



Q1 2023

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Summary

Highlights Q1 2023

**Achieved Quarterly
Sales
31.2 MNOK**

**Drug Master File
(DMF) on track to
file end Q2 2023**

**First SAN order
from global CDMO
Fujifilm Diosynth**

**EBITDA
Performance
6 MNOK**

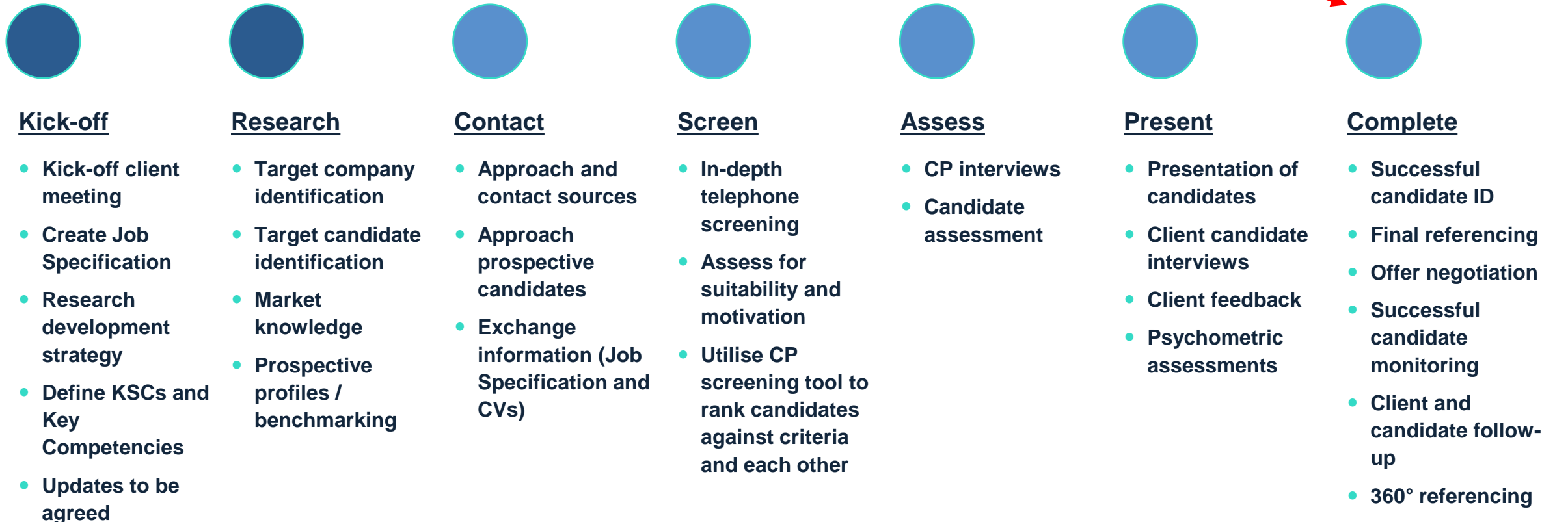
**Launched 1 new
product & filed 1
new patent**



Business update

CEO Search Process

- CEO resigned March 2023. Effective date Sept. 30th, 2023
- Coulter Partners hired to search
- Significant interest in position
- Good candidates are in high demand
- Location in Tromsø is main concern



Building out the product portfolio

Newly launched product & pending products

☒ ArcticZymes Proteinase HQ

☐ AZtaq (Taq DNA pol)

☐ Salt Active Nuclease - SAN
GMP

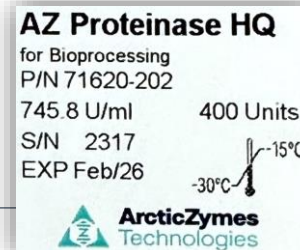
New Product Introduction!

ArcticZymes Proteinase HQ launched 18th April

B2B market version existing ArcticZymes Proteinase, with expanded Quality documentation package.
E.g., Quality Statements for endotoxins, bioburden and 'animal origin free' raw material.

Product positioning: gentle proteinase to facilitate handling whilst preserving biological information.

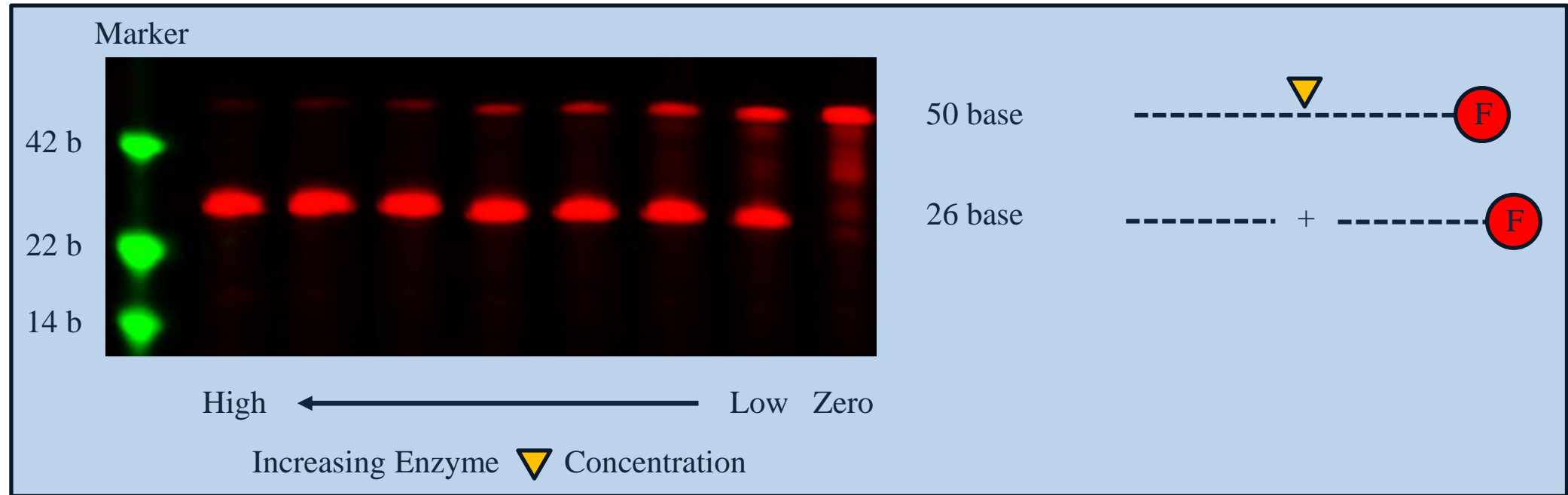
Next product launches. Scheduled for later this year



New patent application

RNA therapeutics

«New nuclease enzyme composition and method-of-use in the processing & analysis of RNA for therapeutic purposes»



- Discovery phase project for new sequence specific RNA endonuclease
- |Active test-site discussions with biomanufacturing customers (under MTA) on-going

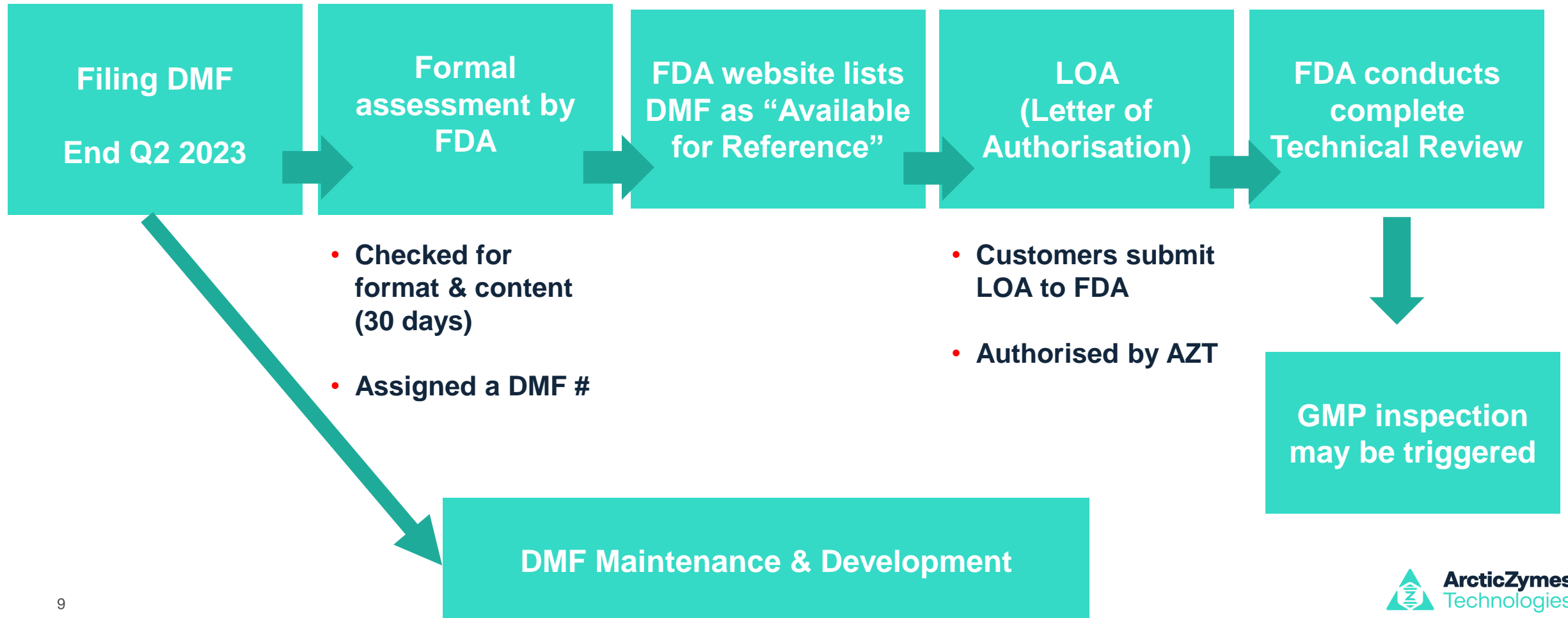
The Drug Master File (DMF) for SAN HQ “GMP grade”

Priority one project first half of 2023

- ◆ A Drug Master File is a FDA submission document that typically contains detailed confidential information about the **Chemistry, Manufacturing, and Controls (CMC)** of a component of a drug product.
- ◆ DMF is **not required by law** or FDA regulation. It is used to provide information to the FDA without revealing trade secrets to the customer.
- ◆ **DMF Type II:** Drug substance, Drug Substance Intermediate, and **Material Used in Their Preparation**; or Drug Product.
- ◆ ArcticZymes AS is the DMF holder (Owner).
- ◆ External US Agent: Pharmalex.
- ◆ DMF to be submitted for **SAN HQ “GMP grade”** by the end of **Q2 2023**.

Post DMF Submission

Outline of Process



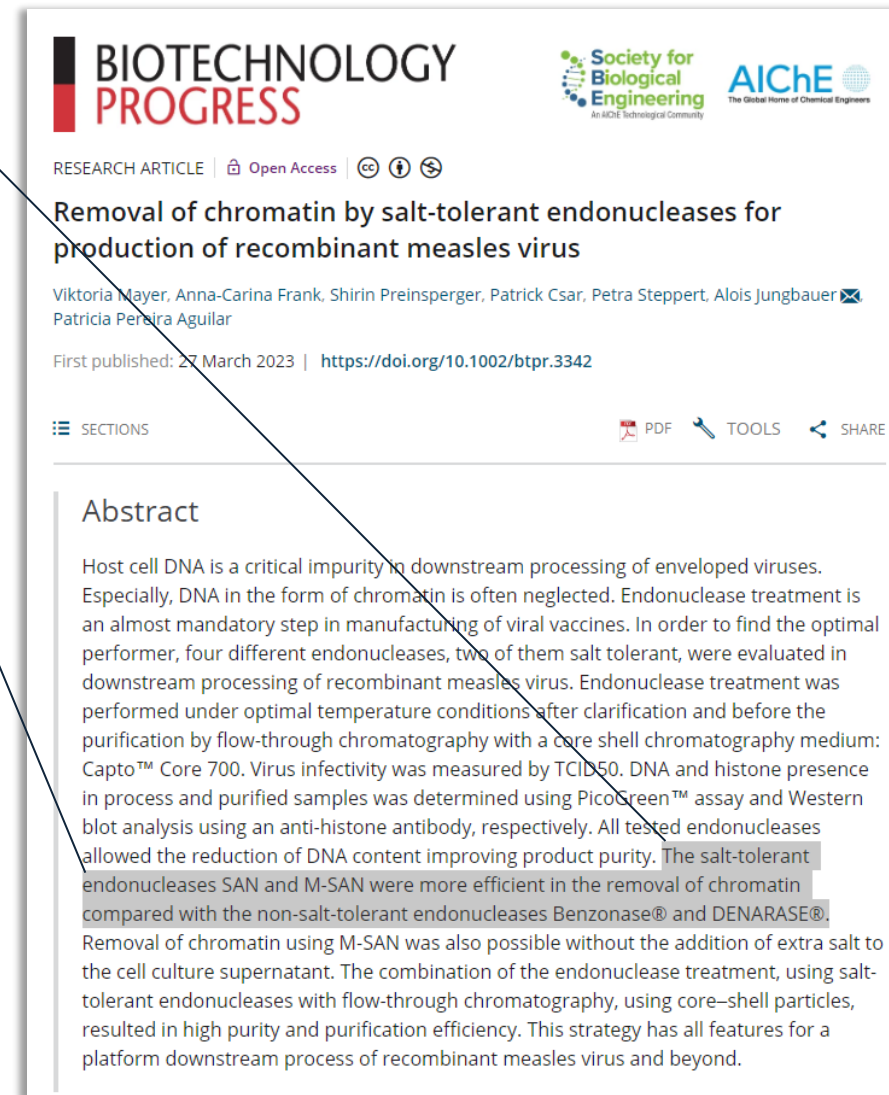
Recent Publication

Compelling Evidence to Support our Biopharma Product Range

The salt-tolerant endonucleases SAN and M-SAN were more efficient in the removal of chromatin compared with the non-salt-tolerant endonucleases Benzonase® and DENARASE®.

“Many researchers and bioprocess engineers are not aware that host cell DNA is present in the form of chromatin associated with histones. In the presence of salt, chromatin opens and becomes better accessible for a nuclease. Therefore, it is obvious for me that a salt-tolerant nuclease does a much better job in digesting DNA.”

Professor Alois Jungbauer, University of Natural Resources and Life Sciences in Vienna



The screenshot shows the top half of a research article page. At the top left is the journal logo 'BIOTECHNOLOGY PROGRESS'. To its right are logos for 'Society for Biological Engineering' and 'AIChE'. Below the journal logo, it says 'RESEARCH ARTICLE | Open Access | CC BY-NC-ND'. The title of the article is 'Removal of chromatin by salt-tolerant endonucleases for production of recombinant measles virus'. Below the title, the authors are listed: 'Viktoria Mayer, Anna-Carina Frank, Shirin Preinsperger, Patrick Csar, Petra Steppert, Alois Jungbauer, Patricia Pereira Aguilar'. Below the authors, it says 'First published: 27 March 2023 | https://doi.org/10.1002/btpr.3342'. There are icons for 'SECTIONS', 'PDF', 'TOOLS', and 'SHARE'. The 'Abstract' section begins with the text: 'Host cell DNA is a critical impurity in downstream processing of enveloped viruses. Especially, DNA in the form of chromatin is often neglected. Endonuclease treatment is an almost mandatory step in manufacturing of viral vaccines. In order to find the optimal performer, four different endonucleases, two of them salt tolerant, were evaluated in downstream processing of recombinant measles virus. Endonuclease treatment was performed under optimal temperature conditions after clarification and before the purification by flow-through chromatography with a core shell chromatography medium: Capto™ Core 700. Virus infectivity was measured by TCID50. DNA and histone presence in process and purified samples was determined using PicoGreen™ assay and Western blot analysis using an anti-histone antibody, respectively. All tested endonucleases allowed the reduction of DNA content improving product purity. The salt-tolerant endonucleases SAN and M-SAN were more efficient in the removal of chromatin compared with the non-salt-tolerant endonucleases Benzonase® and DENARASE®. Removal of chromatin using M-SAN was also possible without the addition of extra salt to the cell culture supernatant. The combination of the endonuclease treatment, using salt-tolerant endonucleases with flow-through chromatography, using core-shell particles, resulted in high purity and purification efficiency. This strategy has all features for a platform downstream process of recombinant measles virus and beyond.'

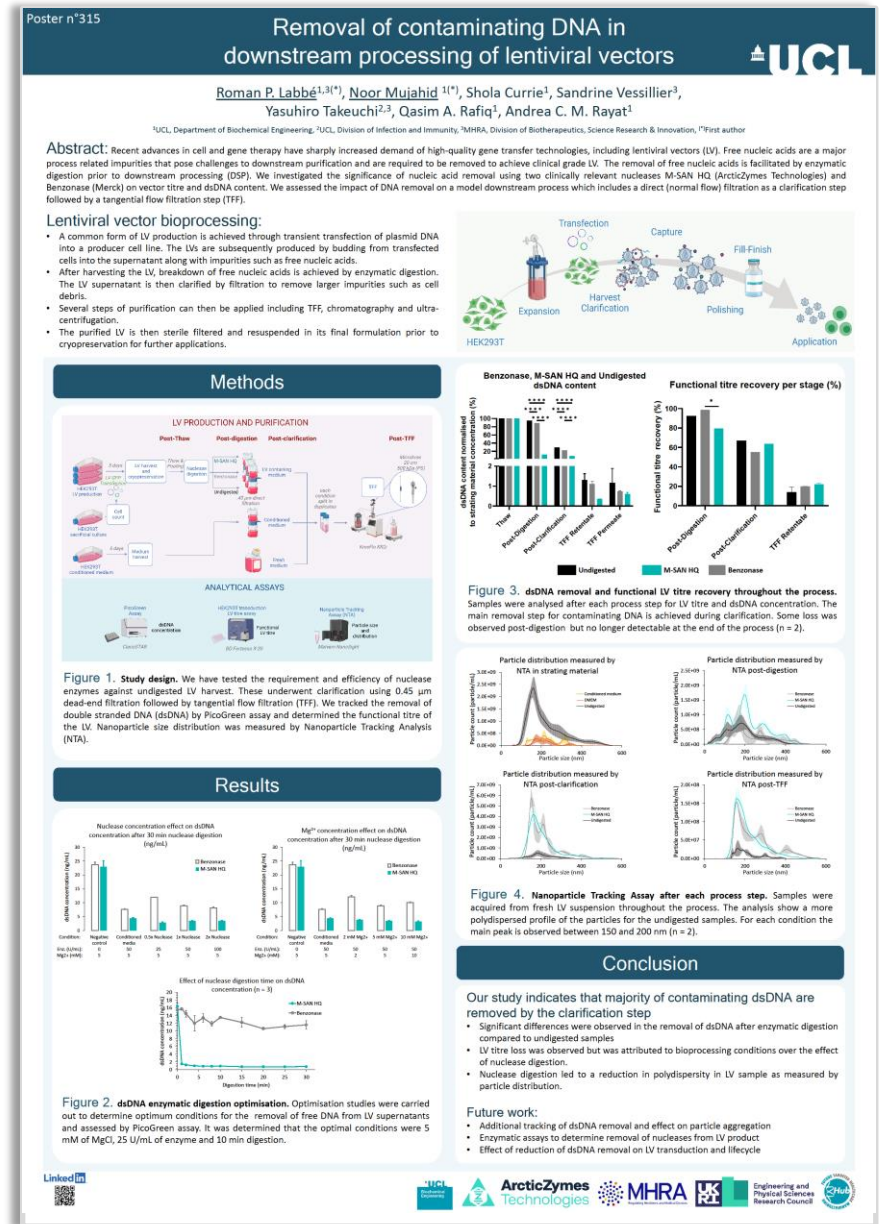
University College London Poster

M-SAN HQ for purification of Lentiviruses

M-SAN HQ was benchmarked against Benzonase
for removal of host-cell DNA from Lentiviruses intended for CAR-T based cell therapy.

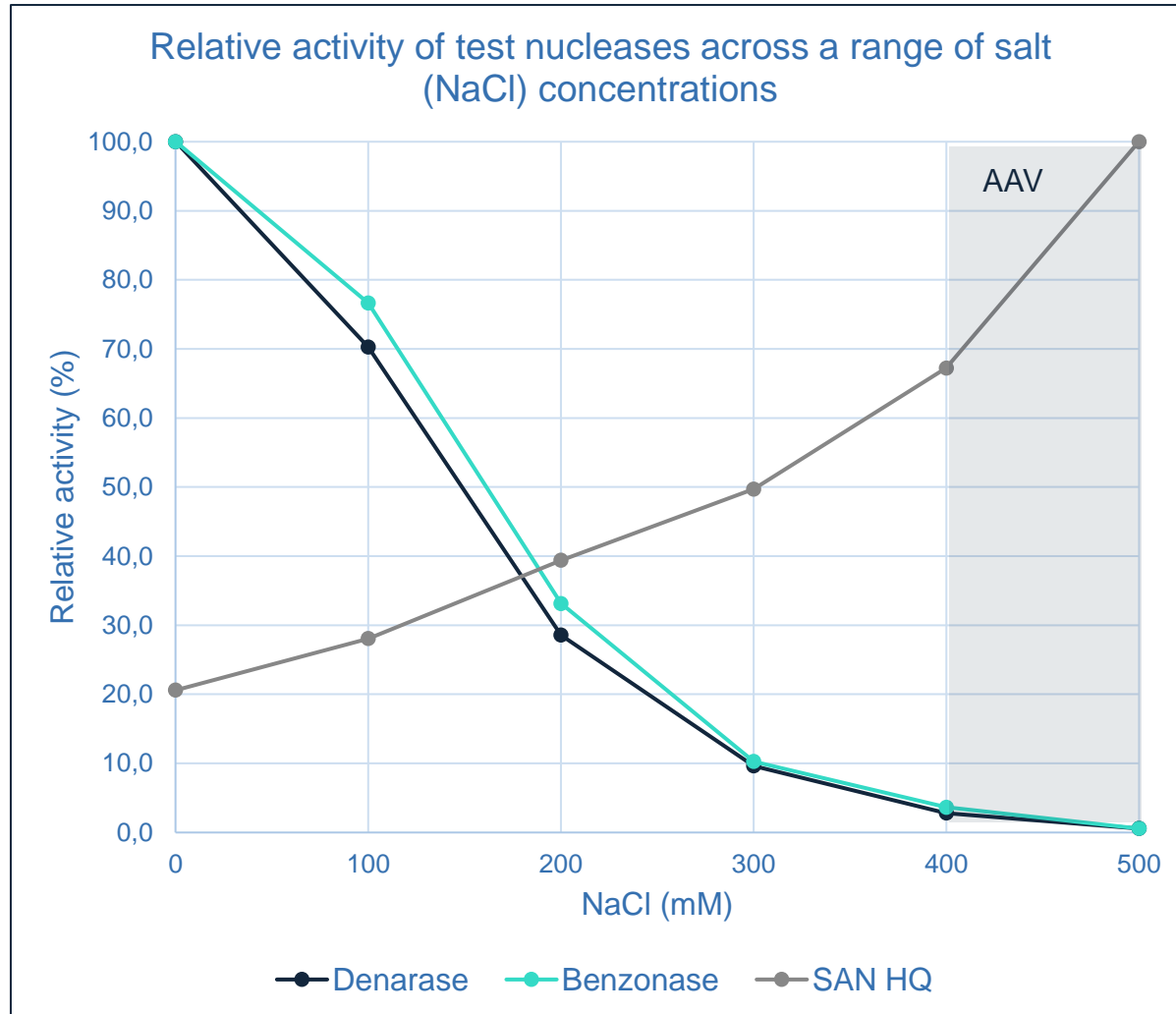
M-SAN HQ was preferred due to:

- **Saves cost:** >4-fold better DNA removal per unit
- **Saves time:** Faster digestion of DNA
- **Purer product:** Better DNA removal in size-filtration
- **Higher potency:** Less aggregates likely



SAN GMP – pre-launch data

Benchmarking



	SAN GMP	Benzonase	Denarase
Salt tolerance	✓	✗	✗
ISO13485	✓	✓	✓
Scale	✓	✓	✓
ELISA kit	✓	✓	✓
GMP grade/DMF	✓	✓	✓

SAN GMP is the ultimate solution for the efficient removal of nucleic acids in manufacturing and bioprocessing workflows

Sales & Marketing: Key areas to improve in 2023

Commercial Excellence

- Execute price increase of **8.5%** from January 1, 2023 ✓
- Execute **Shipping & Handling** fee structure from Oct. 1, 2022 ✓
- Utilizing analytics in **Power BI** ✓
- Drive **Opportunity Management** leveraging CRM ✓
- Accelerate **sales cycle** & improve **conversion rate**
- Use **regulatory documentation** (DMF) as competitive advantage
- Continue to **build & invest** into a high performing team ✓

Demand Generation

- Laser sharp focus on generating new business with **Key Accounts** ✓
- Aggressively **take share** in both, Biomanufacturing and Molecular Tools
- Update & leverage digital capabilities to **create leads** ✓
- Attend selective trade shows to create **awareness and leads** ✓
- Optimize **product launch** strategy and execution ✓
- **Capitalize** on Asian opportunity ✓
- Explore **new, adjacent markets**
- Hire **additional resource** for North America ✓

Collaboration

- Closer collaboration between **Market Development Managers and R&D** community ✓
- Market Development Managers **key drivers** in new product launch initiatives ✓
- Product ideation and development with **KOLs**
- Oslo lab to **improve and create** content around **workflows and applications** ✓

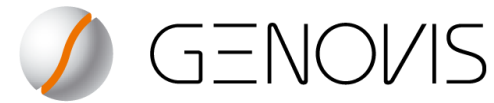
Tapping into the Chinese growth opportunity

Through Nordic collaboration

CAGR for Gene Therapy in China

28.6% - 33.8%

Over next 6 years, reaching \$1.9 to \$3.3B*



“Driving Growth Together in China”



Sales

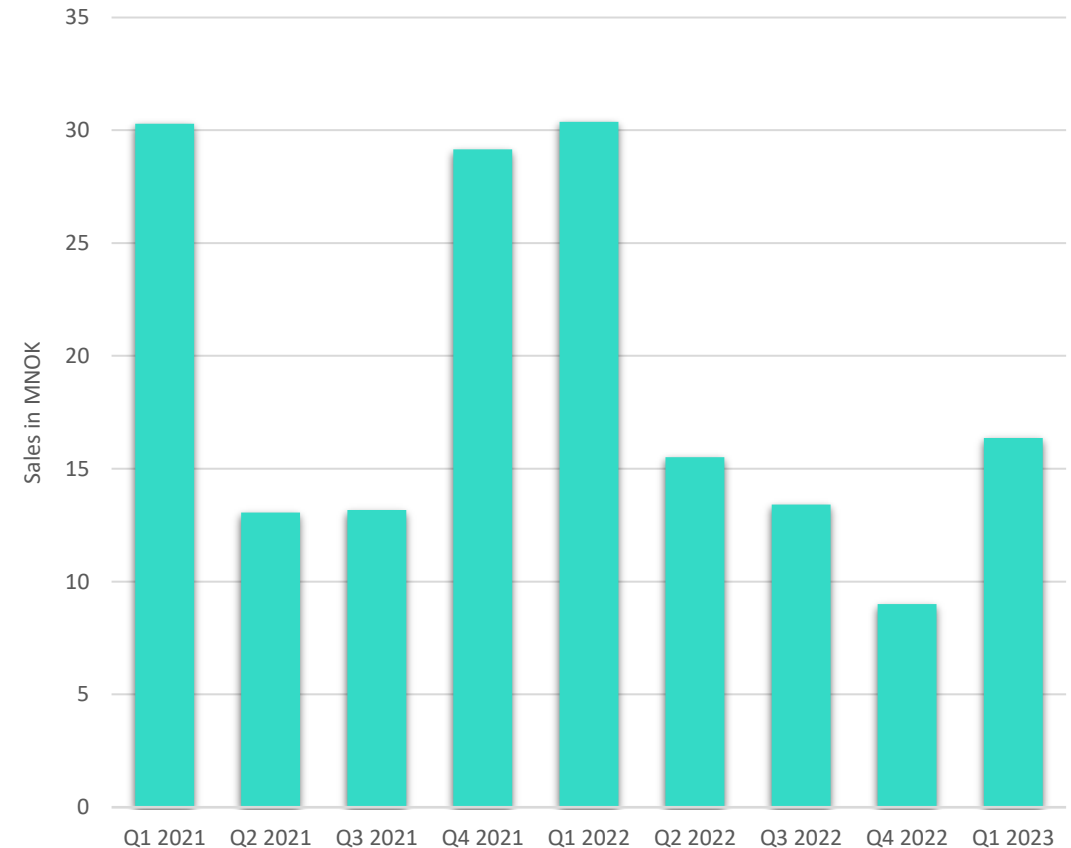
Sales per area

Commercial



Molecular Tools

- ✓ Quarterly sales 16.4 MNOK
- ✓ Accounts for 52% of total Q1 sales
- ✓ Research and Diagnostics contribution to Q1 sales were 26% and 26%, respectively
- ✓ Research – large orders from key customers after slow end to 2022
- ✓ Diagnostics – “no” coronavirus LTM



Sales

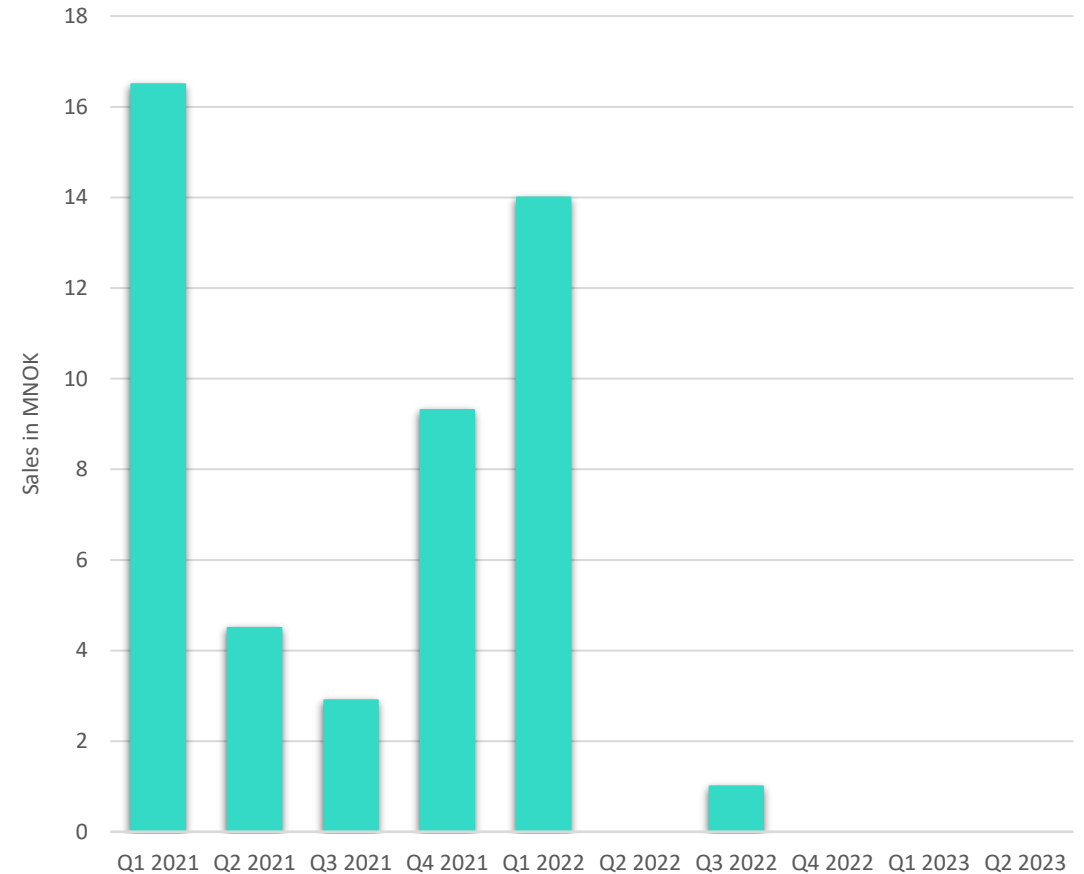
Commercial



Covid related sales

- ✓ 0 MNOK in Covid related sales for Q1
- ✓ Q1 2022 had 14 MNOK
- ✓ Headwind for sale of COD Ung in Q1 (as expected and announced)
- ✓ Expect to achieve only marginal sales from Corona-virus

Estimated Coronavirus related sales



Sales per area

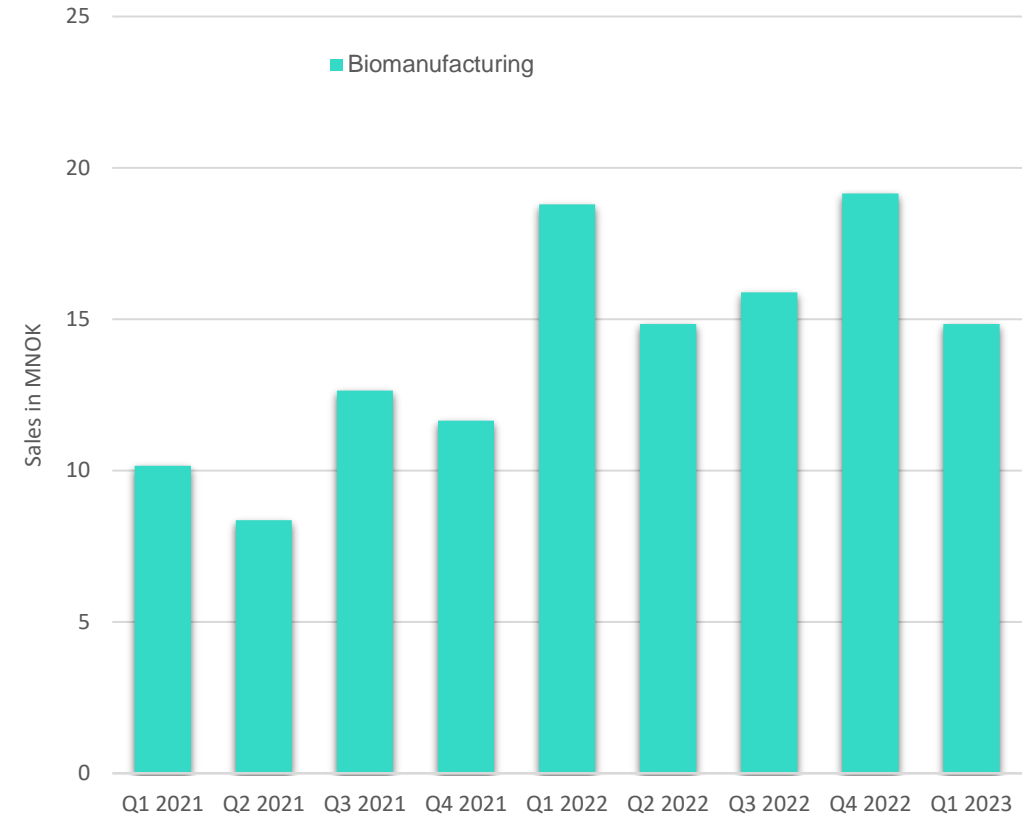
Commercial



Biomanufacturing

- ✓ Quarterly sales 14.9 MNOK (21% decline)
- ✓ Continuous positive trend we've seen last years
- ✓ Accounts for 48% of total Q1 sales
- ✓ Drug Master File (DMF) submission for SAN HQ to the U.S. FDA is "all hands on deck"

Sales per area



12 month rolling average quarterly sales

Expect growth to pick up again....

- See signs of market normalising
 - Number of orders increased by 3% to 408
 - 28 new customers in Q1
- Nothing fundamentally has changed
 - Growing markets
 - Attractive and novel products
- ...but there is still uncertainty on short term customer behaviour
 - Inflation
 - Macro economic climate
 - Financing cost



Business Updates

Commercial

Geographical Sales Contribution

2021	Americas 39 %	EMEA 48 %	APAC 13 %
2022	Americas 44 %	EMEA 45 %	APAC 11 %
Q1 2023	Americas 52 %	EMEA 44 %	AP. 4 %



Currency impact

Weak Norwegian Krone

- Majority of revenues are in foreign currency
 - 83% in USD and 17% in EURO for Q1
 - 68% in USD and 31% in EURO for 2022
- Currency effect on P&L
 - Finance +0.6 MNOK in Q1
 - Other operating expenses reduced by 1.0 MNOK Q1
- With **constant currency** – est. 3.8 MNOK positive impact on underlying sales in Q1

USDNOK



EURNOK



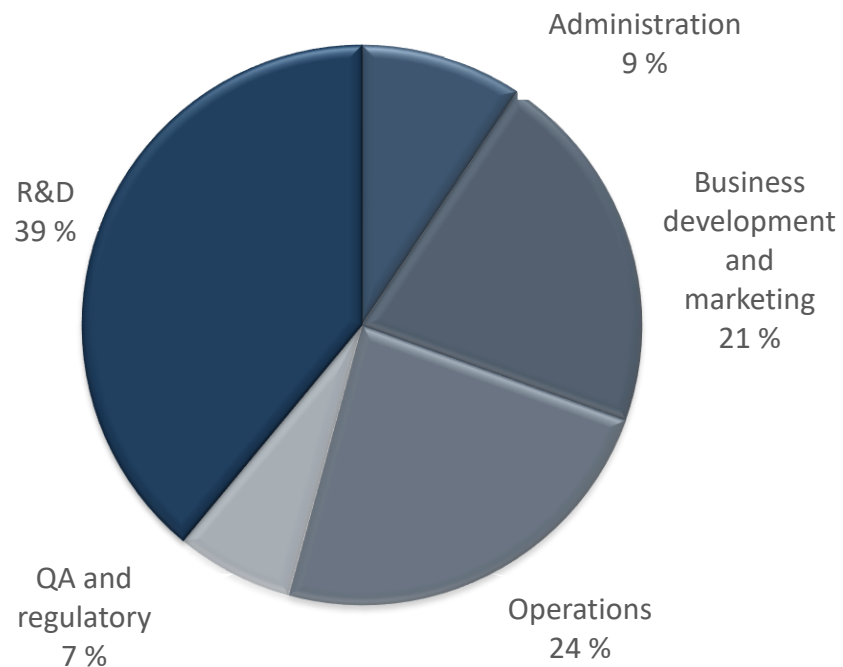


Expenses and profitability

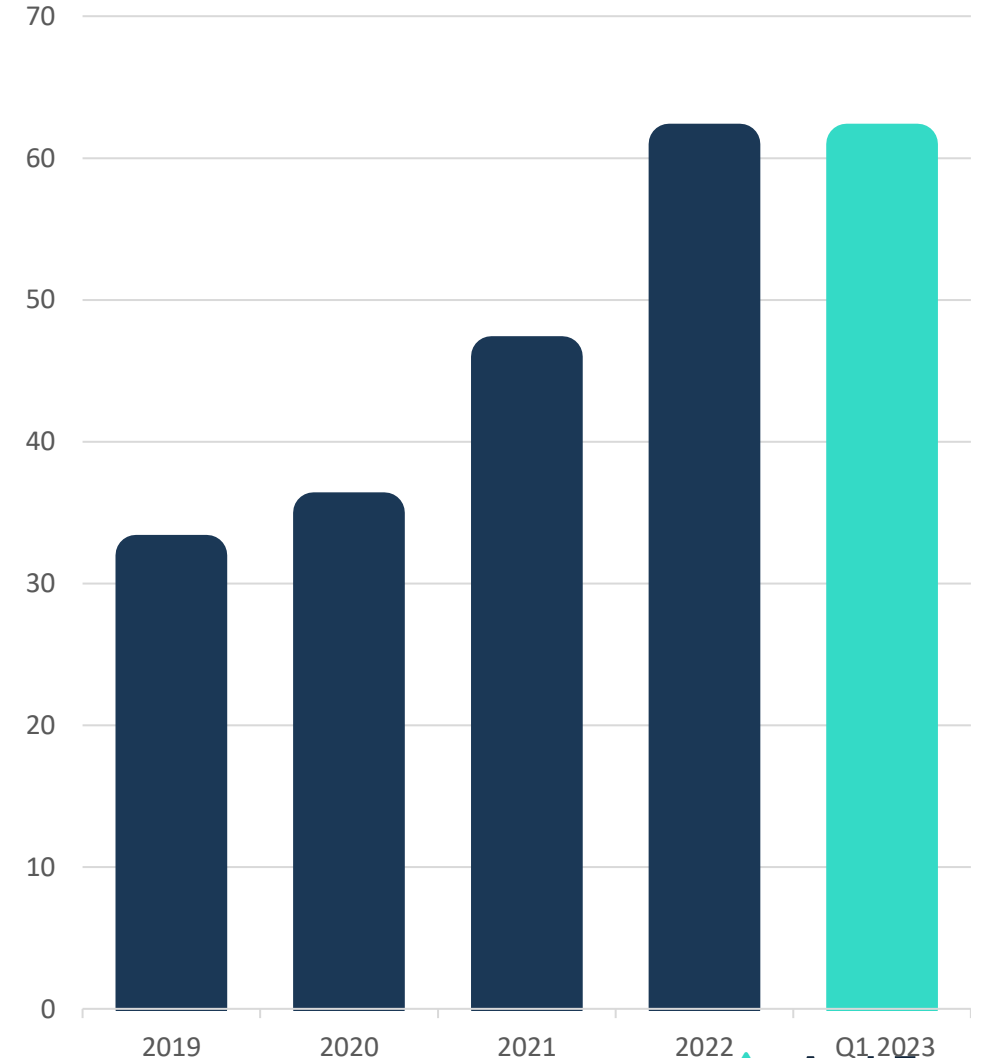
Organisation

Productive and efficient

- Ambition and strategy has been to grow company organically
- 0% increase in employees in Q1
- 61 employees per 31.03.2023



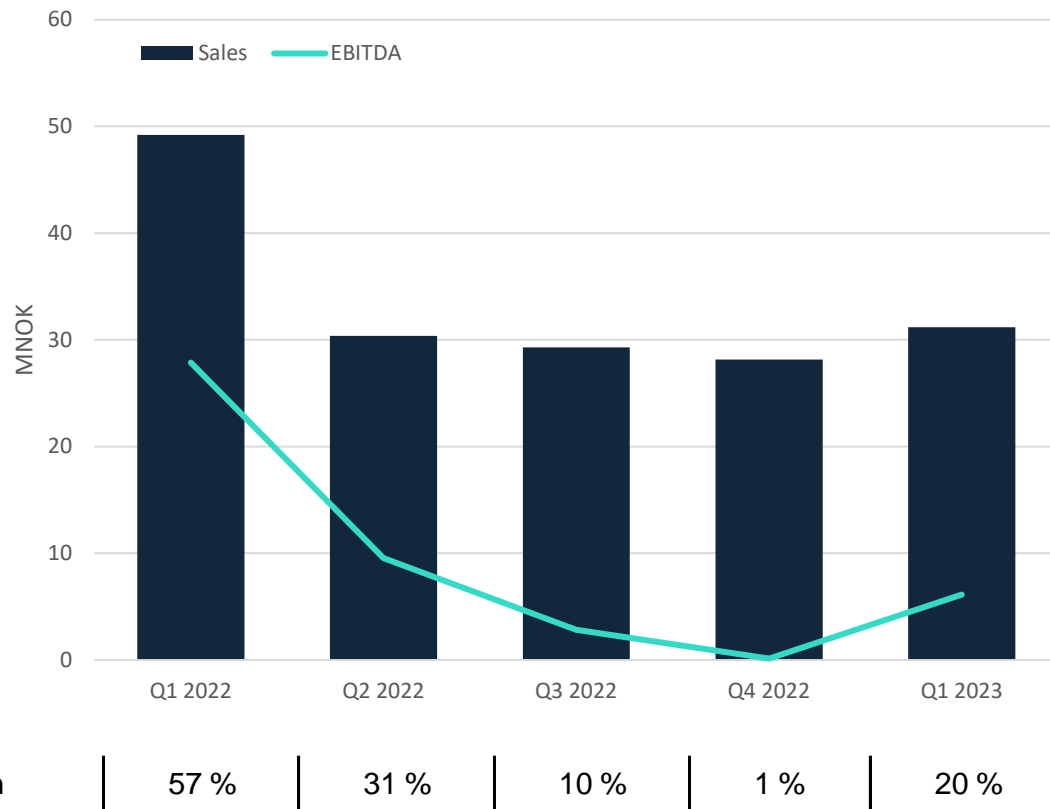
Number of employees 31.12



Profitability and expenses

Looking at improved profitability

Sales & EBITDA

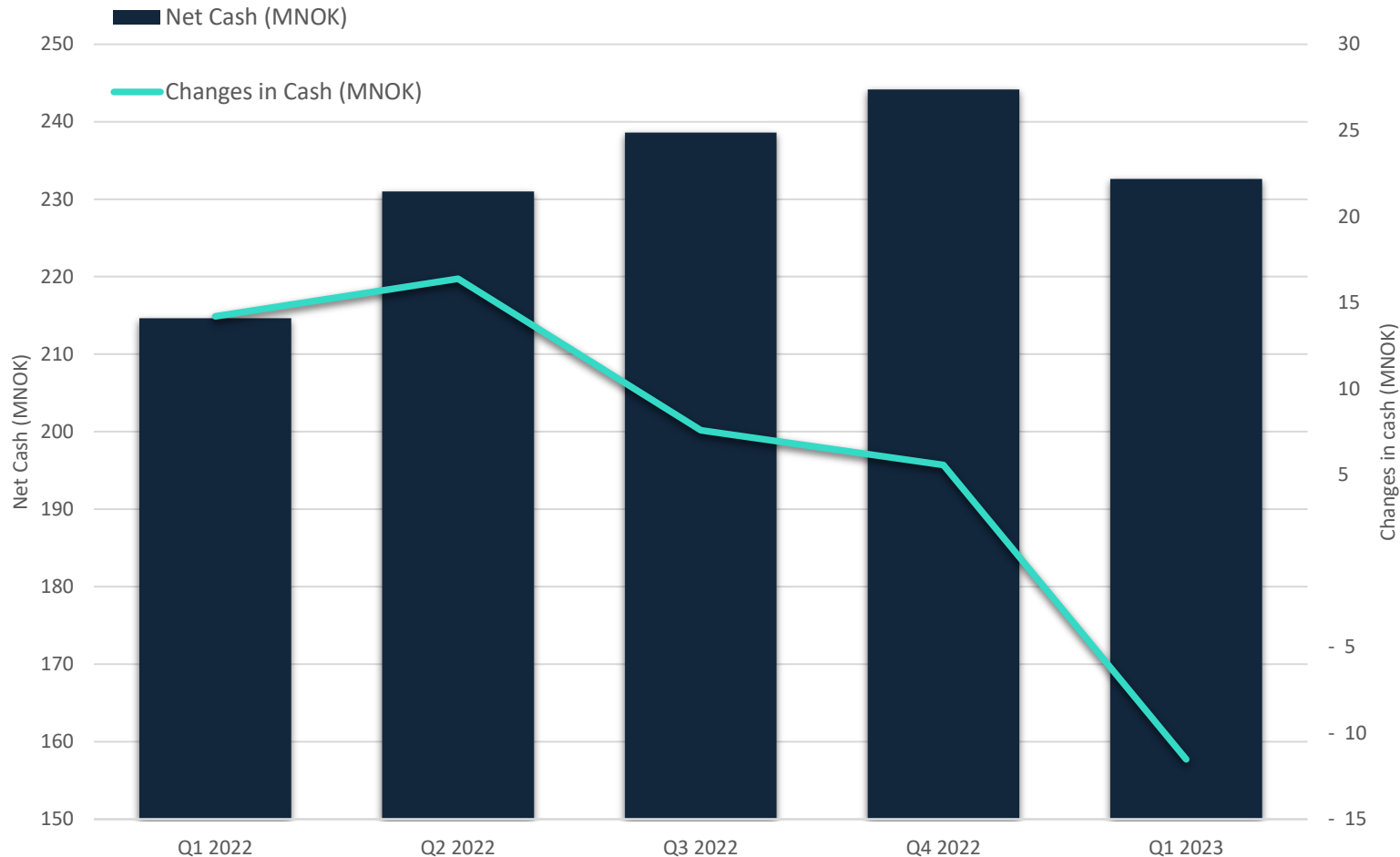


EBITDA

- Q1 - MNOK 6.1 vs 27.9 (13.9 Covid adjusted)
- Expenses increased by 3.7 MNOK in Q1
 - Personnel, consumables and IPR
- Full year** expenses: 105 MNOK (2022: 91 MNOK)
 - Personnel 75 MNOK (2022: 59 MNOK)
 - Other operating exp. <32 MNOK (2022: 32 MNOK)
- MNOK 2.5 per employee in revenues should be within reach

Cash flow

- 11.7 MNOK in cash flow for Q1

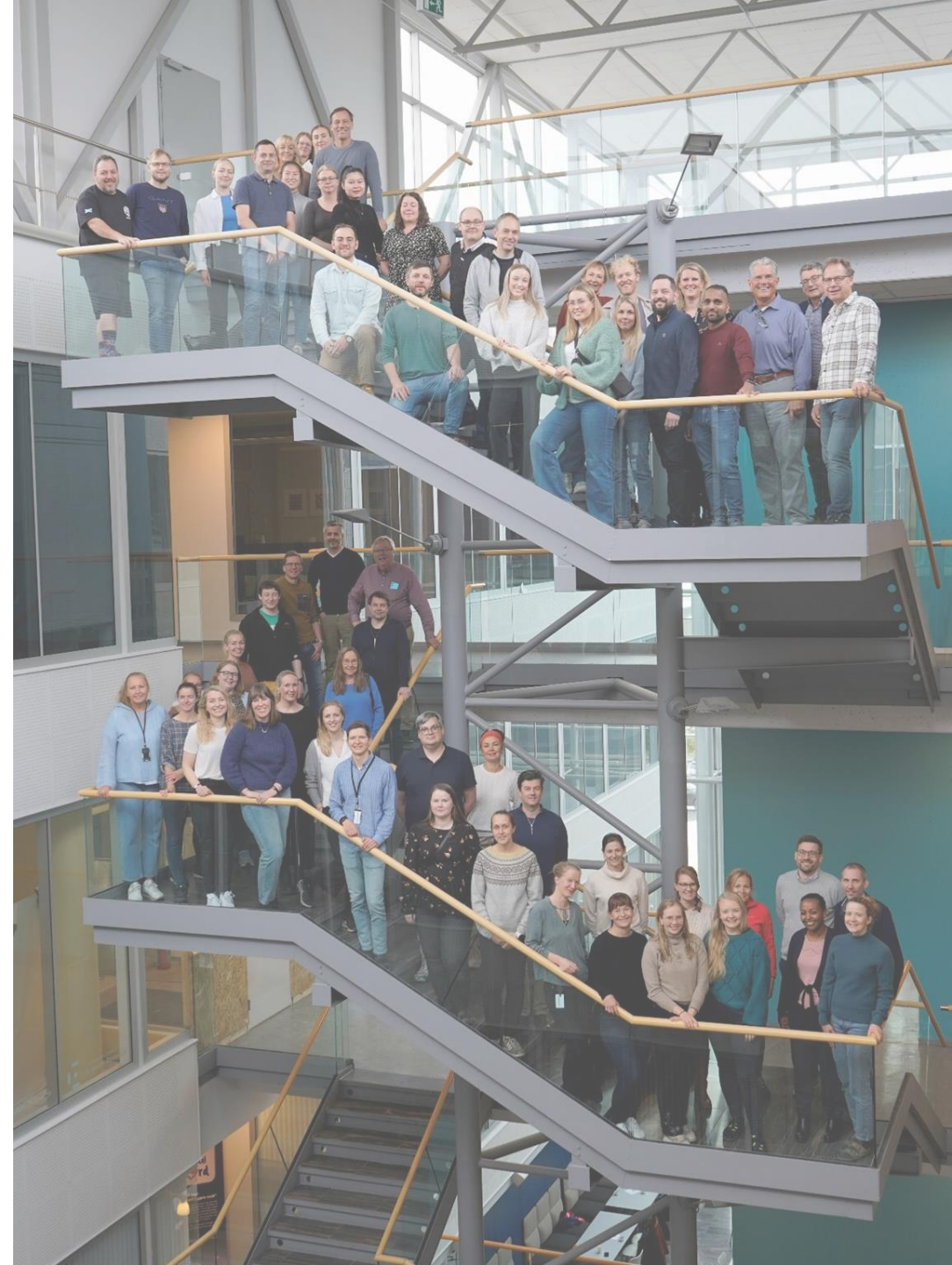




Outlook

Outlook 2023

- ◆ Committed to achieve its strategic goals through organic and inorganic growth.
- ◆ Fundamental business remains strong and therefore we expect annual sales to grow from 2022 to 2023.
- ◆ Capitalise on organic investments carried out in 2022 through productive organisation while having an opportunistic approach to inorganic growth.
- ◆ Aim to launch new products throughout the year.
- ◆ Generate traction and sales in China through collaboration with Genovis





Thank you

Q&A Session

arcticzymes.com

