A Platform for Long-term Growth

Q3 2024

November 6, 2024
CEO Michael Akoh
CFO Børge Sørvoll

ArcticZymes Technologies

Overview

A Norwegian biotech with growth potential

Worldclass Products

- Provide novel enzymes for advanced therapies and molecular diagnostics
- Strong reputation in Molecular Tools and Bioprocessing segments.
- Net Promoter Score = 84

Segment & Customers

- Targeting segments with high growth potential
- Customers are life science tools companies, CDMO, Pharma and Biotech

Talent & Culture

- Management team committed to creating a culture where exceptional innovation thrives
- World class R&D team
- Strong manufacturing capabilities complying to ISO13485 and GMP
- 53 employees, HQ in Tromsø
- Direct sales in US & Europe

Strong Financials

- Margins > 90% all products
- Recurring revenue streams – sticky business
- Sales of 119 MNOK (2023)
- No debt – 240 MNOK in Cash reserve
- Listed on the Norwegian Stock Exchange

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Agenda

1. Highlights, commercial transformation and priorities
2. Sales update
3. Biomanufacturing update and future portfolio
4. Financials
5. Q&A

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Highlights Q3 2024

Achieved revenue 24.1 MNOK (31.2 MNOK)

New VP of Sales Paul Blackburn onboard in September

Publication on ET-N1 in Nucleic Acids Research and acib Webinar

EBITDA Performance -2.3 MNOK (7.3 MNOK)

SAN OEM agreement and CDMO integration progressing according to plan

SAN White paper released confirming portfolio competitiveness

Building a Platform for Long-term Growth

Commercial Transformation

Increased investment in commercial transformation to drive growth in coming years

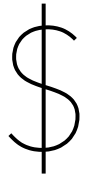
Commercial Transformation

- The Board and management are aligned in accelerating ArcticZymes' commercial transformation, building on past successes to capture new market opportunities

Solution Provider

- We are committed to build ArcticZymes’ role as a solution provider, enhancing its ability to solve client challenges in molecular diagnostics, research, and biomanufacturing through a collaborative, customer-focused transformation

Strategic Investment



- In a joint effort, the Board and management have approved investments to strengthen the commercial organisation, supporting ArcticZymes' goal to become a truly customer-centric organization

Incremental steps have been taken but we are accelerating initiatives

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Strategic priorities

Building a platform for long term growth – the journey has started

Short Term

1. **Continue journey to become customer centric**
   - Commercialization – strengthen commercial arm significantly
   - Channel development through partners (CDMO/OEM)
   - Scientific marketing (White papers, Talks and Publications)
2. **GMP upgrade of current enzymes**
   - Ability to expand usage in more drug development phases
     2 new GMP nucleases plus an ELISA kit in development
3. **Relaunch of current Molecular tools enzymes**
   - Application data and positioning

Long Term

1. **Build Advanced therapies biomanufacturing pipeline to broaden and diversify portfolio**
   - RNA enzymes & NextGen SAN
2. **Develop/commercialize new Molecular Tools enzymes**
   - Sample prep, amplification and synthetic biology
3. **M&A Opportunities**
   - Build portfolio
   - Strengthen manufacturing capabilities
   - Enhance commercial channels

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Customer centric organisation

The commercial transformation journey

	What	Why	When
1	Balance between Internal and customer focused resources	Ensure a market and customer driven organisation	Q1 2024-
2	Strategic pipeline review and future portfolio road map	Align development portfolio with market needs	Q2/Q3 2024
3	GMP compliance and diversification into advanced therapies	SAN market penetration and portfolio diversification	Ongoing
4	Increase use of scientific marketing with R&D involvement	Sell scientist to scientist	Q2 2024 -
5	SAN OEM and CDMO partnerships	Increase market reach through external channels	Q3 2024 -
6	Sales organisation and lead generation investment	Accelerate growth with market relevant portfolio	Q4 2024 -

It is a journey but it has started and we are executing on key initiatives

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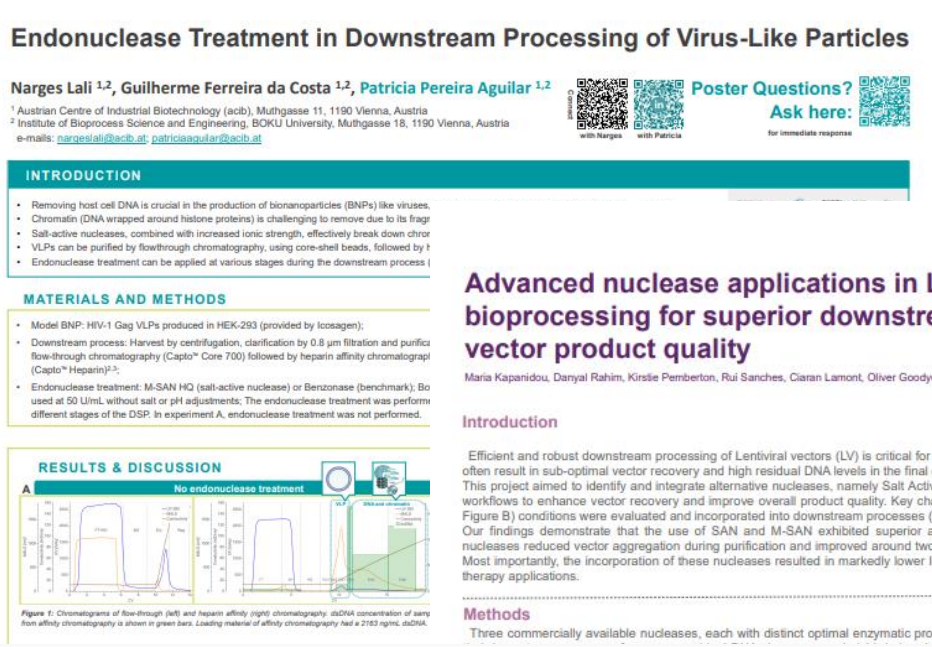
Investment in commercial transformation

New website, webinars, whitepapers, talks, publications and collaborations



Endonuclease Treatment in Downstream Processing of Virus-Like Particles

Narges Lali [1,2], Guilherme Ferreira da Costa [1,2], Patricia Pereira Aguilar [1,2]

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[2] Institute of Bioprocess Science and Engineering, BOKU University, Muthgasse 18, 1190 Vienna, Austria
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Poster Questions? Ask here:

INTRODUCTION

- Removing host cell DNA is crucial in the production of bionanoparticles (BNPs) like viruses.
- Chromatin (DNA wrapped around histone proteins) is challenging to remove due to its fragi
- Salt-active nucleases, combined with increased ionic strength, effectively break down chror
- VLPs can be purified by flowthrough chromatography, using core-shell beads, followed by
- Endonuclease treatment can be applied at various stages during the downstream process

MATERIALS AND METHODS

- Model BNP: HIV-1 Gag VLPs produced in HEK-293 (provided by Icosagen);
- Downstream process: Harvest by centrifugation, clarification by 0.8 µm filtration and purifica flow-through chromatography (Capto™ Core 700) followed by heparin affinity chromatograpl (Capto™ Heparin)[2,3];
- Endonuclease treatment: M-SAN HQ (salt-active nuclease) or Benzonase (benchmark); Bo used at 50 U/mL without salt or pH adjustments; The endonuclease treatment was performe different stages of the DSP. In experiment A, endonuclease treatment was not performed.

RESULTS & DISCUSSION

A — No endonuclease treatment

Figure 1: Chromatograms of flow-through (left) and heparin affinity (right) chromatography. dsDNA concentration of samp from affinity chromatography is shown in green bars. Loading material of affinity chromatography had a 2163 ng/mL dsDNA.

Efficient Chromatin Removal in Viral Vector Manufacturing Using Salt-Active Nucleases

The First Enzymatic Solution for Complete Removal of Chromatin at Physiological Salt Conditions and its Effect on Downstream Processing

OXB

Advanced nuclease applications in Lentiviral vector bioprocessing for superior downstream recovery and vector product quality

Maria Kapanidou, Danyal Rahim, Kirstie Pemberton, Rui Sanches, Ciaran Lamont, Oliver Goodyear, Carol Knevelman, Kyriacos Mitrophanous, Lee Davies

Introduction

Efficient and robust downstream processing of Lentiviral vectors (LV) is critical for producing high-quality gene therapy vectors. Traditional nucleases used in LV manufacturing often result in sub-optimal vector recovery and high residual DNA levels in the final drug product.
This project aimed to identify and integrate alternative nucleases, namely Salt Active Nuclease (SAN) and Medium-Salt Active Nuclease (M-SAN), into OXB's LV manufacturing workflows to enhance vector recovery and improve overall product quality. Key characteristics of alternative nucleases such as optimal pH (See Figure A) and salt buffer (See Figure B) conditions were evaluated and incorporated into downstream processes (See Figure C) and compared to traditional nuclease-based downstream processes.
Our findings demonstrate that the use of SAN and M-SAN exhibited superior activity under typical LV manufacturing conditions. Notably, the incorporation of alternative nucleases reduced vector aggregation during purification and improved around two-fold vector recovery during the challenging sterile filtration step of Drug Product processing. Most importantly, the incorporation of these nucleases resulted in markedly lower levels of residual DNA in the final drug product, addressing a critical quality attribute for gene therapy applications.

Methods

Three commercially available nucleases, each with distinct optimal enzymatic properties, were evaluated in OXB's LV suspen… …mstream processing. Nuclease treatment w… exchange chromatography (AIEX) membra…

Evaluation of SAN in LV …

SAN also outperformed the In… OXB's LV production.

- Substantial reduction in vector …
- Reduced aggregation improves …
- Over 10-fold reduction in re… Nuclease (See Figure L).
- Improved vector recovery duri… (See Figure M).

Downloaded from …

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Methods

50TH ANNIVERSARY OXFORD

Using nucleolytic toxins as restriction enzymes enables new RNA applications

Ulli Rothweiler [1,*], Sigurd Eidem Gundesø [1], Emma Wu Mikalsen [1,2], Steingrim Svenning [1], Mahavir Singh [3], Francis Combes [4], Frida J. Pettersson [4], Antonia Mangold [1], Yvonne Piotrowski [1], Felix Schwab [1], Olav Lanes [1] and Bernd Ketelsen Striberny [1,*]

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New VP of Sales – Paul Blackburn

Driver of commercial transformation

- **Joined**: September 2024
- **Qualifications**: Ph.D. in Vaccine Development (University of Glasgow); Degree in Medical Microbiology (University of Edinburgh)
- **Experience**: Over 20 years in life sciences with a strong technical and commercial track record
- **Leadership**: Built and led successful teams at 10x Genomics, Thermo Fisher Scientific, Bio-Rad, and GE
- **Initiatives**: Conducted a comprehensive assessment of the sales team, structure, and processes
  - **Focus Areas**:
    - Team dynamics and capabilities
    - Optimizing ways of working
    - Becoming customer centric

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Sales Update
Q3 2024

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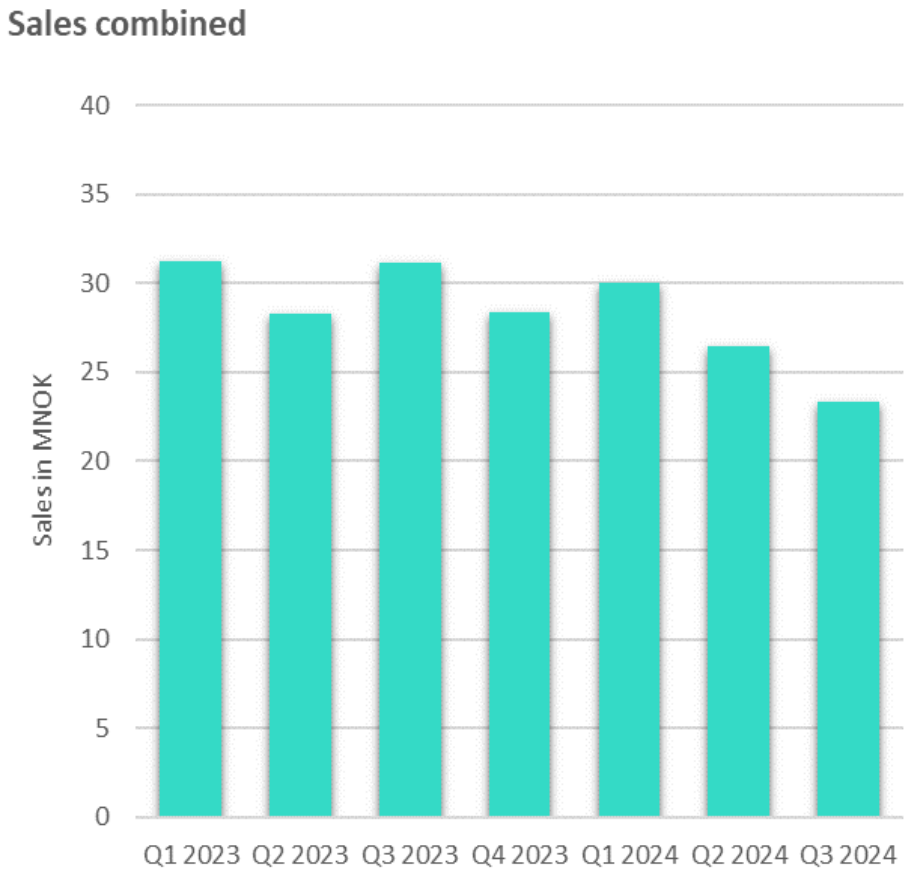
Total Sales

Molecular tools down and upward trend for Biomanufacturing

Combined sales

- ✓ Quarterly sales of 23.3 MNOK (31.2 MNOK)
- ✓ Sales impacted by performance in Molecular tools segment
- ✓ 58% of sales coming from the USA, 41% EMEA and 1% APAC
  - ✓ Q3 2023: 43%, 56% and 1%, respectively



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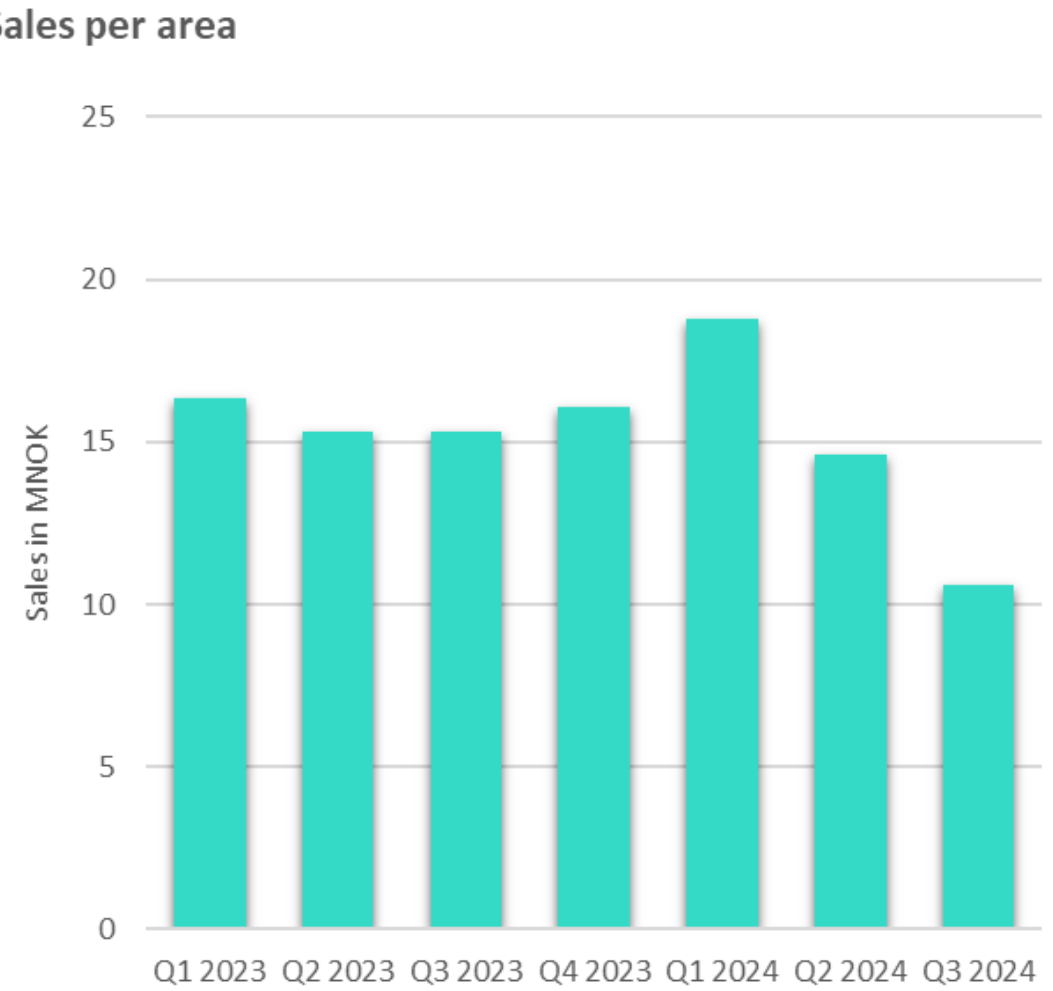
Sales per area

Commercial

Molecular Tools

- ✓ Weak quarter driven by absence of major order from key account
- ✓ Accounts for 44% of total Q3 sales
- ✓ Expect organic growth opportunities, especially with its Endonuclease and Polymerase product offerings during 2025



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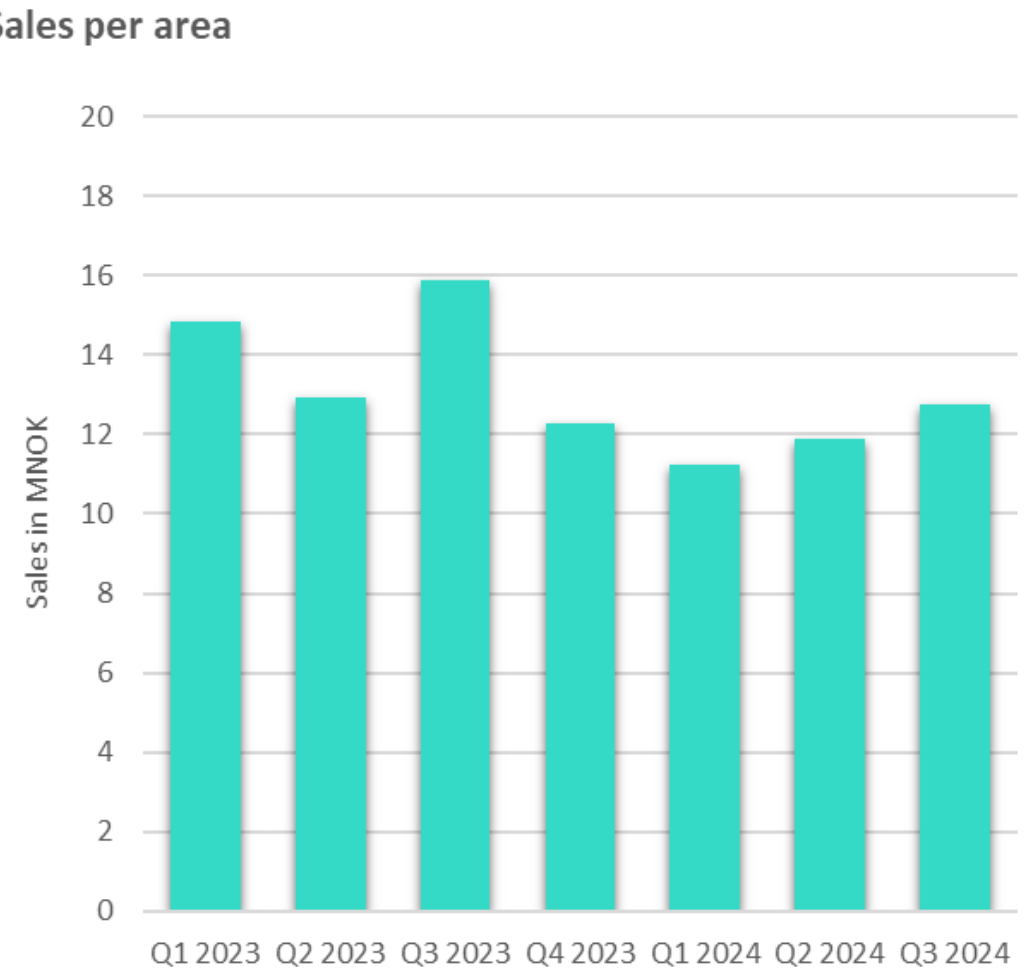
Sales per area

Commercial

Biomanufacturing

- ✓ Quarterly sales 12.7 MNOK
- ✓ Positive trend during last 3 consecutive quarters in a challenging environment
- ✓ Accounts for 56% of total Q3 sales
- ✓ SAN HQ GMP continues to be picking up in sales
- ✓ High interest in segment also from competitors
- ✓ Increase in Unique customers in the segment for each Quarter this year compared to previous years indicating a growing customer base



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Biomanufacturing Update

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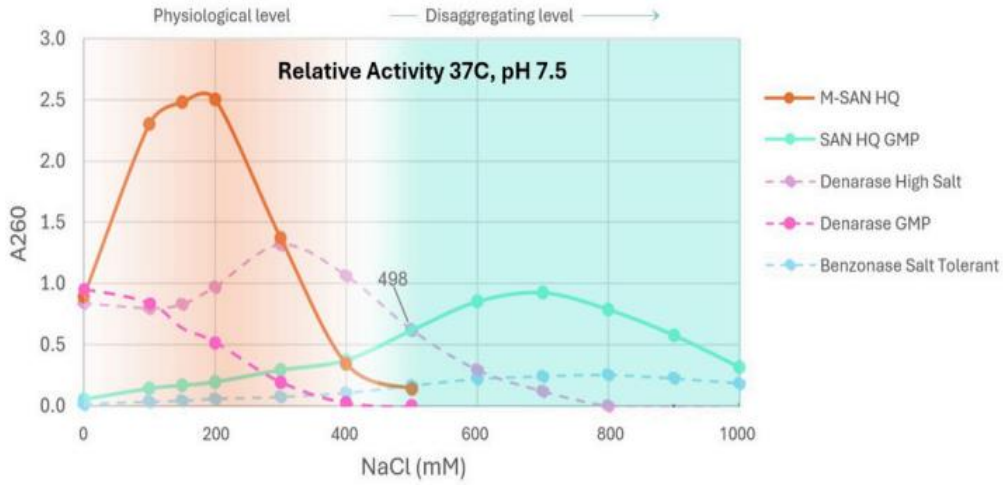
SAN market oveview

Intensified competition but SAN portfolio remains competitive

- **Strong Interest**: Significant interest in the segment, with competitors closely following ArcticZymes' advancements
- **Published Insights**: Released a whitepaper on Select Science titled "Efficient Chromatin Removal in Viral Vector Manufacturing Using Salt-Active Nucleases"
- **Specialized Product Offerings**:
  - M-SAN HQ: Optimized for physiological salt conditions, delivering faster digestion and cleaner viral vector products
  - SAN HQ GMP: Tailored for high-salt environments, supporting comprehensive viral vector production
- **Positive CDMO Feedback**: Strong reception from CDMOs with validation at ESGCT. Performance data presented reinforcing the impact of SAN in gene therapy processes



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SAN OEM update

Proceeding according to plan

- **Active Partner Engagement**:
  - Ongoing discussions with multiple potential partners
- **New Product Launch**:
  - OEM agreement discussions for new SAN product, launching in December 2024
- **Supply and Rebranding**:
  - ArcticZymes to provide bulk material for repackaging and rebranding under partner's label
- **Term Sheet Negotiations**:
  - Progressing with one key partner
- **Execution Timeline**:
  - Term sheet expected to finalize by early Q1, contingent on successful negotiation
- **Revenue Impact**:
  - Anticipated contribution starting in Q2/Q3 2025

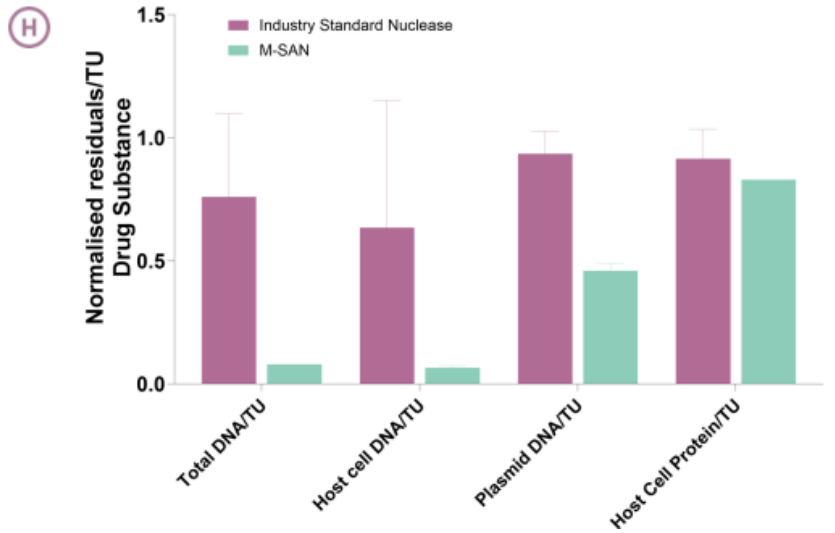
CDMO opportunities

Becoming the standard nuclease on a CDMO platform

- Trend in the CGT space - a return to the CDMO model
- Trough a partnership with CDMOs we will expand our reach significantly into several projects at once
- M-SAN and SAN has been tested in an initial study with good data outcome at CDMO
- M-SAN enhances
  - Downstream recovery
  - Reduces DNA contamination
  - Minimizes vector aggregation, leading to cleaner, higher-quality lentiviral vectors
- Goal for CDMO is to start utilizing M-SAN for new projects next year on their platform

M-SAN demonstrated superior performance compared to the Industry Standard Nuclease when integrated into OXB's LV production process.

- Lower pressure during clarification after M-SAN treatment in the bioreactor (See Figure D).
- Higher Tangential Flow Filtration (TFF) flux rates (see Figure E).
- Comparable functional titre through downstream processing (See Figure F).
- Effective removal of total, host cell and plasmid DNA following M-SAN treatment in the bioreactor (See Figure G).
- Reduced DNA contaminants in the drug substance (See Figure H).
- Similar particle size in the drug substance after M-SAN incorporation (See Figure I).



https://oxb.com/wp-content/uploads/2024/10/Advanced-Nuclease-Applications-in-Lentiviral-Vector-Bioprocessing-for-Superior-Downstream-Recovery-and-Vector-Product-Quality.pdf

The future portfolio - Diversification

RNA based therapeutics update

AZT's first innovation - «RNA restriction enzyme ET-N1»

- Enzymes are **key** in development, analytics and manufacturing process of mRNA
- AZT is now exploring **new innovations** in the field of RNA therapeutics through RCN funded collaboration project.
- First major innovation is a sequence specific RNA cleaving enzyme enabling controlled fragmentation of RNA
- **First patent filed February 7, 2023** – further filing ongoing to secure broader IPR and lead market
- Multiple applications are possible, currently testing use for improving analytic methods for mRNA
- **In contact with numerous companies** with ongoing testing at 7 sites

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Using nucleolytic toxins as restriction enzymes enables new RNA applications

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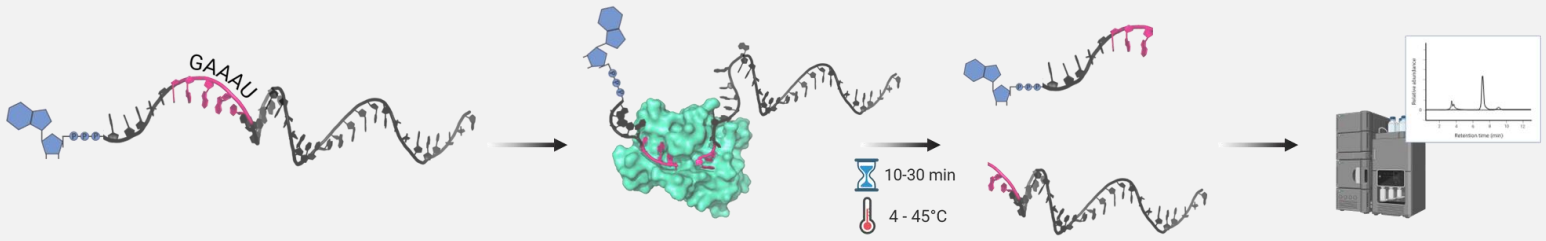

Due to its large size, mRNA needs to be fragmented prior to analysis e.g. using LC-MS. ET-N1 can speed up and simplify the cleaving process prior to analysis.

Expenses & Profitability

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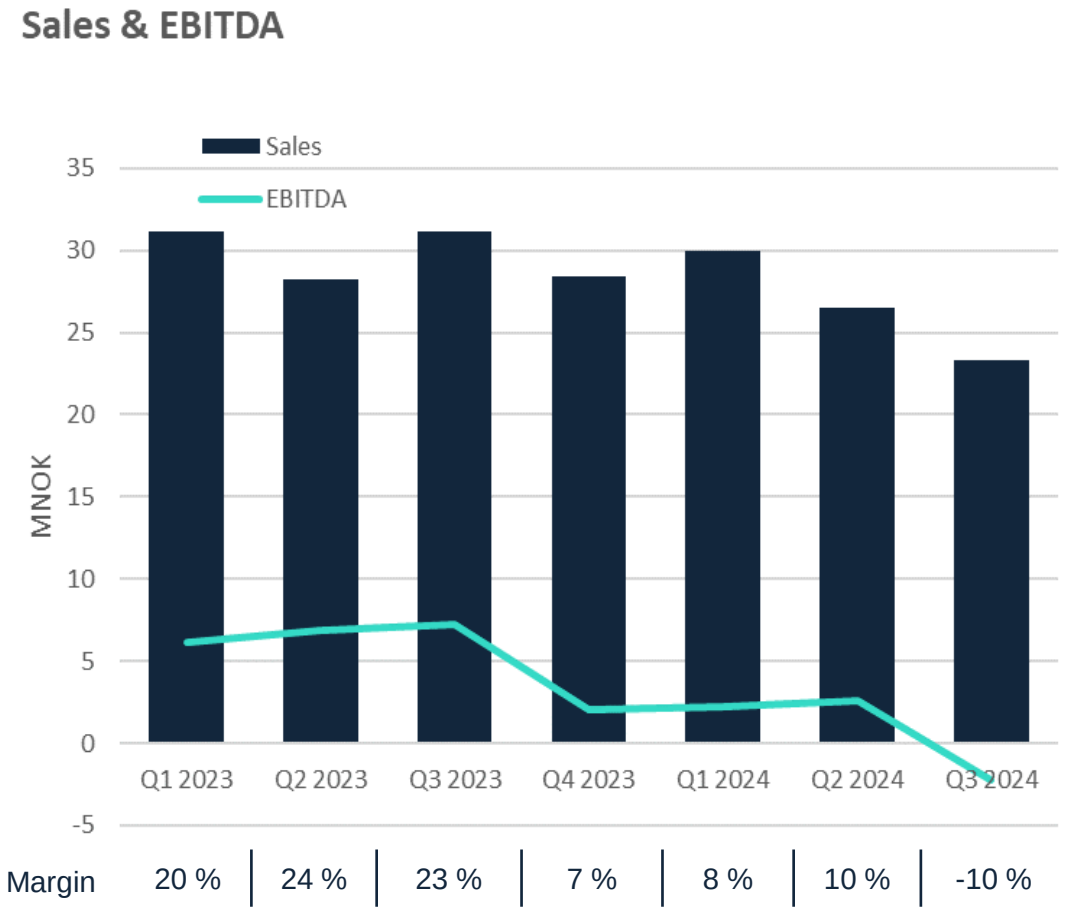
Profitability and expenses

Expense development continue according to plan



	Q3		YTD	
	2024	2023	2024	2023
Sales revenues	23,3	31,2	79,8	90,6
Other revenues	0,8	0,0	1,9	0,0
Sum revenues	**24,1**	**31,2**	**81,7**	**90,6**
Cost of materials	-4,7	-1,9	-7,2	-9,9
Change in inventory	3,7	0,9	2,8	6,1
Personnel expenses	-16,2	-14,8	-47,1	-43,5
Other operating expenses	-9,1	-8,1	-27,6	-23,1
Sum expenses	**-26,3**	**-23,9**	**-79,1**	**-70,4**
EBITDA	**-2,2**	**7,3**	**2,6**	**20,2**
Depreciation and amortisation	-1,5	-1,6	-4,5	-4,9
EBIT	**-3,7**	**5,7**	**-1,9**	**15,4**
Net financials	1,8	2,8	7,4	6,8
EBT	**-1,9**	**8,5**	**5,5**	**22,2**

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…but Q3 also impacted by other items

One-offs and extraordinary

	Q3	
	2024	2023
Sales revenues	23,3	31,2
Other revenues	0,8	0,0
Sum revenues	**24,1**	**31,2**
Cost of materials	-4,7	-1,9
Change in inventory	3,7	0,9
Personnel expenses	-16,2	-14,8
Other operating expenses	-9,1	-8,1
ERP project	*1,2*	
Sum expenses	**-25,1**	**-23,9**
Adjusted EBITDA	**-1,0**	**7,3**

- Q3 2024 impacted negatively by **MNOK 1.2** in ERP implementation. Expected to be finalised in 2H 2024.

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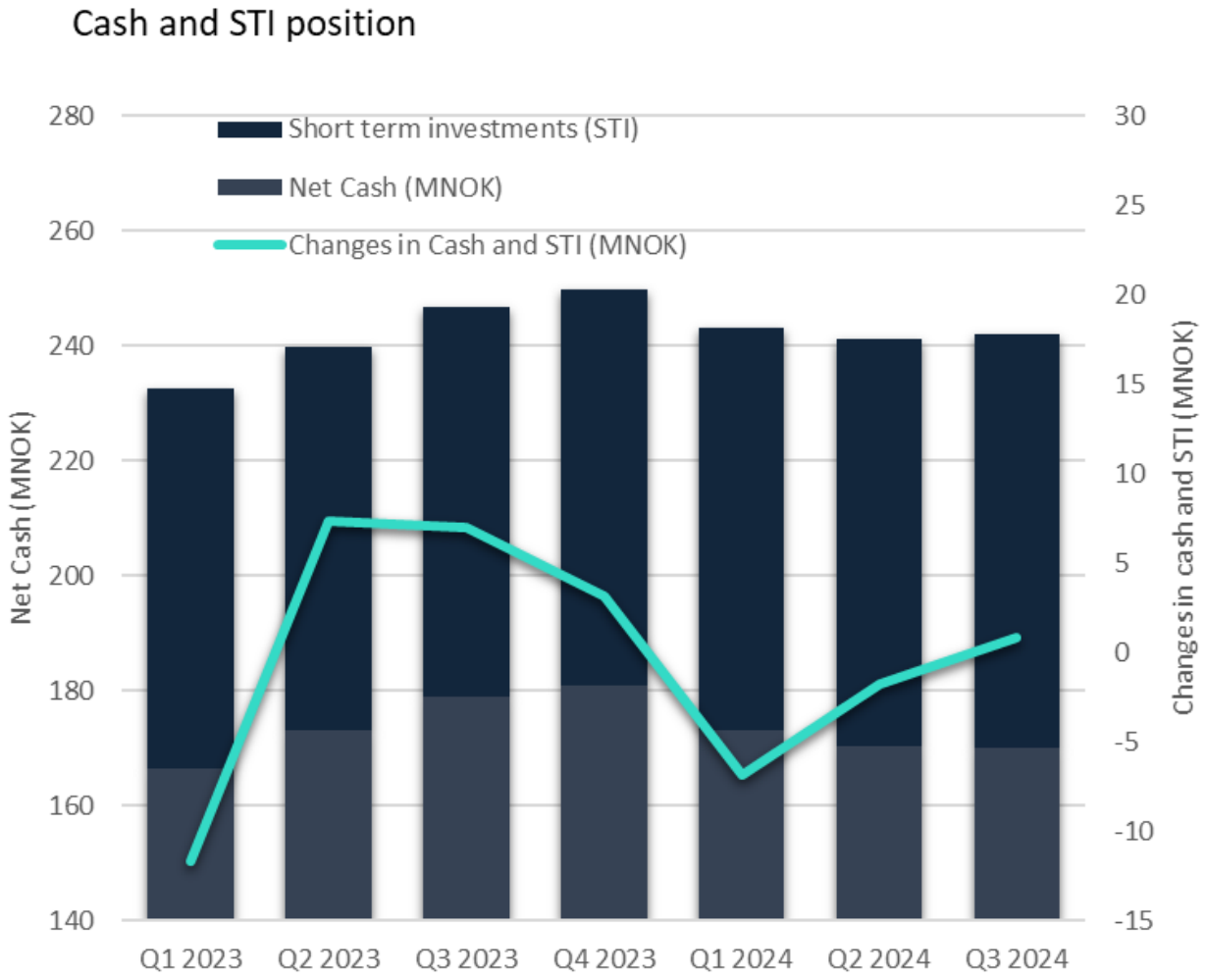
Cash flow and short-term investments

+0.9 MNOK in changes for Q3*



*includes changes in STI of +1.1 MNOK

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Outlook

- **SAN OEM Opportunity**: Term sheet expected to finalize by early Q1, contingent on successful negotiation, with expected contributions to SAN revenue growth in Q2/Q3 2025.
- **CDMO platform progress**: Successful evaluation of SAN by CDMO partner presented at ESGCT, positioning it for platform implementation in 2025.
- **Product Portfolio Expansion**: Over the next 8 months, ArcticZymes will launch two new GMP-grade nucleases and an ELISA kit, solidifying its position with a leading nuclease portfolio in the CGT space.
- **Strategic Investments**: Increased focus on *commercial transformation* to enhance market penetration and establish a more customer-centric organization.

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Thank you

Q&A