

BEST PRACTICE IN CROATIA – SMART METERING

BASIC INFORMATION

Title of the Best Practice

Smart metering system in Braca Radic Elementary School

Energy efficiency measures implemented in the building: *controlling consumption of electricity, gas, water*

Location: *with GoogleMaps link*

City: Koprivnica

Region: Koprivnica-krizevci County

Country: Croatia

<https://goo.gl/maps/nkSYBtYWe3Wbt6Ex6>

Partners involved:

- City of Koprivnica, Zrinski square 1, Koprivnica - role - Pilot action city
- Regional energy agency North, Miroslava Krleze 81, Koprivnica - role – technical support during implementation
- ASR Group d.o.o. – role – contractor
- utility companies

Implementation year: 2018

Photo: (source: REAN)



Figure 1 Smart metering electronic component parts

OŠ Braća Radić - dnevna potrošnja 27-02-2019



Figure 2: Central Monitoring System – Main dashboard

EMS - OŠ Braća Radić - 27-02-2019

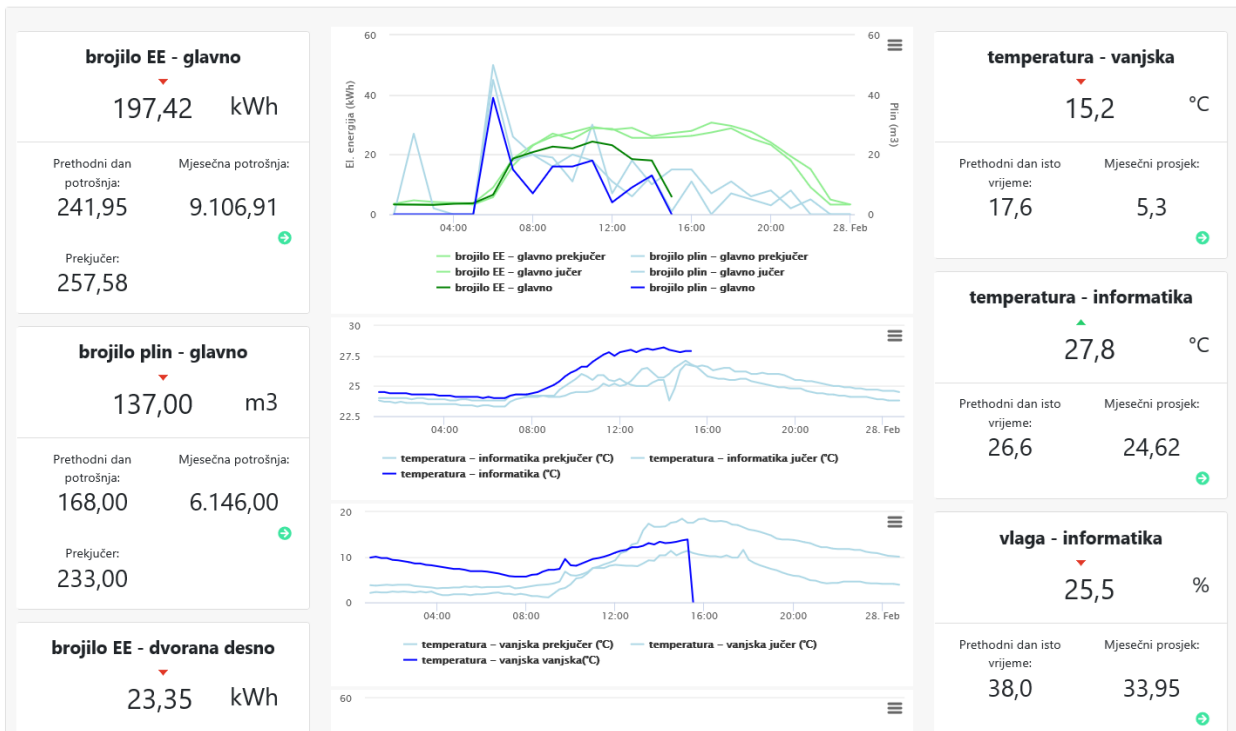


Figure 3: Central Monitoring System – Dashboard

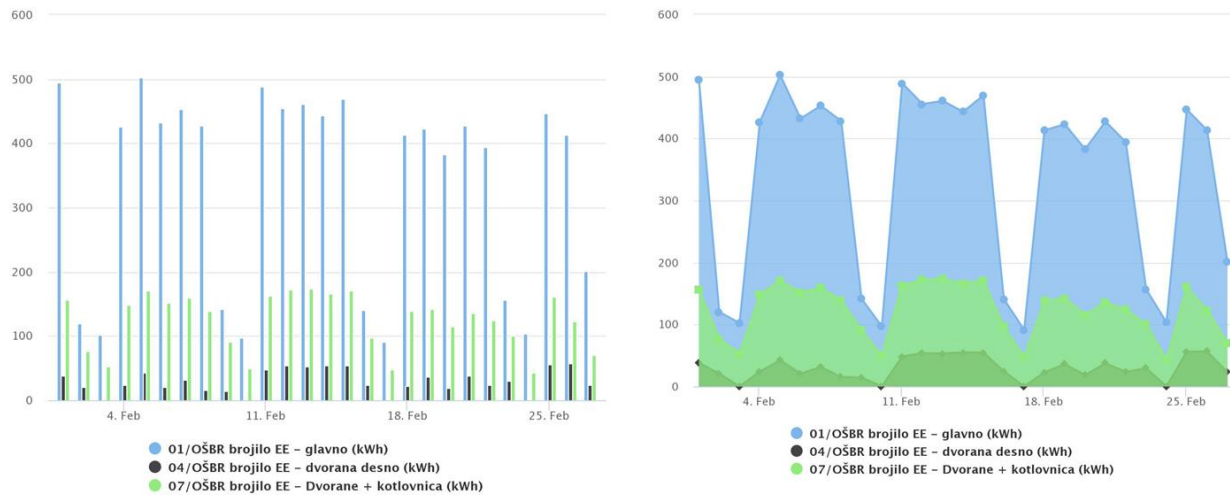


Figure 4: Central Monitoring System – Chart view

SYSTEM CHARACTERISTICS

Brief Description

The whole process of SM system implementation in Braca Radic Elementary School started with the first month of 2018 when the needs have been defined. Current state of the building was analysed. After that, market research was conducted in March 2018 to explore possibilities of available SM systems. In April, tech guys from Regional energy agency North linked the needs with the possibilities of SM systems considering financial frame. Considering that, project subject was defined and according to that, public procurement was carried out. Contract was sign in July with the ASR Group company which performed the works.

Smart metering system is implemented in the School for measuring electricity, gas and water consumption. The total value of completed works and equipment purchased is 104,150.00 HRK (14.000,00 €). Basically, the system includes measuring devices (smart meters) and software for displaying and monitoring the results. Measuring devices include reed switch that collect information about electric energy and gasr consumption as well as internal and outdoor temperature, humidity and CO₂ level. Central unit processes and displays collected data within specially designed software in real-time. System is in full function since the beginning of October 2018. Finally, smart metering data were integrated in Croatian Energy Management Information System (ISGE).

Type of a building where a smart metering (SM) system is installed:

Educational – School building

What does the smart meter measure:

electricity consumption (Main meter, sports hall and boiler room)

gas consumption (Main meter and kitchen)

internal and outdoor temperature

CO₂ level

Humidity

Responsible person for monitoring consumption:

Nenad Radicek, custodian

Name of a company which installed the SM system:

ASR GROUP d.o.o., Street of hrvatskih branitelja 11, Varazdin, E-mail: info@asr-group.hr, phone: +385 (095) 521 8662

FINANCIAL SOURCES AND FINANCING DETAILS

Total investment value: 14.000,00 €

Sources of financing:

SM system implementation in Braca Radic Elementary School in Koprivnica was fully financed within the project BOOSTEE-CE Interreg Central Europe. Project BOOSTEE aims to increase energy efficiency in public buildings through smart energy management.

Electricity savings (MWh/year): Complete reconstruction project results in electricity savings in total 47.295,00 kwh per year, this means a reduction of 59 %.

Or fuel savings (kg or m3 or kWh or GJ): Complete reconstruction project results in reduction of energy needed for heating from 445.898,30 kWh/m² to 165.878,10 kWh/m², this means a reduction of 63 %.

Cost savings (EUR/year): 63 % heating cost reduction and 59 % electricity savings, or ca. 20.000,00 € per year

PROJECT IMPLEMENTATION BENEFITS

This investment will provide numerous benefits such as monitoring, planning and control of energy and water consumption costs. Ultimately, the system will enable better management of energy consumption, easier maintenance of facilities and financial savings.

ADDITIONAL INFORMATION

More information on following links: <https://www.interreg-central.eu/Content.Node/PA/PA6.html> and <https://drava.info/2018/12/sustavi-za-pametno-upravljanje-energijom-ugradeni-na-dva-koprivnicka-objekta-u-sklopu-projekta-boostee-ce/>