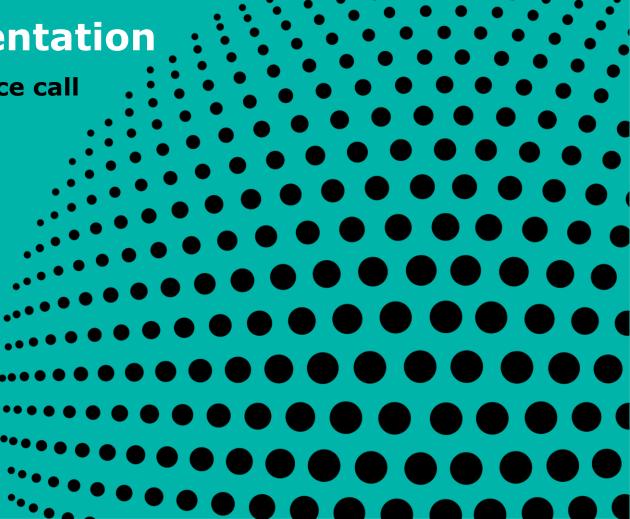


# **Nanoform Management Presentation**

4Q/FY2021 online presentation and conference call

**February 22<sup>nd</sup>, 2022 – 15.00 Helsinki time** 

Our proprietary nanoforming technologies and services span the full range of drug development from small-molecule nanoparticles to large-molecule biologics. We support all phases of drug development, accelerating time to clinic for GMP manufacture while also increasing possibilities and probabilities of success in taking the product to market. Nanoform's technology offerings have the capability to transform the pharmaceutical industry.



### Disclaimer

#### Forward-Looking Statements

This press release contains forward-looking statements, including, without limitation, statements regarding Nanoform's strategy, business plans and focus. The words may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," believe," "estimate," "predict," "project," "potential," "continue," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forwardlooking statements in this press release are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, any related to Nanoform's business, operations, clinical trials, supply chain, strategy, goals and anticipated timelines, competition from other companies, and other risks described in the Report of the Board of Directors and Financial Statements for the year ended December 31, 2021 as well as our other past disclosures. Nanoform cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. Nanoform disclaims any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forwardlooking statements. Any forward-looking statements contained in this press release represent Nanoform's views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date.







## **Nanoform in a Snapshot**

#### **The Share**

- Listed June 4<sup>th</sup>, 2020, on Nasdaq First North Premier Growth Market in Helsinki and Stockholm
- Tickers: NANOFH and NANOFS
- Significant Nordic, European and US institutional ownership
- > All press releases: https://nanoform.com/en/s ection/media/press-releases/

#### **Nanoform**

- Global experts in nanotechnology and drug particle engineering
- 125 employees and growing, 38 with PhD degree and 25 nationalities
- Headquartered in Finland with additional senior staff and board members in Denmark, Portugal, Sweden, UK, and US
- > >3000m² manufacturing site in Helsinki for nanoforming API's
- Strong balance sheet, EUR 75m in cash, no debt

#### **Platform Technology**

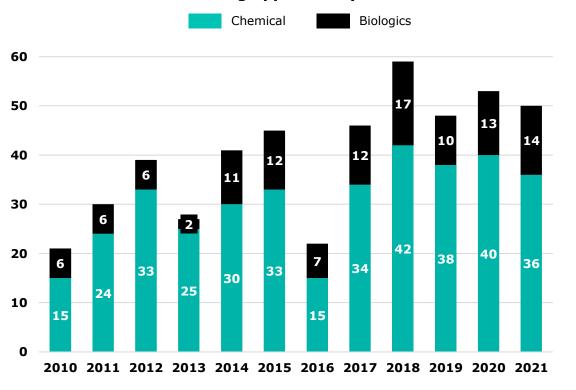
- CESS® technology for small molecules (chemical compounds) discovered in 2012
- > Technology for large molecules (biological compounds) launched in 2020
- Nanoform's clinical results confirm value proposition to the pharma industry



## The structural pharma R&D problem

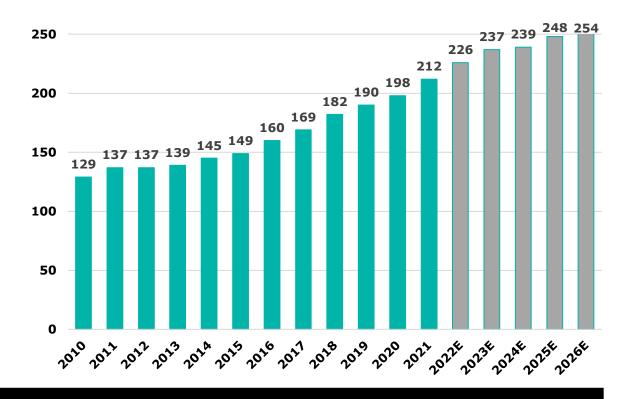
Less than 50 drugs approved in the US annually on average...

#### Annual number of novel drug approvals by FDA 2010-2021



...while the global pharma industry R&D expenditure exceeds \$200B

Global pharmaceutical R&D spending 2010-2026E (USDbn)



> A game changer in particle design is needed to improve R&D yield

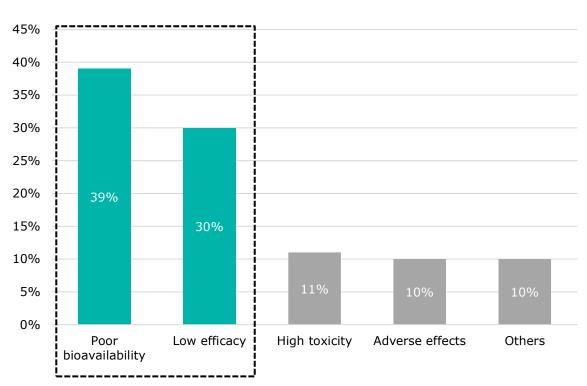


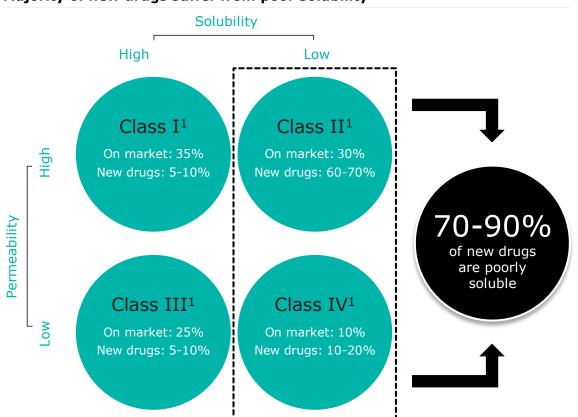
## Low bioavailability is the key issue

Poor bioavailability and low efficacy most common reasons for drug failure

#### Majority of new drugs suffer from poor solubility







> Nanoform can enhance the pharma industry output by targeting poorly soluble drugs



## Nanoform is here to fill the gap

The solution to low bioavailability is to decrease the particle size of the **Active Pharmaceutical Ingredient (API)** 

Giving unsuccessful drug candidates a second chance

>58 000 failed drugs in the last 40 years\*

**Improving** existing drugs

>5 800 existing drugs\*

**Enabling** new drugs

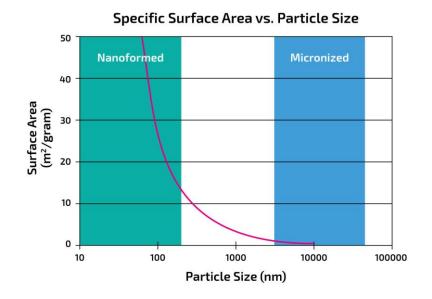
>18 000 drugs in development\*

Nanoform's CESS® is the only technology that can manufacture nanoparticles without solvents, excipients, and complex production processes



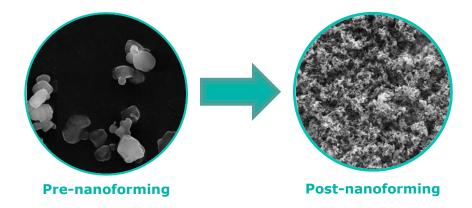
## Particle size is key

#### Smaller particle size can improve a drug's bioavailability



- The surface area increases 30 fold from a 10 micron<sup>1</sup> sized particle once the particle size is reduced to 100nm
- Reduction of particle size down to 50nm increases the surface area by 1,000 fold

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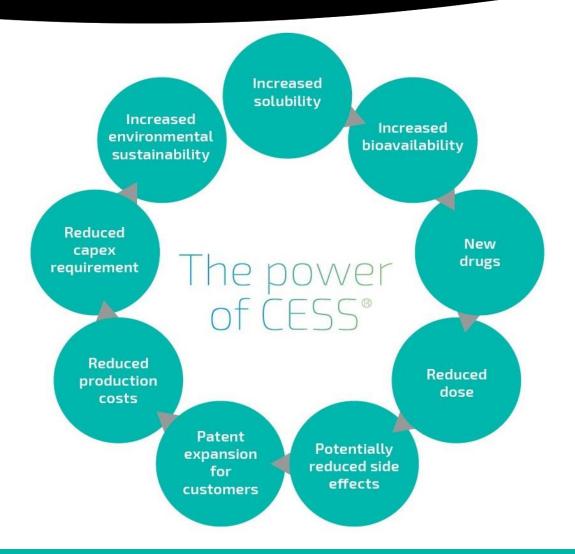


- > Smaller particles have a larger surface area
- Larger surface area of particles enables better bioavailability of a drug
- Improved bioavailability implies better absorption of a drug by the body's circular system
- CESS® can produce API with large surface areas which can significantly improve the bioavailability of drugs

> CESS® produced nanoparticles have a larger surface area and as such improved bioavailability



## **Small molecules - Small is powerful®**





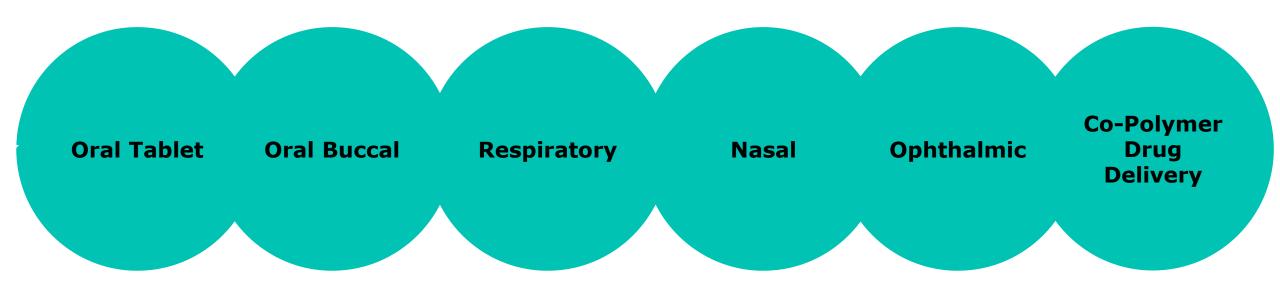
## Large molecules - Small is now possible in biologics too

Our unique **biological nanoforming technology** can produce drug particles as small as 50 nm in diameter while retaining biological activity. It is a gentle bottom-up process, and its effectiveness has been demonstrated on peptides and proteins in the 6 kDa\* – 150 kDa range. We can engineer particle sizes to specific requirements. Our advanced technology can be applied across the biologics field to potentially:





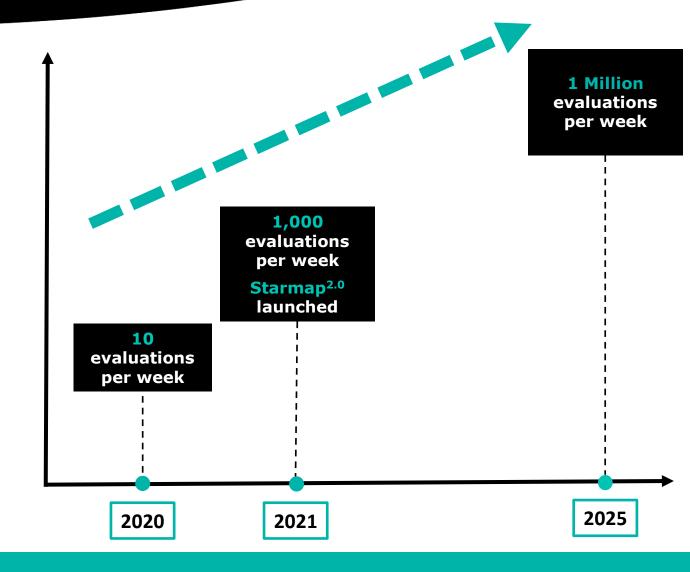
## **Nanoforming** - platform enabler across drug delivery







- Enables in silico experiments in large quantities, creating fast predictions of which molecules should be nanoformed
- Helps pharma partners pick suitable drug candidates for further development from their large libraries
- Applicability in drug discovery, drug development and in lifecycle management for existing marketed drugs





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# **24-month** rapid growth success

	12/2019	12/2020	12/2021	Growth
Employees	43	74	125	~3x
Nationalities	9	15	25	~3x
PhD's	18	25	38	~2x
Manufacturing lines	4	9	15	~4x
Cumulative nr of projects started	2	12	30	~15x



## 3 steps towards helping patients

### **"PoC engine"**

- √4Q19: first 2 PoC projects signed
- √4Q21: cumulatively > 2 dozen PoCs started
- ✓ Next: get to > 200 PoCs done

#### "GMP engine"

- √4Q21: first 2 GMP projects signed
- ✓ Next: cumulatively get > 2 dozen GMP projects done

#### **Products on the market helping patients**

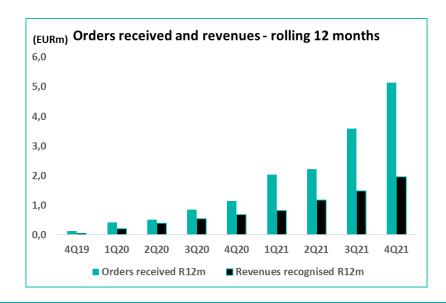
✓ Work relentlessly towards products on the market



## 2021 review & focus forward

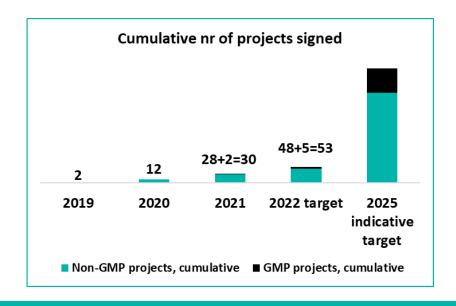
### 2021 another strong year

- √Successful clinical study
- √ First GMP projects won
- ✓ Gross margin exceeds 2025 target
- ✓ All 2021 targets achieved



#### Focus areas 2022

- ✓ Continued accelerating order intake
- √GMP engine
- ✓ Productivity, economics of scale, and automation
- √ Keeping sight on mid- & long-term goals



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## Nanoform near-term business targets 2022

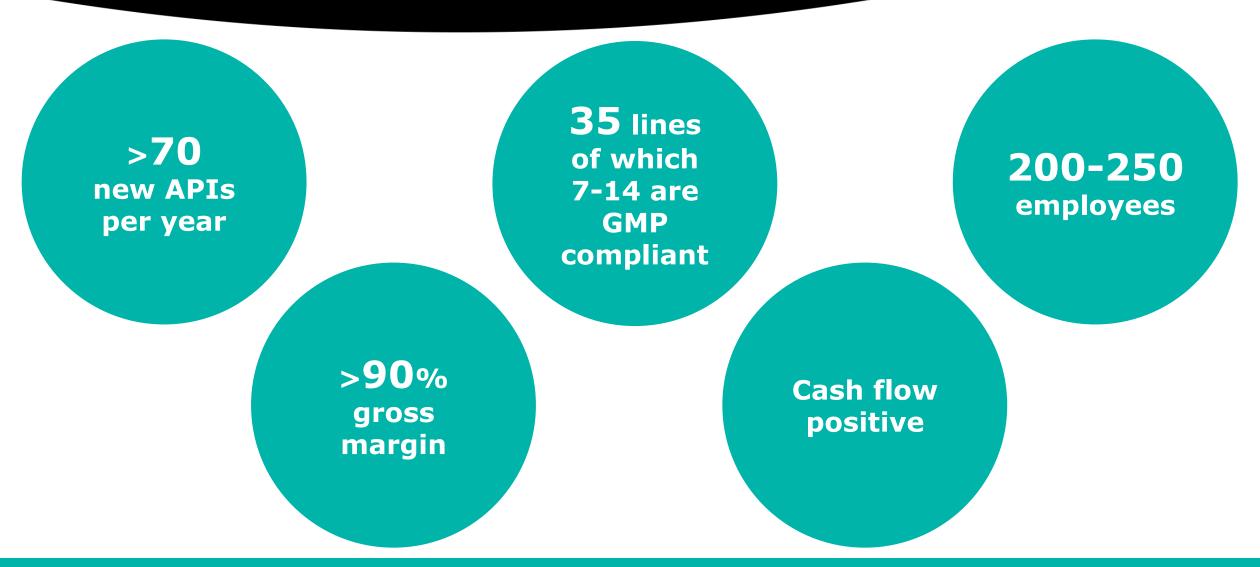
**Topic Target Status GMP Line Capacity** "2 new GMP lines in 2022" On track **Biologics pilot-GMP** "Biologics pilot line for GMP in 2022" On track "At least 20 new customer non-GMP **Non-GMP Projects** On track projects in 2022" "At least 3 new customer GMP **GMP Projects** On track projects in 2022"



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## Nanoform mid-term business targets 2025

- New raised targets announced on June 2nd, 2021









## **24-month** global commercial team expansion



2019



Cambridge CCO Christian Jones



Lisbon CBO Dr. Gonçalo Andrade



Helsinki Commercial Associate Britta Madison

2020



Cambridge CCO Christian Jones



New York VP Eric Peter



Lisbon CBO Dr. Gonçalo Andrade



<mark>Chicago</mark> VP <u>Sergie Letser</u>



Helsinki Commercial Associate Britta Madison



San Diego VP <u>Dr. Chris</u> Worrall

2021



Cambridge CCO Christian Jones



New York VP Eric Peter



Oxford CIO Dr. Jamie Unwin



Lisbon CBO <u>Dr. Gonçalo</u> Andrade



Chicago VP Sergie Letser



Durham VP <u>Dr. Nathalie</u> <u>Huther</u>



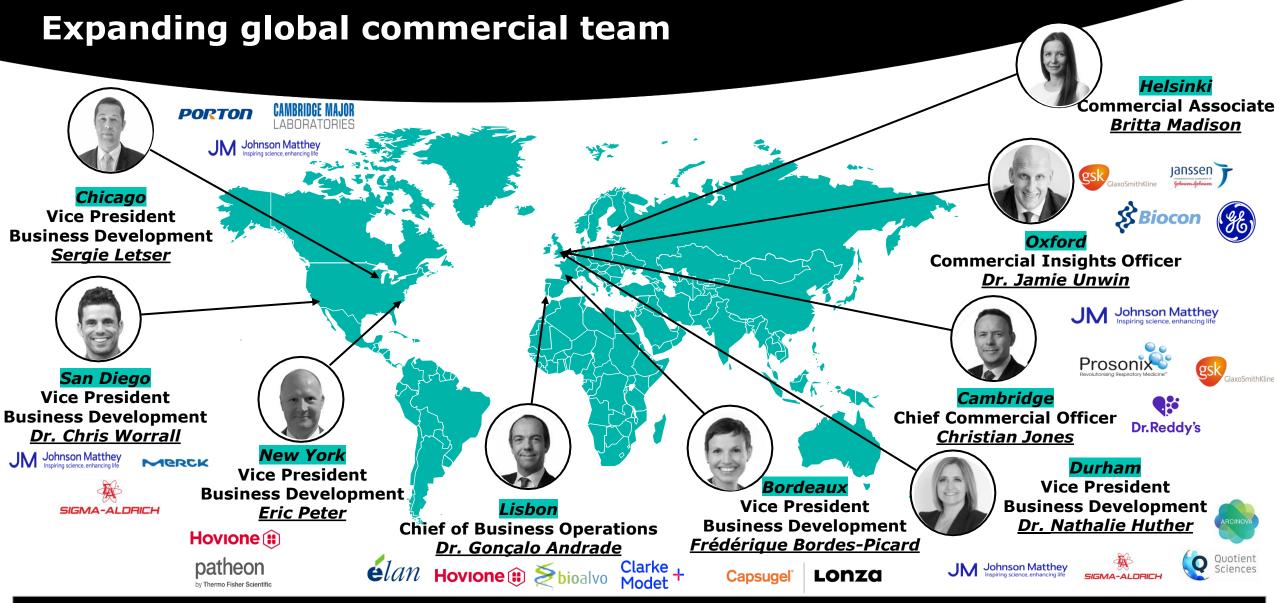
Helsinki
Commercial
Associate
Britta Madison



<mark>San Diego</mark> VP <u>Dr. Chris</u> Worrall



<mark>Bordeaux</mark> VP <u>Frédérique</u> Bordes-Picard



Experienced global sales team driving momentum and the shift in company focus from technology development to commercialization

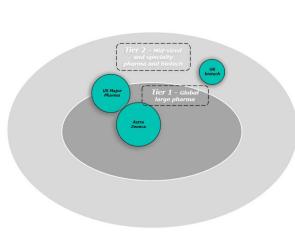


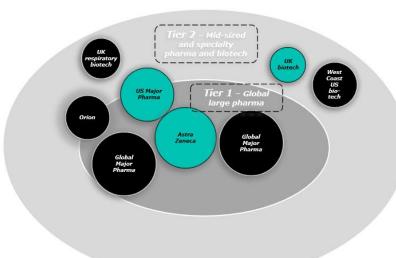
## **24-month** global commercial relationships development

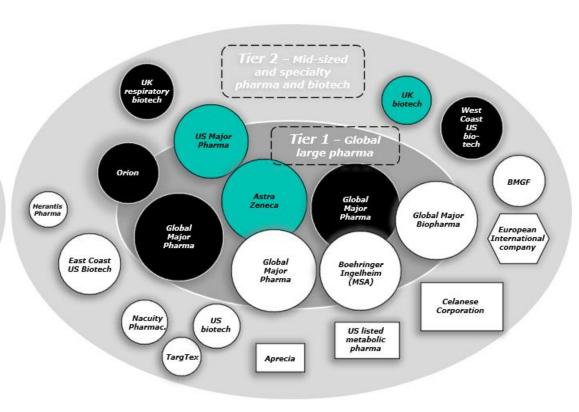
2019

2020

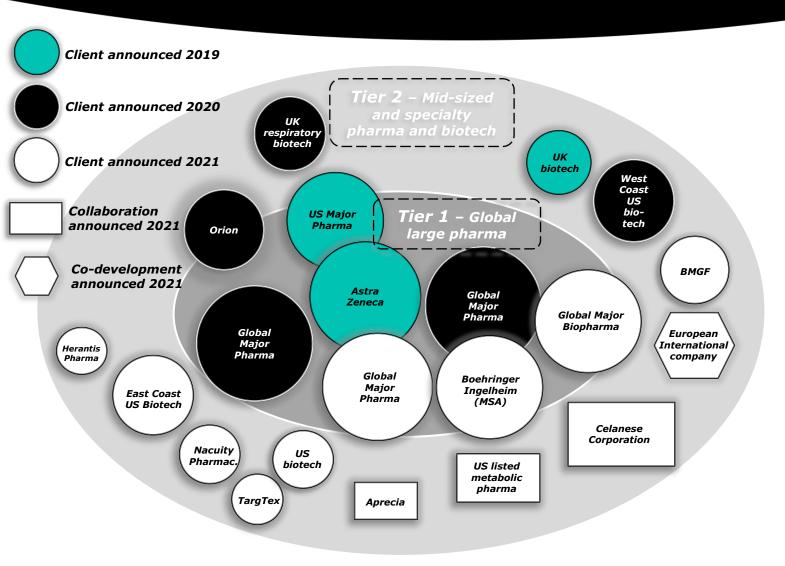
2021







## **Commercial Relationships**



#### Nanoform targets to achieve scale in APIs

- (1) Global large pharma
  - √ Financially stable organizations
  - √ Broad pipeline of APIs in development
- 2 Mid-sized and specialty pharma and biotech companies
  - √ Ability to add significant value
  - √ Fast supplier approval process

#### Technology added value to clients and collaborations

- Enabling new products
- Addressing solubility & bioavailability challenges
- Broadening & deepening the customer's pipeline

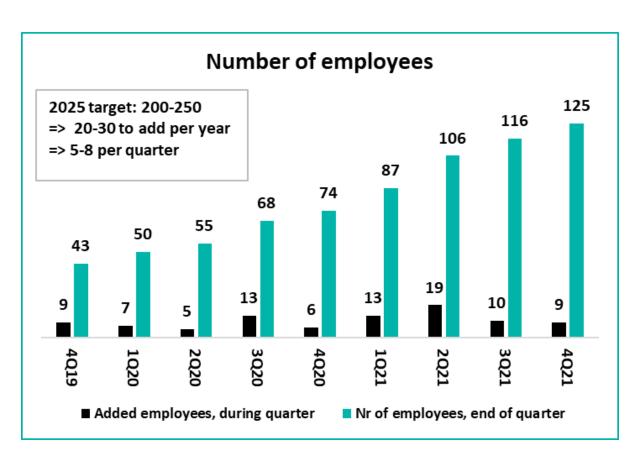


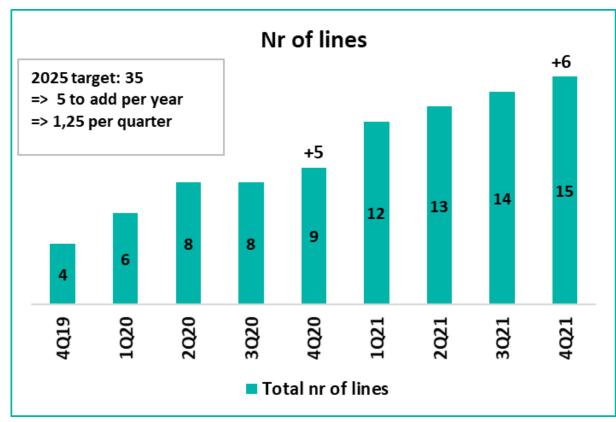
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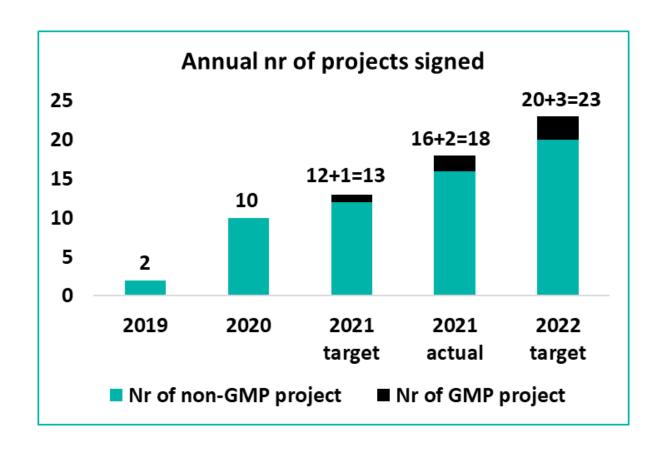


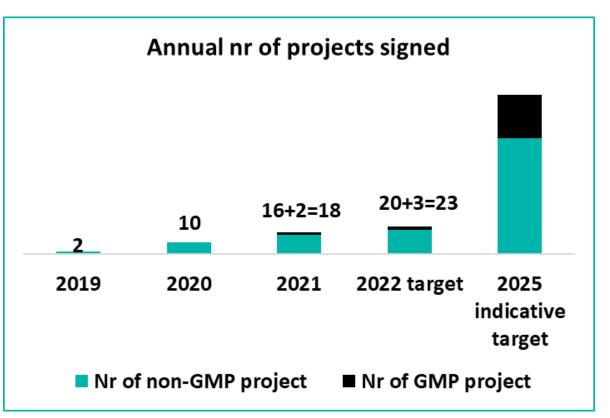
## Personnel and nr of lines - on track towards 2025 targets





## Nr of projects - on track towards 2025 indicative targets

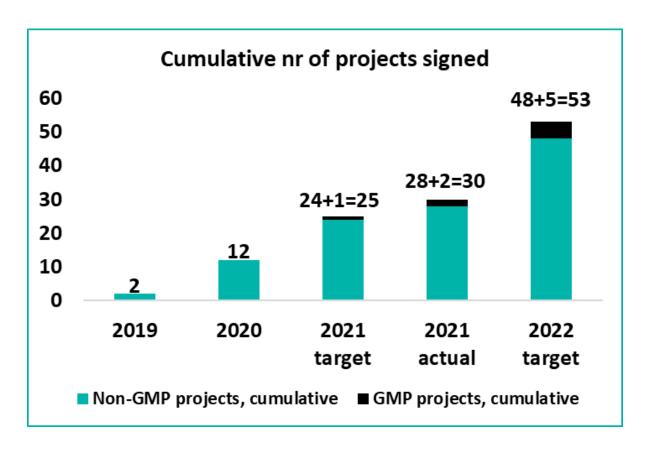


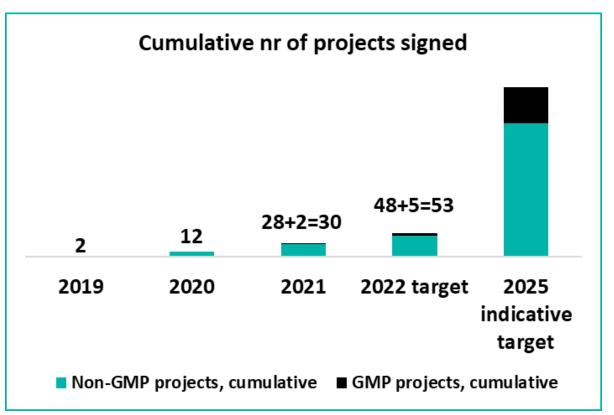


Ratio of GMP to non-GMP in the 2025 indicative target is roughly based on the industry probabilities for moving forward in the development pipeline. Official target for Nanoform is > 70 new APIs annually by 2025



## Cumulative number = most important for getting products on the market

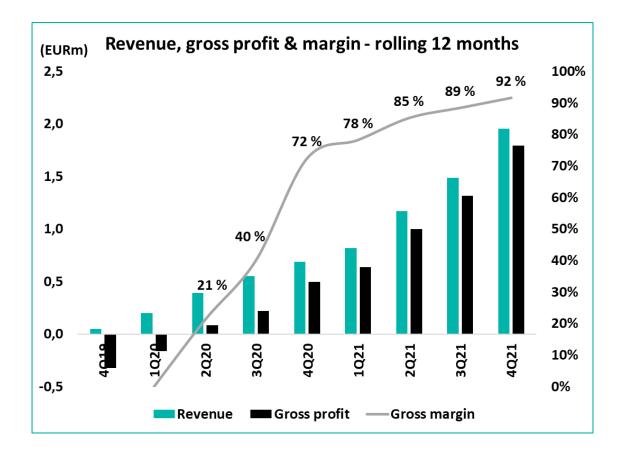


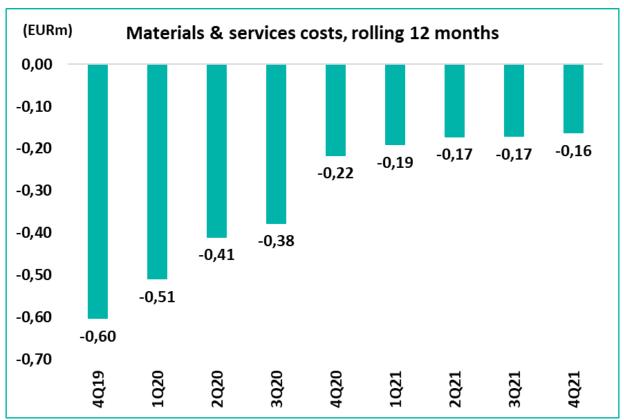


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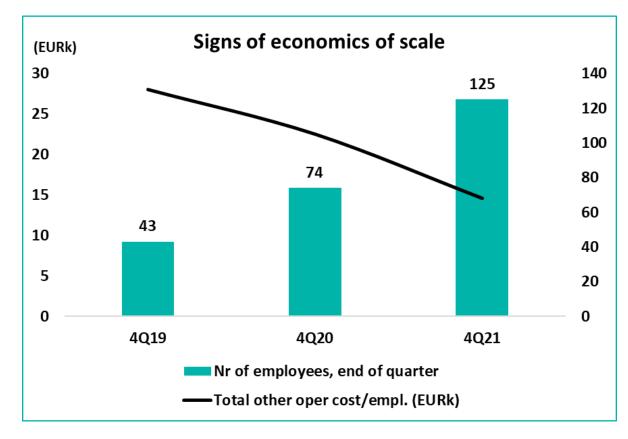


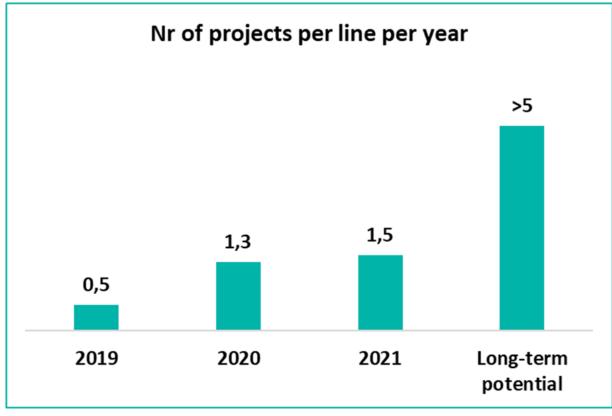
# Broad compentence has boosted gross margin - 2025 gross margin target reached



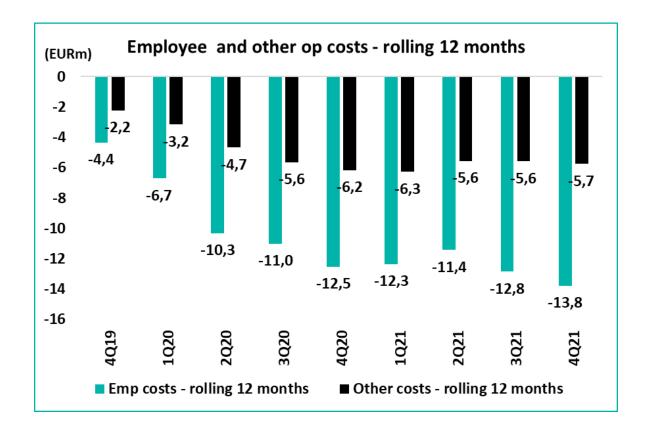


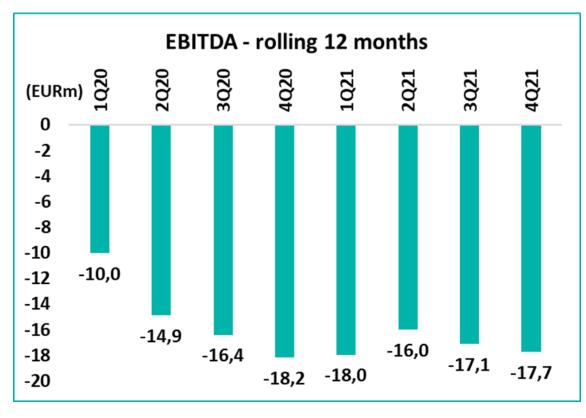
# Economics of scale emerging in other operating cost per employee Big productivity improvement expected from #projects/line/year



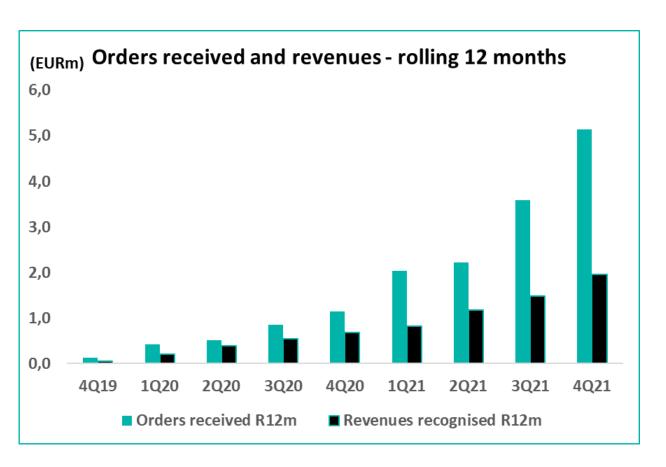


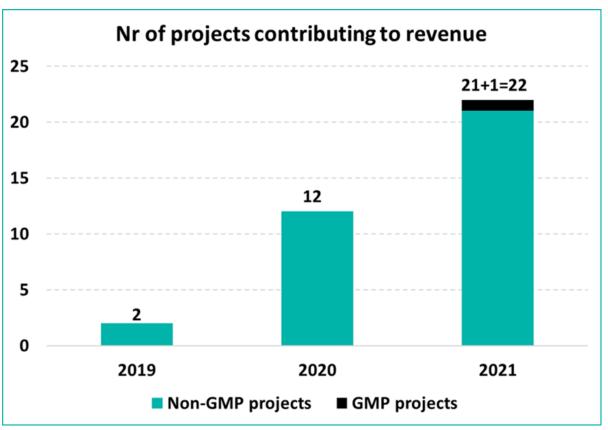
# Materials cost down, other costs flat despite 70% increase in nr of employees in 2021 => flat EBITDA





# Strong momentum in nr of projects, revenue growth, and orders received

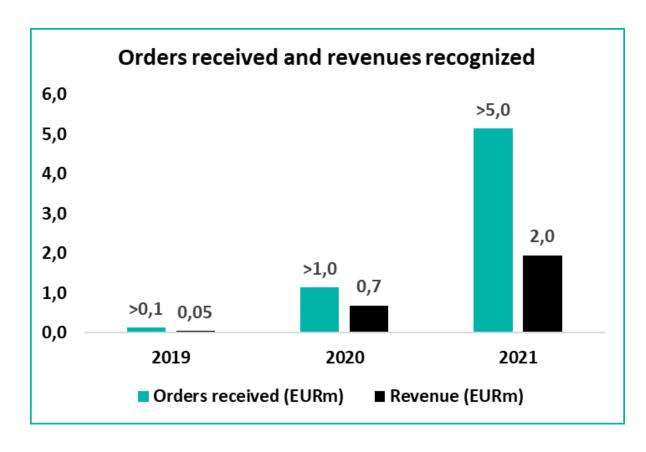


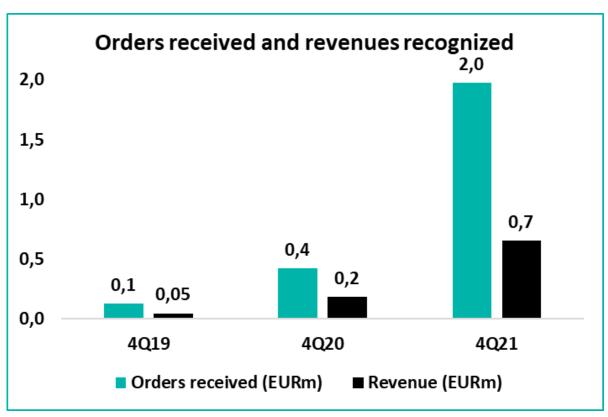


<sup>\*</sup>Part of orders received may not turn into revenue as clients have the right to change or cancel orders



## Orders received\* > EUR 5m in 2021, up 5x vs 2020. 4Q21 orders, up 5x vs 4Q20, exceeded full year 2021 revenue.





<sup>\*</sup>Part of orders received may not turn into revenue as clients have the right to change or cancel orders



# KPI's

#### **Financial KPI's**

EUR thousand	10-12/2021	10-12/2020	1-12/2021	1-12/2020	1-12/2019
Revenue	655	186	1,955	687	49
Revenue growth %	252%	279%	185%	n.m.	n.m.
Gross profit	612	135	1,792	497	-323
Gross margin	93%	73%	92%	72%	neg.
EBITDA	-4,847	-4,223	-17,745	-18,196	-6,900
Operating loss	-5,394	-4,629	-19,705	-19,423	-7,344
Loss for the period	-5,567	-3,942	-19,690	-19,441	-7,554
Basic EPS (EUR)	-0.08	-0.06	-0.29	-0.35	-0.19
Net debt	-68,070	-54,156	-68,070	-54,156	-3,640
Net debt excluding lease liabilities	-75,733	-59,977	-75,733	-59,977	-6,626
Investments in property, plant and equipment	t -3,275	-953	-7,737	-2,336	-1,804
Operative free cash flow	-8,122	-5,177	-25,482	-20,532	-8,704
Cash and cash equivalents (end of period)	75,733	61,025	75,733	61,025	7,303

### **Operational KPI's**

EUR thousand	10-12/2021	10-12/2020	1-12/2021	1-12/2020	1-12/2019
Number of new projects started during the period					
Non-GMP	2	3	16	10	2
GMP	2	0	2	0	0
Total number of new projects	4	3	18	10	2
Number of lines (end of the period)					
Non-GMP	14	8	14	8	4
GMP	1	1	1	1	0
Total number of lines (end of period)	15	9	15	9	4
Number of employees (end of the period)	125	74	125	74	43

## Income statement

#### Consolidated statement of comprehensive income

EUR thousand	10-12/2021	10-12/2020	1-12/202	1 1-12/2020	1-12/2019
Revenue	655	186	1,955	687	49
Other operating income			0	27	231
Materials and services	-43	-51	-162	-216	-603
Employee benefits	-3,702	-2,760	-13,791	-12,526	-4,359
Depreciation, amortization and impairment losses	-547	-406	-1,960	-1,226	-444
Other operating expenses	-1,757	-1,598	-5,747	-6,168	-2,218
Operating loss	-5,394	-4,629	-19,705	-19,423	-7,344
Total finance income and expenses	-172	691	18	-15	-209
Loss before tax	-5,566	-3,938	-19,687	-19,438	-7,554
Income tax	-1	-4	-3	-4	
Loss for the period	-5,567	-3,942	-19,690	-19,441	-7,554

#### 1-12/2021 comments

- > Revenue stemmed from 22 different customer projects in 2021 (12 projects in 2020). Revenues are recognized over the lifetime of the projects, based on expenses (mostly hours worked) booked for the projects. In 2021 revenue grew 185% compared with 2020, with accelerating y-o-y growth every quarter.
- >The gross profit and margin jumped to EUR 1.8 million and 92% in 2021 compared with EUR 0.5 million and 72% in 2020. Despite the 70% growth in number of employees, the EBITDA loss stayed flat as the revenues grew, the gross margin improved, and the other costs were kept below last year's level.
- The Headcount increased to 125 (74 end of 4Q20). Cash position was EUR 75.7 million (EUR 61 million).

#### Other operating expenses

	10-12/2021	10-12/2020	1-12/2021	1-12/2020	1-12/2019
Premises expenses	-44	- 24	100	106	66
IT expenses	394	90	780	309	202
Marketing and communication expenses	137	228	589	427	312
Consultant and professional fees	301	520	1,150	2,884	858
Travel expenses	66	15	146	100	269
Voluntary personnel related expenses	s 196	175	745	532	304
R&D expenses - external	242	307	930	1,357	28
Other expenses	464	239	1,306	453	180
Total	1,757	1,598	5,747	6,168	2,218



Source: Company information









### Selection of Nanoform Institutional Shareholders<sup>1</sup>

Handelsbanken







**Fidelity** 



























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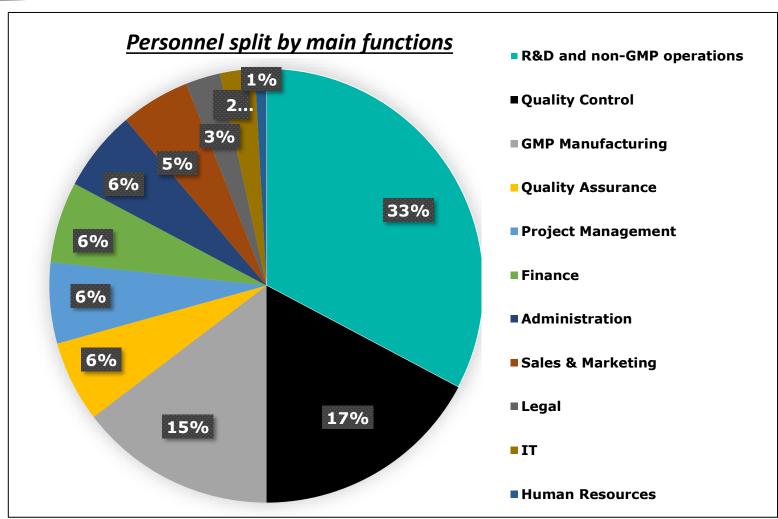






## International team of highly skilled professionals







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## **Simplified value chain**

High level overview of Nanoform's value chain and business model



### **Clients**

- Global large pharma
- Mid-sized and specialty pharma
- Biotech



Launch of new drugs, improving existing drugs & reducing clinical attrition





#### Revenue

- > Fixed fee per project
- Royalty as a % based on drug sales or supply price per kg

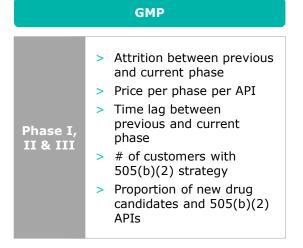
▶ Nanoform nanoforms APIs for the pharma and biotech industry using its patented CESS® technology



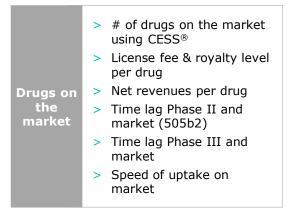
## Revenue drivers and industry attrition rates

#### Nanoform pre-clinical and clinical revenue drivers

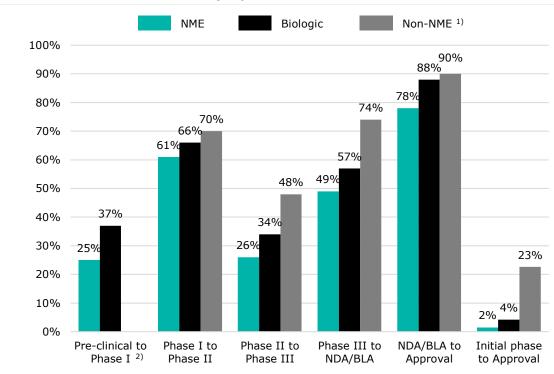
### Non-GMP > Total # of active **Proof of** customers Concept > # of APIs per customer (PoC) > Price per PoC per API



#### > Attrition between PoC and PoP Proof of > Price per PoP per API **Process** (PoP) > Time lag between PoC and PoP



#### Global Pharmaceutical industry's pre-clinical and clinical success rates



Timeline (years)	Pre-clinical	Phase I	Phase II	Phase III	Approval	Total
New drugs	~1-4	~2	~2	~3-4	~1	~9-13
Existing drugs	-	Clinical deve	elopment for 50	5(b)(2) ~2-5	~1	~3-6



### **Nanoform - Attractive revenue model**

#### Predictable revenue streams through capitalizing the entire pharmaceuticals value chain

Phase **Proof of Concept / Proof of Process** Phase I - III trials **Drugs on the market** Certification Non-GMP **GMP GMP** > Drugs that have passed the trials and > Proof of concept study - assessment of the > API for clinical trials are manufactured in possibility to nanoform a specific API Nanoforms GMP facility reached commercialization > Proof of process study - definition of > In practice, if a company has taken its drug > Supply of material for customers' Phase I, II and III trials through Phase II trials, it is difficult to parameters to establish the optimal process Description and controls for a specific API switch manufacturer > Nanoform gets paid regardless of the outcome of the trials Significant potential from patent extension (505b2 projects) of drugs already on the market offering near-term revenues Royalty as a % based on drug sales or Fixed fee per project Fixed fee per project Revenue Estimated project fee of EUR 50-500k Estimated project fee of EUR 0.5-10m supply price per kg model Estimated royalty fee of 1-20% per API per project per API per phase

Attractive business model with diversified risk profile due to not having to carry the cost & risk of drug development or being dependent on a single drug



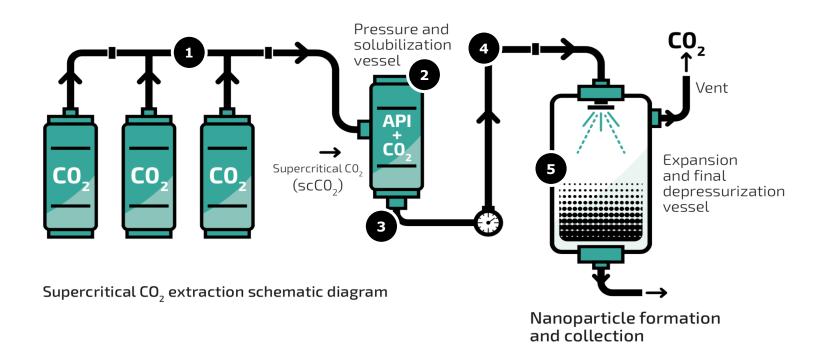
# **Dynamic factors**

- ✓ Pricing power increases as brand recognition becomes stronger and we show performance
- ✓ **Productivity** (nr of projects per line per year) improves as we do more projects
- ✓ Success ratio (PoC=>PoP=>GMP) goes up as we learn more about the process and different APIs
- ✓ Time & costs per project goes down as we learn more
- ✓ Profitability per project goes up as we become more efficient, and also from economics of scale
- ✓ Starmap helps us pick winners, reduce time & cost, improve success ratios, productivity, and profitability



## **Small molecules - Patented technology**

### **Controlled Expansion of Supercritical Solutions - CESS®**



- Supercritical CO<sub>2</sub> is guided into a pressure vessel loaded with API
- Increasing the pressure and temperature in the vessel dissolves the API in supercritical CO<sub>2</sub>
- The CO<sub>2</sub> and the API are released from the pressure vessel and the flow, pressure and temperature profiles are accurately controlled
- In the tube, the pressure and temperature is controlled to achieve a stable nucleation phase and formation of nanoparticles at the nozzle
- In a collection vessel the CO<sub>2</sub> is sublimated resulting in final nanoparticles ready for collection and formulation

> Relatively simple process developed through combining deep knowledge in physics, chemistry, and pharma



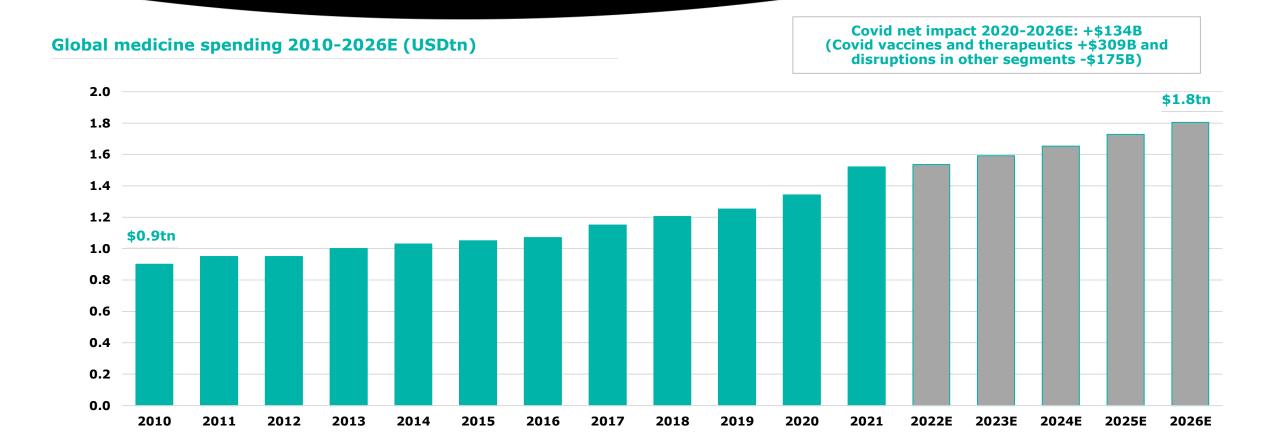
# **Small molecules - CESS® Superior to Existing Technologies**

#### **CESS®** comparison with existing technologies

Controlled Expansion of Supercritical Solutions (CESS®)		Solid dispersion (e.g. spray drying)	Jet milling	Nanomilling	
Description	Extracts API from supercritical CO <sub>2</sub> by applying controlled reduction in pressure	API is dispersed into a solid material, which dissolves when exposed to an aqueous media	Application of energy to physically break down API particles to finer ones	API particle size is reduced in a liquid vehicle via grinding	
Particle size	Down to 10nm	300nm-25μm	800nm-10µm	>150nm	
Particle formation	Controlled crystalline or amorphous and stable	Amorphous (unstable without excipients)	Unstable (crystalline and amorphous structures)	Unstable (crystalline and amorphous – needs excipient to stabilise)	
Ease of formulation	✓	×	×	*	
Reproducibility	✓	✓	×	*	
Free from excipients and solvents	✓	×	✓	*	
Yield	High	Low	High	Low	
Investment	Low	High	Low	Low	



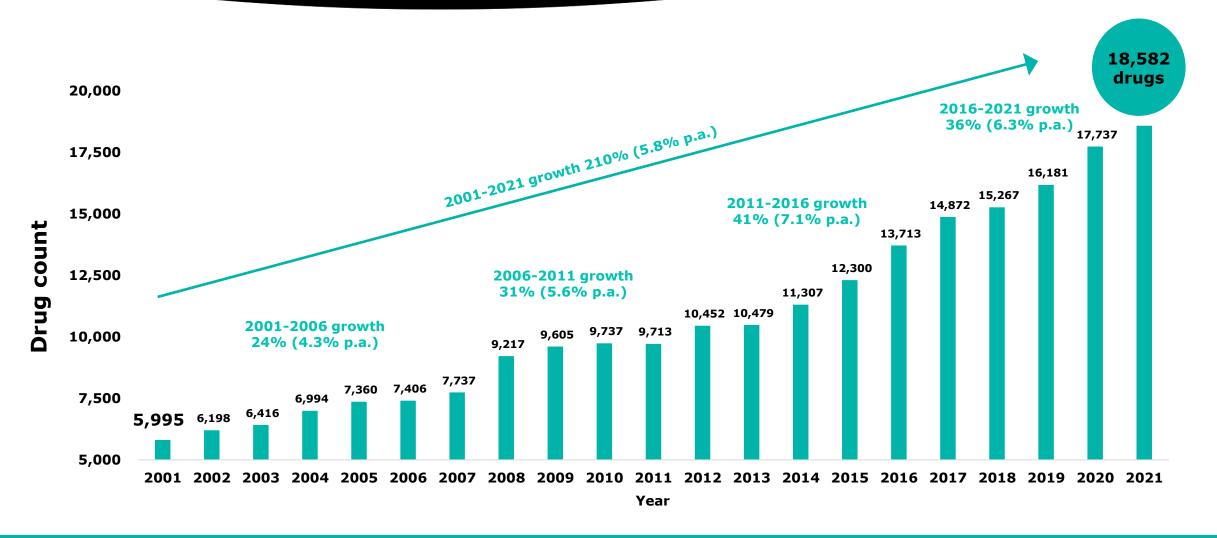
## Global pharma market projected to reach USD 1.8tn by 2026



> Significant market potential in improving the properties of existing drugs

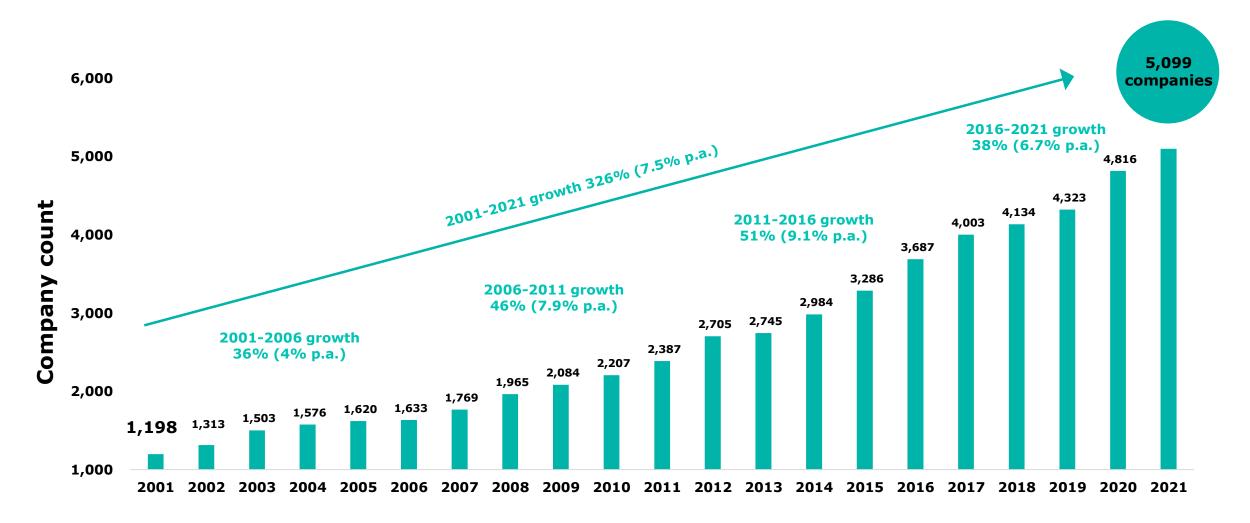


# Global drug R&D pipeline size and growth





## Global number of companies with active pipelines





47

## Global clinical drug development phase trends, 2007-2021





## Management team: Multi-disciplinary with international merits



### CEO & Co-founder; Ph.D. (applied Physics), MBA Edward Hæggström



- Professor at the University of Helsinki, Head of Electronics Research Lab. within the Dept. of Physics
- Previously visiting professor at Harvard Medical School, visiting scholar at Stanford University and project leader at CERN
- Has led a large number of scientific projects
- Current ownership: 5,409,405 shares



### CTO; Ph.D. (Pharmaceutical Technology) Niklas Sandler



- Previously Vice Rector for Research Affairs and Professor of Pharmaceutical Technology at Åbo Akademi University
- · Extensive experience in industry and academia
- Key area of expertise: Pharmaceutical product development and material science
- Current ownership: 290,000 options



CCO; M.Sc. (Chem.)
Christian Jones



- Previously Commercial Director and member of the Senior Leadership Team for the Global Health Sector at Johnson Matthey
- Also senior roles at Dr. Reddy's Global Custom Pharma Solutions and Prosonix
- **Key area of expertise:** Commercial strategy and business development
- Current ownership: 300,000 options



Director Human Resources; LL.M Johanna Tuomisto



- Previously HR Director, Finland at Thermo Fisher Scientific
- Senior Vice President, Administration at Finnvera Oyj, and as a Legal & HR Director and Partner at Evli Bank Plc
- Key area of expertise: Human resources
- Current ownership: 50,000 options



### CFO and member of the Board; B.Sc. (Econ.) Albert Hæggström



- 20 years of finance and investing experience
- Prior roles include senior positions at Alfred Berg, BNP Paribas, Nordea and SEB
- Current ownership: 692,000 shares and 400,000 options



Head of Manufacturing; Ph.D. (Chem.)



- **David Rowe**
- Previously Particle Size Reduction Lead for GlaxoSmithKline
- Has chaired the PSR Centre of Excellence
- Key area of expertise: Technical leadership within new chemical entities and commercial assets
- Current ownership: 290,000 options



### CBO; Ph.D. (Biochem.), MBA Gonçalo Andrade



- Biochemist by training with over 20 years of experience in the pharmaceutical industry
- Previously member of management team at Hovione Capital
- Key area of expertise: Global sales, account and project management as well as IPR
- Current ownership: 74,000 shares and 220,000 options



General Counsel; LL.M Peter Hänninen



- Previously Attorney, Borenius Attorneys
- Successful track-record of advising technology companies from founding to exit in key transactions and collaborations
- Key area of expertise: Legal, Compliance, IPR
- Current ownership: 103,125 shares and 230,000 options



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### Board of directors: Top executives from leading industry positions



### **Miguel Calado**

#### **Chairman of the Board**

- Previously CFO at international particle engineering CDMO company Hovione Group
- Other previous roles include CFO at PepsiCo International and President International Operations at Dean Foods
- Experienced Board member in both the EU and the US
- Current ownership: 400,000 options
- Key experience:









### Albert Hæggström

#### **CFO and Board Member**

- 20 years of finance and investing experience
- Prior roles include senior positions at Alfred Berg, BNP Paribas, Nordea and SEB
- Current ownership: 692,000 shares and 400,000 options
- Key experience:











#### **Mads Laustsen**

#### **Board Member**

- Over 30 years of experience in pharmaceutical development and manufacturing
- Co-Founder and former CEO of international biologics CDMO company CMC Biologics
- Extensive experience in process development and patenting
- Senior positions within several Danish biotech companies
- Current ownership: 300,000 options
- **Key experience:**









#### **Jeanne Thoma**

#### **Board Member**

- 30+ years of experience in global pharmaceutical and life science leadership
- · Prior roles include executive positions at BASF Inc, Lonza AG and SPI Pharmaceuticals
- Current ownership: 38,630 options
- Key experience:

We create chemistry





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# **Achieved near-term business targets**

GMP Approval	"GMP approval expected no later than Q3 2020"	awarded April 2020
Ongoing Client Intake	"For 2020, our ambition is to accelerate our growth by winning more new customers than in 2019"	Achieved – 4 new customers by July 2020
First GMP Project	"Start of first GMP project before year-end 2020"	Achieved – First GMP campaign started in October 2020
Clinical Trials	"First dosing in humans in 2021"	Achieved – First dosing in humans announced December 2020
Biologics	"First commercial Biologics PoC project signed in 2021"	Achieved – First Biologics PoC agreement signed February 2021
Non-GMP Line Capacity	"At least 3 new non-GMP lines in 2021"	Achieved – 3 new non-GMP lines ready in Q1 2021
Customer Projects	"At least 12 new non-GMP customer projects and at least one new GMP project in 2021"	Achieved – 14 non-GMP and 1 GMP project signed by November 2021

**Target** 

"GMP approval expected no later than Q3 2020"



**Topic** 

**GMP Approval** 

**Status** 

Achieved - GMP certificate



#### **FURTHER ENQUIRIES**

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#### FINANCIAL CALENDAR

April 12, 2022 - Annual General Meeting

May 24, 2022 - Interim report January-March 2022

