

# First quarter 2023

Earnings presentation 11 May 2023



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# Today's agenda

- Key events
- Introduction to poLight
- Operations and markets review
- Financial review
- Outlook
- Q&A

### Presenting



Dr Øyvind Isaksen Chief Executive Officer

Dr Isaksen has been CEO of poLight since August 2014. He has previously held several CEO positions, most recently in the publicly listed company Q-Free ASA, which he left in January 2014, after 7 years as CEO. Øyvind Isaksen holds a PhD in Applied Physics.



Alf Henning Bekkevik Chief Financial Officer

Bekkevik is a senior executive with a background from Arthur Andersen (E&Y), Wallendahl, Fjord Line, Grenland Group and lately from Wood Group Mustang as VP Finance. He holds a Master in Business & Economics (Siviløkonom) degree from NHH and is a state certified public accountant.



# Key events in the quarter

- First smartphone design-win and mass production purchase order worth NOK 2.9 million announced during the quarter
- Augmented Reality (AR) cases continued to mature. Both Magic Leap 2 and LLVision use TLens® in their latest enterprise AR glasses
- Follow-on order worth approximately NOK 650,000 received for TLens® to be used in a machine vision device, first announced on 18 May 2021
- Quarterly all-time high revenue of NOK 7.1 million
- The rights issue was fully underwritten and gave NOK
   135 million in gross proceeds





# poLight® at a glance

### **Background & description**

- Global player in tunable optics with applications in mobile, web cam, industrial, augmented reality, medical and others
- Founded in 2005 and has since developed state-ofthe-art expertise in tunable optics, polymers, MEMS technology and image applications and processing
- Holds 19 worldwide patent families, 7 pending applications and 4 registered trademarks
- 37 employees including long-term consultants
- Headquartered in Horten, Norway, with employees in Finland, France, UK, US, China, Taiwan and Philippines.
- Listed in Oslo Stock Exchange (PLT) in 2018

### **Geographical footprint**

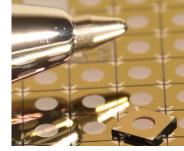


### poLight enables unique use cases

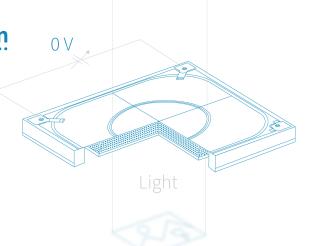




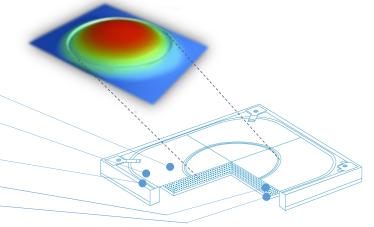
# TLens® Actuator: Enabling Smallest, Lowest Power, Fastest AF Cameras & Laser Projectors



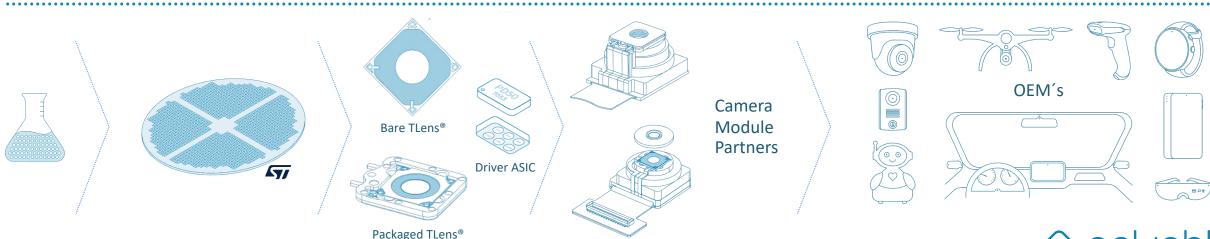
**Principle of operation** 



# Piezo MEMS film Glass membrane Silicon Polymer Glass window



### From Gel > MEMS Wafer > TLens® > Camera module > OEM



# poLight products & technology well-suited for several applications



### Smartphones, wearables, accessories

- Smartphone represent a large addressable market for which billions of cameras are produced each year
- 1,5 billion phones per year with 1 front camera and an average of 3 back cameras
- Camera function kev
- Potential addressable market for TLens®/poLight technology estimated at 3 billion units per year



### Barcode/Industrial

- Evolving from 1D laser to 2D imaging barcode readers
- Lasers replaced by camera systems, where autofocus will improve efficiency in scanning and portfolio
- Barcode technology is spreading to new industries
- OEM scan engine vendors today are increasingly looking to enable machine vision capabilities on their current offerings



### **Augmented Reality (AR)**

• AR is expected to to grow significantly as the technology is rapidly expanding beyond entertainment and gaming to an increasing number of industrial, commercial, educational applications and later become a consumer device



### Other

- New opportunities are emerging that could represent significant potential
- Endoscopy and automobile are just two examples of new opportunities for poLight technology



# TLens® customer-wins









# Use case: Consumer



### Consumer: Add-in TLens® design continues to open opportunities

- The new camera module concept, based on add-in TLens® design, is continuing to open new opportunities for different applications
- Several reference designs have been developed to position TLens® for various use cases
- During the quarter, the focus was on smartphone and augmented reality applications
- Other applications, such as webcams, laptop, drones, etc., are also being explored



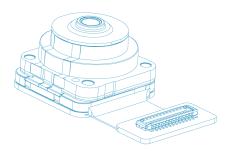


# First smartphone design-win secured – Meizu 20 Infinity

- TLens® used in the Selfie Camera
- Meizu 20 Infinity is a flagship phone and is expected to ship in low volume
- Achieve the most compact selfie camera, instant and smooth autofocus user experience
- TLens® Camera module (CM) specification
  - 32MP, 1/2.74', F2.5, DFOV: 87.5deg, XYZ size: 8.14 X 7.99 X 5.67mm
  - Bare TLens<sup>®</sup> Silver Premium added inside fixed focus lens stack
  - Smallest camera module & pupil size with AF on the market
- Status
  - First mass production (MP) purchase order fulfilled end of March
  - Market launch 30 March-2023



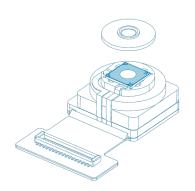






# Smartphone design-win will increase exposure

- Soon a smartphone using TLens® in the market
- Great opportunity for the company to demonstrate our products and reduce the potential perceived supply risk using polight products
- Consumer market remains somewhat depressed, and OEMs are experiencing lower sales
- The introduction of new, more costly technology will therefore probably be more challenging
- Nevertheless, we believe the current sentiment will eventually change, opening new opportunities which the company will be ready to exploit

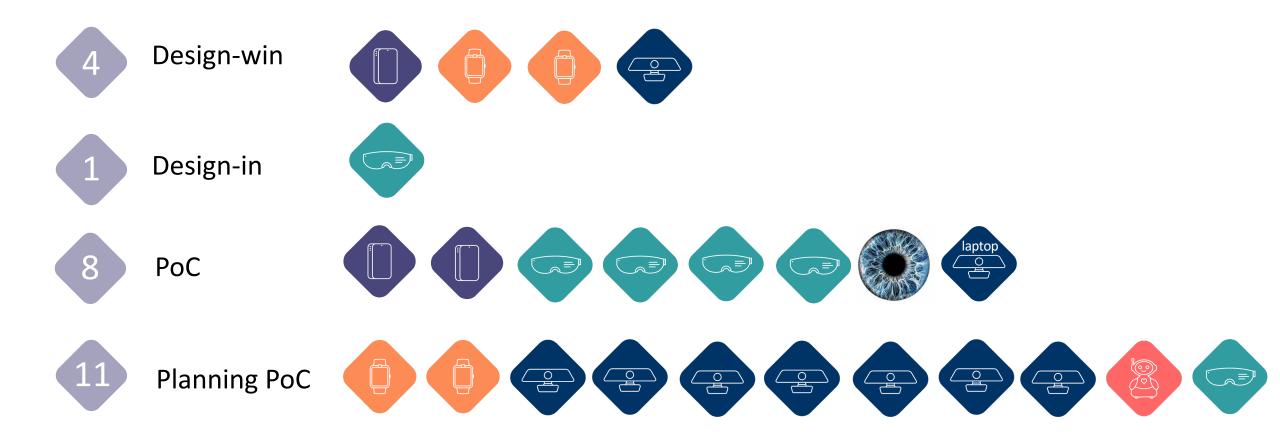








### Status on consumer



POC = Proof of Concept





# Use case: AR



AR: Impressive position in a mega trend

- Why TLens® Key selling points;
  - Enables ultra-compact size camera modules
  - Ultra-low power consumption
  - Fast focusing speed
  - Constant field of view (FOV) and high optical stability
  - No gravity impact even when head is moving
  - Athermalisation robust focusing over temperature range near high heat components (fixed focus camera goes out of focus)
- TLens® camera AR use cases
  - Fast sharp focusing of object/text regardless of distance
  - Fast QR / barcode scanning regardless of distance
  - Hand gesture recognition
  - All-in-Focus still images regardless of where the objects or texts are in the scene
  - Continuous video focus when recording moving objects



### 4 April-23: LLVISION confirm releasing enterprise Augmented Reality glasses using TLens®

"TLens® has millisecond-level response time, which can provide fast auto focusing and remote video streaming experience for AR devices that need to move quickly, also allowing AI recognition results to be more accurate and quickly displayed on AR near-eye screens. Also, the low power consumption while used in continues autofocus mode or fixed focus is key for us. So far, we have delivered the glasses to customers such as TBEA (an advanced energy devices manufacturer), SANY Group (a construction machine manufacturer), Southern Airlines (an airline company), and Agile8 (an AR solution company for healthcare in Australia). In the future, we seek to strengthen cooperation with polight and strive for breakthroughs in cutting-edge technology research such as near-eye display optical engine system and resizing resolution display system," - said Allan Liang, co-founder of LLVISION.

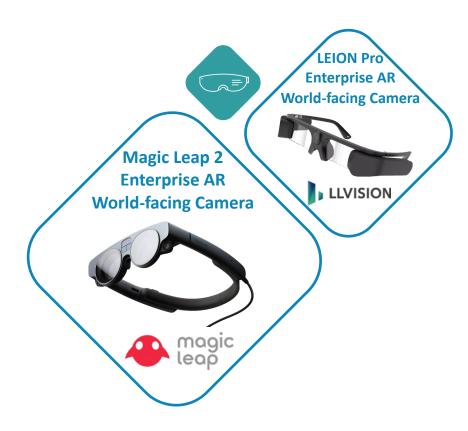






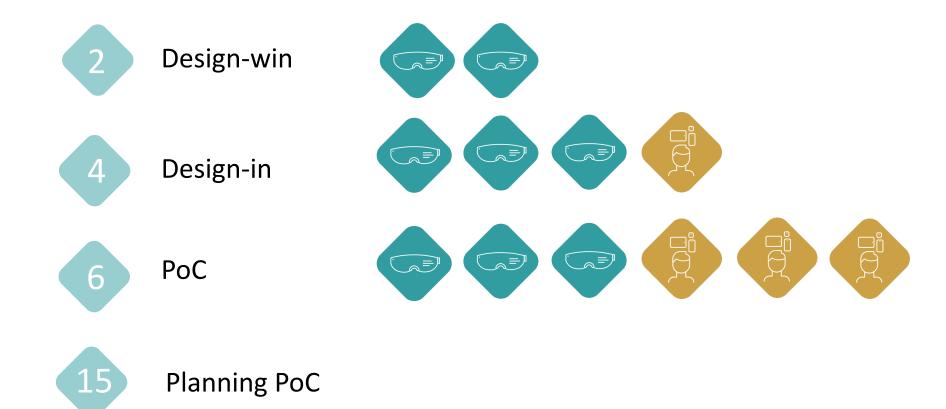
# AR market segment continued to develop positively for polight during the quarter

- TLens® is used/planned for use in both world facing camera applications and display
- The company is currently used in two AR enterprise products already released to market Magic Leap 2 and LLVision
- Three more products to be launched during 2nd half 2023, if everything goes as planned
- Further a potential new product called TWedge®, enhancing µLED AR display resolution, is receiving good interest





# Status on AR/VR







Use case: Industrial



# Barcode / Industrial

- Opportunity pipeline for this market segment is promising and slowly growing
- It will take time to develop this market and will require entry into some broader application areas
- Currently five companies use TLens® in commercially available products (design-wins)
- Recently polight received a follow-on order from one of them worth NOK 650,000
- All five cases are still shipping to customers and are expected to do so for several more years
- New releases with same customer are being discussed, while new companies is in the process of qualifying our technology



### **Innovative Multi Focus**



**HIKROBOT** 

### Unique technology

• Teledyne e2v's proprietary solution

. Wide F/4.0 aperture to maximize light capture

• < 200 mW for Optimom 2M Multi Focus

### Fast focus adjustment

· Response time < 1ms

. Through FFC/FPC connector and I2C lane

### Reliable solution

· Resistant to temperature and electromagnetic effect

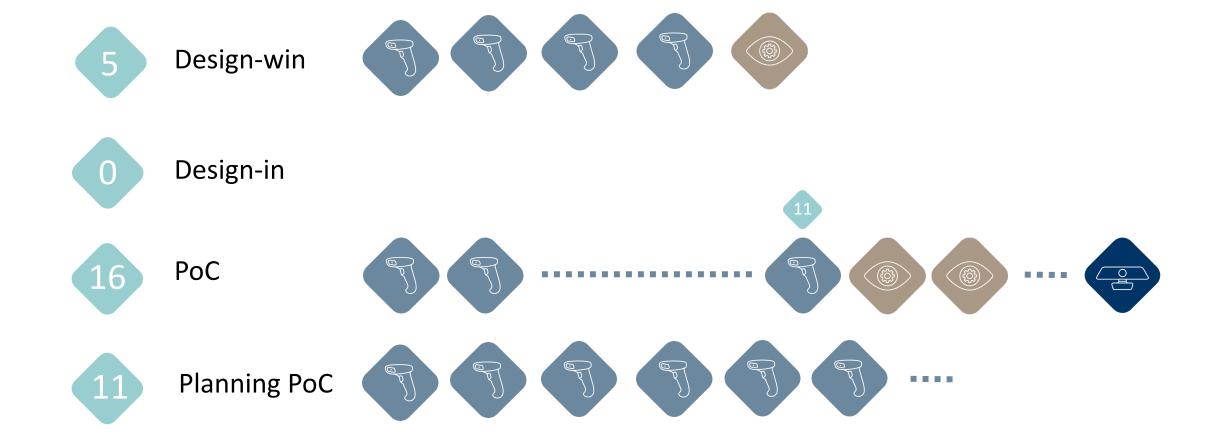








# Status on Barcode/Industrial







Use case:

Healthcare & Automotive



### Healthcare

- New design-in: a company developing Miniature Two-photon Microscopy for commercial sale
- The Xenocor (https://xenocor.com) case has developed positively during the quarter
  - Human trials are expected to be carried around mid 2023
  - Expected market release shortly after that
- The Kavli case has generated a lot of activity, and similar research cases account for nine of the company's ongoing PoCs and one design-in
- Increasing number of companies exploring the use of TLens in commercial products

1 design-win, 2 design-in, 14 PoCs ongoing and 8 planning PoC







# Automotive – a nontrivial volume opportunity

- In-cabin camera requirement demand new solution
- Autonomous driving drives step change in camera adoption
- The use case calls for non-mechanical focusing solution
- During the quarter the company has been engaged in two PoC and a few other are planning to start PoC
- This market segment will be challenging to penetrate
- There is a need for new technology, and TLens® is one of the solutions being explored
- Market is significant but it will take may years to develop.

0 design-win, 0 design-in, 2 PoCs ongoing and 3 planning PoC







# Promising pipeline

			Project Completed PoC		Ongoing PoC	Planning PoC	
Consumer		4 (4)	0 (1)	33 (32)	5 (4)	11 (12)	
Augmented Reality		2 (1)	4 (6)	12 (12)	6 (4)	15 (11)	
Industrial		5 (5)	0 (0)	20 (18)	16 (15)	11 (11)	
Other (medical, automotive)	\$ P	1 (1)	2 (1)	5 (3)	16 (15)	11 (13)	
Number in ( ) represents last quarter		12 (11)	6 (8)	70 (65)	43 (38)	48 (47)	







# Key financials

### Income statement

(in NOK million)	Q1 2023	Q1 2022	FY 2022
Revenue	7.1	1.5	13.4
Cost of sales	-4.2	-0.7	-4.8
Research and development expenses	-7.6	-11.8	-32.9
Sales and marketing expenses	-3.8	-3.9	-13.1
Operational / supply chain expenses	-3.0	-1.6	-9.2
Administrative expenses	-2.6	-2.0	-12.1
EBITDA	-14.0	-18.5	-58.7

- Revenue reflects sales of TLens® and ASICs of NOK 7.1 million for commercial use and to customer development projects
- EBITDA loss of NOK 14.0 million vs. loss of NOK 18.5 million in Q1 2022
  - All-time high revenue
  - Less third-party involvement in R&D projects

### Balance sheet summary

(in NOK million)	Q1 2023	Q1 2022	FY 2022
Intangible assets	23.0	30.8	24.9
Inventories	56.8	20.7	45.6
Cash and cash equivalents	53.6	150.2	84.2
Total equity	135.6	193.9	150.7
Total current liabilities	25.9	23.0	24.6
Total equity and liabilities	164.1	220.6	178.2

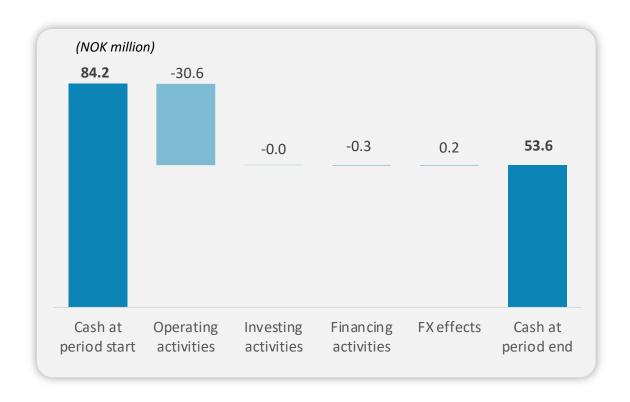
- Cash position of NOK 53.6 million, compared with NOK 84.2 million at year end 2022
- Inventory of NOK 56.8 million compared with NOK 45.6 million at 31.12.2022.
  - The inventory has increased by NOK 11.2 during the quarter
  - The increase in inventories mainly relates to wafers from ST Microelectronics (long lead-time components)



### Cash Flow

- Q1 cash used in operating activities was NOK 30.6 million, compared with NOK 6.0 million in Q1 2022
  - Increased inventory by NOK 11.2 million in the quarter
  - VAT claim of NOK 11 million received in Q1 2022
- Q1 net decrease in cash was NOK 30.9 million
- The rights issue was oversubscribed by approximately 25% and gave in May-23 NOK 135 million in gross proceeds

### Q1 2023 cash flow development







### Outlook

- High activity levels are reflected in a growing opportunity pipeline
- Recently announced a design-win for smartphone case. Key reference for the company, - for all market segments
- Great opportunity for the company to demonstrate TLens® and reduce the potential perceived supply risk
- Consumer market is depressed, and OEM's experience lower sales, which makes introducing new more costly technology challenging
- Current sentiment will eventually change, opening new opportunities which the company will be ready to exploit





# Outlook, cont.

- The augmented reality (AR) market continues to develop positively for poLight
- Already being used in the latest Magic Leap and LLVision AR enterprise glasses
- Further it has been confirmed that TLens® will be included in other enterprise AR/VR glasses to be released in 2023 and onwards
- The company is also involved in projects aiming to develop AR glasses for the consumer market
- Other market segments, such as the industrial, medical and, in the term, automotive, represent significant business opportunities future-proofing poLight











# Management Team



Dr Øyvind Isaksen

**Chief Executive Officer** 

Dr Isaksen has been CEO of poLight since August 2014. He has previously held several CEO positions, most recently in the publicly listed company Q-Free ASA, which he left in January 2014, after 7 years as CEO. Øyvind Isaksen holds a PhD in Applied Physics.



Alf Henning Bekkevik

Chief Financial Officer

Bekkevik is a senior executive with a background from Arthur Andersen (E&Y), Wallendahl, Fjord Line, Grenland Group, and, most recently, as VP Finance for Wood Group Norway AS. He holds a master's degree in business & economics (Siviløkonom) from NHH, and is a certified public accountant.



Pierre Craen

Chief Technology Officer

Craen is a senior executive with more than 20 years' experience in opto-mechanical systems engineering. Prior to joining polight, he managed product development teams at Varioptic, Barco and Motorola/Symbol. Mr Craen holds an MSc in Optical Engineering from Sup-Optic, as well as an MSc in Applied Physics.



Marianne Sandal

**Chief Operating Officer** 

Sandal is a senior executive with background from Tele-communications (Nera) and Road User Charging (Q-Free). She holds a BSc in Mechanical Engineering in addition to courses from Norwegian School of Management (BI). She has been responsible for world wide operations for more than 15 years.



### **Board of Directors**



### Grethe Viksaas - Board Chair, independent

Grethe Viksaas has had a long career in the Northern European managed service provider Basefarm AS. First as founder and CEO, and later as executive chair and member of the board of directors. Prior to Basefarm, Ms Viksaas served as CEO for SOL System AS and held several management positions in IT companies. She has experience from numerous board positions, including Telenor ASA. She is currently a non-executive director on the boards of Link Mobility Group Holding ASA, Crayon Group Holding ASA and CatalystONE Solutions Holding AS. She also chairs Farmforce AS's board of directors. Ms Viksaas has a master's degree in computer science from the University of Oslo.



### Ann-Tove Kongsnes - Deputy Chair

Ann-Tove Kongsnes is an Investment Director and Deputy CEO at Investinor AS. Over the course of her career, Kongsnes has gained extensive experience of investment, development, M&A, IPOs and exits of technology companies. Prior to her present position, she worked for seven years in international marketing, and was formerly a Director of Marketing and Operations. Ms Kongsnes has extensive board experience, and currently serves on the boards of six of Investinor's portfolio companies. She also serves on or chairs four nomination committees. She holds an MSc in Economics and Business Administration from HIB and took the Advanced Program in Corporate Finance at NHH.



### Dr. Juha Alakarhu - Board member, independent

Juha Alakarhu is the VP of Imaging at Axon in Tampere, Finland. He runs the Axon R&D office in Finland and is responsible for the imaging system for Axon camera products. Dr Alakarhu's entire career has been devoted to developing cameras. Before joining Axon in 2018, he worked for Nokia and Microsoft, where he developed several pioneering camera solutions, such as oversampling (the 41-megapixel camera), optical image stabiliser, and virtual reality technology. Juha Alakarhu holds a PhD from Tampere University of Technology.



### Svenn-Tore Larsen - Board member, independent

Svenn-Tore Larsen is CEO of Nordic Semiconductor, a position he has held since February 2002. Mr Larsen has broad international experience in the semiconductor business, previously as Director for the Nordic region for Xilinx Inc. He has also worked at Philips Semiconductor. Svenn-Tore Larsen has a degree in Electrical Engineering from the University of Strathclyde, UK.



### Thomas Görling - Board member

Thomas Görling is a Senior Investment Director at Stiftelsen Industrifonden (Sweden) and is closely involved in building successful technology companies. Representing Industrifonden, he has served on several portfolio company boards, at present HVR Cardio Oy (Finland) and eBuilder AB (Sweden). Before joining Industrifonden in 1998, Mr Görling held management positions within the European optical instrument and systems industry. He holds a Master of Science degree from the Royal Institute of Technology in Stockholm and studied business economics at Stockholm University.



# Statement of income

NOK 000	Note	Q1 2023	Q1 2022	FY 2022
Sale of goods		7 121	1 471	10 034
Rendering of services		0	0	3 328
Revenue		7 121	1 471	13 363
Cost of sales		-4 199	-685	-4 826
Gross profit		2 922	786	8 536
Research and development expenses net of governmental grants	6,9	-7 553	-11 750	-32 907
Sales and marketing expenses		-3 782	-3 876	-13 122
Operational / supply chain expenses		-2 960	-1 632	-9 179
Administrative expenses		-2 623	-1 980	-12 068
Operating result before depreciation and amortisation (EBITDA)		-13 996	-18 452	-58 740
Depreciation and amortisation and net impairment losses	8	-2 234	-2 987	-10 400
Operating result (EBIT)		-16 230	-21 439	-69 140
Net financial items	7	199	546	1 496
Loss before tax		-16 031	-20 893	-67 644
Income tax expense		0	-1	-242
Loss for the period		-16 031	-20 895	-67 886



### Balance sheet

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### Cash flow

NOK 000	Note	Q1 2023	Q1 2022	FY 2022
Operating activities				
Profit / loss (-) for the period		-16 031	-20 893	-67 644
Adjustments for:				
Depreciation of property, plant and equipment and right-of-use assets		415	420	1 877
Amortisation of intangible assets	8	1 819	2 567	8 522
Net finance income		-199	-546	-1 496
Equity-settled share-based payments		1 055	1 366	4 821
Other non-cash items		218	-173	-430
Changes in unrealised net foreign exchange rate differences/fluctuations		120	37	143
Changes in working capital:				
Increase (-) in trade and other receivables and prepayments		-7 370	10 942	11 925
Increase (-) in inventories		-11 191	-3 860	-28 741
Increase (+) in trade and other payables	10	1 287	1 609	2 574
Changes in provisions and government grants		-831	1 764	3 166
Interest received	7	167	808	2 255
Interest paid	7	-71	-89	-330
Income tax paid		0	-1	-242
Net cash flows used in operating activities		-30 612	-6 049	-63 600
Investing activities				
Purchase of property, plant and equipment		-36	-1 365	-9 202
Net cash flows used in investing activities		-36	-1 365	-9 202
Financing activities				
Proceeds from exercise of share options		0	33	254
Payment of lease liabilities		-252	-229	-964
Net cash flows used in financing activities		-252	-196	-710
Net increase in cash and cash equivalents		-30 900	-7 611	-73 513
Effect of exchange rate changes on cash and cash equivalents		220	-49	-49
Cash and cash equivalents at the start of the period		84 249	157 810	157 810
Cash and cash equivalents at the close of the period		53 569	150 151	84 249

