

Field Control Systems – The Next Step?

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Abstract: This paper deals with the field control systems (FCS), which represent state-of-the-art distributed process control systems. The main objective is to present the FCS philosophy, the present state of several major engineering activities and to show possible enhancements improving engineering process which should be developed. Also the role of international standardization which is important but very often omitted by engineers and especially young scientist is remarked. While the theme covered by this paper is extensive, the aim was to give an overview and provide references to further study.

The first part contains description of FCS with a simple example of ratio control without any antecedent knowledge required. The terms like fieldbus, intelligent field device and function blocks for process control are also described.

In the second part the present way of engineering this type of control systems is shown (e. g. configuring control loop, localization of function blocks within field devices, setting control functions schedule).

The third part is the overview of works already done within Networked Control Systems community which has the close relationship to FCS.

The last part deals with the possible enhancements to control engineers' work flow. Several examples of using present state theory of systems and modelling to accomplish defined objectives are given.