Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 4 July 2024

Case Number: T 1038/21 - 3.4.03

Application Number: 17197566.7

Publication Number: 3316197

IPC: G06Q10/06, G06Q10/10, G06F17/30

Language of the proceedings: EN

Title of invention:
DATA PROVISION APPARATUS AND DATA PROVISION METHOD

Applicant:
Hitachi, Ltd.

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 12(6), 12(8)
EPC R. 137(3)

Keyword:
Inventive step - mixture of technical and non-technical features
Late-filed request - admitted in first-instance proceedings (no) - admitted (no) - allowable (no)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1038/21 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 4 July 2024

Appellant: (Applicant)	Hitachi, Ltd. 6-6, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8280 (JP)
Representative:	Mewburn Ellis LLP Aurora Building Counterslip Bristol BS1 6BX (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 1 April 2021 refusing European patent application No. 17197566.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	R. Winkelhofer
Members:	J. Thomas
	A. Böhm-Pélissier

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse European patent application No. 17 197 566 on the grounds that the subject-matter defined in the then main request and the then first auxiliary request did not involve an inventive step (Articles 52(1) and 56 EPC) and the then second auxiliary request was not admitted into the proceedings (Rule 137(3) EPC).

II. The appellant requested
- that the examining division's decision is set aside and amended such
- that a European Patent be granted on the basis of the main request or one of the auxiliary requests 1 to 8, all requests filed with the statement setting out the grounds of appeal, whereby
  - the main request is identical to the main request underlying the impugned decision,
  - auxiliary requests 1, 2, 4, 5, 7 and 8 are filed for the first time with the statement setting out the grounds of appeal, and
  - auxiliary requests 3 and 6 correspond respectively to auxiliary requests 1 and 2 underlying the impugned decision.

The appellant further requested in the statement setting out the grounds of appeal oral proceedings before the board in case that the main request cannot be granted.

III. In a communication under Article 15(1) RPBA, the board summoned to oral proceedings and informed the appellant about its preliminary opinion.

IV. In response to the board's communication, the appellant withdrew the request for oral proceedings.

V. Oral proceedings were then cancelled.

VI. The following document is referred to:

D1: WO 01/95041 A1

VII. Claim 1 of the main request has the following wording (the feature numbering in bold is added by the board):

*"**F1** A data provision apparatus for providing site data to a service apparatus for providing a service by using one or more pieces of site data respectively collected at one or more sites,*
***F2** the data provision apparatus comprising a CPU (21) and a storage unit (24), wherein the storage unit includes:*
***F3** previously registered explanatory information (40) of each piece of the site data including a specification of the site data;*
***F4** explanatory information of the service including the site data and a specification of the site data which are required by the service;*
***F5** a transformation rule for transforming the specification of the site data into the specification required by the service which uses the site data; and*
***F6** a search acquisition rule, when searching and acquiring the site data, that: defines a change in a query for acquiring the site data if generation granularity for generating the site data does not match required granularity of the site data which is required by the service and defines no change in the query for acquiring the site data if the generation granularity for generating the site data matches the required*

granularity of the site data which is required by the service; and
wherein the CPU includes:
F7 *a data granularity judgment unit (32) that acquires the required granularity of the site data by referring to the explanatory information of the service in response to a request to acquire the site data from the service apparatus and generates a query for acquiring the site data generated with the generation granularity according to the search acquisition rule;*
F8 *an accumulation unit (44) that accumulates the site data acquired by the generated query; and*
F9 *a site data transformation execution unit (36) that refers to the explanatory information of the site data, the explanatory information of the service, and the transformation rule in response to an acquisition request of the site data from the service apparatus, transforms the site data which are accumulated in the accumulation unit and are to be used by the service provided by the service apparatus into data of the specification required by the service, respectively, and transfers the transformed data to the service apparatus.*"

VIII. Claim 1 of auxiliary request 1 has been amended compared to claim 1 of the main request by adding the underlined wording:

"***F1*** *A data provision apparatus for providing site data to a service apparatus for providing a service by using one or more pieces of site data respectively collected at one or more sites, the site data being output from a sensor,*"

IX. Claim 1 of auxiliary request 2 has been amended compared to claim 1 of auxiliary request 1 by adding the feature F10 at the end of claim 1 as follows:

"***F10*** *wherein the generation granularity is a time interval during which the site data is generated*"

X. Claim 1 of auxiliary request 3 differs from claim 1 of the main request by the additional feature F11 as follows:

"***F11*** *wherein the data granularity judgment unit further compares the generation granularity with the required granularity to see if they match each other; and if the generation granularity does not match the required granularity, the data granularity judgment unit generates a query for acquiring the site data for the same period with that of the required granularity of the site data from the site data generated with the generation granularity according to the search acquisition rule which defines the change in the query; and if the generation granularity matches the required granularity, the data granularity judgment unit generates the query for acquitting the site data generated with the generation granularity according to the search acquisition rule which defines no change in the query*"

XI. Claim 1 of auxiliary requests 4 and 5 are based on auxiliary request 3, whereby in auxiliary request 4, claim 1 was amended in the same manner as claim 1 of auxiliary request 1, and in auxiliary request 5, claim 1 was amended in the same manner as claim 1 of auxiliary request 2.

XII. Claim 1 of auxiliary request 6 is based on claim 1 of the main request with the following amendments:
At the end of feature F4, the word "and" was added, at the end of feature F5 the word "and" was deleted. Feature F6 was entirely deleted. Feature F7 was replaced by the following wording:

"*a data granularity judgment unit (32) that acquires a required granularity of the site data by referring to the explanatory information of the service and a generation granularity of the site data by referring to the registered explanatory information (40) of each piece of the site data in response to a request to acquire the site data from the service apparatus,*
judges whether previously stored search acquisition rules links the generation granularity for generating the site data to the required granularity of the site data which is required by the service, and
if the stored search acquisition rule links the generation granularity for generating the site data to the required granularity of the site data which is required by the service, the data granularity judgment unit (32) selects the stored acquisition rule,
if the stored search acquisition rule does not link the generation granularity for generating the site data to the required granularity of the site data which is required by the service, the data granularity judgment unit (32) generates a new search acquisition rule by referring to the generation granularity and the required granularity,
a query generation unit (33) that generates a query for acquiring the site data generated with the generation granularity according to the search acquisition rule;"

XIII. Claim 1 of auxiliary requests 7 and 8 are based on claim 1 of auxiliary request 6, whereby in auxiliary request 7, claim 1 was amended in the same manner as claim 1 of auxiliary request 1, and in auxiliary request 8, claim 1 was amended in the same manner as claim 1 of auxiliary request 2.

XIV. The appellant's arguments, insofar as they are relevant to the present decision, can be summarised as follows:

The granularity of the data did not relate to the site data, but was technical in nature and related to the machinery or sensors that measured or provided the site data. The granularity was directly linked to the data provision apparatus and was therefore a technical feature inherent to the apparatus. The granularity was the time interval over which individual site data was generated. Therefore, the technicality of this parameter was not in doubt and nowhere in the prior art was an indication that this parameter should be considered in order to provide the possibility of combining data from different sites or different sensors having different granularities. Generation granularity was also not comparable to a (quasi) continuous time signal since it referred to the time period over which a discrete signal is generated. Therefore, considering the granularity was a new feature and provided the possibility to homogenise data of different granularities in order to enable their combined use.

Reasons for the Decision

1. Procedural matters

The present decision can be handed down in writing, as the appellant has decided not to defend their case at oral proceedings.

2. Main request - inventive step

2.1 The invention relates to a data provision apparatus and corresponding method in order to acquire data, thereto related rules and entries of these data in various tables collected from eventually different factory equipments at eventually different sites. These entries can be made by a human being. The tables are stored on a networked computer and allow heterogeneous data sets to be transformed in homogenous data sets using stored rules. The data transformations also involved changing the granularity of the data sets, where appropriate. In this way, different data sets could be compared, merged or shared, thus harmonising inhomogeneous or heterogeneous data sets to make them uniform and thus usable for the service apparatus.

2.2 The definition of the data provision apparatus of claim 1 is silent as to how the site data is received at the CPU or the storage unit. Claim 1 is also silent how the explanatory information of each piece of site data, the explanatory information of the service including the specification of the site data and the site data itself and the transformation and search acquisition rules arrive at the storage unit. All these data can be manually entered by a human being. In this case, these data do not make any technical contribution to the subject-matter of claim 1, but relate merely to the (administrative) information stored in the storage unit or concern business requirements. Therefore, the explanatory information of each piece of the site data and the explanatory information of the service are

administrative information. Consequently, features F3 to F5 concern the well-known implementation of storing non-technical information. However, the site data itself can be considered to be technical data if it is measured, for example, by a sensor connected to the computer system. But this is nothing new either.

2.3 Features F1, F2 and F8 are therefore technical features that are well-known and do not represent any new features, even in combination. Therefore, features F1 to F5 and F8 cannot contribute to inventive step.

2.4 Features F6, F7 and F9 relate to the transformation of the generated granularity into the required granularity whose technical contribution is dealt with in the following.

2.5 The appellant asserts that the granularity is a parameter which is intrinsic to the machinery or the sensors of the system. Therefore it should be considered technical.

2.6 The board does not agree with this, but fully agrees with the examining division's reasoning (Reasons for the decision, point 2.13).

The granularity as addressed in claim 1 and presented in the description in paragraphs [0029] and [0030] is not intrinsic to the machinery or the sensors, but concerns the way the relevant site data is measured or otherwise obtained/acquired. This is decided by the administrative user. Granularity is nothing different than - to use the technical terms of signal processing - a "*sampling rate*" of the site data or in other words the sampling conditions for acquiring the data.

2.7 The appellant's argument that the "*generation granularity*" did not relate to a "*(quasi) continuous-time signal*" reduced to a "*discrete-time signal*" by the sampling, but related to a "*time interval during which the site data is generated*" is not persuasive. Sampling is not limited to a continuous time signal but can refer to any type of a series of signals or data points, like e.g. discrete spatial signals. Data sampling or resampling only refers to data sets which can be presented in different forms without losing information.

2.8 It is common general knowledge that data obtained at different sampling rates (here time intervals) are not necessarily comparable and cannot be merged without distorting the information obtained from data. Using this background for the understanding of granularity, the granularity is fully confirmed by the example given by the appellant in the statement setting out the grounds of appeal in points 21 and 22, concerning apples sold per hour, per two hours or per day. Therefore, if different data should be compared, it has to be correctly resampled in order to render it comparable. In this context, resampling is a standard procedure being part of the common general knowledge of the person skilled in the field of data processing.

2.9 Based on this understanding of the granularity, the subject-matter of claim 1 does not go beyond a notorious networked computer on which information and data from different sites are combined and merged taking into account standard data processing procedures including the resampling of one data set having been generated with a specific granularity into a data set which can be used by the service apparatus and which calls for data of different granularity.

2.10 Starting with this understanding in mind, inventive step is to be assessed by the problem-solution-approach as follows.

2.11 The closest prior art is represented by a notorious networked computer including a storage unit and a central processing unit (CPU) as exemplified by the system known from document D1. Therefore, as already mentioned above, features F1, F2 and F8 are well-known technical features which are part of the prior art.

2.12 A business person designs the purely administrative process which considers the explanatory information of each piece of site data, the explanatory information of the service including the site data and the specification of the site data, and a search acquisition rule for acquiring the requested site data (without transforming the granularities).

Based on these information the measured site data should be acquired according to a selected query and should be provided in a way or in a format which can be dealt with by the service apparatus according to its explanatory service information. When presented with this administrative business process, the technically skilled person, a software programmer with knowledge of data processing, would know that the administrative information would need to be stored, and would therefore implement features F3 to F5 in a straightforward manner having been provided with the corresponding administrative business scheme.

The technically skilled person would also realise that the different granularities (or, in other words, the different sampling rates of the measured data compared

to the requirements of the service apparatus) call for a resampling. Therefore, the technically skilled person would implement the above mentioned business requirements in a straightforward manner on the notorious networked computer system and would realise that the search acquisition rule requires a data transformation if the sampling rates or granularities in the retrieved data are different from the data required by the system. If, however, both granularities, the generation granularity and the required granularity, are the same, a resampling is not necessary. Therefore, taking this into account, the technically skilled person would consider the transformation of the different granularities on the basis of their common general knowledge as defined by features F6, F7 and F9.

Therefore, features F6, F7 and F9 only define the resampling process according to the service requirements and the sampling rate (or granularity) of the measured data compared to the granularity needed by the service apparatus.

2.13 In addition, from a technical point of view, the wording of claim 1 is completely unspecific, so that no special technical feature can be identified which could provide a basis for an inventive step. Hence, an inventive step cannot be based either on the unspecific data transformation of the site data, since the change in granularity/sampling rate is part of the common general knowledge, or on a specific, particularly advantageous implementation, since no details are defined in this respect.

2.14 To conclude, the subject-matter defined in claim 1 of the main request does not go beyond a straightforward

implementation of a technically unspecified business method on a notorious networked computer system, and does therefore not involve an inventive step (Articles 52(1) and 56 EPC).

3. Auxiliary request 1 - inventive step

3.1 The amended feature (see point VIII. above) has already been implicitly taken into account in the reasoning relating to claim 1 of the main request. Therefore, this amendment is not suitable to overcome the lack of inventive step with respect to the main request.

3.2 Consequently, the subject-matter defined in claim 1 of auxiliary request 1 does not involve an inventive step (Article 56 EPC), either.

4. Auxiliary request 2 - inventive step

4.1 The amended feature (see point IX. above) is also already implicitly taken into account in the reasoning for claim 1 of the higher-ranking requests. Therefore, this amendment neither changes the content of claim 1 compared to the higher-ranking requests nor the associated argumentation with regard to an inventive step.

4.2 Thus, the subject-matter defined in claim 1 of auxiliary request 2 does, likewise, not involve an inventive step (Article 56 EPC).

5. Auxiliary request 3 - inventive step

5.1 Auxiliary request 3 is identical to auxiliary request 1 on which the decision is based (apart from a rather formal amendment concerning reference numeral 36).

5.2 The appellant argued that the wording "*for the same period*" indicated that the granularity referred to a "*time interval during which the site data is generated*" (statement setting out the grounds of appeal, page 11, fifth paragraph).

5.3 However, the same considerations as to the main request apply. The same time interval or the time period only means that the same sampling rate should be considered. Therefore, the measured data set can only be used with the same sampling rate as that required by the service apparatus (the required granularity), and therefore has to be scaled (or resampled) accordingly.

This was at least implicitly taken into account for claim 1 of the main request, which is why the amendment of claim 1 of auxiliary request 3 cannot contribute to inventive step either.

5.4 Consequently, the subject-matter defined in claim 1 of auxiliary request 3 does also not involve an inventive step (Article 56 EPC).

6. Auxiliary requests 4 and 5 - inventive step

6.1 Claim 1 of auxiliary requests 4 and 5 are based on a combination of claim 1 of auxiliary request 3 with claim 1 of auxiliary requests 1 and 2 respectively (see point XI. above). Since none of the amended features in claim 1 of these higher-ranking requests contributes to an inventive step, the same reasoning also applies *mutatis mutandis* for claim 1 of the auxiliary requests 4 and 5.

6.2 Hence, the subject-matter defined in claim 1 of auxiliary requests 4 and 5 does not involve an inventive step (Article 56 EPC), either.

7. Auxiliary request 6

7.1 Auxiliary request 6 is identical to auxiliary request 2 on which the decision is based (apart from a rather formal amendment concerning reference numeral 36).

7.2 The examining division did not admit this request into the proceedings under Rule 137(3) EPC since no "*technically significant difference between the subject-matter of claim 1 of th[is]... request and claim 1 of the higher-ranking requests*" could be identified (Reasons for the decision, point 4.2).

7.3 According to Article 12(6) RPBA 2020 the board "*shall not admit requests ... which were not admitted in the proceedings leading to the decision under appeal, unless the decision not to admit them suffered from an error in the use of discretion or unless the circumstances of the appeal case justify their admittance*".

7.4 The appellant was of the opinion that the examining division based its decision of non-admission of this request on an incorrect understanding of the term "*granularity*", and a wrong conclusion on the technical nature of the subject-matter defined in claim 1. Contrary to the examining division's conclusion, the wording of claim 1 of this request was such that the objections concerning inventive step were overcome. Therefore, this request should be admitted and considered in the proceedings.

7.5 This is not persuasive. There are no indications that the examining division had wrongly exercised their discretion, since they applied the right principles and provided reasons therefore (see Reasons for the decision, points 4.2 to 4.4). In addition, the examining division was right that the technical content of claim 1 of the main request and of the auxiliary request 6 (corresponding to the auxiliary request 2 of the impugned decision) does not differ significantly, but is essentially defining the same technical content using different wordings. Therefore, the board has no reason to deviate from the examining division's decision.

7.6 Consequently, there is no room to admit and consider auxiliary request 6 in the proceedings (Article 12(6) RPBA).

8. Auxiliary requests 7 and 8

8.1 In view thereof, there is also no reason why this should be treated differently from auxiliary requests 7 or 8 which are based on auxiliary request 6.

8.2 In addition, the features added into claim 1 of auxiliary requests 7 and 8 do not contribute to inventive step (see points 3. and 4. with sub-points above).

9. Since the subject-matter defined in claim 1 of the main request and of auxiliary requests 1 to 5 does not involve an inventive step, and auxiliary requests 6 to 8 cannot be admitted and considered in the proceedings (Article 12(6) RPBA), the appeal must fail.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Atienza Vivancos R. Winkelhofer

Decision electronically authenticated