DECISION
of 15 March 2002

Case Number: T 0117/00 - 3.5.1
Application Number: 93116076.6
Publication Number: 0592921
IPC: G05B 23/02, G06F 3/033
Language of the proceedings: EN

Title of invention:
Process control with graphical attribute interface

Patentee:
Fisher-Rosemount Systems, Inc.

Opponent:
Siemens AG

Headword:
Process control/FISHER-ROEMOUNT

Relevant legal provisions:
EPC Art. 52(1), 56

Keyword:
"Inventive step (no)"

Decisions cited:
T 0633/97

Catchword:
Case Number: T 0117/00 - 3.5.1

DECISION
of the Technical Board of Appeal 3.5.1
of 15 March 2002

Appellant: Siemens AG
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Representative: -

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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted 25 November 1999 rejecting the opposition filed against European patent No. 0 592 921 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: R. Randes
P. Muehlens
Summary of Facts and Submissions

I. This is an appeal against the decision by the Opposition Division to reject the opposition against European patent 0 592 921 and to maintain the patent as granted. The patent was granted with two independent claims: claim 1, which sets out a method, and claim 5, which essentially sets out a corresponding apparatus. Claims 2 to 4 are dependent on claim 1.

II. The Opponent cited inter alia the following document, the Board adopting the Opponent's nomenclature:


III. The opposition was based on Article 100(a) EPC, arguing that the subject-matter of claim 1 lacked novelty in view of OD2 and also inventive step in view of other documents.

IV. In its decision the Opposition Division held that the subject-matter of claim 1 was new and inventive having regard to OD2 and other documents.

V. The Opponent appealed, requesting that the decision be set aside and again arguing that the subject-matter of claim 1 lacked novelty in view of OD2. In a further submission the Appellant filed the following document:
VI. The Respondent (Patentee) requested dismissal of the appeal and maintenance of the patent as granted.

VII. In view of auxiliary requests by both parties for oral proceedings the Board issued a summons to oral proceedings. In an annex to the summons the Board expressed the preliminary opinion that the subject-matter of claim 1 appeared to lack novelty, or at least inventive step, in view of OD2.

VIII. In a further submission dated 1 February 2002 the Respondent questioned the relevance of OD6.

IX. Oral proceedings were held before the Board on 15 March 2002 at which the Appellant requested that the decision under appeal be set aside and the patent revoked. The Respondent requested that the appeal be dismissed and that the patent be maintained in amended form with claim 1 as filed in the oral proceedings, claims 2 to 5 as granted and the description and drawings as granted. Amended claim 1 differs from claim 1 as granted in the inserted expression indicated in **bold** and reads as follows:

"1. A method of generating graphical display of process attributes in a computer-based process controller, comprising:

displaying a graphical representation (P&ID) of a
process being controlled;

storing in a historical data file (602) a history of underlying process attributes (203) for a plurality of points in time during the operation of a process being controlled;

storing in a mask data file (603) information relating said history of underlying process attributes (203) to corresponding process elements (112 to 118) in said graphical representation;

selecting a portion of the graphical representation (P&ID) defined by said mask data file (603) and a point in time for which underlying process attributes (203) from said history are to be displayed; and

displaying said underlying process attributes (203) of the selected portion of the graphical representation (P&ID) for the selected point in time substantially simultaneously with the display of said graphical representation."

X. The parties' arguments in the oral proceedings can be summarized as follows.

The Appellant argued that the subject-matter of claim 1 lacked novelty, or at least inventive step, in view of OD2 alone or OD2 combined with OD6.

The Respondent questioned whether OD6 should be admitted to the proceedings, since it was late filed and was only relied upon for a definition of the term "masking". According to the Respondent, the subject-matter of claim 1 differed from the disclosure of OD2
in two respects:

i. a mask data file. The historical process attributes shown in figure 5 of OD2 did not relate solely to one portion of the process being controlled, since the list of parameters in figure 5 contained parameters such as "DRU. SGZ1" and "DRU. SGZ2" relating to two separate process elements. Moreover, OD6 showed that at the priority date the term "masking" referred to something different to its use in the patent; it referred to the simplification of prepared displays by deleting those parts of a display which were unnecessary or would confuse a particular operator.

ii. simultaneous display of historical attribute data and a graphical representation of the process being controlled. Although figure 5 showed graphs of historical process attributes, there was no graphical representation of the process being controlled. This feature was also not unambiguously derivable from the references to windows technology in OD2.

XI. At the end of the oral proceedings the Board announced its decision.

**Reasons for the Decision**

1. **Admissibility of the appeal**

   The appeal meets the requirements set out in Rule 65(1) EPC and is therefore admissible.

2. **Admissibility of OD6**

   OD6 was filed by the Appellant almost a year before the
oral proceedings. The Respondent thus had sufficient time to study and comment on OD6 and indeed made detailed comments on it in the submission dated 1 February 2002. Since the admission of OD6 would not prevent the Appeal proceedings from being conducted in an effective manner, the Board exercises its discretion under Article 114(2) EPC to admit OD6 to these proceedings (see T 0633/97, reasons, point 2.2, not published in OJ EPO).

In the Board's view however OD6 is less relevant than the documents already in the proceedings, in particular OD2.

3. Allowability of the amendment in claim 1

The restriction of the expression in claim 1 "selecting a portion of the graphical representation" to read "selecting a portion of the graphical representation defined by said mask data file" is based on column 5, lines 26 to 29 and column 8, lines 44 to 52 of the published application. The Board consequently finds that the amendment satisfies Articles 123(2) and (3) EPC.

4. Novelty

Document OD2 forms the closest prior art. OD2 discloses a method of generating a graphical display of process attributes in a computer-based process controller, comprising: displaying a graphical representation of a process being controlled (Figures 1 and 2); storing in a historical data file a history of underlying process attributes for a plurality of points in time during the operation of a process being controlled (sentence
bridging pages 11 and 12); selecting a portion of the graphical representation and a point in time for which underlying process attributes from said history are to be displayed (page 11, left column, lines 53 to 55 and page 12, left column, lines 2 to 5) and displaying said underlying process attributes of the selected portion of the graphical representation for the selected point in time (Figure 5).

The subject-matter of claim 1 consequently differs from the disclosure of OD2 in:

i. storing in a mask data file information relating the history of underlying process attributes to corresponding process elements in said graphical representation, and

ii. displaying the underlying process attributes of the selected portion of the graphical representation for the selected point in time substantially simultaneously with the display of the graphical representation.

The subject-matter of claim 1 is consequently novel, Articles 52(1) and 54(1 to 2) EPC.

The first difference feature solves the problem of relating the process attribute histories to the corresponding elements of the controlled process. The second difference feature solves the problem of giving the user a more complete overview of the system. The Board is unable to discern a technical relationship between these two problems; no evidence having been presented concerning a surprising synergy between the two difference features. Hence the inventive step of each difference feature has to be considered
separately.

5. **Inventive step**

5.1 The first difference feature

In the Board's view the problem solved by this feature is already hinted at in OD2, since by selecting a process element in Figures 1 and 2 a *corresponding* display window of historical attribute graphs opens (emphasis by the Board); see Figure 5 and page 11, left column, lines 53 to 55. OD2 does not however mention how the historical attribute data is related to corresponding process elements, thus leaving a "gap" which the skilled person carrying out the method according to OD2 would inevitably have to fill. The Board regards the solution of storing information on these relationships in a mask data file as a usual matter of design when "filling the gap" in the disclosure of OD2.

The Respondent's argument that the historical process attributes shown in OD2 (Figure 5) do not relate solely to one portion of the process (so that difference feature "i" involves an inventive step) is not accepted by the Board. According to claim 1, the mask data file stores information relating the history of underlying process attributes to corresponding process elements. Hence claim 1 is not limited to a single attribute or a single process element. The question of whether claim 1 is sufficiently broad to cover not one process element but two is therefore merely a matter of degree.

5.2 The second difference feature
The problem solved by this feature is also hinted at in OD2 which shows the current values of process attributes, such as temperature and pressure, being displayed simultaneously with the process elements they relate to in Figures 1 and 2. These figures also show control windows ("Bedienfelder") superimposed on the process diagram. OD2 states that optimal operation of a power station is aided by having graphs of process attribute histories plotted against time, shown in Figure 5 (see page 11, lines 56 to 59). It is self-evident that it would be more convenient for the system-operator to see such graphs together with the process diagram, or at least to see historical attribute values for a point in time (such as those shown at the top of the screen in Figure 5) together with the process diagram, rather than having to change to another screen presentation (Figure 5). The question therefore arises as to why in OD2 the control windows and current values of process attributes are displayed simultaneously with the process diagram, whilst another display has to be selected to inspect the historical attribute data. In the Board's view this difference springs from the additional screen area required to show historical attribute data. What is overlaid on a process diagram is however a matter of compromise depending on the amount of necessary information, the size of the screen and the need not to overfill the screen. The Board therefore finds that the simultaneous display of selected historical attribute data and the process diagram amounts to a usual design compromise.

5.3 Conclusion on inventive step

Taken alone, the two difference features mentioned above do not involve an inventive step. The Board
consequently finds that the subject-matter of claim 1 lacks inventive step over OD2, Articles 52(1) and 56 EPC. The Respondent's remaining request is consequently not allowable.

Order

**For these reasons it is decided that:**

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

M. Kiehl S. V. Steinbrener