Trailblazers:

ESP and ABB connect hydropower plants in the Alps

For the first time, the Valais-based power company FMV is using a satellite link to transmit data from the various substations to the control center in Chalais. The result is highly successful: one way to space and back is a highly cost-effective way to overcome any peak.

The Swiss Alps are high and rivers and streams rush down to the valley. So it's no wonder that Switzerland is the Eldorado of hydropower. With a share of no less than 60 percent, electricity from hydropower forms the backbone of Swiss energy production. The Valais electricity producer FMV (Forces Motrices Valaisannes) with its many smaller and larger power plants also contributes to this. FMV is active in electricity production and supplies municipalities, large customers and distribution companies with electrical energy. The company owns hydropower plants, but is also active in electricity transmission and marketing. FMV has stakes in various companies that are active in these areas. In order to transmit data from the various substations to the control center in Chalais, the power producer has now put a satellite link into operation for the first time. International equipment manufacturer ABB supplied the necessary hardware and supported FMV in the planning and implementation of the project. ABB brought EuroSkyPark (ESP) on board as a partner: the Saarland-based company specializes in innovative satellite communication solutions for the energy and security industries. It provides the satellite link and transmission technology and takes care of system integration.

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Norbert Amacker, technical employee of FMV

Far more economical than copper or even fiber optics and also technically superior – that is the conclusion drawn from the project in the Alpine region. „Our satellite communication is an economical alternative to cable,“ emphasizes Joel Hunziker, project manager at ESP. „This is especially true in the mountains. Renting copper cable is expensive and laying fiber optic is a huge project.“ In addition, the connection can be monitored continuously from the ground station and new locations can be added quickly. The air interface is encrypted and tap-proof, and the multiprotocol router offers the ability to switch to a different protocol and migrate a system by simply plugging it in. These advantages convinced the energy provider in Valais. For two weeks, the link ran in successful test mode – then it became a long-term route contract. Further stations are now to be connected.

For the partners ABB and ESP, this is a success, because the project is exemplary for the entire Alpine region and customer satisfaction is high. „We appreciate the professional work of our partners,“ says Norbert Amacker, technical employee of FMV, assessing the cooperation. „We are not getting complicated technology here, but a pragmatic, workable solution: data security, guaranteed availability and guaranteed runtimes.“ This solution also includes regional specifics. „In the Alps,“ Joel Hunziker knows, „you always have to reckon with the weather. The antenna is exposed to storms, rain, snow and ice. That‘s why we use particularly high-quality materials that are long-lasting and adapt our solutions to local requirements: Here in Saas, for example, we have installed a mirror heater in the antenna so that the ice layer does not interfere with the transmission. This is smart, robust technology that does its job reliably in harsh environments. And that‘s how we can score points on the market.“

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