

# Schneider-Electric Product Catalog

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Schneider-Electric employs 160,000 employees in 140 countries. They make over 1 million industrial scale electric devices. We were retained to help them get more value out of their product catalog. We built a high-level version of their enterprise ontology to make sure the work on the catalog would fit in with other initiatives. We interviewed producers and consumers of the catalog data and extended the enterprise ontology in this area to handle the specifics of complex electrical devices.

After we had fleshed out the specifics to support all physical and electrical characteristics, the conformance to electrical standards, and information to support pricing and promotions in 140 countries we loaded all their product data into a knowledge graph. We then ran a query to find out what portion of the ontology was being used to support this domain. Of the 300 or so concepts in the ontology the product catalog was able to be represented in 46 classes and 36 properties. Compare this to the existing product catalog that had 700 tables and 7000 attributes. This was almost a 100:1 reduction in complexity – yet all the data was present at the required levels of distinction. The power of simplicity further showed up in three subsequent initiatives:

- eCl@ss alignment – eCl@ss is a product definition standard that many companies use to determine compatible products across a supply chain. eCl@ss is complex, consisting of over 10,000 classes. But having a simple ontology (coupled with a taxonomy that made many of the more fine-grained distinctions) the task of mapping their product catalog to eCl@ss was a matter of a couple of months, rather than years.
- Clipsal – Schneider acquired an Australian manufacturer of residential electric products. Clipsal had their own product catalog, and while not as complicated as Schneider’s, was complex and structured quite differently. We interviewed the Clipsal product data managers, added a few items about aesthetics that were missing from our model and were able to define all the rest of the complex electrical products in the Clipsal product with the same 46 classes and 36 properties we modeled for Schneider.
- Product Compatibility – Electrical product compatibility is very complex - and mistakes can burn down buildings and kill people. The existing process necessitated downloading of the products and all their specifications into large spreadsheets. Electricians would then work through a very complex set of templates to determine which products were compatible with other products being sold in various countries. We initially tried to re-create their existing process until we discovered from interviews with product designers the characteristics that made products compatible. Turns out there were just a few dozen rules, most of which could be driven off the data we already had about electrical characteristics.

- System Enhancements - We added the additional data and wrote the rules. The big win was the system was able to calculate which products were compatible with which others before they were offered for sale in each country, so the decision to offer them could be contemporaneous with their release.

Each of these use cases demonstrates another way to leverage an elegant data model. What is perhaps most interesting is these were all emergent, in that the use case arose after the data was designed and loaded.

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