

blueye

# ***BLUEYE ROBOTICS***

Your eyes below the surface – FFU 30.01.2020

## ***OUR STORY***

- Spin-off from the Centre for Autonomous Marine Operations and Systems (AMOS) at NTNU.
- Founded by Erik Dyrkoren, Martin Ludvigsen, Christine Spiten and Erik Haugane in 2015.
- A passionate team consisting of dedicated experts within areas ranging from software and underwater robotics to business development.
- Shipped close to 700 units to customers in 35 countries since 2018.
- Blueye Pro launched January 2020. The model has a tilt camera, image stabilization and 305m depth rating.



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# BLUEYE TEAM

## Number of employees

- Full time: 17
- Of which Technical staff: 9
- Part-time students: 2 (currently)

## Key competence areas

- Cybernetics
- Underwater robotics
- Software – full stack from firmware to App
- Ocean industry business development

## Years of professional experience

- 60 % with more than 6 years experience
- CEO - 15 y. CTO - 18 y.

## Education level

- 70 % with Masters level and above

## Nationalities



## BOARD OF DIRECTORS



**Erik Haugane  
(Chairman)**  
Co-founder /  
CEO OKEA



**Martin Ludvigsen**  
Co-founder /  
Professor NTNU  
Marine Tech.



**Helle Moen**  
Regional Director  
EGGS Design



**Hans Olav Torsen**  
Investor / Co-founder  
Kongsberg SeaTex



**Leif-Arne Langøy**  
Investor / Chairman  
Kværner

## MANAGEMENT TEAM



**Christian Gabrielsen**  
CEO



**Jonas Follesø**  
CTO



**Oda Ryggen**  
Marketing Director



**Henri Parviainen**  
Sales Director

# ***THE CHALLENGE WE SOLVE***

Low-friction access to view what's below the surface.

# *TARGET CUSTOMERS*

Professionals that benefit from frequent underwater inspections. They are not experienced ROV pilots, neither do they have much prior knowledge about underwater vehicles.

A small, white, fish-like underwater robot with a camera lens on its head and a light on its tail is swimming in a dark blue tank. A thin yellow line connects the robot to the word 'blueye' in the top right corner. The robot is positioned in the center-right of the frame, facing left. The background is a dark blue gradient with some faint white specks.

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***Video***

[https://www.youtube.com/watch?v=jFblv6W\\_L-M&t=12s](https://www.youtube.com/watch?v=jFblv6W_L-M&t=12s)

# ADDRESSABLE MARKETS

## TARGET MARKETS

### Aquaculture

- Very strong position within Atlantic salmon farming, with good potential for growth into other sectors.
- Major clients include:



### Maritime sector

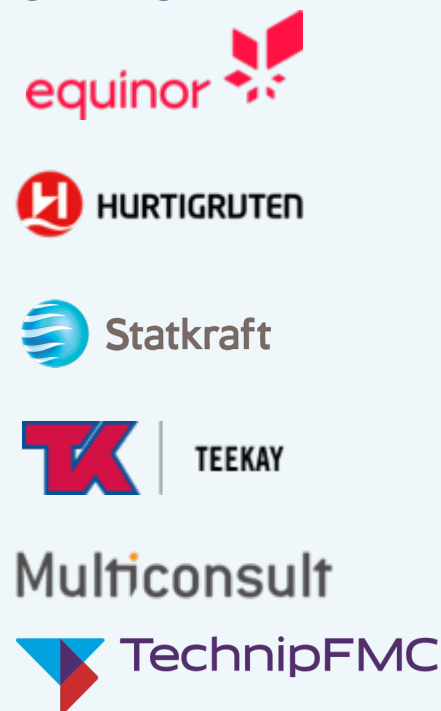
- Strong and growing interest from maritime sector: Ships, Ports, Yards, Services, Class, Insurance
- Major clients with global roll-out potential include:



## OTHER PROVEN VERTICALS

- Infrastructure
- Hydropower
- Waterworks
- Oil & Gas
- Search and Rescue
- Commercial diving
- Tourism
- Environmental research
- Navy

## CLIENTS





## *Other important use cases*



KNM Helge Ingstad – used in the operation when removing the torpedoes.

Drones will not replace scuba divers but be a supplement to increase efficiency and safety.



Wreck dive on MS Rauenthaler which sank during WW II.  
Depth: 150 meters.

Discovered in 2011, but no video released until the Blueye operation.

Deepest dive in Blueye history is at 500 meters.

# *It's robust - handles rough use*



Drone got tangled below the surface in Singapore for 5 weeks before it was retrieved.

Due to Blueye self-service design the customer could easily change broken parts himself, drone is now back in use.

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*Building on the platform*



# *Blueye software development kit (SDK)*

This summer **NTNU AUR-lab commissioned a software development project** to create a Software Development Kit (SDK) that would allow them to control the drone using their own software.

For Blueye, the SDK project was an opportunity to formally document and publish the communication protocol used between app and drone, and to create an official software library for internal and external use.

**Access to data** such as videos, pictures, and log files through an SDK **will be important** for larger customers such as **Mowi, Jotun**, and others in the future.



## **Why?**

- **Ability to integrate data with customers' own systems**

## *On the road map...*

### **Live stream:**

- Live stream from drone via 4G/5G network to HQ for real time decision making and remote inspections
- Demonstrated for DNV GL and Jotun with 50 + viewers

### **Guest port:**

- Will allow for 3rd party equipment like sonars, lasers, positioning systems etc.

**blueye<sup>®</sup>**

***YOUR EYES BELOW THE SURFACE***