Project description

Project Manager - Fast Analysis System

Initial situation

In high-performance pulse systems, each pulse is analysed and thus the efficiency of the entire system is controlled. For the analysis, several complex mathematical calculations must be performed within 20ms. Initially, a system consisting of a PC, a measuring card and a self-written software was available. This system was not suitable for industrial use and had to be improved.

Procedure

Together with the internal customer, I created a detailed specification for the analysis system. It quickly became clear that the usual control electronics did not have sufficient performance for this task. I investigated several suppliers. In addition to the price, the subsequent independence from the hardware supplier was also important.

Together with the project team, I defined interfaces that included future plant concepts. To manage this project, I created a plan that took into account time, budget, and resources. In regular project meetings, I coordinated the work of the internal project team and the external supplier.

Basic algorithms were further developed internally and optimised for the hardware. The internal project team also provided the corresponding interfaces at the plants. This concerned both the hardware and the adaptations to the system control.

The complete hardware development of the analysis system was the task of the external supplier. He also adapted the basic software (Unix) and integrated all necessary service modules (data storage, communication protocols, web server).

In parallel to the development, I set up a test plan. This defined the test procedure and the test results to be achieved. Most of the testing was done by the internal team at two plants, a small part at the external supplier. Some modification to the software was necessary as well as the repetition of some tests before all goals could be achieved.

At the end of the project, I wrote and revised an operating manual. I handed over the fast analysis system to the internal customer. It is now an important part of all high-voltage pulse systems.

Targets and key figures

- ✓ Analysis system is used in all customer plants
- ✓ Hardware and software developed
- ✓ Production costs in budget
- ✓ Robust evaluation algorithm developed
- ✓ External development partner without exclusivity rights
- ✓ Detailed specifications defined
- ✓ Time constraints met

November 2009 - December 2010

Budget CHF 200,000

Five employees in the team

Mechanical and electrical engineering industry