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**Datasheet for the decision  
of 18 December 2018**

**Case Number:** T 2397/13 - 3.5.01

**Application Number:** 06804034.4

**Publication Number:** 1929699

**IPC:** G06F15/18, G06N7/06, G05B15/00,  
G05B19/408

**Language of the proceedings:** EN

**Title of invention:**

DATA PERSPECTIVES IN CONTROLLER SYSTEM AND PRODUCTION  
MANAGEMENT SYSTEMS

**Applicants:**

Rockwell Automation Technologies, Inc.  
Chand, Sujeet

**Headword:**

PLC processing hierarchical data / ROCKWELL & CHAND

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - transferring of processing to low-level  
device (no - obvious)



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Case Number: T 2397/13 - 3.5.01

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.01**  
**of 18 December 2018**

**Appellant:** Rockwell Automation Technologies, Inc.  
(Applicant 1) 1 Allen-Bradley Drive  
Mayfield Heights, OH 44124 (US)

**Appellant:** Chand, Sujeet  
(Applicant 2) 19460 Legend Court  
Brookfield, WI53045 (US)

**Representative:** Grünecker Patent- und Rechtsanwälte  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 1 July 2013  
refusing European patent application No.  
06804034.4 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** W. Chandler  
**Members:** A. Wahrenberg  
P. Schmitz

## **Summary of Facts and Submissions**

- I. This appeal is against the decision of the examining division to refuse the European patent application No. 06804034.4 on the grounds that the subject-matter of none of the main and two auxiliary requests then on file involved an inventive step over D6 (US 2003/014500 A) in combination with the skilled person's common general knowledge (Article 56 EPC).
- II. In the statement setting out the grounds of appeal, the appellants requested that the decision of the examining division be set aside and that a patent be granted on the basis of an amended main request, or one of two amended auxiliary requests. Compared to the requests that had been rejected by the examining division, the requests filed with the grounds of appeal differed in that a feature relating to machine learning had been removed from the independent claims.
- III. In the communication accompanying the summons to oral proceedings, the Board set out its provisional view that the subject-matter of claim 1 of the main and two auxiliary requests lacked an inventive step over D6. The Board also had doubts whether claim 1 (all requests) was clear (Article 84 EPC).
- IV. With a letter dated 16 November 2018, the appellants filed a new auxiliary request 2, and an auxiliary request 3, which, if admitted into the appeal proceedings, would replace all the requests on file. The amendments primarily addressed the clarity objection in the Board's communication.

V. During oral proceedings, the Board admitted these requests. The appellants declared that under those circumstances, new auxiliary request 2 became the new main request and auxiliary request 3 became the new auxiliary request 1. The former requests were no longer maintained.

Accordingly, the appellants' final requests were that the decision under appeal be set aside and that a patent be granted on the basis of the main request or auxiliary request 1, which had been filed as new auxiliary request 2 and auxiliary request 3 by letter of 16 November 2018.

VI. Claim 1 of the main request reads:

*A controller (110), comprising:*

*an interface component (120) associated with the controller (110) and adapted to receive and send data of a hierarchical structure, wherein the data of the hierarchical structure is utilizable by higher-level systems such as an Enterprise Resource Planning, ERP, system or a Supply-Chain Management, SCM, system; and a filter component (130; 240; 310) communicatively coupled with the interface component (120) and adapted to:*

*filter the received data of the hierarchical structure based at least in part on one or more provided lustration criteria,*

*deconstruct the received data of the hierarchical structure to produce filtered data comprehensible by one or more industrial automation devices,*

*send the filtered data to the one or more industrial automation devices, and*

*reconstitute data received from one or more*

*industrial automation devices into data of the hierarchical structure; wherein said filter component (130; 240; 310) comprises:*

*a security component (320) adapted to grant access to the data of the hierarchical structure based at least in part on the one or more provided lustration criteria, and to utilize the one or more lustration criteria to generate a customized view of the hierarchically structured data;*

*a mapping component (340) adapted to map data of the hierarchical structure into at least one data format comprehensible by the one or more industrial automation devices; and*

*a reconstruction component (350) adapted to employ one or more templates to reconstitute data received from the one or more industrial automation devices into the data of the hierarchical structure.*

- VII. Auxiliary 1 adds the following definition to the second feature ("*a filter component...*") in claim 1 of the main request: "*, wherein the one or more provided lustration criteria includes one or more of factory presets, biometric information, passwords, and geographical location and user identification parameters*".

## **Reasons for the Decision**

### 1. *Background*

The invention concerns a programmable-logic controller (PLC) that controls low-level industrial automation devices and that communicates with a high-level system (e.g. an Enterprise Resource planning (ERP) system).

Low-level industrial automation devices use flat data structures. ERP-systems, on the other hand, use hierarchical data structures, which facilitate data processing such as filtering. If data from the industrial automation devices is desired for use by the ERP-system, a mapping from flat data to hierarchical data is required. Conversely, if data flows from the ERP-system to the industrial automation devices, a mapping from hierarchical data to flat data must take place. In the invention, the PLC performs the mapping in both directions. The PLC also filters the hierarchical data based on one or more "lustration" (filtering) criteria, for example a filtering based on access rights.

### 2. *Main request, claim construction*

Claim 1 of the main request is not limited to a PLC; it is directed to a general "controller". To avoid a complicated, and, as it turns out, unnecessary discussion about the scope of the term "controller", the Board bases its assessment of inventive step on the more narrow interpretation "PLC". Indeed, if the more narrow subject-matter is found to lack an inventive step, so does the broader subject-matter.

3. *Main request, inventive step*

3.1 It is common ground that D6 discloses the same sort of mapping and filtering as in claim 1 of the main request.

3.2 In the oral proceedings, the appellants argued that there was one difference between the disclosure of D6 and the subject-matter of claim 1:

In D6, the mapping and filtering were performed by a high-level system component, i.e. a Web server or an XML server. By contrast, in claim 1 of the main request, the same processing was carried out by the low-level PLC that controlled the industrial automation devices.

3.3 An effect of the difference is that the PLC can communicate directly with the ERP system. No additional server is needed. In addition, the appellants argued that, since the filtering based on access rights took place closer to the data source, the solution in claim 1 of the main request was more secure than the one in D6, which involved sending unfiltered data over a network.

3.4 The Board is not convinced that the invention is more secure than D6. Security depends on a number of things that are not defined in the claim, for example the access prevention mechanisms used, and network security. Providing access control closer to the data source does not, on its own, increase security.

Indeed, the application does not present the invention as solving a problem of security. Having the PLC perform the filtering is presented as just one

alternative (paragraph [0010] of the published application). Another alternative is to use an intermediary component that performs the filtering. In the second alternative, the PLC is just a conventional controller.

- 3.5 Therefore, the Board formulates the technical problem solved by the invention as providing an alternative to the system in D6.
- 3.6 The appellants argued that, at the priority date, PLCs did not deal with hierarchical data. Therefore, it would not have been obvious to transfer the processing performed by the web server in D6 to the controller that controlled the industrial automation devices. There was no hint in D6 that would have led the skilled person to take this step.
- 3.7 In the Board's view, however, it would have been obvious to transfer the processing to the PLC. There was a motivation to do so, namely to do away with the additional hardware (the Web server). Furthermore, the skilled person at the priority date was routinely looking to integrate functionality performed by different system components into one component. There were no technical obstacles that would have deterred the skilled person from including the hierarchical mapping and filtering in the PLC. The implementation would have been straightforward using routine programming.
- 3.8 For these reasons, the Board concludes that the invention as defined in claim 1 of the main request does not involve an inventive step (Article 56 EPC).



4. *Auxiliary request 1*

4.1 The auxiliary request defines the "lustration" criteria, i.e. the filtering criteria, in claim 1. It does not provide any features, which further distinguish the invention from D6. Therefore, the auxiliary request lacks inventive step (Article 56 EPC) for the same reasons as given in respect of the main request.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



T. Buschek

W. Chandler

Decision electronically authenticated