
Nuremberg, December 07, 2020

MediaService Digital Industries

Siemens technology enables reliable operation of transformer station in Sarajevo

Sarajevo, Bosnia and Herzegovina. The city of Sarajevo, capital of Bosnia and Herzegovina impacts the nation's economy. This was made possible by building a redundant, fiber-based data communication network supported by managed Ethernet switches with a successful track record to ensure reliable power substation performance. It is therefore essential to guarantee security of supply for urban industrial areas. The modernization measures also made it possible to significantly reduce the operating costs of the transformer station.

The provision of reliable, quality power to the city's industrial zones is critical to sustain Sarajevo's growth which impacts the nation's economy. This fact is well-illustrated by the Industrial Zone Rajlovac in western Sarajevo, which hosts more than 60 companies across industries, such as food processing, automotive, transportation, manufacturing and retail. Industrial Zone Rajlovac is served by Elektroprijenos BiH's bulk power transmission system and the Sarajevo 10 substation, one of the most important substations in the 400 kilovolt (kV) network serving the entire country. In the post-war years, substations were upgraded with then standard supervisory control and data acquisition (Scada) systems, which, however, had reached the end of their service life in the meantime. Not only did maintenance costs grow, but the substations' reliability had become an issue. Unplanned power outages are disruptive and costly for manufacturing facilities whose processes rely on uninterrupted, quality power. To address these issues and ensure the reliability of the Sarajevo 10 substation, the transmission system owner, Elektroprijenos BiH contracted with the leading local systems integrator, CET Energy Ltd. to perform an ambitious slew of upgrades. The goal of the project was

to build an extremely stable, fail-safe network. Therefore upgrading and integrating existing protection and control devices with a new, redundant Scada system, as also the installation of two new power transformers and new switchgear should take place. To accomplish this project and build a highly robust network tolerant to chronic outages, a redundant, fiber-based data communication network supported by managed Ethernet switches with a successful track record from Ruggedcom, the Siemens line of rugged network components, was built. The main requirement of the client was to keep the original substation running the whole time we were rebuilding it, until a new system was up and functioning, as also to ensure that the upgrade would result in power reliability for Industrial Zone Rajlovac. And the substation had to comply with the global IEC 61850 standard to ensure that all legacy and new substation devices from different vendors would interoperate.

The project also required tying together all protection and control devices within the substation using a reliable, standards-based, data communication network, then connecting the substation data network to Elektroprijenos BiH's operations center. Maintaining the substation's power to the industrial zone while upgrading its protection and control devices, a redundant network was designed with fiber optic cables laid in underground tunnels below the substation connected with managed Ethernet switches that could support capacities for current as well as future needs.

Since the refurbishment, the original substation is running reliably, with significantly reduced operational and maintenance costs. More importantly, the reliable power for Industrial Zone Rajlovac in western Sarajevo has increased the number of investors, companies and job opportunities that support Sarajevo's economic growth.

This MediaService information and further material are available at <https://press.siemens.com/global/en/article/mediaservice-digital-industries-newsroom>

For further information on Industrial Communication Ruggedcom Portfolio, please see www.siemens.com/ruggedcom .

Contact for journalists:

Ursula Lang

Phone: +49 (152) 22915052; E-mail: Ursula.Lang@siemens.comFollow us on **Social Media:****Twitter:** www.twitter.com/MediaServiceInd and www.twitter.com/siemens_press**MediaService:** <https://press.siemens.com/global/en/article/mediaservice-digital-industries-newsroom>

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. Active around the world, the company focuses on intelligent infrastructure for buildings and distributed energy systems and on automation and digitalization in the process and manufacturing industries. Siemens brings together the digital and physical worlds to benefit customers and society. Through Mobility, a leading supplier of intelligent mobility solutions for rail and road transport, Siemens is helping to shape the world market for passenger and freight services. Via its majority stake in the publicly listed company Siemens Healthineers, Siemens is also a world-leading supplier of medical technology and digital health services. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power that has been listed on the stock exchange since September 28, 2020.

In fiscal 2019, which ended on September 30, 2019, the Siemens Group generated revenue of €58.5 billion and net income of €5.6 billion. As of September 30, 2019, the company had around 295,000 employees worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com.