünenthal was assessed as having an overall low risk. Sustainalytics rated our ESG risk management approach as "strong", which is the highest possible assessment level.

SUSTAINALYTICS
ESG 2024
INDUSTRY TOP RATED

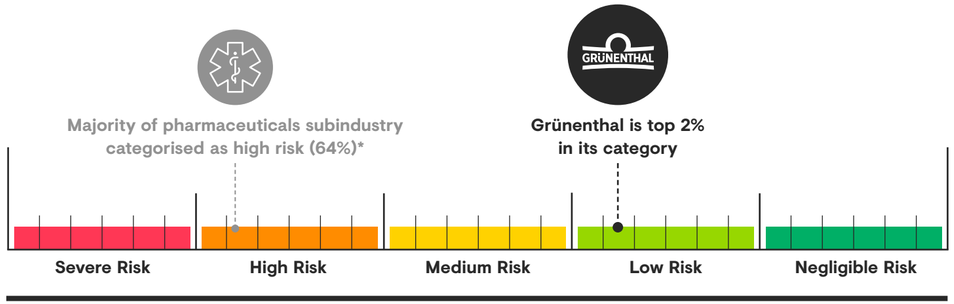
ESG Risks

Environment
(e.g. pollution)

Social
(e.g. discrimination)

Governance
(e.g. corruption)

ESG Rating



* Sustainalytics ESG Risk Rating Report of Grünenthal Pharma GmbH & Co. KG, incl. ESG Risk Rating Distribution, status June 2023.

SUPPORT FOR PEOPLE AFFECTED BY THALIDOMIDE

The Grünenthal Foundation for the Support of Thalidomide-affected People provides help where it is most needed.

We have a deep commitment to helping individuals and families impacted by the Thalidomide tragedy that happened over 60 years ago. Therefore, we are in a permanent and intense dialogue with these people to fully understand their needs. The Grünenthal Foundation for the Support of Thalidomide-affected People is at the heart of this approach. It employs full-time staff who are in daily contact with affected people and their families and coordinate projects that contribute to a more independent life.

> “The Grünenthal Foundation’s team really listened to my needs and gave meaningful, uncomplicated support.
>
> Person affected by Thalidomide

A range of available support

Thalidomide-affected people live with disabilities such as shortened limbs that make day-to-day activities highly challenging. Since 2011, the Foundation has helped to improve the individual autonomy and mobility of affected people in almost 4,000 cases. Long-term funding for the Foundation is secured, so Thalidomide-affected people can rely on support in the future.
Projects are focused on modifying homes or vehicles and providing technological and personal assistance. The Foundation has co-financed alterations to over 800 bathrooms and kitchens, as well as more than 540 cars.

Open dialogue and exchange

Personal communication is the key to the Foundation’s work. The team regularly engages with people affected by Thalidomide on a daily basis and takes time to understand each individual’s needs. They then make sure the Foundation offers support in ways that make a real positive impact.
In 2023, the Foundation launched a new platform to further strengthen the exchange of information with people affected by Thalidomide. This initiative was established in partnership with the German Federal Association of Thalidomide-affected People (Bundesverband Contergangeschädigter e.V.). It aims to boost support and cooperation, while also enabling more regular discussions about future-facing topics. This includes the changing needs of Thalidomide-affected people as they get older and measures to preserve and make knowledge about Thalidomide available.

The team of the Grünenthal Foundation for the Support of Thalidomide-affected People

The Thalidomide Tragedy

Thalidomide was developed by Grünenthal in 1954 as a sedative. It was withdrawn from the market in 1961 after causing harm to pregnant women and their unborn infants. The population of affected people is now experiencing additional challenges due to advancing age.

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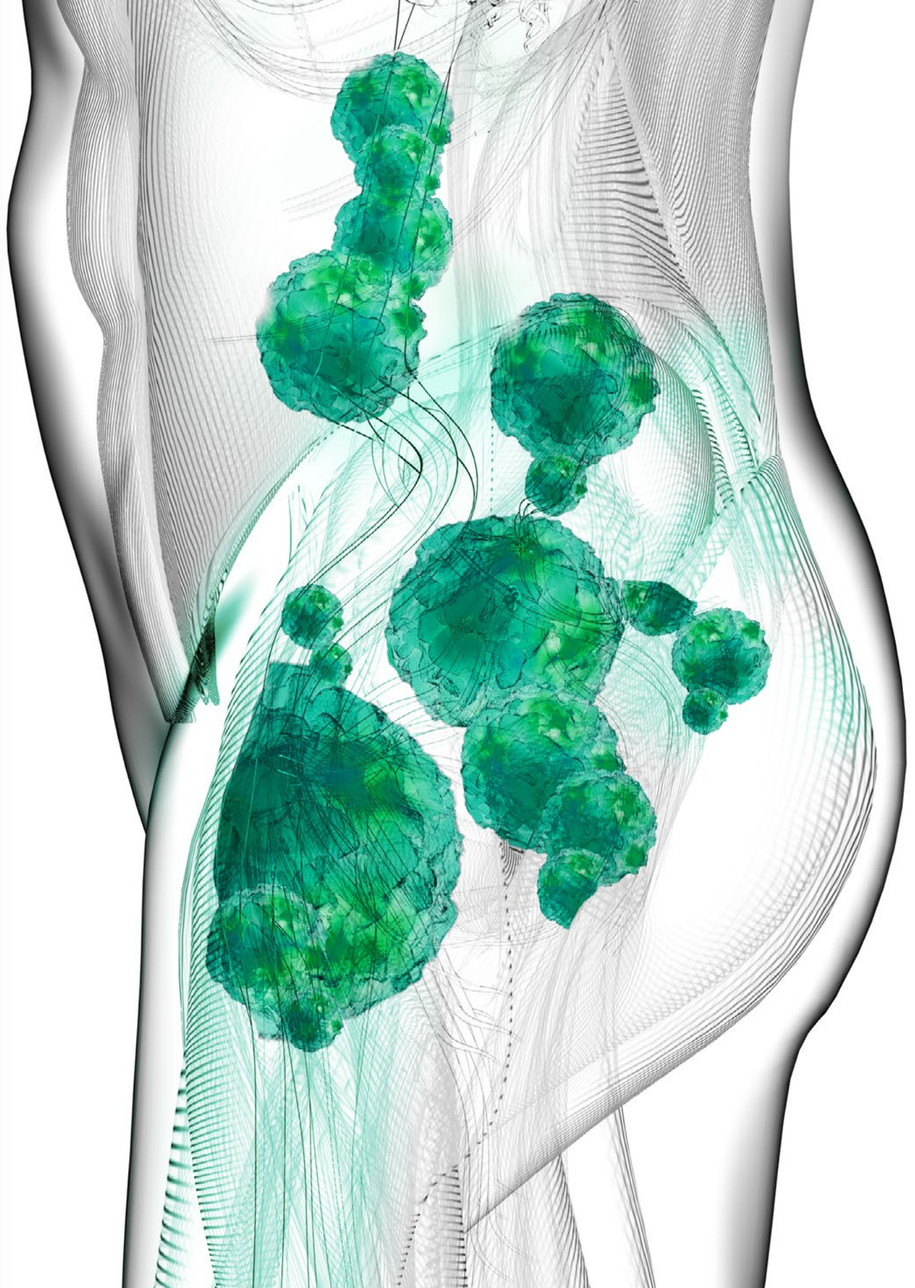

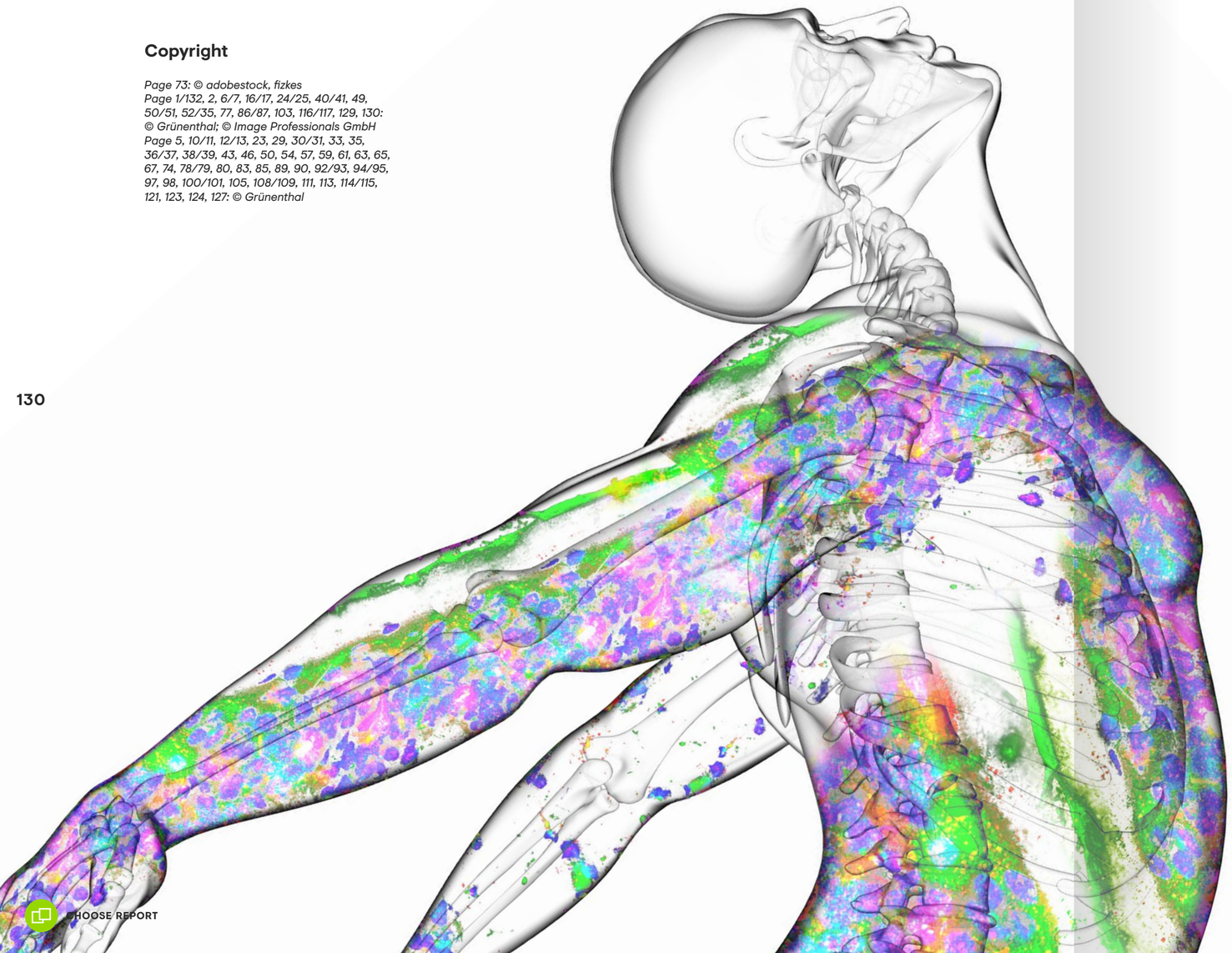

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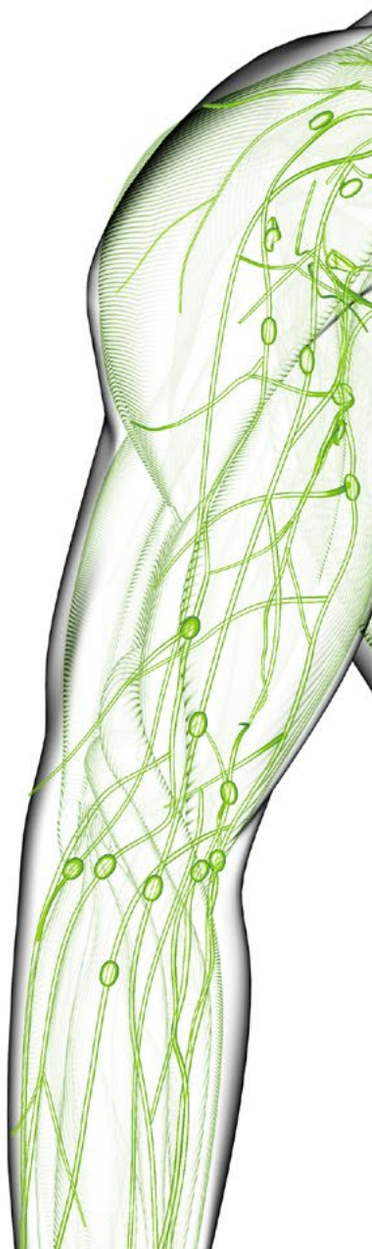
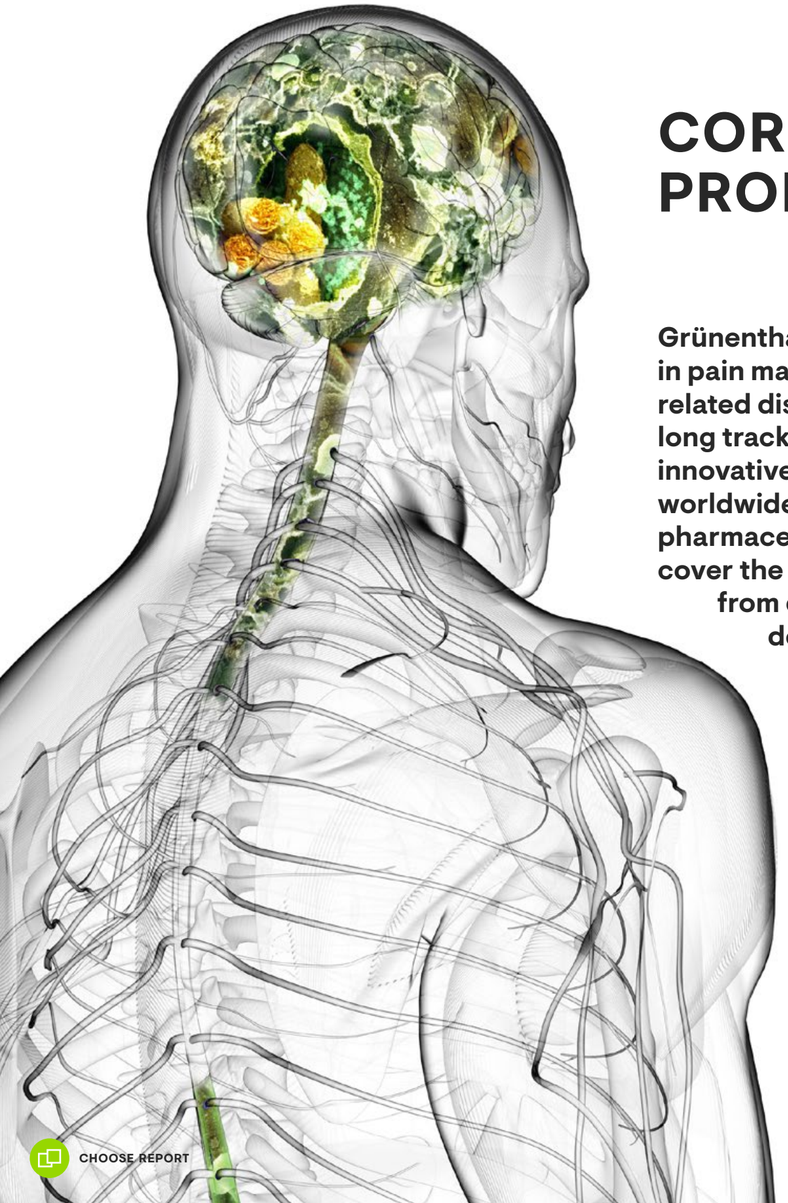


GRÜNENTHAL RESPONSIBILITY REPORT 2023

GRÜNENTHAL



CORPORATE PROFILE

Grünenthal is a global leader in pain management and related diseases. We have a long track record of bringing innovative treatments to patients worldwide. As a fully integrated pharmaceutical company, we cover the entire value chain – from drug research and development to commercialisation of growth products and established medicines. We operate in accordance with the highest ethical and regulatory standards, and we focus our efforts on our vision of a World Free of Pain.

CONTENTS

ABOUT THIS REPORT

GRI 2-1, GRI 2-3, GRI 2-4, GRI 2-5

» **IN SELECTING** the content of the Grünenthal Responsibility Report, Grünenthal was guided by the general principles of sustainability reporting of completeness, materiality and stakeholder engagement.

Grünenthal has reported in accordance with the GRI Standards for the period 01.01.2023 to 31.12.2023. The GRI indicators are marked at the relevant text sections.

This report is published in April 2024 and is planned to be published annually. There are two restatements compared with the previous year. Both restatements are in the **PLANET** chapter: The first restatement concerns the heating consumption for 2022 (see **page 114**). The second restatement concerns the downstream transportation for 2021 (see **page 130**). The reasons and effects of the restatements are indicated on the relevant pages.

We are committed to the 10 principles of the UN Global Compact. The GRI Content Index therefore also indicates which GRI indicators simultaneously cover one or more of the UN Global Compact principles.

Deloitte GmbH Wirtschaftsprüfungsgesellschaft conducted a voluntary, limited assurance audit on the data for the fiscal year 2023.

As data covering our Scope 3 greenhouse gas emissions for 2023 was not yet available at the time of publication, the 2022 figures are included in the scope of the audit. Scope 1 and 2 greenhouse gas emission figures of 2022 and 2023 are included in the scope of the audit. With the exception of greenhouse gas emissions, 2022 figures are not in the scope of the limited assurance audit for 2023. Sections containing audited data in this report are indicated by French quotation marks (» … «) around the audited text sections or headlines of tables and graphics.

Unless otherwise indicated, the statements in this report refer to the scope of consolidation as stated in the consolidated financial statements of Grünenthal Pharma GmbH & Co. Kommanditgesellschaft. In August 2023, Grünenthal became the majority shareholder of Grünenthal Meds, the joint venture collaboration with Japan-based global specialty pharmaceutical company Kyowa Kirin Co., Ltd. Grünenthal holds 51 percent of Grünenthal Meds, and intends to fully acquire the remaining 49 percent share at the beginning of 2026. Although this report's scope does not extend to Grünenthal Meds, we have provided highlighted sections on selected topics (Compliance and Human Resources); see **pages 40 and 87**.

This report is accompanied by our Grünenthal Report as a sister publication. This Responsibility Report shares insights into how we conduct our business responsibly, showing our impact on society and the environment. The Grünenthal Report provides information about our key business objectives and activities, as well as our recent business development highlights and financial performance. You can find it on our corporate website **https://www.grunenthal.com**. «

Our Ambitions

The Global Reporting Initiative (GRI) is internationally recognised and is almost certainly the most widely used reporting standard for responsibility or sustainability reporting. It defines strict requirements for transparent metrics and key performance indicators (KPIs) to ensure clear ambitions and to measure progress. We are committed to driving our Corporate Responsibility Programme in a measurable and auditable way, so we have chosen to adhere to these ambitious GRI reporting standards and a voluntary external audit.

Grünenthal is well positioned to meet current and upcoming requirements in the rapidly evolving and complex regulatory landscape. We continue to drive further improvements and stay at the forefront of non-financial reporting. Starting with our Responsibility Report 2026 covering the reporting year 2025, Grünenthal will meet its requirement to report according to the Corporate Sustainability Reporting Directive (CSRD).

THE GRÜNENTHAL WORLD

GRI 2-1, GRI 2-2, GRI 2-6

» **GRÜNENTHAL** is a global company headquartered in Aachen, Germany. It has affiliates in 27 countries across Europe, Latin America and the US. Patients and customers benefit from Grünenthal products in around 100 countries worldwide.

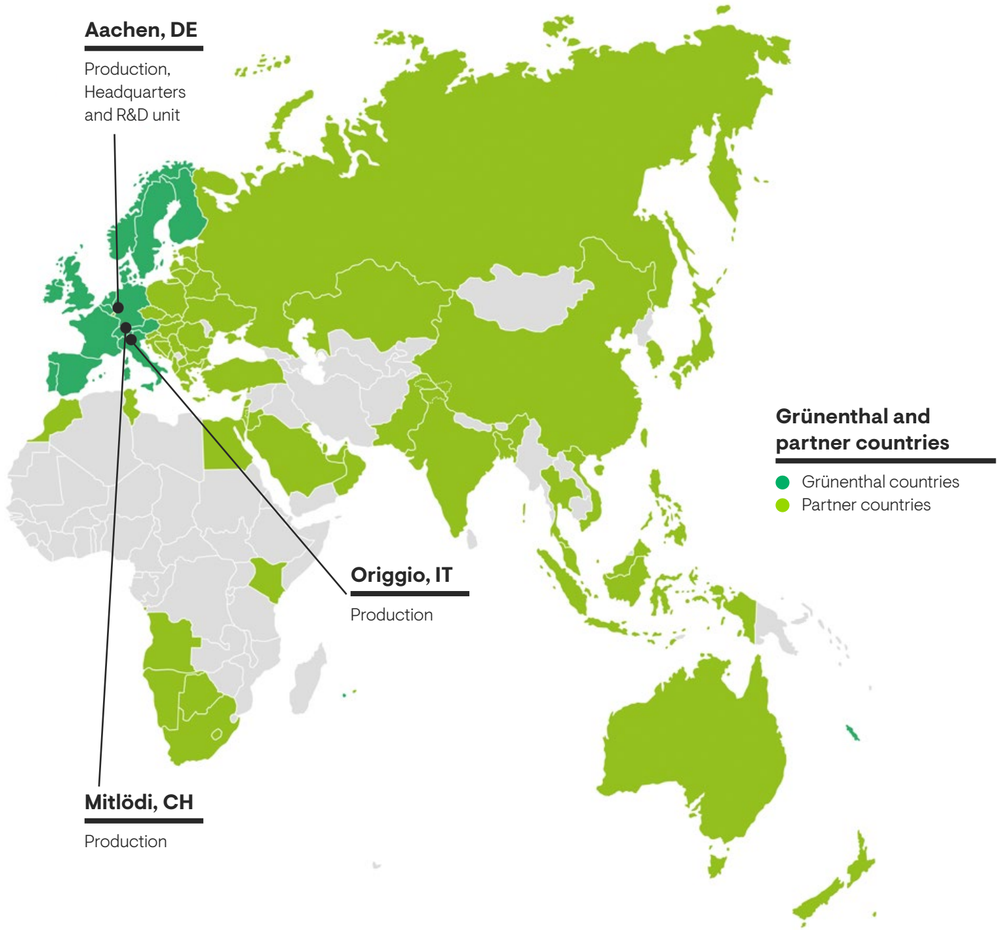
Pain, especially chronic pain, represents a significant burden for people and society. Its alleviation remains a significant unmet medical need. Grünenthal is a leading pharmaceutical company focused on pain therapies and research. We are committed to transforming the future of pain management in line with the highest ethical and regulatory standards.

As a family-owned company, we have been in the business of developing breakthrough medicines for patients for more than 75 years. Over the past five decades, we have focused on developing, manufacturing and commercialising innovative products for the pain market.

From research to distribution, we have capabilities across the full value chain and aim to strengthen our pain leadership by developing highly innovative, non-opioid therapies. In partnership with leading science organisations, we strive to create even more value for patients and healthcare systems.

Conducting our business responsibly is at the core of our strategy and culture. Our performance is regularly rated by an independent ESG rating agency.

Acquisitions of carefully selected established medicines have been the key driver of our profitability and growth. This strategy helps to secure our financial stability and enables us to reinvest in pain research. «



LETTER FROM THE CEO

GRI 2-22

As a global leader in pain management, our purpose at Grünenthal is to improve lives. Each day, our teams worldwide work to make our vision of a World Free of Pain a reality.

Dear Friends and Partners,

Over the last years, our people have transformed Grünenthal. Aligned with our vision of a World Free of Pain, we have intensified our research activities and today have one of the strongest pain-focused research pipelines in the entire industry. Through targeted acquisitions, we have added new products to our portfolio of medicines and have shifted our efforts towards specialty care. Grünenthal has also increased its geographical footprint with an own presence in the US and through our partner business in other continents. Our medicines help more and more patients worldwide. We were also able to strengthen our financial performance, more than tripling our adjusted EBITDA since 2017.

This growth comes with an increased responsibility to the patients we serve, the people we work with and the planet we depend on. Our long-standing commitment to corporate responsibility is closely tied to our culture and embedded within our strategy.

Grünenthal's comprehensive Corporate Responsibility Programme is built on four modules: Fields of action, Ethical Framework, ESG Risk Management, and ESG Governance. These ensure we create a maximum positive impact on healthcare, our communities and the environment. Key initiatives are structured around the topic clusters Patient, People and Planet. Material topics with specific ambitions and key performance indicators have been identified for each field. We want our commitment to Environmental, Social and Governance (ESG) topics to make a valuable and sustainable contribution to society.

In the 2023 reporting period, we re-assessed all important strategic and operational topics within our company and its environment. This involved analysing their impact on Grünenthal's business activities ('financial materiality') and the impact of Grünenthal's business activities on sustainability topics ('impact materiality'), known as double materiality.

To gain a holistic view, we analysed the identified topics regarding their relevance in our value chain. Our annual Responsibility Report demonstrates our transparency and documents our progress. We report in line with the Global Reporting Initiative (GRI) standards and subject our reporting to external auditing.

Our efforts were recognised by a leading independent ESG risk rating provider, placing us in the "low risk" category.

As a United Nations Global Compact (UNGC) member, we formally commit to the values of the world's largest initiative for responsible corporate governance. We are committed to the 10 universal UNGC principles on human rights, labour standards, environment and climate, and corruption prevention. In addition, we support the achievement of the Sustainable Development Goals (SDGs).

> We are committed to improving the quality of life of people and communities beyond our core business – while decreasing the environmental footprint of our business.

Gabriel Baertschi
Chief Executive Officer

In Q4 2023, we joined the Science Based Targets initiative (SBTi) to align our climate ambitions with international standards. This collaboration supports our commitment to establish ambitious but achievable near-term targets for the reduction of Scope 1 and 2 greenhouse gas emissions. For Scope 3, we intensify our efforts to increase sustainability among our supply chain by working closely with our suppliers.

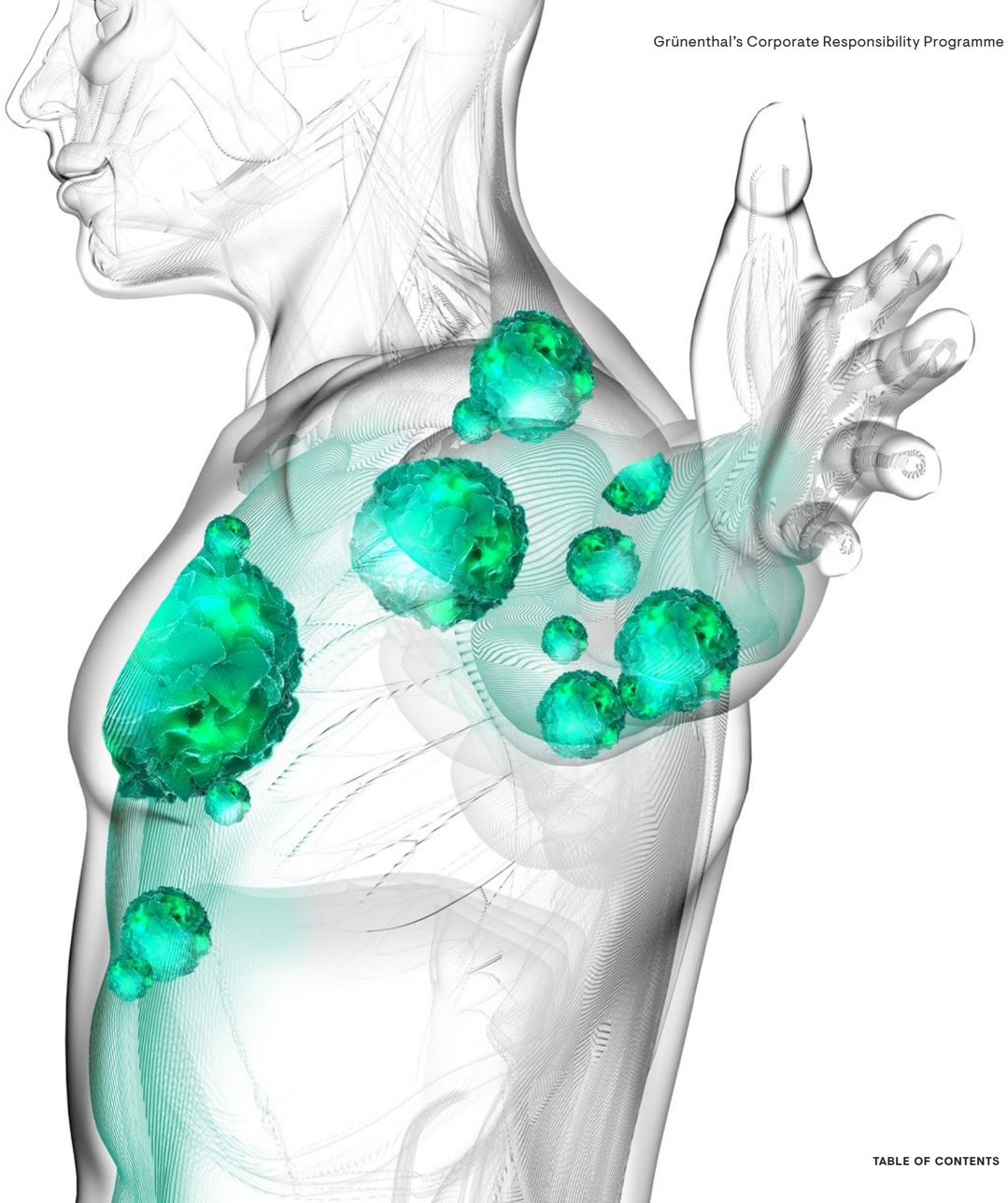
We believe a sustainable future can only become a reality if key stakeholders work together. That is why we maintain dialogue with our partners and employees to continually challenge our efforts and help us to adjust our targets. We continue to make great strides to positively impact communities and the environment. From sustainable water management through to reducing our energy consumption, Grünenthal takes action to reduce its footprint. We also regularly partner with non-governmental organisations (NGOs) when providing disaster relief or supporting research around the world.

Through these actions, we are aligning with global climate objectives and taking proactive measures to contribute to a more sustainable, resilient future.

Gabriel Baertschi
Chief Executive Officer

April 2024

GRÜNENTHAL'S CORPORATE RESPONSIBILITY PROGRAMME



CHOOSE REPORT

TABLE OF CONTENTS

GRÜNENTHAL'S CORPORATE RESPONSIBILITY PROGRAMME

» **CORPORATE RESPONSIBILITY** is at the core of our business strategy and culture. We want to create a net-positive impact for patients, employees, partners and wider society. And we want to reduce the negative impact of our operations on the environment.

To make this happen, we have established our holistic corporate responsibility programme (the 'Corporate Responsibility Programme'). It includes Impact Initiatives with ambitions and key performance indicators to measure our progress.

Our approach to responsibility and sustainability reporting is in accordance with the latest Global Reporting Initiative (GRI) Standards (2021) and the 10 principles of the United Nations Global Compact, of which the Grünenthal Group became a member in 2021.

In addition, our performance is regularly assessed by an independent rating agency according to environmental, social and governance (ESG) criteria. In June 2023, Grünenthal received its latest ESG rating, which certifies us as "low risk" until at least the end of 2024 or respectively until the next rating. Our best-ever rating recognises us as one of the top performing companies in our industry rated by Sustainalytics, based on our ESG risk rating score. It confirms our ESG leadership position, placing us in the top two percent of the pharmaceuticals subindustry, ahead of our key peers.[1] We continually review our ESG risks and look for targeted opportunities for improvement.

EcoVadis, the world's largest sustainability ratings company, recognised our strong commitment to environmental and social responsibility by awarding Grünenthal a silver medal in December 2022. «

[1] Sustainalytics ESG Risk Rating Report of Grünenthal Pharma GmbH & Co. KG, incl. ESG Risk Rating Distribution, status June 2023

Hannah Engels, Global Compliance & Responsibility Officer appointed 1 January 2024, and Tobias Schäfers, Compliance & Responsibility Officer Headquarters

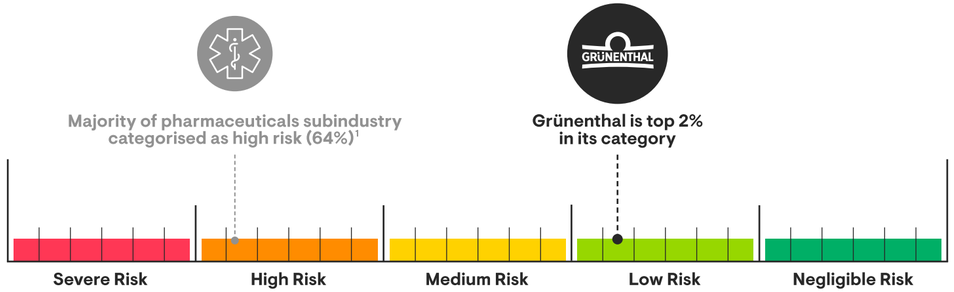
Our excellent ESG rating is a testament to our strong risk and governance approaches.

Sebastian Köhler
General Counsel

» What we achieved in 2023 «

- Top two percent ESG risk rating with even stronger scores than in the previous year, with low ESG risk overall, while managing ESG risks in a strong way.
- Continued annual cycle of collecting data for reporting.
- Ambitions from Responsibility Report 2022 'on track' or restated to maximise impact.
- Formal commitment to set near-term company-wide emission reduction targets in line with the Science Based Targets initiative (SBTi).

» ESG rating «



ESG stands for

Environmental
(e.g. pollution)

Social
(e.g. discrimination)

Governance
(e.g. corruption)

Internally this translates to PLANET, PEOPLE and PATIENT

This is underpinned by our compliance and ethical framework.

[1] Sustainalytics ESG Risk Rating Report of Grünenthal Pharma GmbH & Co. KG, incl. ESG Risk Rating Distribution, status June 2023

» Our Corporate Responsibility Programme is embedded in our strategy «

Company Vision

Corporate Strategy

Corporate Responsibility Programme
Aspiring to create a positive impact for society

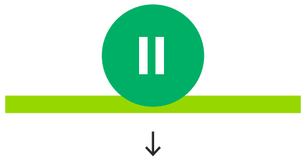
Compliance Management System
Platform

Culture, Values & Behaviours, Training, Reporting
Basis

» The four modules of our Corporate Responsibility Programme «

Fields of Action

Our fields of action are focused on **compliance, ethics and transparency**, the **patients** we serve, the **people** we work with and the **planet** we depend on. We have established internal work streams and responsibilities regarding the management of these fields of action as well as regarding the corresponding material topics. This includes setting targets and key performance indicators (KPIs) to measure our progress.

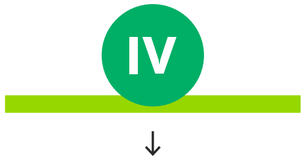


Ethical Framework

Our strict ethical framework provides us with guidance in areas where there is an absence of well-defined legal regulations. Examples include our Bioethics Framework and our Data Ethics Framework (see chapter **'COMPLIANCE, ETHICS AND TRANSPARENCY'**).

ESG Risk Management

Managing risks is an essential aspect of acting responsibly as a corporation. We cluster potential risks into the established sustainability categories: environmental, social and governance – or 'ESG'. Our performance in ESG Risk Management is regularly reflected in an external rating by Sustainalytics.



ESG Governance

Our comprehensive ESG governance system ensures that we constantly conduct our business in ways that align with our belief in decent entrepreneurship. Our cross-functional Corporate Responsibility Board drives the ongoing implementation and further development of our Corporate Responsibility Programme.

STAKEHOLDER DIALOGUE

GRI 2-29

» We operate in a dynamic environment with a large number of diverse stakeholder groups with widely varying demands. We aim to be a reliable and trustworthy partner. Acting as a good corporate citizen with strong ethics supports our efforts to attract talented employees and fulfil the expectations of our investors, shareholders and other stakeholders. For this reason, it is important for us to engage our key stakeholders in a continuous dialogue.

As part of our materiality analysis in 2021 and 2022, we identified core stakeholder groups that have a particularly strong influence on Grünenthal or who are particularly impacted by Grünenthal. These stakeholder groups were validated and further refined in 2023:

- Patients and patient organisations
- Employees
- Healthcare professionals and healthcare organisations
- Payers
- Governments, policymakers and regulators
- Investors
- R&D partners
- Industry business partners
- Suppliers
- Communities

Our analysis of stakeholder engagement in 2023 enabled us to gather relevant information about each stakeholder group. These insights were collected by the Grünenthal counterparts and main contact partners for each stakeholder. We aim to gain a solid understanding of the most important topics for our various stakeholder groups. Our analysis enables us to directly address the issues discussed and continually increase the relevance of our engagement with our main stakeholder groups. «

Patients and patient organisations

» Patients are the focus of our company's mission and vision. We collaborate closely with patients, caregivers and patient organisations to understand their needs and expectations. By integrating their insights into our work, we ensure that our healthcare solutions have the greatest positive impact on their lives. For example a patient advisory group has co-designed the patient preference study for our development asset resiniferatoxin (RTX), to ensure that this new innovative pain treatment meets the needs of patients. Our efforts in 2023 also led to an increased number of collaborations with patient organisations, as well as advances in assessing and managing pain.

We support the implementation of the International Classification of Diseases (ICD)-11 from the World Health Organization with its specific codes for pain. This enables better assessment of pain and its management. Through ongoing collaboration and innovation, we continue to empower patients and improve healthcare outcomes, such as healthy sleep or increased mobility. «

Resources for patient engagement

Close partnerships with pain patients, caregivers and patient organisations are key factors that help us develop innovative medicines that address unmet medical needs.

PEER
PATIENT ENGAGEMENT EXCELLENCE RESOURCES

As part of this approach, we created a community on our global company intranet in June 2023 called PEER – Patient Engagement Excellence Resources. It provides a central hub for Grünenthal's patient engagement activities and initiatives. It is available for all Grünenthal employees, and offers a central space for sharing best practice and providing guidance to strengthen patient engagement worldwide. This supports our efforts to create effective patient partnerships and measure their impact.

Our international osteoarthritis patient voice panel

We work closely with patients and patient groups to better understand the needs of people with chronic pain. As part of this approach, we have established a patient voice panel related to osteoarthritis in 2023. Pain associated with osteoarthritis of the knee is the target indication for one of our most promising assets in R&D, resiniferatoxin (RTX). The panel comprises twelve people from Europe and the US, including representatives from patient organisations and individual patient experts. The group is providing consultancy on various projects related to RTX and gives valuable feedback on existing and potential future patient education activities.

Employees

» We want all employees to feel valued, respected, included and empowered to do their best, bring great ideas to the table and develop their full potential. Our Values & Behaviours are the foundation of our culture. They guide our decision-making and provide clarity to our teams around the world about how we want to work together to achieve successful outcomes for our company and our patients. We strive for a performance culture and ensure clarity through individual priorities linked to our annual Group Scorecard. Employees are regularly informed about our performance and corporate priorities through Town Hall presentations, local events and news published on our global intranet. Two-way dialogue and employee feedback is encouraged and supported through regular performance evaluations, employee satisfaction surveys and 360-degree leadership feedback surveys. Employees can also tell us anonymously what they think about our culture and leadership approach through our Great Place to Work® survey, which we run every two years. «

Healthcare professionals and healthcare organisations

» Healthcare professionals (HCPs) are the cornerstone of patient-centric care. They are key decision-makers who provide personalised care to patients. We focus on providing them with education, including Continuing Medical Education (CME), that supports their efforts to ensure the best possible care. For example, in 2023, we provided an educational grant to Medscape for the independent development and delivery of a CME accredited educational programme that is related to the responsible use of pain medicines. Our educational initiatives give HCPs information about advances in pain management to support them in making well-informed treatment decisions. We also interact with HCPs via roundtables, symposia and partnerships to gain a deep understanding of unmet medical needs, as well as to optimise disease management strategies together and contribute to scientific exchange. By fostering transparent interactions and providing accurate information about licensed medicines, we are upholding our commitment to ethical healthcare practices. We aim to equip HCPs with the latest medical knowledge – to enhance patient care and treatment outcomes. «

Payers

» We foster collaboration with payers, including governments and medical insurance systems. In this way, we aim to ensure sustainable access to vital medicines for patients in need. Our work contributes to improving healthcare outcomes by engaging in dialogue about supplying critical treatments, addressing unmet medical needs and receiving fair reimbursement for our therapies. «

Governments, policymakers and regulators

» In all of our business activities, we aim to ensure patient safety and to comply with global supranational and national regulations. We maintain constructive, scientific dialogue with regulators to align our scientific development programmes for marketing authorisations as well as our regulatory maintenance activities with regulatory requirements. As part of our regulatory activities, we share data with competent authorities at regular intervals. This includes sharing periodic safety update reports or annual reports.

These aggregate reports ensure that the competent authorities get regular overviews of Grünenthal's products in relation to different topics such as patient safety or the progress of certain programmes or activities. Through national and supranational trade associations, Grünenthal also takes part in policy dialogue with governments and policymakers about new regulations and requirements which industry tries to keep harmonised globally. «

Investors

» Our company's management and Investor Relations team held regular and constructive dialogue with banks, existing and potential debt investors and rating agencies during 2023. «

» We provide objective information about our strategy, financial performance, R&D and ESG activities via quarterly results calls, meetings and conferences. These engagements foster trust, while also enabling investors and rating agencies to assess our company's financial risk. Our efforts have fostered shareholder support for the execution of our long-term vision and strategy, and we have enhanced our focus on ESG matters within stakeholder engagement activities. Our financial performance and strategy execution have helped Grünenthal to successfully maintain access to international capital markets. «

R&D partners

» In 2023, we focused on advancing innovative science and addressing unmet patient needs through strategic partnerships with clinics, Contract Research Organisations, academic institutions and biotech partners. By collaborating closely with these key stakeholders, we accelerated the development of life-changing medicines and optimised clinical trial processes. Through green pharmaceutical development processes, we achieved cost savings, enabled innovative solutions and optimised outcomes for patients – while also reducing the CO_2 footprint of our R&D activities. «

Industry business partners

» Our strategic alliances with industry business partners play a crucial role in improving patients' access to our medicines worldwide, while also driving business growth. We select partners who align with our ethical values and we work together in line with our corporate compliance guidelines. Our dialogue activities in 2023 focused on establishing a network of partners for products that we have recently acquired through mergers and acquisitions, expanding the reach of our portfolio and pipeline to new geographies, supporting our partners' operations, and ensuring an uninterrupted supply of quality medicines. We also engaged in extensive dialogue with advisors, investors and other key stakeholders to source and evaluate new product acquisitions. We strengthened relationships and accelerated the launch of new medicines in areas that are not covered by Grünenthal, expanding our reach and laying the foundation for longer and more extensive collaborations. These partnerships enable our products to reach more patients around the world, turning Grünenthal into a truly global organisation within the pharmaceutical industry. «

Suppliers

» We want to continually foster mutually beneficial relationships with our suppliers. We recognise the wide-ranging impact that actions have within complex and interconnected global supply chains. Through regular third-party risk assessments, face-to-face meetings, virtual meetings and industry conferences, we engage in dialogue about securing supply, understanding suppliers' needs and supporting business growth. Discussions primarily revolve around upholding standards for service, quality, ethics, environmental management, and social aspects in our supply chain – in line with our vision and values. «

Communities

» In 2023, we lived up to our commitment to responsible corporate citizenship by engaging with our local communities and sending donations for disaster relief. We provided support for national and international aid organisations, while also entering into cooperative activities related to donating medical supplies. Grünenthal has a long tradition of promoting access to palliative care in Europe and Latin America, In 2023, we continued this tradition through donations and local projects with trusted partners. With the Grünenthal Foundation for the Support of Thalidomide-affected People, we want to stay engaged with and support people affected by this drug and help enhance their quality of life. In 2023, we established the "Dialogforum Contergan" in partnership with the German Association of Thalidomide-affected people. It facilitates and provides a formal platform for regular, ongoing dialogue and supports projects for affected people. «

Aachen's Lord Mayor visited Grünenthal's headquarters in September 2023 (from left to right): Dieter Begaß, Head of Economic Development of the city of Aachen, Florian Dieckmann, Head Global Corporate Affairs & Communication Grünenthal, Sibylle Keupen, Lord Mayor of Aachen, Fabian Raschke, CFO Grünenthal.

» Membership associations «

GRI 2-28

In addition to maintaining ongoing dialogue with our stakeholders, we are involved in many industry and sector associations. These include:

Internationally

- International Federation of Pharmaceutical Manufacturers & Associations (IFPMA)
- International Society for Pharmaceutical Engineering, Inc. (ISPE)
- International Trademark Association (INTA)
- Interpat - The biopharmaceutical Intellectual Property think tank
- United Nations Global Compact

In Europe

- European Federation of Pharmaceutical Industries and Associations (EFPIA)
- Apifarma, national pharma industry association Portugal
- Association of the British Pharmaceutical Industry (ABPI)
- Deutsche Gesellschaft für Palliativmedizin e. V.
- Deutsche Gesellschaft für Regulatory Affairs e. V. (DGRA)
- Deutsche Gesellschaft für Schmerzmedizin e. V. (DGS)
- Deutsche Schmerzgesellschaft e. V.
- Deutsche Schmerzliga e. V.
- Farmaindustria, national pharma industry association in Spain
- German Lobby Register, Lobbying Register for the Representation of Special Interests vis-à-vis the German Bundestag and the Federal Government
- Irish Pharmaceutical Healthcare Association (IPHA)
- Läkemedelsindustriföreningen (Lif), the trade association for the research-based pharmaceutical industry in Sweden
- Legemiddelindustriforeningen (LMI), the Association of the Pharmaceutical Industry in Norway
- Max-Planck-Gesellschaft
- Paul-Ehrlich-Institut (Federal Institute for Vaccines and Biomedicines)
- Pharma.be
- SecurMed UK
- Verband der chemischen Industrie e. V.
- Verband Forschender Arzneimittelhersteller e. V. (vfa)
- Vereniging Innovatieve Geneesmiddelen (The Dutch Association for Innovative Medicines)

In Latin America

- Associação das Indústrias Farmacêuticas de Pesquisa (INTERFARMA), Brazil
- Sindicato da Indústria de Produtos Farmacêuticos (SINDUSFARMA), Brazil
- Cámara de Medicamentos de Venta Directa (Cameved), Chile
- Prosalud Chile
- Asociación Nacional de Empresarios de Colombia (ANDI), Colombia
- Asociación de Laboratorios Farmacéuticos de Investigación y Desarrollo (AFIDRO), Colombia
- Corporación de la Industria Farmacéutica de Investigación (IFI), Ecuador
- Cámara Nacional de la Industria Farmacéutica (CANIFARMA), Mexico
- Asociación Nacional de Laboratorios Farmacéuticos (ALAFARPE), Peru

In the USA

- Osteoarthritis Action Alliance (OAAA) – a national coalition of concerned organisations mobilised by the Arthritis Foundation and the Centers for Disease Control and Prevention (CDC)
- Osteoarthritis Research Society International (OARSI)

MATERIAL TOPICS

ESG management approaches and materiality analysis

GRI 3-1, GRI 3-2, GRI 3-3

» Our responsibility and sustainability activities were developed through dialogue, analysis of our impact on people and nature, and analysis of actual and potential ESG impacts on our business.

Procedure for the materiality analysis

In 2022, we conducted the materiality analysis based on the 'double materiality' concept and assessed all the important strategic and operational topics within Grünenthal and its environment.

Mirroring the findings in a central materiality workshop and strategic analysis phase, the 'double materiality' of topics was assessed. This meant analysing both (i) their impact on Grünenthal's business activities ('financial materiality') and (ii) the impact of Grünenthal's business activities on the sustainability topics ('impact materiality').

In 2023, we critically evaluated our material topics and others in consideration on both the financial and the impact materiality perspective. We also considered the perspective of our stakeholders in the process. The topics were validated in this assessment and largely remain unchanged.

However, two formal changes occurred in comparison to the 2022 list of material topics. First, with the aim to improve the efficiency in managing our material topics and the connected work streams, we merged some of the related topics, especially in the field of action "People". Second, in preparation for future reporting requirements according to the Corporate Sustainability Reporting Directive (CSRD), we re-named some of the topics to mirror the connected reporting standards (ESRS) terminology. For details, see the section "Materiality matrix" below.

Grünenthal German Sales Division in Stolberg

Our Corporate Executive Board validated the final definition and understanding of the material topics during 2023.

To gain a holistic understanding of the topics' impact and our impact on the topics, we analysed the identified topics regarding their relevance in our value chain. Like this, we were able to identify the specific points in our value creation process where these topics are most relevant. We also defined which parties, inside or outside Grünenthal, may be affected or should be involved or considered when setting goals and designing measures for the material topics.

In our materiality analysis, we reviewed all of the important topics grouped in our four fields of action (see infographic below). These form the framework of our responsibility and sustainability activities. For the reporting period 2023, the four fields of action are

- Compliance, Ethics and Transparency,
- Patient,
- People and
- Planet. «

Compliance, Ethics and Transparency

» It is essential to our business to ensure highest standards of compliance, ethics and transparency. These are the foundation of our business and shape our everyday operations. «

Patient

» Grünenthal's focus on patients is at the core of our sustainability approach. For patients suffering from pain, the responsible use of pain medication can be life-changing. As a leader in pain management, we educate healthcare professionals and patients about how to use medicines responsibly and raise awareness about pain while developing new medicines for unmet medical needs. Access to appropriate pain treatment is a basic human right and we aim to increase the accessibility of current treatments. «

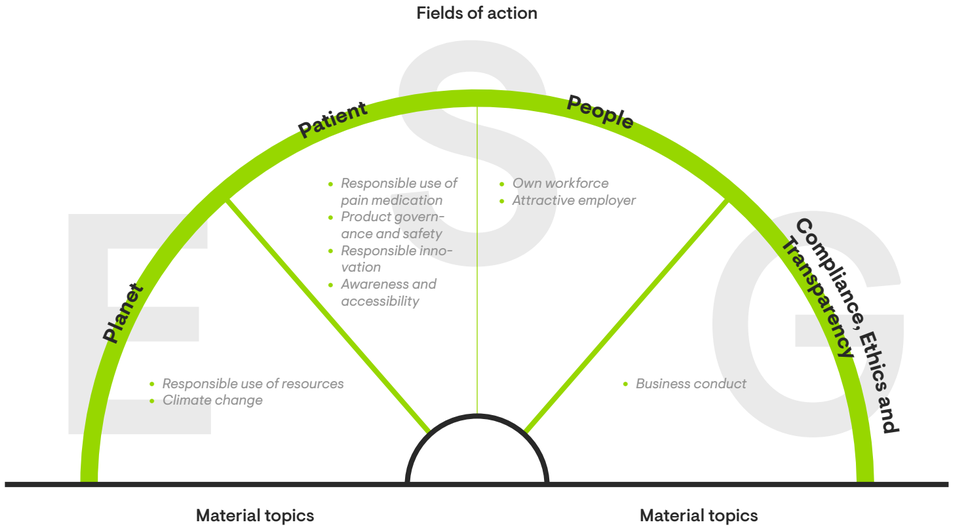
People

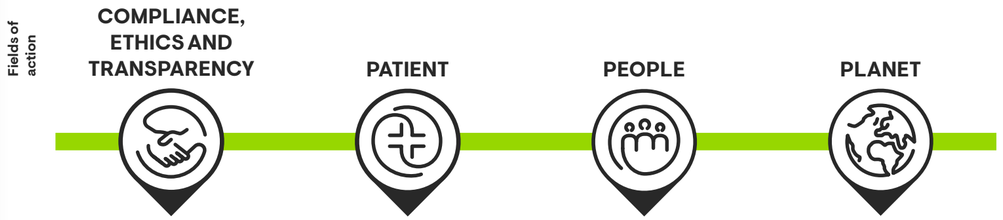
» The "People" field of action includes key topics related to our workforce, such as health and safety, their level of engagement, as well as the diversity of our organisation and its attractiveness to potential employees. «

Planet

» The field of action "Planet" encompasses all of the topics related to the responsible use of resources and our impact on climate, including our supply chain. «

» Our nine material topics within four fields of action «





Material topics and descriptions

- Business conduct

Maintaining excellence in the areas of compliance, ethics and transparency – grouped under Business conduct – is at the core of our daily business. We operate in line with high ethical standards and continuously strive for excellence.

- Responsible use of pain medication

Our approach to the responsible use of pain medication is built on three pillars that form the basis of our business relationships: strict governance, close involvement of our business partners, and education on pain and pain medication for healthcare professionals and patients.

- Product governance and safety

Product quality and safety are particularly important in the pharmaceutical industry. We place the highest demands on the quality and safety of our products and processes and apply intensive risk management and control strategies along all steps of our production.

- Responsible innovation

Through our innovation activities, we hope to address unmet pain in underserved populations through better use of human data. Our Bioethical Framework for Research provides governance for the development of safe and effective treatments for pain.

- Awareness and accessibility

Raising awareness of pain and enabling access to pain medication is a core focus for us. Our goal is to ensure that pain is acknowledged as a disease in its own right and that patients suffering pain have access to appropriate medicines and treatments.

- Own workforce

This material topic captures a variety of important factors that affect our workforce. These include Human capital fairness (which covers the health and safety of our employees), Employee engagement, and Equity, Diversity and Inclusion.

- Attractive employer

We want to create the best possible conditions for our employees – in their working and personal environment. We provide an environment where people can thrive in rich and varied roles, while also offering growth opportunities and an extensive range of benefits.

- Responsible use of resources

The responsible use of resources limits our impact on the environment. We place a strong focus on energy and water consumption, as well as the handling of production waste.

- Climate change[1]

We want to better understand the impact on climate change of our business operations and supply chain and take action to reduce it. We measure our corporate carbon footprint and set targets for reducing CO_2 emissions.

[1] previously "Our impact on climate"

Materiality matrix

» Our materiality assessment identified topics where we have the most potential to create a positive impact for stakeholders and society, and which entail the biggest risks and opportunities for our company.

In 2023, we analysed the impacts as well as the risks and opportunities associated with all previously determined key topics. The topics reported for the period 2022 scored highest in materiality in 2023 again. However, in anticipation of the Corporate Sustainability Reporting Directive (CSRD), we cluster the topics under the new terminology of the European Sustainability Reporting Standards (ESRS) where possible.

Compliance, Ethics and Transparency: **Business conduct** is a key factor in earning trust and gaining access to the market for Grünenthal. Financial materiality is high for this topic because it has a significant impact on the costs and barriers to market entry, as well as our corporate reputation. Social materiality is also high for this topic because it influences the fair and transparent access to pharmaceutical products worldwide.

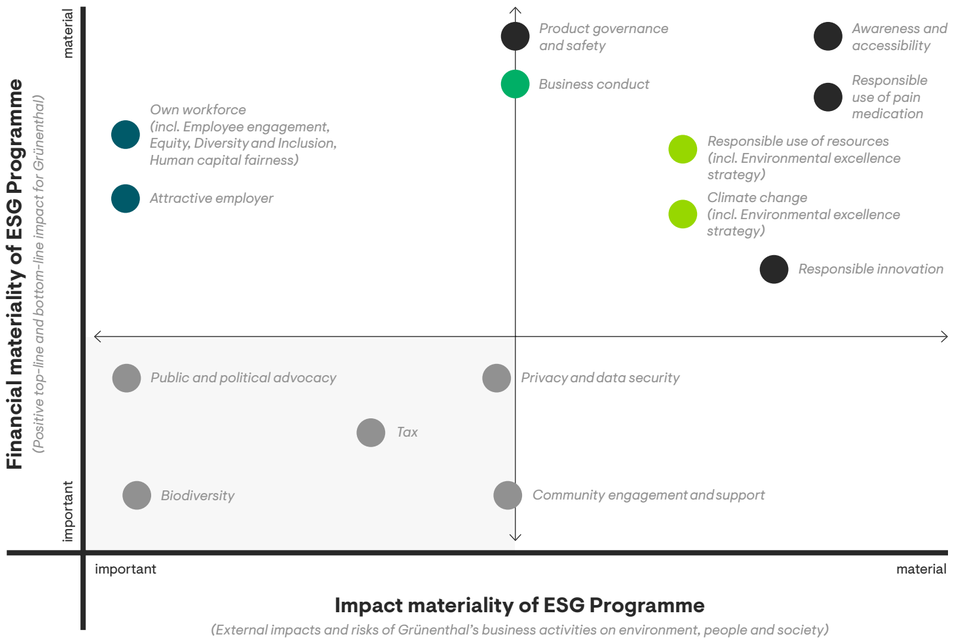
In the **Patient** field of action, both **Awareness and accessibility** and **Responsible use of pain medication** scored high levels of financial materiality due to the effects on safeguarding our company's positioning and reputation ('A World Free of Pain'). These topics also scored high levels of impact materiality due to the direct effects on efficient healthcare resources through better and faster treatments, and a social impact through improvements in the overall health situation. **Responsible innovation** is important in the Patient field of action. It can improve the speed of discovery and development cycles, meaning that patients can access better therapies more quickly. It also means that these therapies can contribute to broader patient sales bases – with potential positive reputational effects. This leads to both a high financial materiality and high materiality impact for this topic. **Product governance and safety** is also of great importance for Grünenthal. The topic scored highly with regard to its financial materiality because it is paramount for Grünenthal to ensure safe and high-quality products, while adhering to regulatory process guidelines. The material impact is also important due to the risks involved in developing and producing pain medication – for which Grünenthal operates extensive risk management and control strategies. Our company's business is rooted in the positive impact that our products have on patients' lives and the role that we play by pursuing our vision of a World Free of Pain.

In the **People** field of action, the financial materiality is high for two topics: **Own workforce** and **Attractive employer**. These material topics have direct effects on personnel costs, productivity rates, personnel retention rates, recruiting costs, size of employee base and employer reputation. Own workforce combines the three previous material topics Human capital fairness, Employee engagement, and Equity, Diversity and Inclusion. This change moves the terminology for our material topics closer to the terminology of the European Sustainability Reporting Standards (ESRS). All targets, measures and management approaches are now maintained and organised under Own workforce. This simplifies our reporting approach and workstreams.

In the **Planet** field of action, our two material topics are **Responsible use of resources** and **Climate change**. Previously, we pursued three material topics. In 2023, we integrated all aspects related to the material topic of our overarching Environmental excellence strategy into these two remaining material topics. Our efforts to drive progress for these two topics have a significant influence on our company's access to capital, the cost of capital and all ongoing capital expenditure – especially for energy sourcing, environmental risk mitigation and access to energy. On the double materiality matrix (see graphic), these capital-related factors define the financial materiality of these topics. Grünenthal's potential influence on the environment defines the materiality impact of these topics.

When mapped according to the relevance of their respective financial and impact materiality, Grünenthal material topics 2023 create the following matrix. «

Grünenthal's double materiality matrix

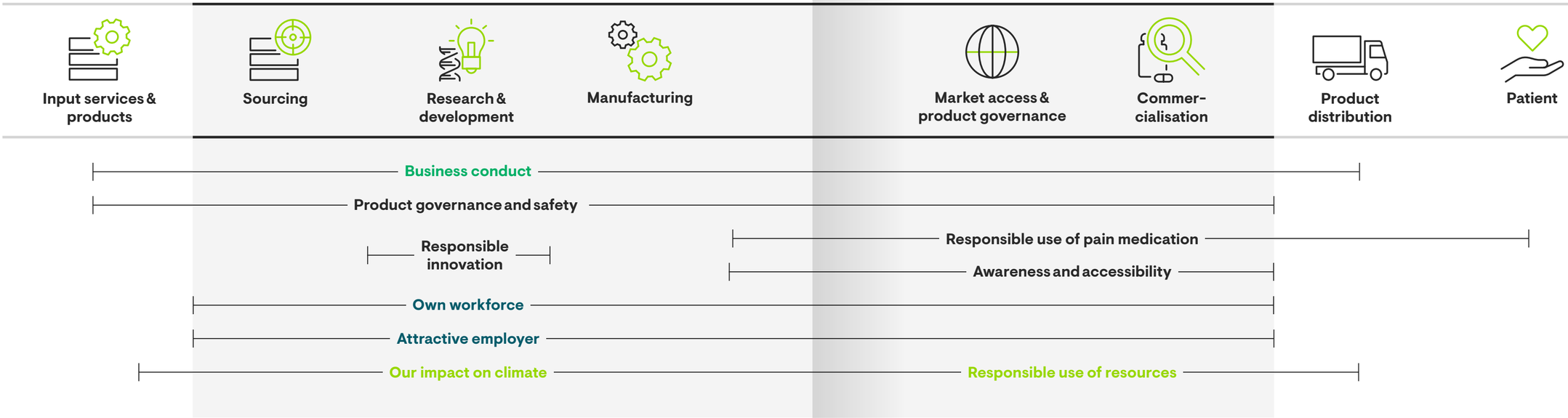


Grünenthal's material topics within our fields of action:
● Compliance, ethics and transparency ● Patient ● People ● Planet

In addition to this, we have mapped the Grünenthal material topics 2023 according to their relevance within the Grünenthal value creation process as shown below.

Grünenthal's value creation process and mapped span of material topics

Grünenthal's core business activities



Grünenthal's material topics within our fields of actions:
● Compliance, ethics and transparency ● Patient ● People ● Planet

United Nations Sustainable Development Goals

» We want to continuously improve and optimise our ESG performance. To achieve this, we have set ambitious targets for each of our material topics. These targets can be found throughout this report, on the opening pages for each relevant chapter. «

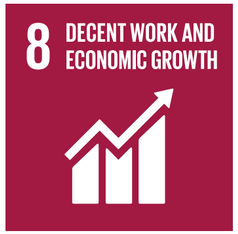
Grünenthal's contribution to the SDGs

» In 2015, the United Nations adopted Sustainable Development Goals (SDGs) as a blueprint to achieve a better and more sustainable future for all. The SDGs are a call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice and prosperity. As a leading pharmaceutical company, we are committed to supporting the SDGs in line with our business strategy. We particularly contribute to SDG 3, which aims at ensuring healthy lives and promoting wellbeing for all. «

SDG 3: Good Health and Wellbeing

» Pain is a huge burden for patients, their families and society as a whole. As a leader in pain management, we help to educate patients and healthcare professionals on how to use pain medication responsibly for ensuring the best possible impact for the patient. We also raise awareness and increase access to available treatments, while developing new medications for unmet medical needs in order to improve the quality of life for patients worldwide.

Through our business operations and ongoing activities, we also make essential contributions to the following SDGs: «



SDG 8: Decent Work and Economic Growth

» People thrive in a healthy environment. For this reason, we take action to care for the wellbeing of everyone who works at Grünenthal. We have established an inspiring place to work and develop, in an open and inclusive atmosphere with fair employment practices. We are certified as a Great Place to Work® at 24 entities in 19 countries, including our headquarters and all of our production sites. We aim to maintain high levels of engagement at Grünenthal by providing a working environment where all employees feel valued, respected and empowered to reach their full potential and bring great ideas to the table. «

SDG 9: Industry, Innovation and Infrastructure

» We need solutions that address huge unmet needs in pain management. This is why a large part of our revenue is reinvested into R&D each year – at a level that is well above the industry average. Through our funding programmes such as the EFIC-Grünenthal Grant and the Brain, Mind and Pain Grant (BMP Grant) for patient-centred innovation, we support scientists in carrying out innovative clinical pain research. We have filed around 200 priority patent applications in the last 10 years. On top of this, we leverage modern technologies to improve outcomes for patients. For example, we are using Machine Learning based on anonymised human data to increase understanding of disease and improve the design of clinical trials. «

SDG 12: Responsible Consumption and Production

» We conduct our business responsibly, which means legally, ethically, respectfully and sustainably. This approach covers everything we do, from selecting suppliers and how we treat our employees to production conditions and marketing and sales practices. Our dedicated responsibility initiatives, such as our zero waste to landfill programme, energy and water efficiency programmes and consumption targets help us focus our efforts to contribute to the achievement of SDG 12. «

SDG 13: Climate Action

» We have established several initiatives to reduce the environmental impact of our business. These initiatives ensure that we use resources more sustainably, avoid waste in our operations wherever possible, and switch to renewable and low-carbon energy.

As part of our ongoing commitment to environmental responsibility, we engage in a meticulous process for greenhouse gas inventory. This is a vital step for understanding and mitigating our carbon footprint. We recently joined forces with the Science Based Targets initiative (SBTi) to substantiate our climate ambitions. This collaboration supports our commitment to establish ambitious but achievable near-term targets for the reduction of Scope 1 and 2 greenhouse gas emissions. For Scope 3, we intensify our efforts to increase sustainability among our supply chain by working closely with our suppliers. These concerted actions align Grünenthal with global climate objectives and ensure that we take proactive measures to contribute to a more sustainable future. «

GOVERNANCE STRUCTURE

GRI 2-1, GRI 2-9, GRI 2-11

Embedding sustainability in the organisational structure

GRI 2-12, GRI 2-13, GRI 2-14, GRI 2-17

» To develop a strong corporate responsibility governance structure, we have established a Corporate Responsibility Board (the 'Corporate Responsibility Board'). It ensures the consistent Grünenthal-wide and localised implementation, enforcement and monitoring of our Corporate Responsibility Programme. In 2023, the Corporate Responsibility Board was chaired by the Chief Responsibility Officer.

Moving forward, the role of the Chief Responsibility Officer has expanded to Global Compliance & Responsibility Officer from January 2024 on.

Members of the Board act as representatives for our Corporate Responsibility Impact Initiatives, as well as representatives for relevant business functions.

The Corporate Responsibility Board reports directly to the Corporate Executive Board in regular reporting and coordination updates, and at any other time if needed. The Corporate Executive Board is in constant exchange with the Corporate Responsibility Board and is permanently involved in the development, adoption and updating of all relevant strategies, policies and goals regarding sustainability at Grünenthal.

In addition, the Advisory Board (Beirat) is regularly informed about the plans and progress of the Corporate Responsibility Programme.

Our Corporate Responsibility Programme's continuous improvement and development is the key duty of the Corporate Responsibility Board. It serves as a decision-making body and sounding board for all questions, issues, matters and targets related to Corporate Responsibility at Grünenthal. It also organises all of the necessary structures throughout the Grünenthal Group to ensure stable sustainability governance.

The Corporate Responsibility Board manages and fosters continual dialogue with external and internal stakeholders, sets ambitious sustainability targets and ensures transparent reporting. «

Hannah Engels, Global Compliance & Responsibility Officer, appointed 1 January 2024.

» Composition of the Corporate Responsibility Board in 2023 «

- Chief Responsibility Officer (Chair)
- Head of Global Human Resources
- Head of Corporate Strategy
- Head of Global Communication
- Head of Research
- Head of Drug Safety and Qualified Person Responsible for Pharmacovigilance (QPPV)
- Head of Manufacturing Latin America & API and Global Manufacturing Operations
- Joint Venture Integration Lead/CEO Grünenthal Meds
- Head of Commercial Controlling
- Head of Global Portfolio Commercialisation
- Commercial Responsibility & Business Ethics Officer

The ultimate parent company of the Grünenthal Group

» The ultimate parent company (Grünenthal Pharma GmbH & Co. KG) of the Grünenthal Group is a limited partnership (Kommanditgesellschaft) incorporated under the laws of Germany, with a limited liability company (Gesellschaft mit beschränkter Haftung) as general partner incorporated under the laws of the Principality of Liechtenstein, and which has its corporate seat in Aachen, Germany (the 'Ultimate Parent Company'). It wholly owns Grünenthal GmbH. The Ultimate Parent Company serves as a holding company, while Grünenthal GmbH is the entity that is active in the pharmaceutical business. «

Grünenthal GmbH

» Grünenthal GmbH is a limited liability company (Gesellschaft mit beschränkter Haftung) organised and existing under the laws of Germany and has its corporate seat in Aachen, Germany (the 'GmbH'). The GmbH was incorporated in 1946 under the name Chemie Grünenthal GmbH. «

Dual governance structure

» Both the Ultimate Parent Company and the GmbH have a dual management system characterised by a separation of personnel between the management and supervisory bodies, as further explained below. «

The Advisory Board

» Both the Ultimate Parent Company and the operational GmbH have an advisory board (Beirat) in place. The limited partners of the Ultimate Parent Company (the 'Shareholder') and the shareholder of the GmbH, respectively, elect the members of their relevant advisory board (Beirat). The members of the advisory board of the Ultimate Parent Company and the advisory board of the operational GmbH (the 'Advisory Board') have to be identical.

The Advisory Board appoints the GmbH's managing directors (Geschäftsführer), who form the Corporate Executive Board (the 'Corporate Executive Board'), and advises and controls the Corporate Executive Board. The managing directors (Geschäftsführer) regularly report to the Advisory Board on the financial situation of the Group, and on matters relating to the business situation of the Group, the management's plans, important occurrences and matters, and on the Group's performance. «

» The Advisory Board approves the measures of the Corporate Executive Board if required by the Articles of Association of the GmbH and the partnership agreement of the Ultimate Parent Company. For example, certain significant actions, including acquisitions, material licence deals and material investments or fundamental strategic matters of the Group, where they lie outside the usual course of business, require the approval of the Advisory Board.

The Advisory Board has an audit committee (Prüfungsausschuss) and a personnel committee (Personalausschuss). It may establish any other committee if it decides to do so.

The members of the Advisory Board consist of five external voting members (the 'Voting Members') and four consulting/non-voting members (the 'Non-Voting Members'). One Voting Member of the Advisory Board is female and the other four Voting Members are male. Three of the Non-Voting Members are female and the other Non-Voting Member is male. The Voting Members comprise members with long-standing experience in senior positions from relevant industries such as pharmaceuticals, consumer goods, advertising, legal, human resources and auditing. The Non-Voting Members are Shareholders or family members of the Shareholders.

For further information please refer to our website:

https://www.grunenthal.com/en/company/supervisory-board

https://www.grunenthal.com/en/company/leadership

Election of the Advisory Board members

GRI 2-10

The limited partners of the Ultimate Parent Company (the 'Shareholders') and the shareholder of the GmbH, respectively, elect the members of their relevant advisory board (Beirat). In accordance with the partnership agreement of the Ultimate Parent Company, the members of the advisory board of the Ultimate Parent Company and the advisory board of the operational GmbH (the 'Advisory Board') have to be identical. The Voting Members of the Advisory Board are elected by a simple majority. For the election of persons who are shareholders, a majority of two thirds is required. «

The Corporate Executive Board

» As a limited liability company, the GmbH is managed by its managing directors (Geschäftsführer), who are appointed by the Advisory Board and who together form the Corporate Executive Board. The Corporate Executive Board is the senior leadership decision body of the Group. According to the Articles of Association of the GmbH, if only one managing director has been appointed, he or she shall represent the GmbH alone. If more than one managing director has been appointed, the issuer shall be represented by two managing directors jointly or by one managing director and one authorised representative (Prokurist) jointly. The managing directors (Geschäftsführer) regularly report to the Advisory Board as described in above section, 'The Advisory Board'. There is regular reporting on economic, environmental and social issues as well as on ESG Risk Management. «

Performance evaluation and remuneration determination of the Corporate Executive Board

GRI 2-18, GRI 2-19, GRI 2-20

» According to the Company's bylaws, our Corporate Executive Board members' terms of office can be up to five years. Re-appointments are possible. Our Advisory Board has adopted the custom of appointing Corporate Executive Board members for a maximum of three years for the first term.

The objectives of the Corporate Executive Board members reflect the measures of success according to the company objectives, such as pipeline progress, profit and revenue, debt payback and organisational development.

The remuneration elements include both a fixed and variable part. All elements are benchmarked against the market median for peers in the EU pharma industry (for example turnover, number of employees, R&D) and are based on advice from external experts.

The variable part of the remuneration is based on enterprise value creation, annual profitability and individual targets related to organisational objectives (according to company scorecard KPIs).

The Advisory Board has a Personnel Committee (Personalausschuss). This committee is responsible for preparing the resolutions of the Advisory Board on the appointment and dismissal of the members of the Corporate Executive Board, as well as resolutions on the conclusion, amendment and termination of their employment contracts. The Personnel Committee is made up of three members of the Advisory Board. The members of the Personnel Committee have long-standing experience in senior positions from relevant industries such as legal, human resources and auditing. All contractual elements are approved by the Personnel Committee. «

Grünenthal's Corporate Executive Board: Gabriel Baertschi (CEO), Jan Adams, MD (CSO), Janneke van der Kamp (CCO), Fabian Raschke (CFO).

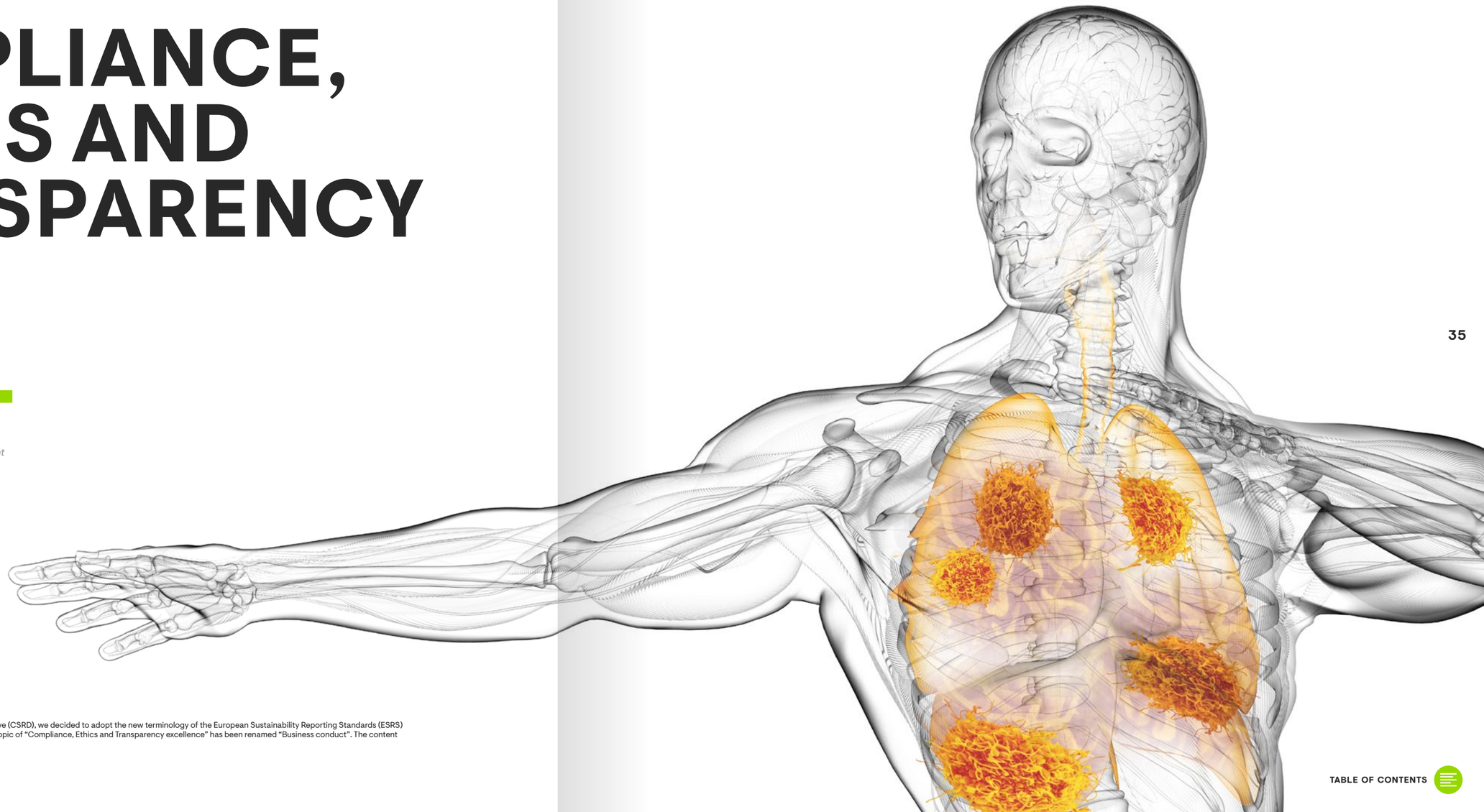
COMPLIANCE, ETHICS AND TRANSPARENCY

Material topic

BUSINESS CONDUCT[1]

Our sustainability ambitions

- *Continuous development of our state-of-the-art Compliance & Ethics Framework.*



[1] In anticipation of the Corporate Sustainability Reporting Directive (CSRD), we decided to adopt the new terminology of the European Sustainability Reporting Standards (ESRS) for our material topics, where possible. Therefore, the material topic of "Compliance, Ethics and Transparency excellence" has been renamed "Business conduct". The content scope remains unchanged.

» KEY ACHIEVEMENTS IN THE MATERIAL TOPIC IN 2023 «

Business conduct

- Implemented compliance policies and governance structures in our new joint venture, Grünenthal Meds
- Ranked suppliers based on an internal risk assessment; identified approx. 1 percent of our ESG-sensitive suppliers in 2023 as a potential high-risk
- Conducted three anti-corruption site assessments as part of our annual internal audit plan; no significant corruption risks identified
- Found no confirmed cases of corruption
- Assessed 5,405 business partners in third-party due diligence with 78 percent classified as low risk
- Developed and started pilot phase of our Responsible Sourcing Programme
- Began training procurement department in new ESG in-depth assessment for suppliers; approx. 9 percent of ESG-sensitive suppliers processed
- Carried out a digital ethics and literacy training campaign for all employees
- Developed global guidance for responsible and ethical application of Generative Artificial Intelligence, to be published in 2024

Lea Theimer, Compliance Liaison Grünenthal Meds, Arne Sprünken, Head Safety & Benefit Risk Medicinal Specialities

COMPLIANCE, ETHICS AND TRANSPARENCY

GRI 3-3

» WE SEE IT as our fundamental responsibility to act with integrity and maintain high ethical standards in everything we do. Our aim is to build trust and give confidence to the patients, employees, partners and communities we serve. Our Compliance & Ethics Framework provides clear governance and structure for our actions and is built around our Code of Conduct.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'** ●●).

For us, Compliance, Ethics and Transparency – the main areas within Business conduct – go hand in hand. They are deeply anchored in our culture. For this reason, excellence in this area is a material topic for us. «

Business conduct

↓

» MAINTAINING EXCELLENCE in the areas of compliance, ethics and transparency – grouped under Business conduct – is at the core of our daily business. We operate in line with high ethical standards and continuously strive for excellence. «

COMPLIANCE

» Our Compliance organisation is an integral part of Grünenthal's business. Dedicated compliance officers serve on decision-making bodies across our organisation. Their independence is maintained through a direct reporting line to the Chief Responsibility Officer (from 2024: Global Compliance & Responsibility Officer), who reports to the Corporate Executive Board and the Advisory Board.

Ongoing and open dialogue at Grünenthal brings our global Compliance & Ethics Framework to life. This includes face-to-face training and workshops, remote and on-demand training, as well as day-to-day consulting. We manage our business partners based on internal analyses and risk-ratings, and we require them to act lawfully and with integrity in line with our framework. Our Ethics Helpline is accessible to our employees and external parties, including business partners and their employees, 24/7. They can use this tool to raise questions, concerns or doubts. Employees can find information about the Ethics Helpline in a dedicated Standard Operating Procedure, on Grünenthal's intranet and on physical notice boards at our sites. External parties can find details on our corporate website.

Having a robust Compliance & Ethics Framework integrated into Grünenthal's business processes helps us to ensure that risks are identified and managed. In this way, we aim to avoid negative impacts on our company and its stakeholders. «

Our global Compliance Management System

GRI 2-15, GRI 2-16, GRI 2-23, GRI 2-24, GRI 2-25, GRI 2-26

» Grünenthal has established a comprehensive global Compliance Management System to manage risks related to compliance, business ethics and opioid responsibility.

Our Compliance & Ethics Framework provides for a strong governance of the Compliance Management System. It is based on our Code of Conduct and includes a set of compliance policies with a focus on our key risk areas (see infobox). The Compliance & Ethics Framework relies on group-wide processes including obtaining approvals before engaging with healthcare organisations or healthcare professionals, reviewing promotional and non-promotional content, and reporting and managing cases of non-compliance. Additional features are regularly added to keep the Compliance Management System up to date with the latest regulatory, political and social developments. Recent examples are the compliance policies on Political Involvement and Lobbying and the Use of Chat Platforms. «

» Grünenthal's global compliance policies «

- Code of Conduct
- Ethics Helpline
- Anti-Corruption
- Business Partner
- Healthcare Interactions
- Patients Interactions
- Promotion and Marketing
- Research & Development Compliance
- Data Protection
- Fair Competition
- Dawn Raid
- Code of Conduct for Business Partners
- Anti-Money Laundering
- Foreign Trade
- Trade Secrets
- Political Involvement and Lobbying
- Use of Chat Platforms
- Third Party Due Diligence

Our Compliance Organisation

» Grünenthal's dedicated Compliance Organisation consists of a Chief Responsibility Officer (from 2024: Global Compliance & Responsibility Officer) and a team of compliance officers, as well as local compliance contacts. The Compliance Organisation is the central actor within our global Compliance Management System. It is responsible for advising and training our colleagues and business partners worldwide, and for conducting investigations into alleged compliance violations.

The Chief Responsibility Officer reports to the Corporate Executive Board and the Advisory Board on a regular basis and as needed. These reports provide detailed updates on training, healthcare interactions, audits, current developments and the status of alleged compliance incidents, as well as critical concerns. Both Boards are active decision-makers in issuing strategic directions regarding the Compliance Management System.

At regional and local level, regular reporting and consulting on compliance topics is ensured by the compliance officers. They are part of the regional and local leadership teams.

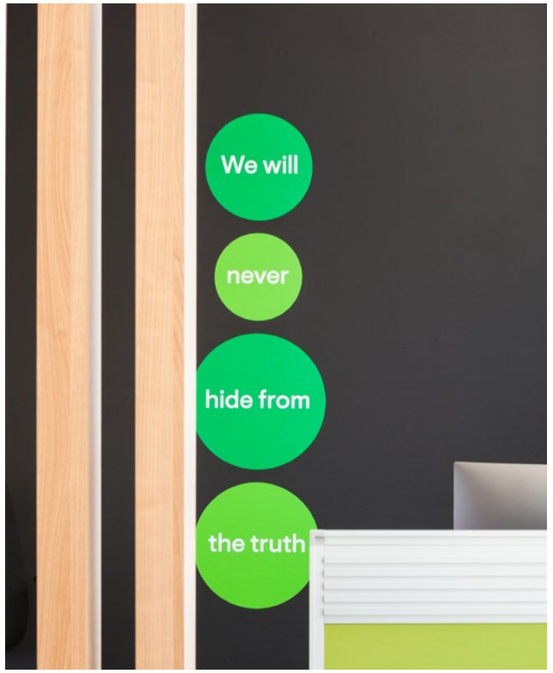
Ethics committees meet as needed to decide on measures to be taken in cases where reported compliance incidents have been investigated and a violation has been identified. Regional and local ethics committees take decisions regarding regional and local compliance incidents. The Global Ethics Committee is in charge of all compliance incidents that have a major impact, such as the involvement of senior management and systemic or impactful compliance violations. «

Code of Conduct and key compliance policies

» Our Code of Conduct is the centrepiece of our Compliance & Ethics Framework. It lays out our high standards for legal, ethical and responsible business conduct, including topics such as conflicts of interest, anti-corruption, human rights and data privacy. These basic principles on how we run our business operations are detailed in our global compliance policies. Our business partners are handled according to our Business Partner Policy and, depending on the risk, are required to sign our Code of Conduct for Business Partners. Both of these policies are publicly accessible.

https://www.grunenthal.com/en/responsibility/compliance-ethics-transparency

In addition to the Compliance & Ethics Framework, we have established a comprehensive Opioid Responsibility Framework (see 'Our Approach to the responsible use of pain medication' in the **'PATIENT'** chapter) to mitigate risks related to our product portfolio. «



Grünenthal Corporate Hub office in Lisbon

Compliance at Grünenthal Meds

At Grünenthal Meds, we aim to act with integrity and to conduct all of our business activities in compliance with applicable laws and regulations. Building trust by implementing and maintaining the highest ethical standards from the outset gives our stakeholders confidence in us. While Grünenthal Meds only began its operations in Summer 2023, our state-of-the-art Compliance & Ethics Framework ensures the swift implementation of comprehensive compliance policies and governance structures in any new venture within the Grünenthal Group.

In particular, we executed the following measures on or before day one:

- We implemented the Grünenthal Code of Conduct and distributed it to all employees.
- We established all necessary supervisory bodies such as the Compliance Committee and the Responsible Opioids Usage Board.
- We issued a bespoke Compliance & Ethics Onboarding Module to all employees to ensure they were adequately trained in group policies and procedures.
- We made the confidential 24-hour Ethics Helpline available to ensure employee's responsibility to promptly report any compliance issues, concerns, or misconduct.
- We provided function-specific training, e. g., for customer-facing employees on critical topics such as the Responsible Use of Opioids Framework.
- We conducted a risk assessment for all business partners engaged by the joint venture to ensure compliance along the value chain. The resulting mitigation strategy ensured full implementation of the Grünenthal Business Partner Due Diligence process including audits, training and a release process controlled by Compliance and Finance.

Christoph Stolle,
CEO Grünenthal Meds

Communication and training

» All new employees receive standardised online training on our Code of Conduct and Compliance & Ethics Framework. On an annual basis, the Corporate Executive Board approves a training matrix that contains mandatory compliance training courses for all employees. These courses are target-group specific and cover key topics such as healthcare interactions, data privacy, business partner compliance and the use of social media. Additionally, there is training on topics that are identified as relevant locally such as local code requirements. Our compliance policies and all relevant training materials are available in several languages, including English, French, German, Italian, Portuguese and Spanish.

To meet changing requirements, we are continually developing new training courses and updating existing ones. Our current portfolio consists of various training formats (see infobox).

Concrete figures on the two main training courses related to Compliance, Ethical Behaviour and Anti-corruption – the Code of Conduct/Corporate Responsibility/Conflict of Interest (CCC) eLearning and the Healthcare Interactions (HCI) training – can be found in the section 'Ethical business within Grünenthal and its supply chain'. Training figures for our Opioid Responsibility Framework are reported in the **'PATIENT'** chapter in the section 'Our approach to the Responsible use of pain medication'. «

» Our regular compliance training sessions «

CCC eLearning:

- Code of Conduct/Corporate Responsibility/Conflict of Interest

Face-to-face:

- Anti-Money Laundering
- Behaviour in case of a Dawn Raid
- Business Partner Compliance
- Case Handling
- Compliance/Opioid Responsibility@Commercial Partners
- Compliance & Ethics in Procurement
- Corporate Digital Responsibility
- Data Privacy
- Foreign Trade Compliance
- Healthcare Interactions (HCI)
- Onboarding Compliance Training
- Opioid Responsibility
- Promotional and Non-Promotional Content Creation and Management
- Responsible Use of Chat Platforms
- Supply Chain Act
- Third Party Due Diligence
- Trade Secrets
- Remote Interactions

Our whistleblowing process and disciplinary measures

» Our employees are expected to report any behaviour that is not in line with our Code of Conduct, our compliance policies, local laws and regulations, or professional or industrial guidelines and directives. Such reports can be made anonymously. Several reporting options are available for employees, and some are also open for external stakeholders such as business partners, local communities and other third parties:

1. Speaking to a manager.
2. Contacting HR, the Legal department, the Works Council or the Compliance Organisation.
3. Using the Ethics Helpline, a web-based whistleblowing system that is complemented by a telephone hotline and available 24/7 in seven languages. Employees or external stakeholders can seek advice and raise concerns personally or anonymously. «

» Reported incidents will be investigated discreetly and neutrally by the Compliance Organisation following a plausibility check and in accordance with applicable data protection laws. Depending on the possible impact of the allegations if substantiated, Global Compliance will inform the Corporate Executive Board and/or the Advisory Board on an ad-hoc basis. Both Boards are informed about all compliance investigations in the course of regular reporting. Other departments are involved where appropriate. The responsible local ethics committee or the Global Ethics Committee decides on the appropriate disciplinary and other measures once an investigation has been concluded. Employees who raise reasonable concerns in good faith will be protected, and retaliation against such employees is treated as a compliance violation.

There were no critical concerns during the reporting period. «

Compliance audits

» Compliance audits are regularly conducted by the Internal Audit department, with detailed audit plans being approved by the Corporate Executive Board and by the Advisory Board for the upcoming audit period. In addition, the Internal Audit team also conducts audits as required in case of suspected irregularities.

In the reporting year, there were no such cases.

Furthermore, the Internal Audit team prepares spot checks on a variety of compliance topics. These spot checks are conducted as self-assessments on the implementation of various compliance measures (such as training, documentation of business partner checks, approvals of donations) by the respective compliance officers throughout the year. «

Compliance with laws and regulations

GRI 2-27, GRI 416-2

» In the reporting year, there was no significant case of non-compliance with laws and regulations. «

Hannah Engels, Global Compliance & Responsibility Officer, Pia Klara Weckendorf, Head of Internal Audit

ETHICS

Ethical business within Grünenthal and its supply chain

» We are committed to conducting business in a legal, ethical and responsible manner. We have a strict Anti-Corruption Policy, clear Social Supplier Standards and a state-of-the-art framework for Corporate Digital Responsibility. «

Anti-corruption

GRI 205-1, GRI 205-2, GRI 205-3, GRI 206-1

» Our Anti-Corruption Policy, our Healthcare Interactions Policy and our Patient Interactions Policy govern how we interact with external stakeholders such as suppliers, doctors, patients and consultants in a fully transparent and appropriate way. These policies feature clear examples that show our employees how to avoid even the appearance of improper influence. Our global policies are complemented by local implementation rules, contract templates for standard transactions and a fair market value tool to avoid overcompensation. We provide a clear framework of rules, approval requirements, documentation tools, training and personal advice. This ensures a consistent and effective operationalisation of our anti-corruption and anti-bribery policies in all of our activities – whether simple or highly complex.

At regular intervals, compliance audits are carried out by the Internal Audit department to assess the corruption risks of our individual entities.

There were three site assessments conducted by Internal Audit as part of the annual audit plan in the reporting year. The annual audit plan covers site assessments on a rotational schedule as part of regular risk assessments. All planned site assessments (100 percent) were conducted in the reporting year. No significant corruption risks were identified. «

Monitoring corruption

» There were no confirmed cases of corruption at the Grünenthal Group in the reporting year. Furthermore, there were no legal actions pending or completed during the reporting period regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation in which the organisation has been identified as a participant. «

Training in anti-corruption

» Our comprehensive Anti-Corruption Framework is regularly communicated to our employees, as well as our Corporate Executive Board and Advisory Board members.

In 2023, the total number and percentage of employees that the organisation's anti-corruption policies and procedures were communicated to was 775 (100 percent). «

» All non-production employees and the Corporate Executive Board members receive additional anti-corruption training via our eLearning. It features modules on our Code of Conduct, Conflict of Interest and Corporate Responsibility ('CCC eLearning'). All in-scope employees have either taken the course when it was launched in 2022 or, for those joining since, as part of the onboarding process for new employees.

We also offer a Healthcare Interactions Training ('HCI Training') for specific target groups. Our HCI Training covers anti-corruption and anti-bribery in the healthcare sector. All employees who interact with healthcare professionals, healthcare organisations and/or patients receive this training regularly because these interactions have a higher risk profile in the context of Grünenthal's business. Employees with high exposure to healthcare professionals must complete the training annually. «

» Anti-corruption training «

GRÜNENTHAL PERFORMANCE INDICATOR [1]	2023	2022
Number of employees in the relevant target group that received anti-corruption training via our comprehensive Code of Conduct, Conflict of Interest and Corporate Responsibility ('CCC') eLearning in the year.	eLearning new employees Corporate Responsibility: 655 Code of Conduct: 672 Conflict of Interest: 657	eLearning initial rollout[2] Corporate Responsibility: 3,241 Code of Conduct: 3,252 Conflict of Interest: 3,235
Number and percentage of employees in the relevant target group that received anti-corruption training via our tailored face-to-face[3] training on Healthcare Interactions (HCI) in the year (by region).		
Austria, Germany, Switzerland and Headquarters	100% (185/185)	100% (268/268)
Portugal and Spain	100% (231/231)	99% (199/201)
Italy	99% (139/141)	100% (116/116)
Benelux and France[4]	99% (128/129)	100% (79/79)
UK, Ireland and the Nordics	100% (68/68)	100% (65/65)
Latin America	92% (461/502)	97% (689/710)
US	97% (37/38)	100% (22/22)

[1] Figures with the Grünenthal logo in the headline are Grünenthal-specific performance indicators.

[2] Methodology: We have disregarded all employees that were 'inactive' throughout 2023 (e.g. parental leave, long-term sickness) as well as employees assigned via 'GRT-All' job code, regardless if they did or did not complete any of the modules. The latter have received the training via other job codes.

[3] This includes virtual face-to-face training.

[4] The training materials used in France differed from the global training slide-deck due to local requirements. Nevertheless, they do capture all relevant anti-corruption aspects and cover the scope of the global training.

Third-party due diligence assessments

» Grünenthal aims to conduct business responsibly. For this reason, we have implemented a comprehensive third-party due diligence process to ensure that risks related to compliance and business ethics among our business partners can be avoided or managed appropriately. Business partners undergo compliance screening on a risk-based basis.

Of the total number of active business partners in the reporting year, 33 were classified as high-risk after a thorough business partner compliance assessment; two third parties were classified as no-go business partners.

Based on the individual risk level determined in our third-party due diligence process, suppliers and sales-side business partners such as distributors are required to follow our Code of Conduct principles which also grants us audit and termination rights in case of non-compliance. When contracting with medical business partners such as doctors or university hospitals, we use standardised contract templates that enable us to require them to comply with the principles of our Code of Conduct and our Healthcare Interaction Policy.

A large majority of Grünenthal's business partners active[1] in 2023 were classified as low-risk (78 percent). Mitigating measures were put in place for medium-risk and high-risk business partners. In 2023, Grünenthal decided not to enter into a business relationship with two business partners based on compliance and/or reputational reasons. «

» Third-party due diligence «

GRÜNENTHAL PERFORMANCE INDICATOR	2023	2019 - 2022
Number of active business partners in the reporting year which have undergone a third-party due diligence assessment and breakdown by risk level.	Total assessments: 5,405 with the following breakdown: Low risk: 4,207 (78%) Medium risk: 1,165 (21%) High risk: 33 (1%)	Total assessments: 3,943 with the following breakdown: Low risk: 3,268 (83%) Medium risk: 635 (16%) High risk: 40 (1%)
Number of business partners considered a 'no-go' in the reporting year as a result of a third-party due diligence process.	2	3

[1] Active business partners refers to all creditors and debtors that had financial transactions with Grünenthal in the reporting year.

Social standards in our value chain

» By implementing a rigorous governance process, we aim to meet or exceed all required social standards throughout our business operations and supply chain. This includes meeting all of the requirements of the German Supply Chain Act (Lieferkettensorgfaltspflichtengesetz, LkSG). The LkSG imposes significant due diligence obligations on companies in Germany. This aims to ensure compliance with human rights and environmental standards related to topics such as child labour, occupational health and emissions of hazardous substances throughout the entire supply chain. In 2023, Grünenthal implemented a Responsible Sourcing Programme to help achieve this goal in Grünenthal's supply chain.

We also continued our dedicated internal training and communication activities during 2023.

As of 1 January 2024, Grünenthal appointed a Human Rights and Environmental Officer, who is responsible to monitor the effective implementation of the German Supply Chain Act into the various areas of responsibility within the company.

At Grünenthal, we adhere to the Declaration on Fundamental Principles and Rights at Work from the International Labour Organization (ILO). «

Statement on Human Rights according to § 6 section 2 of the Act on Corporate Due Diligence Obligations in Supply Chains (Lieferkettensorgfaltspflichtengesetz –LkSG)

To mitigate business risks related to human rights and environmental standards, we proactively screen and manage our own operations and supply chain through integrated measures across our global processes. We conduct due diligence assessments based on risk factors, including the types of products/services offered by a supplier and their location in a country with developing environmental or human rights standards.

Human rights and environmental protection are an integral part of our comprehensive Compliance & Ethics Framework, and are embedded in our training, control and remediation mechanisms. There is a clear expectation towards our own business, our employees, our suppliers and their employees to proactively identify, flag and mitigate any risks related to these topics. This task can only be achieved if everyone in our ecosystem contributes. Therefore, any third party has access to our Ethics Helpline whistleblowing system to raise any LkSG-related concerns within Grünenthal's own business area or its supply chain.

Our risk management is carried out jointly with the responsible Grünenthal business areas, while mitigation measures within our supply chain are mainly driven by our Procurement function in cooperation with the suppliers.

Membership of the United Nations Global Compact

We are committed to respecting and promoting human rights. Grünenthal does not accept harassment or any form of discrimination on grounds such as gender, race, nationality, age, religion, sexual orientation, physical appearance, social origin, disability, union membership or family status.

Gabriel Baertschi
Chief Executive Officer

Responsible sourcing

» We believe responsible sourcing plays a vital role in creating a sustainable and ethical supply chain. The Responsible Sourcing Programme at Grünenthal aims to increase transparency and create a positive ESG impact in our supply chain and connected local communities. It is also a tool that supports our efforts to contribute to the 1.5°C goal of the Paris Climate Agreement, meet increased regulatory requirements such as the German Supply Chain Act, and foster Grünenthal's attractiveness to our stakeholders such as investors and potential new employees.

Grünenthal's Code of Conduct for Business Partners is the foundation of our approach to Responsible Sourcing. It defines principles that emphasise value beyond savings in supply chain decisions, while also improving suppliers' ESG data transparency, fostering a development and collaboration mindset among suppliers, and leveraging the industry ecosystem to drive change.

The operational execution of responsible sourcing at Grünenthal is a six-step cycle. First, the responsible sourcing principles are fully integrated into our procurement process and decision-making. Next, suppliers' ESG risks and impacts are assessed, and targets are defined jointly. Suppliers' compliance is then verified via audits and self-assessments, or from public sources. In an effort to help our suppliers become more responsible along with us, collaboration and innovation with our suppliers is a key focus. Their ESG progress is assessed and the best performers are rewarded. As the final step, we analyse and report on the progress of our responsible sourcing approach. «

Sandra Matamoros, Global Programme Lead Responsible Sourcing, with Inga Kaiser, Business Process Owner Purchase to Pay

Upstream and downstream value chain

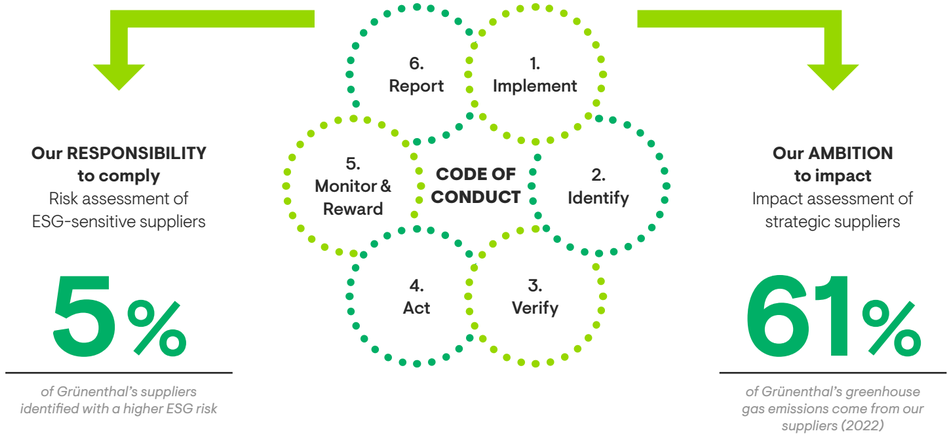
The upstream value chain includes all activities involving an organisation's suppliers, who source materials for manufacturing. The downstream value chain refers to activities after manufacturing.

» Our Responsible Sourcing Programme focuses on two impact areas along Grünenthal's upstream value chain:

- Regarding **environmental** impacts, our programme will help reduce net greenhouse gas (GHG) emissions through strong collaboration with strategic suppliers, such as efforts to facilitate setting science-based targets. Moving forward, we will extend our efforts with suppliers to also reduce waste and improve water usage standards.
- Regarding **social** and **governance** impacts, the programme will enforce fair working conditions and avoid forced labour, while also promoting tolerance. As a next step for the future, we aim to also cultivate diversity within our supply chain. **«**

Responsible Sourcing: Ensuring our suppliers deliver on our ESG ambition

» Responsible Sourcing: Two different groups of suppliers, same approach «



Responsible sourcing risk assessment

» Our responsible sourcing approach is designed to ensure compliance with existing and upcoming regulatory requirements of the German Supply Chain Act (LkSG), the Corporate Sustainability Reporting Directive (CSRD) and the European Corporate Sustainability Due Diligence Directive (CSDDD).

In 2023, we improved our ESG Third Party Due Diligence (TPDD), which assesses the Environmental, Social and Governance risks of our current and new suppliers. Taking advantage of the growing IT landscape, we partnered with IntegrityNext to conduct an ESG in-depth assessment with our most critical suppliers.

We have revisited the definition of our ESG-sensitive suppliers. These are suppliers with a higher risk from an ESG perspective, typically due to the type of business activity or due to their location. Approx. 5 percent (approx. 500 suppliers) of our supplier network of approx. 11,000 suppliers in 2023 was categorised as ESG-sensitive. These suppliers are in the initial scope of our responsibility.

We defined a prioritisation of our suppliers based on an internal risk assessment. This identifies potential high-risk suppliers worldwide: So far approx. 1 percent (approx. 100 suppliers) of our ESG-sensitive suppliers in 2023 were identified as potential high-risk suppliers. «

» As part of this implementation process, we conducted a pilot project with six suppliers and our manufacturing site in Ecuador. Close relationships that enable open feedback were a key criterion when working with these selected suppliers. They help us to gain a deep understanding of the potential limitations of our programme prior to global roll-out. This pilot project did not identify any criticality among these suppliers, but led to dialogue about next steps with the suppliers that were assessed.

In 2023, we started training the procurement organisation in the new ESG in-depth assessment for suppliers. As a result, we covered approximately 9 percent of our ESG-sensitive suppliers following the new process and system with IntegrityNext.

We have applied for membership with the Pharmaceutical Supply Chain Initiative (PSCI) and expect to be admitted by early 2024. PSCI aims to promote partnerships among business partners, build ESG-related standards (e. g., frameworks for audits assessing human rights and environmental standards), while also providing guidance and training to suppliers of its member companies. Through PSCI, we will join a strong community that will support the development of our suppliers in areas where assessments have identified potential for improvement.

Moving forward, we are going to focus on dialogue and close collaboration with key suppliers to find solutions to improve our suppliers' ESG capabilities. Already now, Responsible Sourcing is a component of the Business Review Meetings we conduct with our strategic suppliers. We also plan to monitor and reward our suppliers' progress, using IntegrityNext as a tool to achieve greater transparency in their ESG status.

For more information about our responsible sourcing impact assessment, please refer to the **'PLANET'** chapter. «

Elke Geysen, Head Global Procurement and External Supply Operations, Priyatham Salimadugu, Sourcing Manager.

Data security, protection and ethics

» We handle all personal data responsibly. Data security, data protection and data ethics are closely connected and interlinked.

We have strict global policies aimed at maximising data security. These cover all aspects of IT- and cyber security. We ensure that all data is protected through appropriate Technical and Organisational Measures (TOMs). The technical dimension of this protection is owned by the Global IT department, which operates in close cooperation with our Global Data Protection team.

By using a reliable set of legal instruments such as contracts or consents, we ensure that all personal data is handled according to the General Data Protection Regulation (GDPR) wherever applicable. We have an internal Global Data Protection Officer who is supported by a global network of internal and external data protection officers and coordinators. Our Data Protection Framework covers all business operations, from processing highly sensitive clinical trial data through to daily standard transactions such as answering data subject requests. All of the above-mentioned principles are laid out in our Global Data Protection Policy. Beyond complying with legal requirements related to handling personal data, we also act responsibly and in line with high ethical standards. To provide clear guidance to our employees about data ethics, we have created our Corporate Digital Responsibility Framework.

Corporate digital responsibility

Our Corporate Digital Responsibility Framework translates the values and ethical principles set out in our Code of Conduct into our digital activities. It enables us to take control of our digital footprint and maintain a positive digital reputation by promoting a responsible use of digital technologies.

Our Digital Ethics Charter is at the heart of this approach. It sets a clear standard for how we behave when using digital technology. The charter is operationalised via various guidance documents and tools that we develop continuously in dedicated cross-functional working groups.

Examples of such guidance include the responsible use of transparent consent management and responsible use of digital listening. The responsible use of Artificial Intelligence (AI) systems is another key topic in this regard. In 2023, we prepared global guidelines for the responsible and ethical use of Generative Artificial Intelligence (GenAI) technologies, which we expect to be published in early 2024.

In the reporting year, we also carried out training campaigns for employees in all Grünenthal entities globally that focused on digital ethics and digital literacy. «

Susanne Bransgrove, Responsibility Communication & Corporate Reporting, Pablo Sastre Puche, Compliance & Data Ethics Officer

Grünenthal's global guidance for generative Artificial Intelligence

» Generative Artificial Intelligence (GenAI) is an increasingly pivotal digital tool on a global scale. GenAI generates new output based on data it has been trained with. Such output can consist of images, text or audio. The benefits of using GenAI include enhanced efficiency, creativity, and data analysis, fostering innovation and productivity. However, it is essential to use it in a responsible and ethical way.

While all Grünenthal employees are encouraged to embrace new technology and experiment with GenAI solutions, they are required to comply with our Digital Ethics Framework when using such technology.

In 2023, we developed a global guidance for the responsible and ethical use of GenAI, which will be published in early 2024. The guidance was developed via cross-functional collaboration between different Grünenthal teams including IT, Commercial Excellence, Human Resources, Global Operations and Research & Development.

Looking ahead, our employees can move forward and gather experience of using this innovative digital technology. A range of GenAI solutions are now recognised as company-trusted tools following internal qualification from our Procurement, IT, Legal and Digital Ethics teams. Together, we are exploring the potential for GenAI to drive positive change for Grünenthal and the patients we serve. «

» Key achievements in 2023 and plan for 2024 – Digital ethics at Grünenthal «

ACHIEVEMENTS IN 2023	2024 PLAN
• We **formalised** our cross-disciplinary **Digital Ethics Steering Committee** to strengthen governance of our Corporate Digital Responsibility Framework and **consolidated a digital ethics community** at Grünenthal.	• Establish an **AI governance framework** to ensure **ethical and responsible use** of artificial intelligence, by providing guidelines for managing risks and addressing impact, fostering trust in AI systems.
• We launched a **Consent Centre**, allowing healthcare professionals to easily and transparently **manage their preferences for digital interactions** with Grünenthal.	• Further enhance the **measurability of digital ethics initiatives** distinguishing between performance metrics (input and output) and impact indicators (outcome and impact).
• We provided **digital ethics training** for specific target audiences.	• Collaborate with **external researchers** to create additional **digital ethics guidance**.
• We developed a methodology to **enhance measurability** of Grünenthal's **digital ethics approach** across three operational pillars: Digital outreach, analytics, and communication and training.	
• We developed guidance for the responsible **use of generative Artificial Intelligence**, which will be launched for all Grünenthal employees worldwide in 2024.	
• Our **Corporate Digital Responsibility Framework** was **shortlisted for the prestigious CDR Award** from the German Association for the Digital Economy **(BVDW)** and the Bavarian Society for Innovation and Knowledge Transfer **(bayern innovativ)**.	

Digital ethics training

» We place a strong focus on making sure that our office-based employees are well-informed about topics related to digital ethics. In 2023, we conducted training on digital topics such as the use of social media, our consent management centre, as well as digital literacy on websites. These training activities were held in virtual classrooms or videos as part of our Learning Management System. They were mandatory for relevant target groups.

For more information, see:

https://www.grunenthal.com/en/responsibility/compliance-ethics-transparency#ethicalbusiness

We have a specific governance structure to steer our digital responsibility efforts. It includes our Digital Ethics Steering Committee that consists of senior management employees and is chaired by the Chief Responsibility Officer (from 2024: Global Compliance & Responsibility Officer). This committee helps to identify new use cases in our ever-evolving digital business operations. It also facilitates efficient operationalisation of our Digital Ethics Charter and aligns with the Corporate Executive Board on an ongoing basis. «

» Our Digital Ethics Charter «

- Human beings keep oversight and accountability of our digital activities
- Safety and security are embedded in all of our digital activities as cornerstones to protect our values
- We can explain all of our digital activities
- Our digital activities do not cause bias or discrimination
- Digital ethics are engrained in our decision-making processes
- We only undertake digital activities that are in line with this Charter

Bioethical Framework for Research

» The Grünenthal R&D organisation is committed to the highest bioethical standards in its preclinical research activities. Our Bioethical Framework for Research sets out the principles, processes and governance to support three key areas of preclinical activities:

1. **Animal welfare**: Helping to ensure that all animal research is conducted to the highest international standards, following all applicable laws and regulations, and that animal use is considered in line with the Replacement, Reduction and Refinement principles.[1]
2. **Human biological samples**: Helping to ensure that human samples used for research have been consented for the use to which they are put, adhere to all applicable laws and regulations, and that donor privacy is protected.
3. **Emerging technologies**: Helping to ensure that the allowed preclinical use of new and advanced biological or technological methodologies (such as genetic engineering, stem cells or nanotechnology) is defined, follows applicable laws and regulations and considers their potential wider societal and environmental impacts. «

[1] The 3Rs principle: https://www.bfr.bund.de/en/3r_principle-194147.html

» Governance of this framework is executed through the Bioethics Steering Committee (BSC). It reports to the Corporate Executive Board through its Chair, who is the Chief Scientific Officer. The oversight for emerging technologies is directly managed by the BSC. Two working groups, reporting to the BSC, are responsible for animal welfare and human biological samples respectively.

At the end of 2021, the entire Research organisation received training on the policies within the Bioethical Framework. These policies are reviewed and updated every two years, with associated re-training across Research. The working groups, which are responsible for the implementation of the policies, meet at least monthly and review approximately 100 work requests per annum, as well as monitoring the external environment for updates to legislation or regulatory guidance. The Bioethical Steering Committee, which has oversight of the Bioethical Framework, meets on a quarterly basis to review implementation and to support working group activities and can meet on an ad hoc basis to address urgent topics.

The promotion of bioethical research has encouraged innovation through investment in new technologies and tools. Examples include new computational approaches that improve the prediction of drug toxicology, as well as in-vitro cellular models that mimic human pain signalling. Together, these tools complement and support Grünenthal's aim to develop safe and effective treatments for pain. «

TRANSPARENCY

» For Grünenthal, being fully transparent is a crucial success factor in earning the trust of our stakeholders. We meet our transparency requirements in three key areas: «

Simone Timmermanns, Technician Molecular & Cellular Biology

Clinical trials transparency

» We share clinical information that is necessary for conducting legitimate research, serving patient safety and improving public health. «

» We have publicly committed to the principles for responsible clinical trial data sharing that were issued in January 2014 by the European Federation of Pharmaceutical Industries and Associations (EFPIA) and the Pharmaceutical Research and Manufacturers of America (PhRMA). More information on clinical trials is published on Grünenthal's corporate website. «

https://www.grunenthal.com/en/science/clinical-trials

EFPIA Disclosure Code and Disclosure of Transfer of Values

» We are a member of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and support the EFPIA Disclosure Code. We are committed to publishing information about our collaboration with healthcare professionals and healthcare organisations to demonstrate that we interact with these stakeholders in an ethical and transparent way.

All interactions and transfers of value are disclosed in line with either the EFPIA Disclosure (Transparency) Code, local pharmaceutical codes or national legislation implemented by organisations such as healthcare authorities.

More information is published on Grünenthal's corporate website. «

https://www.grunenthal.com/en/responsibility/compliance-ethics-transparency/disclosure-of-transfers-of-value

Tax transparency

» Good corporate governance and compliance are high-priority topics at Grünenthal. This also shapes our approach to managing our tax affairs worldwide.

We consider good governance of our tax affairs to be an ongoing and evolving process in a continuously fast-moving global tax landscape. Grünenthal aims to act in compliance with local and international tax regulations, and is guided by relevant international standards such as the Organisation for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises and Tax Administrations, OECD Base Erosion and Profit Shifting (BEPS) Reports and BEPS action plans. This means:

- As a good corporate citizen, Grünenthal considers taxes and duties as an important part of its social responsibility.
- We are committed to ensuring that Grünenthal's tax affairs are responsibly managed, and that we are consistently recognised by all of our stakeholders as a responsible and reliable taxpayer.
- We are committed to complying with the spirit as well as the letter of the law.
- We are committed to aligning our tax contribution with the value that we create in the countries we operate in. We aim to pay the right amount of tax in compliance with all relevant local and international tax laws and regulations, and do not tolerate any form of profit shifting, tax fraud or facilitation of tax evasion.
- In the event that applicable laws and regulations are subject to interpretation, we seek appropriate assurance regarding the position taken either through consulting with advisers or through advance rulings or pricing agreements with the relevant tax authorities.
- Grünenthal aims to achieve and maintain respectful relationships with the tax authorities, and we are committed to transparent and constructive relationships with all relevant authorities. «

PATIENT

Material topic	RESPONSIBLE USE OF PAIN MEDICATION	AWARENESS AND ACCESSIBILITY	RESPONSIBLE INNOVATION	PRODUCT GOVERNANCE AND SAFETY
Our sustainability ambitions	• *Continuous development and improvement of Grünenthal's leading opioid responsibility framework (the 'Opioid Responsibility Framework').* • *Continuous expansion of the network of business partners that have committed to our Opioid Responsibility Framework for Business Partners.* • *Continuous improvement of the accessibility and user experience for medical educational materials about the responsible use of pain medication.*[1] • *Increasing awareness about the responsible use of pain medicines and offering Continuing Medical Education (CME) in collaboration with external partners.*[2]	• *Increase the focus, reach and impact of our global and local activities for awareness and accessibility via external communication.* • *By having a clear strategy for governance, transparency and accountability, we ensure that our awareness and accessibility initiatives have a lasting impact on patients' lives.* • *Use our global network to collaborate with external partners to identify best leverage opportunities for our unique expertise to have a lasting impact on improving pain management.*	• *Reduce cycle time and resources required for new candidate discovery through Machine Learning (ML) (baseline 2021, 18 months; goal in 2025, 14 months).* • *Improve clinical trial design through ML-based patient phenotyping (baseline 2021, 0 trials; goal in 2025, 2 trials).* • *Improve understanding of treatment effects in clinical studies and post-approval through objective measurement of mobility and sleep (baseline 2021, 1 study; goal in 2025, 2 studies).*	• *97 percent 'on-time' submissions to authorities worldwide for Individual Case Safety Reports (ICSR).* • *Maintain or exceed the current level of recognised compliance with global pharmacovigilance standards.* • *100 percent compliance with the International Conference on Harmonisation-Good Clinical Practice (ICH-GCP) standards and other applicable ethical standards.*

[1] A change in strategy to achieve this ambition in favour of local websites resulted in the discontinuation of the global Change Pain hub at the end of 2023.

[2] The launch of an expert forum to provide education about the responsible use of pain medication in Europe and Latin America has been postponed until further notice.

» KEY ACHIEVEMENTS IN THE MATERIAL TOPICS IN 2023 «

Responsible use of pain medication

- Communicated our Opioid Responsibility Framework for Business Partners to 100 percent of relevant commercial business partners with 94 percent formally committing to it.
- Reached 53,177 healthcare professionals through virtual educational events and 691,890 visitors through educational websites.
- Provided two educational grants to contribute to increased awareness of responsible use of pain medicines.

Product governance and safety

- Maintained external quality certification coverage of all manufacturing sites.
- Achieved 93 percent compliance globally with our pharmacovigilance training assignments.

Awareness and accessibility

- Conducted a communication- and training-based roadshow for further cascading within the organisation.
- Hosted a digital Master Class for 2,000 medical specialists.
- Donated medications to medical centres in Venezuela, supporting pain treatments for palliative care and cancer patients.
- Established internal patient engagement network to share patient stories and initiatives and established framework to measure impact of patient engagement activities.
- Received insights from patients to improve patient outcomes.
- Invested € 5.1 million in Awareness and Accessibility initiatives.
- The Societal Impact of Pain (SIP) platform, a multi-stakeholder partnership co-sponsored by Grünenthal, released several position papers to demonstrate the relevance of pain to EU policy makers.

Responsible innovation

- Utilised Machine-Learning-based models in research projects, helping chemists design new molecules.
- Continued work on Machine-Learning models for patient phenotyping to support decision-making in clinical trial design in the future.
- Analysed patients' mobility and sleep data, collected with digital wearables. Objective measurement of mobility and sleep can help improve understanding of treatment effects in clinical studies in the future.
- Co-provided various grants promoting pain research.

PATIENT

» **PAIN IS** generating an increasingly large burden for patients and society worldwide.[1] Chronic pain and palliative care are two areas with a particularly strong need for increased education, societal awareness and access to appropriate treatment – in every country and region. We believe access to appropriate pain treatment is a basic human right.[2] We also believe access to pain management at the end stage of a person's life is a cornerstone in preserving human dignity.

Chronic pain is not merely an accompanying symptom that results from a disease or injury. Instead, we view chronic pain as a disease in its own right. Chronic pain is a particularly complex and distressing problem, and its impact on patients and society is still underestimated. More than 1.5 billion individuals suffer from chronic pain, which is almost one in five people worldwide.[3] In addition, the rapidly ageing global population is expected to further increase the number of patients with this disease.[4] «

Our vision – A World Free of Pain

» As a leader in pain management, our daily work at Grünenthal is driven by our commitment to addressing unmet medical needs for treatments of all types of pain and developing new treatment options with the potential to break the pain cycle.

While there are several approved treatments for pain, many patients still experience challenges with finding the right treatment that balances efficacy with the related side effects. If all other options are exhausted, patients may be offered strong opioids. While these can greatly improve patients' quality of life, they require appropriate regular monitoring and a minimum effective dose approach. We are actively engaged in gaining a holistic view across the value chain to provide all patients with the best possible treatment.

Our sharp focus on the patient is also the core of Grünenthal's sustainability work with its four material topics, which all have a close connection to our vision of a World Free of Pain. «

1 Mills SE. British Journal of Anaesthesia, 2019;123 (2): e273ee283
2 Frank Brennan, Daniel B Carr, Michael Cousins, Pain management: a fundamental human right, Anesth Analg. 2007 Jul;105(1):205-21. doi: 10.1213/01.ane.0000268145.52345.55
3 Treede RD, et al. Pain. 2015 Jun;156(6):1003-1007
4 Ali A, Arif A, Bhan C, et al. (September 13, 2018) Managing Chronic Pain in the Elderly: An Overview of the Recent Therapeutic Advancements; Cureus 10(9): e3293. DOI 10.7759/cureus.3293

100 reasons for a World Free of Pain

Our people share a deep commitment to shaping the future of pain management. We know that patients are still massively underserved in this therapeutic area. Every day, we strive to develop next-generation medicines that move us closer to achieving our vision of a World Free of Pain.

Of course, each individual at Grünenthal has a unique motivation for her/his work. We invited employees from across our business to share those personal inspiration as part of a special campaign on our corporate LinkedIn and Instagram channels in September 2023 – Pain Awareness Month declared by The World Health Assembly. These powerful statements show the depth of meaning and purpose that our people gain from working at Grünenthal. Our campaign aimed to inspire partners and new talents to join us in pursuing our vision, and creating a better future for pain patients worldwide.

https://www.linkedin.com/company/gruenenthal

https://www.instagram.com/grunenthal

Responsible use of pain medication

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» OUR APPROACH to the responsible use of pain medication is built on three pillars that form the basis of our business relationships: strict governance, close involvement of our business partners, and education on pain and pain medication for healthcare professionals and patients. **«**

Awareness and accessibility

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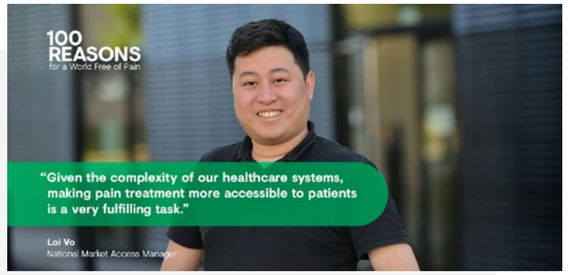
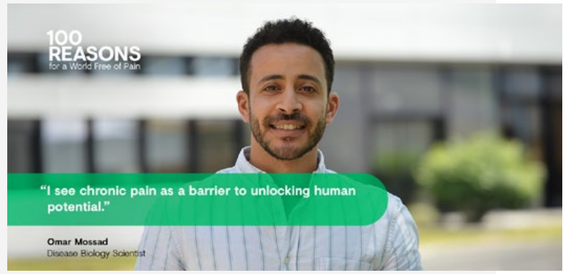
» RAISING AWARENESS of pain and enabling access to pain medication is a core focus for us. Our goal is to ensure that pain is acknowledged as a disease in its own right and that patients suffering pain have access to appropriate medicines and treatments. **«**





Responsible innovation

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» THROUGH OUR INNOVATION ACTIVITIES, we hope to address unmet pain in underserved populations through better use of human data. Our Bioethical Framework for Research provides governance for the development of safe and effective treatments for pain. **«**

Product governance and safety

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» PRODUCT GOVERNANCE AND SAFETY are particularly important in the pharmaceutical industry. We place the highest demands on the quality and safety of our products and processes and apply intensive risk management and control strategies along all steps of our production. **«**

RESPONSIBLE USE OF PAIN MEDICATION

GRI 3-3

» Our core objective is to develop and deliver medicines and solutions that address patients' needs and have the potential to improve their quality of life. Responsible use of pain medication is particularly important to us. It is fundamental that patients receive appropriate pain management after carefully weighing the benefits and risks of the available options.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'** ●●).

Among the wide range of pain treatments, the use of opioid analgesics remains one option that is available to healthcare professionals and their patients. As a manufacturer of effective analgesics, including opioids, we are committed to exploring and endorsing measures that minimise the risk of inappropriate and illegitimate use of prescription opioids. At the same time, we strive to ensure that individual patients with a clear need for opioid-based pain relief are not denied access. «

» Our approach to the responsible use of pain medication has three pillars:

- **First pillar:**
  A comprehensive governance structure for responsible opioid usage.
- **Second pillar:**
  The commitment of our business partners.
- **Third pillar:**
  Education about responsible use of pain medication via our dedicated Impact Initiative.

With these three pillars, we have built a comprehensive Opioid Responsibility Framework that regulates our internal processes while also involving our business partners effectively. In addition, we make considerable use of educational measures to inform healthcare professionals and patients about pain management and pain treatment. Together, we want to achieve personalised education about the responsible use of pain medication – especially for healthcare professionals in order to improve their patients' outcomes. «

❶ First pillar: A comprehensive governance structure for responsible opioid usage

» To anchor our stance on the responsible use of opioids in terms of governance, we have established our Responsible Opioids Usage Board (ROUB) at senior management, regional and local levels to support the Corporate Executive Board in the continual development of Grünenthal's ethical strategy related to opioids. It acts as a sounding board and escalation body for opioid-related projects, while also supervising the local implementation of responsible opioid usage programmes. The Responsible Opioids Usage Board has developed a dedicated framework to ensure streamlined implementation of its programme. «

Our Opioid Responsibility Framework

- **Our Opioid Charter**

» Grünenthal pledges not to support the off-label, inappropriate or non-medical use of analgesics. We state that our products are developed, commercialised and distributed in line with the highest ethical and scientific standards, according to the Code of Conduct and industry standards. Our Opioid Charter (The Grünenthal Charter on the Responsible Medical Use of Opioid Analgesics in Pain Patients) underpins Grünenthal's position on this topic. Recognising the increasing pressure on social and healthcare systems caused by the illegitimate use of opioid analgesics, Grünenthal is committed to developing safer opioid and non-opioid analgesics and to reducing the risks of non-medical use of its products to the greatest degree possible.

A public version of our Opioid Charter is available online. «

https://www.grunenthal.com/en/responsibility/patient-support#responsibleuse

- **Our opioid communication guidance**

» The opioid communication guidance lays down principles for promotional content, with a focus on ethical responsibility in relation to opioid usage. It explains what language and imagery can be used in promotional materials, presentations and publications to ensure comprehensive and fact-based contextualisation. «

- **Our opioid statement**

» Our opioid statement is a one-pager that highlights general considerations for the management of pain with any medication that contains an opioid mechanism of action, including the risk-benefit profile of opioid analgesics. We use this statement in all opioid-related promotional materials, including presentation slides and video recordings of webinars, to clarify our position for all stakeholders. The statement has been translated into six languages, covering our relevant target groups worldwide. «

Implementation of our Opioid Responsibility Framework

» We have initiated several measures to implement our Opioid Responsibility Framework. This includes organisational measures, targeted training and a risk-based approach to business partners. Grünenthal has also critically reviewed its involvement in public initiatives and partnerships regarding opioids.

Additionally, we have established a strong review process for all new opioid-related material, activities, partnerships and initiatives. All core and key documents with opioid-related content, especially those for external use, now need to be reviewed by the Responsible Opioids Usage Board.

To raise group-wide awareness regarding the responsible use of opioids and to foster compliance with the guidelines of the Opioid Responsibility Framework, targeted training for all relevant employees has been and will be conducted annually. Training material is translated and adapted for the respective jurisdictions. Furthermore, training on this issue has been integrated into our regular training schedule.

Our goal is the continual development and improvement of Grünenthal's leading Opioid Responsibility Framework. «

» Opioid Responsibility Framework training «

PERFORMANCE INDICATOR	ABSOLUTE NUMBER 2023	ABSOLUTE NUMBER 2022
Number of employees that received face-to-face[1] (refresher) training on Grünenthal's responsible use of opioid-based medicines in the reporting year	1,632	1,462

[1] This includes virtual face-to-face training.

Second Pillar: The commitment of our business partners

» We also commit our partners to the responsible use of our products through the Opioid Responsibility Framework for Business Partners.

We classify our commercial business partners into three different tiers[2] according to their respective risk level. The risk factors used for this classification include the types of products (for example opioid or psychotropic products), the business partner's background and environment, details of manufacturing and registration, and the activities to be performed by the business partner.

Depending on the assigned risk level, mitigating measures are applied. These include specific contract clauses, monitoring and audit activities, compliance training and site visits. «

Els Hollanders, Governance Lead & Dedicated Signatory, responsible for giving Opioid Responsibility Framework training, Harry Smith, Global Head of Medical Affairs, at Medical Affairs workshop

[2] **Tier 1:** Wholesalers or distributors for Grünenthal products with no promotional activities and that do not hold a Marketing Authorisation.
Tier 2: Business partners that promote a non-opioid containing product from Grünenthal and hold the Marketing Authorisation.
Tier 3: Business partners that promote an opioid containing product from Grünenthal, plus all business partners that promote a non-opioid containing product where Grünenthal holds the Marketing Authorisation.

» Opioid Responsibility Framework for Business Partners communication and commitment «

PERFORMANCE INDICATOR	% IN 2023	% IN 2022
Commercial business partners active in the reporting year that promoted and resold Grünenthal's opioid containing products to which Grünenthal's Opioid Responsibility Framework for Business Partners was communicated.	100	100
Commercial business partners active in the reporting year that promoted and resold Grünenthal's opioid containing products who formally committed to Grünenthal's Opioid Responsibility Framework for Business Partners.	94	78
Commercial business partners active in the reporting year that promoted and resold Grünenthal's products including opioid containing products and/or non-opioid containing products for which Grünenthal is the Market Authorisation Holder, who were trained by Grünenthal with the training session "Communication about our products/opioids".[1]	79	47

[1] Previously referred to as "Grünenthal's Compliance and Responsible Opioid Usage Frameworks". The name of the training session has been changed, but contains the previous content.

» By 2023, we had communicated the Framework to 100 percent of the relevant commercial business partners and 94 percent had formally committed to using it. We aim to ensure compliance with the Opioid Responsibility Framework for Business Partners by regularly (e.g., for tier 2 partners annually) reviewing relevant communications and documents used by our business partners. «

Third pillar: Education about responsible use of pain medication via our dedicated Impact Initiative

» Providing transparent education about the risks and benefits of pain medication is central for us in doing business responsibly. At Grünenthal, we have a long-standing tradition of educating healthcare professionals about pain management to deepen their understanding of patients' needs, as well as the risks and benefits of pain medication. Education about the responsible use of pain medication is a strong focus topic for our company.

CHANGE PAIN
Taking care of pain

Patients in pain need access to appropriate pain management that is specifically selected for their individual situation and needs. Physicians need to prescribe pain medication after careful consideration of the benefits and risks, and must evaluate all available treatment options. Without proper education to healthcare professionals about the responsible use of pain medication, there might be a higher risk of inappropriate use – including misuse, abuse and diversion, as well as the risk of addiction.

In 2009, we established our CHANGE PAIN initiative in 12 European countries and regions: Austria, Belgium, France, Germany, Italy, Ireland, the Netherlands, the Nordics, Portugal, Spain, Switzerland and the United Kingdom. The initiative is endorsed by the European Pain Federation EFIC and Pain Alliance Europe (PAE). The initiative's mission is to improve patient outcomes by improving pain management through appropriate research, communication and education.

With our CHANGE PAIN initiative, we educate healthcare professionals about pain management – while also educating healthcare professionals and patients about pain conditions. The goal is to build up knowledge about the responsible use of pain medicine to reduce risks related to misuse of medication and create trust among patients and healthcare professionals. «

» Through CHANGE PAIN, many tools have been developed, such as web-based learning modules and workshops across Europe.

In 2023, we reached 53,177 healthcare professionals through virtual educational events and 691,890 visitors though our educational websites. This was part of our effort to educate the healthcare sector about pain management and improve patient outcomes from pain treatment by providing practical tools for pain therapy via effective communication and education.

Our previous goal set for 2023 was to expand the CHANGE PAIN Responsibly hub. We did so throughout the reporting year, but recognised the need for local characteristics, such as local languages and availability of well-established local websites. For this reason, we discontinued the CHANGE PAIN Responsibly hub at the end of 2023. From 2024 onwards, our efforts to effectively improve access to medical educational materials about the responsible use of pain medication are aimed at various regional websites instead of one central website (for an example, see the infobox on this page regarding **Dolor.com**). We had also planned to launch an expert forum to enable healthcare professionals to discuss their challenges related to the responsible use of pain medication with experts. The launch of an education expert forum for the responsible use of pain medication in Europe and Latin America has now been postponed until further notice. «

» CHANGE PAIN – Education of healthcare professionals and patients «

PERFORMANCE INDICATOR	ABSOLUTE NUMBER 2023	ABSOLUTE NUMBER 2022
People impacted by our 'CHANGE PAIN Responsibly' Hub, including the number of:		
(i) educational events[1]	53,177[2]	50,786
(ii) website visitors	691,890	580,968
Healthcare professionals who received in-person communication about Grünenthal's responsible use of opioid-based medicines.	170,046	171,849

[1] Due to technical limitations on some local websites, persons participating in multiple educational events may have been counted multiple times.

[2] In 2022, we organised both physical and virtual events. However, in 2023, our strategy primarily focused on virtual events, limiting our scope for 2023 to only include virtual events. While physical events did occur in 2023, they were not primarily organised under the CHANGE PAIN umbrella.

Dolor.com: Sharing reliable information for pain patients

Grünenthal Spain's online platform Dolor.com shares science-based and easy-to-understand information about pain. Since its launch in 2017, it has grown to become an important reference for Spanish-speaking patients and care providers worldwide who need access to factual insights into pain management and relief.

Dolor.com offers 180 pages of content about an expanding range of pain topics – including pregnancy, fibromyalgia, analgesic scales, osteoarthritis, dental pain, neuropathic pain, peripheral neuropathic pain and much more. Key resources include agendas for patients to follow-up and monitor their pain, as well as infographics with recommendations and pain management guides for chronic pain patients.

» To contribute to our ambition of increasing awareness of the responsible use of pain medicines and offering Continuing Medical Education (CME) in collaboration with external partners, we have provided an educational grant to Medscape.[1] This grant is for the independent development and delivery of a CME-accredited educational programme related to the responsible use of pain medicines. This was launched in 2023 with the title Practical Considerations for the Responsible Use of Pain Medications and a total of 4,826 people engaged with the programme. We also provided a second independent grant for the development of an educational programme with the title Primary Care Best Practices in Managing Neuropathic Pain in 2023. This programme is to be launched in 2024. «

AWARENESS AND ACCESSIBILITY

GRI 3-3

» Our Awareness and Accessibility (A&A) initiative is governed by a policy that defines the scope of our A&A activities. The initiative activities are allocated within five categories:

- Awareness initiatives
- Grants and donations
- Medical education
- Patient programmes
- Studies and data generation

A global cross-functional team proposes strategic and operational decisions about the initiative and supports affiliates in implementing the A&A activities locally. The operational and strategic decisions are approved by the Corporate Responsibility Board. One example is our drug donation programme in Latin America (see **'Ensuring access to medication and palliative care'** below).

In 2023, we conducted a communication- and training-based roadshow for further cascading within the organisation. The roadshow included a general introduction to our Corporate Responsibility Programme, an update on our initiative for the responsible use of pain medication, as well as details about our A&A initiative. It also included a discussion of best practices, governance and strategy with the local/cluster leadership teams.

Our mission is to improve lives by making pain management accessible and raising awareness of pain as a disease. Access to adequate treatment of chronic pain and availability of palliative care are two areas of special importance for us.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**). «

[1] Medscape is the leading online global destination for physicians and healthcare professionals worldwide. It offers the latest medical news and expert perspectives, essential point-of-care drug and disease information, relevant professional education and Continuing Medical Education (CME) (about Medscape: https://www.medscape.com).

» Awareness and accessibility activities «

GRÜNENTHAL PERFORMANCE INDICATOR	ABSOLUTE NUMBER 2023	ABSOLUTE NUMBER 2022
Medical educational (non-promotional and non-branded) events performed or supported by Grünenthal.	116	111
Of which in Europe	21	57
Of which in the US	0	3
Of which in Latin America	95	51
Healthcare professionals supported by Grünenthal to participate in medical educational events (non-promotional and non-branded) (estimated number).	4,765	8,549
Of which in Europe	1,401[3]	6,630
Of which in the US	0	52
Of which in Latin America	3,364	1,867
Patient support programmes.[1]	13	17
Collaborations with patient organisations.[2]	72	53

[1] Our patient support programmes help patients either directly or via healthcare professionals by increasing disease awareness and enable them to access the most appropriate treatment possible and attain optimal treatment outcomes.

[2] The collaborations can be either led by patient organisations and sponsored by Grünenthal or co-created with them with the goal to raise disease awareness or to provide education and support to patients to better manage their condition (for example patient surveys, disease awareness campaigns, tools and materials for patients).

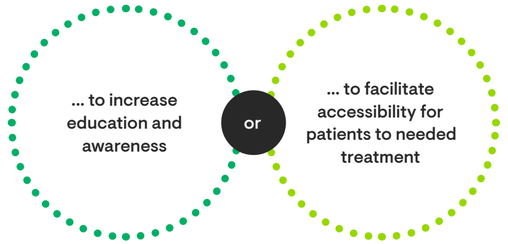
[3] In 2023, we reduced the number of webinars and focussed on smaller physical events.

» Total value invested by Grünenthal on Awareness and Accessibility initiatives in the year «

GRÜNENTHAL PERFORMANCE INDICATOR	2023 (IN €)	2022 (IN €)
Total value invested by Grünenthal into Awareness and Accessibility initiatives	**5.1 million**	**4.4 million**
Investments by category		
Medical Education	1,690,647	1,831,511
Grants and Donations	791,812	645,677
Awareness Initiatives	922,917	624,250
Patient Programmes	669,112	288,947
Study and Data Generation	113,645	39,806
No categorisation	972,639	1,006,502

» What we aim for «

Initiatives of **non-promotional character** and strict public benefits, aiming ...



... with strong focus on pain and palliative care.

Donating pain treatments to medical facilities in Venezuela

In Latin America, our teams join forces to identify healthcare challenges across the region. Based on this approach, Grünenthal donated medications to pain treatment centres in Venezuela during 2023. In total, we donated 18,000 units of the pain medication Tramadol to six selected pain centres that serve around 250 patients on a daily basis. These donations make a significant positive contribution to supporting access to pain treatments for palliative care and cancer patients. Our team collaborates with a local distributor to make the donation in cooperation with the Ministry of Health for Venezuela. Our contribution will benefit patients at selected public hospitals and pain units across the country.

Awareness measures in Latin America

» Grünenthal is committed to supporting improved knowledge and proper pain management in Latin America.

In 2023, our activities to increase the awareness of pain as a disease received endorsements from 22 national pain associations – including the Latin American Federation of Associations for the Study of Pain FEDELAT. These activities promote the proper assessment, diagnosis and treatment of chronic pain in the region. One example is the campaign Evalúado, which Grünenthal Latin America conducts in collaboration with FEDELAT. With this campaign, we aim to raise awareness among healthcare professionals about the importance of accurate pain evaluations for the better treatment for chronic pain patients. In 2023, we hosted a digital Master Class for 2,000 medical specialists. The recording is still available for healthcare professionals in Latin America on Grünenthal's Hablemos de Dolor ("Let's talk about pain") website **https://www.hablemosdedolor.com**.

Grünenthal has also supported the generation of data to better understand the impact of chronic pain in Latin America. We supported research into the prevalence of chronic pain, the burden of the disease and the cost analysis of chronic musculoskeletal pain in Chile, Colombia, Ecuador, and Peru. «

Ensuring access to medication and palliative care

» We want to continue improving access to medication in situations of low availability. This will enable patients in need to receive appropriate treatment options to manage pain. We strive to increase access to medication where it is most needed. Our teams concluded a cooperation agreement with a Non-Governmental Organisation to support its humanitarian efforts to deliver medication for people in crisis regions. «

The Grünenthal Foundation for Palliative Care

» We have a long-standing commitment to preserving dignity and quality of life at the end stage of people's lives. The Grünenthal Foundation for Palliative Care was set up in 1998 to promote science and research in this field, and to support progress in the care of people with severe or terminal diseases in Europe as well as in Latin America. The Foundation has facilitated the creation of the Department of Palliative Medicine at Aachen University Hospital. «

With our foundations we promote science and research in the field of palliative care.

» Our foundation also promotes improvements in palliative care across Latin America, where only one-third of the countries have a specific law related to this field and only half have a national care plan or recognise palliative care as a medical specialty.

In Peru, our work has been supporting a master's degree in Palliative Medicine and Pain Management at the Universidad Nacional Mayor de San Marcos since 2018 – the country's first academic programme within this field. 226 students have since graduated from this two-year study (of which 2022 - 2023: 75 graduates). We also support a diploma for chronic pain management and one for palliative care. With Grünenthal's support, the Latin American Palliative Care Association (ALCP) held events for the medical community and journalists to raise awareness about the importance of palliative care – as well as the considerable work that is needed to improve quality of life for patients in this region. «

Grünenthal Foundation Spain

» The Grünenthal Foundation in Spain is a non-profit organisation that seeks to improve quality of life for people suffering from pain in this country. It was founded in 2000 and focuses on three areas: developing knowledge, training patients and their families, and working with public bodies to design and implement health strategies. Through its support for the creation of Spain's only chair of childhood pain, at the Rovira i Virgili University, it has helped boost research in chronic childhood pain. «

Grünenthal Foundation Portugal

» The Grünenthal Foundation in Portugal's primary purpose is to support pain research and promote and communicate scientific developments, especially in the field of pain management. It sponsors projects related to the development of pain knowledge and rewards scientific research on this area. The Foundation was founded in 2001. «

Generating data about pain in Spain

In 2023, the Grünenthal Foundation in Spain shared new and insightful data about how pain impacts patients in this country. The data was collected and analysed as part of an ongoing strategy that engages with external partners to gain a deeper understanding of the reality within the Spanish healthcare landscape. This study, launched under the name of Pain Barometer, was conducted together with the Pain Observatory of the University of Cadiz. The survey of more than 7,000 people in Spain showed that 28.6 percent of patients had missed time at work due to pain within the previous 12 months. It also confirmed that women have a higher prevalence of chronic pain than men.[1] The results were presented at several events in 2023. They also received wide coverage via social media and traditional media.

Barómetro del dolor crónico en España 2022
https://fundaciongrunenthal.es

Raising awareness – The Societal Impact of Pain platform

» The Societal Impact of Pain (SIP) platform is a multi-stakeholder partnership led by the European Pain Federation and Pain Alliance Europe, and Grünenthal is one of the main sponsors. The partnership aims to raise awareness about pain and encourage changes to pain policies by providing opportunities for discussion among healthcare professionals, pain advocacy groups, politicians, healthcare insurance providers, representatives of health authorities, regulators and budget holders.

SIP is endorsed by more than 310 European and national patient and healthcare organisations, and collaborates with organisations from other disease areas to advocate for improved management of pain, for example in cancer and rheumatology.

In 2023, SIP released several position papers to demonstrate the relevance of pain to EU policy makers. Main priority areas were pain in the International Classification of Diseases (ICD-11), as well as pain and mental health – with impactful events in the European Parliament. «

https://europeanpainfederation.eu/sip

[1] Barometer of Chronic Pain in Spain 2022

Patient engagement

Grünenthal's patient engagement model

» Patient engagement means working with patients and for patients – across the entire product lifecycle.

Key patient engagement priorities 2023

1. Establishing the patient engagement network within Grünenthal

In 2023, our team of passionate patient engagement champions worked closely together to share their experiences and to build capabilities in monthly virtual sessions and two face-to-face workshops.

2. Bringing in patient voices to get regular and sustained insights

Patients were invited to several Grünenthal meetings during 2023 to share their experiences and to demonstrate the significant impact that pain has on people's lives.

Gudula Petersen, Global Patient Engagement Lead

3. Creating the best practice hub PEER to share patient stories and initiatives

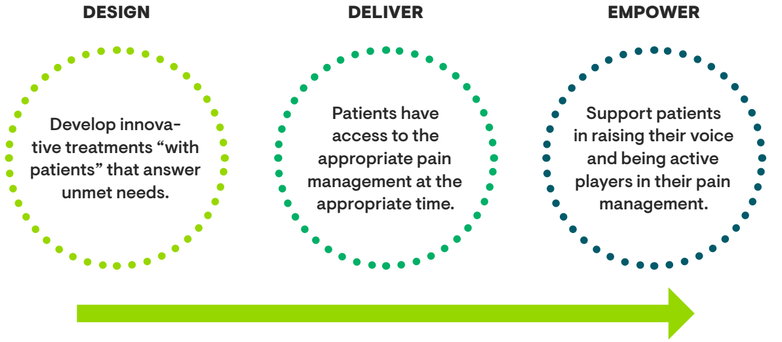
In May 2023, we launched the intranet community PEER (Patient Engagement Excellence Resources) to share impactful patient engagement projects and increase our capabilities in this area. Many inspiring patient stories were shared by the patient engagement team.

We have 213 community members from different departments and countries, and the number is constantly rising.

4. Establishing a framework to measure the impact of our patient engagement activities

We are currently working on key indicators to measure and demonstrate the impact that our initiatives have on Grünenthal's business as well as on our external stakeholders – especially patients. In 2024, we plan to integrate a dashboard into the PEER platform to continuously measure the number of initiatives and impacted patients. «

Grünenthal's patient engagement model



"Dimensione Sollievo": The first digital platform for chronic pain in Italy

Our team in Italy is committed to providing accurate and up-to-date information about pain for patients and caregivers. In 2020, they launched the first digital platform for chronic pain in Italy, Dimensione Sollievo (Relief Dimension).

This platform began on Facebook and now also offers a dedicated website, as well as a Spotify profile that shares a series of podcasts. In addition to sharing high-quality and trustworthy information, the initiative also gathers insights from the community of chronic pain patients via comments, ongoing dialogue and online survey results. Dimensione Sollievo has now become a digital place where people suffering from chronic pain in Italy can share experiences, find support and access valuable resources.

"Our Patient Engagement project has gained over 20,000 followers in just a few years, with an exceptionally high engagement rate. This indicates that our responsible posting of content and services is effectively reaching and meeting the needs of patients and caregivers. Looking to the future, we want to further develop this social outreach project by embracing the inspirations of narrative medicine."

Chiara Lattuada
Head of Communication Italy

Diabetic peripheral neuropathy (DPN): Speak for your feet

Mnemonic devices are phrases or sets of initials that help to make things more memorable. In the US, our Grünenthal subsidiary, Averitas, launched a contest called "Speak for your feet" to find the best mnemonic device to support patients with diabetic peripheral neuropathy (DPN) in accessing the best possible treatment for this painful condition. The contest aimed to empower patients to identify and describe symptoms more effectively, remember their treatment instructions and manage pain better in everyday situations.

People across the US sent creative entries. The winning mnemonic is M.O.V.E.

M – Monitor changes in sensations.

O – Ongoing pain, tingling or burning.

V – Voice symptoms to your healthcare professional.

E – Explore treatments for neuropathy.

This memory aid is now being used in educational resources and tools to support community awareness. It is integrated into various patient-centric websites and platforms to remind patients with diabetic nerve pain about important topics to share with their healthcare providers. In this way, it is helping to reduce gaps in care and improve treatment of painful DPN of the feet.

RESPONSIBLE INNOVATION

GRI 3-3

» The development of breakthrough pain treatments and appropriate management mechanisms is what drives us at Grünenthal. Chronic pain is a disease and is one of the most common medical complaints. Despite its prevalence, many individuals still suffer from unrelieved pain and reduced quality of life. There is a huge unmet medical need for improved pain management, but there are gaps in disease understanding including pain targets, biomarkers and patient phenotypes.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'** ●●). «

» R&D for unmet pain needs «

PERFORMANCE INDICATOR	2023	2022
Reduce cycle time and resources required [1] for new candidate discovery through Machine Learning (ML) (baseline 2021, 18 months; goal in 2025, 14 months).	Machine-Learning-based model is being used in projects [2] to help predict potential effects on the heart. Predictive models built using Machine Learning are helping chemists design new molecules.	First models used in projects - Ion channel program ongoing, second project to start in 2023 from Start Lead Optimisation. [3]
Improve [4] clinical trial design through ML-based patient phenotyping (baseline 2021, 0 trials; goal in 2025, 2 trials).	Continued work on Machine Learning models for development programmes and lifecycle management for neuropathic pain. Implementation in clinical trial design is a next step.	First models developed according to plan for osteoarthritis and neuropathic pain.
Improve understanding of treatment effects in clinical studies and post-approval through objective measurement of mobility and sleep (baseline 2021, 1 study; goal in 2025, 2 studies). [5]	Patients' mobility and sleep data, collected with digital wearables, have been analysed in all three projects. [6] First Machine Learning models and algorithms have been developed to correlate with pain data in future.	Analysis of digital data from the three projects (Qutenza™, Bio2Treat and Mobilize-D) is ongoing; first results available for Bio2Treat. [6]

[1] Resource requirements include budget and time.

[2] One of the two projects mentioned in 2022 is ongoing, and one was stopped due to strategic reasons.

[3] Early Machine-Learning-based cardiotoxicity model being tested in projects to help avoid effects on the heart.

[4] Improvements include more objective decisions being made on the basis of outcomes derived from ML-based patient phenotyping.

[5] The improvement of patients' sleep and mobility will be directly measured by the digital wearable and analysed by the clinical team. The aim is to show that new drugs not only improve pain but also quality of life, sleep and mobility.

[6] Qutenza™ is our internal baseline study. Bio2Treat and Mobilize-D are two partnered projects. Analysis of data from the two partnered projects will help us to achieve our ambition of improving our understanding of treatment effects using digital wearables. The Qutenza™ study, which is run by Grünenthal internally, will be important in further developing the use of digital endpoints in our clinical studies.

Our Impact Initiative: R&D for unmet pain needs

» With our innovations, we want to address unmet pain in underserved populations through better use of human data. We established the Impact Initiative "R&D for unmet pain needs" to build data-driven human disease understanding along the R&D value chain and to enhance our ability to create truly novel medicines for patients in need.

To contribute to this, we have set ourselves the goal of reducing the cycle time and resources required for new candidate discovery through Machine Learning (ML). We will use data science to identify patterns in existing data sets and develop algorithms to discover new potential drugs. We aim to shorten cycle times for producing candidate molecules that are ready for pre-clinical testing from 18 months to 14 months by 2025. For more information, see infobox about **De Novo molecule generation**.

Furthermore, we want to improve clinical trial design through ML-based patient phenotyping. Our goal is to have conducted two such trials using this methodology by 2025. We have developed models for osteoarthritis and neuropathic pain phenotyping to support decision-making in clinical trial design. The application of this methodology in clinical trials is a next step. By improving our understanding of the treatment effect of analgesics, we plan to further support patients on their journey to better manage their pain. For more information, see infobox about **Deep Phenotyping** on page 78.

We plan to use objective digital measurements of patient mobility and sleep to improve the understanding of treatments in clinical studies and post-approval. Our goal is to implement objective mobility and sleep measures in at least one clinical and one post-approval study in chronic pain by 2025 (one of this being our baseline study). We currently analyse patients' mobility and sleep data collected via wearable digital devices in three projects: In our internal Qutenza™ baseline study as well as in two partnered projects, Bio2Treat and Mobilize-D. Analysing data for the two partnered projects helps us to achieve our ambition of gaining a strengthened understanding of treatment effects.

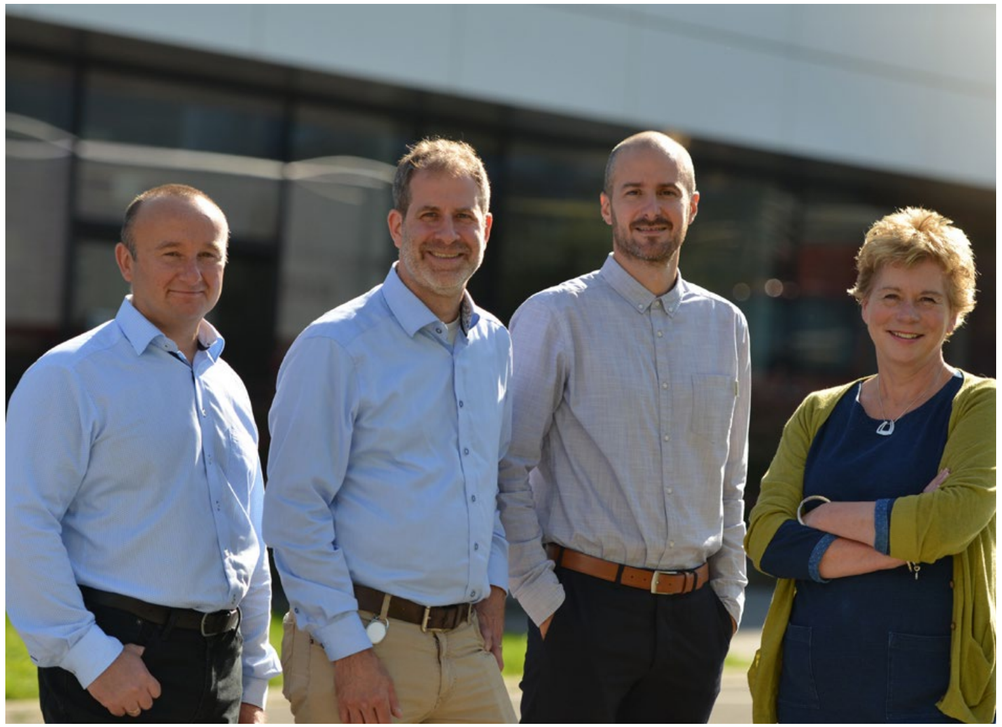
In addition, Machine Learning models and algorithms have been developed to correlate with pain data in the future. A strategy for implementing digital biomarkers in future Grünenthal programmes will be aligned within senior management. For more information, see infobox about **Digital Biomarkers** on page 78. «

De Novo molecule generation

The process of identifying promising molecules to test in the laboratory is time-intensive and expensive. Artificial Intelligence (AI) is empowering our scientists to more efficiently design high-quality molecules with the potential to relieve pain. This supports our constant search for new treatments that improve the quality of life for patients worldwide.

AI is supporting scientists at Grünenthal to zoom-in on ideal candidates for further research. By combining the knowledge of our chemists with the power of AI, we can generate and analyse a higher number of molecules within a shorter time. Data scientists work together with chemists to run digital, multiparametric processes for optimisation to create ideal candidate molecules that are worth synthesising and testing in the lab.

Support from AI will shape pharmaceutical R&D in the future. At Grünenthal, it is already shaping the present. This digital technology is accelerating our work and enabling a more targeted approach to research. And it offers exciting opportunities to get closer to our vision of a World Free of Pain.



Marcel Froehlich, External Innovation Manager and project lead for Digital Biomarkers,
Lars von Wedel, Head Advanced Analytics and project lead for Deep Phenotyping,
Florian Jakob, Head Drug Discovery Engine and project lead for De Novo Molecule Generation,
Gillian Burgess, Head of Research

Deep Phenotyping

People with the same disease often experience different symptoms and respond to the same treatment in a variety of ways. Those outcomes are based on a variety of factors like the age, gender, genetics and lifestyle habits of patients. Deep Phenotyping is a way to identify patient outcomes by using comprehensive data. An example phenotype might be patients who are more likely to benefit from a therapy option.

This approach evaluates big volumes of data in completely novel ways. It enables our scientists to identify patterns and correlations that reach far beyond the disease patients suffer from. These insights open opportunities to explore why a particular group of patients has a certain response to the treatment or to predict how a patient's disease might have progressed without the new medicine.

This data-driven technology gives our R&D team a powerful basis for discussions with regulators, healthcare providers and other stakeholders. And it supports our experts as they strive to lead the way forward for pain treatments that meet the needs of patients around the globe.

Digital biomarkers

There are no established and validated objective measures for assessing pain and its impact on the patient's overall well-being or objectively quantifying the effect of a new treatment on reducing pain. Pain research is based on patient-reported outcomes which can present a particular challenge when evaluating investigational medicines. This involves patients answering questionnaires during a clinical trial. The patient-reported outcomes are highly subjective responses that might be biased because they allocate too much significance to very recent experiences and not enough significance to experiences that are further in the past – but equally relevant. This is problematic because the success or failure of a trial is measured by the outcome of those surveys. That means it plays a central role in deciding whether an investigational medicine can continue its development journey and potentially have a positive impact on patients.

Grünenthal scientists are exploring the potential for digital biomarkers to supplement patient-reported outcomes and address this challenge. Many individuals already collect data about their heart rate, sleep patterns or the number of steps taken with smartwatches or other technologies. Properly implemented into a clinical trial, this data can provide meaningful context to patient-reported outcomes and gives clinicians valuable insights into how a potential new drug is affecting patients' activities related to pain such as sleep quality or movement, on a day-to-day basis.

Our teams are now conducting pilot projects using digital biomarkers within ongoing clinical trials and in collaborating with external experts. This work aims to boost our efforts to meet the needs of pain patients by understanding the impact of our R&D activities.

Promoting pain research

» Innovation requires research to support early-career scientists and clinicians.

EFIC-GRÜNENTHAL GRANT

EFIC-Grünenthal-Grant (E-G-G)

Through the EFIC-Grünenthal-Grant (E-G-G), Grünenthal supports young scientists early in their career in carrying out innovative clinical pain research with up to €110,000 provided every two years. Research grants are intended for clinical and human experimental pain research, including innovative educational initiatives aimed at improving diagnosis and treatment of pain. Since 2004, the E-G-G has successfully funded 73 innovative research projects, awarding almost €1.8 million to participants in more than 14 countries.

The three recipients of the 2023 E-G-G were recognised at the 13th Congress of the European Pain Federation EFIC in September 2023. «

https://www.grunenthal.com/en/world-free-of-pain/initiatives/e-g-g

E-G-G Winners 2023 - Early-career scientists

BMP GRANT Patient Centred Innovation

Brain, Mind and Pain (BMP) Grant

» To drive patient-centric innovation in chronic pain and neurological disorders, while also rewarding patient-centric and scientifically robust innovation, we support the Brain, Mind and Pain Patient-Centred Innovation Grant. It awards €60,000 every two years to research proposals to encourage patient-centred innovation that leads to improvements in life conditions for pain patients. The theme of the 2022/2023 BMP grant is "Healthy sleep for people living with brain, mind and pain conditions" and the first results have been published online. «

www.bmp-grant.eu

PRODUCT GOVERNANCE AND SAFETY

GRI 3-3, GRI 416-1

» Product quality and safety are particularly important in the pharmaceutical industry. We place the highest demands on the quality and safety of our products and processes, and apply intensive risk-management and control strategies along all steps of our production process.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**).

The pharmaceutical industry is extensively regulated by the EU and national authorities worldwide to ensure that medicinal products are effective and safe to use. Various pieces of legislation set high standards for the content, quality, distribution and promotion of our products, as well as for routine matters such as working conditions. Due to the high product quality and safety standards, as well as the close monitoring in the pharmaceutical industry, Grünenthal is not committed to any additional voluntary codes in the context of product safety.

Our product range includes mature, off-patent medicines that have a long market history and safety record. It also includes innovative medicines that are patent-protected and grant us exclusivity to manufacture and market them, as well as developmental products. Our products marketed in Europe focus on pain therapies. Our business includes the following regulated activities: Research and development of medicinal products, marketing authorisation, manufacturing, wholesale distribution and supply, pharmacovigilance, and product promotion. Each of these activities is subject to strict regulatory frameworks worldwide.

We place the highest demands on the quality and safety of our products and processes.

The applicable regulations also include provisions for quality development, safety and efficacy requirements, risk-minimisation activities, labelling (including warnings), approval, manufacturing, distribution, promotion, pricing and reimbursement, marketing, and post-marketing surveillance of medicines. These high standards and strong control mechanisms are designed in a way that risks arising from our products are as low and well-managed as possible. In addition, we have a seamless quality management system to ensure the highest quality and product safety along our production processes. We strive to meet the highest standards to ensure patient safety. We have established a high-quality pharmacovigilance system to target the best and most timely detection of new risks or new aspects of known risks related to the use of our substances, including risk-minimisation measures in line with industry standards and international or national regulations. «

Nicola Young, Global Safety Scientist, Marija Stupar, Head Safety & Benefit Risk Opioids and Generics

» Product governance and safety measures «

GRÜNENTHAL PERFORMANCE INDICATOR	2023	2022
Number of pharmacovigilence training assignments (Module 1)[1] completed via eLearning in the last 12-month cycle.[2]	**Globally** **4,196 of 4,505 training assignments (93.1% compliance)** thereof Headquarters 1,202 of 1,501 training assignments (80.1% compliance)	Headquarters 952 of 1,018 employees[5] (93.5% compliance)
Percentage of individual case safety reports performed for health authorities within due time.[2]	**Globally 97.3%** thereof Europe: 98.8% Latin America: 92.3%[3]	**Globally 97.9%** thereof Europe: 98.5% Latin America: 98.5%
Number of external quality certifications held by Grünenthal's manufacturing plants.	**Total: 17** Chile (4) Ecuador (3)[4] Germany (3) Italy (5) Switzerland (2)	**Total: 18** Chile (4) Ecuador (4) Germany (3) Italy (5) Switzerland (2)

[1] General pharmacovigilance training relevant to all employees. An additional module of pharmacovigilance training is offered to departments responsible for activities affected by pharmacovigilance regulations (e.g., commercial areas setting up marketing research activities).

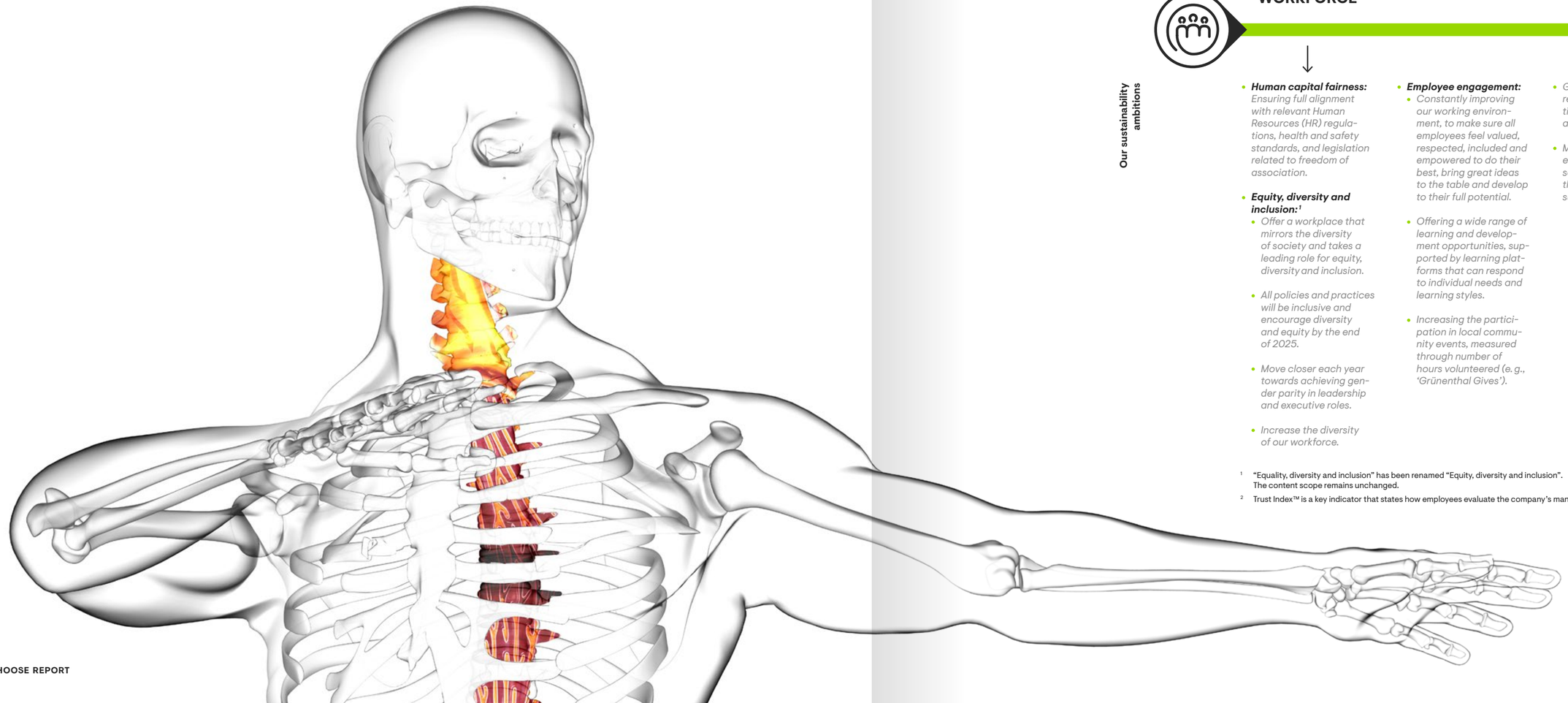
[2] Starting in 2023, we will provide global figures for pharmacovigilance. In the transition year of 2023, we will report both the previous scope and global numbers. Moving forward, we will exclusively report the global numbers to provide a comprehensive overview.

[3] Late reporting of safety information by some healthcare professionals to Grünenthal during commercial activities, consequently causing a late reporting to the authorities

[4] The authority in Peru now accepts the Ecuadorian site's European certification so no additional local certification of the Ecuadorian site for import to Peru is needed.

[5] The KPI methodology refers to the number of training assignments instead of employees. For 2023, we revised the wording of the KPI to be more precise. The KPI methodology remains the same.

PEOPLE



Material topic	OWN WORKFORCE		ATTRACTIVE EMPLOYER

Our sustainability ambitions	• ***Human capital fairness:*** *Ensuring full alignment with relevant Human Resources (HR) regulations, health and safety standards, and legislation related to freedom of association.*
	• ***Equity, diversity and inclusion:***[1]
	  • *Offer a workplace that mirrors the diversity of society and takes a leading role for equity, diversity and inclusion.*
	  • *All policies and practices will be inclusive and encourage diversity and equity by the end of 2025.*
	  • *Move closer each year towards achieving gender parity in leadership and executive roles.*
	  • *Increase the diversity of our workforce.*
		• ***Employee engagement:***
		  • *Constantly improving our working environment, to make sure all employees feel valued, respected, included and empowered to do their best, bring great ideas to the table and develop to their full potential.*
		  • *Offering a wide range of learning and development opportunities, supported by learning platforms that can respond to individual needs and learning styles.*
		  • *Increasing the participation in local community events, measured through number of hours volunteered (e. g., 'Grünenthal Gives').*
			• *Grünenthal is globally recognised as an attractive employer by awards and certificates.*
			• *Maintain or improve employee engagement scores, including through the Great Place to Work® survey and Trust Index™.*[2]

[1] "Equality, diversity and inclusion" has been renamed "Equity, diversity and inclusion". The content scope remains unchanged.

[2] Trust Index™ is a key indicator that states how employees evaluate the company's management.

» KEY ACHIEVEMENTS IN THE MATERIAL TOPICS IN 2023 «

Own workforce

- Celebrated first Environment, Health and Safety (EHS) Day to promote awareness of environmental protection and occupational accidents and disease prevention.
- Enrolled 300 global leaders in Leadership Learning Labs to foster conscious inclusion.
- Received no cases of discrimination allegations to our Ethics Helpline.
- Grünenthal Spain recognised for 'Best strategic plan for diversity and inclusion in a small and medium size company'.
- Launched Grünenthal Gives initiative, whereby employees are able to dedicate one work day per year as a volunteer for a local cause.

Attractive employer

- Certified as a Great Place to Work® in 24 entities across 19 countries, following the latest survey from 2022.
- Grünenthal Italia recognised as one of the best workplaces for women in the country by Great Place to Work®.

Paulina Gutierrez Villanueva, Employer Branding specialist, with colleagues

PEOPLE

» BEING PART of our global Grünenthal team means working together towards a World Free of Pain. The patient is at the core of everything we do and everyone at Grünenthal contributes to improving their lives for the better. We want our employees to understand the value they bring to our society and at the same time, we want to provide them with a working environment that enables their best performance.

We offer a variety of initiatives to promote our culture, foster trust, and promote diversity and inclusion. As part of our materiality analysis, we identified two material topics in the area of 'People': Attractive employer and Own workforce. The latter incorporates the topics of Human capital fairness, Equity, Diversity and Inclusion as well as Employee engagement, which were previously outlined as separate material topics. **«**

Own workforce

↓

» THIS MATERIAL TOPIC captures a variety of important factors that affect our workforce. These include Human capital fairness (which covers the health and safety of our employees), Employee engagement, and Equity, Diversity and Inclusion.

HEALTHY EMPLOYEES and safe working conditions are the basis for our success. To maintain this, we rely on comprehensive health measures and the highest safety standards.

WE STAND UP for equity, diversity and inclusion. We want to increase diversity and equity in our company, and strive to equip our leaders to act as role models for an inclusive environment.

FOSTERING A HIGH-PERFORMANCE CULTURE and living our Values & Behaviours is key to our success. We seek continuous improvement and invest in regular 360-degree feedback processes across the organisation. **«**

Attractive employer

↓

» WE WANT TO CREATE the best possible conditions for our employees - in their working and personal environment. We provide an environment where people can thrive in rich and varied roles, while also offering growth opportunities and an extensive range of benefits. **«**

OWN WORKFORCE

GRI 3-3

» As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**). **«**

» Our employees (headcount) «

GRI 2-7

		2023	2022	2021
Total number of employees		**4,401**	**4,431**	**4,507**
Of which female		2,197	2,223	2,297
Of which male		2,204	2,208	2,210
Breakdown by region				
	Headquarters and German Sales Division	1,236	1,327	1,323
	Europe	1,505	1,277	1,283
	Latin America	1,455	1,641	1,733
	USA	204	185	168
	Asia	1	1	-
Permanent employees		**4,152**	**4,223**	**4,132**
Of which female		2,078	2,139	2,101
Of which male		2,074	2,084	2,031
Breakdown by region				
	Headquarters and German Sales Division	1,094	1,160	1,176
	Europe	1,398	1,241	1,150
	Latin America	1,455	1,636	1,638
	USA	204	185	168
	Asia	1	1	-
Temporary employees		**249**	**208**	**375**
Of which female		119	84	196
Of which male		130	124	179
Breakdown by region				
	Headquarters and German Sales Division	142	167	147
	Europe	107	36	133
	Latin America	0	5	95
	USA	0	0	0
	Asia	0	0	-

		2023	2022	2021
Full-time employees		**4,132**	**4,161**	**4,220**
Of which female		1,957	1,977	2,034
Of which male		2,175	2,184	2,186
Breakdown by region				
	Headquarters and German Sales Division	1,034	1,124	1,114
	Europe	1,442	1,213	1,208
	Latin America	1,454	1,640	1,732
	USA	201	183	166
	Asia	1	1	-
Part-time employees		**269**	**270**	**287**
Of which female		240	246	263
Of which male		29	24	24
Breakdown by region				
	Headquarters and German Sales Division	202	203	209
	Europe	63	64	75
	Latin America	1	1	1
	USA	3	2	2
	Asia	0	0	-

Grünenthal Meds employees (headcount)

The scope of this report does not extend to Grünenthal Meds, however, we are already providing initial key figures to prepare for full integration into our reporting.

	2023
Total number of employees	**121**
Of which female	66
Of which male	55
Permanent employees	113
Of which female	62
Of which male	51
Temporary employees	8
Of which female	4
Of which male	4

	2023
Full-time employees	117
Of which female	62
Of which male	55
Part-time employees	4
Of which female	4
Of which male	0

Human capital fairness

GRI 3-3

» Our employees are our greatest asset. They create the foundation for our success through their daily contributions. We believe that we can only flourish as an organisation by ensuring the continued health and wellbeing of our people.

We take a holistic approach to ensuring this by offering health and safety programmes, as well as training across the countries we operate in. We comply with the highest standards in the areas of human resources management and occupational health and safety, and often go beyond legal requirements, for example with our comprehensive approach to zero accidents in the workplace. «

Health and wellbeing initiatives

GRI 403-3, GRI 403-6

» Maintaining and improving mental and physical health is essential for everyone. We provide our employees with regular training, health services and other programmes that support physical, psychological and social health. Alongside these programmes, we also have company doctors and nurses present on several of our manufacturing sites. They provide medical services including preventive occupational medical care, relevant occupational health examinations and vaccination programmes (including for seasonal influenza). Services vary by location. «

Occupational health and safety

GRI 403-1, GRI 403-2, GRI 403-4, GRI 403-5, GRI 403-7, GRI 403-8, GRI 403-9

» We have a clear goal concerning safety: VISION ZERO. This goal strives for zero accidents in the workplace, with an accompanying target of zero Lost Working Days due to accidents.

Strengthening safety awareness is fundamental to this approach. At our manufacturing sites, for example, employees observe the safety behaviour of their colleagues, provide constructive feedback and report near misses. This helps to prevent accidents and correct potential issues before accidents occur. «

ISO 45001 and EHS Policy – The highest standards

» To maintain the highest safety standards and reach our goal of VISION ZERO, all of our manufacturing sites operate occupational health and safety management systems that are certified in line with the ISO 45001 standard. We have manufacturing sites in Chile, Ecuador, Germany, Italy and Switzerland.

In addition, we have implemented the 'Policy on Occupational Safety, Health and Environmental Protection, and Energy' (EHS Policy) at all of our sites. This sets out our obligations to comply with health protection and measures to actively improve occupational safety, while also defining accountability. In this way, it creates a basis for a safe working culture. The EHS Policy applies to all of our employees and is also binding for our suppliers. To reach our employees in the best possible way and to ensure that the entire workforce is covered by the policy, it is available in English, German, Italian and Spanish. «

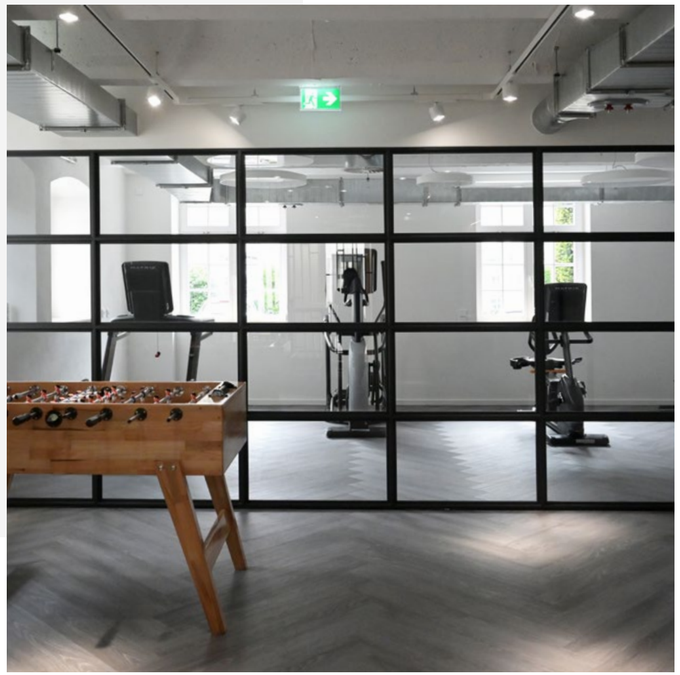
Examples of the comprehensive health services and programmes at our headquarters in Aachen, Germany

Physical health

- Digital workshops and long-term courses such as yoga, back ergonomics and active breaks.
- Live lectures and speeches about topics such as mental health.
- Additional health offers for our employees working in production on the subject of shifts and healthy sleep as well as ergonomics.
- Subsidised employee membership for fitness studios.
- Digital sports and health courses via Voiio, a corporate digital platform for private and family life.

Psychological and social health

- Activities related to mindfulness and resilience.
- Healthy leadership life situation coaching.
- Occupational integration management for the re-integration of employees after long periods of illness.



Fitness facilities at German Sales Division in Stolberg

Our global EHS network

» All of our manufacturing sites receive regular Environment, Health and Safety (EHS) audits and standardised risk assessments. This supports our efforts to identify risks and find opportunities for improvement.

To ensure that our high standards are met in the best possible way, local EHS managers are employed at all of our manufacturing sites. They monitor safety and health regulations, check risks and evaluate potential for improvement with employees.

The EHS managers directly report to their respective site director and with a dotted line to the Global EHS unit at our headquarters in Aachen, Germany. The global unit is responsible for monitoring and guidance to ensure compliance with EHS regulations, and it reports on progress and risks regularly to the Corporate Executive Board.

The sites each have their own EHS committees that bring together the local EHS contacts, employee representatives and the local management team. In addition, meetings between the local EHS managers and the Global EHS team take place at least once a month.

Employees are regularly informed about progress, risks and innovations via global and local town hall meetings. They also have the opportunity to suggest improvements and point out risks. «

EHS training

» To create a prevention mindset, we conduct training sessions and regularly inform our employees about relevant safety issues. Depending on the level of exposure to risks, employees receive access to extensive, customised training programmes that are adapted to local conditions. The scope of the training depends on the employee category. Employees with specific responsibilities or higher exposure to risks receive more extensive training than, for example, office employees without direct contact with production processes. In addition to regular general EHS training for all employees, specific training includes:

- Contractor management
- Work at height
- Lock out, tag out
- Hot work
- Electrical safety
- Emergency preparedness
- Confined space entry
- Hazardous materials handling
- Safety behaviour
- Safe operation of trucks and forklift trucks
- Machine guarding
- Waste management
- Spill response «

» Work-related injuries and fatalities «

GRI 403-9

	2023	2022
Work-related injuries and ill health	31	29
of which high-consequence work-related injuries (excluding fatalities)	16	18
of which work-related illnesses	2	0
Work-related fatalities	0	0

Tayfun Arabacioglu and Andres Marin Gonzalez, distribution centre Aachen, Germany

EHS Day at Grünenthal affiliate Chile

EHS Day at Grünenthal

In September 2023, we celebrated our first Environment, Health and Safety (EHS) Day. It aimed to promote global awareness about environmental protection and preventing occupational accidents and diseases. We want to make our workplace safe and environmentally friendly by aiming for zero accidents, zero net CO_2 emissions and zero waste. In the last three years, we have decreased the number of accidents that led to sick days at our manufacturing sites by 62 percent (27 percent reduction compared to 2022), reduced CO_2 total equivalent emissions in 2022 for Scope 1 and 2 by 6 percent vs. 2021. On EHS Day, we reminded our teams about these important goals and asked them to make a personal commitment. Local EHS teams prepared different activities covering key topics for each site.

WE AIM FOR ZEROS

Equity, diversity and inclusion

GRI 3-3, GRI 405-1, GRI 406-1

» Equity, Diversity and Inclusion is a business imperative that is embedded in our company's Values & Behaviours. Grünenthal wants to provide a work environment where everyone feels valued, respected, included and empowered to be their best, bring great ideas to the table and develop their full potential as a contributor to the success of Grünenthal and the communities we serve. «

Anti-discrimination

» Our confidential Ethics Helpline is available for everyone in and outside of Grünenthal. It supports our efforts to address and prevent every form of discrimination by giving all employees, business partners and other stakeholders the opportunity to seek help if they experience discrimination. Employees can find information about the Ethics Helpline in a dedicated Standard Operating Procedure, on Grünenthal's intranet and on physical notice boards at our sites. External parties can find details on our corporate website.

Reported incidents will be investigated discreetly and neutrally by the Compliance Organisation following a plausibility check and in accordance with applicable data protection laws. The team works closely with our global and local HR functions.

No cases of discrimination were reported to the Ethics Helpline in 2023.

For further information please refer to the chapter **'COMPLIANCE, ETHICS AND TRANSPARENCY'**. «

What does diversity mean at Grünenthal?

» At Grünenthal, we acknowledge and celebrate everybody's individuality. Individual differences can include life experiences, thinking and working styles, personality types, race, socio-economic status, class, gender, sexual orientation, country of origin, ability, cultural, political, religious views and other affiliations.

Our company actively seeks and embraces a diverse mix of people and views. We see diversity as a strength, and we recognise the value of diverse teams and thinking in our organisation, especially innovation.

Innovation is one of the key enablers of our success. We are convinced that brilliant ideas leading to innovative solutions are generated when diverse teams and leaders with a variety of different perspectives, capabilities, experiences and ideas work together.

This is why we promote and encourage diversity in all of our teams and strive to create a culture of inclusion where all of our people can unleash their full potential. «

Diversity & Engagement Council

» We established a global Diversity & Engagement Council in 2022 to define the strategic goals for Diversity & Engagement across our organisation.

The Council is also responsible for governing and monitoring the impact of initiatives related to Diversity & Engagement. In this way, it is striving to strengthen Grünenthal as a trusted corporate brand, ensuring progress against our objectives.

Reflecting our progress against our Diversity & Engagement strategy, we have an increase in external recognition as an attractive employer through awards and certificates. «

» The three pillars of our Diversity & Engagement strategy «

ENHANCING OUR DIVERSITY

Enhancing our talent pool through attraction, retention and enablement of diverse talent

DRIVING CONSCIOUS INCLUSION

Creating psychological safety and belonging through our people processes and leadership

POSITIVELY IMPACTING OUR LOCAL COMMUNITIES

Inspiring younger generations, partnering with diverse suppliers and supporting through volunteering

Global campaigns underline our commitment to diversity

International Women's Day 2023

- Integrated and coordinated global campaign to underline Grünenthal's commitment to diversity and inclusion topics.
- Grünenthal leaders joined a live panel debate to discuss topics related to gender equality.

LinkedIn[1]
- Impressions: 10,923
- Reactions: 321
- Shares: 21

Pride Month 2023

- Under the motto Proud to be myself. Proud to stand by you; we worked together with the LGBTQ+ Employee Resource Group to create the communication for 2023.
- Comprehensive global design tailored to suit local activities and initiatives.

LinkedIn[1]
- Impressions: 8,758
- Reactions: 296
- Shares: 17

Driving conscious inclusion - through Leadership Learning Labs

Consisting of four modules, our Leadership Learning Labs were designed to further develop the maturity of our leaders to foster inclusion in their teams. Modules included topics such as: empowerment, identity, curiosity and judgement.

Leaders came together to learn and share their own personal experiences and best practices as they grow together.

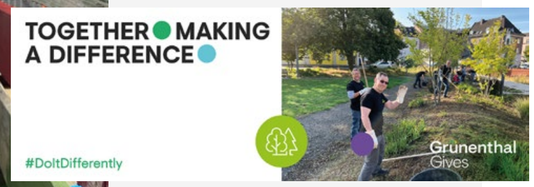
Leadership Learning Labs improved the awareness of 300 global leaders in 2023

- **4** modules
- **37** sessions
- **300** participants
- **740** participations
- **1,110** total hours invested
- **5.6 OUT OF 7** overall rating

[1] Average figures of the respective campaigns, status November 2023

Ellen Nimtsch, Doris Rongen and Hilde Beschoten from the Global HR team during their Grünenthal Gives day

3,000 hours of volunteering



Positively impacting our local communities - through Grünenthal Gives

In 2023, we launched our Grünenthal Gives initiative. It gives every employee one day each year that they can dedicate to a local cause. Together, our people committed more than 3,000 hours of volunteering work during the year. Activities ranged from cooking for families in need through to cleaning beaches, planting trees and supporting youth groups.

The initiative empowers our teams to give something back to their community by participating in projects that do not fit into a regular workday. All of our 4,400 employees worldwide are encouraged to get active for Grünenthal Gives and make a positive difference in their local area.

Enhancing our diversity – best practice Spain

Grünenthal is on a journey to promote a diverse, inclusive and fair culture in its workplaces around the globe. Our Spanish colleagues celebrated two important milestones on this journey during 2023.

In July, Grünenthal Spain received the Best Strategic Plan for Diversity and Inclusion in a Small and Medium Size Company award. This was presented at the Diversity, Equity and Inclusion (DE&I) Awards event, which is organised by the Adecco Foundation and the Club de Excelencia en Sostenibilidad (Excellence in Sustainability).

During December, colleagues from Grünenthal Spain attended a special ceremony to sign the Diversity Charter 2023-25. This document features ten principles related to diversity and inclusion in the workplace. It is part of an initiative promoted by the Diversity Foundation that is also supported by the European Commission. Our commitment to the Charter provides a clear public statement of our dedication to this important set of topics.

Other Grünenthal affiliates, such as Portugal, have also signed a Diversity Charter.

https://www.grunenthal.es/medios/archivo-historias/premio-diversidad-fundacion-adecco

Colleagues from Grünenthal Spain at the award ceremony

Enhancing our diversity – best practice Chile

"I have been working at Grünenthal for 13 years. I have developed a successful career during this time, and I am continuing to grow personally and professionally. My disability has never been an issue.

Alongside being in charge of the internal pharmacy at our Santiago site, I am an active member of the Grünenthal Chile Emergency Brigade – the first-response team in case of emergencies at our facility. I have achieved the position of brigade lieutenant. Thanks to Grünenthal, I have also successfully gained my certification as an inclusion manager.

My job requires me to move around a lot, so having universal accessibility at our Santiago site makes it easier for me to go from one place to another. It also supports my brigade work. It may seem trivial, but this level of access makes a big contribution to facilitating a more inclusive society.

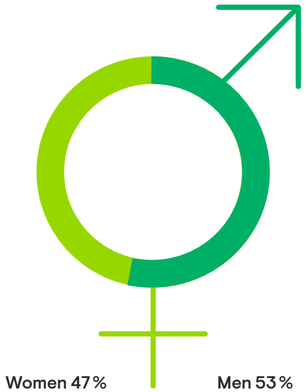
I have an 8-year-old daughter, and she is growing up in a world that is much more accessible and inclusive for all people. This is fundamental for me. There is a wide range of disabilities, and we must continue to work on building a more inclusive society with a diverse range of visible role models."

Rodrigo Caceres
Internal Pharmacy Coordinator
Grünenthal Chile

» Diversity (headcount) «

DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES	2023	2022	2021
Corporate Executive Board and Advisory Board			
Gender male	75%	88%	88%
Gender female	25%	12%	12%
Under 30 years old	0%	0%	0%
30 – 50 years old	87%	75%	75%
Over 50 years old	13%	25%	25%
Percentage of employees in R&D:			
Gender male	37%	37%	37%
Gender female	63%	63%	63%
Under 30 years old	2%	2%	2%
30 – 50 years old	66%	64%	64%
Over 50 years old	32%	34%	32%
Percentage of employees in Global Commercial:			
Gender male	43%	44%	44%
Gender female	57%	56%	56%
Under 30 years old	4%	4%	3%
30 – 50 years old	61%	58%	60%
Over 50 years old	35%	38%	37%
Percentage of employees in Global Operations:			
Gender male	57%	58%	57%
Gender female	43%	42%	43%
Under 30 years old	15%	13%	11%
30 – 50 years old	58%	55%	59%
Over 50 years old	27%	31%	30%
Percentage of employees in Corporate Functions:			
Gender male	49%	47%	47%
Gender female	51%	53%	53%
Under 30 years old	18%	19%	17%
30 – 50 years old	60%	57%	56%
Over 50 years old	22%	24%	27%

» Our employees «



Women 47 % Men 53 %

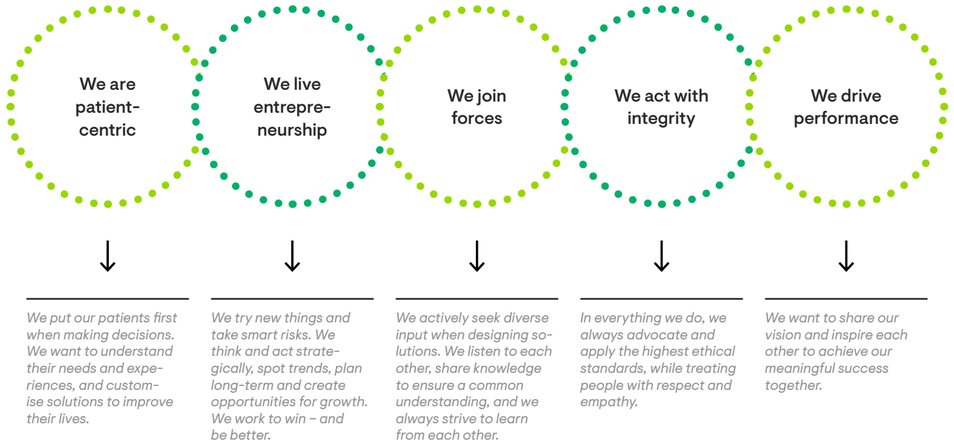
Grünenthal Meds diversity of governance bodies and employees

The scope of this report does not extend to Grünenthal Meds, however, we are already providing initial key figures to prepare for full integration into our reporting.

	2023
Corporate Executive Board and Advisory Board	
Gender male	55%
Gender female	45%
Under 30 years old	0%
30 – 50 years old	67%
Over 50 years old	33%
Percentage of employees in R&D:	
Gender male	37%
Gender female	63%
Under 30 years old	6%
30 – 50 years old	69%
Over 50 years old	25%

	2023
Percentage of employees in Global Commercial:	
Gender male	49%
Gender female	51%
Under 30 years old	1%
30 – 50 years old	49%
Over 50 years old	50%
Percentage of employees in Global Operations:	
Gender male	47%
Gender female	53%
Under 30 years old	5%
30 – 50 years old	42%
Over 50 years old	53%
Percentage of employees in Corporate Functions:	
Gender male	36%
Gender female	64%
Under 30 years old	18%
30 – 50 years old	45%
Over 50 years old	36%

Grünenthal Values & Behaviours



Employee engagement

GRI 3-3

» Our employees commit to help bring our values to life and contribute to evolving our culture. At Grünenthal, we think and act with the patient in mind, we acknowledge that our people make the difference, and we join forces to create value.

Five Values, supported by specific Behaviours, guide our decision-making and provide a clear indication of how we are expected to behave – as individuals and as an organisation.

Wherever Grünenthal has a presence or impact, we must live up to our company Values & Behaviours.

We measure the engagement of our employees through the Great Place to Work® survey. «

Training and career development

GRI 404-2, GRI 404-3

» Each and every employee at Grünenthal is considered a talent, and we actively promote growth and development for every member of our teams. Leaders work together with their team members to create tailored personal development plans. They also hold regular reviews of performance and career development. «

»Our commitment to investing in our people also includes providing a range of learning and growth opportunities such as additional role responsibilities, training, and coaching and mentoring programmes. In this way, we encourage our employees to unleash their full potential.

Our employees are expected to take ownership and drive progress for their own development. They can do this by making proposals and discussing aspirations, potential development areas and actions with their manager.

Leaders at Grünenthal are responsible for supporting the development of their team by leveraging their strengths, identifying areas for improvement and providing opportunities for growth. Every leader is required to create a learning environment, applying the 70/20/10 approach. This approach states that 70 percent of learning is 'on the job', 20 percent of learning comes from conversations with others such as colleagues, and 10 percent of learning comes from 'off the job' activities such as courses or seminars.

To support 'off the job' learning, we offer an extensive range of advanced training courses that are made available through our Learning Management System and other platforms. Colleagues have access to online learning from top academic institutions such as Coursera and LinkedIn Learning. This can support their goals for growth within their current role or enable them to develop skills that support progress into their next position.

At the end of 2023, over 2,200 colleagues were utilising LinkedIn Learning to aid their development.

We offer a variety of training activities for colleagues who do not have regular access to Grünenthal's digital services, such as certain workers at our manufacturing sites. This covers topics including health and safety, continuous improvement in job-relevant applications, as well as training in collaboration principles such as giving and receiving feedback.

In 2023, we introduced our Global Operations Leadership Academy via a pilot project at our site in Aachen. In 2024, we will be rolling out this initiative across all of our manufacturing sites and our global functions in Global Operations to create a common understanding of what great leadership means and how our leaders can act as role models.

More information can be found in our **Grünenthal Report**. «

Leadership development

» Great leadership at Grünenthal means exemplifying our Values & Behaviours. Essential leadership skills and personal attributes enable our leaders to do this. To aid development, all leaders have access to our 360-degree leadership survey and additional development offerings including leadership coaching. The 360-degree leadership feedback tool replaces the former 180-degree Pulse Check. Our survey helps managers at Grünenthal to evaluate and enhance their leadership skills. «

Leen Hofkens, Head Global HR, Sebastian Köhler, General Counsel

ATTRACTIVE EMPLOYER

GRI 3-3

» Grünenthal is a unique place to work – a mid-sized, science-driven company that is on a journey. Our employees work in rich and varied roles, and they join forces across our teams, functions and international locations. They work hard, challenge and support each other, and seek opportunities to learn while demonstrating integrity in everything they do.

Employees can experience the impact they can have on the lives of the patients we serve and on the results we achieve – in our labs, in our manufacturing sites, in our offices and when interacting with healthcare professionals. Every employee plays an important role in helping to achieve our common goals. We are convinced that it takes a team to truly change lives for the better.

Our strong employer brand helps us to attract and retain talented people.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**). «

» Careers website numbers 2023 «

- **240,612** visits on careers website[1]
- **16,750** completed applications
- **+52%** candidate profiles[2]

Strengthening our employer brand on social media

» In 2023, we launched a new section on our LinkedIn account dedicated to sharing insights into our company culture and exciting career opportunities. We continuously share employer brand content on LinkedIn and Instagram and support our recruiting efforts for key positions through dedicated job publication posts on LinkedIn. «

» Selected insights 2023: Attract, retain and grow the right talent «

- **716** new colleagues joined in 2023
- **45** nationalities
- **17** active graduates and post-doctorates in the Global Graduate Programme in 2023

Flexible working models

» Creating an atmosphere of mutual trust among our employees is particularly important to us. Our hybrid working model, Smartwork, enables flexible arrangements for office and remote working. This helps to facilitate a positive work-life balance.

Balancing family life and a career can be a daily challenge for working parents, for example. At our site in Aachen, Germany, we provide childcare facilities to help with this challenge.

We help balance family life and career. «

Our remuneration principles

GRI 2-30

» We use a standardised and transparent global process for remuneration. Job scope, market competitiveness and performance are the key elements of our remuneration philosophy.

Using an established, market-based job evaluation system helps to ensure internal and external equity via a consistent approach. All parts of the total remuneration package are based on local market practice. «

[1] 14. Feb. – 31 Dec. 2023
[2] 17,424 profiles vs. 11,424 in FY 2022

» Through comprehensive benchmarking based on leading data sources and insights from industry experts in each local market, we aim for competitive salaries and benefits structures. These are regularly reviewed in view of the respective target groups and business needs.

In Germany, about 60 percent of our employees are covered by collective bargaining agreements. Counting works agreements as well, this number increases to 98 percent.[1] The remaining 2 percent that are not covered by these agreements are senior executives.

Grünenthal offers a wide range of additional competitive monetary and non-monetary benefits, including healthcare and pension, in the context of the local market. Benefits may include medical insurance, company car, fitness allowance as well as membership and service fees, training or education, additional holidays, special discounts and other support. «

Grünenthal – a Great Place to Work©

» Our regular employee satisfaction surveys and 360-degree leadership feedback surveys provide us with continual and actionable insights. Employees can also tell us anonymously what they think about our culture and leadership approach through our Great Place to Work® survey, which we run every two years. It gives us a clear benchmark of where we stand and enables us to track our progress.

The latest results of the Great Place to Work® survey conducted in 2022 confirmed the positive trends seen in previous surveys. More than 3,500 of our employees shared their feedback, which is a participation rate of 83 percent.[2]

With 81 percent of participants stating that Grünenthal is a great place to work, we were able to maintain our high rate from the year 2020 (81 percent).[2]

This also resulted in Grünenthal being certified as a Great Place to Work® in 24 entities spread across 19 countries, including at our headquarters and all of our manufacturing sites.

We plan to conduct the next Great Place to Work® survey in 2024. On our Group Scorecard for 2024, one of our objectives is to maintain our high levels of engagement.[3] «

Colleagues in Chile celebrating the Great Place to Work® certificate 2023

[1] Outside of Germany, respective data is not consolidated.
[2] 2022 and previous years are not in the scope of the limited assurance audit for 2023.
[3] Not incentivised

One of Italy's best workplaces for women

Grünenthal's Italian affiliate and our manufacturing site in Origgio have been certified for gender equality from Bureau Veritas. They are among the first Italian companies in the pharmaceutical sector to receive this recognition. They are also certified as a Great Place to Work®. In addition, Grünenthal Italia was recognised as one of the best workplaces for women in the country by Great Place to Work® in 2023. These two external recognitions analysed our strategic direction, human resources policies and internal culture. They provide positive feedback on our commitment to creating an inclusive, respectful and open workplace.

Colleagues in Italy celebrating their award

"Our goal is to create a workplace environment where everyone feels respected and valued, regardless of their background or identity."

Laura Premoli,
General Manager Grünenthal Italy

"Certifications and recognitions confirm the positive progress we are making with our approach."

Giovanni Marangoni,
Site Director Italy

» Employee turnover «

GRI 401-1

NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER	2023	2022	2021[1]
Total number and rate of new employee hires during the reporting period, by gender and region (headcount)[2]			
Total number	**716**	**674**	**520**
of which			
Gender male	357	362	273
Gender female	359	312	247
Breakdown by region			
Headquarters and German Sales Division	150	194	88
Europe	337	223	128
Latin America	189	215	207
USA	40	41	97
Asia	0	1	0
Total number and rate of employee turnover during the reporting period, by gender and region (headcount)[3]			
Total number	**246**	**276**	**277**
of which			
Gender male	120	134	114
Gender female	126	142	163
Breakdown by region			
Headquarters and German Sales Division	54	65	72
Europe	78	76	91
Latin America	98	122	106
USA	16	13	8
Asia	0	0	0
Total turnover rate	**5.6%**	**6.2%**	**6.1%**

[1] 2021 figures are not in the scope of the limited assurance audit for 2023.

[2] New hires (globally) and split by region as in Global HR Report: Germany (HQ/GSD), EU, LatAm, US; only employees who are hired for at least six months are taken into account.

[3] Turnover (voluntary) globally

» CORPORATE CITIZENSHIP «

GRÜNENTHAL PERFORMANCE INDICATOR	NUMBER OF INITIATIVES 2023	NUMBER OF INITIATIVES 2022
Number of Corporate Citizenship initiatives in:		
(i) ad-hoc disaster relief	**3 initiatives:** Financial donation to the Red Cross for emergency aid after the severe earthquakes in Turkey and Syria; Disaster relief for Brazil after the landslides in São Paolo and for Chile after the wildfires in the south of the country	**3 initiatives:** Financial donations to the Red Cross to support Ukraine and product donations through our partners Action Medeor and Uniklinikum Aachen
(ii) philanthropic activities	**6 initiatives:** To promote regional projects to improve hospice and palliative care and the mobility of people with disabilities	**5 initiatives:** Basic research activities at local Aachen University and support of playground at local kindergarten
(iii) healthcare support activities in the year	**8 initiatives**: Focus on supporting pain and palliative care, e. g. by funding riding holidays for children with cancer or the work of regional hospice foundations	**5 initiatives:** Focus on support of palliative care, e. g. via palliative care foundation or a local Lions Club that supported a local hospice.

» Improving quality of life for people and communities beyond our core business is a key part of our Corporate Responsibility Programme. It is important for us to make a meaningful contribution to the communities where we operate and to broader society. We have a long tradition of supporting projects and charities that have a positive impact, and this was further emphasised during 2023.

In addition to supporting local outreach activities through our Patient Impact Initiatives, which are closely linked to our core business (see chapter **'PATIENT'** ●●), we also support other projects with donations.

As a company, we believe it is our responsibility to support relief efforts in any way we can. In February 2023, a powerful earthquake struck parts of Turkey and Syria. Grünenthal donated €250,000 to support efforts to help the people and communities affected. In the same month, landslides in São Paulo, Brazil, and wildfires in the south of Chile caused tremendous loss of life and property. Grünenthal donated €50,000 to relief projects. «

Colleagues at our headquarters made donations in kind for those affected by the war in Ukraine. Björn Czachurski, GO Controlling, and Mark Uyterwijk, Global Procurement, used their Grünenthal Gives day to prepare donated equipment for shipping.

PLANET

Material topic

Our sustainability ambitions

RESPONSIBLE USE OF RESOURCES

2021 – 2023

- *Reducing normalised waste (tonnes/produced units or volume per site) by 3 percent each year.*
- *Reducing water consumption (m^3/produced units or volume per site) by 2 percent each year.* [4]
- *Achieving zero waste to landfill status at all manufacturing sites.*

2024+

- *Reducing normalised hazardous non-recyclable waste from manufacturing activities (tonnes/produced units or volume) by 2 percent per manufacturing site each year until 2040.*
- *Increasing recyclable waste from manufacturing activities (tonnes/produced units or volume) by 2 percent per manufacturing site each year until 2040.*
- *Achieving zero waste to landfill status from manufacturing activities at all manufacturing sites by 2024.*
- *Reducing water consumption (m^3/produced units or volume) by 2 percent per manufacturing site each year.* [4]
- *Achieving recertification from My Green Lab® at all of our research laboratories by the end of 2025.*

CLIMATE CHANGE [3]

2021 – 2023

- *Achieving net zero emissions in Scope 1 and 2 by 2030.*
- *Reducing CO_2 emissions (CO_2e/produced units or volume per site) by 3 percent per site each year.*
- *Reducing normalised energy consumption (kWh/produced units or volume per site) by 3 percent each year.*
- *Working with our key suppliers to achieve a commitment to use 100 percent renewable power and implement an energy reduction standard by 2030.*

2024+

- *Reducing Scope 1 and Scope 2 greenhouse gas emissions by 50 percent by 2030 compared to 2020.* [3]
- *Reducing greenhouse gas emissions by 4.2 percent each year until 2030 (absolute reduction, tonnes).* [1]
- *Engaging our key suppliers who account for 67 percent of our total Scope 3 greenhouse gas emissions to have emissions targets that are validated by the Science Based Targets initiative by 2028.* [2]

1 This target is based on a 3 percent reduction in normalised energy consumption.
2 In line with our new SBTi commitment, we have adjusted our initial supplier engagement approach and made it more holistic.
3 Following the signing of the SBTi commitment in Q4 2023, we are adjusting our targets starting from 2024 to align with the SBTi methodology for near-term objectives.
4 We refer to water consumption as water withdrawal divided by production volume, rather than using the GRI definition for water consumption.

» KEY ACHIEVEMENTS IN THE MATERIAL TOPICS IN 2023 «

Responsible use of resources

- Continued development of corporate environmental standards for responsible use of key natural resources at manufacturing sites.
- Reduced energy consumption by 7.7 percent in 2023 compared with 2022 and reduced energy intensity (energy consumed per production output) across all of our manufacturing sites.
- Achieved zero waste to landfill status for all Latin American offices.
- Grünenthal Chile achieved third place in the Zero Waste Spirit category at Zero Waste 2023 awards.
- Implemented wastewater management programme targeting active pharmaceutical ingredients in wastewater from our European sites.
- Reduced air exchange rates outside production times, achieving significant energy savings in production areas and laboratories, equivalent to 218 tonnes CO_2-equivalent per year – approx. the energy use of 27 homes for one year.

Climate change

- Committed formally to set near-term company-wide emission reductions in line with climate science with the Science Based Targets initiative (SBTi).
- Introduced a Corporate Environmental Impact Assessment (EIA) standard.
- Executed an Environmental Impact Assessment for photovoltaics at Origgio manufacturing site, and installed 642 solar panels for a total power installation of 298.53 kW.
- Reduced company-wide CO_2 emissions in Scope 2 by 6.7 percent year-on-year by reducing total energy consumption by 7.7 percent following investments in energy efficiency projects and transition to increased renewable energy at production sites (e.g., in Mitlödi, Santiago and Origgio).
- Reduced carbon emission intensity by 15.7 percent.
- Commenced open exchange with selected Advance suppliers identifying best practices such as tools for greenhouse gas inventories or processes for defining science-based targets for reducing emissions.

PLANET

» WE ARE COMMITTED to minimising negative environmental impacts from our global operations. We constantly monitor our performance and practices. This enables us to take action in line with our focus on continuous improvement, while also adapting to new regulatory requirements effectively. Together with our stakeholders including employees, partners and customers, we are striving to shrink our carbon footprint in Scopes 1, 2 and 3, decrease our consumption of energy and other resources, and reduce the volume of waste generated in our value chain.

In November 2023, we took a significant step forward by signing the Science Based Targets initiative (SBTi) commitment letter, aligning our ambitions with near-term targets for Scope 1 and 2 emissions. Moreover, we extended our commitment to include Scope 3 emissions, broadening our focus to engage our suppliers responsible for 67 percent of our total Scope 3 greenhouse gas emissions. By 2028, we aim to ensure that these suppliers have science-based emissions targets. This strategic move underscores our dedication to global sustainability and our proactive approach towards reducing our carbon footprint across our value chain.

Concurrently, starting in 2024, we are shifting our focus within our responsibility framework to prioritize the reduction of hazardous non-recyclable waste and the increase of recyclable waste percentage. While our previous ambition of total waste reduction per production volume was commendable, this strategic adjustment reflects our commitment to tackling specific environmental challenges more directly. By concentrating our efforts on minimizing hazardous waste and maximizing recycling, we aim to significantly enhance our environmental performance and contribute to a more sustainable future. This shift underscores our dedication to responsible waste management practices, aligning with our broader sustainability goals to minimize our environmental impact and promote circular economy principles. Through targeted initiatives, collaborations and supplier engagement, we strive to continuously improve our waste management processes, driving positive change both within our operations and across our value chain. «

Responsible use of resources

↓

» THE RESPONSIBLE USE OF RESOURCES limits our impact on the environment. We place a strong focus on energy and water consumption, as well as the handling of production waste. «

Climate change

↓

» WE WANT TO BETTER UNDERSTAND the impact on climate change of our business operations and supply chain and take action to reduce it. We measure our corporate carbon footprint and set targets for reducing CO_2 emissions. «

Environmental excellence strategy

» The world's limited resources are becoming increasingly depleted, and the environmental footprint of humankind is already more than the planet can sustain. This is why we take responsibility for our impact on the environment.

We have set up a comprehensive environmental management system including governance, processes and responsibilities that drive progress towards achieving our ambitions in this field.

We follow leading international environmental standards and conventions. We collect and analyse data from our manufacturing sites to improve efficiency, reduce energy consumption and cut waste generation. We continue to implement a comprehensive environmental management system based on the ISO 14001:2015 standard, regulatory requirements, corporate environmental standards, the United Nations Sustainable Development Goals, the Greenhouse Gas Protocol and best practice from around the globe. «

» In addition, we continue to develop a robust environmental data management and monitoring system for waste, water, wastewater, energy, greenhouse gas (GHG) data from our manufacturing sites, and Scope 3 GHG emissions.

To push our excellence strategy further, we update the GHG inventory at our sites and across our downstream value chain each year. We are also following our Planet Roadmap to achieve our ambitious goals. This roadmap includes reducing GHG emissions and waste, saving water and pursuing progress related to sustainable packaging, responsible sourcing, sustainable product design and digitalisation.

In 2023, we joined the Science Based Targets initiative. For more details, see the section **'Climate change'** below. «

» Corporate environmental standards developed in 2022 – 2023: «

- Waste Management
- Water Management
- Environmental Performance, Data Integrity and Assurance
- Wastewater Management
- Energy Management
- Spill Response & Bulk Storage Facilities
- Environmental Impact Assessment
- Greenhouse Gas Emissions Calculation

Planet governance

» Our Planet Committee meets on a monthly basis to review our planned Planet initiatives (projects aimed to reduce energy, water consumption and waste generation). It is attended by project leads for the Planet initiatives, as well as Environment, Health and Safety (EHS) Managers from our sites worldwide. Activities and project outcomes are reported to the Global Operations Board and the Corporate Responsibility Board.

On an operational level, the EHS team meets each month to track performance against KPIs for energy, water, waste and greenhouse gas emissions at each Grünenthal site.

These standards underscore our commitment to operational excellence and environmental safety. Additionally, our focus on environmental impact assessment and accurate calculation of greenhouse gas emissions exemplifies our dedication to transparent and accountable business practices. This approach provides guidelines for our operations and indicates our firm belief in the important role that businesses play in safeguarding the planet for current and future generations. «

Impact Initiative: Driving environmental sustainability

» We anchor our environmental excellence approach with the Planet Impact Initiative 'Driving environmental sustainability'. This Impact Initiative brings together all of Grünenthal's environmental activities and our suppliers' production activities covering the full value chain of our products – including the use and disposal phases.

The elements of our comprehensive environmental Impact Initiative:

- We plan to increase sustainability in our operations, procurement and products across the entire value chain by collaborating with our business partners.
- We are reducing CO_2 emissions, water consumption and waste generation from all of our operations.
- We are taking responsibility for the impact of our products during the consumer and post-consumer stage by establishing projects to reduce packaging and minimise the end-of-life environmental impact. «

Rita Santos, Digital Procurement Transformation Manager, Victor Tadeu Scarante, Head Governance & Performance Global Procurement & ESO, Yuliia Lohvynenko, Global Sustainability Manager

Environmental Impact Assessment (EIA)

» As part of our commitment to transparent and responsible corporate practices, we introduced our newly developed Corporate Environmental Impact Assessment (EIA) standard in 2023. This robust framework incorporates internationally recognised standards for Environmental and Social Impact Assessment (ESIA). It meticulously outlines the identification of Environmental and Social (E&S) components, encompassing various facets such as atmosphere, biodiversity, water resources and waste management. Our methodology involves quantifying potential impacts with consideration of properties such as likelihood, extent, intensity, duration and cumulative actions. This ultimately defines the Significance of Environmental Impact (SEI). Additionally, the standard underscores our commitment to sustainability through the proactive development of prevention and mitigation measures.

Building on our established EIA standard, we successfully executed an Environmental Impact Assessment (EIA) for the photovoltaics (PV) plant in Origgio. This study, conducted in accordance with our corporate EIA standard, evaluated the construction, operation and future decommissioning phases of the project. The results showed no major or significant impact during the construction phase on physical (climate, air quality, soil, groundwater, etc.) and biological (fauna, vegetation, etc.) components. Furthermore, the operational phase demonstrated a general positive impact, emphasising emissions reduction and natural resource use limitation. No specific mitigation measures were identified during the evaluation process. This highlights the effectiveness of our proactive approach to sustainable project development.

In close dialogue with our stakeholders, we have identified two major environmental areas of action – our responsible use of resources and the impact that our business operations, including our supply chain, have on the climate. «

RESPONSIBLE USE OF RESOURCES

GRI 3-3

» We have a direct influence on the responsible use of resources within our own operations. The Environmental Impact Assessment (EIA) conducted at Grünenthal Group level revealed that the impact of Grünenthal's own production is relatively small compared to the supplier and after-use phases, which is where we can contribute by setting and achieving ambitious targets.

In 2022 and 2023, we developed corporate environmental standards to ensure a uniform management approach for responsible use of key natural resources at all of our manufacturing sites (see above: Corporate environmental standards developed in 2022 - 2023). We plan to develop further standards in 2024.

Our focus in the area of sustainable operations is on reducing consumption of energy and water and on decreasing waste. In addition, we aim to reduce our CO_2 emissions. More information can be found under **'Climate change'**.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**). «

Energy consumption

» Globally, energy consumption is the dominant contributor to climate change. To minimise our energy consumption, we collect and analyse data from our production sites so that we can continuously improve resource efficiency and reduce our emissions. «

7.7 %

reduction of energy consumption
(2023 vs. 2022)

» Total energy consumption[1] «

GRI 2-4, 302-1

	2023 IN KWH	2022 IN KWH	CHANGE IN %
Total energy consumption	**106,649,479**	**115,514,172**	**-7.67**
of which			
from non-renewable sources	84,201,671	101,500,180	-17.04
from renewable sources	22,447,808	13,977,480	+60.60
Electricity consumption	25,647,124	22,027,902	+16.43
Heating consumption (for Origgio Site)	3,860,000	4,200,000[2]	-8
Cooling consumption	Validated values to be expected as soon as measurement equipment is available	Validated values to be expected as soon as measurement equipment is available	
Steam consumption (for Origgio Site)	8,300,000[3]	7,156,000	+15.99

Heating, cooling and steam is secondary energy and not part of the total primary energy consumption reported in the above table.

1 The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) including the administrative buildings located on the headquarter campus. Affiliate offices are not included.

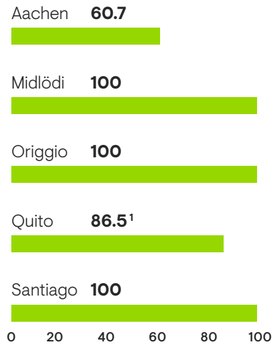
2 Restatement: We received more granular data that was not available at the time we calculated the figure published in the Report 2022/2023, where some factors of our heating consumption were evidence-based assumptions. The heating consumption for 2021 was reported as 6,733,000 kWh.

3 Some production shifted from one of Grünenthal's manufacturing sites to Origgio.

» The largest source of energy for Grünenthal worldwide is currently gas, which is mainly used to generate electricity and heat. This is a total reduction of 7.7 percent in total energy consumption compared with the previous year. Overall, 84,201,671 kWh (2022: 101,500,180 kWh) of our energy consumption currently comes from non-renewable sources. 25,647,124 kWh (2022: 22,027,902 kWh) of our energy consumption comes from conventional electricity.

The share of renewable energy is 22,447,808 kWh (2022: 13,977,479 kWh) in total, which is 21 percent of the total share of energy. It is essential to improve energy use in order to reduce our impact on the environment. To achieve our goal of 50 percent reduction of emissions in Scope 1 and 2 by 2030, we need to reduce our energy consumption and increase our use of renewable energy. «

» Renewable electricity per site as percentage of total electricity purchased (2023) «



1 In 2023, there was a decrease in the percentage of renewable energy due to changes in the energy mix provided by our energy supplier.

» Energy intensity and reduction at our manufacturing sites[2] «

SITE	UNITS	2023	2022	CHANGE IN %
Aachen Site	(kWh/1,000 packs)	73	92	-20.65
API Site (Aachen)	(kWh/tonnes)	150,725	220,318	-31.59
API Site (Mitlödi)	(kWh/tonnes)	49,136	49,459	-0.65
Origgio Site	(kWh/1,000,000 tablets)	12,436	14,289	-12.97
Quito Site	(kWh/1,000 packs)	157	169	-7.10
Santiago Site	(kWh/1,000 packs)	280	374	-25.13

2 Energy sources used in this calculation include electricity, gas and oil. The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) excluding the administrative buildings, headquarter campus and R&D facilities located on the campus. Affiliate offices are not included.

Green energy transition

» Our manufacturing sites in Mitlödi (Switzerland), Origgio (Italy) and Santiago (Chile) are now using 100 percent renewable electricity. We aim to switch to green electricity in Quito (Ecuador) as a high priority. Our site in Aachen (Germany) has signed a contract for renewable electricity that will take effect in January 2024. «

Energy intensity

GRI 302-3, GRI 302-4, GRI 302-5

» The energy intensity of our activities is measured differently at Grünenthal's various manufacturing sites.

- For sites producing Active Pharmaceutical Ingredients (API sites in Aachen and Mitlödi), we use kWh/tonnes.
- For sites producing pharmaceutical goods (Aachen, Santiago and Quito), we use kWh/1,000 packs produced.
- For sites producing multiple tablets (Origgio), we use kWh/1,000,000 tablets produced. «

New solar park in Origgio

Renewable energy will play a key role in mitigating climate change. Solar panels, for example, provide a clean and sustainable alternative to traditional energy sources. Installing solar panels helps to reduce our carbon footprint, while diversifying the sources of the energy we use to make our company less reliant on fossil fuel reserves.

In Italy, Grünenthal has installed 642 panels (465 watt peak each) for a total power installation of 298,53 kilowatts at the site in Origgio. This is expected to reduce emissions from this location by more than 200 tonnes of CO_2 equivalent per year. This will contribute to our goal of reducing Scope 1 and Scope 2 greenhouse gas emissions by 50 percent by 2030 compared to baseline.

Solar park at Grünenthal's manufacturing site in Origgio

Targeted measures to reduce energy consumption

» Measures to reduce energy consumption are delivered through our various Planet initiatives and via projects driven by teams at Grünenthal's manufacturing sites.

In 2023, we implemented energy reduction measures within some areas of our Origgio (Italy) Site. An automatic sensor-based lighting system was installed to adjust lighting intensity based on outside ambient lighting. The aim was to benefit from natural lighting where possible, reducing reliance on electric lighting.

In 2023, we successfully reduced the air exchange rates outside production times – while still making sure we meet requirements for conditions in these areas. We achieved significant energy savings by optimising the control system for humidifying air in our production areas and laboratories at our Aachen Site. «

» These savings added up to an equivalent of 218 tonnes CO_2-equivalent (CO_2e) per year, which equates to the energy use of 27 homes for one year.[1] We now define the target value for our humidification system and room temperature within a permissible range instead of as a fixed value.

Many different factors and dependencies impact the control of our heat and power system, which consists of a combined heat and power unit, boilers and an external power supply. In order to achieve optimal operations at all times, we have programmed a digital twin that takes all boundary conditions into account and automatically adjusts our combined heat and power unit to the most energy-efficient state with the reduction of 110 tonnes of CO_2e per year for the Aachen Site. This reduction equates to the energy use of 14 homes for one year.[1]

From January 2024 on, our site in Aachen (Germany) will have a new electricity supplier. The new supply contract includes green electricity and is an important step towards sourcing exclusively carbon-neutral external energy for our Aachen Site in the future. «

Laboratory at Aachen headquarters

» Achieving certification from My Green Lab® «

PERFORMANCE INDICATOR	IN % 2023
Percentage of research laboratories that are certified by My Green Lab®.	100

» For the full duration of 2023, Grünenthal's Research labs at the company's headquarters in Aachen were certified by My Green Lab®[2] following the comprehensive assessment of practices such as cold storage, lab infrastructure, employee awareness and sustainable purchasing practices conducted in 2022. Re-certification is conducted every two years. My Green Lab® is a non-profit organisation whose programme is recognised by the United Nations Race to Zero campaign as a critical measure of progress towards a zero-carbon future. It is considered the gold standard for laboratory sustainability best practices worldwide. «

[1] https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references
[2] https://www.mygreenlab.org

Water and marine resources

Water withdrawal

GRI 303-1, GRI 303-2, GRI 303-4

» In general, producing medicines involves a relatively high intensity of water use. Water is an increasingly valuable and limited resource. For this reason, we closely monitor water withdrawal[1] at our manufacturing sites.

Water sampling is undertaken at all our manufacturing sites to demonstrate compliance with local discharge requirements. All of our manufacturing sites have a water reduction target based on production volumes. This is set at a 2 percent reduction per year and is monitored and reported on a monthly basis. We have also included water-related risks in our Environmental Impact Assessment. «

» Water withdrawal[1] at our manufacturing sites by source «

GRI 303-3

	UNIT	2023	2022	CHANGE IN %
Aachen				
Third-party water	megalitres	40.04	50.12	-20.11
Quito				
Groundwater	megalitres	42.46[1]	29.78	+42.58
Third-party water	megalitres	0.08	0	N/A
Mitlödi				
Third-party water	megalitres	6.03[2]	4.63	+30.24
Origgio				
Third-party water	megalitres	59.38	66.45	-10.64
Santiago				
Third-party water	megalitres	41.92[3]	37.16	+12.81
Total water withdrawal	megalitres	**189.91**	**188.13**	**+0.95**
of which water withdrawal from areas with water stress (Aachen and Origgio) – Progress on Level of Water Stress – 2021 Update | UN-Water (unwater.org) 2022	megalitres	99.42	116.56	-14.70

[1] There was a significant increase in water usage in Quito throughout 2023 due to ongoing construction works.

[2] Due to an increase in production volume, including both volume increase and new intermediate production

[3] Due to an increase in production volume

[4] Water withdrawal is the sum of all water drawn into the boundaries of the organization (or facility) from all sources for any use over the course of the reporting period. In previous reports, we referred to water consumption rather than water withdrawal. The above figures refer to water withdrawal as defined by GRI.

Water stress risk assessment shows risks in some areas

» Water stress refers to the volume of freshwater that is required for business activities compared to the volume of freshwater that is available in a location. An area is defined as water-stressed if a territory withdraws 25 percent of its available freshwater, or more. This calculation also considers water quality, accessibility and affordability, as well as the existence of sufficient infrastructure.

We constantly analyse the regions where our production sites are located, in line with the United Nations methodology (Progress on Level of Water Stress – 2021 Update). This transparent monitoring approach enables us to identify possible measures to improve our water management at each site. The risks for our sites in Switzerland, Chile and Ecuador are classified as 'low'. However, the water stress levels close to our sites in Germany and Italy are rated as 'medium to high'. «

» Water withdrawal at our manufacturing sites by production volume[1] «

SITE	UNITS	2023	2022	CHANGE IN %
Aachen Site	(water withdrawal, m^3/1,000 packs)	0.08	0.1	-20.0
API Site (Aachen)	(water withdrawal, m^3/tonnes)	152.30	238.88	-36.2
API Site (Mitlödi)	(water withdrawal, m^3/tonnes)	23.31	18.78	+24.1
Origgio Site	(water withdrawal, m^3/1,000,000 tablets)	24.21	32.83	-26.2
Quito Site	(water withdrawal, m^3/1,000 packs)	2.45	2.08	+17.8
Santiago Site	(water withdrawal, m^3/1,000 packs)	1.37	1.52	-9.8

[1] The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) excluding the administrative buildings, headquarter campus and R&D facilities located on the campus. Affiliate offices are not included.

Water management at our sites

» The Environment, Health and Safety (EHS) managers at our manufacturing sites are responsible for monitoring water withdrawal and wastewater. Overall, despite additional water withdrawal during a construction project at our site in Ecuador and the launch of a new product at our Mitlödi Site, the water withdrawal at Grünenthal remains almost stable (0.9 percent increase vs. 2022). Water for our sites is drawn primarily from the public water supply.

Our site in Chile has its own well to ensure water supply. We are conscious of the difficult situation with a fully privatised water supply system in Chile. For this reason, we are taking an active role as a responsible water consumer in our site's local communities.

Globally, we are focused on reducing our normalised water consumption.[2] Internally, we have set targets for a 2 percent reduction in water consumption[2] per year, measured in cubic meters per unit of production or volume at each site. This underscores our commitment to responsible water management and sustainability. All manufacturing sites have achieved their targets except for the API site in Mitlödi and the site in Quito – the API site in Mitlödi due to the high water consumption of a new intermediate and the site in Quito due to a construction project. «

Water discharge

» The water we consume and the wastewater we discharge are both factors in our environmental footprint. Producing pharmaceutical products generates pollutants that often cannot simply be discharged into the local wastewater system. Instead, that wastewater requires special treatment.

In 2022, we rolled out a global wastewater standard. It sets out guidance for managing wastewater, as well as requirements for sampling and reporting wastewater quality in line with local regulations. «

[2] We refer to water consumption as water withdrawal divided by production volume, rather than using the GRI definition for water consumption.

» Our teams took decisive action in response to a minor leakage incident at Grünenthal's site in Mitlödi, Switzerland, last year. They immediately notified the responsible government authorities. Any affected soil was covered and removed in collaboration with the environmental agency and in line with its specific guidelines. Based on subsequent checks and analysis, the authorities did not identify any danger to the environment, residents or employees. This is a strong reflection of our fast and effective response mechanisms.

Depending on the location, we have individual approaches for treatment and control before discharging wastewater into the municipal sewer system. Each manufacturing site has local discharge requirements. The details are recorded globally and made available at each site.

Special standards apply to sites that manufacture Active Pharmaceutical Ingredients. These strict requirements apply for the measurement and reporting of active ingredient volumes and effluent disposal. «

» Water discharge at our manufacturing sites[1] «

GRI 303-4

	UNIT	2023	2022
Total water discharge to all areas	megalitres	97.92	138.52

[1] Water discharge from all manufacturing sites. For the Aachen Site, we only included the amount of water discharged to the public wastewater treatment plant (sum of wastewater treated on site plus sanitary water excluding rainwater). For the Quito Site, we have almost no water discharge, as all wastewater treated by our own wastewater treatment plant is used for irrigation activities.

Wastewater treatment plant Origgio Site

Wastewater management project at our European manufacturing sites

Pharmaceutical substances are designed to cause effects at very low concentrations. This can generate issues if such substances enter the environment. Wastewater is one of the most common pathways that carries pharmaceuticals into the ecosystem. Grünenthal places a sharp focus on mitigating this potential danger.

In 2023, we implemented a wastewater management programme that specifically targets Active Pharmaceutical Ingredients (APIs) in wastewater from our European sites. This programme is derived from detailed Environmental Risk Assessments and closely monitoring our wastewater discharge. We have now established safe limits of manufacturing effluent discharge based on the individual risk for each substance.

Overall, our findings show that the environmental risk for all frequently produced pharmaceuticals by Grünenthal is currently well-managed in our three European manufacturing sites in Aachen (Germany), Midlödi (Switzerland) and Origgio (Italy). Our next goal is to implement the same approach at our sites in Latin America.

Wastewater treatment plant Origgio Site

Waste

GRI 306-1, GRI 306-2

» The waste generated at our manufacturing sites includes hazardous waste from manufacturing pharmaceutical products. Such waste is removed from our sites by registered waste companies. It is then mainly disposed of via incineration, with heat recovery in some cases. The Environment, Health and Safety (EHS) manager at each site manages the contracts with these specialist companies.

Grünenthal has revised its targets for waste reduction. We are now sharpening our focus on reducing hazardous non-recyclable waste and increasing the share of recyclable waste. We have achieved zero waste to landfill status for the Aachen packaging centre, the API site Aachen, the API site Midlödi as well as the manufacturing sites in Origgio, Quito and Santiago.[1] We are working towards implementing this commitment across all Grünenthal offices.

The waste generated at our offices is separated into different material streams to support recycling. Bins are located strategically throughout these facilities to encourage responsible disposal habits among our teams. Staff also receive training to promote waste reduction. And we work closely with our waste collection contractors to make sure waste is handled responsibly. In 2023, all of our offices in Latin America achieved zero waste to landfill status. «

[1] The Aachen Site produced some hazardous non-recyclable waste unrelated to manufacturing activities, but from construction activities of an office building.

Grünenthal Chile earns recognition for cutting waste

In December 2023, our affiliate in Chile won third place in the Zero Waste Spirit category at the Zero Waste 2023 awards. This event is organised by Ecológica and sponsored by the Ministry of the Environment, the Sustainability and Climate Change Agency (ASCC), the National Association of the Recycling Industry (ANIR) and Grupo Prisma. It recognises innovative approaches from companies that are leading the transition to a circular economy in Chile.

Grünenthal was recognised for its zero waste to landfill programme. 100 percent of the waste generated at our affiliate in Chile is now reused, recycled or reduced. This generates a positive impact on the environment.

> We are proud to be recognised in terms of sustainability. Hopefully, this will inspire other companies and organisations to join the push for a more sustainable future.
>
> **Nelson Espinoza,**
> EHS & Facilities Manager

Zero Waste 2023 awards, courtesy of Ecológica

» Waste generated at our manufacturing sites in tonnes «

GRI 306-3, GRI 306-4, GRI 306-5

	2023	2022	CHANGE IN %
Waste generated in tonnes	**7,680**[1]	**6,280**	**+22.3**
of which hazardous waste	**5,082**	**4,297**	**+18.2**
of which incineration with energy production[2]	257	271	-5.2
of which incineration without energy production	3,739	2,904	+28.8
of which recycling	1,086	1,119[4]	-3.0
of which landfill	0[3]	0[3]	N/A
of which non-hazardous waste	**2,598**	**1,982**	**+31.6**
of which incineration with energy production[2]	378	338	+11.7
of which incineration without energy production	298	241	+23.5
of which recycling	1,922	1,402[4]	+37.9
of which landfill	0	0	N/A

[1] The increase can be attributed to a volume increase at our manufacturing sites in Santiago and Origgio. Additionally, at our Aachen Site, we had to destroy several expired medicines and non-used packaging material. This combination of factors contributed to the elevated numbers in 2023.

[2] Incineration as a waste to energy technology is stated to be more attractive compared to other waste to energy technologies due to its higher power production efficiency, lower investment costs, and lower emission rates. Additionally, incineration yields the highest amount of electricity with the highest capacity to lessen piles of waste in landfills through direct combustion.

[3] 5.54 tonnes (2022: 2.27 tonnes) of insulation material was removed at Grünenthal Germany, not related to our manufacturing processes, and disposed of according to German KrWG – Kreislaufwirtschaftsgesetz (2012) as recommended by the local environmental agency. This is the only recommended disposal method for this type of material. The global manufacturing sites continue to operate with no landfill waste disposal.

[4] Slight deviation from 2022 published numbers in the Responsibility Report 2022/2023 due to more accurate inventory.

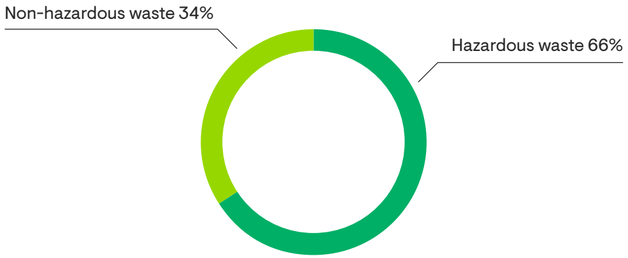
Managing hazardous and non-hazardous waste

» Our on-site operations teams collaborate with the local Environment, Health and Safety (EHS) managers to optimise waste management. Data is provided to the EHS manager by waste suppliers. Reporting of waste data occurs in a monthly EHS meeting, as well as in a quarterly management review. Data is continuously managed in the EHS IT system and made available to the global EHS team.

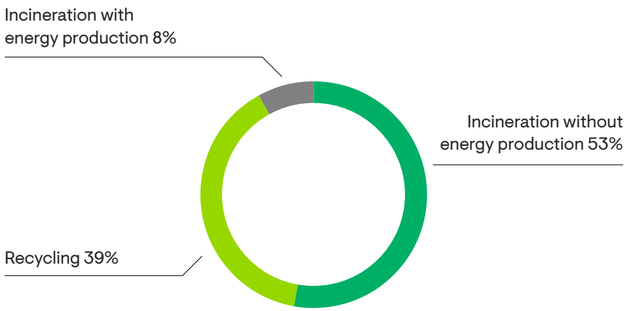
The local EHS managers are responsible for ensuring that waste is disposed of in accordance with local requirements. The disposal of pharmaceutical waste (for incineration) is accompanied by a Grünenthal representative to make sure the disposal process complies with all legal obligations. For example, a site employee accompanies the truck with hazardous waste until it arrives at the company that incinerates the products. The authorities perform an inspection for narcotics in raw materials and finished products, as well as for non-narcotics in finished products. In this way, they verify that the quantity, batches and concentrations are correct. «

Waste categorisation

Waste types (2023)



Waste treatment (2023)



» In Mitlödi, Switzerland, Grünenthal exclusively works with contractors that are listed in the national list of disposal companies (VEVA). We have an online tool for VEVA and a database where each legal disposal contractor is listed with the type of waste they are allowed to dispose of. Each hazardous waste disposal process is accompanied by a disposal certificate and is recorded in the database. All site disposal activities are submitted annually to the relevant local authorities via an online tool. Visits to contractors also help to ensure the highest standards of safety and sustainability.

Throughout 2023, our primary focus remained on the minimisation of normalised waste across our manufacturing sites. Our overarching ambition was to achieve a notable reduction of 3 percent in normalised waste, measured in tonnes per unit of production or volume at each site on an annual basis. «

» Waste generated per manufacturing site in units[1] «

SITE	UNITS	2023	2022	CHANGE IN %
Aachen Site	(kg/1,000 packs)	12.8	10.2	+25.5
API Site (Aachen)	(kg/tonnes)	30,723	37,812	-18.7
API Site (Mitlödi)	(kg/tonnes)	9,361	8,264	+13.3
Origgio Site	(kg/1,000,000 tablets)	273.9	257.8	+6.2
Quito Site	(kg/1,000 packs)	16.6	12.9	+28.7
Santiago Site	(kg/1,000 packs)	12.4	15.9	-22.0

[1] The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) excluding the administrative buildings, headquarter campus and R&D facilities located on the campus. Affiliate offices are not included.

» While our commitment to waste minimisation was steadfast across all manufacturing sites during 2023, it is notable that the KPI of achieving a 3 percent reduction in normalised waste was realised solely at the Aachen API and Santiago sites. Unstable production volumes experienced throughout the year at other sites have kept us from reaching our overall target. Moving forward, we will continue to implement targeted strategies and foster a culture of environmental responsibility to ensure that all sites align with our waste reduction objectives, even amidst periods of heightened production activity.

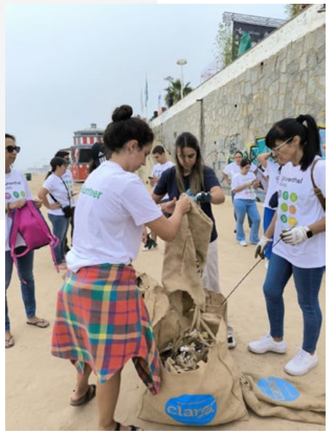
From 2023 onwards, we have focused on minimising hazardous waste and increasing the share of recyclable waste. **We have defined new targets for 2024 that focus on these indicators:**

- Reducing normalised hazardous non-recyclable waste from manufacturing activities (tonnes/produced units or volume) by 2 percent per manufacturing site each year until 2040.
- Increasing recyclable waste from manufacturing activities (tonnes/produced units or volume) by 2 percent per manufacturing site each year until 2040. «

Preserving coastal ecosystems in Portugal

Beaches are vital ecosystems that support a diverse range of plant and animal life. However, beaches often become littered with waste such as plastic bags, bottles and fishing nets. This pollution can harm marine animals. That is why beach cleaning is essential for safeguarding marine life.

To help with this important issue, the team at Grünenthal's Corporate Hub in Portugal dedicated their Grünenthal Gives day to a beach clean-up activity. During October 2023, employees gathered in Praia de Algés and collected 32 kilograms of waste.



The Corporate Hub team in Lisbon collected 32 kilograms of waste at a beach.

Our goal: Optimise waste streams

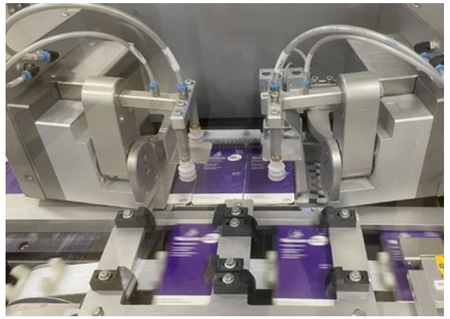
» Sustainable packaging is a key pillar of our Planet strategy. We aim to increase the proportion of recycled material and the recyclability of our packaged pharmaceutical products. «

Sustainable products and packaging

» Packaging provides necessary protection for drugs to enhance safety for patients. At Grünenthal, we also carefully monitor the materials used and their carbon footprint to minimise the negative environmental impact of our packaging.

We have established a sustainable packaging strategy that drives progress toward a circular system for packaging across primary and secondary packaging. It aims to deliver improvements throughout the entire packaging value chain.

Our teams also explore and implement opportunities for recyclable packaging systems. At our Aachen (Germany) site, for example, we have successfully implemented a high volume of recycled material into our secondary packaging. Now, we are exploring opportunities to expand this strategy globally. Grünenthal is also committing to a long-term strategy for sustainable packaging that will benefit people and the planet. «



Wallet packaging at Aachen Site, Germany

CLIMATE CHANGE

(previously: Our impact on climate)

GRI 3-3, GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4 , GRI 305-5

» Climate change is an acute threat to humanity and requires intensive efforts from all of us. At Grünenthal, we want to contribute to mitigating this threat by reducing our CO_2 footprint. We joined the Science Based Targets initiative in 2023 to substantiate and formalise this commitment.

Following the signing of the SBTi commitment, we are adjusting our targets starting from 2024 to align with the SBTi methodology for near-term objectives.

The SBTi timeline plans for a 50 percent reduction in Scope 1 and 2 emissions by 2030. This relates to our direct CO_2 emissions in Scope 1 (mobile and stationary combustion and fugitive emissions) and our indirect energy-related emissions in Scope 2 (includes electricity used at our five global production sites and for car mobility). This timeline is in line with the Paris Climate Agreement and recognises various important factors such as market dynamics and technological considerations.

Importantly, by committing to SBTi, we place a strong focus on reducing Scope 3 emissions. These emissions contribute the majority of the overall CO_2 emissions related to Grünenthal's business operations. These largely stem from our supply chain and constitute 95 percent of our total greenhouse gas emissions. We are intensifying our efforts through supplier engagement programmes and fostering a collective commitment to sustainability across our supply chain. Through these concerted actions, we are aligning ourselves with global climate objectives and taking proactive measures to contribute to a more sustainable future.

As a part of our double materiality analysis, a thorough assessment of impacts, risks and opportunities associated with this topic has proven it to be a material topic (see chapter **'ESG management approaches and materiality analysis, Material topics'**). «

Our carbon footprint

» As part of our reporting in the Responsibility Report 2023, we have updated our GHG inventory and disclosed our latest CO_2 emissions data.

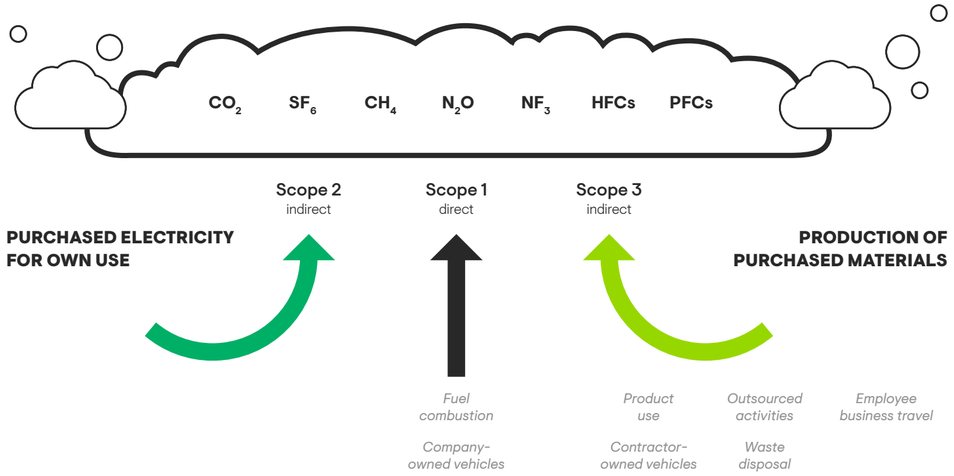
For Scope 1 and 2, we cover the greenhouse gas emission figures of 2022 and 2023. In contrast with the overall methodology of reporting 2023 numbers, for Scope 3 GHG we cover the most recently available emissions from the fiscal year 2022. This is because 2023 figures are collected by external providers and were not made available in time to be included in this report.

The 2022 greenhouse gas inventory was again carried out and verified by Nordic Sustainability. All calculations have been made in line with the GHG Protocol Corporate Accounting and Reporting Standard, which provides requirements and guidance for companies and other organisations preparing a corporate-level GHG emissions inventory.

An 'operational control' methodology was selected to determine control. This is defined by the Science Based Targets initiative when a company accounts for 100 percent of the emissions from operations at which it has the full authority to introduce and implement operating policies. It does not account for any of the emissions from operations in which it owns an interest but does not have operational control. «

Gabor Eckert, Head of Global EHS and OPEXc, Victor Barbosa, Head Global Operations, Yuliia Lohvynenko, Global Sustainability Manager, Gabriel Baertschi, CEO, after having signed the SBTi commitment letter

Overview of scopes and emissions across a value chain



Upstream and downstream value chain

The upstream value chain includes all activities involving an organisation's suppliers who source materials for manufacturing. The downstream value chain refers to activities after manufacturing. Both upstream and downstream emission sources of an organisation's activities are included in Scope 3.

» CO_2 emissions (tonnes of CO_2e) 2022 «

Scope 1:
20,928 t[1]

Scope 2:
3,481 t[1]

Scope 3:
456,936 t

[1] For comparability on year, 2022 figures chosen. 2023 figures for Scope 1 and 2 are available in the table on the next page.

» Breakdown of CO_2 emissions «

GRI 2-4

SCOPE AND SOURCE	2023 ($t CO_2e$)[2]	2022 ($t CO_2e$) like-for-like	2021 ($t CO_2e$)	CHANGE IN %
				From 2022 to 2023
Scope 1[1]	**18,137**	**20,928**	**22,638**	**-13.3%**
Mobile combustion	2,822	2,586	1,944	
Stationary combustion	14,866	17,069	19,305	
Fugitive emissions	449	1,273	1,389	
Scope 2	**3,248**	**3,481**	**4,882**	**-6.7%**
Electricity at sites (market-based)[3]	3,248	3,481	4,882	
				From 2021 to 2022
Scope 3		**456,936**	**478,301**	**-4.5%**
Purchased goods and services and capital goods		294,792	279,999	
Fuel and energy		3,660	4,234	
Upstream transportation and distribution		8,393	6,116	
Waste from operations		2,028 (new calculation factor)	216	
Business travel		7,549[4]	1,099	
Employee commuting		4,676	2,761	
Upstream leased assets		Included in Scope 1 and 2	Included in Scope 1 and 2	
Downstream transportation		135,740	182,039[5]	
Processing of sold products		n/a	n/a	
End of life		98	1,837	
Downstream leased assets		Included in Scope 1 and 2	Included in Scope 1 and 2	
Total CO_2e emissions		**481,345**	**505,821**	
Carbon intensity (total CO_2 emissions/turnover)		291 t/mn €	345 t/mn €	-15.7%

Note: In 2023, an updated calculation methodology was used for the 2022 and 2023 emissions data.

1 Process emissions are not reported.

2 In contrast to the overall methodology of reporting 2023 numbers, for Scope 3 GHG we cover the most recently available emissions from the fiscal year 2022. This is due to the fact that 2023 figures are collected by external providers, such as gas- or electricity providers, and were not yet available to us in time for this report.

3 The market-based method reflects the emissions of electricity that a company has chosen to use based on their electricity contracts. It allows to calculate emissions using provider-specific factors from the electric utilities' providers (https://ghgprotocol.org/sites/default/files/Scope2_ExecSum_Final.pdf). From 2022 onwards, the market-based method has replaced the location-based method.

4 Increase in 2022 due to less travel restrictions after pandemic-induced decrease in 2021

5 Restatement: We received more detailed volume categorisation that was not available at the time we calculated the figure published in the Report 2022/2023, where the downstream transportation for 2021 was reported as 34,741 tonnes CO_2e.

Scope 1 emissions

» Scope 1 emissions are all direct emissions from activities of an organisation or under their control. The following subsections are applicable to Grünenthal: mobile combustion; stationary combustion and fugitive emissions. Particularly relevant are refrigerant leaks, which were calculated based on refrigerant volume and the refrigerant gas-specific carbon factor from the UK.gov GHG Reporting Factors.[1] «

Scope 2 emissions

» Scope 2 emissions are indirect emissions often from electricity purchased and used directly by the organisation. The following sub-category is applicable to Grünenthal:

Electricity used on site

Grünenthal directly controls facilities around the world. All manufacturing sites and affiliate offices provided total electricity usage over the year, as well as the percentage of renewable electricity provided by their utility provider. To comply with the location-based reporting, these total usages have been multiplied by country-specific electricity carbon factors, where possible, and the next best factor where the data was lacking. Further calculations including the percentage of renewables have been calculated to comply with market-based reporting standards. Where data was unavailable (for example, no separate energy meter in Grünenthal offices in shared office buildings), an average based on the occupancy was used following the country conversion.[2]

Grünenthal utilises electric vehicles for some of its own fleet. These have been captured in Scope 2 because the electricity used to charge these vehicles is taken directly from Grünenthal-operated facilities. The electricity used by cars is included in the table above in the market-based electricity consumption.

For Scope 1 and 2, the analysis for 2022 showed that emissions from our facilities and the energy they require as well as mobile combustion account for a share of 5 percent of our total greenhouse gas footprint. The calculation focused on our five manufacturing sites worldwide and affiliate offices in 19 countries.

In 2023, we were able to reduce our CO_2 emissions in Scope 2 by 6.7 percent compared to 2022 by reducing our total energy consumption by 7.7 percent due to investments in energy efficiency projects and the transition to more renewable energy at our production sites (for example in Mitlödi, Santiago and Origgio).

Calculations for our greenhouse gas emissions, applying the GHG Protocol methodology, show that total emissions in Scope 2 are significantly reduced when using market-based emissions. This is because it incorporates the renewable electricity Grünenthal purchases and reflects the country-specific electricity grid mix improvements in reducing CO_2.

To reduce our carbon footprint in Scope 1 and 2 even further, we want to continue to increase our share of renewable energy and greatly reduce our gas consumption. Our goal is to move away from gas towards full electrification and the exclusive use of renewable energy. «

Scope 3 emissions

» Scope 3 emissions are indirect emissions from upstream and downstream activities. Due to internal improvements and an increased maturity in Grünenthal's sustainability journey, several new data sources have been included and increased granularity achieved. These are:

- Employee commuting
- End of life treatment of sold products
- Upstream transportation
- Purchased goods and services

2 percent of the data in the category "purchased goods and services" was omitted. «

1 https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023
2 https://www.odyssee-mure.eu/publications/efficiency-by-sector/services/offices-specific-energy-and-electricity-consumption.html

» Purchased goods and services emissions were calculated based on spend data (including inflation). For the calculation of packaging materials, we gathered the material's weight and converted it into GHG emissions using emission factors from the Ecoinvent database.

For Scope 3 emissions, for Grünenthal, the **purchase of products and services ("Procurement")** is the largest contributor to overall CO_2 emissions in 2022, amounting to 61.2 percent.

Within the procurement emissions category, the main influencing factors are:

- Manufacturing and third-party supply (67 percent)
- Packaging material and production materials (14 percent)

As Procurement is playing a crucial role in our emission footprint, it is an essential part of our strategy to achieve greater supplier involvement. This includes a supplier analysis and developing a supplier selection process to identify suppliers with an environmental programme to reduce their greenhouse gas emissions, as an example. In addition, we want to encourage innovation in our suppliers' business models that contribute to CO_2 savings. See below and the section "Responsible Sourcing" in the chapter **'COMPLIANCE, ETHICS AND TRANSPARENCY'** for details regarding our Responsible Sourcing Programme.

Downstream transportation is the second largest contributor to our overall CO_2 emissions in 2022 (28.2 percent). It refers to transportation occurring between the first receiving warehouse and pharmacies, hospitals, and wholesalers.

In the current state of our Scope 3 calculations, **upstream transportation and distribution** account for about 1.7 percent of our total carbon footprint.

Our external logistics providers have provided this data. Consolidation of purchased upstream transportation and distribution services is within scope. The external logistics providers provided a detailed breakdown of their trips, as well as the methodology chosen to calculate GHG emissions. Calculations are made using the Global Logistics Emissions Council (GLEC) Framework, which allows the use of both distance-based and fuel-based reporting.

Emissions from this category include transportation emissions of the top 10 countries for the last mile distribution between third-party logistics and our customers – often hospitals, pharmacies, or other facilities. These top 10 countries include: Brazil, Chile, Colombia, France, Germany, Italy, Mexico, Panama, Spain, and the United Kingdom. For these countries, the average distance, average weight, mode of transportation, and total number of trips were provided by the Logistics department at Grünenthal. The emissions were calculated using emission factors from the DEFRA 2022 database.

Around 0.4 percent of the total emissions arise from **waste from operations and end of life treatment of sold products**.

Waste GHG emissions are calculated based on the available waste data to perform the calculation. The various waste streams are matched with CO_2e emissions factors associated with recycling, incineration, and landfill. The emissions factors used are different from the ones used in 2021, using a more reliable dataset coming from the US Environmental Protection Agency (EPA) 2022 database.

In accordance with the GHG Protocol, energy captured via incineration is not attributed to the waste producing company but to the company purchasing the recycled content. This is the case for recycling, composting, and anaerobic digestion. Therefore, there may be increased emissions associated with reduction in waste to landfill due to the energy demands in recycling. This will only be prevalent when solely looking at GHG emissions rather than also incorporating other sustainability metrics such as resource scarcity. Waste carbon factors are also still relatively immature in their complexity and are receiving a great deal of attention. It is likely that the waste producing company will receive further emissions-reductions benefits as the sector matures. «

» Other emissions «

GRI 305-7

OTHER EMISSIONS	2023 IN KG	2022 IN KG	CHANGE IN %
Nitrogen oxides (NOx)	37,317	32,799	+13.7 [1]
Sulfur oxides (SOx)	129	200	-35.4 [1]
Volatile organic compounds (VOCs)	6,927	3,417	+102.7 [2]
Particulate Matter (PM)	44.84	No data available	n/a

Note: These emissions stem only from machines with air permits like the activity of back-up generators, boilers, the API manufacturing plant and combined heat and power generators.

1 Combined heat and power (CHP) operating hours in 2023 were approx. 600 hours less than in 2022, thus less NOx and SOx emissions.

2 In 2022, VOC emissions were calculated based upon process exhaust air. The figure for 2023 additionally took into account room exhaust air (fugitive emissions).

» All **business travel** result in 1.6 percent of our greenhouse gas emissions. 2022 DEFRA carbon factors were selected to calculate our business travel portion. Non-flight-related emissions (e. g., taxis, ferries, hotels, etc.) are estimated using a spend-based GHG emissions factor derived from Exiobase.

Employee commuting contributed to 1 percent of overall GHG emissions. This category includes all GHG emissions associated with commuting to work from all employees worldwide except employees with company cars, [3] since these emissions are reported as Scope 1 and 2 emissions. The emissions from employee commuting are based on a survey conducted in 2023. «

Our ambitions for impact assessment within our supply chain

» Our corporate carbon footprint shows that the largest share of the negative impact from our business activities is generated in our supply chain. For this reason, we launched our Responsible Sourcing Programme to extend our Planet Impact Initiative "Driving Environmental Sustainability" by covering our suppliers. For more information on our Responsible Sourcing Programme, please refer to the section "Responsible Sourcing" in the chapter **'COMPLIANCE, ETHICS AND TRANSPARENCY'**.

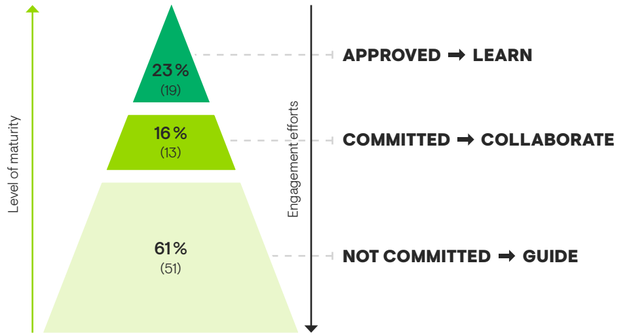
As part of our Planet initiative, we have made a public commitment to the Science Based Targets initiative (SBTi).

During 2023, we analysed our supplier network based on their greenhouse gas (GHG) emissions from 2021 (which was the most recent data available at the time) and identified the share of suppliers responsible for two-thirds of the emissions. Based on this, we defined three categories of suppliers. These categories represent the maturity level of our suppliers in terms of their environmental journey and targets for reducing GHG emissions. This will now form the basis for our approach to supplier engagement and communications.

- **Advance:** Suppliers with approved science-based targets in line with the Paris Climate Agreement. These suppliers have a robust GHG inventory and have started working on a decarbonisation plan, including switching to 100 percent renewable electricity (Scope 2) and other initiatives in Scope 3.
- **Intermediate:** Suppliers with environmental targets that are partly communicated through a non-financial report, and that have started the process of committing to a science-based target for reducing emissions.
- **Beginners:** Suppliers with no public or very limited information about their environmental strategy for GHG emissions reduction. «

3 Executives and sales representatives as classified in HR job group

» Overall maturity of 2021 top GHG contributors[1] «



Trees for our planet

GRÜNENTHAL PERFORMANCE INDICATOR	ABSOLUTE NUMBER 2023	ABSOLUTE NUMBER 2022
Number of trees planted as part of Grünenthal's #TreesForOurPlanet campaign	8,147	11,130

» In 2021, Grünenthal celebrated its 75th anniversary. To commemorate this event, we began our #TreesForOurPlanet campaign. We aimed to plant 7,500 trees during our anniversary year. Multiple global team events made it possible to exceed this target by planting over 10,000 trees. We also ensure that species have been selected to enhance local biodiversity based on guidance from forestry experts. This project will continue in the years ahead.

Although trees absorb carbon dioxide and support the fight against climate change, the planting of these trees is not calculated as a carbon-offsetting project for Grünenthal. «

» Further achievements in 2023 include:

- **External collaboration:** We started an open exchange with some of our Advance suppliers to identify best practices such as tools for GHG inventories or processes for defining science-based targets for reducing emissions.
- **Internal collaboration:** Our Procurement team is the main driver of change for our Responsible Sourcing Programme. In 2023, it focused on sharing its deep understanding of this Programme and its areas of impact, while also providing a framework to facilitate dialogue with our suppliers.

In 2024, we will focus on securing approval of our targets by the Science Based Targets initiative (SBTi). We will also further improve the quality of our GHG inventory activities with the support of our Advance suppliers, and will begin engaging with our Intermediate suppliers to encourage them to commit to the SBTi. «

[1] Responsible Sourcing analysis of suppliers (83) covering approximately 67% of 2021 GHG emissions.

Colleagues from Global Procurement, Global Sustainability and Responsible Sourcing team

AUDIT OPINION

Limited assurance report of the Independent Practitioner regarding the corporate responsibility reporting

To Grünenthal Pharma GmbH & Co. KG, Aachen/Germany

Engagement

We have performed a limited assurance engagement on the corporate responsibility report 2023 for the period from January 1 to December 31, 2023 (hereafter referred to as "CR report"/"CR reporting"), of Grünenthal Pharma GmbH & Co. KG, Aachen/Germany (hereafter referred to as "the Company").

We do not express a conclusion on the information that is marked as excluded, external sources of documentation, interviews or expert opinions stated in the corporate responsibility report.

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the CR report in accordance with the principles stated in the Sustainability Reporting Standards of the Global Reporting Initiative (hereafter referred to as "GRI Principles").

These responsibilities of the executive directors include the selection and application of appropriate methods for CR reporting and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a CR report that is free from material misstatement, whether due to fraud or error.

Responsibilities of the Independent Practitioner

Our responsibility is to express a conclusion on the corporate responsibility report based on our work performed within our limited assurance engagement.

Our audit firm applies the Quality Assurance Standard: Quality Assurance Requirements in Audit Practices (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW). We have fulfilled the professional responsibilities in accordance with the German Public Auditor Act (WPO) and the Professional Code of Conduct for German Public Auditors and Sworn Auditors (BS WP/vBP) including the requirements on independence.

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 (Revised)), developed and approved by the IAASB. This Standard requires that we plan and perform the assurance engagement so that we can conclude with limited assurance whether matters have come to our attention to cause us to believe that the corporate responsibility report of Grünenthal Pharma GmbH & Co. KG for the period from January 1 to December 31, 2023, has not been prepared, in all material respects, in accordance with the GRI Principles. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner's professional judgment.

Within the scope of our limited assurance engagement, we notably performed the following work:

- Gaining an understanding of the structure of the sustainability organization, and of the stakeholders' engagement
- Inquiries of relevant personnel involved in the preparation of the corporate responsibility report about the preparation process and about the internal control relating to this process
- Identification of potential risks of material misstatement concerning the information in the corporate responsibility report
- Analytical evaluation of the information in the corporate responsibility report
- Comparison of disclosures with corresponding data in the consolidated financial statements, the annual financial statements and the combined management report
- Assessment of the presentation of the information

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Practitioner's Conclusion

In our opinion, based on the assurance work performed and the evidence obtained, the corporate responsibility report of Grünenthal Pharma GmbH & Co. KG for the period from January 1 to December 31, 2023, has been prepared, in all material respects, in accordance with the GRI Principles.

We do not express a conclusion on the information that is marked as excluded, external sources of documentation, interviews or expert opinions stated in the corporate responsibility report.

Restriction of Use and Reference to Limitation of Liability

We issue this report as stipulated in the engagement letter agreed with Grünenthal Pharma GmbH & Co. KG. We are liable solely to Grünenthal Pharma GmbH & Co. KG, Aachen/Germany, and our liability is governed by that engagement letter dated March 5, 2024, as well as the "General Engagement Terms for Wirtschaftsprüferinnen, Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)" as of January 1, 2024 (IDW-AAB). We draw attention to the fact that the assurance engagement was performed for the purposes of Grünenthal Pharma GmbH & Co. KG and the report is solely designed for informing Grünenthal Pharma GmbH & Co. KG about the findings of the assurance engagement. Therefore, it may not be suitable for another than the aforementioned purpose. Hence, this report should not be used by third parties as a basis for any (asset) decision. We are responsible solely to the Company. However, we do not accept or assume any responsibility to third parties. Our conclusion was not modified in this respect.

Cologne/Germany, April 16, 2024

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Sebastian Dingel ppa. Arne Vilmar

GRI CONTENT INDEX

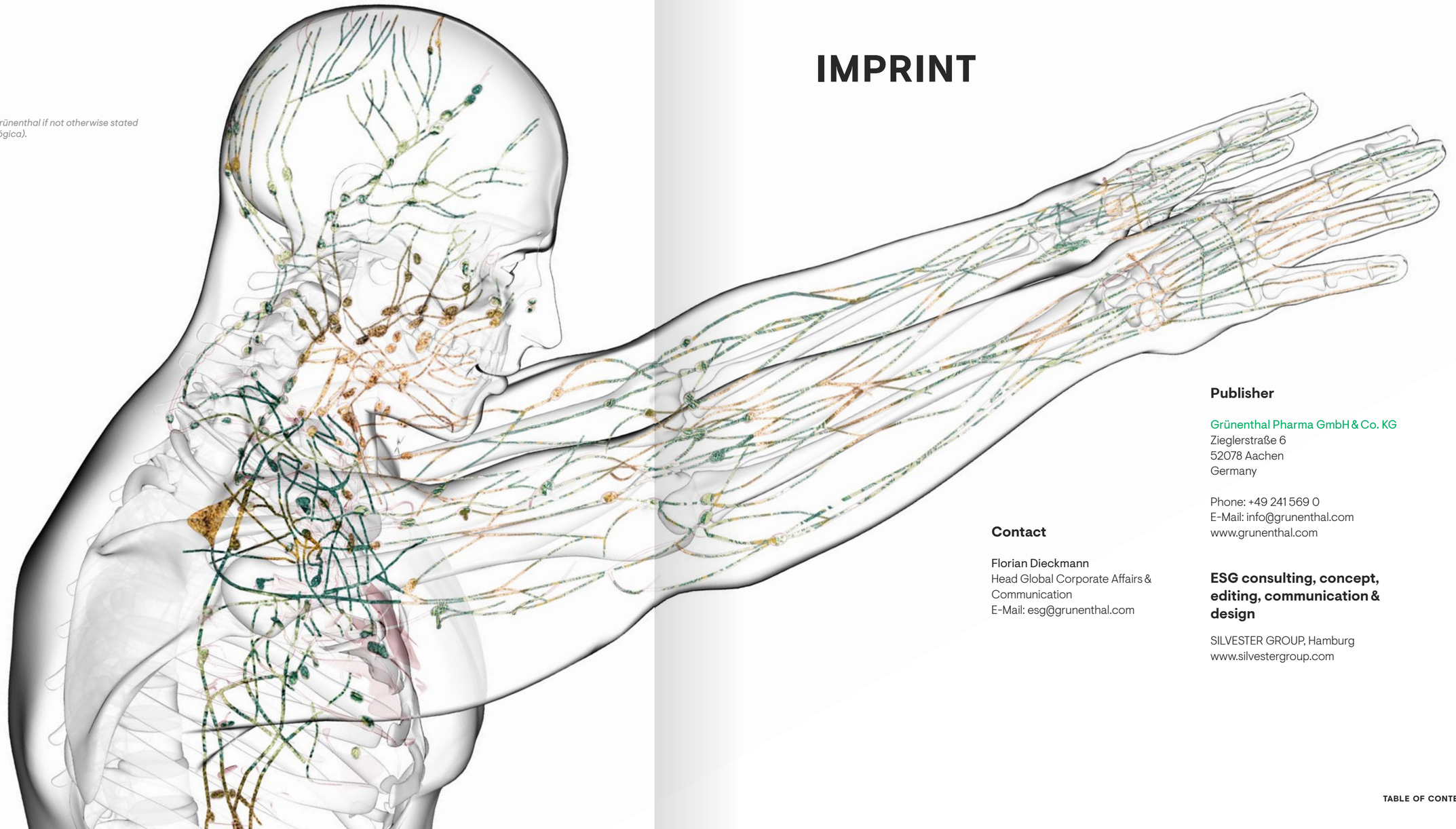
Statement of use	Grünenthal has reported in accordance with the GRI standards for the period 01.01.2023 – 31.12.2023
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	Not applicable

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
General Disclosures 2021				
GRI 2: General Disclosures 2021	2-1 Organizational details	2, 4		
	2-2 Entities included in the organization's sustainability reporting	4		
	2-3 Reporting period, frequency and contact point	2		
	2-4 Restatements of information	2, 114, 130		
	2-5 External assurance	2		
	2-6 Activities, value chain and other business relationships	4		
	2-7 Employees	86		
	2-8 Workers who are not employees	–	No disclosure as there is no consolidated data available. The hiring of freelancers, consultants, etc. is not centralised.	
	2-9 Governance structure and composition	30		
	2-10 Nomination and selection of the highest governance body	32		
	2-11 Chair of the highest governance body	30		
	2-12 Role of the highest governance body in overseeing the management of impacts	30		
	2-13 Delegation of responsibility for managing impacts	30		
	2-14 Role of the highest governance body in sustainability reporting	30		
	2-15 Conflicts of interest	38		
	2-16 Communication of critical concerns	38		
	2-17 Collective knowledge of the highest governance body	30		
	2-18 Evaluation of the performance of the highest governance body	33		
	2-19 Remuneration policies	33		
	2-20 Process to determine remuneration	33		
	2-21 Annual total compensation ratio	–	No disclosure as no consolidated data is available.	
	2-22 Statement on sustainable development strategy	6		
	2-23 Policy commitments	38		
	2-24 Embedding policy commitments	38		
	2-25 Processes to remediate negative impacts	38		
	2-26 Mechanisms for seeking advice and raising concerns	38		
	2-27 Compliance with laws and regulations	42		
	2-28 Membership associations	20		
	2-29 Approach to stakeholder engagement	16		
	2-30 Collective bargaining agreements	103		
GRI 3: Material Topics 2021	3-1 Process to determine material topics	21		
	3-2 List of material topics	21		
Material topic: Business conduct				
GRI 3: Material Topics 2021	3-3 Management of material topics	37		1, 2, 3, 4, 5, 10
GRI 205: Anti-corruption	GRI 205-1 Operations assessed for risks related to corruption	43		
	GRI 205-2 Communication and training about anti-corruption policies and procedures	43		
	GRI 205-3 Confirmed incidents of corruption and actions taken	43		
GRI 206: Anti-Competitive Behavior	GRI 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	43		

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
Material topic: Responsible use of pain medication				
GRI 3: Material Topics 2021	3-3 Management of material topics	62	Own disclosure	
Material topic: Product governance & safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	80		
GRI 416: Customer Health & Safety	GRI 416-1 Assessment of the health and safety impacts of product and service categories	80		
	GRI 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	42		
Material topic: Responsible innovation				
GRI 3: Material Topics 2021	3-3 Management of material topics	75	Own disclosure	
Material topic: Awareness and accessibility				
GRI 3: Material Topics 2021	3-3 Management of material topics	67	Own disclosure	
Material Topic: Own workforce				
GRI 3: Material Topics 2021	3-3 Management of material topics	85	Own disclosure	
GRI 403: Occupational Health and Safety	GRI 403-1 Occupational health and safety management system	88		
	GRI 403-2 Hazard identification, risk assessment, and incident investigation	88		
	GRI 403-3 Occupational health services	88		
	GRI 403-4 Worker participation, consultation, and communication on occupational health and safety	88		
	GRI 403-5 Worker training on occupational health and safety	88		
	GRI 403-6 Promotion of worker health	88		
	GRI 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	88		
	GRI 403-8 Workers covered by an occupational health and safety management system	88		
	GRI 403-9 Work-related injuries	88		

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
GRI 401: Employment	GRI 401-1 New employee hires and employee turnover	106		
GRI 404: Training and Education	GRI 404-2 Programs for upgrading employee skills and transition assistance programs	100		
	GRI 404-3 Percentage of employees receiving regular performance and career development reviews	100		
GRI 405: Diversity and Equal Opportunity	GRI 405-1 Diversity of governance bodies and employees	93		
GRI 406: Non-Discrimination	GRI 406-1 Incidents of discrimination and corrective actions taken	93		
Material topic: Attractive Employer				
GRI 3: Material Topics 2021	3-3 Management of material topics	103	Own disclosure	
Material topic: Responsible use of resources				
GRI 3: Material Topics 2021	3-3 Management of material topics	114		7
GRI 302: Energy	GRI 302-1 Energy consumption within the organization	114		
	GRI 302-3 Energy intensity	115		
	GRI 302-4 Reduction of energy consumption	115		
	GRI 302-5 Reductions in energy requirements of products and services	115		
GRI 303: Water and Effluents	GRI 303-1 Interactions with water as a shared resource	118		
	GRI 303-2 Management of water discharge-related impacts	118		
	GRI 303-3 Water withdrawal	118		
	GRI 303-4 Water discharge	118, 120		
GRI 306: Waste	GRI 306-1 Waste generation and significant waste-related impacts	122		
	GRI 306-2 Management of significant waste-related impacts	122		
	GRI 306-3 Waste generated	122		
	GRI 306-4 Waste diverted from disposal	123		
	GRI 306-5 Waste directed to disposal	123		

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
Material topic: Climate change				
GRI 3: Material Topics 2021	3-3 Management of material topics	127		7
GRI 305: Emissions	GRI 305-1 Direct (Scope 1) GHG emissions	127		
	GRI 305-2 Energy indirect (Scope 2) GHG emissions	127		
	GRI 305-3 Other indirect (Scope 3) GHG emissions	127		
	GRI 305-4 GHG emissions intensity	127		
	GRI 305-5 Reduction of GHG emissions	127		
	GRI 305-6 Emissions of ozone-depleting substances (ODS)		The emission of ozone-depleting substances is not significant at Grünenthal.	
	GRI 305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	133		



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