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**Datasheet for the decision
of 16 July 2024**

Case Number: T 1893/22 - 3.5.05

Application Number: 16171365.6

Publication Number: 3249481

IPC: G05B19/05, G05B19/042

Language of the proceedings: EN

Title of invention:
System, industrial controller and method configured to execute
a closed loop control on data for cloud based applications

Patent Proprietor:
Siemens Aktiengesellschaft

Opponent:
Cabinet Nübold

Headword:
Cloud-based industrial control/SIEMENS

Relevant legal provisions:
EPC Art. 56, 100(a), 112(1)(a), 125
EPC R. 76(2)(a), 76(2)(d), 152
RPBA 2020 Art. 9, 15(8)
French Civil Code Art. 1161

This datasheet is not part of the Decision
It can be changed at any time and without notice

Keywords:

Admissibility of opposition - (yes): no "circumvention of the law by abuse of process"
Enlargement of the present Board (no): not justified by the nature of the appeal case
Referral of a question to the Enlarged Board of Appeal - (no): answer to the question not relevant to the present case
Inventive step - main and 1st to 4th auxiliary requests (no)

Decisions cited:
G 0003/97, J 0015/86

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D E C I S I O N
of Technical Board of Appeal 3.5.05
of 16 July 2024

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Appellant: (Patent Proprietor)	Siemens Aktiengesellschaft Werner-von-Siemens-Straße 1 80333 München (DE)
Representative:	Siemens Patent Attorneys Postfach 22 16 34 80506 München (DE)
Respondent: (Opponent)	Cabinet Nübold La Guérinerie 5, Rue Moïse Potiron 17100 Courcoury (FR)
Representative:	Nübold, Henrik La Guérinerie 5, rue Moïse Potiron 17100 Courcoury (FR)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 22 June 2022 revoking European patent No. 3249481 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	P. Tabery
	R. Romandini

Summary of Facts and Submissions

I.   The appeal is directed against the opposition
        division's decision to revoke the present European
        patent.

II.   The opposition division found that the opposition was
        admissible and that the claimed subject-matter did not
        involve an inventive step (main request and second to
        fourth auxiliary requests) having regard to the
        following prior-art documents:

        D1:   EP 2 924 572 A2
        D2:   "Beckhoff-Lösungen für Industrie 4.0 und IoT",
                   SPS-Magazin, 13 May 2016.

        Moreover, the first auxiliary request was found to
        violate Rule 80 EPC.

III.   Oral proceedings before the board were held on
        16 July 2024. The parties' final requests were as
        follows:

        -    The appellant-proprietor (henceforth: "the
             proprietor") requested that the appealed decision
             be set aside and that the opposition be rejected as
             inadmissible or that the opposition be rejected,
             i.e. that the patent be maintained as granted (**main
             request**). Alternatively, the proprietor requested
             that the patent be maintained in amended form in
             accordance with one of the **first to fourth
             auxiliary requests**. All these claim requests were
             identical to those underlying the decision under
             appeal.

Furthermore, the proprietor requested that the board be enlarged by at least a legally qualified member.

The proprietor also requested that a question be referred to the Enlarged Board of Appeal in accordance with Article 112(1)(a) EPC.

Finally, the proprietor requested that the opposition division's decision to consider the attack of the opponent based on Figure 2 and paragraphs [0020] and [0026] of D1 be set aside and that this attack not be admitted into the proceedings.

- The respondent (henceforth: "the opponent") requested that the appeal be dismissed.

At the end of the oral proceedings, the board's decision was announced.

IV.   Claim 1 of the **main request** reads as follows:

"System configured to execute a closed loop control on data for cloud-based applications (70) comprising:
    • an industrial automation device (30) configured to generate cloud variables,
    • a cloud-based application (70), which is hosted by a network device with a cloud-computing infrastructure,
    • an industrial controller (20) configured to control the industrial automation device by a user-defined program (22), hosted by industrial controller,
    • the user-defined program configured to receive the cloud variables,

• a cloud agent (21) configured for communication
with the user-defined control program, and for
communication with the cloud-based application,
further configured to: collecting the cloud
variables and sending the cloud variables to the
cloud-based application,
• the cloud-based application (70) configured to
determine updated optimized cloud variables and to
notify the cloud agent (21) in the industrial
controller with the updated optimized cloud
variables
• the cloud agent (21) configured to reload the
updated optimized cloud variables and to notify the
user-defined control program with the updated
optimized cloud variables,
• the user-defined control program further
configured to include cloud constructs and to
reload the updated optimized cloud variables in the
user-defined control program,
wherein the cloud constructs declare the cloud
variables that are to be updated by the cloud-based
application (70) and request the updated optimized
cloud variables on runtime."

Claim 1 of the **first auxiliary request** comprises the
features of granted claims 1 and 2. Granted claim 2
comprises the feature that the "cloud agent" is hosted
in the "industrial controller".

Claim 1 of the **second auxiliary request** comprises the
features of granted claims 1 and 4, i.e. the following
wording is added:

"wherein the user-defined program is configured as
a programmable logic controller-program (22)."

Claim 1 of the **third auxiliary request** comprises the features of granted claims 1 and 9, i.e. the following wording is added:

"wherein the industrial automation system is configured in a programming language and the cloud variables are defined in the programming language of the industrial automation system."

Claim 1 of the **fourth auxiliary request** comprises the features of granted claims 1 and 5, i.e. the following wording is added:

"wherein the cloud agent (21) includes a unique identity number for identifying the user-defined control program (22), for which the cloud variables is*[sic]* collected and on which the cloud variables are to be updated."

Reasons for the Decision

1.   The opposed patent concerns cloud-based optimisations of industrial-process parameters, where configurable parameters of a "user-defined control program" are updated during runtime.

2.   Request for an enlargement of the board

2.1   The proprietor requested that the board be enlarged by at least one additional legally qualified member. This was warranted due to this case potentially setting a precedent regarding proper representation in proceedings established by the EPC.

2.2   The board does not consider that the nature of the appeal indeed requires a composition of three technically qualified members and two legally qualified members, as outlined in Article 9 RPBA. Rather, the board holds that the case does not go beyond what may be handled by a board with an ordinary composition. In particular, all the members of the present board were in the position to properly interpret and apply the relevant provisions of the EPC to the present case.

2.3   Therefore, the request for an enlargement of the board has been refused (Article 9 RPBA).

3.   Admissibility of the opposition

3.1   The proprietor has contested the admissibility of the opposition. The contestation relies on the following points:

(i)   The opponent's professional representative cannot represent the company since he is simultaneously managing the legal entity he represents;

(ii)   the identity of the opponent could not be unequivocally determined either at the end of the opposition period or during the appeal proceedings;

(iii)   the opponent cannot act as such because carrying out activities typically carried out by professional representatives without the necessary qualifications circumvents the principles of representation;

(iv)   the opponent's change of name affects the admissibility of the opposition;

(v)   the opponent referred, in its notice of opposition, to the German translation of

the claims, and not to the version of the
patent in the language of the proceedings.

However, none of these arguments or objections
convinces the board that the opposition is
inadmissible.

3.2   *Representation*

3.2.1   The proprietor argued that Articles 133 and 134 EPC,
        together with Rule 152 EPC and the Decision of the
        President of the EPO of 12 July 2007, did not
        constitute a complete and self-contained set of rules
        on representation in proceedings established by the
        EPC. National laws governing representation were also
        relevant.

3.2.2   The relevance of national laws appears to be invoked in
        two ways. In the statement of grounds of appeal, the
        appellant referred to both German law (§ 181 BGB) and
        French law (Article 1161 of the French Civil Code)
        without mentioning Article 125 EPC. The board has
        considered those references as suggesting that either
        German law or French law would apply to the question
        whether *Mr Nübold* could actually represent the opponent
        in the present proceedings.

        In its letter of 17 May 2024, the appellant apparently
        refined its approach: it contended the existence under
        Article 125 EPC of a procedural principle that
        prevented the opponent from appointing *Mr Henrik Nübold*
        as representative, since such an authorisation formed a
        "self-dealing" situation in which *Mr Henrik Nübold*, in
        his function as the president of a "société simplifiée
        unipersonnelle", appointed himself as a professional
        representative in this case. Yet, such a self-dealing,

also known as "Insichgeschäft" under German law or "transactions intéressées" under French law, was illegitimate and rendered the appointment null and void.

3.2.3   The board, however, follows the analysis of the decision under appeal and the arguments provided therein. In summary,

-   Articles 133 and 134 EPC together with Rule 152 EPC and the Decision of the President of the EPO of 12 July 2007 on the filing of authorisations (OJ SE 3/2007, 128) indeed constitute a complete and self-contained set of rules on representation in proceedings established by the EPC.

-   According to these rules, a legal person having its seat in an EPC contracting state is not obliged to be represented by a professional representative (Article 133(1) EPC). Furthermore, persons whose names appear on the list of professional representatives are entitled to act in all proceedings established by the EPC (Article 134 EPC).

-   In the present case, the opponent is a French company. According to the available evidence, *Mr Nübold* is not an employee, but the president of a "société simplifiée unipersonnelle" (SASU) under French law (cf. Article L227-1 of the French Commercial Code). In this capacity, he was entitled to represent SASU Cabinet NÜ at the time the opposition was filed. Indeed, a legal person having its seat in an EPC contracting state can therefore act in proceedings before the EPO through its legal representatives. As correctly pointed out by the

opposition division, the fact that *Mr Nübold* is a
professional representative cannot have a negative
impact on his competence and ability to represent
the opponent as the president of the SASU, since
under French law he is entitled to act on behalf of
the legal person in all circumstances (see
Article L227 and L227-6 of the French Commercial
Code). The fact that *Mr Nübold* is a professional
representative can only mean that he would be
entitled to act in proceedings before the EPO not
only as the president of the SASU, but also as a
professional representative appointed by that legal
person. Therefore, even if national law were to
apply and would prevent the company from appointing
Mr Nübold as its professional representative and
attorney, still it would not prevent him from
representing the company as its president.

3.2.4   In view of the above considerations, it is only for the
sake of completeness that the board notes that neither
the references to French and German law nor the
reference to general principles under Article 125 EPC
could, in its view, prevent the company from appointing
Mr Nübold as a professional representative before the
EPO.

3.2.5   If one considers the reference to **French law** as
potentially applicable to the present case, given that
the company is based in France, the following
observations can be made:

The clear wording of Article 1161 of the French Civil
Code shows that it would not apply, even in national
proceedings, to a situation like the one before the
board. The article states:

> *"En matière de représentation des personnes*
> *physiques, un représentant ne peut agir pour le*
> *compte de plusieurs parties au contrat en*
> *opposition d'intérêts ni contracter pour son propre*
> *compte avec le représenté.*
>
> *En ces cas, l'acte accompli est nul à moins que la*
> *loi ne l'autorise ou que le représenté ne l'ait*
> *autorisé ou ratifié."*

The conflict of interest that this provision aims to prevent is limited to cases where a representative (agent) acts on behalf of a *natural* person, not a company. Even if the board were to consider this provision relevant to the authorisation of legal proceedings — an assumption that is doubtful — and even if *Mr Nübold* acted as the professional representative of the SASU when filing the notice of opposition, Article 1161 of the French Civil Code would not apply, as the SASU, although a simplified legal entity, is still a company.

3.2.6   Concerning the reference to **German law**, the board could not see how this law would directly apply to the question whether a French company could appoint a person as a representative for proceedings before the EPO. No argument was provided in support of such an application.

3.2.7   If one considers the second approach using **French, German and Swiss law** as evidence of a general principle under national law prohibiting the concept of "self-dealing", and claiming that this principle is relevant in EPO proceedings under Article 125 EPC, the following observations apply:

- It is unclear what legal (procedural) gap exists
  that would need to be filled under Article 125 EPC,
  which is a prerequisite for its application.

- It is questionable whether invoking provisions from
  only three countries would be sufficient to
  establish the existence of a general principle of
  procedural law applicable under Article 125 EPC.

- Even if these provisions were considered
  sufficient, they pertain to *substantive* law rather
  than to *procedural* matters. These provisions in
  fact address conflicts of interest in private legal
  transactions, not the granting of an authorisation
  from a company to a representative for legal or
  court proceedings. According to the established
  case law of the Boards of Appeal, principles of
  procedural law generally recognised in the
  Contracting States within the meaning of
  Article 125 EPC do not include specific rules of
  substantive law of any Contracting State (cf.
  J 15/86, Reasons 11).

- The purpose of the national civil provisions
  invoked is to prevent conflicts of interest and
  protect a person represented in a legal transaction
  carried out by its representative/agent. In the
  present situation, it is unclear what potential
  conflict of interest might exist. The company in
  question has only one shareholder - a fact that has
  not been contested. This individual also serves as
  the company's president and representative.
  Therefore, no apparent conflict of interest arises.

3.2.8 In conclusion, even if *Mr Nübold* were not entitled to
       represent the opponent as its president (which is not

the case), no principle could be derived from national
law that would prevent him from being appointed as the
opponent's professional representative.

3.3   *Identity of the opponent*

3.3.1   According to the proprietor, the identity of the
        opponent could not be unequivocally established either
        at the end of the opposition period or during the
        appeal proceedings. The uncertainty arises because it
        is unclear whether *Mr Henrik Nübold*, the opponent's
        representative, lodged the opposition on behalf of
        himself or in another capacity, such as the president,
        director, or company secretary of *SARL Cabinet NÜ* (see
        the letter of 17 May 2024, page 3). The proprietor
        points out that *Mr Nübold* signed documents using his
        status as a European patent attorney and included his
        representative number, which typically suggests he was
        acting on behalf of a third party (*ibidem*). The
        proprietor further argues that, if *Mr Nübold* had
        intended to act on behalf of himself or in his capacity
        as the president of *SARL Cabinet NÜ*, there would have
        been no need to reference his status as a European
        patent attorney. Since European patent attorneys
        usually act for third parties, this raises doubts as to
        whether *Mr Nübold* was acting in his personal capacity
        or as a representative of the company.

3.3.2   However, the board does not agree with this analysis.
        The opposition was clearly filed on behalf of *SARL
        Cabinet NÜ* (see the notice of opposition). The only
        uncertainty, based on the submissions of the proprietor
        itself, would concern whether *Mr Nübold* is representing
        the opponent as a European patent attorney appointed by
        SARL Cabinet NÜ or in his capacity as the president of
        that company. Nonetheless, the board finds it difficult

to understand how this alleged ambiguity could raise
any doubt about the identity of the opponent in the
present proceedings.

3.4   *Circumvention of the law*

3.4.1   Concerning the reference to **G 3/97** and the argument
         that the opponent is a company that, by filing an
         opposition, is conducting activities that are reserved
         to professional representatives, the board makes the
         following observations.

3.4.2   The case law of the Boards of Appeal has established
         that if an opponent acts on behalf of a client in the
         context of activities typically associated with
         professional representatives - without possessing the
         necessary qualifications (as required by Article 134
         EPC) - this could indeed constitute a "circumvention of
         the law". This would occur if a person not entitled to
         act as a professional representative performs all the
         activities typically carried out by professional
         representatives while assuming the role of a party, in
         order to circumvent the prohibition on unqualified
         representation.

3.4.3   In the present case, *Mr Nübold* is a qualified
         professional representative. There is no indication
         that an *unqualified* person is acting as a
         representative by filing oppositions on behalf of third
         parties. Therefore and contrary to the proprietor's
         allegation, the involvement of the present opponent
         cannot be regarded as "circumventing the law by abuse
         of process" within the meaning of Headnote 1(b) of
         G 3/97.

3.5   *Change of the opponent's name*

As regards the change of the opponent's name (i.e. from
"SASU" to "SARL"), the board fully endorses the
analysis set out in Reasons 3.1.5 and 3.1.6 of the
contested decision (cf. Article 15(8) RPBA).

3.6   *German version of the claims*

Finally, the fact that the notice of opposition
referred to the *German* version of the claims, while the
language of the proceedings is *English*, did not make
the respective attacks incomprehensible. Hence, this
cannot be a reason to consider the opposition
inadmissible *per se*.

3.7   *Conclusion*

In conclusion, the board agrees with the decision under
appeal that the opposition is **admissible** (Rule 76(2)(a)
and (d) EPC).

4.   Request for a referral to the Enlarged Board of Appeal

4.1   The proprietor requested that the question shall be
referred to the Enlarged Board of Appeal "whether
Articles 133 and 134 EPC together with Rule 152 EPC and
the Decision of the President of the EPO of 12 July
2007 on the filing of authorisations (OJ SE 3/2007,
128) constitute a complete and self-contained set of
rules on representation in proceedings established by
the EPC".

4.2   The board, however, holds that there is no need to
refer this question to the Enlarged Board of Appeal. As
explained above, the opponent's representative is

indeed entitled to represent the opponent as its
president. Even if this were not the case, the
proprietor has not demonstrated any prohibition or
principle under national law that would in fact prevent
the opponent's professional representative from acting
in these proceedings. Therefore, the answer to the
proposed question would not affect the outcome of this
case.

4.3   In conclusion, the request for a referral of the case
        to the Enlarged Board of Appeal has been refused
        (Article 112(1)(a) EPC).

5.   Main request (patent as granted)

5.1   Claim 1 of the **main request** includes the following
        limiting features (board's labelling):

        M1.1   System configured to execute a closed-loop
                control on data for cloud-based applications
                comprising:

        M1.2   an industrial automation device configured to
                generate cloud variables,

        M1.3   a cloud-based application, which is hosted by
                a network device with a cloud-computing
                infrastructure,

        M1.4   an industrial controller configured to
                control the industrial automation device by a
                user-defined program, hosted by industrial
                controller,

        M1.4.1 the user-defined program configured to
                receive the cloud variables,

M1.5   a cloud agent configured for communication
            with the user-defined control program, and
            for communication with the cloud-based
            application,

M1.5.1   further configured to: collecting the cloud
            variables and sending the cloud variables to
            the cloud-based application,

M1.5.1.1   the cloud-based application configured to
            determine updated optimised cloud variables
            and to notify the cloud agent in the
            industrial controller with the updated
            optimised cloud variables,

M1.5.2   the cloud agent configured to reload the
            updated optimised cloud variables and to
            notify the user-defined control program with
            the updated optimised cloud variables,

M1.5.3   the user-defined control program further
            configured to include cloud constructs and to
            reload the updated optimised cloud variables
            in the user-defined control program,

M1.6   wherein the cloud constructs declare the
            cloud variables that are to be updated by the
            cloud-based application and request the
            updated optimized cloud variables on runtime.

5.2   Allegedly late-filed objection under Article 100(a) EPC

5.2.1 The proprietor argued that the objection constituted a
       late-filed line of attack, as it was based on new facts
       relying on document D1 which had not been previously

discussed. Notably, the original line of attack presented with the notice of opposition relied solely on Figure 5, whereas the attack presented during the oral proceedings before the opposition division was predicated on the embodiment of Figure 2. The latter comprised a "boiler system" with an on-premise "cloud agent", whereas the former related to a "boiler system" where the communication with the cloud services involved a "client device". Since it was not clear what these embodiments had in common, the attack based on the embodiment of Figure 2 constituted a new, late-filed attack which should never had been admitted into the proceedings.

5.2.2   Irrespective of the question whether there is any legal basis in the EPC to "unadmit" an already admitted line of attack, it is apparent to the board that the "boiler system" shown in Figure 5 is the same "boiler system" as depicted in Figure 2. Thus, the board concurs with the opponent in that the objection as to lack of novelty presented during the oral proceedings before the opposition division essentially represents a new *argument* rather than a new *line of attack* which was based on new *facts*.

5.2.3   In view of the above, the board sees no reason to overturn the opposition division's decision to admit the opponent's (allegedly late-filed) line of attack.

5.3   Inventive step in view of document D1 (Article 56 EPC)

5.3.1   As to **feature M1.1,** the board is not convinced by the proprietor's argument that there was no automated "closed control loop" based on the "updated optimised cloud-variables" disclosed in document **D1,** since only a solution requiring "human intervention" was disclosed

therein. Notably, paragraph [0023] of D1 discloses a controller performing "automated decision-making", which involves providing "parameters [...] directly to a controller" (see paragraph [0020] of D1). Moreover, feature M1.1 does not even contain the aspect of a "closed control loop" for controlling the industrial device, as also noted by the opponent. Consequently, feature M1.1 is indeed anticipated by document D1.

5.3.2   As to **feature M1.2,** the board concurs with the opposition division and the opponent that document D1 discloses the "industrial automation device" (denoted in D1 as "industrial device 208, 210" and comprising an "industrial controller", see paragraphs [0022] and [0023]) providing data to the cloud. As argued by the opponent, the data provided to the cloud inherently constitutes "cloud data". Moreover, it is implied that the data needs to adhere to predefined formatting conventions, since otherwise the system of document D1 could not work properly. Thus, the claimed "cloud constructs" (see features M1.5.3 and M1.6) are in fact implicitly disclosed in document D1.

5.3.3   With respect to **feature M1.4**, paragraph [0022] of D1 actually discloses that "[i]ndustrial devices 208 and 210 can include [...] industrial controllers (e.g., programmable logic controllers [...])". Thus, feature M1.4 is also anticipated by document D1. In that regard, the board is not convinced by the proprietor's argument that, for the mere reason that the "controller" was not mentioned in certain passages of document D1, it would be evident that the respective embodiments dispensed with a "controller" (see also the considerations set out in point 5.3.5 below).

5.3.4   Having regard to **feature M1.4.1**, the board concurs with
         the parties that the passage cited by the opposition
         division is obviously erroneous. However, the board
         considers that this feature compellingly follows from
         the preceding features and is thus necessarily known
         from document D1 for the same reasons as for those
         preceding features.

5.3.5   As to **feature M1.5**, the board is not convinced by the
         proprietor's argument that paragraph [0026] of D1
         discloses the case where the control was performed by a
         cloud-based control application and not by an
         "industrial controller" on-site. Rather, the board
         concurs with the opponent that the cloud-based control
         is performed in addition to having an "industrial
         controller" on-site. A full replacement of the latter
         is not derivable from paragraph [0026] of D1.

5.3.6   With respect to **feature M1.5.1**, the board concurs with
         the opponent that document D1 implicitly discloses the
         claimed "cloud variables" (see the reasoning set out in
         point 5.3.2 above).

5.3.7   As to the first aspect of **feature M1.5.1.1**, the
         reasoning set out in point 5.3.2 above applies
         likewise. As to its second aspect, the board concurs
         with the opponent that document D1 discloses that the
         "cloud agent" is indeed located within the "industrial
         controller". Document D1 explicitly discloses
         "integrated cloud agents" (see paragraph [0025]). As
         already argued above, that these agents are
         "integrated" in the "industrial devices" is to be
         understood such that they are integrated with the
         "industrial controllers", since D1 uses these terms
         interchangeably. In that regard, the board disagrees
         with the opposition division that the embodiment

featuring "integrated cloud agents" in paragraph [0025] of D1 was disclosed as not having a "user-defined control program".

5.3.8   Having regard to **feature M1.5.2,** the board concurs with the opponent that paragraph [0026] explicitly discloses that data communications originating from the cloud are performed via the "cloud agent". The board holds that the formulation "directly to a controller" (see paragraph [0020], lines 52 and 53) may only be understood, in its context, as meaning that the variables are not provided via the "user's client device". The board is thus not convinced by the proprietor's argument that paragraph [0020] discloses "bypassing" the cloud agent.

5.3.9   **Feature M1.5.3** comprises two aspects, the "cloud constructs" aspect and the "reload" aspect. On the one hand, the board concurs with the opponent that D1 implicitly discloses "cloud constructs", as already discussed in point 5.3.2 above. On the other hand, as already addressed in point 5.3.8 above, document D1 in fact discloses in paragraph [0020] that the updated optimised variables are provided to the controller (denoted "user-defined control program" in claim 1). Contrary to the proprietor's view, the board notes that feature M1.5.3 fails to recite the aspect that the variables were reloaded from the "cloud agent". Therefore, the respective argument cannot persuade the board either.

5.3.10   **Feature M1.6** comprises two aspects. On the one hand, the aspect of the "cloud constructs" is implicitly disclosed by document D1 (see points 5.3.9 and 5.3.2 above). On the other hand, as to the aspect of requesting the updated optimised cloud variables at

runtime, the board agrees with the parties and the opposition division that this is indeed not known from document D1.

5.3.11   Hence, the difference between the subject-matter of claim 1 and the disclosure of document D1 resides only in that the "cloud constructs" are supposed to request the "updated optimised cloud variables" <u>on runtime</u> according to **feature M1.6**.

5.3.12   The proprietor argued that the major technical effect of the invention was the decoupling between the "user-defined control program" and the optimisation by the "cloud-based applications". More specifically, the distinguishing feature caused the effect of increasing the frequency of updating the local control parameters.

5.3.13   However, the board holds that the first of these alleged effects is not credibly derivable from the above distinguishing feature. The same applies to the technical effect invoked by the opponent ("enabling fast use of updated variables once they are present").

5.3.14   With respect to the second effect invoked by the proprietor, document **D2** in fact discloses at page 3, last paragraph, fourth sentence: "Der Zugriff auf diese IoT-Funktionen kann [...] direkt aus dem Steuerungsprogramm heraus erfolgen". In this context, IoT products are described as exchanging process data with cloud services using publish/subscribe-based protocols (see the same paragraph, second sentence). Hence, document D2 discloses both aspects of the distinguishing feature, namely the "request" and the "on runtime" aspects. The board holds that, when trying to implement the system of document D1, the skilled person would have indeed consulted documents like

document D2. When confronted with the above objective
technical problem and depending on the circumstances,
the skilled person would have readily applied the
teaching of document D2 to the system of document D1.
This way, they would have directly arrived at the
distinguishing feature without employing any inventive
skill.

5.3.15   But even if the skilled person would not have
         considered combining the teachings of documents D1 and
         D2, the subject-matter of claim 1 would still have been
         obvious in view of document D1 taken alone.

         On the one hand, "requesting" variables represents an
         obvious alternative to having these variables
         "provided", as taught in paragraph [0020] of
         document D1. On the other hand, doing so "on runtime"
         constitutes an obvious solution to the problem of "how
         to allow for a speedy use of calculated variables".
         Since the skilled person would have readily foreseen
         these features when implementing the system described
         in document D1, depending on the practical
         circumstances, they would have readily arrived at the
         subject-matter of claim 1 without employing any
         inventive skill.

5.3.16   Consequently, the subject-matter of claim 1 of the main
         request is not inventive over the disclosure of
         document D1 in combination with either the teaching of
         document D2 or with the skilled person's common general
         knowledge.

5.4   In view of the above, the main request is not allowable
         under Article 56 EPC.

6.   First auxiliary request

6.1   The board concurs with the opposition division that the
        feature of granted claim 2 has already been discussed
        in the context of feature M1.5.1.1 of granted claim 1.
        Therefore, the subject-matter of claim 1 of the **first
        auxiliary request** is not inventive for the same reasons
        as for claim 1 of the main request.

6.2   Hence, the first auxiliary request is not allowable
        under Article 56 EPC either.

7.   Second auxiliary request

7.1   The board concurs with the opposition division that the
        added feature in claim 1 of the **second auxiliary
        request** ("user-defined program is configured as a
        programmable logic controller program") is already
        known from paragraph [0022] of document D1. As argued
        by the opponent, it is disclosed therein that the
        "industrial controllers" may indeed be "programmable
        logic controllers". It immediately follows therefrom
        (and - as the board notes - from lines 39 and 40 of
        paragraph [0023] of D1) that the programs run by these
        "industrial controllers" are in fact "PLC programs".

7.2   Therefore, the subject-matter of claim 1 differs from
        the disclosure of document D1 in the same features as
        claim 1 of the main request. The subject-matter of
        claim 1 is thus not inventive for the same reasons as
        for claim 1 of the main request.

7.3   In view of the above, the second auxiliary request is
        not allowable under Article 56 EPC either.

8.   Third auxiliary request

8.1   It is common ground that the added feature in claim 1
        of the **third auxiliary request**, i.e. that *the
        industrial automation system is configured in a
        programming language and the cloud variables are
        defined in the programming language of the industrial
        automation system*, is not anticipated by the disclosure
        of document D1 and thus constitutes an additional
        distinguishing feature.

8.2   The board, however, concurs with the opposition
        division that the added feature represents an obvious
        design choice. More specifically, it causes the
        technical effect of providing a compatible declaration
        for the variables. When implementing the system of
        document D1, the skilled person would have readily
        selected, out of a limited number of compatible
        options, the programming language of the industrial
        automation system for the configuration of the system
        as well as the definition of the variables. By doing
        so, the skilled person would have arrived at the
        additional distinguishing feature in an obvious way.

8.3   The board is not convinced by the proprietor's argument
        that the added feature caused the technical effect that
        the update of the cloud variables was performed in line
        with the execution of the "user-defined control
        program". Notably, the board judges that what is
        claimed does in fact not specify a synchronisation of
        the updating of the cloud variables with the execution
        of the user-defined control program. Rather, the added
        feature simply causes the technical effect of providing
        a compatible declaration for the variables, as
        indicated above.

8.4   In view of the above, the third auxiliary request is
        likewise not allowable under Article 56 EPC.

9.   Fourth auxiliary request

9.1   The board concurs with the opposition division that the
        added feature in claim 1 of the **fourth auxiliary
        request**, i.e. that *the cloud agent includes a unique
        identity number for identifying the user-defined
        control program, for which the cloud variables are
        collected and on which the cloud variables are to be
        updated*, is known at least from paragraph [0035] of
        document D1. This paragraph namely discloses "boiler
        identification data", which is a "unique identity
        number". Since claim 1 specifies a single "user-defined
        control program" for the claimed "industrial automation
        device" (in D1: "boiler"), an identifier for the
        "industrial automation device" is already sufficient
        for uniquely identifying the "user-defined control
        program". Since the "boiler identification data" is
        part of the data transmitted to the cloud, it is also
        available at the cloud agent.

9.2   Hence, the subject-matter of present claim 1 differs
        from the disclosure of document D1 in the same features
        as claim 1 of the main request. The subject-matter of
        present claim 1 is thus not inventive for the same
        reasons as for claim 1 of the main request.

9.3   In view of the above, the fourth auxiliary request is
        not allowable under Article 56 EPC, too.

Order

For these reasons it is decided that:

1.   The request for a referral of a question to the
        Enlarged Board of Appeal is refused.

2.   The appeal is dismissed.

The Registrar: The Chair:

B. Brückner   K. Bengi-Akyürek

Decision electronically authenticated