



# PolyPeptide Group AG (SIX: PPGN)

Jefferies Healthcare Conference 2022

Raymond De Vré, CEO

London, 15 November 2022

GLOBAL SUPPORT FOR A QUALITY SOLUTION

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## Unaudited Financial Results

The financial information contained in this Presentation is unaudited.

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# Agenda

1	Market overview
2	Company overview
3	Strategy
4	Appendix

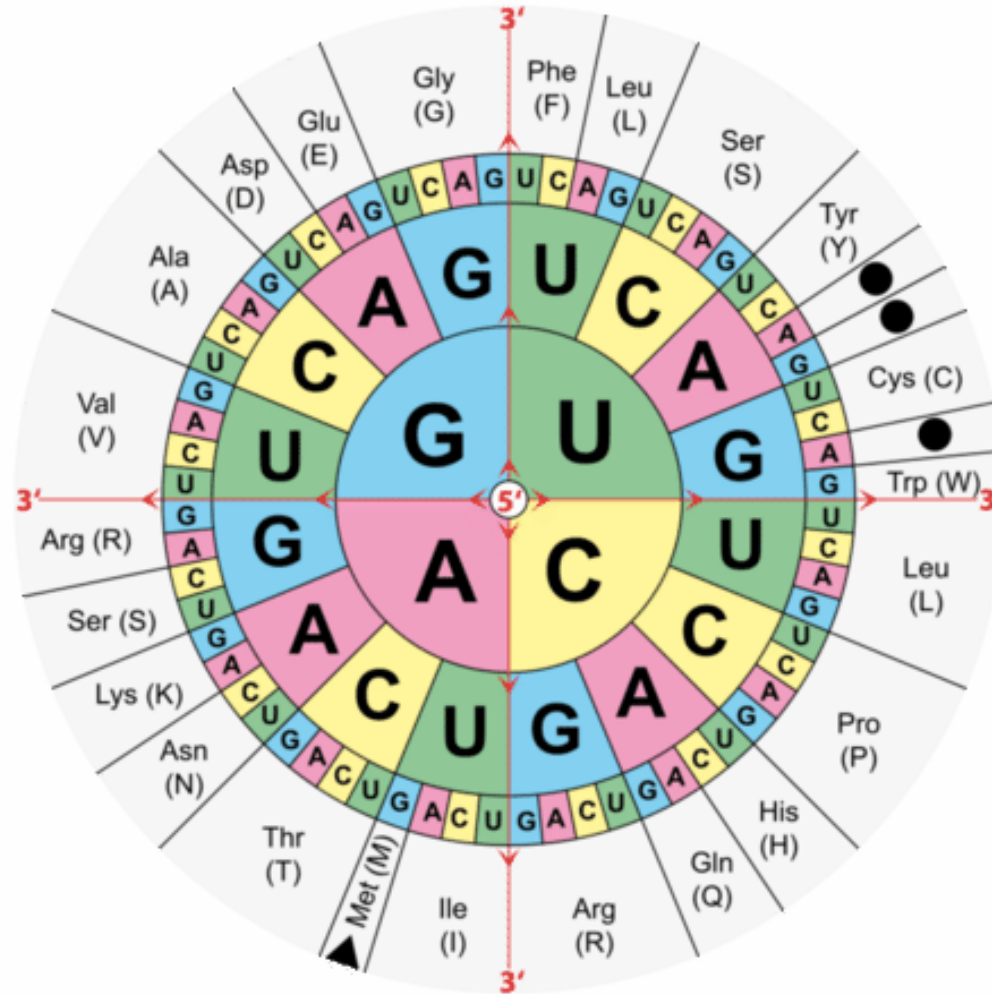
# Peptides and Oligonucleotides: “The world of TIDES”

It all starts with amino acids and nucleobases

## What are peptides?

Peptides are short chains of (up to ~100) amino acids linked by chemical bonding between their respective carboxyl and amino groups.

Peptides are in every cell and tissue in the body.



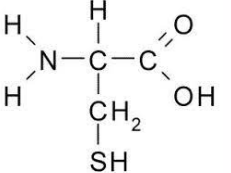
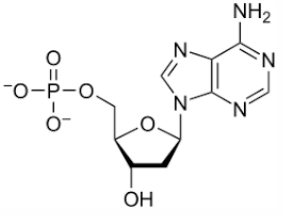
## What are oligonucleotides?

Oligonucleotides are a class of single- or double-stranded small synthetic nucleotides (up to 20-30 mer).

Therapeutic oligonucleotides act on different stages of pathological gene expression.

# TIDES: a sweet spot within the various therapeutic modalities

Positioning of chemically synthesized TIDES

		Small molecules	Peptides/small proteins	Nano	Cytokines, hgh, IFN, EPO	MABs, Fusion, Factors			
Amino acids	 <p>Cysteine C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S</p>		Semaglutide C <sub>187</sub> H <sub>291</sub> N <sub>45</sub> O <sub>59</sub> 31AA						
			Insulin C <sub>257</sub> H <sub>383</sub> N <sub>65</sub> O <sub>77</sub> S 51AA				Rituximab C <sub>6416</sub> H <sub>9874</sub> N <sub>1688</sub> O <sub>1987</sub> S <sub>44</sub> 1328 AA (145KD)		
			<b>1</b> 0.1kD	<b>50</b> 5-6kD	<b>100</b> 10-12kD	<b>100-200</b> 10-20kD	<b>150-200</b> 15-25kD	<b>1000-3000</b> 100-300kD	<b>Number of AAs</b> Molecular Weight (kD)
			Chemistry						
							Recombinant		
Nucleotides	 <p>Adenine</p>		Spinraza C <sub>234</sub> H <sub>323</sub> N <sub>61</sub> Na <sub>17</sub> O <sub>128</sub> P <sub>17</sub> S <sub>17</sub> 18nt						
			Leqvio C <sub>520</sub> H <sub>679</sub> F <sub>21</sub> N <sub>175</sub> O <sub>309</sub> P <sub>43</sub> S <sub>6</sub> 32 nt				Up to several 1'000s		<b>Number of nucleotides</b> Molecular Weight (kD)
			<b>1</b> 0.5 kD	<b>15</b> 6-7 kD	<b>30</b> 15-17kD				
			Chemistry				In Vitro Transcription (IVT)		
			Oligonucleotides				mRNA Vx and Therapeutics		

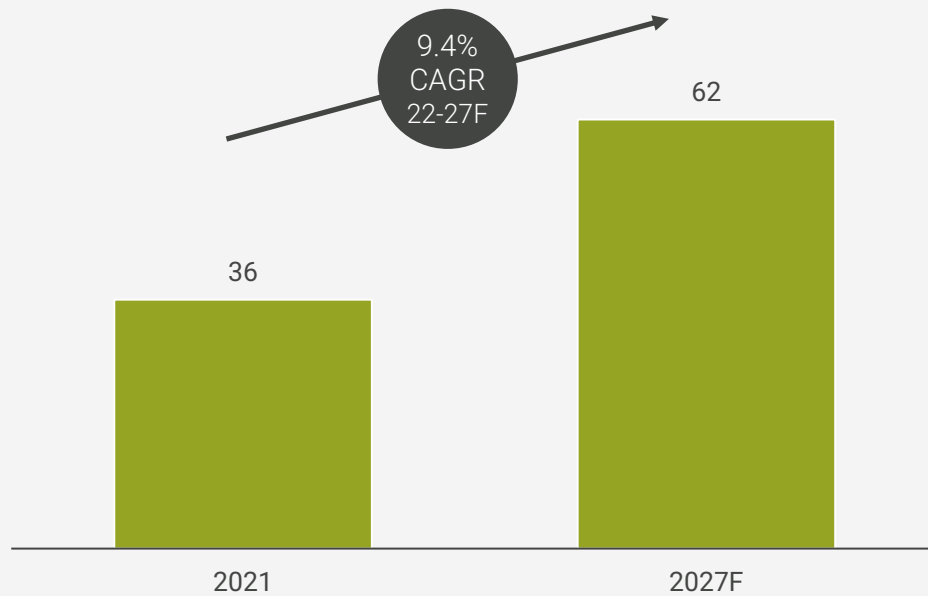
Source: Wikipedia

# Peptide-based drugs market with structural growth momentum

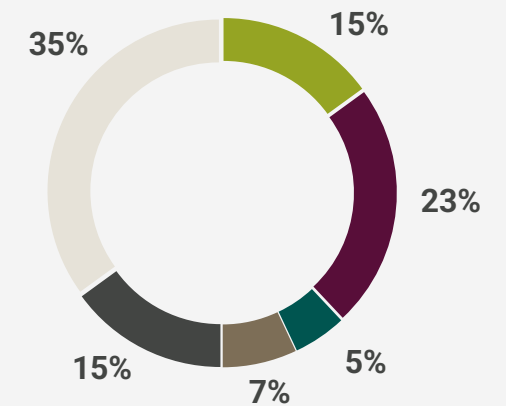
Broad therapeutic areas with significant product pipeline

Estimated peptide therapeutics end market (\$ Bn)<sup>1</sup>

~81 drugs FDA approvals and ~800 in development<sup>2</sup>



- Metabolic
- Oncology
- Gastrointestinal
- Cardiovascular
- Neurological
- Others



- Growth driven by a growing number of approved peptide drugs, growing patient population (cancer, metabolic disorders, etc.) and increasing genericization of key originator peptides.
- Broad therapeutical areas of application resulting in rich project pipeline globally
- Increasing number of expected product approvals for years to come

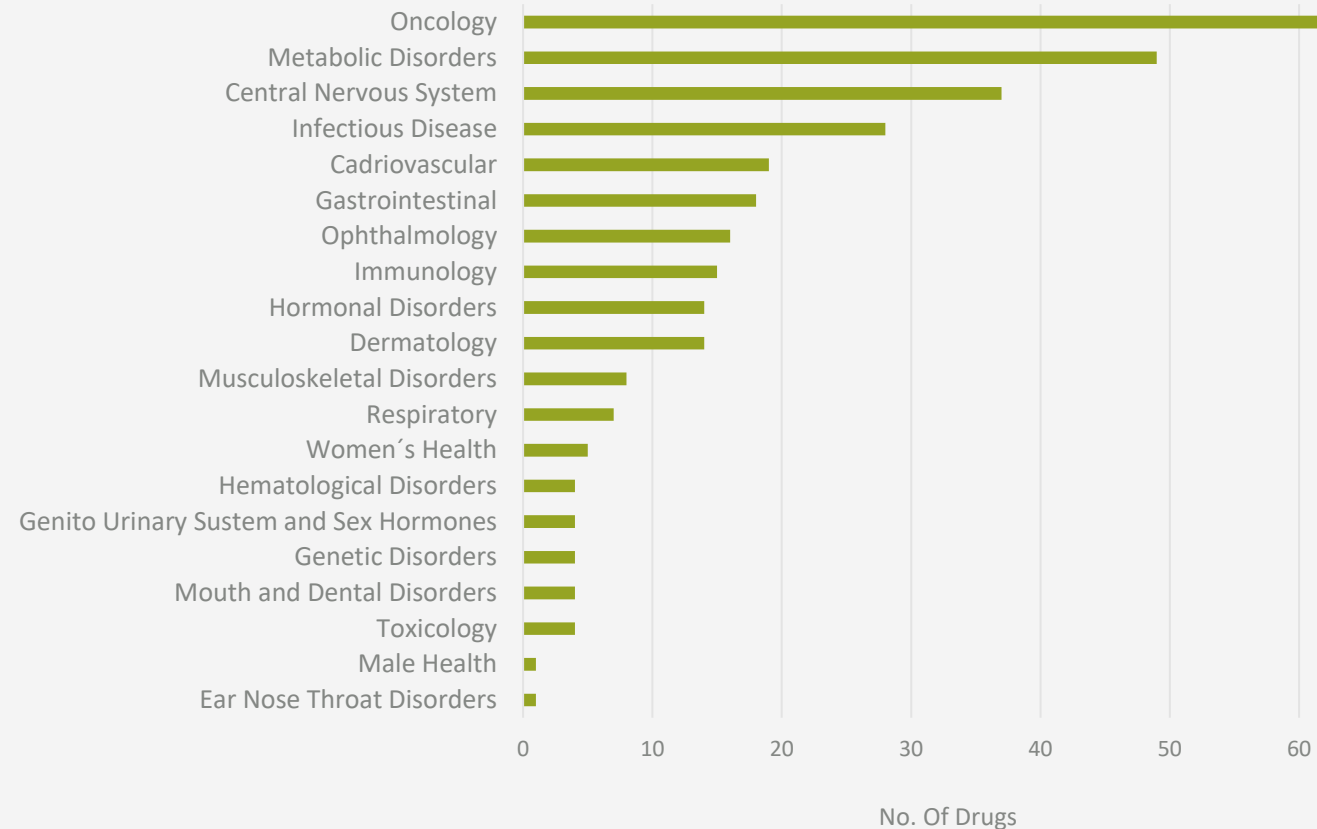
<sup>1</sup>Source: IMARC 2021, Peptide therapeutics market 2022-2027, (July 2022).

<sup>2</sup>Including projects in clinical and pre-clinical development. Source: GlobalData, Drugs Database, (accessed 17 August 2022).

# >250 peptide-based drugs in clinical development

Good clinical progress reported in 2022 across multiple drugs

## Peptide-based drugs in clinical development<sup>1</sup>



Ca. 60 relevant news events in 2022 (ytd)<sup>2</sup>

- 3 FDA approvals, 4 commercial launches, 5 phase III trial results, 10 phase II trial results, 5 investigational new drug submissions
- In oncology >10 advanced projects (phases II and III) and numerous earlier stage projects, also with anticancer vaccines
- In metabolic disorders, strong clinical results published in new therapies for diabetes and obesity, some of which with blockbuster potential

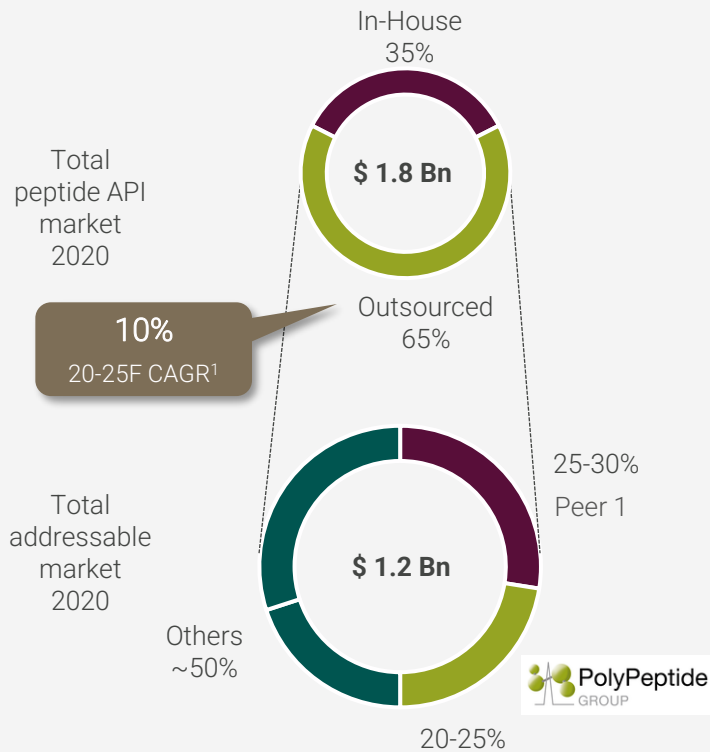
<sup>1</sup>From clinical phase I to phase III. Source: GlobalData, Drugs Database, (accessed 17 August 2022).

<sup>2</sup>News related to project initiation, clinical progress (incl. study initiations, updates, results) and drug approvals.

# Addressable peptide API market of ~\$ 1.2 Bn

Continued trend towards outsourcing and specialization

## Market structure<sup>1</sup>



## Outsourcing trends

- Innovative drug development processes resulting in rich pipelines across modalities
- Pharma and biotech customers to focus on core competencies, time to market and productivity
- Higher complexity of emerging peptide APIs, including shift towards chemical synthesis
- Evolving regulatory requirements and high capex requirements resulting in need for critical scale

## CDMO success factors

Specialized technical expertise and know-how

GMP capabilities with high delivery performance

Ability to meet evolving regulatory requirements

Continued capacity building with high utilization

Reputation and market access for pipeline building

Innovation mindset and high customer satisfaction

<sup>1</sup>Based on a study commissioned by PolyPeptide and completed in early 2021



# Challenges in TIDES cGMP manufacturing

High process mass intensity and complex value chain

## The importance of Green Chemistry

PMI (Process Mass Index – kg/kgAPI – to measure the input volume of water, solvents, reagents, etc versus the output of final API)

### Comparison across modalities:

Small molecules:	150-300
Biologics:	7'000-8'000
Oligonucleotides:	3'000-7'000
Peptides:	10'000-35'000

## “More Art than Science”

- Complex supply chain of raw and starting materials, also requiring complex quality management systems
- Heavy use of solvents, reagents, resins
- Complex scale-up to volumes of hundreds of Kg's or even metric tons (for peptides)
- Long reaction time, long duration of processes of up to twelve months, subject to molecular structure

Source: ACS

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# History of PolyPeptide Group

70+ years of experience in peptide manufacturing



**1952**

Start of commercial therapeutic peptide manufacturing in Malmö, Sweden as part of Ferring



**1997**

Start of operations in Torrance, USA



**2009**

Expansion in Malmö, Sweden, and inauguration of facility in Ambarnath, India



**2007**

Acquisition of NeMPS Strasbourg, France, and San Diego, USA



**2017**

Acquisition of Lonza's peptide business in Braine, Belgium



**2021**

Public company listing on SIX Swiss Exchange

# Comprehensive services for complex peptides and oligonucleotides

Supporting customers over full product life cycle, in three business areas

## Custom projects



### Pre-clinical and clinical phases I-III

Full spectrum manufacturing and associated CMC services supporting pre-clinical development.

Process designed in partnership with the customer to be scalable through the development process.



## Contract manufacturing



### Commercial, after regulatory approval

Expertise in process development, manufacturing scale-up, regulatory filings, and launch preparation.

Continuous yield improvement is key.



## Generics and cosmetics



### Generics with non-originator customers and cosmetics

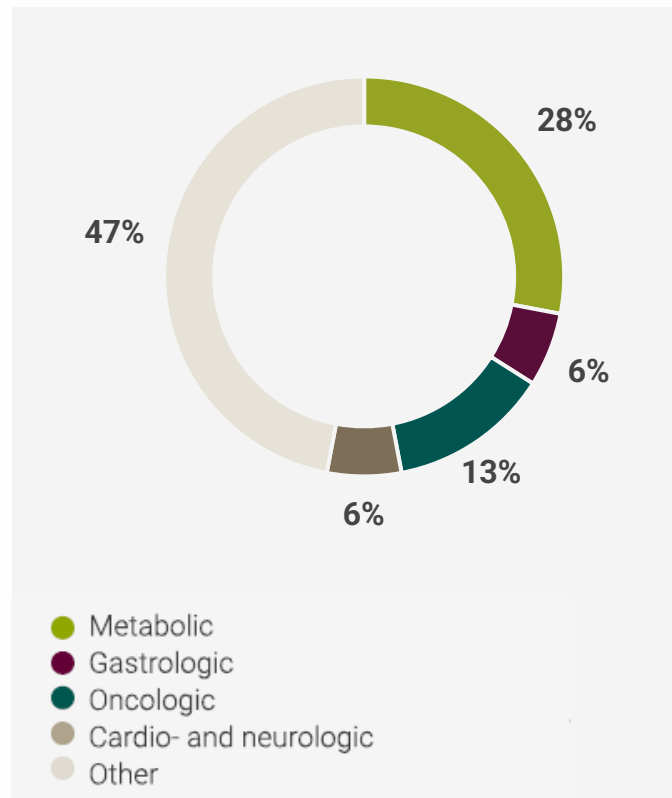
Manufacture of a range of peptide-based generics and cosmetics at commercial scale for multiple customers.



# Active custom project pipeline as driver of expected growth

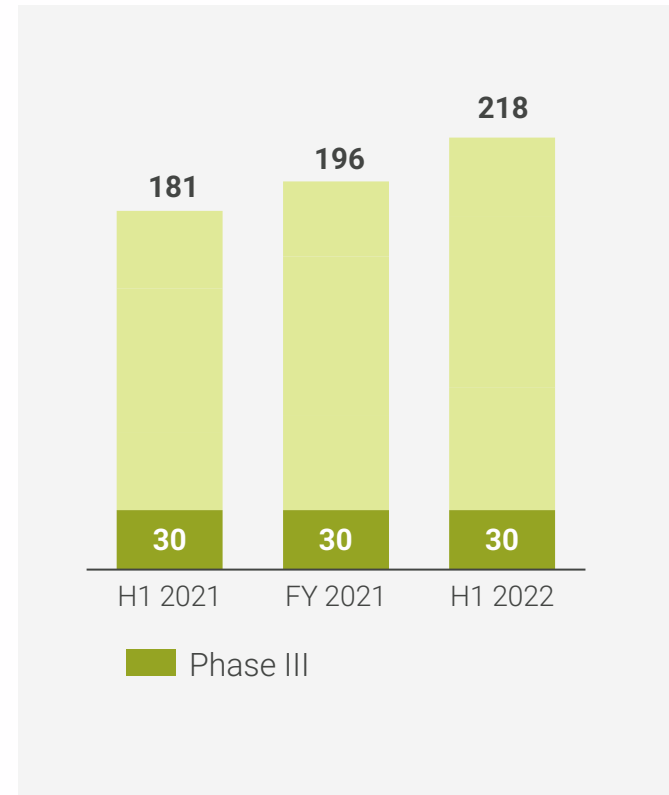
30 projects in phase III of clinical development

## Revenue split by therapeutical area<sup>1</sup>



<sup>1</sup> Approximate split as per 30 June 2022.

## Number of active custom projects



### Product portfolio and projects pipeline













- Coverage across therapeutical areas
- Half of projects in fast-growing areas of metabolic disorders (incl. diabetes and obesity) and oncology
- Early-stage projects now including several oligonucleotides projects

### Revenue and volume dynamics

- Expected growth driven by late-stage phase III projects, depending on regulatory progress and market launch strategies of customers
- Currently preparing for significant volume expansion projected to outpace anticipated revenue growth

# Production sites overview

Six specialized facilities, offering flexibility from experimental to large scale production<sup>1</sup>

 <b>Malmö</b>	 <b>Braine-l'Alleud</b>	 <b>Strasbourg</b>	 <b>Torrance</b>	 <b>San Diego</b>	 <b>Ambernath</b>
					
<p>Heritage of PolyPeptide. Large facility for all peptide batch sizes and all segments.</p>	<p>Site with largest liquid phase synthesis in operations, major solid phase capacity expansion ongoing; facility for all peptide batch sizes and all segments.</p>	<p>Special focus on innovation and cosmetics. Smaller facility for most peptide segments.</p>	<p>Mid-sized site, also servicing personalized medicine, handling most peptide batch sizes for all segments; lab space and pilot GMP facility to serve oligonucleotides.</p>	<p>Designed to efficiently handle smaller peptide batch sizes for all segments, incl. radio-labelled peptides.</p>	<p>Designed to handle generic peptides, manufactured mostly in mid-sized batches.</p>
<p>~12,800 m</p>	<p>~30,000 m</p>	<p>~6,100 m</p>	<p>~14,000 m</p>	<p>~4,800 m</p>	<p>~8,100 m</p>
<p>303 employees</p>	<p>410 employees</p>	<p>134 employees</p>	<p>203 employees</p>	<p>68 employees</p>	<p>78 employees</p>
<p>&gt;30 years</p>	<p>&gt;30 years</p>	<p>&gt;20 years</p>	<p>&gt;20 years</p>	<p>&gt;20 years</p>	<p>&gt;10 years</p>

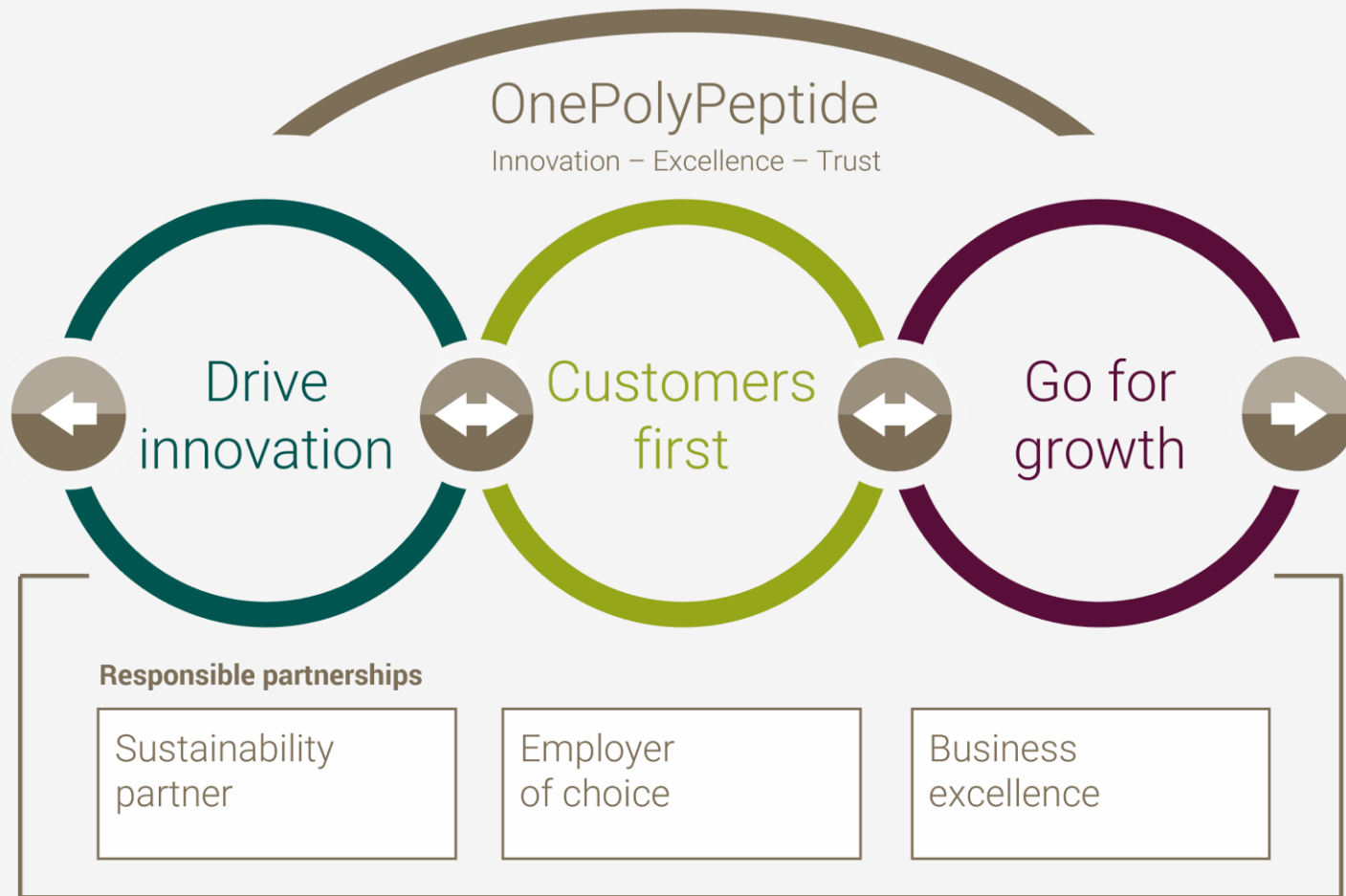
<sup>1</sup>Status September 2022; headcount as of 30 June 2022

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# PolyPeptide's integrated strategy

Four strategic priorities built on well established company values



## Twelve material ESG topics<sup>1</sup>

### Sustainability partner

- Green chemistry
- Circular waste management
- Environmental protection
- Climate change mitigation

### Employer of choice

- People development
- Employee health
- Diversity & inclusion

### Business excellence

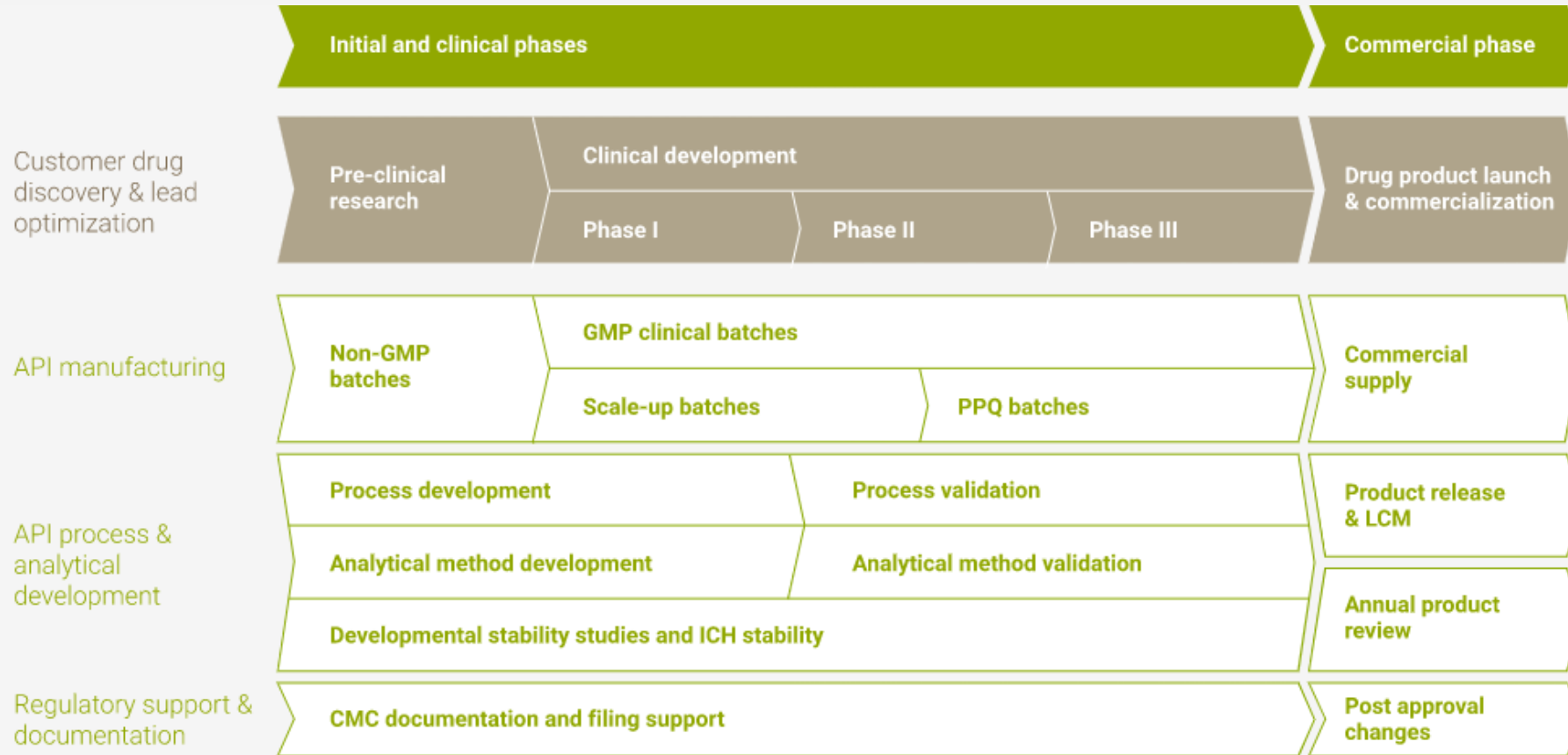
- Supply chain engagement
- Product quality
- Stakeholder dialogue
- Data protection
- Ethics & compliance

<sup>1</sup>Material ESG topics identified in H2 2021 with external support through double & forward-looking materiality assessment.



# Customers first: Start here – stay here

Providing expert knowledge for API's along entire product life cycle



**Legend:** API – Active pharmaceutical ingredient; CMC – Chemistry, manufacturing & controls; GMP – Good manufacturing practice; ICH – International council for harmonization; LCM – Life cycle management; NDA – New drug application; PPQ – Process performance qualification

# Go for growth 1/2

Large-scale solid phase synthesis capacity in Braine-l'Alleud (Belgium)



- Production of large volumes within a highly industrialized setting, including SPPS and LPPS reactor capacity
- Large scale reactor capacity, including associated infrastructure, e.g., tank farm, automation, various preparation vessels, etc.
- Construction works on-going, key process equipment delivered and positioned in June 2022
- Planned to be in full operation in 2024



# Go for growth 2/2

Downstream infrastructure in Malmö (Sweden) and oligo cGMP facility in Torrance (California)



1)



- 1) Lyophilization line
- 2) Large-scale purification in Malmö with automatized loading / unloading system

1)



2)



2)



- cGMP facility in Torrance for oligonucleotides, incl.
- 1) synthesis
  - 2) lyophilization
  - 3) purification

3)



# Drive innovation 1/2

Multi-faceted green chemistry program to reduce environmental footprint



Focus areas	Drivers and considerations	Link to PolyPeptide's Material ESG topics			
		Green chemistry	Circular waste management	Environmental protection	Climate change mitigation
Green solvents	<ul style="list-style-type: none"> <li>Customer trends</li> <li>Competitive position</li> <li>Emerging regulations</li> </ul>	X	X	X	
Solvent recycling	<ul style="list-style-type: none"> <li>Growing volumes</li> <li>Sourcing complexity</li> <li>Cost efficiency</li> </ul>		X	X	X
CO <sub>2</sub> footprint	<ul style="list-style-type: none"> <li>Climate change mitigation</li> <li>Energy consumption &amp; cost efficiency</li> <li>Customer trends &amp; merging regulations</li> </ul>				X



# Drive innovation

Improving cost, time, quality



- Advanced monitoring automation
- Improved automated processes for peptide synthesis and purification
- In silico predictive tools
- MES



- Alternative isolation technologies
- Flow chemistry
- Mechanochemistry
- Electrochemistry



- Innovative analytics
- Particle analysis
- LIMS

## Culture of innovation

- Innovation culture being embedded in the organization
- Global “Innovation and Technology ” group in Strasbourg and Torrance
- Go from idea to concept all the way to deployment at scale
- Incubator for new business (services and product) ideas

## Established external collaborations network



# OnePolyPeptide

Improving processes, systems and platforms across the Group for sustainable growth



Malmö



Braine-l'Alleud



Strasbourg



Torrance



San Diego



Ambernath



Right balance between  
global integration of  
systems and local diversity

Sales &  
marketing

Development,  
regulatory, IP

Operations

Quality

Innovation &  
technology

Human  
ressources

Legal &  
compliance

Finance & IT


IR, ESG,  
Corp. comms.

PolyPeptide Management Committee

# Agenda

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# PMC – PolyPeptide Management Committee

Members of the Executive Committee 




**Raymond De Vré**   
Belgian, CEO




**Neil Thompson**   
British, Director Global Sales and Marketing



**Daniel Lasanow**   
Belgian, Director Global Operations



**Christina Del Vecchio**   
Swiss / Swedish, General Counsel



**Jan Fuhr Miller**   
Danish, CFO



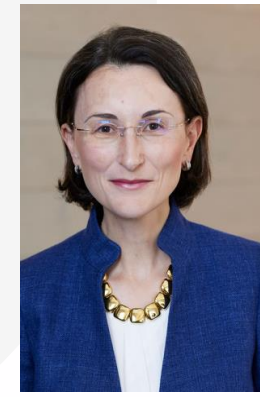
**Jon Holbech Rasmussen**  
Danish, Director Global Development, IP and Regulatory



**Landon Piluso**  
American, Director Global Quality



**Olivier Ludemann-Hombourger**  
French, Director Global Innovation and Technology



**Monika Casanova**  
German, Chief HR Officer (from May 2022)



**Michael Stäheli**  
Swiss, Head IR / Corporate Communications / ESG




# Board of Directors

Chairman and members appointed in 2021 in context of IPO




**Peter Wilden**   
German  
Chairman




**Jane Salik**   
American  
Member




**Erik Schropp**   
Dutch  
Member






**Philippe A. Weber**   
Swiss  
Independent Member



**Beat In-Albon**   
Swiss  
Independent Member



**Patrick Aebischer**   
Swiss  
Independent Member

Chair   
Member 

Remuneration & nomination committee  
Innovation & technology committee  
Audit & risk committee

The Board of Directors is responsible for PolyPeptide's overall direction and oversight of management, and holds the ultimate decision-making authority, with the exception of matters reserved for shareholders.

Visit our website or the section  
Corporate Governance in the  
Annual Report 2021 for the detailed CV's

[polypeptide.com](https://polypeptide.com)  
[report.polypeptide.com/ar/21/board-of-directors/](https://report.polypeptide.com/ar/21/board-of-directors/)

# Guidance for 2022

Growth and partial margin recovery in H2 driven by peptides business

## 2022 guidance (old)

- Shift of Covid business on order for H2 into 2023
- Expecting continued inflationary pressure

## 2022 guidance (new)

Revenue growth	Adj. EBITDA margin	Capex as % of Revenue
<b>12-14%</b>	<b>~30%</b>	<b>&gt;25%</b>



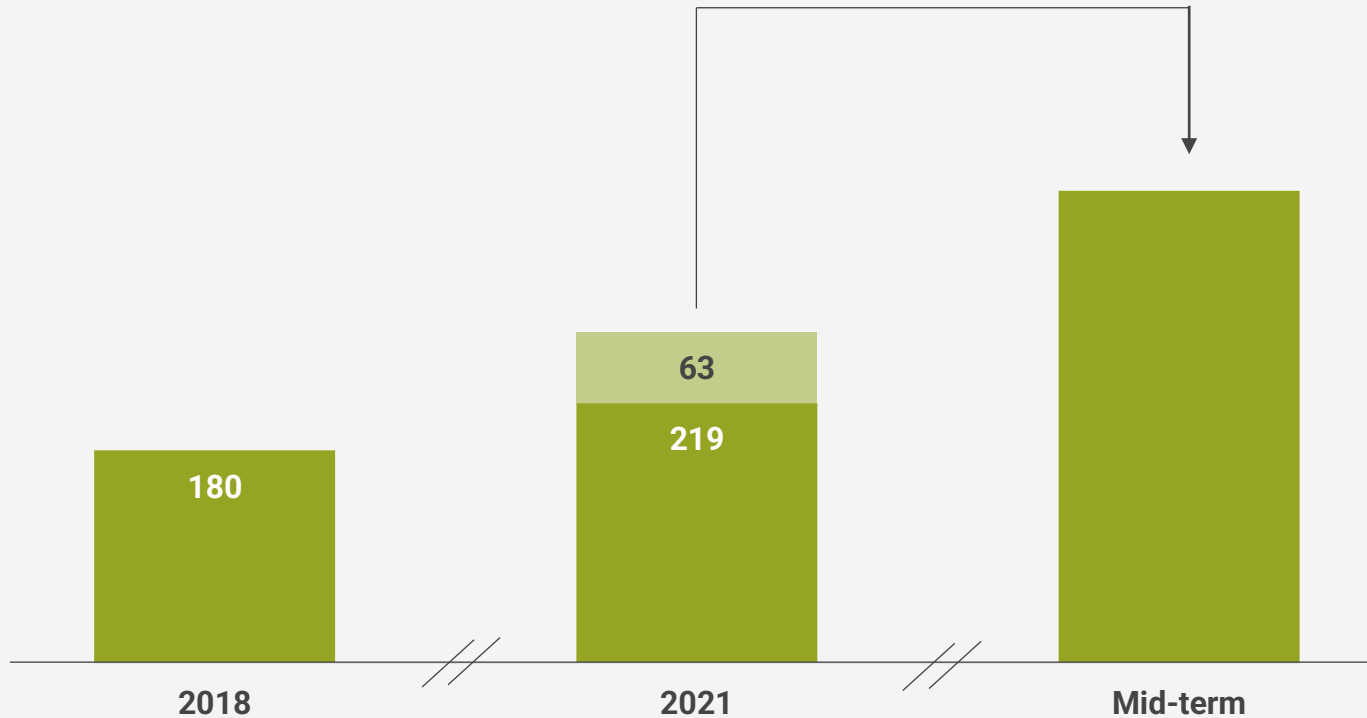
Revenue growth	Adj. EBITDA margin	Capex as % of Revenue
<b>8-10%</b>	<b>22-25%</b>	<b>&gt;25%</b>

# Mid-term outlook

Revenue CAGR in low-teens, expectation of varying yoy growth rates

Revenue € m

**Revenue CAGR in low-teens  
with varying growth rates year-on-year  
and adj. EBITDA margin progression towards 30%**



Coronavirus pandemic related

## Considerations

- Structural market trends
- Custom projects portfolio
- Uneven phasing
- Coronavirus pandemic
- Macroeconomic environment
- Geopolitical situation

# IR contact and financial calendar

## Investor Relations team

Michael Stäheli

Head of Investor Relations & Corporate Communications

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[polypeptide.com/investors](https://polypeptide.com/investors)

## Share information

PolyPeptide Group AG has been listed on the Swiss Stock Exchange (SIX)

since 29 April 2021 under the symbol SIX: PPGN,

Swiss security number 111 076 085 and ISIN CH111 076 085

## Share register

areg.ch ag

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Phone: +41 (0) 62 209 16 60 / [info@areg.ch](mailto:info@areg.ch)

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## Selected investor events

15. / 16.11.2022 Jefferies London Healthcare Conference, London

17.11.2022 Credit Suisse Equity Forum Switzerland, Zurich

7. 12. 2022 Berenberg European Conference, London

12.1.2023 Baader Helvea Swiss Equities Conference, Bad Ragaz

13.1.2023 Octavian Swiss Seminar, Flims

## Corporate events in 2023

14.03.2023 FY 2022 results

12.04.2023 AGM 2023

15.08.2023 HY 2023 results

Visit our website for the detailed event calendar [polypeptide.com](https://polypeptide.com)

**THANK YOU**

