

# DISCUSSION

## CONTROLS SESSION

Pierre Ninin (ST/MC)

### *Industrial controls at CERN (P. Ciriani)*

The TCR should not control the equipment process, it has a monitoring role only (Mark Tyrrell SL/CO).

For the LHC, the pressure on the tunnel walls should be studied. The supervision needs should be specified (J-L. Baldy).

### *Automates programmables et réseaux de terrain - conception des systèmes de régulation (D. Blanc)*

What is the problem of raising the nominal value of the SPS cooling water by 5 degrees (A: Scaramelli)? The regulators can no longer follow the new law associated with the behaviour of the process.

The price of the Programmable Logic Controllers (PLC) is stable, however the performances are improving. The price of the related equipment (connectors, etc. ) should not be neglected (M. Wilhelmsson)

### *Technical Supervision Interface (P. Sollander)*

Have you launched a market survey to find a suitable product (R. Parker)? The TSI project is really on the cutting edge of computing technology and today no adequate tools are available on the market.

Which solutions are available from industry (H. Laeger)? Solutions are available separately for data transport or visualisation but not in a single product.

How do you ensure the reliability of an event-driven system such as the TSI. The reliability is ensured by a specific mechanism implemented at the middleware level.

### *SPS Battery Remote Control (J-P Granchelli)*

The system uses the TDM to transport the data which is a very expensive a solution. Control system specialists should be consulted when building such a system (P: Ciriani).

A budget of 60 000 FS would be necessary to survey each mobile crane (A. Lecomte).

The LHC will require 343 mobile cranes, does the section have sufficient human resources to do the job (A. Scaramelli)?

*Control System Outsourcing in SL (B. Denis)*

Very interesting study of cost and performance comparison between CERN and industry (A. Lecomte)!

The documentation is always a problem in CERN home-made system (H. Laeger).

The documentation is a professional act which should never be neglected (A. Scaramelli).

Outsourcing control systems may lead to the loss of our technical competence (R. Parker).

CERN may learn a lot from industry, however CERN must remain a discerning user (P. Ciriani).