

PORTO TURISTICO DI ROMA SMART HARBOR



41° 44' 14" north
12° 14' 39" east

833
berths

Capacity
for mega-yachts
of up to **60**
metres

200.000 m²
surface area

10.000 m²
of exhibition space

Inaugurated in June 2001, the **Porto Turistico di Roma** is located immediately south of the mouth of the river Tiber, just ten minutes' drive from Fiumicino – Leonardo da Vinci international airport and the magnificent ruins of Ostia Antica. The location is also convenient for connections to central Rome, which can be reached by the Rome-Lido metro line.

The complex presents a modern concept of the marina based on integrated structures which offer a wide range of services and facilities on sea and on land for both business and leisure.

The management of the Porto Turistico di Roma was enthusiastic about Unidata's proposal to develop a solution for the harbour area based on IoT (Internet of Things) technology, which will optimise several specific activities with a consequent progressive reduction in operating costs.

Thanks to the area's existing coverage by Unidata's **LoRaWAN®** network, which already extends over the entire urban area of Rome and is expanding throughout Italy, it was possible to create dedicated applications which have allowed a more efficient organisation of administration work, shorter waiting times for customers and considerable financial savings.

WHAT IS LORAWAN®?

LoRaWAN® is the network protocol associated with LoRa®, the wireless technology for the Internet of Things. **LoRaWAN®** is the acronym for **Long Range Wide Area Network**, and its distinctive features (long battery life, wide coverage, bi-directional transmission, data encryption, deep indoor penetration etc.) make it particularly suitable for many IoT applications, from Smart Homes to Smart Cities, Smart Metering, Smart Agriculture and much more.

In the specific case of the **Porto Turistico di Roma**, the commercial premises, offices, residential properties and boat berths all have their own meters for electricity and other utilities. Phase one of the Unidata project involved fitting the electricity meters of 110 commercial properties and 40 berths with sensors and software for metering and monitoring, at last eliminating the need for manual counting, which demanded considerable time and resources.

Following the success of the initial phase, which was planned and executed in a month and a half, a second phase will shortly be implemented, with the fitting of sensors on a further **100 meters** and, in future, the potential addition of a system for monitoring water consumption.

POSSIBLE FURTHER IMPLEMENTATION

Coverage by the **LoRaWAN®** wireless network also allows sensor and monitoring systems to be implemented simply and rapidly for events held regularly at the marina, such as regattas or fishing competitions, for which a push-button sensor system is planned.

This can be clicked as soon as a fish is caught, automatically triggering a camera-equipped drone which uses localisation data to film the most exciting moments of the event live.

This highly specific IoT solution is confirmation of Unidata's ability to construct bespoke solutions for its clients, as well as the validity of its decision to leverage the **LoRaWAN®** network.

ADVANTAGES FOR CUSTOMERS

Not only the organisation itself, but customers of the **Porto Turistico di Roma** have also gained immediate benefit from these smart solutions, thanks to prompt readings of their consumption and the resulting drastic reduction in waiting times for invoices at the end of their mooring periods.

The solution chosen for phase one

- **Adeunis PULSE 3**
- **Unidata LoRaWAN® network**
- **UniOrchestra**

In this particular case, Unidata fitted **Adeunis PULSE 3** LoRa® sensors on meters already installed and operational; however it would also be possible to install new meters compliant with LoRa® point-to-point transmission or covered by the **LoRaWAN®** network.

A few numbers:

the **Smart Metering** solution with **LoRaWAN®** technology is also characterised by extremely long battery life, which depends on two variables: the quality of the transmission (proximity to the antenna) and the frequency of data packages transmitted. For example: where the antenna is nearby and in optimal position, with **140 transmissions** per day battery life is **a year and a half**; but with just **20 transmissions** per day, battery life can be as long as **12 years**

THE CONNECTIVITY PLATFORM

In addition to the integration of the hardware components (infrastructure and sensor equipment) integrated into the solution, Unidata has also developed **UniOrchestra**: a connectivity platform that enables management of Unidata's **LoRaWAN®** network, data monitoring and simple, modular transmission, thanks to a suite which can be adapted for specific requirements, and also to federate **LoRaWAN®** networks from other IoTSPs, facilitating interaction and collaboration.

UNIDATA IS A MEMBER OF THE LORA ALLIANCE®

A further guarantee of the reliability and quality of Unidata's planning and execution of IoT solutions using **LoRaWAN®** wireless technology is its membership of the **LoRa Alliance®**: an international non-profit association of more than **500 companies** committed to the development and large-scale diffusion of **IoT LPWAN** (Low Power Wide Area Network) solutions through the development and promotion of the **LoRaWAN®** open standard.

For more information, visit the website lora-alliance.org