



## Customer Highlight



### CYBERSECURITY

## Thales and SEL collaborate on landmark smart grid laboratory

THALES IS A WORLDWIDE LEADER IN ADVANCED DIGITAL TECHNOLOGIES. Their National Digital Exploitation Centre (NDEC) facility in Ebbw Vale is a hub of innovation and collaboration in the field of cybersecurity and digital technologies that helps ensure the safety of the nation's critical national infrastructure (CNI).

### Customer problem

The United Kingdom's CNI owners require reliable and resilient electricity to carry out their critical missions. As cybersecurity threats increase within energy infrastructure, comprehensive and trustworthy supplies, products, and solutions are vital. A Thales and SEL collaboration fulfills a need for advanced cybersecurity training, research and development, attack simulations, and product demonstrations for CNI owners. The partnership showcases the combined portfolios of SEL operational technology (OT) software-defined networking (SDN) and Thales solutions for networking and security operations centers, authentication, digital identity, and public key infrastructure.

### Solution

Together, Thales and SEL created the UK's first smart grid cyber-physical laboratory: the Ebbw Vale Smart Grid Laboratory at the NDEC. The lab conducts testing and verification of cyber measures and provides maturity level assessments of specific network architectures used by CNI owners.

The lab's smart grid uses the latest cyber standards applied in electrical substations. Users train for real-world cyber attacks through simulations and exercises. During the launch, Thales and SEL ran several demonstrations for customers in the energy, transport, defense, security, aerospace, space, digital identity, and cybersecurity markets.

### Results

The Ebbw Vale Smart Grid Laboratory at the NDEC provides energy network CNI owners:

- **Cybersecurity training** for utilities in areas including system hardening, vulnerability and risk assessments, OT SDN, and intrusion detection strategies.
- **Simulations** of realistic cyber attacks on OT environments, including station and process bus and time-synchronization attacks in digital substations.
- **Research and development** of new secure-by-design reference architectures and best practices, providing greater internal and external resiliency.
- **Product demonstrations** for stakeholders, featuring the smart grid concept and other innovations developed for the energy industry.

## About SEL

SEL is a 100 percent employee-owned company that specializes in creating digital products and systems that protect, control, and automate power systems around the world. This technology mitigates blackouts and improves power system reliability and safety at a reduced cost. Headquartered in Pullman, Washington, SEL has manufactured products in the United States since 1984 and serves customers worldwide.

## Cybersecurity philosophy

We build layers of defense and maintain the integrity of each layer's purpose—in other words, we apply the right technology at the right layer. We believe simpler products are easier to defend and that the safety of the power system and availability of the protection and control devices come first.

## Reliability

SEL products are designed and manufactured for the world's most challenging environments, exceeding all industry standards for temperature, shock, and electric stress.

Our products have a mean time between returns for repair (MTBR) of more than 250 years, based on observed field performance. This means that if you have 250 SEL products installed in your systems, you can expect to have less than one unscheduled removal from service per year for any reason, whether it's a defect or an external factor such as overvoltage, overcurrent, wildlife damage, or environmental exposure.

## Warranty

SEL backs our products and commitments with a ten-year warranty, no-charge diagnostic and repair services, local support, and a variety of test procedures and certifications.

## Support

SEL support teams are stationed in regional offices around the globe and staffed with application engineers who are experts in our products and in power system applications. We offer 24/7 technical support at no cost for the life of your SEL products.

## Contact us

To learn more about partnering with SEL Engineering Services, contact [esinfo@selinc.com](mailto:esinfo@selinc.com) or visit [selinc.com/engineering-services](https://selinc.com/engineering-services).