For Fingrid, the company that owns the power transmission infrastructure for the entire country of Finland, asset management is no easy task (imagine managing assets and planning operations 25 years into the future for an infrastructure that contains over 100,000 kilometers of conductors). As one of the leading power transmission companies in the world, Fingrid has launched a project to solve some of the key challenges around asset management. The story of Fingrid’s journey and solution is worth sharing, as it can help lead the power transmission industry into a new era of how it thinks about managing assets and planning operations – an era that could lead to reduced costs, higher reliability, and improved customer satisfaction.

The project – called ELVIS (ELeectricity Verkko Information System) – solves some of the most critical problems in asset management and grid operations: interoperability, transparency, and consolidation of information that is normally contained in multiple disparate systems. ELVIS links together asset data from eight different products (including Siemens PSS®ODMS and PSS®E) spanning multiple vendors into a single entirety that enables free flow of information between products. These products span the core functions of: Grid Calculation (PSS®E), Protection Calculation, Relay Management, Grid Modeling and Data Management (PSS®ODMS), Portfolio/Project Management, Geospatial Analysis Tools, and Work Management Systems.

One of the Siemens products within the context of the solution, PSS®E, is used as the calculation engine for all transmission planning operations on the network transmission model of Finland. With its broad base of standard features and its ability to customize using Python™ scripts, it is well suited to handle all the modeling tasks in the Finnish network. In addition to standard planning tasks, it will be used to “localize” a fault location along a transmission line to accurately dispatch line crews.

The other Siemens product within the context of the solution, PSS®ODMS, is used as an enterprise modeling tool and “system of record” data repository for Finland’s power transmission grid. PSS®ODMS allows transmission planning and operations engineers to maintain, analyze, and exchange network-
related data quickly and easily. With its extensive network modeling features, open architecture, and core design based on the IEC CIM 61970 standard, PSS®ODMS is centrally positioned to interface with multiple applications within the ELVIS solution, including PSS®E, ArcGIS, Maximo, PI Historian, and Fingrid’s home-grown load data system. These interfaces support a variety of use cases centered around critical transmission planning studies and asset management system-integrated network modeling.

When the ELVIS project is fully implemented and deployed in 2015, it will have solved some of the most crippling issues in asset management: free-flowing information exchange between multiple disparate products at every step in the asset management and grid operations planning workflows. As a result, Fingrid will have an asset management system that improves business process efficiency, increases productivity, reduces costs, boosts reliability, increases customer satisfaction, and ensures more effective and efficient decision making. The use of commercial off-the-shelf products (PSS®E and PSS®ODMS) within the solution provides the additional benefits of reducing Fingrid’s long-term costs to maintain the solution, as well as the peace-of-mind of using a proven product from a trusted vendor like Siemens.

To learn more about ELVIS, check out the overview video on YouTube.