Student project proposal

**Project title**  White Rabbit time synchronization in Phasor Measurement Units (PMUs)

**Project type**  □ MSc thesis  ☑ BA semester project  ☑ MSc semester project

**Project responsible and e-mail**
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**Project description**
The time synchronization of Phasor Measurement Units (PMUs) typically relies on the Global Positioning System (GPS) as it represents a good trade-off between performance and cost. However, since the GPS is characterized by several drawbacks (i.e., accuracy, accessibility and security), alternative techniques should be considered. In DESL laboratory we are investigating the White Rabbit (WR) synchronization protocol as a good candidate for time dissemination technique in power systems. Specifically, we are developing a novel FPGA-based PMU integrating the WR technology.

**Tasks of the student**
- Implement a time synchronization technique for FPGA-based PMUs based on the WR protocol
- Assess the performance of the developed PMU using a dedicated PMU calibrator

**Requirements**
- Good LabVIEW programming skills
- Basic LabVIEW-FPGA programming skills