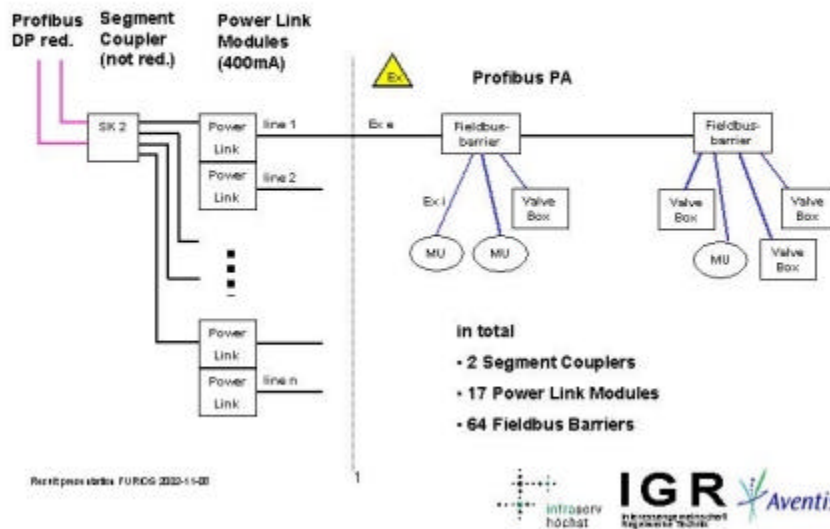


## FuRIOS - Fieldbus in practical comparison

FuRIOS – this German abbreviation stands for Fieldbus and Remote I/O system comparison. Under this project title the companies Infraseriv Höchst and Aventis Pharma analyzed the differences in plant communication designs, Remote I/O versus PROFIBUS PA. The evaluation covered the pure investment costs and the long-term operation costs as well as soft factors like staff training, safety of operation and production quality. The basis of the comparison was a pharmaceutical-chemical production plant consisting of 369 process control points, 821 I/Os as well as numerous drive engines, pumps and converters. The plant was equipped with Remote I/O and commissioned by Aventis a short while ago. The topology of this plant was planned 1:1 with PROFIBUS components and the resulting costs calculated.

### Topology of comparison design



Basic project parameters were the current availability of all fieldbus components as well as the analysis of a real, operational plant which could be built and commissioned exactly as planned. Aventis Pharma will do so in 2003 or 2004. The comparison of the cost calculations showed for the PROFIBUS instrumentation visible savings on investment costs, a significant advantage in the long-term operation costs and an impressive bonus due to the reduction of the construction time. The plant could have gone into operation about ten days earlier, which means the resulting profit of the product would have been far higher than the savings in investment costs. If the

comparison had been between conventional point-to-point cabling against field bus technology the savings in investment costs would have been in the range of 20 %.

FuRIOS was presented at the NAMUR general assembly in November 2002. The NAMUR working group 2.6 stated that the study proved additional saving potentials of fieldbus technology over Remote I/O systems. Due to the nature of this study a generalization of the findings to all process plants is not possible since different parameters and requirements have to be taken into account. Nevertheless the benefits of using fieldbus technology could surely be realized in any plant when following the recommendations, which can be deduced from FuRIOS:

- Without fieldbus barriers and valve interface boxes the use of fieldbus would not be economical
- The planning should follow a clear, fieldbus-optimized topology
- Only one fieldbus station should be connected to each output of the fieldbus barriers

State-of-the-art Multi-Variable-Devices should be planned from the very beginning to reduce the number of process control points.

It was stated explicitly that in general the findings of FuRIOS are valid for FOUNDATION Fieldbus as well.

## Information about FuRIOS



FuRIOS Study - result report: Fieldbus and Remote I/O: System comparison „FuRIOS“

Size: 192512 Bytes



### **The applicability of the FuRIOS Study**

Size: 779776 Bytes

‘Fieldbus is here, it could be put to use’. To verify this hypothesis the NAMUR published the ‘FuRIOS’ project which analyses the cost/benefit aspects of the possible application of a fieldbus system. The following article discusses the possibilities of a practice-oriented transfer of this study’s results using the example of a comprehensive Fieldbus Installation System already available on the market. The advantages of a complete system consisting of components designed for maximum interoperability as well as the practical benefits of specific technical features of some of these components are presented. Finally some perspectives are given regarding the transferability of the study’s results to meet the requirements of different Process Techniques.



Size: 563200 Bytes

### **Saving costs with the field bus Realistic cost/benefit comparison of a Remote I/O and a Field Bus System**

Field Bus, Remote I/O or a combined solution – which technology offers the most economic route for a production plant? In the “Furious” project, Aventis Pharma Deutschland and Infracerv Höchst have compared the costs and benefits of Field Bus and Remote I/O technology on the basis of the example of a specific chemical-pharmaceutical production plant. Pepperl+Fuchs is one of the nine manufacturers to have participated in the Furios-Project. Dr. Katina Leondaris talked to Jürgen George, Head of Marketing and Strategic Planning at Pepperl +Fuchs, about the results of the very realistic analysis.



Size: 344000 Bytes

### **PROFIBUS in Process Automation – the user has spoken**

The “FuRIOS” project investigated the feasibility and the cost / benefit aspects of the fieldbus from the user’s point of view under general conditions that are as typical as possible for a pharmaceutical / chemical production plant, based on a real plant commissioned in 2002.