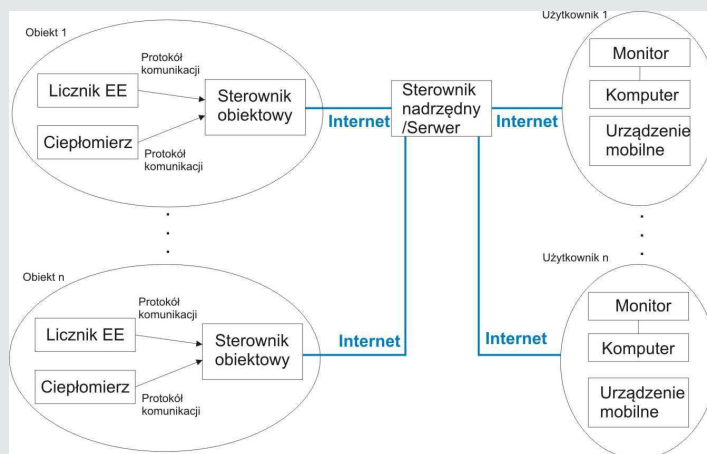


Project index number and acronym	CE51 TOGETHER
Responsible partner (PP name and number)	Association of Municipalities Polish Network "Energie Cites" (PP5 - PNEC)
Linked to pilot action (number and title)	PA5 design for 9 offices, educat/service & cultural buildings in 3 AP cities in PL. Report + EN summary
Project website	<a href="http://www.interreg-central.eu/Content.Node/TOGETHER.html">http://www.interreg-central.eu/Content.Node/TOGETHER.html</a>
Delivery date	20.08.2018
Description and technical characteristics of the investment	

The investment consisted in the **purchase, installation and launching of 9 smart metering systems** in 9 pilot buildings located in 3 Polish municipalities (APs): Besko, Raciechowice and Żyraków. Single system consist of:

- electricity meter collecting data from the electricity system;
- heat meter collecting data from the heating system;
- local controller;
- server space, where data are collected and stored;
- platform for archiving, managing and visualizing the data - available after logging in from any computer or mobile device;
- related software;
- monitor/dashboard placed in the building hall, displaying current consumption data.

All the elements are communicating through adequate communication protocols, using internet connection available in the building. The data are gathered and processed automatically. The architecture of the whole system (for all 9 pilot buildings) is shown below (where “Obiekt 1” is “Building 1” etc.):



The system measures:

- real-time electricity consumption in kWh;
- real-time heat consumption in GJ and kWh;
- network parameters (use of reactive power; overconsumption of contracted power);
- indoor air temperature and humidity.

The system is also connected with the weather platform to be able to address current consumption to the weather conditions.

The measured data is collected on a storage unit (local controller) located in the building. Already from there they are available for the remote access. The data are also transferred to the external server, which is operated by the contractor, who is also responsible for data safety, back-ups, etc. The data are available from any computer or mobile device for selected users (representatives of PNEC, building owners and building managers responsible for monitoring and optimizing energy consumption). They are available after logging in using personal username and password. Adequately visualized data are also displayed for the building users at the monitors/dashboards place in the buildings’ halls and on-line.

The contractor (Pracownia Informatyki NUMERON sp. z o.o.) was selected in an open tender and the contract includes also servicing of the systems for at least the 7 years from the installation.

Investment costs (EUR) including a break-down of main cost items

Total investment cost came to 221 031,00 PLN (51 406,14 EUR<sup>1</sup>). It includes:

- cost of the installation of smart metering systems in 3 public buildings in the municipality of Besko - 73 677,00 PLN (17 135,38 EUR), including:
  - ✓ cost of the equipment - 49 077,00 PLN (11 414,05 EUR)
  - ✓ cost of the works - 24 600,00 PLN (5 721,33 EUR)
- cost of the installation of smart metering systems in 3 public buildings in the municipality of Raciechowice - 73 677,00 PLN (17 135,38 EUR), including:
  - ✓ cost of the equipment - 49 077,00 PLN (11 414,05 EUR)
  - ✓ cost of the works - 24 600,00 PLN (5 721,33 EUR)
- cost of the installation of smart metering systems in 3 public buildings in the municipality of Żyraków - 73 677,00 PLN (17 135,38 EUR), including:
  - ✓ cost of the equipment - 49 077,00 PLN (11 414,05 EUR)
  - ✓ cost of the works - 24 600,00 PLN (5 721,33 EUR)

The cost reported includes VAT.

#### Investment location

NUTS 3	Address (Street, house number, postal code, city, country)	GPS coordinates
PL323	Town Hall in Besko; 5 Podkarpacka str.; 38-524 Besko; Poland	49.587046; 21.95032900000001
PL323	School Complex in Besko; 54 Kolejowa str., 38-524 Besko; Poland	49.5908919; 21.957772999999975
PL323	Municipal Services Company in Besko; 99 Starowiejska str., 38-524 Besko; Poland	49.59489840000001; 21.964888400000063
PL214	Town Hall in Raciechowice; Raciechowice 277, 32-415 Raciechowice, Poland	49.845665; 20.139991
PL214	Kindergarten in Czaślów, Raciechowice; 32-415 Czaślów 105; Poland	49.847386; 20.115348
PL214	Municipal Services Company in Raciechowice; 32-415 Raciechowice 197; Poland	49.842277; 20.139560999999958
PL325	Town Hall in Żyraków; 39-204 Żyraków 137; Poland	50.08378889999999; 21.392076999999972
PL325	Public school Complex in Żyraków; 39-204 Żyraków 77; Poland	50.0878779; 21.400507999999945
PL325	Public school Complex in Straszęcín, Żyraków; 39-218 Straszęcín 115; Poland	50.06254089999999; 21.363768899999968

#### Duration and process of investment implementation

<sup>1</sup> Using exchange rate from 20.08.2018: 1 EUR = 4,2997 PLN.

Start date	End date
16.02.2018	08.05.2018

#### Major milestones of investment implementation

##### Pre-investment:

- ✓ Launching of the open tender for the delivery, installation, launching and servicing of smart metering systems in 9 pilot buildings located in 3 municipalities - 12.01.2018<sup>2</sup>
- ✓ Closing the tender - 22.01.2018
- ✓ Selection of the contractor - 07.02.2018
- ✓ Signing of the contract - 16.02.2018

##### Investment:

- ✓ Starting of the investment - 16.02.2018
- ✓ Finalisation of the investment - 08.05.2018

##### Post-investment

- ✓ Trainings for representatives of PNEC, building owners, building managers and other representatives involved in smart metering concerning the architecture and use of the systems installed - 22-24.05.2018
- ✓ Fine-tuning of the contents displayed on the monitors/dashboards - ongoing (planned to be finalized by the 1<sup>st</sup> of September 2018)

#### Ownership and durability of the investment (e.g. maintenance, financing)

The systems installed in 9 pilot buildings located in 3 Polish municipalities (APs) are in the ownership of PNEC (PP5). They have been leased to APs based on the formally signed lease agreements, which specify roles and responsibilities of both parties, as well as highlights that the equipment needs to be used for the project purposes. The municipalities are responsible for the proper operation of the systems and PNEC for their maintenance and servicing. Long-term (7 year guarantee) was included in the contract with the systems provided to cover the latter.

#### References to related pilot action (output fact sheet) and relevant deliverables (e.g. pilot action report, studies) and web-links.

If applicable, additional documentation, pictures or images to be provided as annex

#### References to the relevant outputs and deliverables:

- O.T3.1 Pilot actions for improving the energy performance of public buildings in involved PAs
- D.T3.2.5 PA5 design for 9 offices, educat/service & cultural buildings in 3 APs cities in PL.

#### Web-link:

- [www.pnec.org.pl/together](http://www.pnec.org.pl/together)

#### Additional documents:

- Pictures of the installed equipment with TOGETHER labels (the pictures have been uploaded in eMS)

<sup>2</sup> This was the 2nd tender as during the 1<sup>st</sup> one, launched in December 2017, no offers were received.