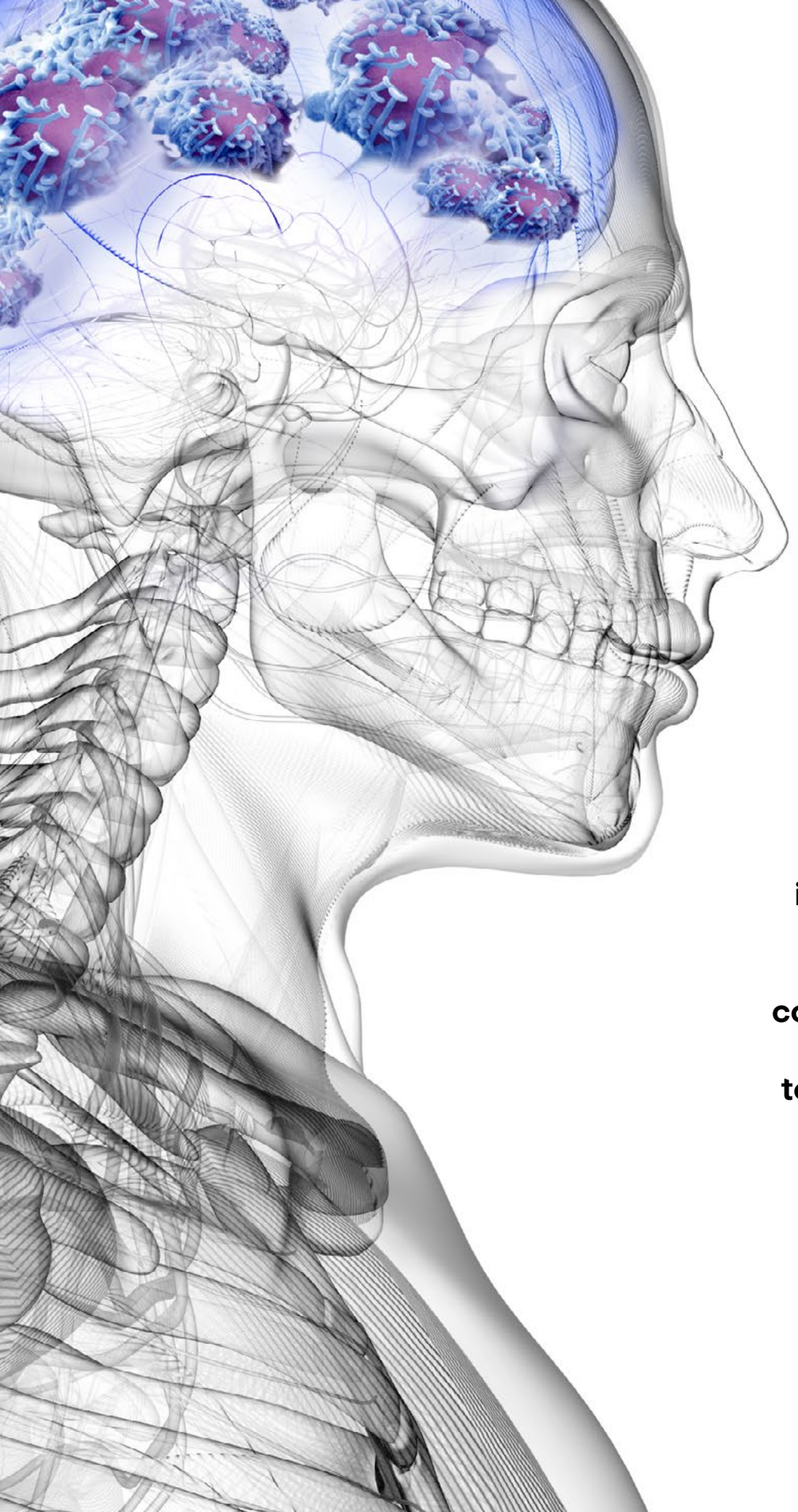
GRÜNENTHAL REPORT 2023/2024

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.

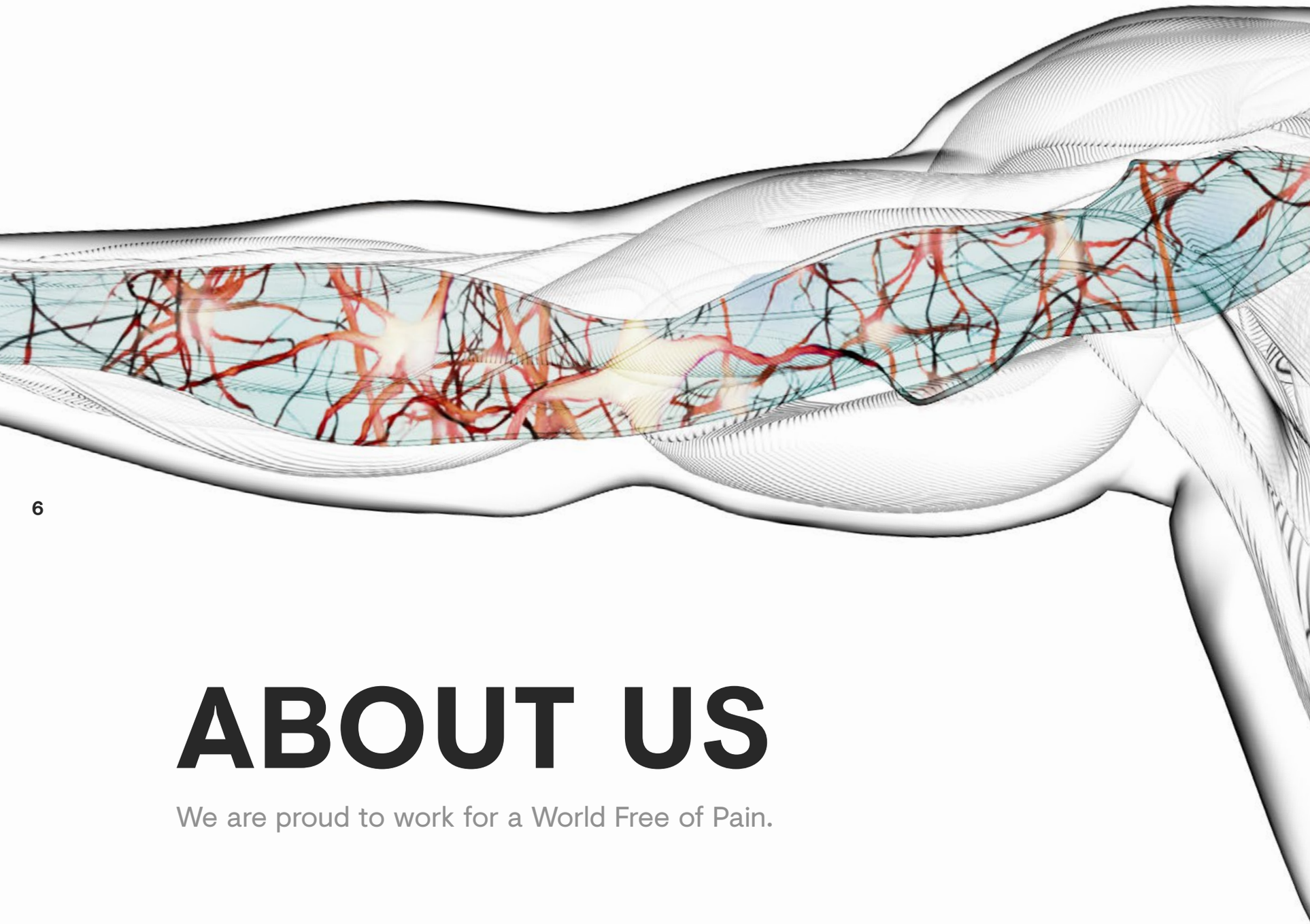
Conducting our business responsibly

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.

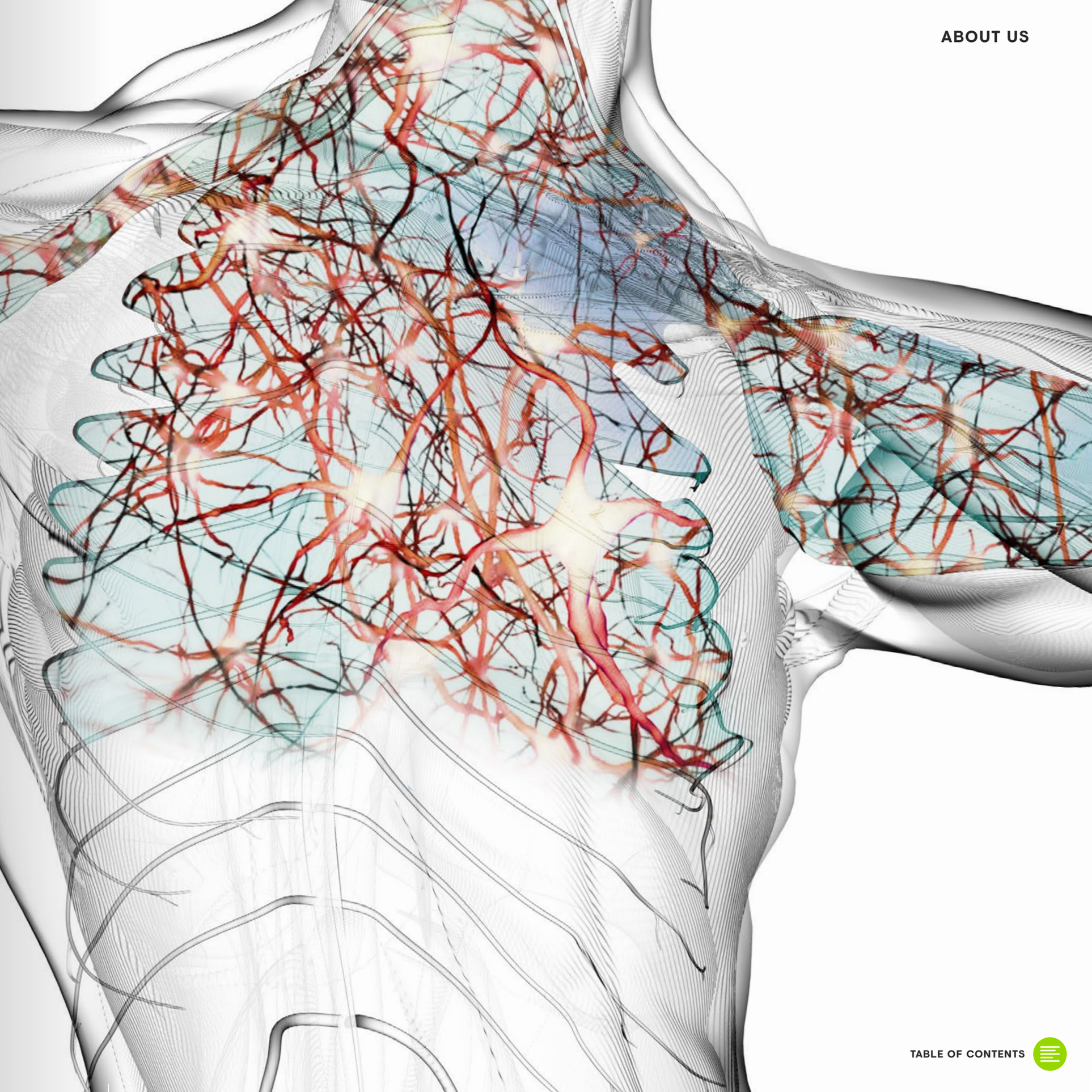
On behalf of the Executive Board Team, I invite you to join us as we continue our efforts to move closer to our vision of a World Free of Pain.

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.

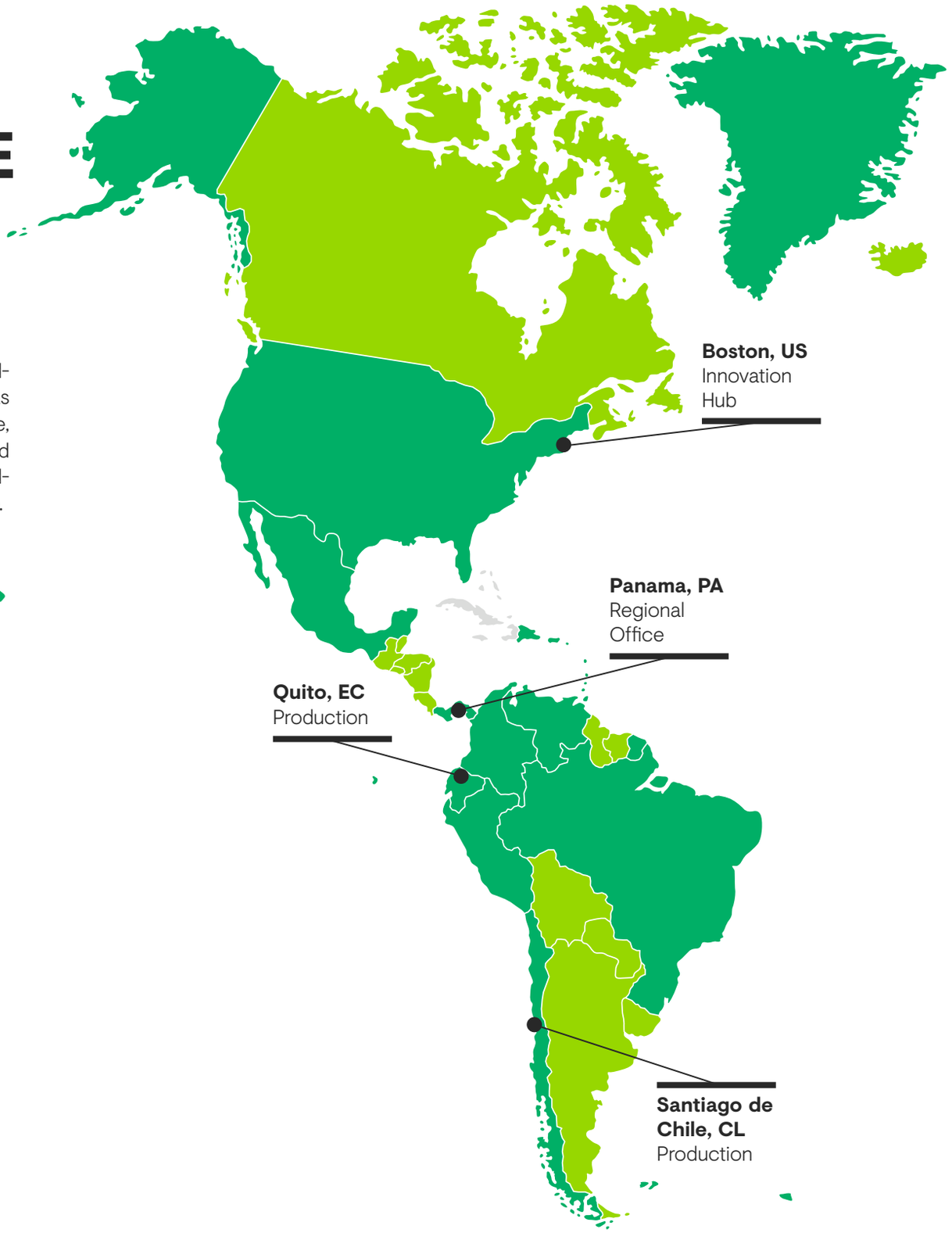


TABLE OF CONTENTS

TRANSFORMING A COMPANY

Our path to a World Free of Pain.

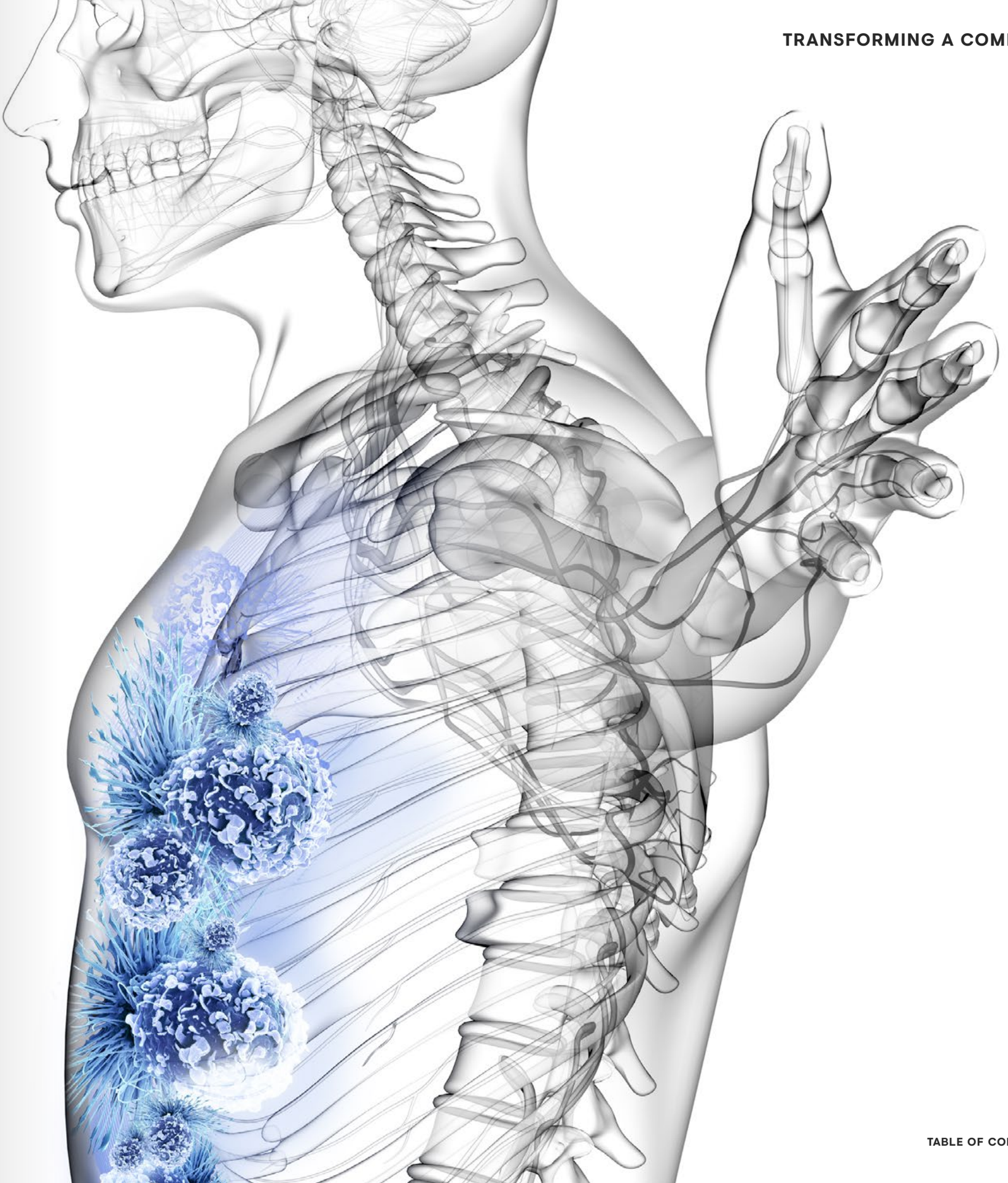


TABLE OF CONTENTS

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 out-performing 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.

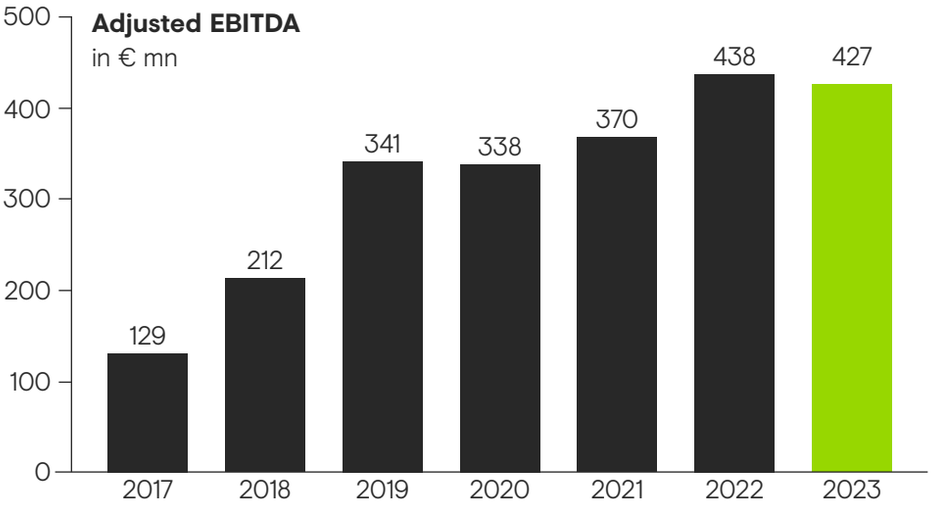
Gabriel Baertschi
Chief Executive Officer

TABLE OF CONTENTS

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.

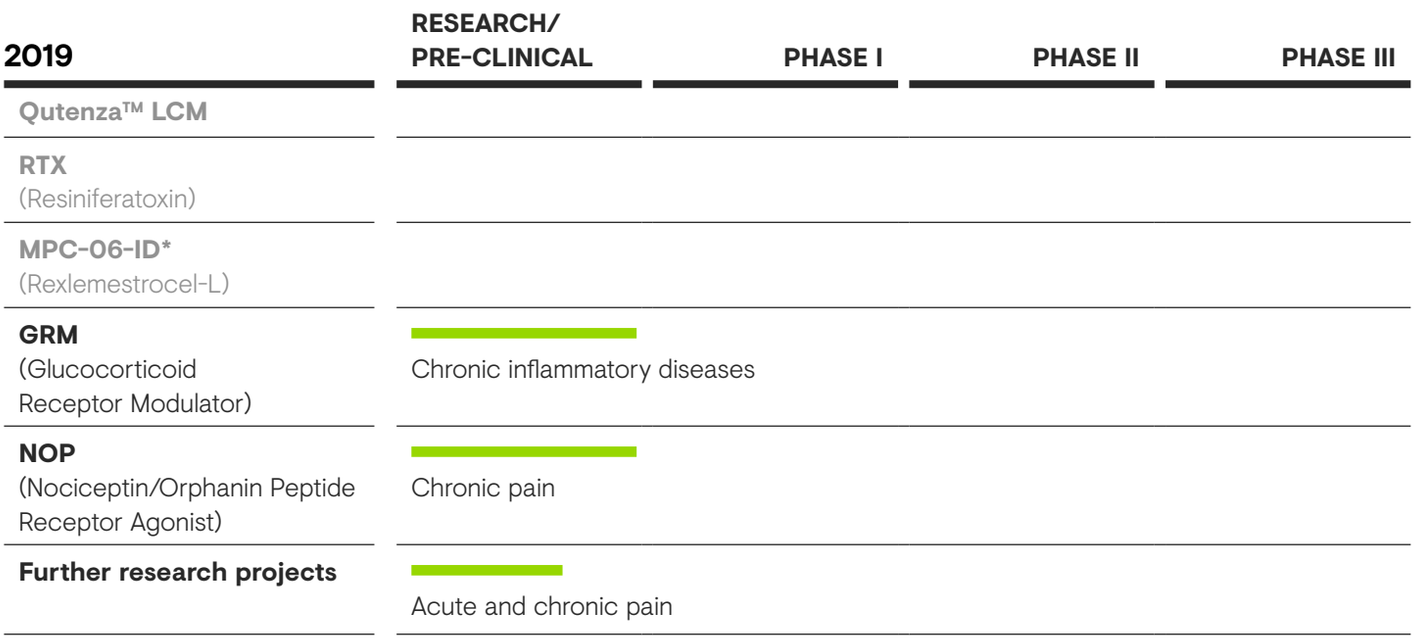
Grünenthal's business results 2017-2023

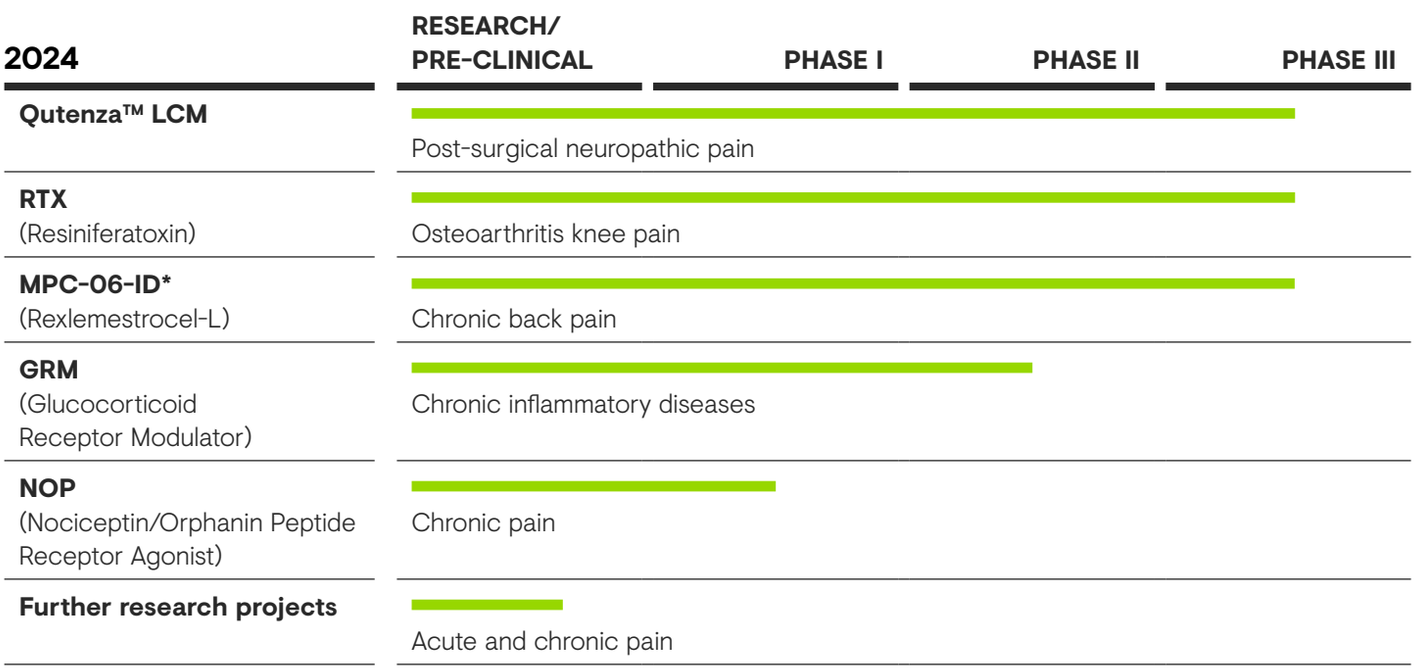


Driving innovation in pain

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



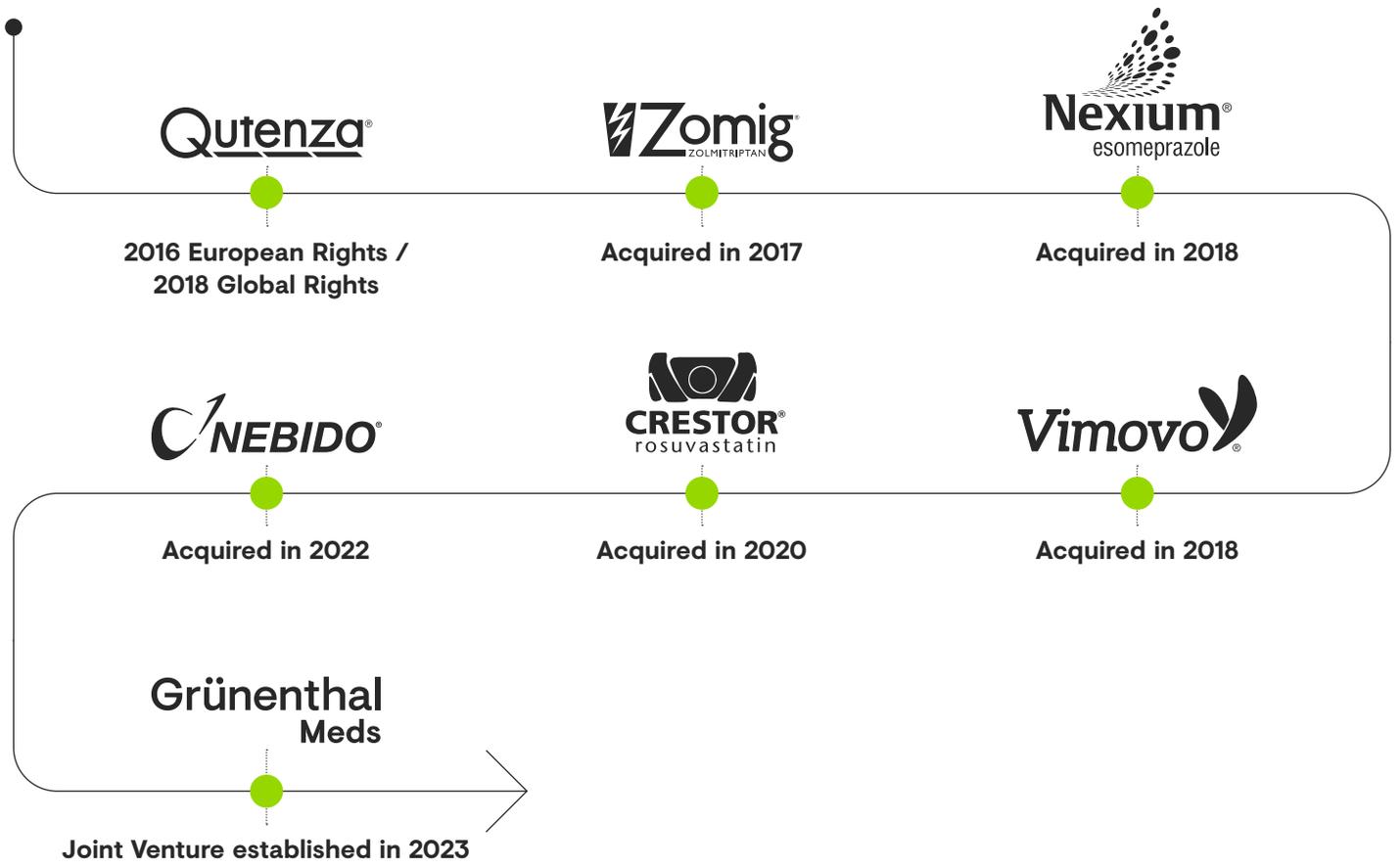


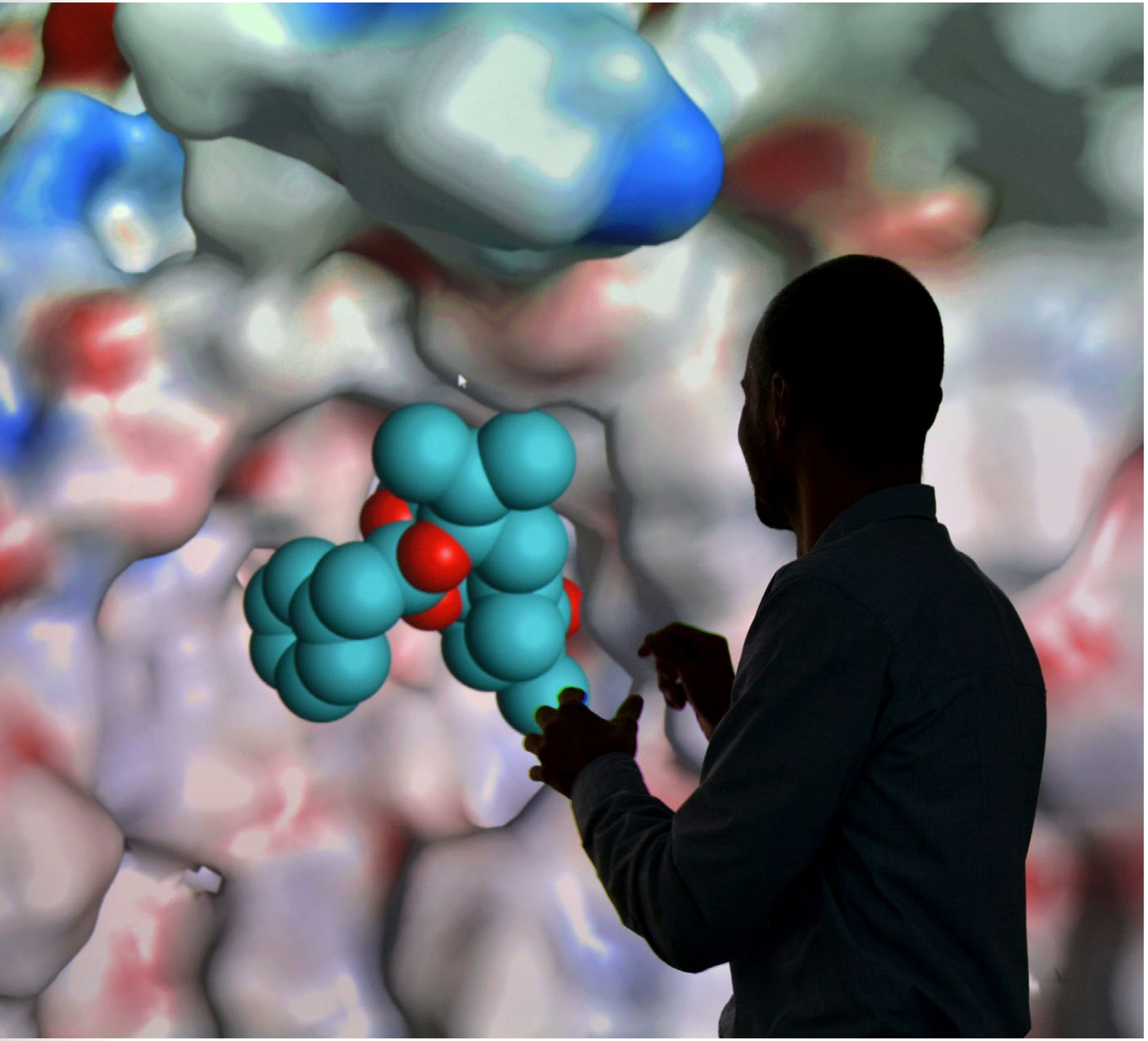
* Collaboration with Mesoblast

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.

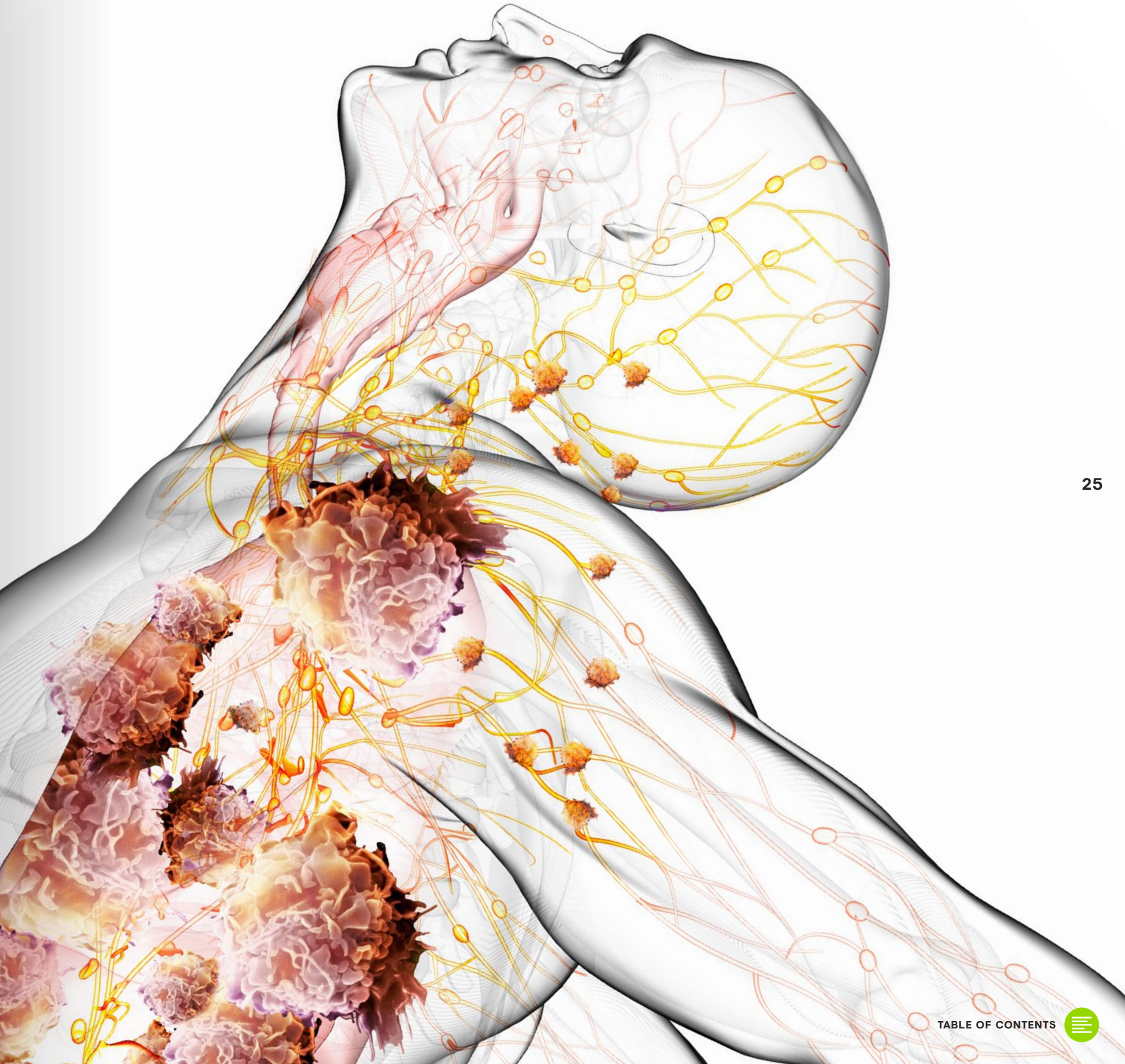


TABLE OF CONTENTS

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.

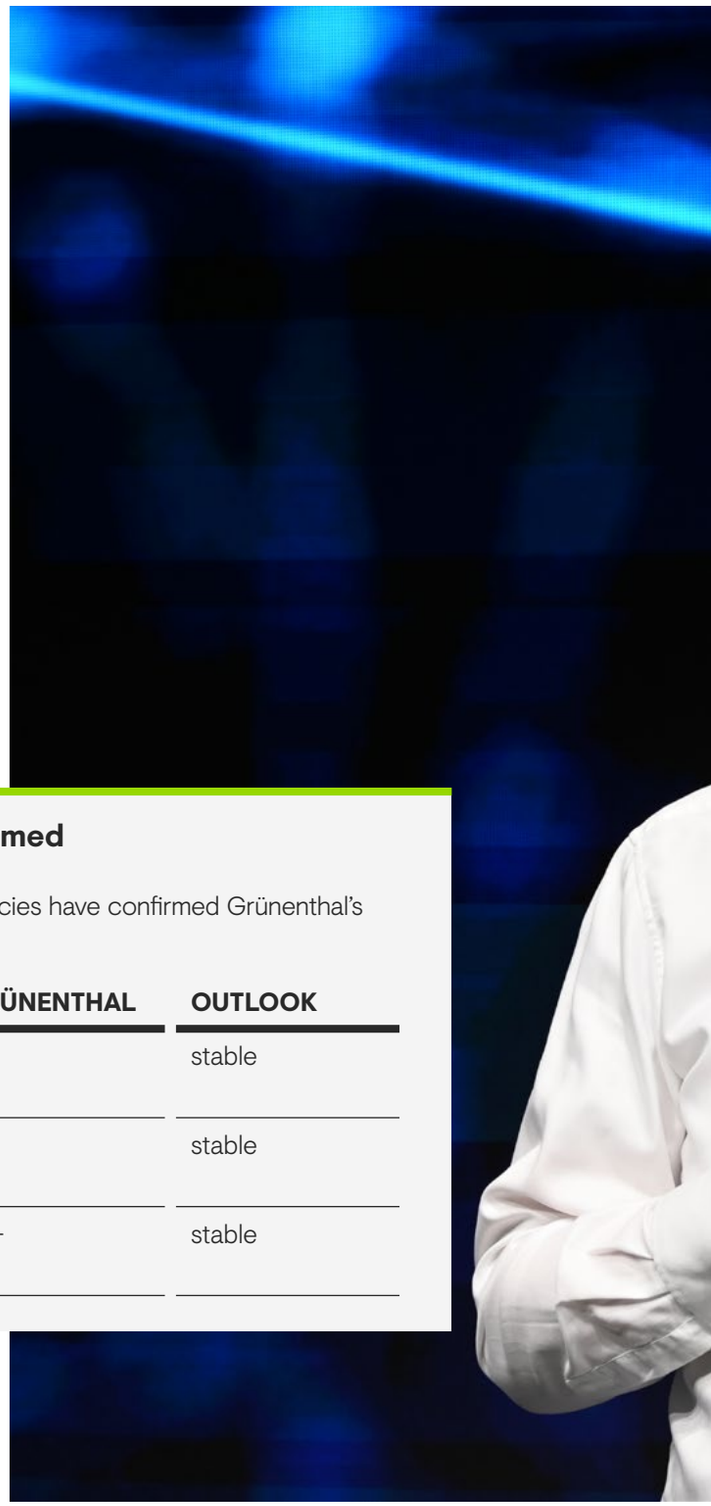

Think
outside
the column.
Idea

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?

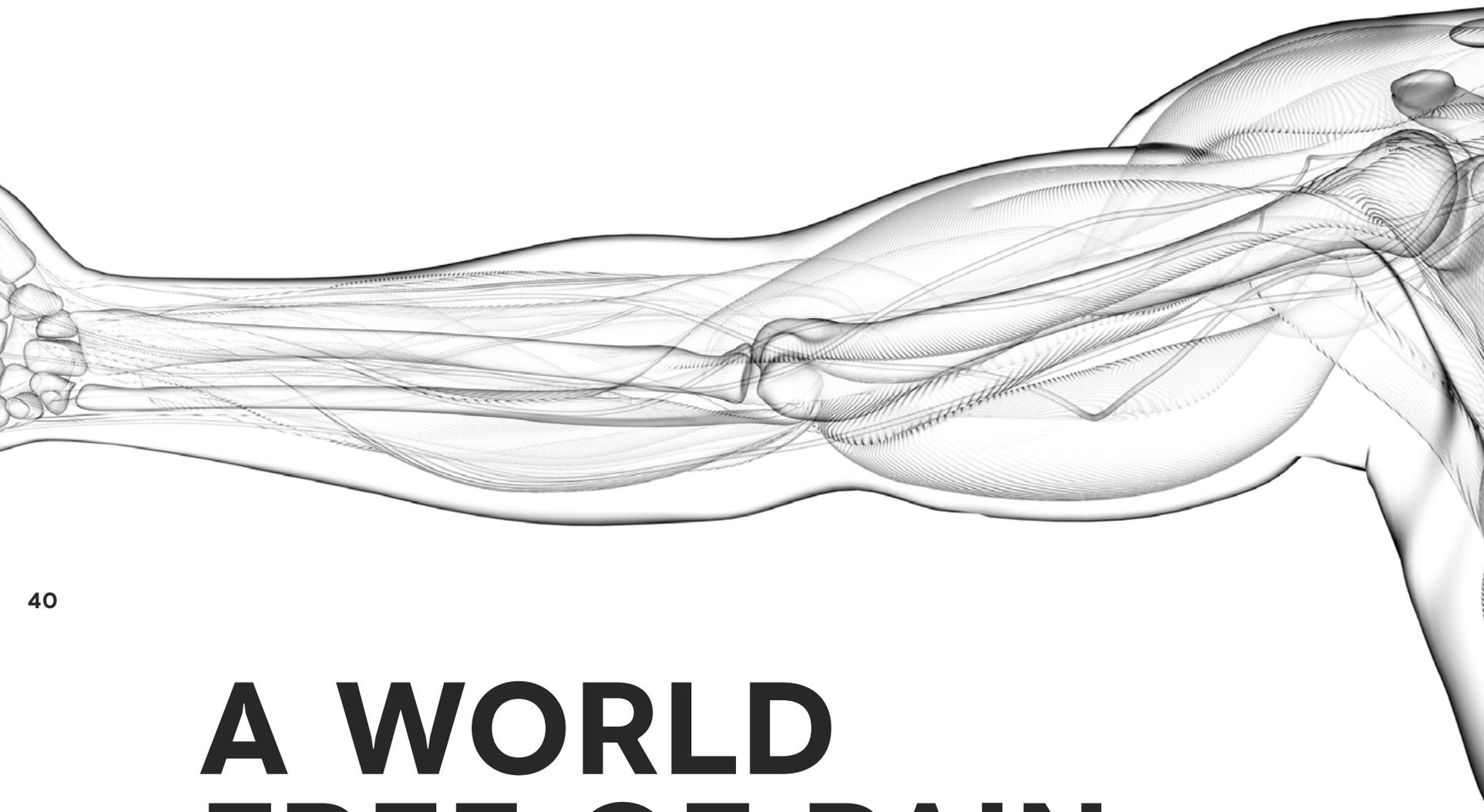
Anna: Most importantly, Grünenthal is delivering on its promises for financial performance. We also have very stable and risk-aware ownership, combined with a clear two-part strategy that targets innovative R&D and acquisitions of established brands.

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.

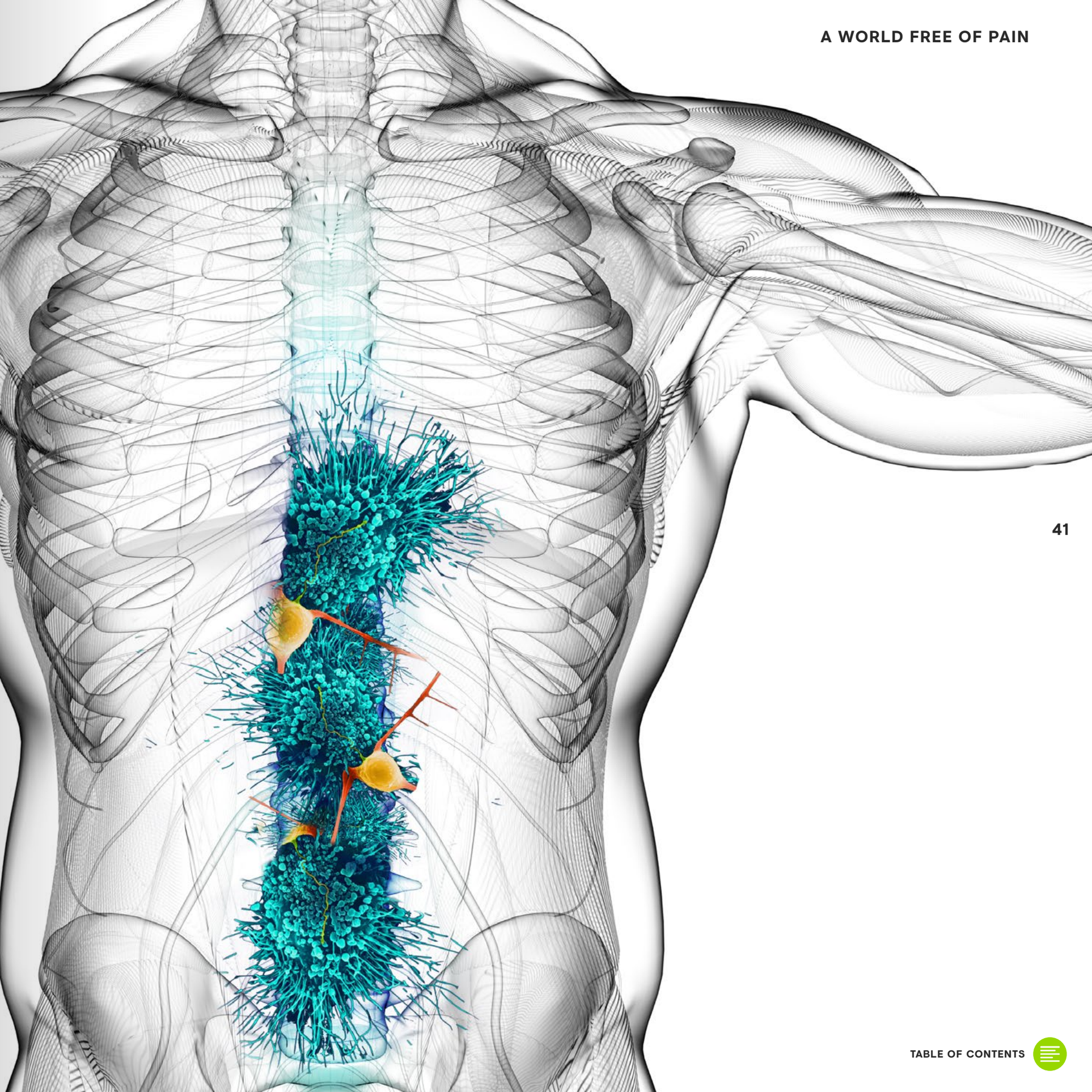


TABLE OF CONTENTS

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

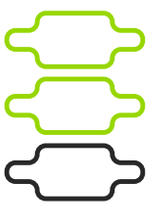
Pain generates an increasingly large burden around the world.[6] It impacts patients and their families, as well as caregivers and society as a whole.

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

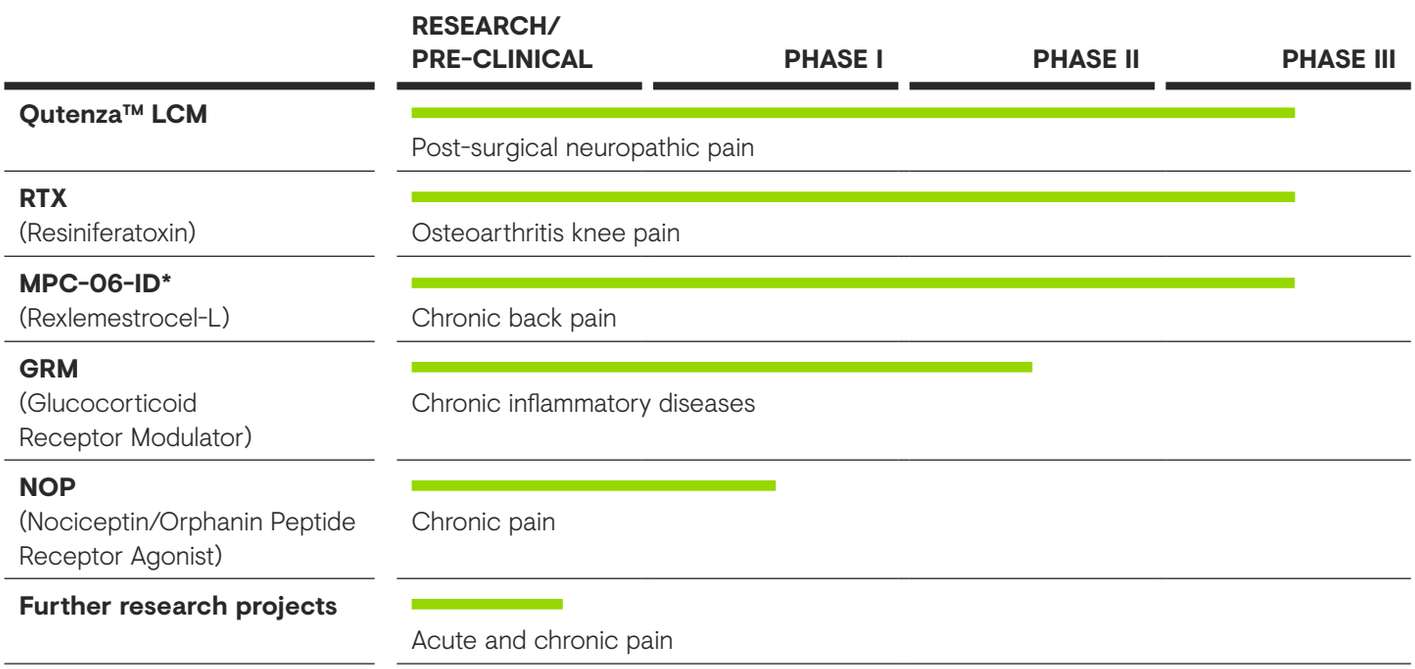
Driving innovation in the therapeutic area of pain to meet the unmet medical needs of patients worldwide.

> 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.



* Collaboration with Mesoblast

OUR KEY PROJECTS IN R&D

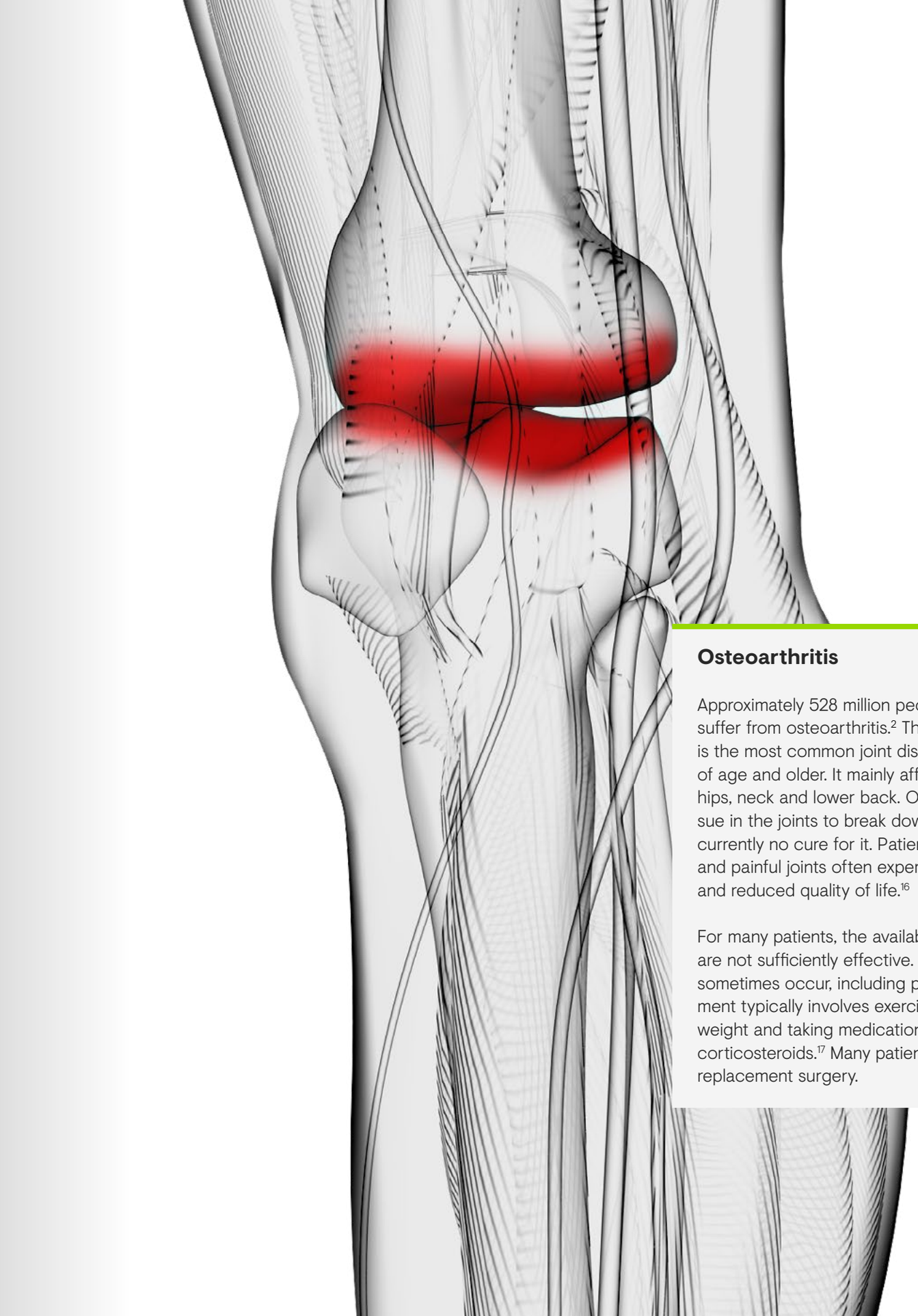
We are pursuing a range of programmes that aim to move us closer towards achieving our vision of a World Free of Pain.

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]

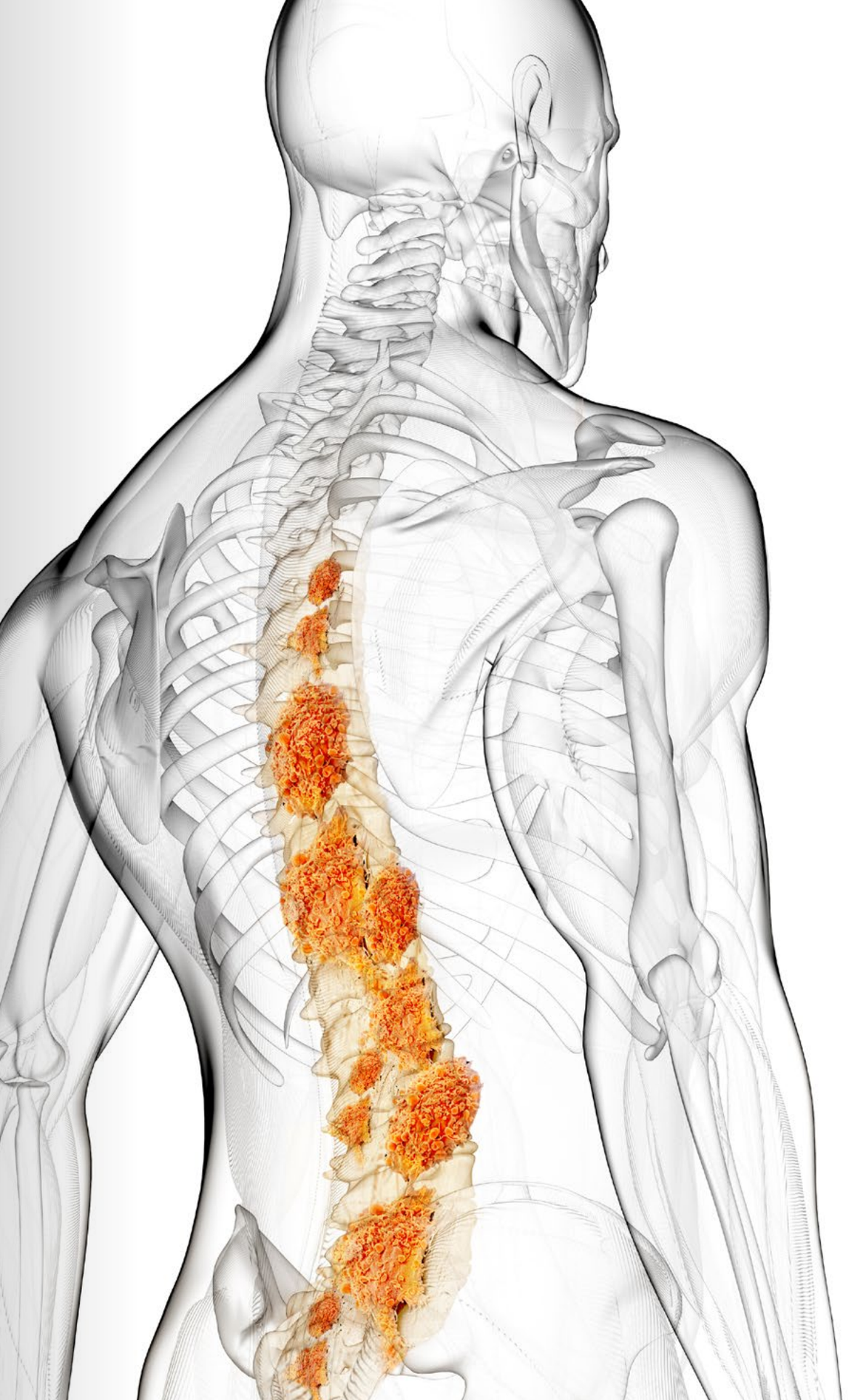
For many patients, the available treatment options are not sufficiently effective. Severe symptoms can sometimes occur, including pain. Osteoarthritis treatment typically involves exercise, maintaining a healthy weight and taking medication such as intra-articular corticosteroids.[17] Many patients eventually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

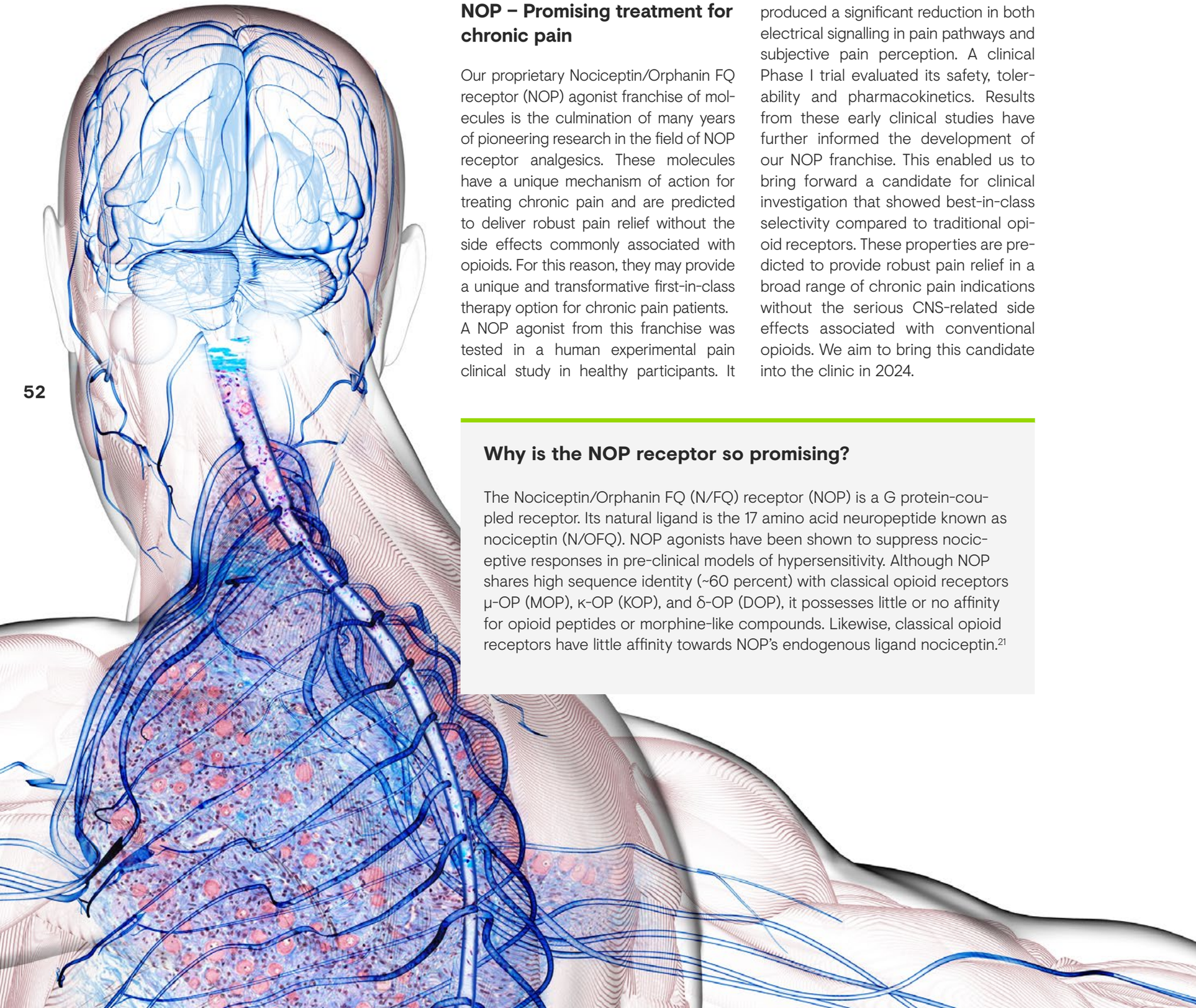


MPC-06-ID – Cell therapy for chronic low back pain

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.

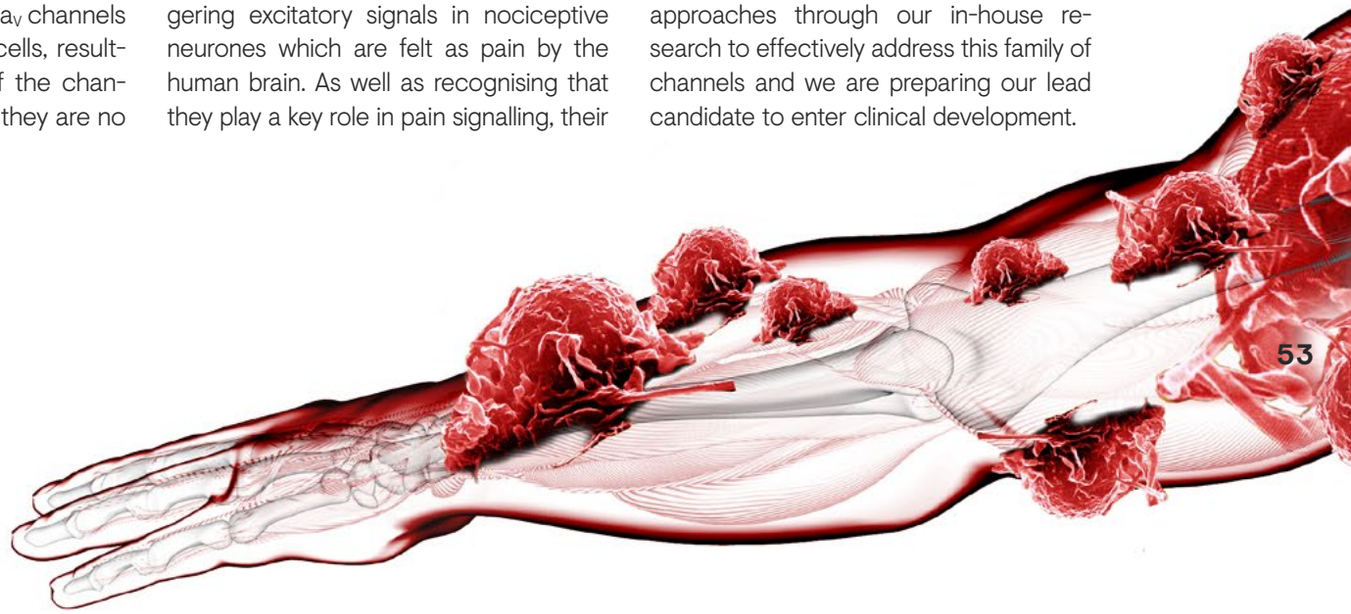
Why is the NOP receptor so promising?

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.

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

Working in Grünenthal's biology laboratories

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.

> 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.

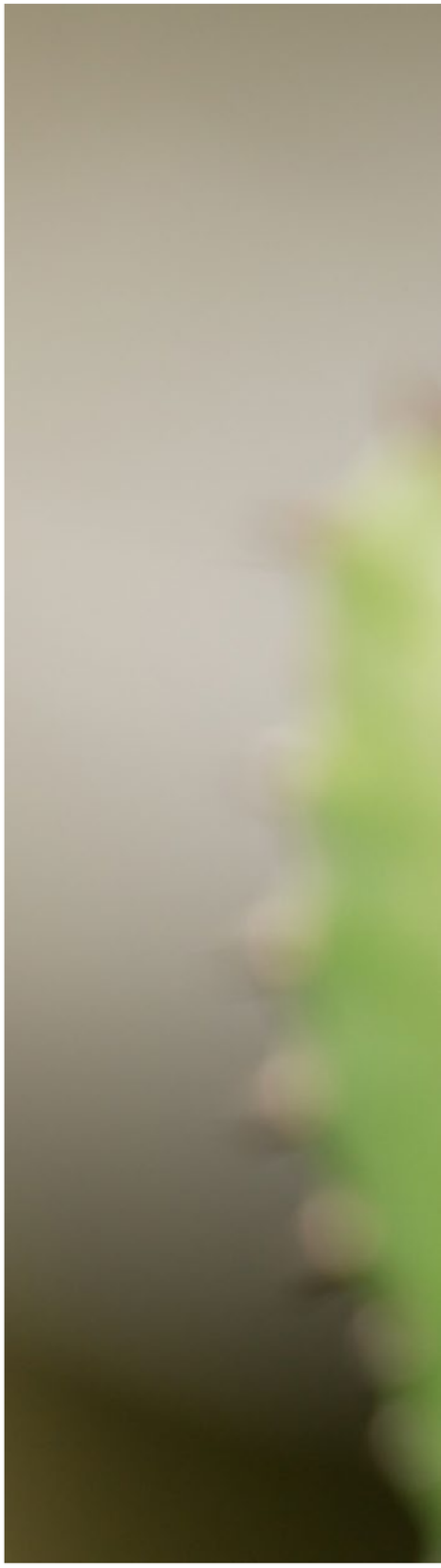
Osteoarthritis Patient
Spain

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

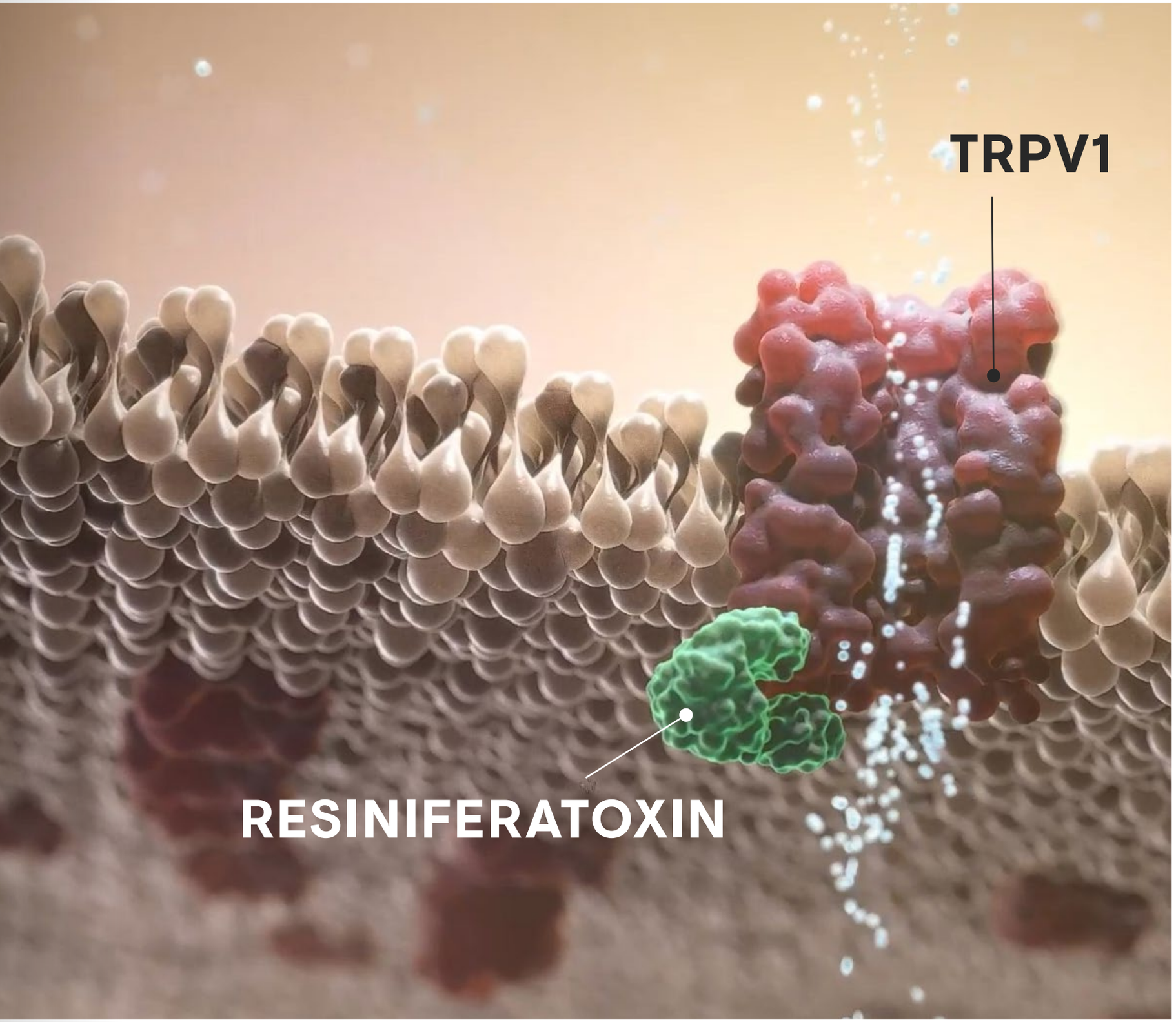
Grünenthal is also engaging in partnerships that aim to maximise the patient population that can benefit from access to RTX if it receives market authorisation. For example, we entered a licensing agreement with Shionogi in August 2022. Shionogi is a leading global research-driven pharmaceutical company 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


TRPV1
RESINIFERATOXIN

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™.

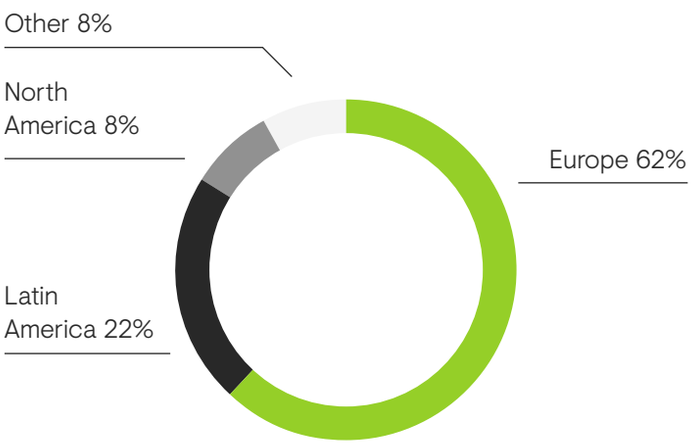
The **growth brands** are innovative and patent-protected products like Qutenza™, as well as brands that continue to have valuable growth potential like Vimovo™.

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.

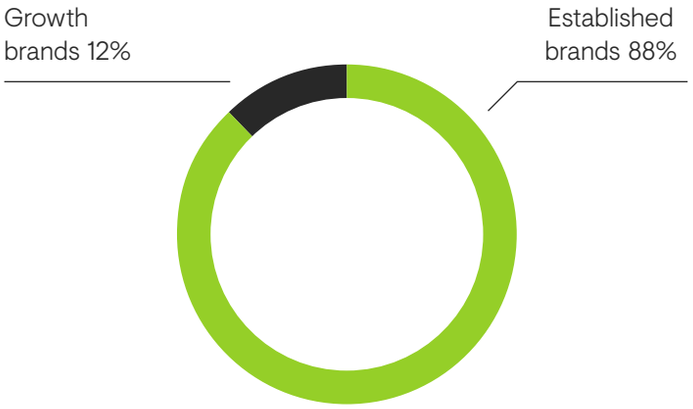
Revenue by geography



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**

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2023 IN € MILLION
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**

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2023 IN € MILLION
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

TABLE OF CONTENTS

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.

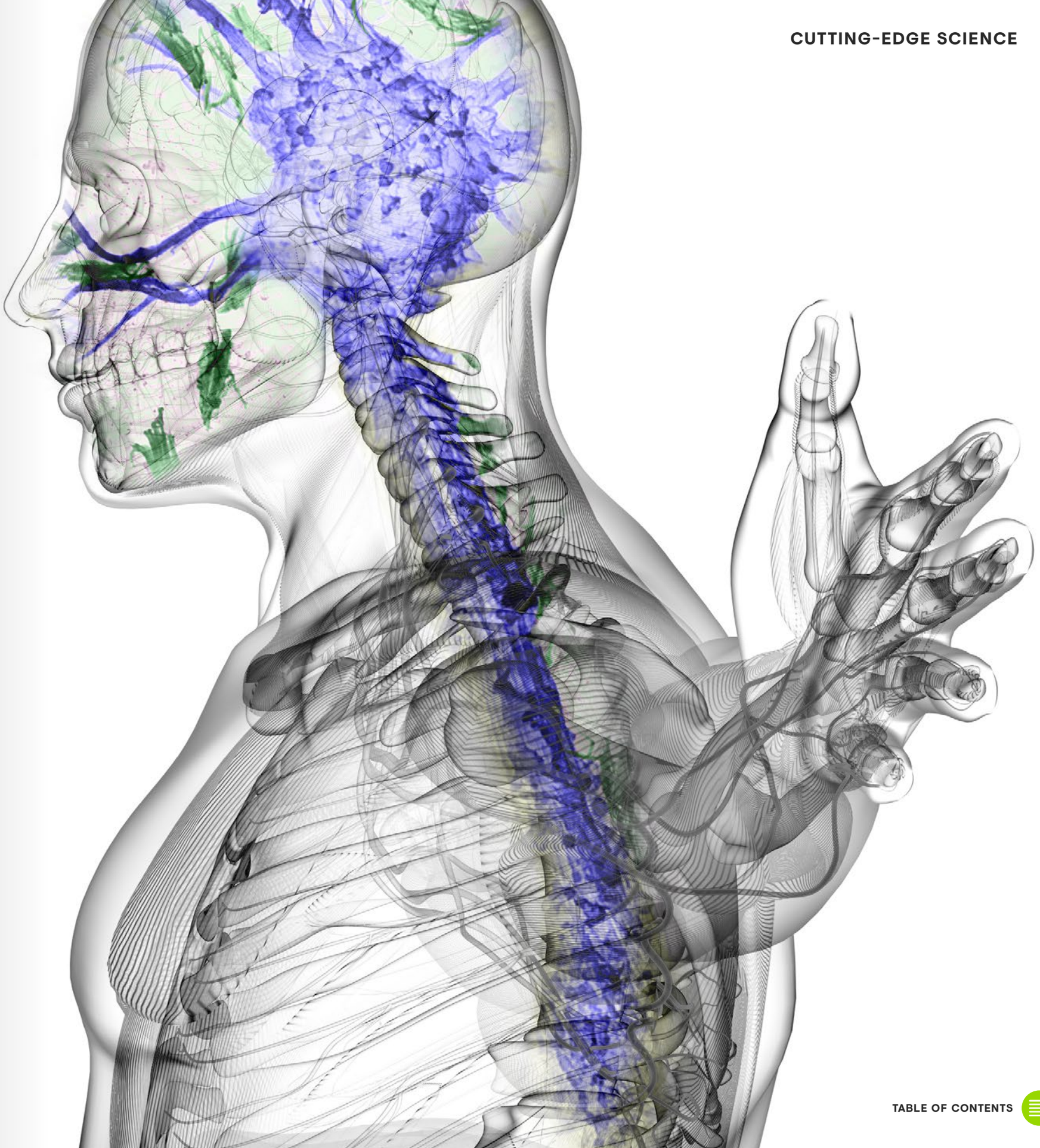
SIP is endorsed by more than 310 European and national patient and healthcare organisations, and collaborates with organisations from other disease areas to advocate for improved management of pain, for example in cancer and rheumatology.

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.

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.

Nuclear Magnetic Resonance (NMR) spectroscopy at Grünenthal

“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.

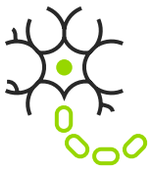
Comprehensive disease understanding
Deep understanding of the underlying human disease biology enables us to identify well validated, highly promising targets.

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.

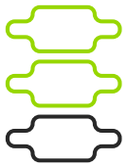
Teaming up
We collaborate with leading institutions around the world to tap into the best science and technologies wherever they exist.

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.

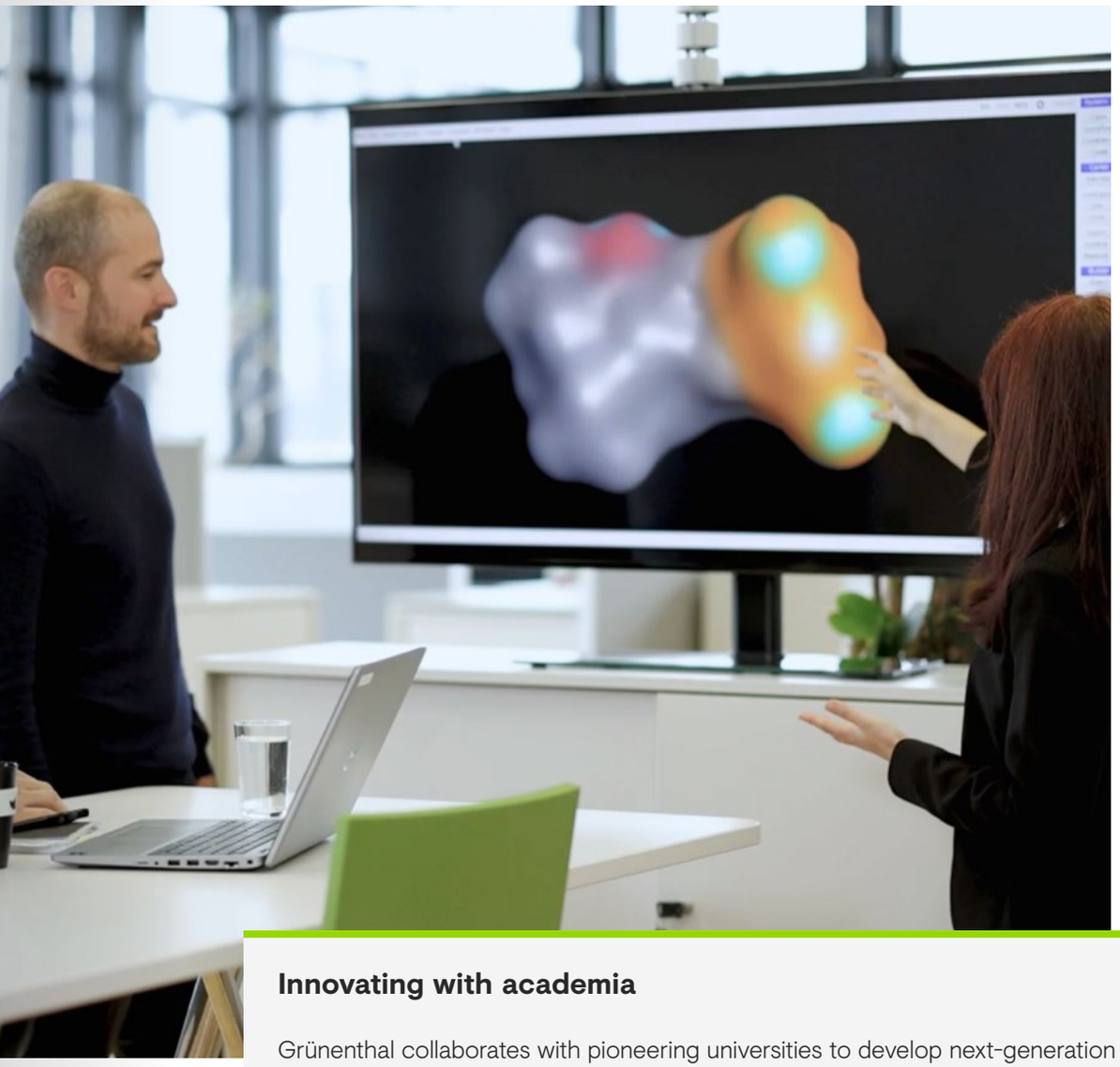
At Grünenthal, we believe it is vital for businesses to work closely with academia to drive progress in pain R&D. Universities have strong relationships with hospitals and can leverage their academic networks to access human tissue, proprietary models or biomarker research. Grünenthal collaborates with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

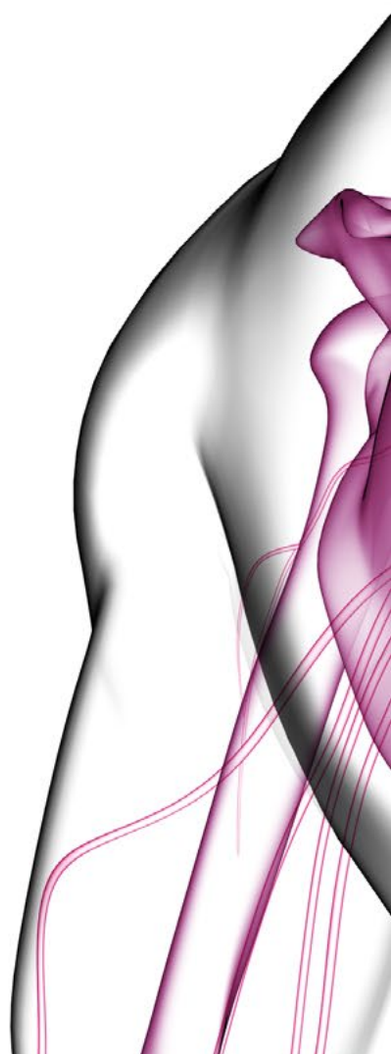
Innovating with academia

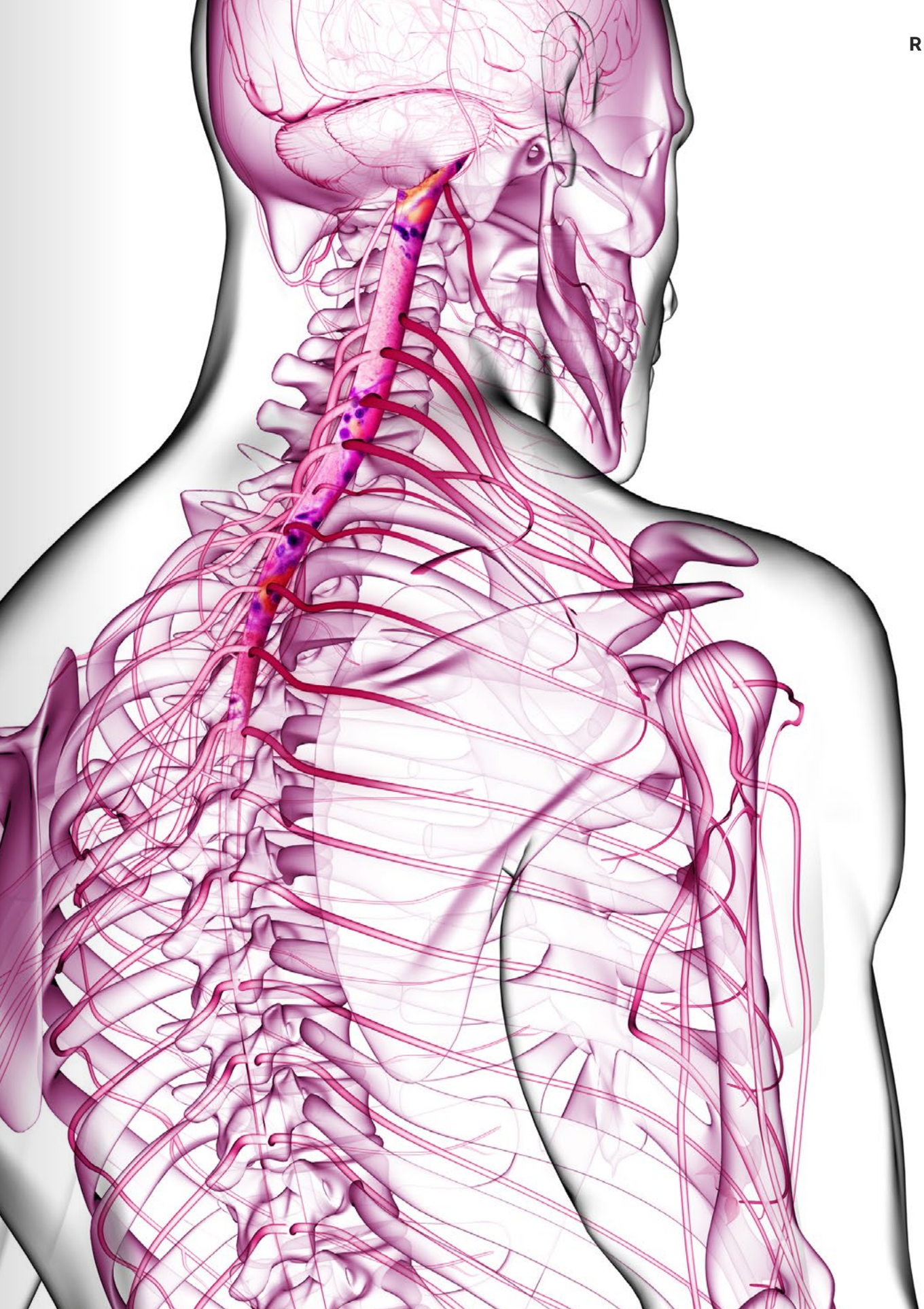
Grünenthal collaborates with pioneering universities to develop next-generation treatments and research methodologies. We are joining together with Uniklinik RWTH Aachen and RTWH Aachen University, for example, to explore new methods for drug development. This includes closely examining differences between 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

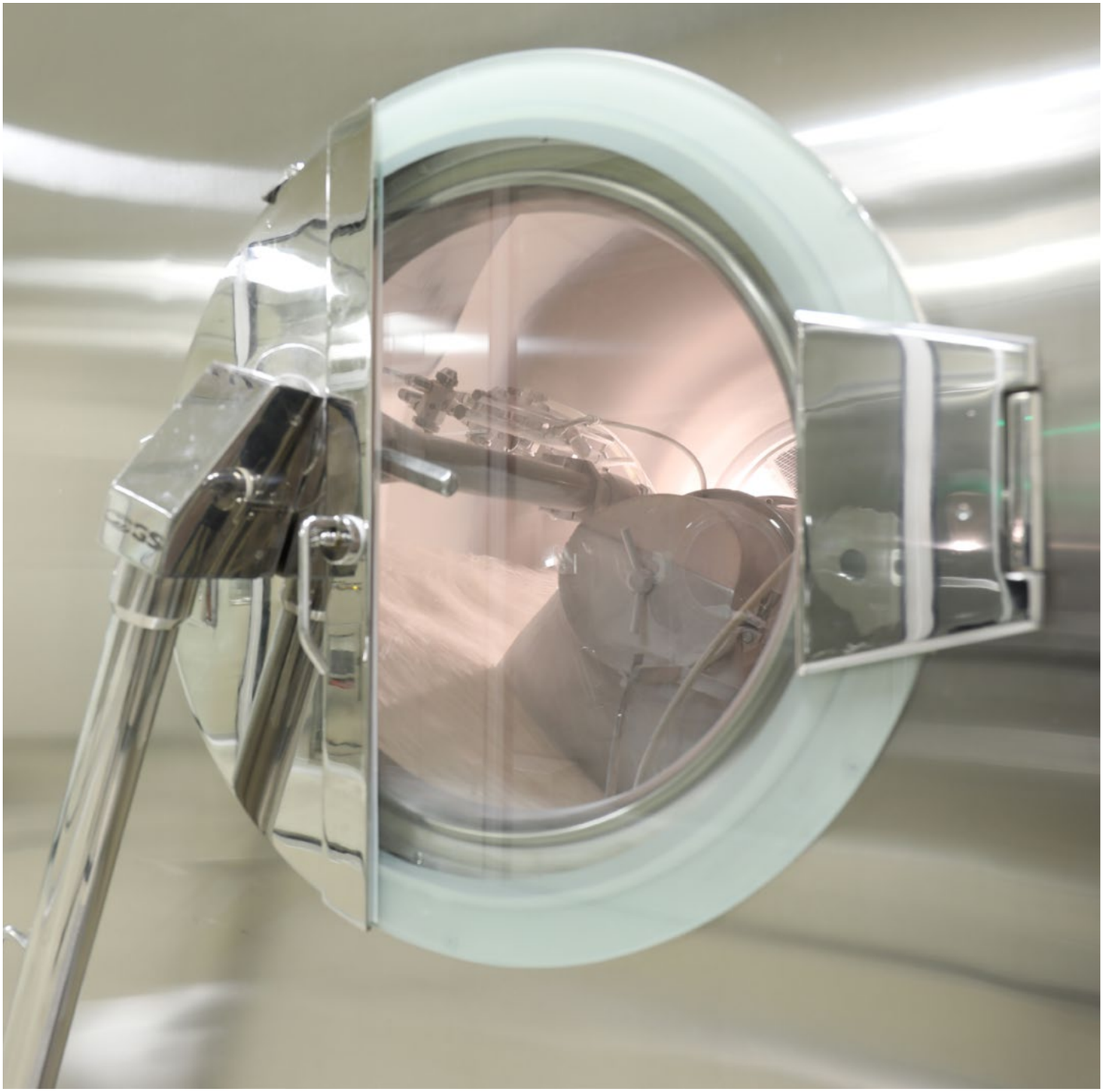
Victor: In today's rapidly shifting business environment, it is essential to stay agile and adapt to new challenges. These priorities are a key factor in our work related to procurement, manufacturing, product integration, supply chain management, contract manufacturing and quality assurance. Our GO2025 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 insourcing 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?

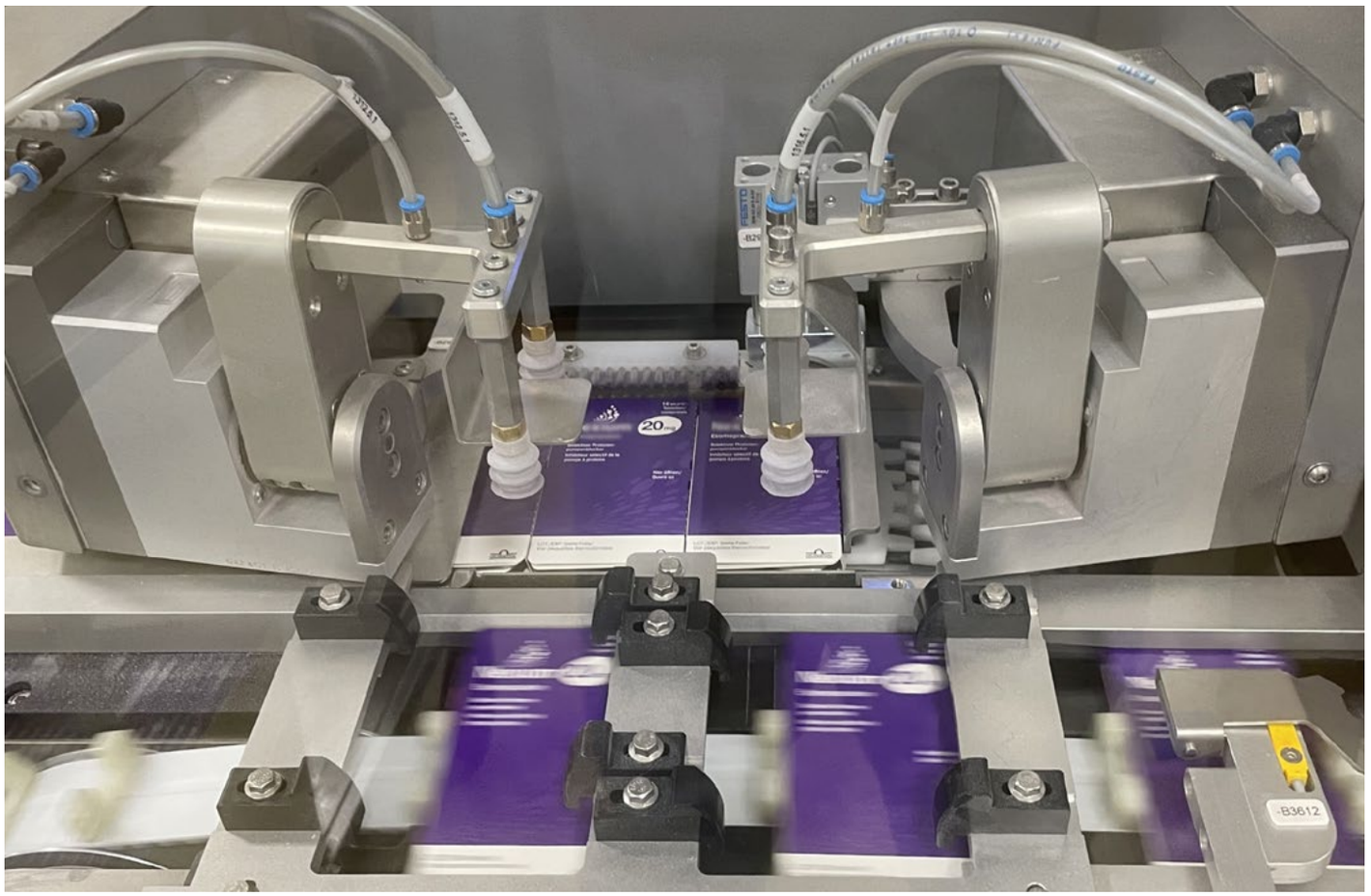
Philipp: Our Global Operations Business System (GOBS) encompasses the essential components for fostering excellence. It is a comprehensive framework of standards, processes, practices, principles, tools and templates aimed at achieving outstanding performance across all areas of an organisation. Implementing 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 on-site 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.

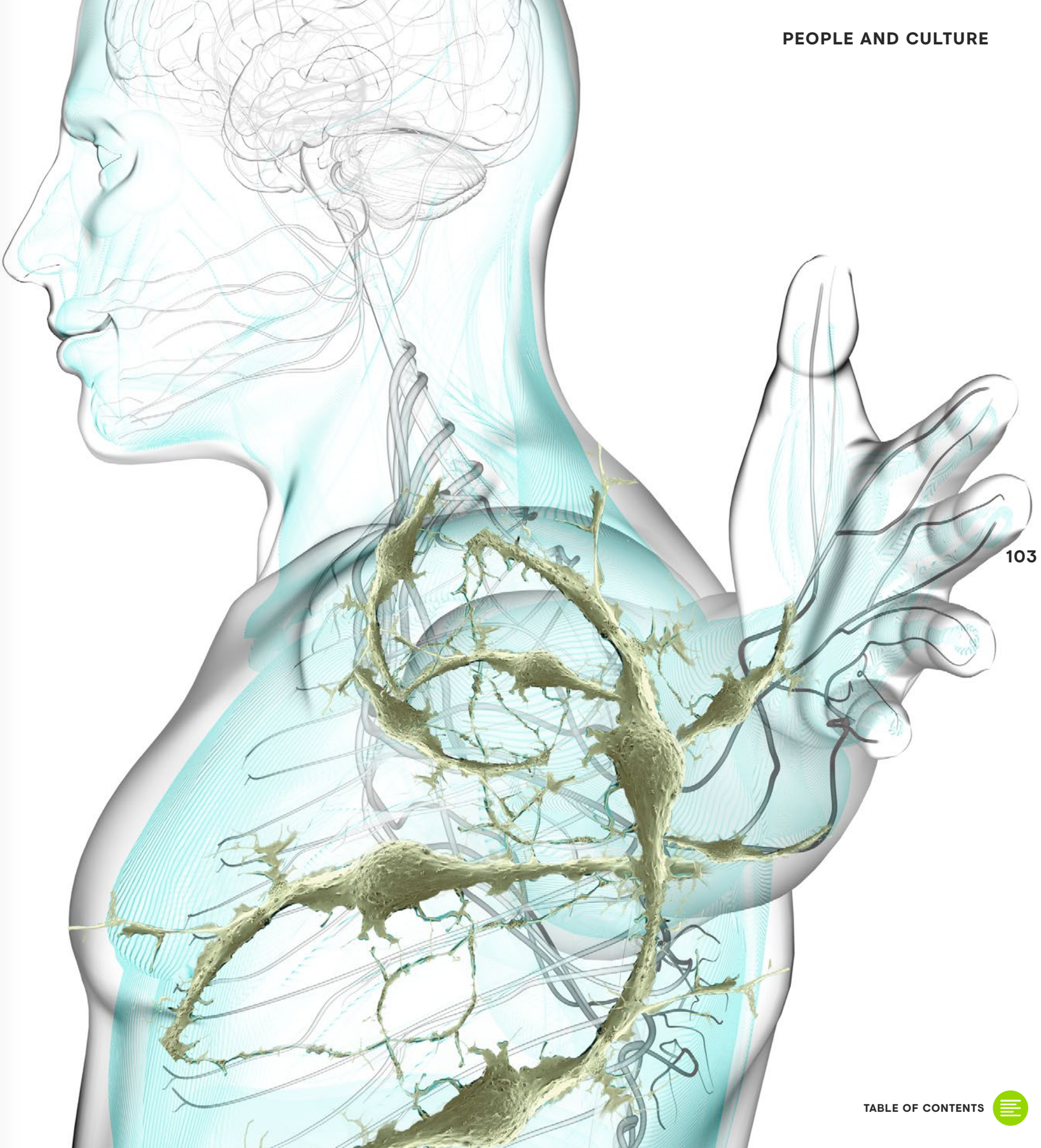


TABLE OF CONTENTS

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


adidas
VANQUISH


Volunteer
Grünenthal Cares


Make-A-Wish
IRELAND

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.

Sebastian Hoppe
Commercial Planning Lead, Global Innovative Medicines

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."

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

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

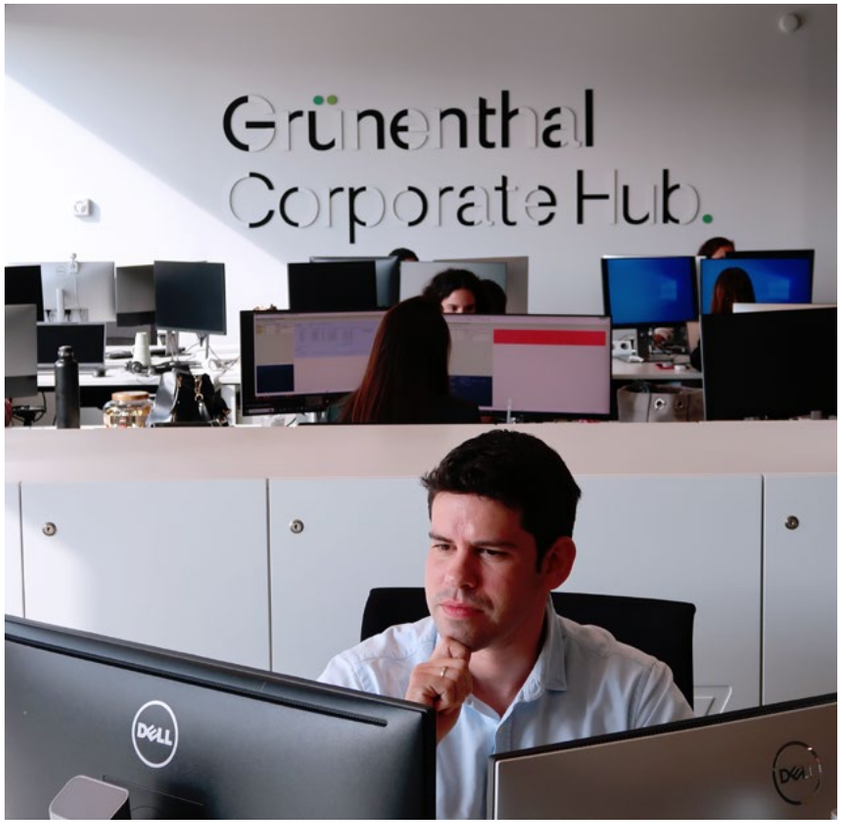
What started as our internal shared service centre for transactional finance activities in 2016 has grown to become our Corporate Hub. The facility in Lisbon, Portugal, provides global business services and centres of expertise across many different functions – including Global Supply Chain, Global IT, 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.

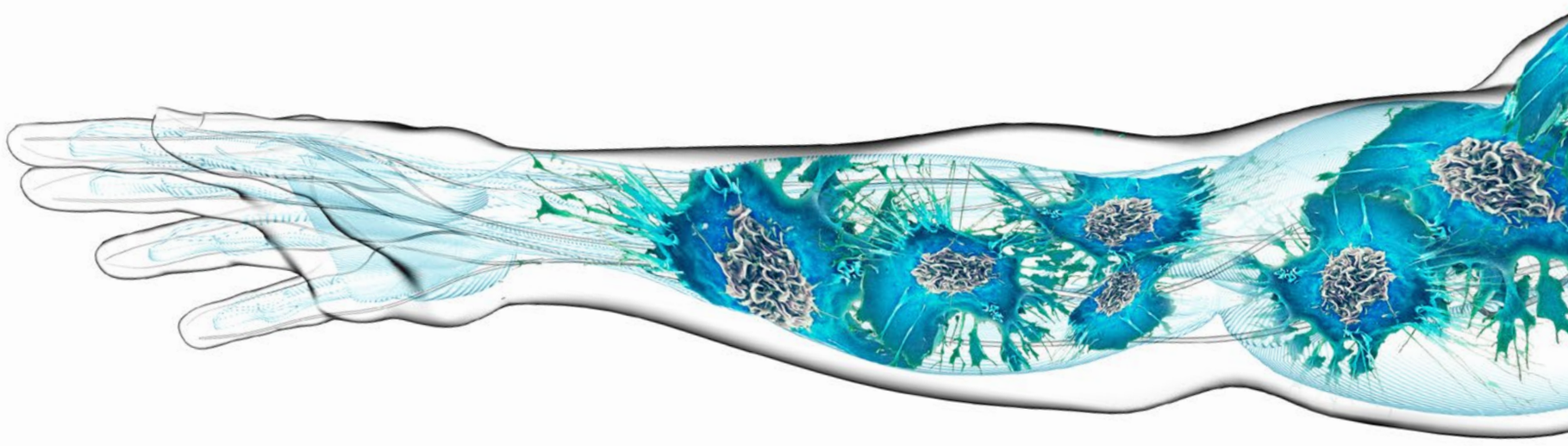
Towards the end of 2023, our Corporate Hub celebrated its growth into a team of more than 200 employees. In the same year, new joiners rated its approach to onboarding as 4.5 out of 5. To support Grünenthal's global talent development aspirations, 25 Corporate Hub colleagues undertook job rotations or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


One Team,
One Vision,
One Grünenthal.


Grünenthal
Corporate Hub.



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.

TABLE OF CONTENTS

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

Company Vision

Corporate Strategy

Corporate Responsibility Programme
Aspiring to create a positive impact for society

I Fields of Action

COMPLIANCE, ETHICS & TRANSPARENCY | **PATIENT** | **PEOPLE** | **PLANET**

II Ethical Framework | **III ESG Risk Management** | **IV ESG Governance**

Compliance Management System
Platform

Culture, Values & Behaviours, Training, Reporting
Basis

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.

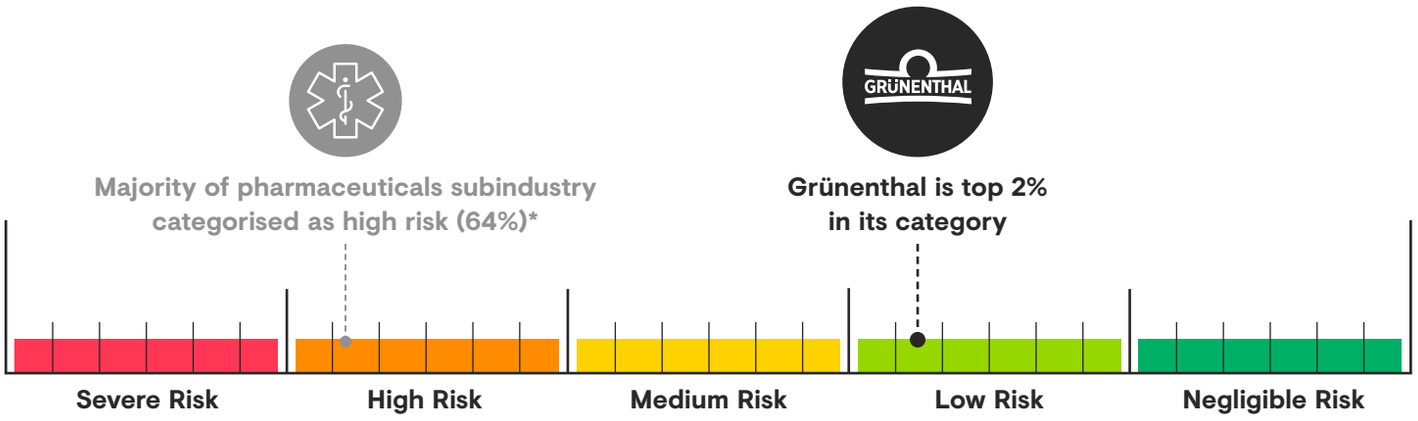
ESG Risks

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.

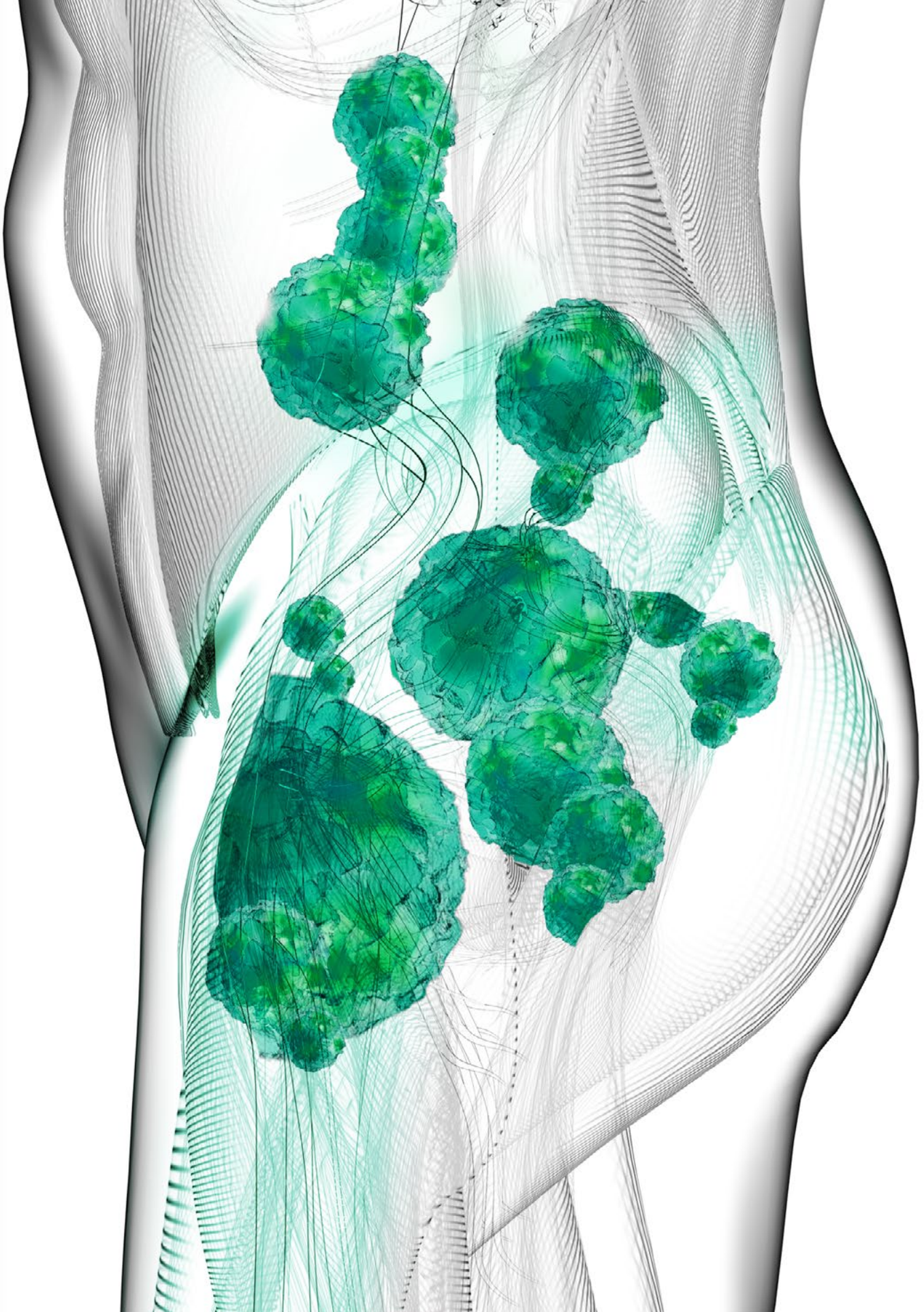
The team of the Grünenthal Foundation for the Support of Thalidomide-affected People

The Thalidomide Tragedy

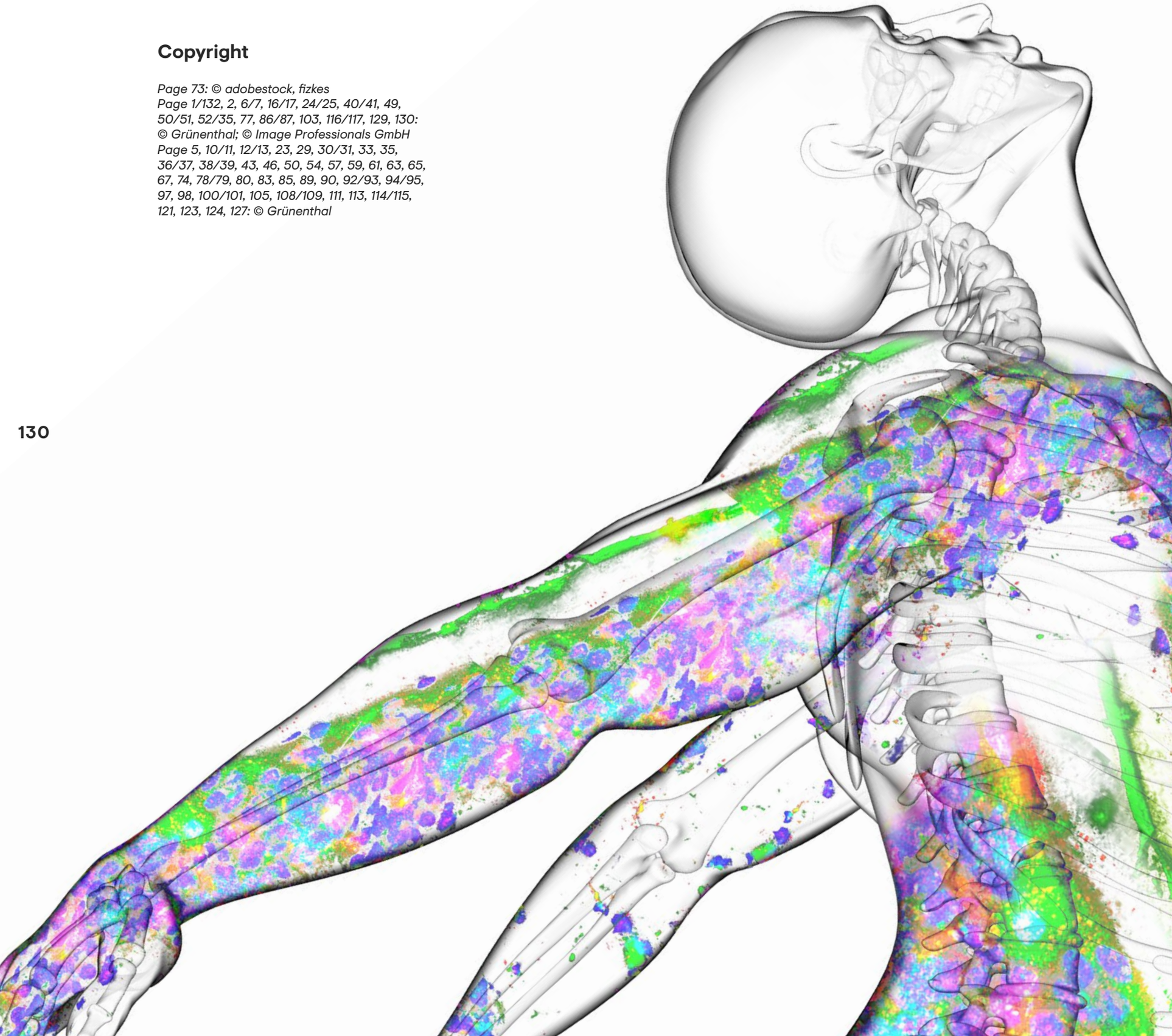
Thalidomide was developed by Grünenthal in 1954 as a sedative. It was withdrawn from the market in 1961 after causing harm to pregnant women and their unborn infants. The population of affected people is now experiencing additional challenges due to advancing age.

REFERENCES

1. Treede RD, et al. Pain. 2015 Jun;156(6):1003-1007
2. Long H, et al. Arthritis & Rheumatology. 2022;74(7); 1172–1183. Global Health Data Exchange (GHDx), Global Burden of Disease Results Tool. Available at: https://ghdx.healthdata.org/gbd-2019. [Accessed April 2024]
3. Based on internal analysis by Grünenthal GmbH using data from IQVIA Forecast Link Q3 2023 release forecast data, with historical data up to and including Q3 2023 and forecast data for all later periods. Reflecting estimates of real-world activity in 75 markets for retrospective periods, and forecasts of future real world activity for forecast period. Applying USD values at ex-manufacturer prices. Copyright IQVIA. All rights reserved.
4. Decision Resource Group (2016)
5. Saastamoinen P, et al. Pain and disability retirement: a prospective cohort study. Pain. 2012 Mar;153(3):526-531
6. Mills SE. British Journal of Anaesthesia, 2019;123 (2): e273ee283
7. World Health Organization (WHO). In/ternational Classification of Diseases 11th Revision (ICD-11). MG30 Chronic pain. 2019. Available at: https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1581976053. [Accessed April 2024]
8. Treede RD, et al. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain. 2019 Jan;160(1):19-27
9. Cohen SP, et al. Lancet. 2021;397:2082-297
10. Treede RD, et al. Pain. 2019;160(1):19–27
11. Bevan S, et al. Reducing Temporary Work Absence Through Early Intervention: The case of MSDs in the EU, London: The Work Foundation, 2013
12. Wu A, et al. Global low back pain prevalence and years lived with disability from 1990 to 2017: estimates from the Global Burden of Disease Study 2017. Ann Transl Med 2020;8(6):299. doi: 10.21037/atm.2020.02.175
13. Pain Alliance Europe, Survey on Chronic Pain 2017, Diagnosis, Treatment and Impact of Pain. Available at: https://www.pae-eu.eu/wp-content/uploads/2017/12/PAE-Survey-on-Chronic-Pain-June-2017.pdf. [Accessed April 2024]
14. Nijs J, et al. PMR 2020;410-419
15. Breivik H, et al. Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment. Eur J Pain. 2006;10(4):287-333
16. International Classification of Diseases 11th Revision. Available at: https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f558562409. [Accessed April 2024]
17. National Institute of Arthritis and Musculoskeletal and Skin Diseases – Osteoarthritis. (2022). Available at: https://www.niams.nih.gov/health-topics/osteoarthritis. [Accessed March 2024]
18. Summary of Product Characteristics (SmPC) Qutenza™. Available at: https://www.ema.europa.eu/en/medicines/human/EPAR/qutenza#overview. [Accessed April 2024]
19. Qutenza™ [prescribing information]. Morristown, NJ: Averitas Pharma. Available at: https://www.averitaspharma.com/our-products/. [Accessed April 2024]
20. LTP 2020-2030: ADDRESSABLE POPULATIONS BY CONDITION (PDPN, PSNP, PHN, CINP). Company data on file. April 30, 2020
21. Butour JL, et al. Recognition and activation of the opioid receptor-like ORL 1 receptor by nociceptin, nociceptin analogs and opioids. European Journal of Pharmacology. 321 (1): 97–103. doi:10.1016/S0014- 2999(96)00919-3. PMID 9083791
22. Hunter DJ, et al. Osteoarthritis. 2019;393:1745–59
23. Institute for Health Metrics and Evaluation (IHME). Osteoarthritis – level 3 cause. Available at: https://www.healthdata.org/results/gbd_summaries/2019/osteoarthritis-level-3-cause. [Accessed April 2024]
24. Long H, et al. Arthritis & Rheumatology. 2022;74(7); 1172–1183
25. Conaghan P, et al. Inadequate pain relief and large functional loss among patients with knee osteoarthritis: evidence from a prospective multinational longitudinal study of osteoarthritis real-world therapies. Rheumatol. 2015;54(2); 270–277
26. Arthritis Foundation. Osteoarthritis and Sleep. Available at: https://www.arthritis.org/health-wellness/healthy-living/managing-pain/fatigue-sleep/osteoarthritis-and-sleep. [Accessed May 2023]
27. Arthritis Foundation. Arthritis and Mental Health. Available at: https://www.arthritis.org/health-wellness/healthy-living/emotional-well-being/anxiety-depression/arthritis-and-mental-health. [Accessed May 2023]
28. Kawano MM, et al. Acta Ortop Bras. 2015;23:307–10
29. Global Health Data Exchange (GHDx). (2019). Global Burden of Disease Results Tool. Available at: http://ghdx.healthdata.org/gbd-results-tool. [Accessed November 2022]
30. Arden N, et al. Atlas of Osteoarthritis. Second edition. 2018. ISBN: 978-1-910315-69-9 (eBook).
31. Hsu H, et al. Knee Osteoarthritis. 2022 Sep 4. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan.
32. National Institute for Health and Care Excellence (NICE). Osteoarthritis in over 16s: diagnosis and management. NICE guideline NG226. 2022. Available at: https://www.nice.org.uk/guidance/ng226. [Accessed April 2024]
33. https://www.who.int/news-room/fact-sheets/detail/osteoarthritis. [Accessed April 2024]
34. DHHS Pain Management Best Practices Inter-Agency Taskforce Report May 2019. Available at: https://www.hhs.gov/sites/default/files/pmtf-final-report-2019-05-23.pdf. [Accessed April 2024]
35. CDC Clinical Practice Guideline for Prescribing Opioids for Pain - United States, 2022 Recommendations and Reports / November 4, 2022/71(3);1-95. Available at: https://www.cdc.gov/mmwr/volumes/71/rr/rr7103a1.htm. [Accessed April 2024]
36. Faculty of Pain Medicine, Opioids Aware. Available at: https://fpm.ac.uk/opioids-aware. [Accessed February 2024]
37. Kosten TR, et al, Scie Pract. Perspect 2002;1:13-20
38. Rosenblum A, et al Exp. Clin. Psychopharmacol. 2008;16(5):405-416
39. O'Brien T, et al. Eur J Pain 2017;21:3-192
40. OECD Health Policy. Addressing Problematic opioid use in OECD Countries May 2019. Available at: http://www.oecd.org/health/addressing-problematic-opioid-use-in-oecd-countries-a18286f0-en.htm. [Accessed April 2024]



Copyright



IMPRINT

Contact

Florian Dieckmann
Head Global Corporate Affairs & Communication
E-Mail: GlobalCommunication@grunenthal.com

Publisher

Grünenthal Pharma GmbH & Co. KG

Zieglerstraße 6
52078 Aachen
Germany

Phone: +49 241 569 0
E-Mail: info@grunenthal.com
www.grunenthal.com

Design

tom'tom creatives, Aachen
www.tomtom-creatives.de

GRÜNENTHAL

For more information, please visit
www.grunenthal.com

www.linkedin.com/company/gruenenthal
www.instagram.com/grunenthal