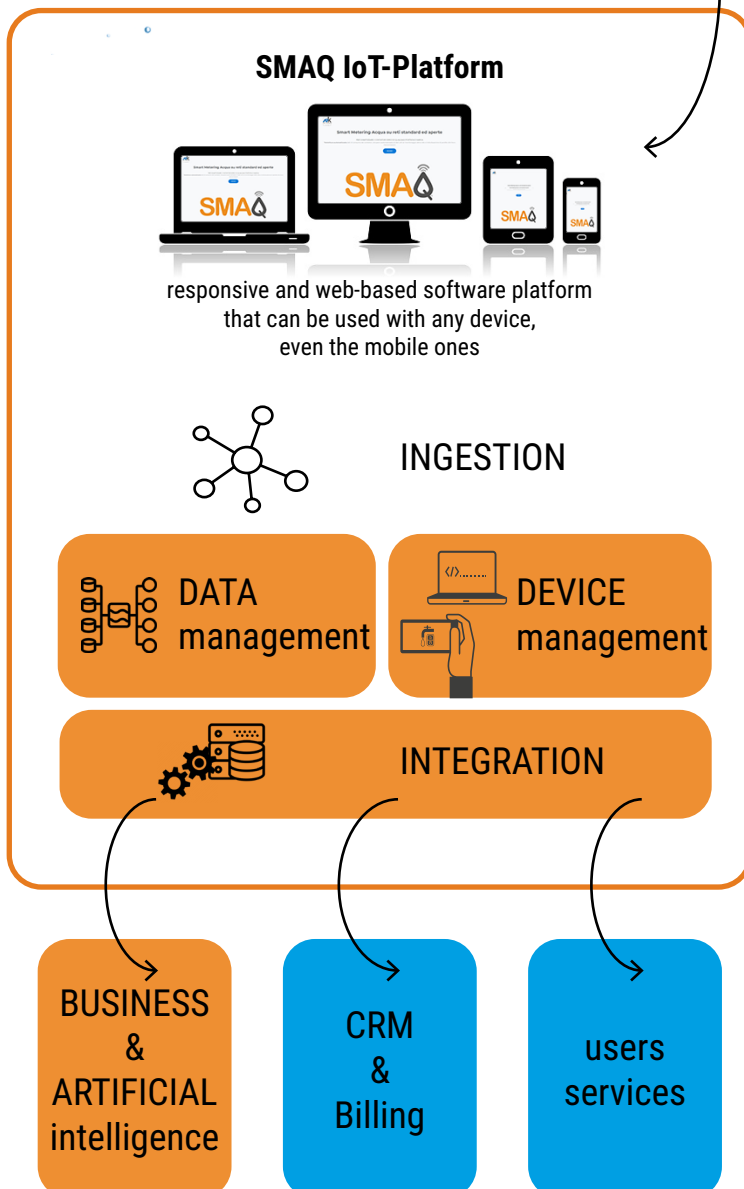# SMAQ

digitalise your water network!

The only ICT system that combines the best technological standards with the needs of water metering.

#nonsolometering

WATER SERVICE DIGITIZATION

water distribution points, domestic users industrial users

IoT sensors

SMA
SMA
SMA

NB-IoT

SMAQ IoT-Platform

SMAQ

responsive and web-based software platform that can be used with any device, even the mobile ones

INGESTION

DATA management

DEVICE management

INTEGRATION

BUSINESS & ARTIFICIAL intelligence

CRM & Billing

users services

ADVANTAGES

- efficient data acquisition from different sensors

- continuous monitoring of measurements

- improvement of measurement quality through enhanced control capability

- reduction of extraordinary maintenance

- more timely intervention in the event of operating anomalies and/or failures

- timely reporting of events and alarms to operators and users

- predictive analysis for plant maintenance

STRENGTHS

- Tailor-made: responds exactly to the needs of the organisation

- modularity, as it supports a variety of current and future web and mobile IoT applications in a transversal and modular way

- flexibility in that it allows the introduction of new vertical use cases

- scalability in both vertical and horizontal modes as it allows for an increase in both the number of devices and vertical use cases

- safe device management

- application environment delivered in SaaS from a datacenter **qualified by the governmental Agency for Digital Italy** as compliant with the stringent security and certification measures (including ISO 27001 with extensions to 27017 and 27018) provided for in Circular No. 2 of 9 April 2018

SMAQ IoT-Platform

*the evolution
of the Central Acquisition Software*

SMAQ allows the Integrated Water Service Manager to interact with the water network much more than with a central acquisition software; in fact, with the IoT-Platform component, SMAQ provides the Manager with a complete application platform organised by macro-services and with which to carry out and govern the activities of

- **ingestion** - data acquisition from IoT sensors distributed on the water network (e.g. consumption meters, flow, pressure, temperature, level...) from heterogeneous networks (NB-IoT, LoRaWan,...)
- **data management** - *centralised management of data acquisition, validation according to predefined models depending on the type of data, data storage supply*
- **device management** – network and device diagnostics
- **data storage** - composed of a "data lake" of N0 SQL raw data of acquired measurements and events, SQL RDMBS data of device registry and status, long-term storage of non-relational data (e.g. log files, reports, images, ...) and a "datawarehouse" consisting of an archive of the results of Stream Analytics functions and having the function of feeding the vertical applications of the Manager
- **integration** - application cooperation with software systems external to the advanced SAC (e.g. CRM Billing).

business & artificial intelligence

SMAQ IoT-Platform is prepared for integration with
- **artificial** intelligence tools to perform predictive analyses on monitored elements and consequences
- **business intelligence tools** to study monitoring data with customised dashboards useful to support
  > water balances,
  > water demand monitoring to support "large users",
  > consumption monitoring,
  > network modelling
  > ...

data and access security, reliability and availability at the highest level

- identity and access management for each user with centralised logic in Single-Sign_On (SSO) mode
- simplified definition and management of security policies, credentials and access to the various services
- Multi-factor authentication (MFA) adds an extra layer of security.
- role-based access control
- secure access to web APIs by both IoT-Platform's internal modules and external software systems.
- available in SaaS mode from a **qualified and certified datacenter in compliance with the most stringent requirements** of the governmental Agency for Digital Italy.

enables the MANAGER to offer additional value-added services to water consumers

SMAQ RADIOLOGGER, IoT SENSORS AND INTEGRATED METERS

SMAQ radiologger is universal, does not require the meter to be replaced but adapts to the existing meter in the field provided it is ready for remote reading

SMAQ makes it possible to acquire data from different types of meters and sensors through a rich family of devices, also from other manufacturers.

In particular, SMAQ allows **sensors, distributed in various points of the water network** (from the meter at the user's premises to other meters placed on critical points of the network) for the detection of pressure, temperature, flow and other measurements, to communicate with the IoT-Platform through public wireless networks, to provide the data streams detected or respond to specific requests (e.g. instant reading).

Currently, this area of the SMAQ offering consists of:
- integrated meters with NB-IoT radiologger
- NB-IoT radiologger for domestic and large-scale users
- NB-IoT radiologger for process meters (e.g. flow meters)
- NB-IoT radiologger for sensors (e.g. pressure, temperature, etc.).

SMAQ radiologger comes with a 10-year warranty and is supplied with NB-IoT connectivity included, relieving the operator of the need for special contracts.

www.apkappa.it

APKAPPA srl | b.u. Smart City & IoT HQ via milano 80/91 I-20013 magenta (mi)
tel. +39 02 94454.000 | fax +39 02 94454.339 | apkappa@apkappa.it

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it's a **Maggioli** Group company