# Improving salmon feeding process with the Smart System for Feeding Control (SICA)

## AQUAEXCEL$^{2020}$ Webinars 2020

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# Marine Technological Centre (CTN)

The CTN, a meeting point for innovation, contributes as an active and committed agent to promote the strength of:

- Business
- Professionals
- Public administrations

To increase the competitiveness of the sector

# INDUSTRY NEED

**Feeding control** is one of the main challenges:

- High production costs
- Major source of waste
- Increased environmental impact

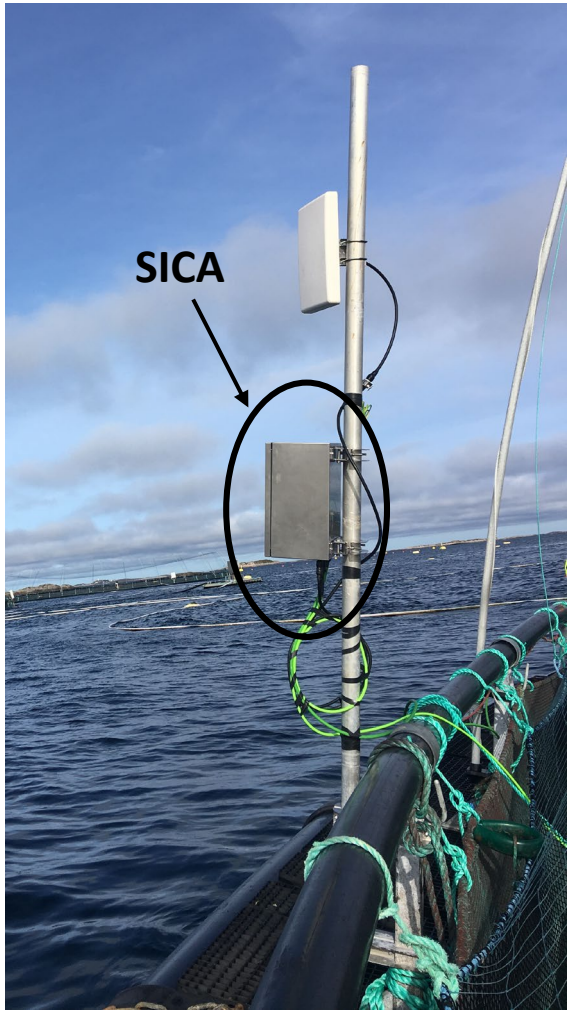

A **solution** to solve the *lack of control*, supposes:

- Optimization of the feeding process
- Sustainability
- Cost reduction

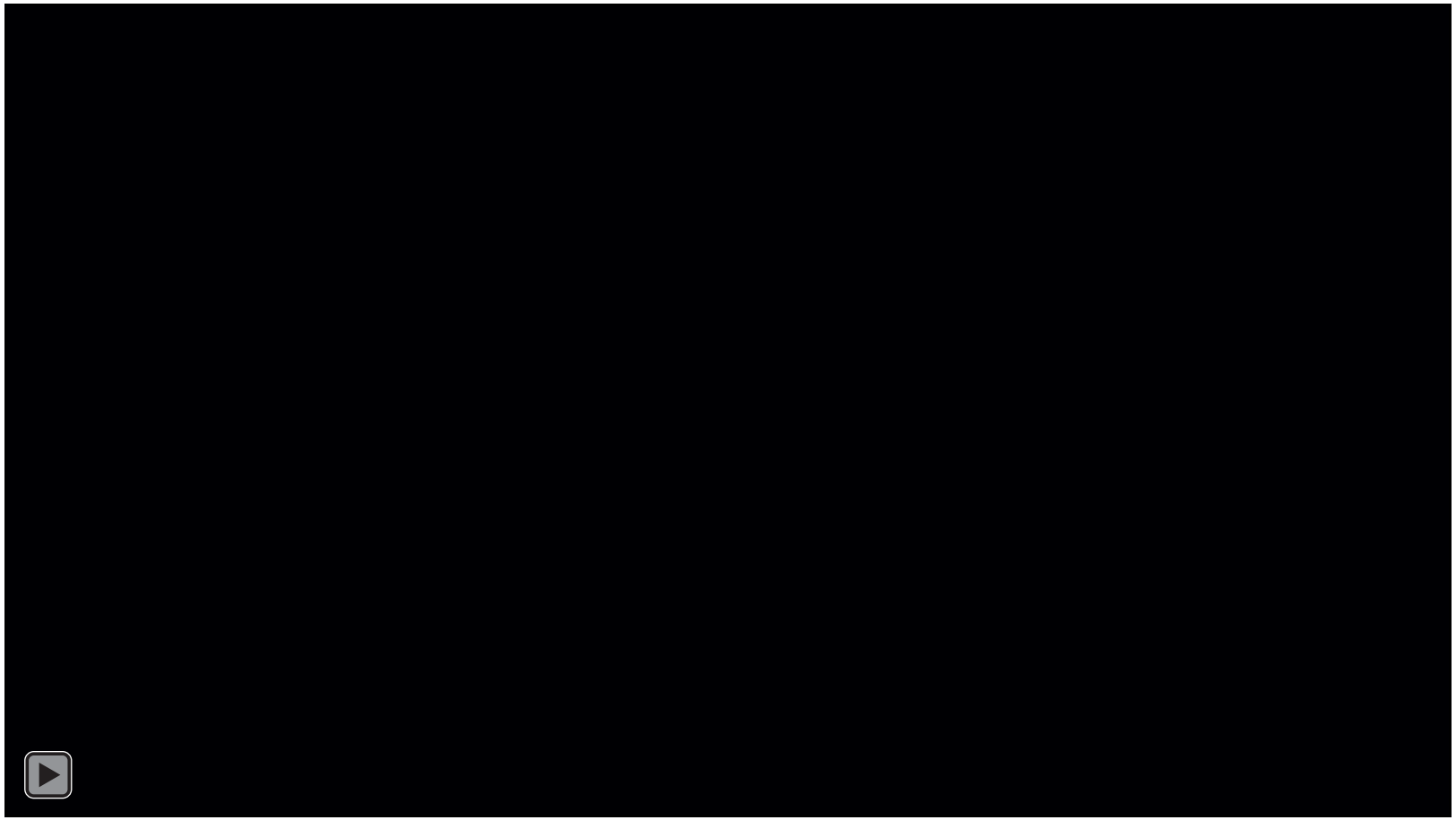
# SOLUTION

**SICA** (Smart System for Feeding Control)

- Objective:
  - ✓ Detect when fish are going to stop eating
  - ✓ Warn to stop feed supply
- Main features:
  - ✓ Passive acoustics
  - ✓ Artificial Intelligence
  - ✓ IoT (controlled via Internet)
- Valid for any species
- Compatible with any type of feeder



# UNDERLYING MAGIC

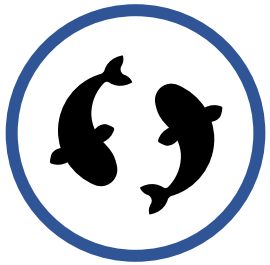


# WELFARE BENEFITS

## ENVIRONMENTALLY FRIENDLY SYSTEM

Feed waste reduction

Sustainable environment



Non-invasive system

# TARGET MARKET

| END USERS | APPLICATION |
|---|---|
| ATLANTIC SALMON FARMERS | **Improved efficiency** in salmon feeding through the use of non-invasive, cost-efficient and accurate technology |
| TECHNOLOGY PRODUCERS | Production of **novel passive acoustic systems** for offshore fish farms |
| AQUACULTURE RESEARCHERS | - **Improve knowledge** on the amount of fish feed that is eaten in sea cage environments<br>- **Optimise fish feed diets** based on measured and validated data |
| AQUACULTURE MARKETING AND LOBBYING GROUPS | **Supports aquaculture's promotion** as a sustainable, dynamic sector, working towards global food security while **decreasing environmental impact** |

# ECONOMIC IMPACT

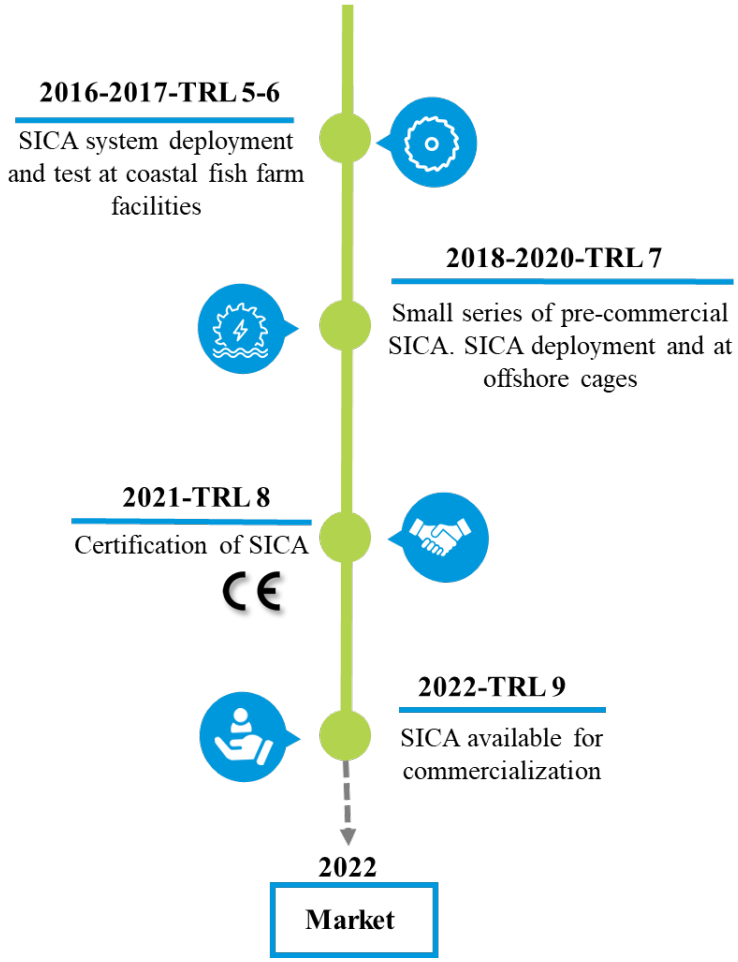
- **Increased knowledge** about **salmon behaviour** in offshore sea cages during the feeding process

- **Increased sustainability** of offshore fish farms through a **reduction of the environmental impact** of feeding process

- **Increased competitiveness** of the salmon farming sector through a **reduction in feeding costs and waste**

# CURRENT STATUS

- Technology Readiness Level (TRL) 6
  - **DEMO-BLUESMARTFEED** project. Financed by the European Maritime and Fisheries Fund of the European Commission
  - AQUAEXCEL2020 TNA programme (Experiments performed in SINTEF ACE facilities)
  - Scientific publication is expected to be published by the end of 2020
- Ready for commercialisation (TRL 9) in 2022



# TNA FACILITY USED

## Special thanks to

## SINTEF ACE

Experiments performed in SINTEF ACE Rataren facilities, Frøya, Norway.

(TNA No. AE120015)


Sintef ACE Rataren Control Centre (Frøya, Norway)

# THANK YOU!

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