



## Development System for FACTS Power Transmission System

### Integrated OpenVPX, FPGA-based Development System

#### Requirements

Provide a high performance development platform with which the customer could design a system used to maximize power transmission efficiencies. Flexible AC Transmission System (FACTS) uses power electronics to improve the control over a power system's voltage profiles in order to maximize the efficiency of power distribution through the grid.

#### Solution

Elma worked closely with the customer in defining the technical requirements, starting with a technology tutorial on the OpenVPX standard itself. Elma brought together the necessary technical experts at the hardware and software level to provide the right solution for this project's requirements. A very high performance FPGA based system was developed in order to provide the right tools for the project.

#### Benefits

The customer came to Elma for our technical expertise in packaging and embedded computing, as well as the ability to pull together a solution based on elements from multiple vendors.

#### Features:

Elma provided dual lab environment test systems for application development. Each system consisted of:

- 3U OpenVPX E-Frame chassis and backplane
- Core i7 SBC processor board Virtex® FPGA technology, Gigabit Ethernet and PCIe switching capability, A/D and D/A conversion
- Custom rear I/O cards developed to enable application development activities
- Complete sub-system integration shipped development ready



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