

## **EPBiH smart metering research profile - Distribution EPBiH getting smart**

### **Background: Basic information**

Distribution activity of EPBiH is performed in accordance with a license for power distribution number 06-03-466/11/07, issued by the competent Regulatory Commission for Electricity in Federation of Bosnia and Herzegovina (FERK). In accordance with the internal organization of companies, electricity distribution and supply are organized in 6 organizational units (Distribution Operator and 5 distribution branch offices). Geographically, EPBiH performs its activity on approximately 17 600 km<sup>2</sup> of the Federation and includes seven (7) administrative regions (cantons).

### **Capacities and capabilities**

One of the main objectives for electricity distribution is the implementation of smart metering infrastructure and SCADA systems.

In accordance with business plans, business policies and relevant legal documents EPBiH recently implemented system of smart metering of electricity in minor scope thus setting up a quite good start for full roll-out. Its further implementation (full roll-out) is considered and recognized as one of the strategic objectives of the company board. Several pilot projects about implementation of smart metering systems were performed where equipment of different manufacturers of electricity meters were tested. Main characteristic of these systems was to use the PLC communication between electricity meters and data concentrators. Gained experience in the use of smart metering systems emphasized the positive effects that this system has on the organization and functions of measuring energy settlement and the performance of other business functions in this activity. Simultaneously, a large financial investment that mass deployment of advanced technologies undoubtedly requires, cannot be techno-economically viable if only those benefits accruing to the electricity companies are to be considered only. Along with consideration of smart metering a prerequisite for the efficient functioning of electricity markets, we believe that it should be recognized and valued as a technology that allows the achievement of targets for energy efficiency in end use of electricity. In addition, it is important to emphasize the fact that the EPB&H is obliged, in accordance with the general conditions for electricity supply, to ensure the quality of electricity supplied in accordance with European standards EN 50160 from 01/01/2016. Some activities have already been initiated on the realization of pilot projects testing systems for power quality monitoring. Further activities are to be planned and implemented and this research area is quite extensive.

Implementation of new technologies in distribution system of EPBiH is also part of development requests and is stated in internal strategic plan documents. Continual activity in distribution network is transfer to 20 kV voltage level and gradual replacement of 10 kV network voltage level. For example, analysis of possibilities for implementation of underground substations or electric vehicles, are also interesting research topics. Also the emerging integration of distributed generation (small hydro, PV, wind, biomass) offer new "practical research" area in our distribution system. Upcoming research activities will be in area of smart city implementation and coordination activities with other parties in power and administrative sectors.

Research activities would be coordinated in Department for Strategic Development of EPBiH in full cooperation with other organizational units of EPB&H, according to our organizational policy.

### **Expected benefits and contribution to the European research community**

Primary benefit is a further awareness of implementation of smart metering infrastructure and new technologies not only for EPBiH but for other stakeholders in developing electricity market in BiH. Cross-border cooperation that could be realized might provide a good basis for the of exchange the best practices and future collaboration.