

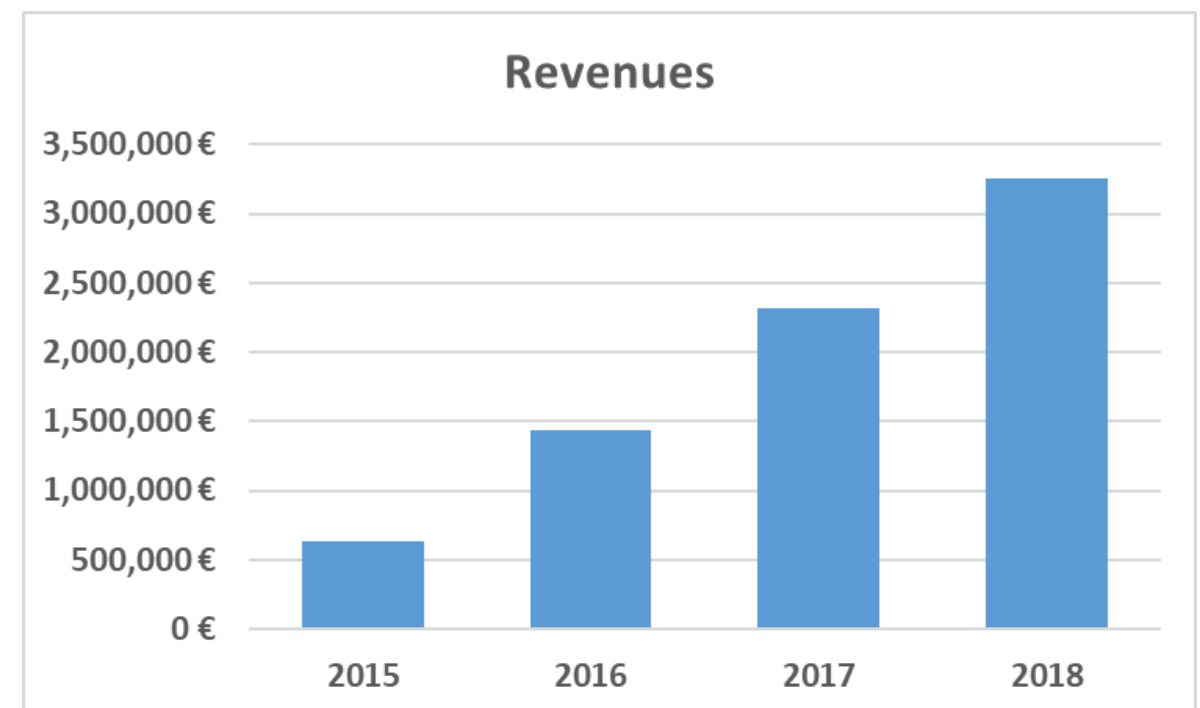
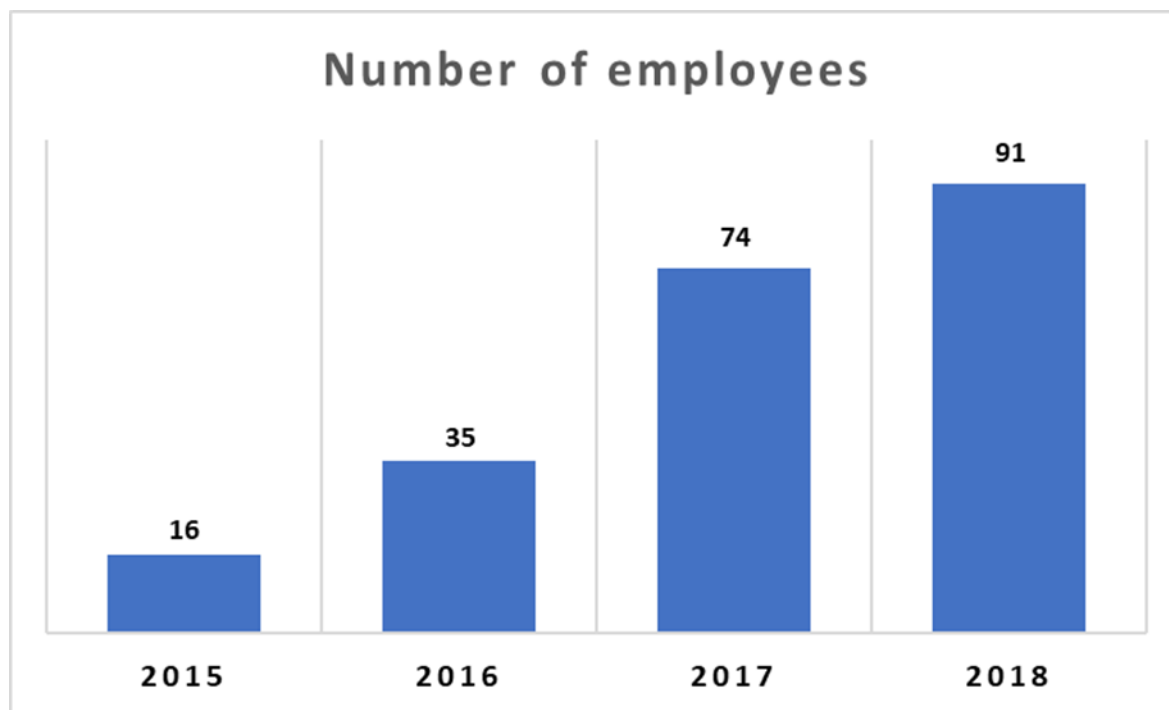
Future IoT Solutions Today

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Commercial Director

3rd FITCE Technology Forum 2019

Who We Are

WINGS ICT Solutions provides **integrated AI-powered IoT solutions**. Our advanced experience in **Artificial Intelligence, Big Data, Cloud, Wireless Networking** and **Security Technologies**, enable us to deliver highly reliable and cost effective solutions.



Fly to IoT Future

Smart Cities - Utilities - Food - Health



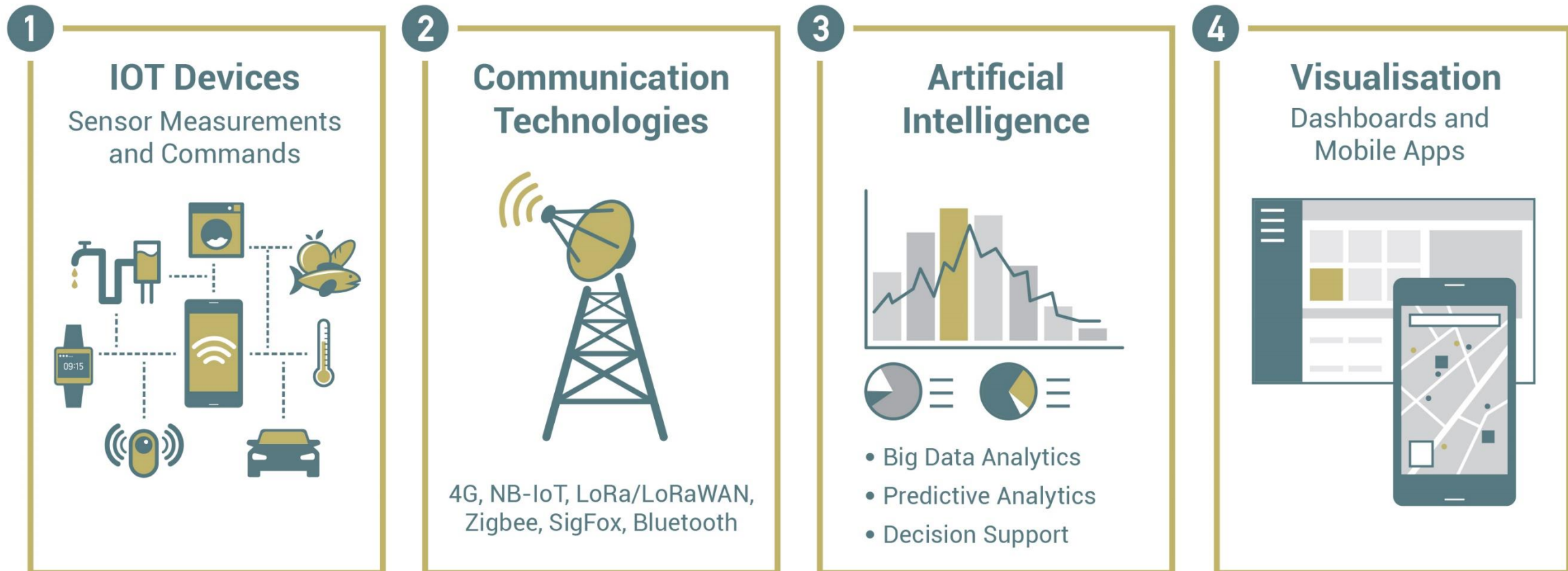
Fly to IoT Future

How It Works

How it works

WINGS integrated IoT Solutions are based on four pillars:

IoT Devices, Communication Technologies, Artificial Intelligence and Data Visualisation.



Smart Cities

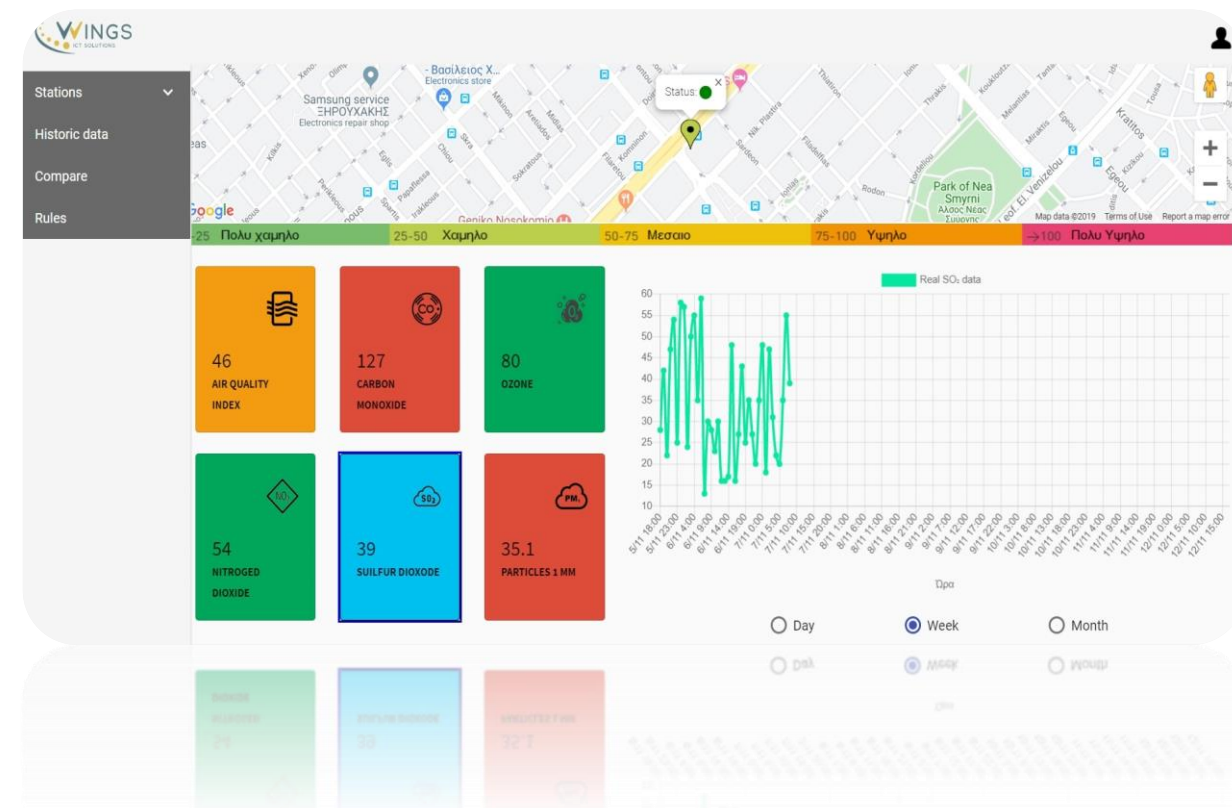
Air Quality Monitoring

PROBLEM

- 91% of the world's population lives in places with poor air quality
- 4.2 million deaths annually due to air pollution
- EU imposes Directives to Member States on ambient air quality

WINGS SOLUTION

- Low cost multi-sensor station measuring:** O_3 , CO, SO_2 , NO, NO_2 , PM1, PM2.5, PM10, noise, temperature and humidity
- Supplementary to existing expensive stations, **providing larger geographical coverage**
- Dashboard with air quality measurements and total Air Quality Index for each station
- Air quality forecasting, alerting and health indications



Smart Cities

Smart Parking

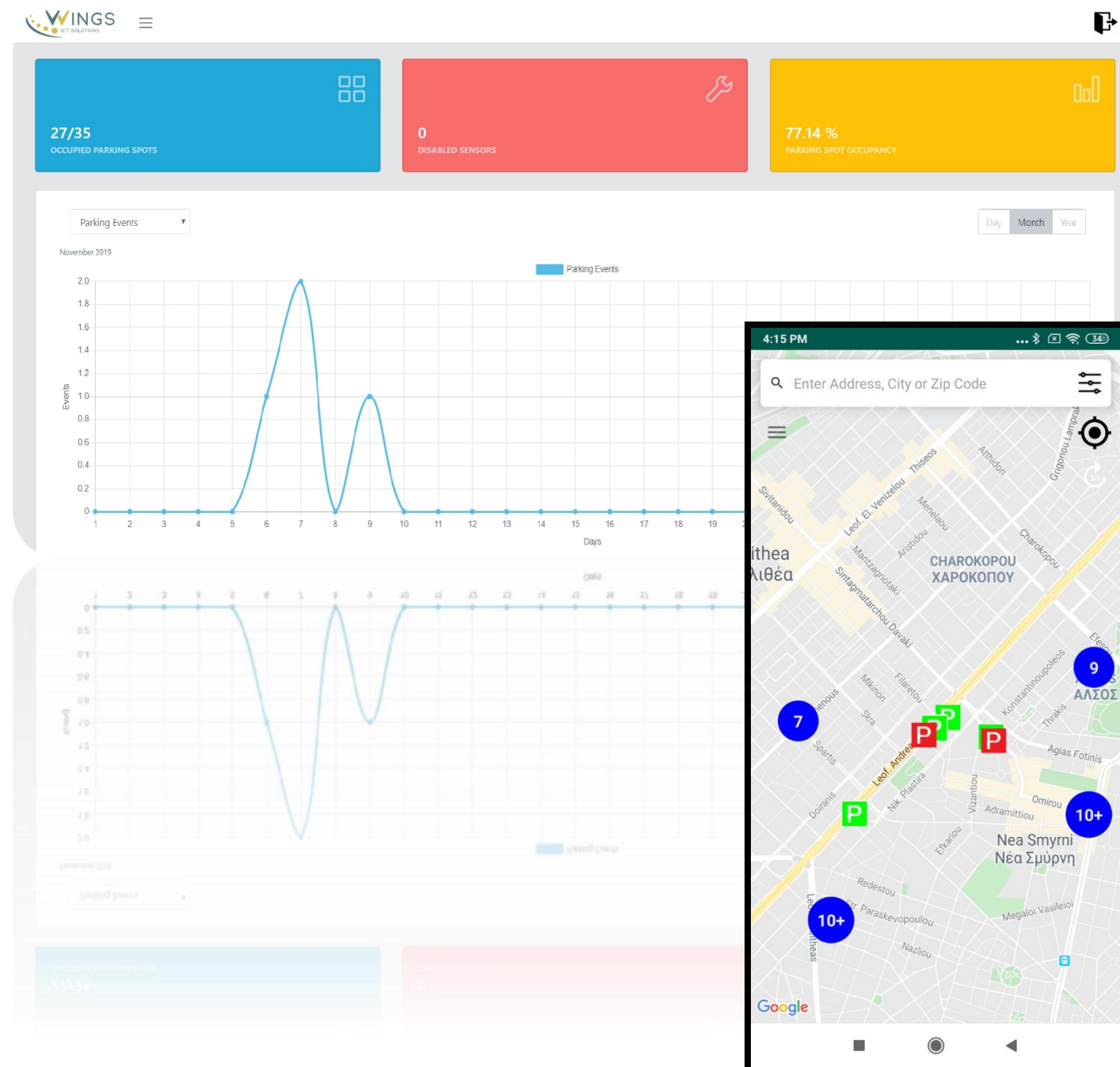
PROBLEM

Driving around to find a free parking space causes:

- Increased traffic congestions,
- Loss of time
- Increased fuel consumption
- Air pollution

WINGS SOLUTION

- **Routing instructions** to the nearest area with highest availability of parking slots through Mobile App
- Machine learning for **forecasting parking availability**
- Parking Management Dashboard showing all parking spots, occupancy and sensor status
- Parking sensor, **NB-IoT**, long lasting battery



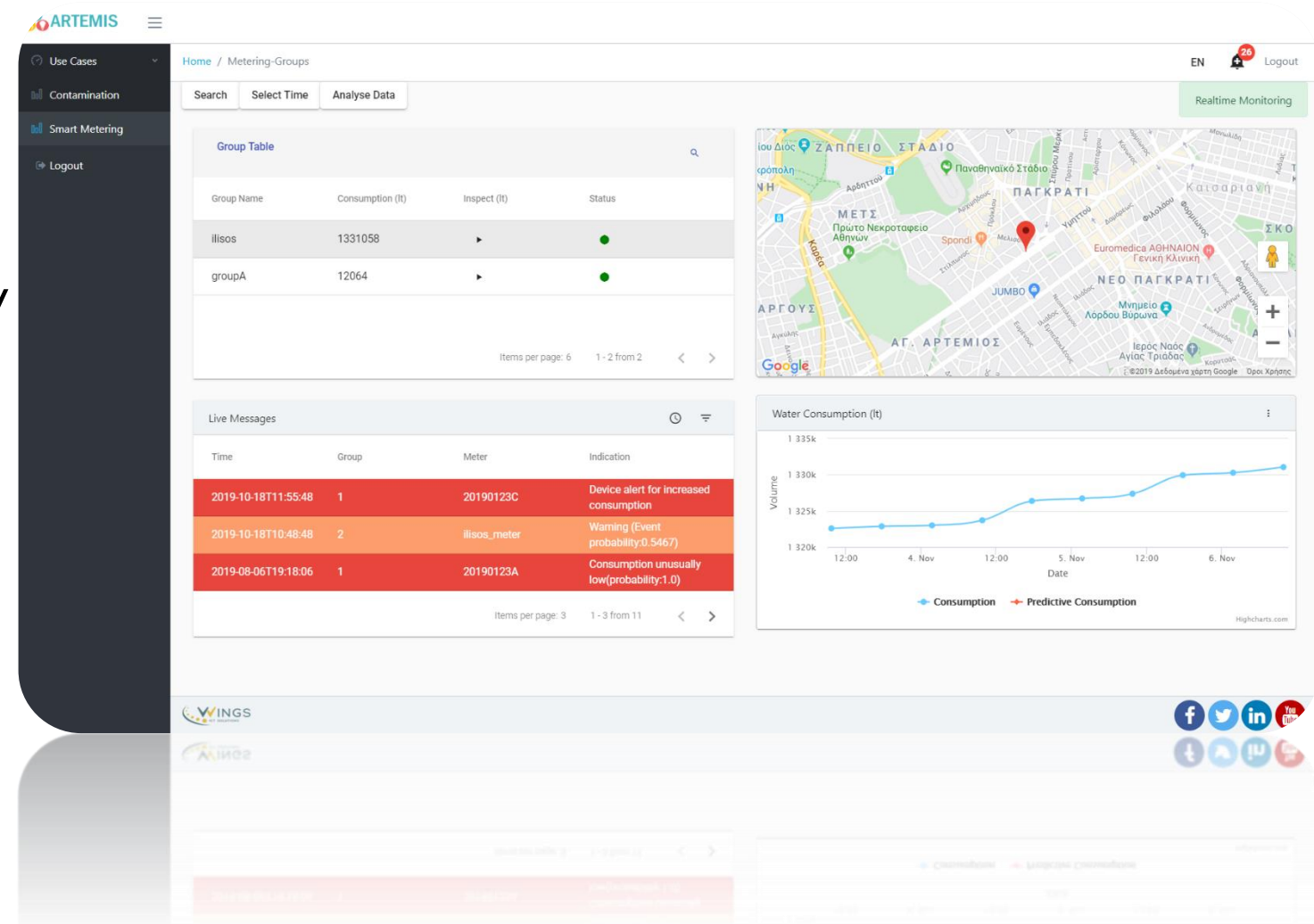
Smart Metering: Water - Gas - Energy

PROBLEM

- ❑ Non-Revenue Water reaches 70%
- ❑ Electricity and gas thefts cost tens of millions annually
- ❑ Meter reading is done mainly manually today

WINGS SOLUTION

- ❑ **Real-time and accurate meter reading and remote management**
- ❑ **Actionable insights** from smart metering
- ❑ Water/Gas/Energy demand forecasting
- ❑ **Leakages/losses detection and early event notification**
- ❑ Optimal utilization and billing of resources
- ❑ **Smart Gateway** (4G, NB-IoT, LoRa) for any type of meter, with **local intelligence** capabilities



Utilities

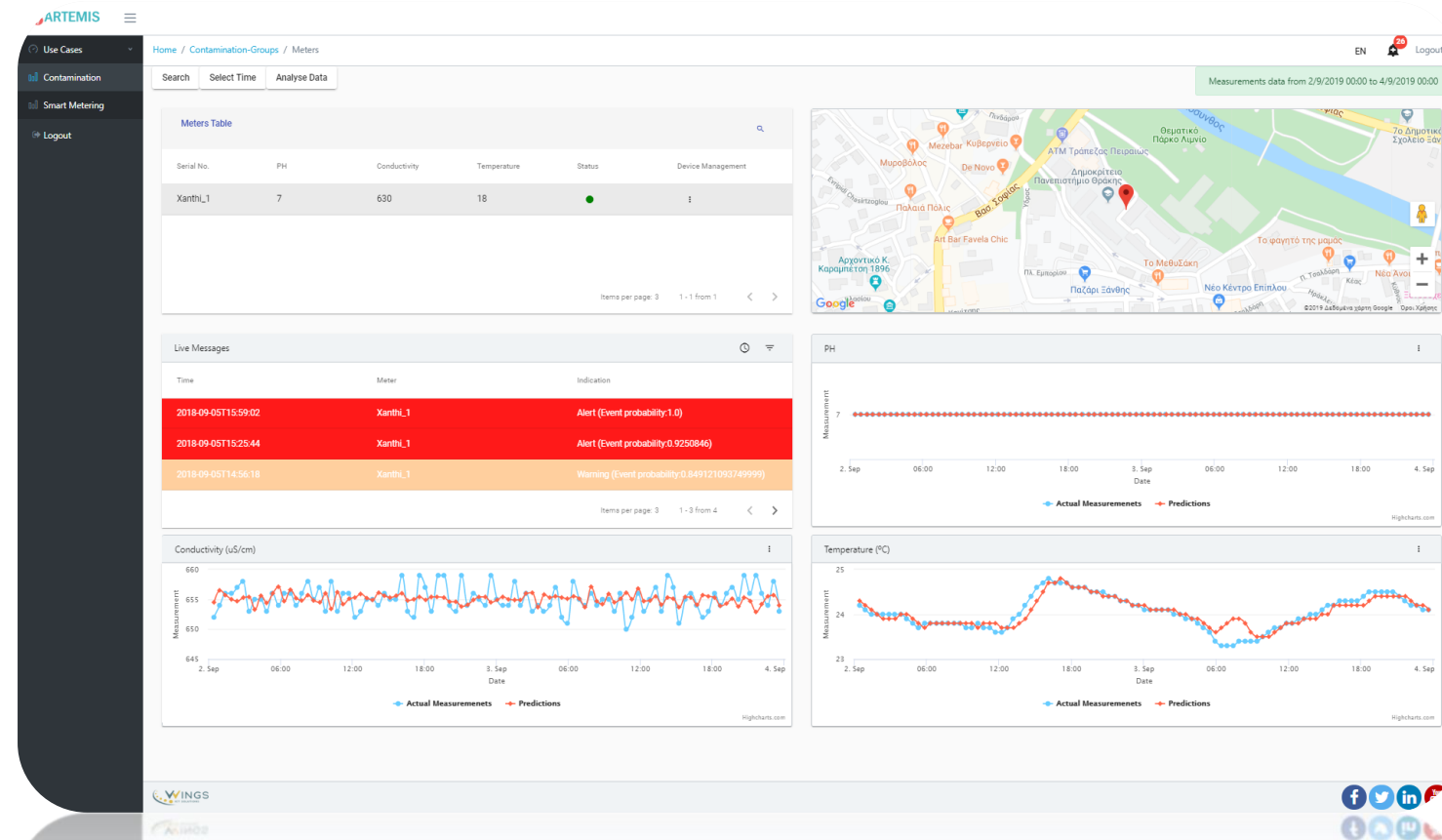
Smart Water Quality

PROBLEM

- ❑ 1.8 billion people world-wide drink water crucially contaminated
- ❑ Water sources often have traces of toxic chemicals

WINGS SOLUTION

- ❑ Real-time and accurate water quality monitoring
- ❑ **Multi-sensor measuring**, e.g. pH, temperature, conductivity and oxidation-reduction potential
- ❑ Remote management of smart sensor network
- ❑ **Smart Gateway** (4G, NB-IoT, LoRa) for any type of meter, with local intelligence capabilities for selected quality sensors



Democritus Univ.
Xanthi



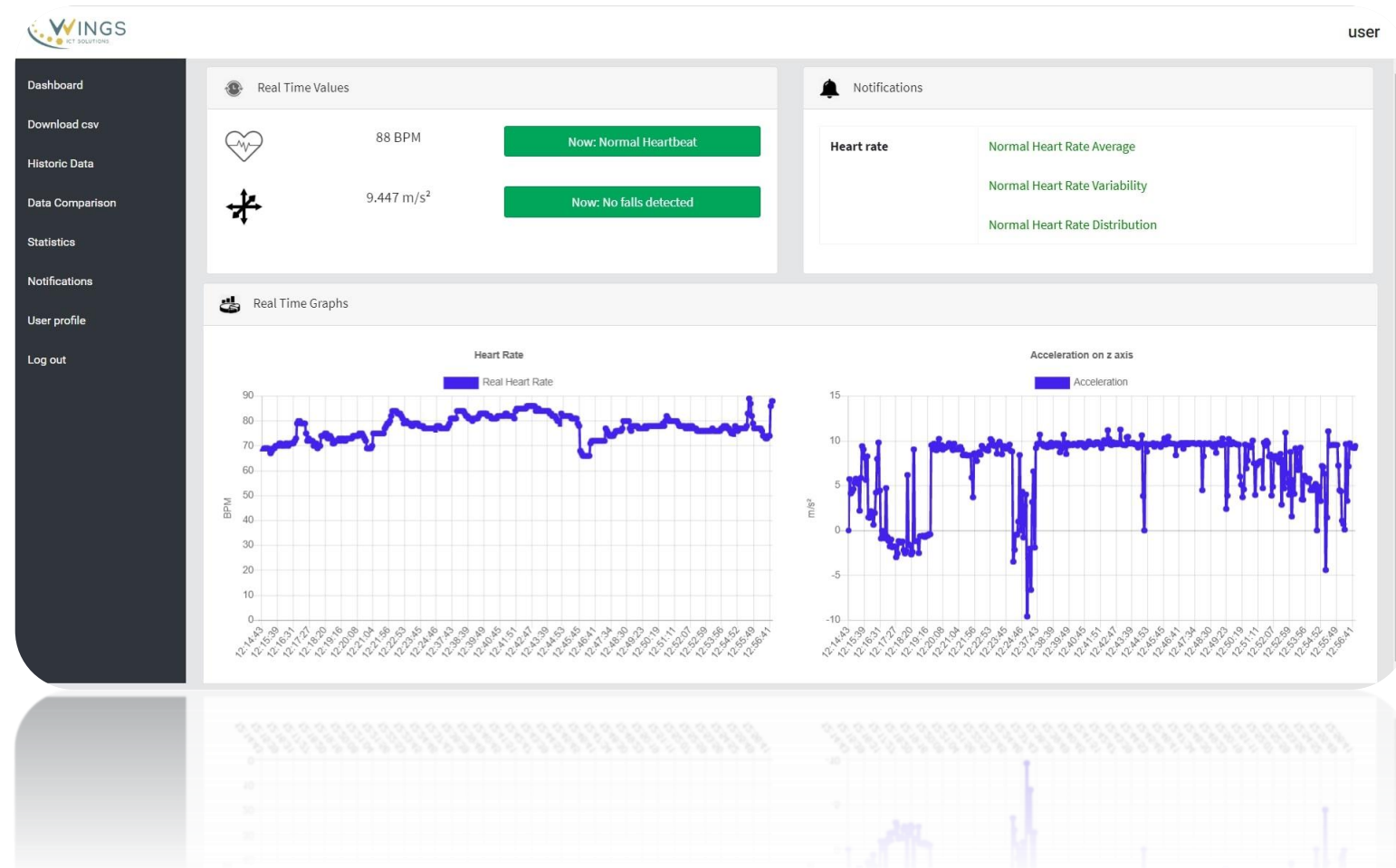
Remote Health Monitoring & Forecasting

PROBLEM

- Elderly, disabled or people with chronic diseases do not feel secure when living alone.

WINGS SOLUTION

- **Real-time monitoring** of user's health and wellbeing status
- **Forecasting** of future issues and health emergencies
- **Notifications** of users, family members or doctors



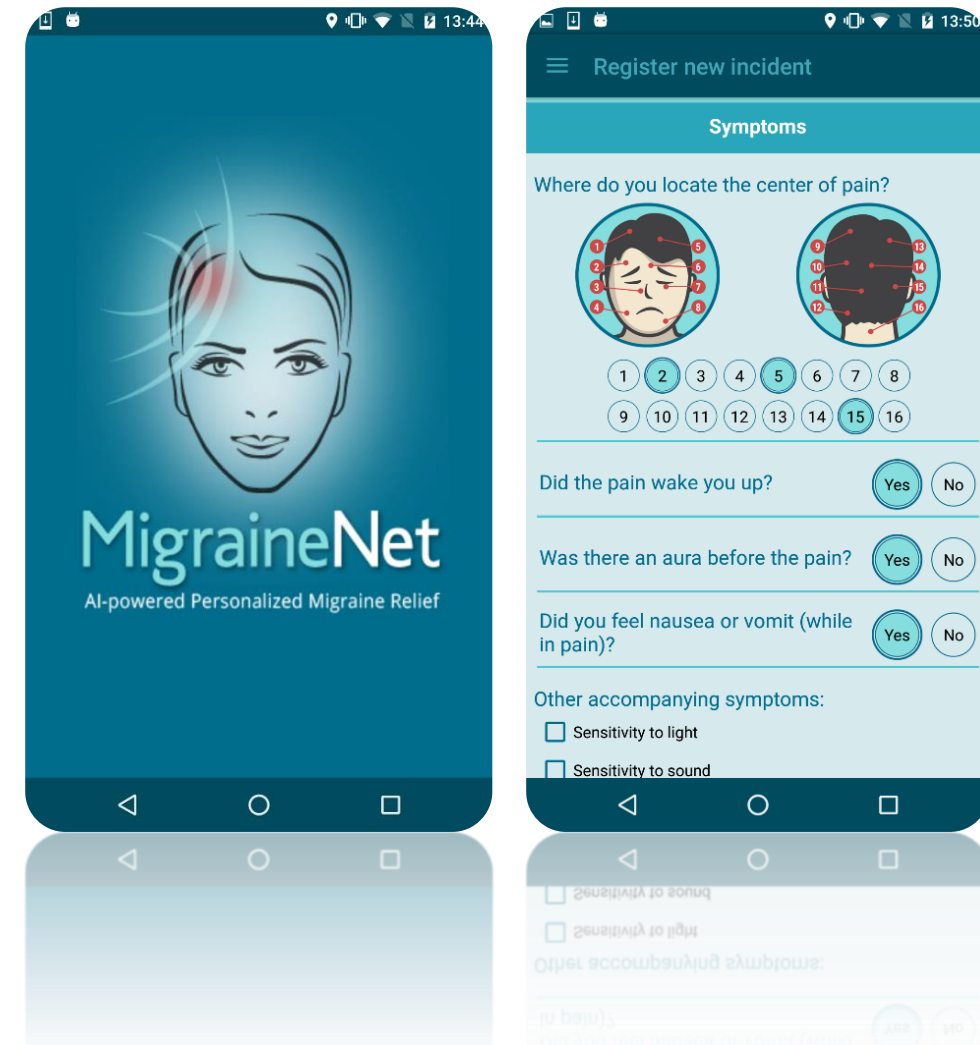
e-Health MigraineNet

PROBLEM

- ❑ 15% of the world population suffers from migraines
- ❑ 50% of migraineurs prefer self-treatment than visiting a doctor.

WINGS SOLTUTION

- ❑ Mobile Application for **migraine incidents prediction**
- ❑ Patients manage better their health condition and schedule their activities
- ❑ Patients may **minimize incidents** by avoiding the triggering factors and receiving their medication on time



Food

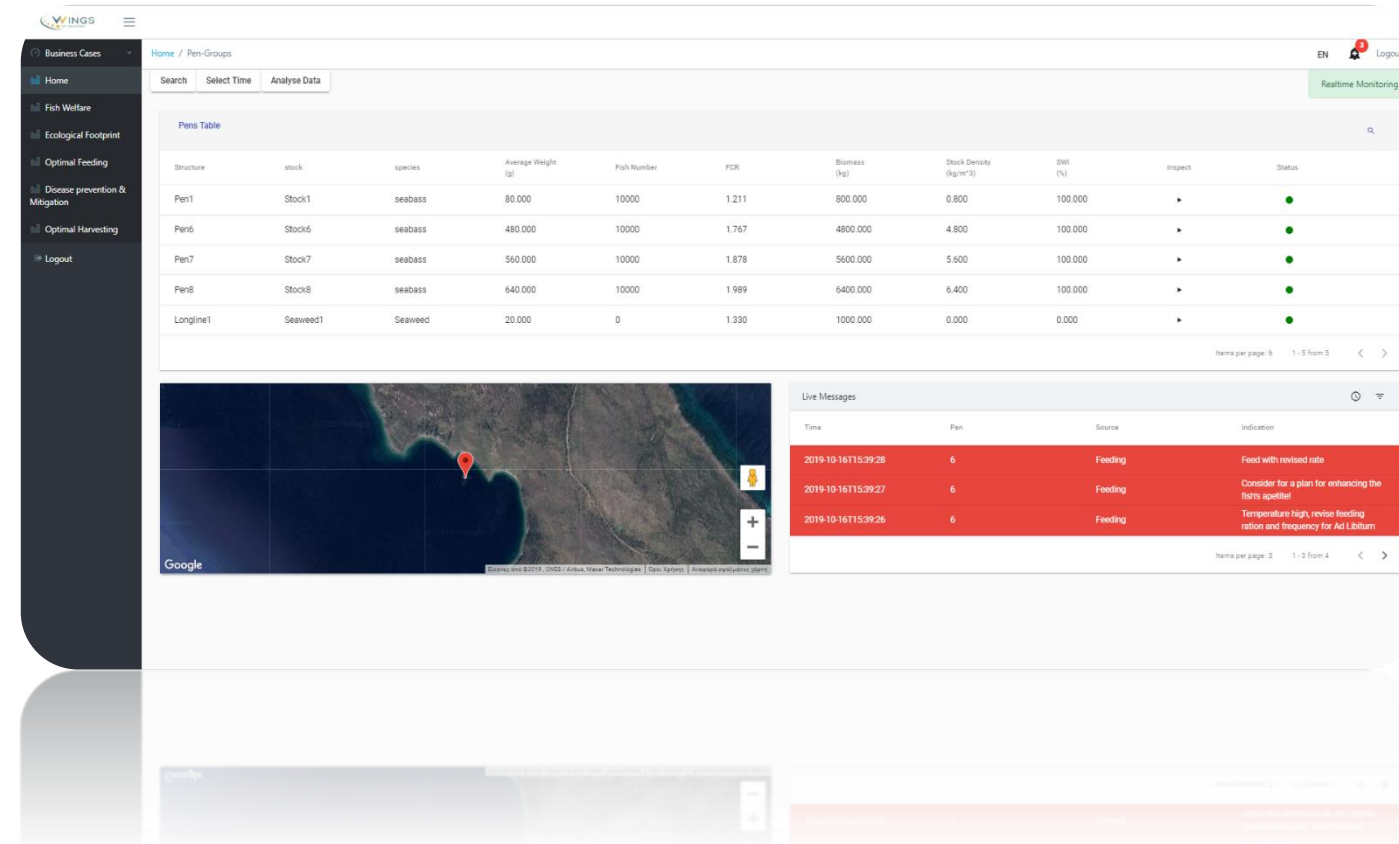
Smart Aquaculture

PROBLEM

- Aquaculture management is done mainly manually
- Costs are high due to non-optimum feeding
- Fish diseases cause production losses

WINGS SOLUTION

- Multi-purpose, multi-sensing, real-time status monitoring and data analytics platform
- **Production operations optimisation** based on decision-support system
- **Advanced Analytics:** Disease Diagnosis, Intelligent Feeding, Water Quality Analytics, Behaviour Analysis
- **Smart Gateway** (4G, NB-IoT, LoRa) for any type of meter, with local intelligence capabilities for selected aquaculture sensors



Keywater
Fisheries Ireland



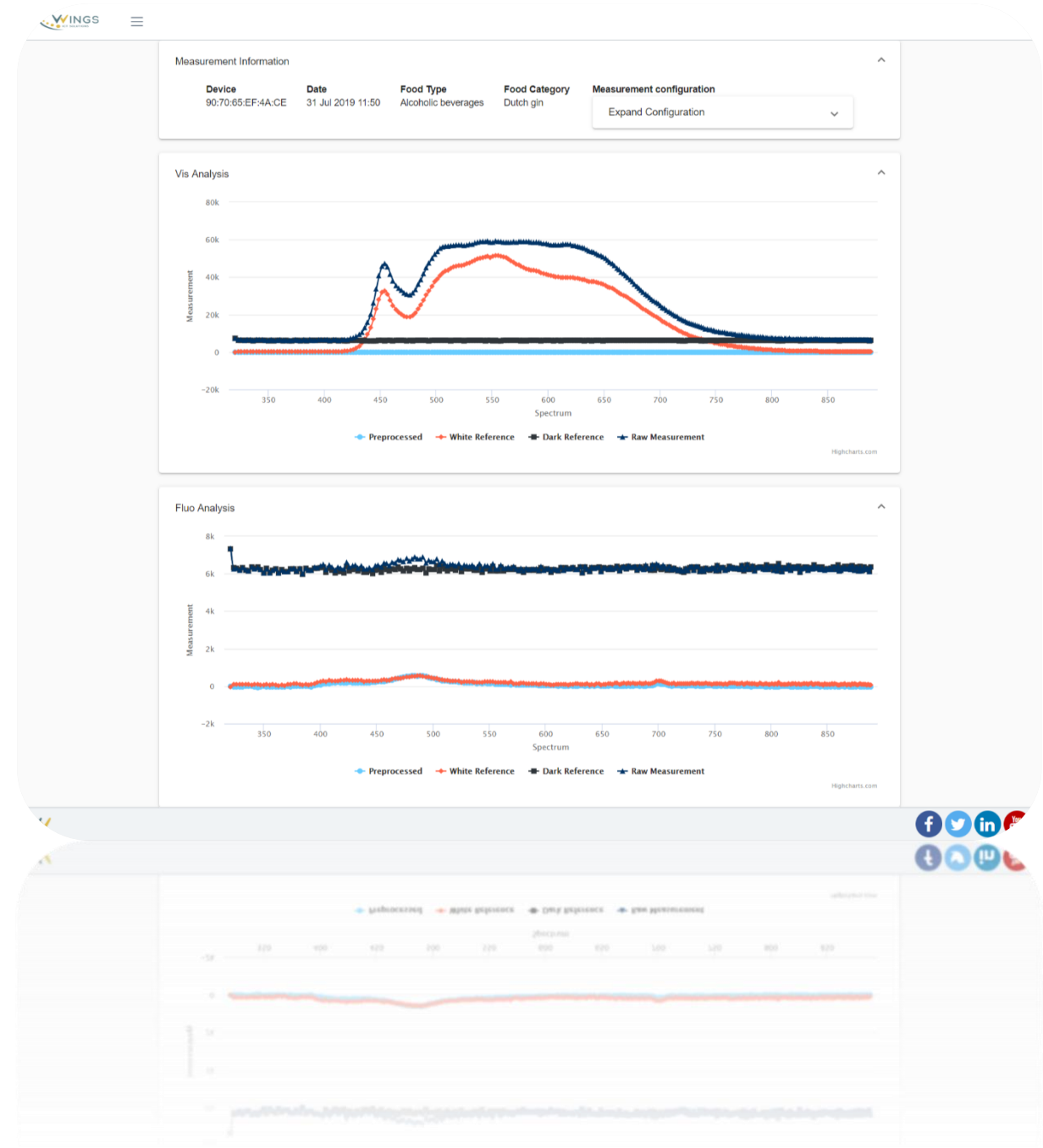
Food Food Quality

PROBLEM

- ❑ 600 million people fall ill due to contaminated food
- ❑ Almost 420.000 die every year
- ❑ Food fraud often occurs, with potentially hazardous elements.

WINGS SOLUTION

- ❑ Low-cost, multi-target, food sensitive, mini-portable scanner
- ❑ **Food adulteration**, identification and analysis
- ❑ Integration of heterogeneous spectroscopic technology and digital cameras
- ❑ **Fast characterization** of food through Machine Learning



Why WINGS ICT Solutions

- ✓ Advanced solutions for Smart Cities, Utilities, Food and e-Health; expanding to Industry, Logistics & Shipping
- ✓ Applies advanced concepts/technologies through forward-looking research (own/EU-funded)
- ✓ Strong competence in IoT, Artificial Intelligence, Predictive Analytics and Wireless Networking (5G, NB-IoT, LoRa, etc.)
- ✓ More than 90 Software Developers and Solution Architects
- ✓ High quality, flexible and cost-effective AI-powered IoT solutions
- ✓ Partnerships with IBM, Intel, Cosmote, Ericsson, Intrasoftware
- ✓ Reliable Customer Support



Thank You!