

SPIDAP



Comprehensive Solutions from
installation to billing and more.

Our products are the premier choice for digital transformation providing sustainable solutions for efficient and conscious energy and water management.

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Boosting energy efficiency requires a holistic strategy involving every player in the energy supply chain, from production to consumption. Although making small gains in production efficiency and cutting transmission losses matters, the real game-changer lies in empowering end-users to optimize their energy usage. That's where the magic happens!

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Reading systems

The system enables data collection through variable meter reading methods either walk-by / drive-by modes, or local stationary ISM 868 networks connected to the internet via data concentrators. It also supports stationary LoRa WAN networks covering large areas. Additionally, it can receive data peer-to-peer (P2P) from embedded modules or overlays installed on measurement devices, utilizing NB-IoT or GSM communication.

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walk-by/drive-by system

Data collection is facilitated by short-range radio modules installed on the measurement devices, covering specific reading routes in dense or scattered urban areas. This method eliminates the need for manual meter checks, as the collected data is transmitted by the collector to the system administrator.

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Stationary ISM 868 MHz system

The data collection is facilitated by short-range radio modules mounted on the measurement devices, following a designated route determined by the location of transmitters and a sending concentrator, which transmits the data to telemetry servers. This method of reading is particularly effective in densely populated areas.

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LoRaWAN system

The data collection is carried out through long-range radio modules. Readings are captured by "gateway" base stations and then transmitted to the operator, who stores the reading data in the cloud with unrestricted access for the client.

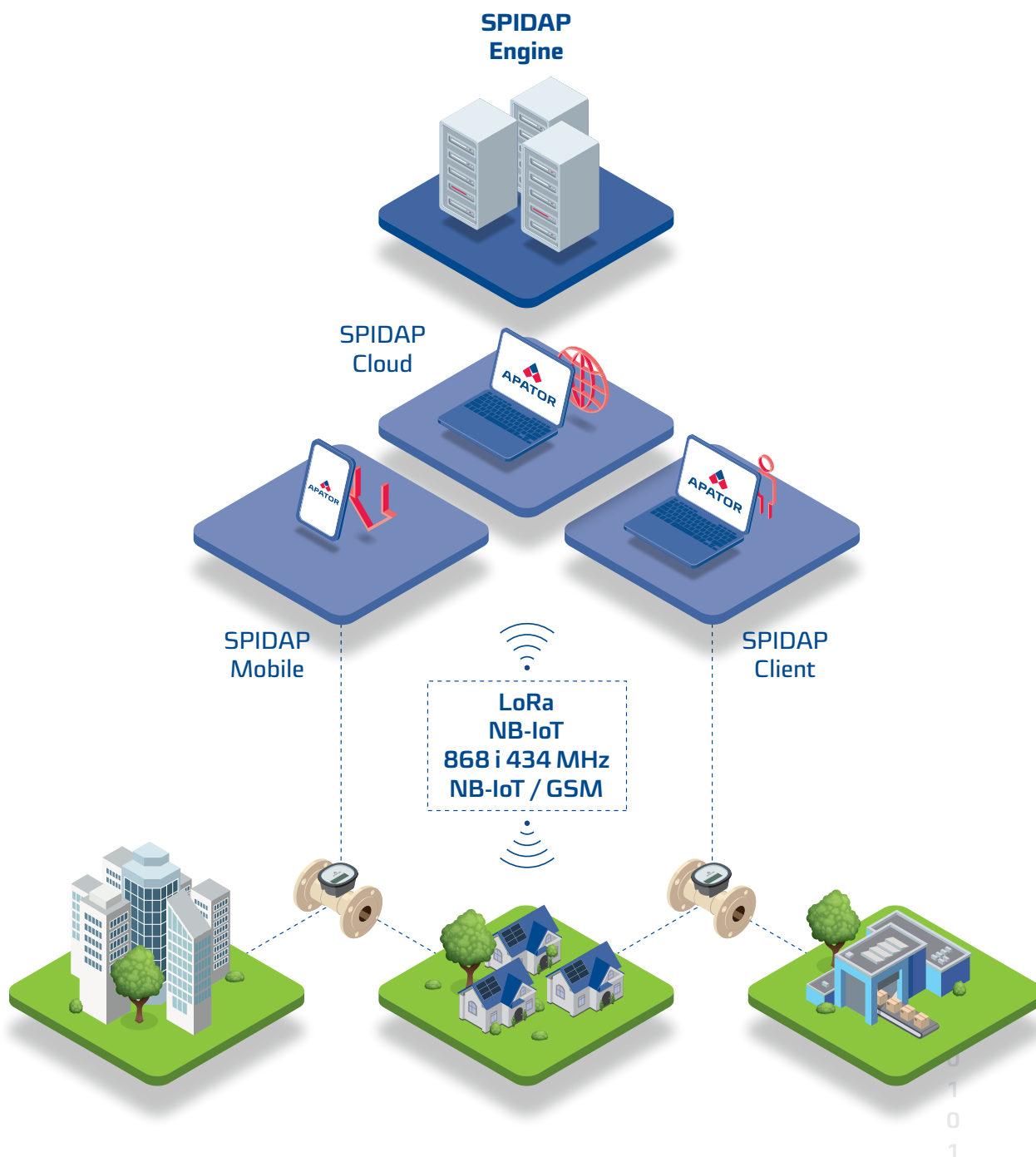
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NB-IoT / GSM system

Point-to-point (P2P) reading is facilitated by a communication overlay's collaboration with a wide range of residential, household, and industrial water meters. Reading accuracy is ensured through the utilization of the evolving infrastructure provided by cellular network operators. This method is commonly employed when monitoring device and network operation is necessary. Alarms are signaled immediately upon their occurrence.

SPIDAP system structure

The SPIDAP system is divided into several modules that cooperate with each other:



It is possible to integrate the SPIDAP system with measurement and communication devices from other manufacturers. Details at Apator Powogaz Sales Representatives.

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Benefits:

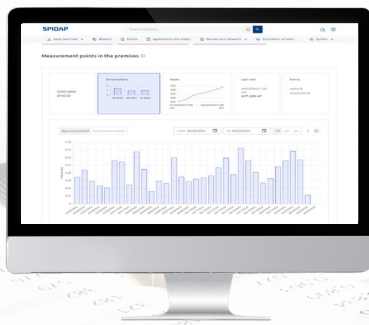
- Safety – protection against losing data
- Decreasing service settlement payments costs
- Shortening time needed for analyzing data – generating reports
- Management – measuring and registration data collected in one place
- Flexibility – possibility of defining measuring variables
- visualized on charts
- GSM communication – SMS, GPRS, LTE, NB-IoT, LTE cat.M
- User friendly interface – easy navigation
- Integration through REST API or Webservice with other systems such as ERP

Data collecting

- The use of the standard communication protocol UNE EN 13757-4:2021 ensures seamless operation of measuring devices from various manufacturers.
- Remote reading significantly reduces the time and costs associated with obtaining readings compared to manual methods.
- Synchronized and frequent readings yield valuable data for network analysis, precise balancing, and media consumption settlement.
- Providing data to recipients encourages conservation efforts.
- The system is adaptable to any building and can be expanded with new devices at any time.
- Early detection of failures helps minimize associated costs.

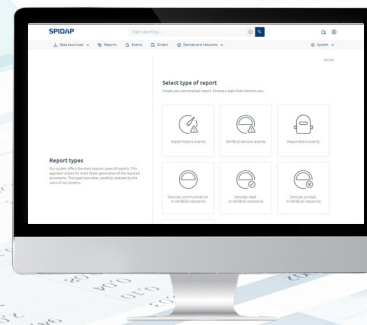
Data aggregation

- 24 hours, weekly
- Time range individually defined by user



Data export & reports

- Export measurement data and record data to .xls format
- Data sharing via Webservice and message queues



Reports

We've developed a versatile tool for exporting meter reading data. You can select the data you want to export and specify various parameters affecting the format of the exported file. Exporting data for analysis or billing systems will likely be a recurring task (e.g., monthly). Therefore, you can save export settings as templates and schedule automatic exports. During the export configuration, you must specify which readings you need.

Our exporter is flexible enough to allow exporting data at a frequency that suits your needs. Typically, such exports occur monthly. The export process is triggered according to the schedule settings:

- on demand – on specified dates and time,
- hourly – at specified minutes past each full hour,
- daily – at specified hours every day,
- weekly – at specified hours on specific days of the week,
- monthly – at specified hours on specified days of the month.

Data visualization

Measurement data are presented in SPIDAP.cloud System in two different ways: as a chart and as a table. User can easily change views or in the same time switch both of them on. The table is correlated with chart what makes data analyzing easy. Moreover, user has opportunity to decide which variables will be seen on chart. Opportunity to customize the view makes data analyzing and reading more comfortable for the user.

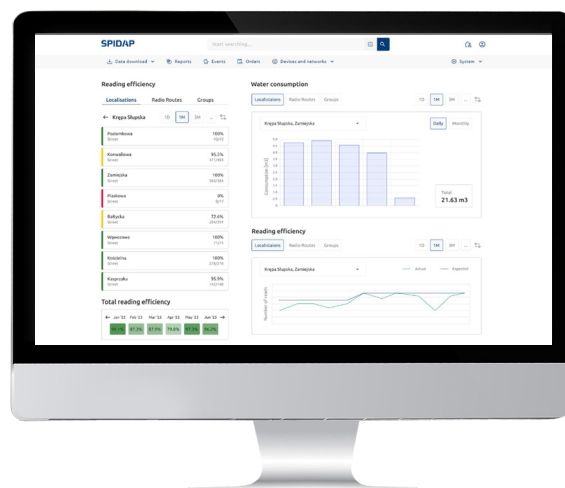


Chart operations:

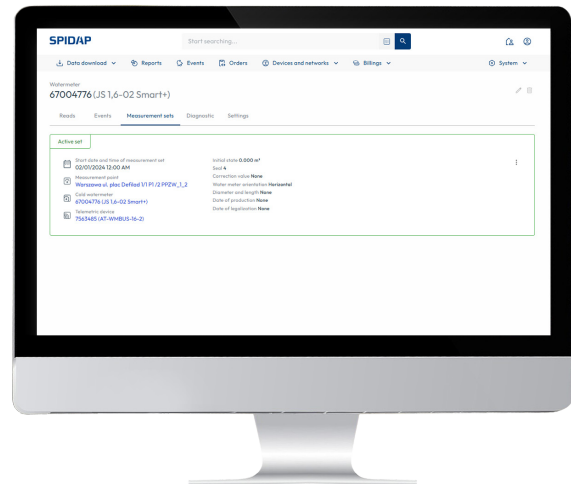
- hiding measuring data series
- zooming the chart
- change the range of data
- samples' timestamps
- automatic data series scaling

Ergonomics:

- variables signified by colors
- aggregation
- filtering
- export
- changing view mode

Detailed technical data of measuring & communication devices

The user-friendly interface contains tiles whose expansion allows access to details. Devices can vary widely in their functions, specifications, and technical details. The data is grouped accordingly for the measuring device and communication device separately. Additionally, registration data regarding the installation method, production date, and certification are stored and presented. All this information can be utilized as components of reports or data filtering.



Orders and Tasks management



This feature entails providing remote facility management, particularly for conducting readouts, installations and replacing measuring devices. Task manager feature is highly beneficial for businesses for several reasons:

- 1. Optimized Scheduling:** These features enable efficient scheduling of employees based on demand forecasting, employee availability, and skill sets. This ensures minimizing overstaffing or understaffing situations.
- 2. Resource Allocation:** ensuring that workloads are balanced across teams or departments. This prevents burnout among employees and improves overall productivity.
- 3. Time and Attendance Tracking:** eliminating the need for manual timesheets. This reduces errors and ensures accurate payroll processing.
- 4. Compliance Management:** help businesses stay compliant with labor laws and regulations by automatically applying rules for overtime, breaks, and other labor requirements.
- 5. Performance Monitoring:** provide insights into employee performance through metrics such as productivity, efficiency, and quality of work. This helps managers identify top performers and areas for improvement.
- 6. Data-driven Decision Making:** These applications provide real-time data and analytics, allowing managers to make informed decisions about staffing, resource allocation, and strategic planning.

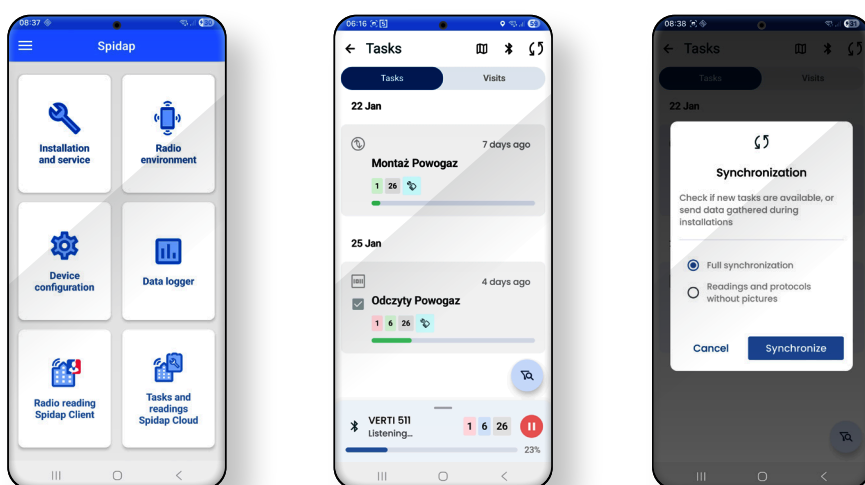


SPIDAP Mobile - Workforce management

Radio reading Routes

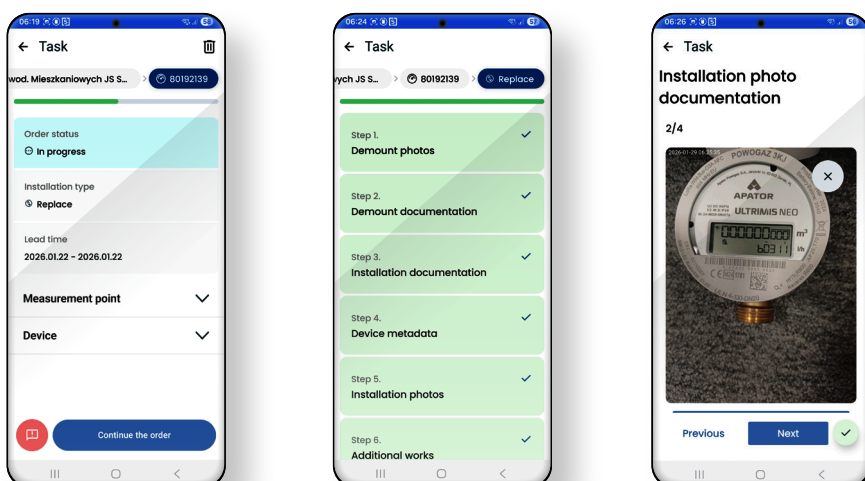
Depending on individual needs and expectations in wireless, radio-based remote reading systems, two methods of data collection are utilized:

- 1. Automatic** – stationary method, where readings from individual water meters are collected via data concentrators permanently installed at selected locations. This type does not require the collector to move from building to building; data is transmitted via the Internet to the system.
- 2. Semi-automatic** – walk-by/drive-by method, carried out by a collector moving between buildings. The collector must be equipped with appropriate equipment to gather data directly from water meters or data concentrators. The semi-automatic method also exists in a drive-by version, where the collector travels between buildings by car. During transit, data is collected and recorded in a computer or tablet.



Installation & meter Replacement

SPIDAP Mobile application with its feature for workforce management, empower organizations to optimize their operations, increase transparency, and achieve higher levels of productivity and customer satisfaction. Mobile apps enable instant communication between managers and employees. This facilitates quick updates, task assignments, and feedback, leading to improved efficiency and responsiveness. Employees can access task lists, schedules, and relevant information directly on their mobile devices. This reduces downtime and enables workers to stay focused and productive throughout the day. By streamlining processes like scheduling, time tracking, and task management, mobile apps eliminate paperwork and manual data entry. This saves time and reduces errors.



The data presented in the data sheet was correct on the date of publication.

The manufacturer reserves the right to modify and improve its products without notice.

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