Leading the charge in the European energy sector

Setting new aspirations for transparency and efficiency

To become a certified European Transmission Systems Operator and deepen its participation in the broader European energy market, Georgian State Electrosystem (GSE) launched an ambitious package of market reforms. These aimed to ensure that the state-owned company could closely align with European Union (EU) regulations and deliver a fair, responsible and competitive energy marketplace.

With GSE's legacy energy trading processes unable to support near real-time transaction processing or comply with EU rules, building a brand-new energy market trading platform was top of its transformation agenda. Crucially, the organization wanted to be able to process transactions in seconds instead of months and aimed to make key market information more widely available to market participants, regulators, and the general public.

With an open, accessible and more competitive energy market, GSE recognized that it could release more time and resources to focus on its long-term strategic goals of building more failover capacity in the country's power distribution networks. This could expand the construction of new renewable energy sources and transform GSE into a major exporter of sustainable energy to EU nations.

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Zviad GachechiladzeDirector of JSC Georgian State Electrosystem of Organized Markets Development and Electricity AccountingGS

Selecting versatile solutions and trusted partners

Building a brand-new energy market platform in line with standards set by the European Network of Transmission System Operators for Electricity (ENTSO-e) was no easy feat for GSE. To ensure best practice and regulatory compliance, the organization enlisted the support of Orient Logic—an IBM Business Partner—following a rigorous government procurement process.

In collaboration with Blaze (Orient Logic's software-development subsidiary) and IBM, GSE created the Energy Market Participants (EMP) platform using IBM® Process Automation Manager Open Edition as the main business process engine

and IBM Instana® Observability platform for comprehensive application monitoring. To ensure that GSE could rapidly develop and release new features for the EMP in the future, Blaze chose to build the market platform using the Red Hat® OpenShift® container platform and Red Hat Integration.

Using Red Hat Integration enabled seamless data interconnection with the enterprise resource planning (ERP) and billing systems without requiring invasive changes or redevelopment in those systems. This accelerated the delivery of the EMP platform and reduced the total cost for the project.

Now, the EMP platform enables electricity suppliers, generators, traders, transmission system operators, and distribution system operators throughout Georgia to buy, sell, import, and export energy across the country's domestic electricity network. In parallel, auditors and regulators can access near real-time information on energy trades, prices, usage, and other key metrics.

"We selected IBM solutions because they are reliable, time-tested and proven in the energy sector," says Zviad Gachechiladze, Director of JSC Georgian State Electrosystem of Organized Markets Development and Electricity Accounting at GSE. "And with support from Blaze and Orient Logic we were able to achieve a rapid and effective development cycle for the new platform and go live on our targeted date," he completes.

Lela Khalvashi, Product Owner at Blaze and Orient Logic, adds: "We were delighted to have the opportunity to help GSE deliver such an important initiative for our country. This successful project also enabled us to build on our vast experience and knowledge in the energy sector."

Building a more open and connected future

The initial version of the EMP platform has already had a profound impact on the energy sector in Georgia. By bringing key market players from across the electricity industry together on a trusted, regulated and transparent platform, GSE has successfully achieved its goal of making the country's electricity market more open. In turn, this will help the country boost renewable energy exports in the coming years and help its European neighbours achieve their environmental sustainability goals.

With the joint solution from Blaze and IBM, GSE can process and reconcile transactions in a matter of minutes, compared to two months previously. At the same time, the GSE can now simply share information with auditors and public bodies, helping the organization achieve compliance with ENSTO-e regulations and EU directives.

"By partnering with IBM and Blaze, we believe we have set the gold standard for open, efficient, and reliable electricity trading in Europe," concludes Gachechiladze. "We have already had interest from our peers in other countries and we are excited to help them achieve similar market reforms and improvements."

About GSE

Georgian State Electrosystem (GSE) (link resides outside of ibm.com) is an electricity transmission system operator that owns and operates 438,266 km of transmission lines and 93 substations across Georgia. As a joint-stock company owned by the

state, GSE provides power transmission and dispatch services, builds and maintains electricity infrastructure and facilitates trade in Georgia’s electricity market

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