AQUAWINGS

• Control and Optimization of your Aquaculture Farm

AQUAWINGS is a holistic solution that delivers enhanced monitoring and management of farm operations and production planning. AQUAWINGS delivers the necessary innovations for sustainable fish farms: disease diagnosis, fish behaviour analysis, intelligent feeding, and water quality analytics. Fish farmers possess complete control and actionable insights over their farm.

Advanced monitoring and insights

Based on user objectives and on heterogenous inputs, coming from multiple sensing devices and cameras, AQUAWINGS is able to effectively monitor various production and environmental parameters responsible for the farm's productivity and sustainability. Novel data and predictive analytics such as fish behaviour monitoring, disease diagnosis, biomass estimation and forecasting, water quality analytics, enable actionable insights and optimal operational decisions.
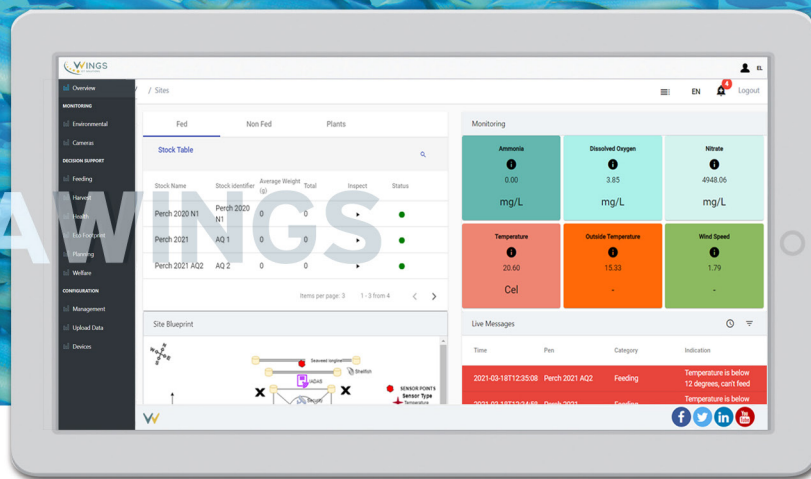
Decision Support System

AQUAWINGS includes a powerful Decision Support System, empowering farmers with early warnings/alerts, and with suggestions for Optimal Feeding, Optimal Harvesting and Seeding time, Disease Prevention and Mitigation, Production Planning and Stock Welfare, taking care of the overall operational status of the farm.

Farm Performance and Assessment

AQUAWINGS provides records of farm performance by keeping farm and stock information such as average weight, biomass, Feed Conversion Ratio (FCR), fish volume, stocking density, all in a paper - free way. Farmers are being offered the chance to get a holistic assessment of their production in a glimpse.

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AQUAWINGS

AQUAWINGS PACKAGE

Sensors measuring:

Temperature, pH, Salinity, Current, Dissolved oxygen, Turbidity, Chlorophyll, Nitrate, Ammonium, Meteorological data, etc.

WINGS Smart Gateway module:

• Retrieves data from sensors and transmits over any available network (NB-IoT, 3G/4G, WiFi, GPRS, LoRa)
• Over the air parameterization, adapting measurement and transmission profiles to user preferences
• Smart operation based on various protocols (RS-485, RS-232, ETHERNET etc.)
• Edge Computing capabilities
  o Video and image processing
  o Alerts, adapting measurement/ transmission profiles to events, data filtering
• Device management

Cameras:

• Off-water for security and infrastructure monitoring
• Underwater for monitoring fish behaviour, feed waste and infrastructure aspects and for executing early disease diagnosis

Dashboard features:

• Production Planning
• Feed Optimization
• Seed Optimization
• Stock Welfare
• Disease Prevention & Mitigation
• Environmental footprint
• Disease Diagnosis
• Behaviour Analysis
• Water Quality Analytics

CERTIFICATIONS

For the smart gateway:

RED 2014/53/EU, RoHS 2011/65/EU, IP68
EN 61010-1:2010
EN 62311:2008
ETSI EN 301 489-1 V1.9.2 and V2.1.1

ETSI EN 301 489-7 V1.3.1
ETSI EN 301 489-52 V1.1.0
ELOT EN 61326-1 E2
EN 301 908-1 V11.1.1 (2016-07)
EN 63000:2018

ABOUT WINGS

WINGS ICT Solutions is an innovative Greek company that offers Digital solutions (software and hardware) and transformations for vertical sectors, especially, for the environment (air quality, natural disasters), networks and infrastructures (energy/water/ gas, transportation, construction), production – manufacturing (food, factories/logistics), service sectors (health, content/culture, government, security/defense). The solutions rely on wireless (4G/5G/Lora), IoT, cloud and big data platforms, AI, visualization.

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