

THE NEW CONTROL SYSTEM FOR THE SPS TARGET SECTOR

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The SPS, the Super Proton Synchrotron, is an accelerator originally designed and commissioned in 1976 for protons. The control system for the SPS target equipment (dumps, stoppers, aperture limiters, collimators and targets) was developed in the seventies. It was mainly based on home-made electronics and equipment dependant software. With time, this electronics has become obsolete, difficult to maintain in operation and not suitable for integration in a modern control system. In 1997, a project was started to modernise the hardware electronics and the related software. The new SPS target control system is largely based on standard industrial hardware and software components. SIEMENS simatic S7-300 programmable logic controllers have been used as equipment process controller and connected through a industrial field-bus to a Windows-NT front ends running the SIEMENS WinCC [1] SCADA [2] application as local controller and remote access gateway. This fully industrial solution has been successfully integrated in the actual CERN SPS accelerator control infrastructure and is opened to other industrial communication protocols. The design, development and realisation of the selected solution have been outsourced to industry.

[1] Windows Control Center[2] Spervisory Control and Data Acquisition