Internal distribution code:

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

Datasheet for the decision of 1 July 2021

Case Number: T 0137/18 - 3.4.02

Application Number: 12004633.9

Publication Number: 2541191

IPC: G01B5/20, G01B21/20, G06F17/10, G01B21/10, G01B5/213, G01B5/08

Language of the proceedings: EN

Title of invention:
Method of measuring a circle shape characteristic and circular shape characteristic measuring device and program

Patent Proprietor:
Mitutoyo Corporation

Opponent:
Carl Mahr Holding GmbH

Headword:

Relevant legal provisions:
EPC Art. 56, 111(1)
RPBA 2020 Art. 11

Keyword:
Inventive step - (no)
Remittal to the department of first instance - (yes)

Decisions cited:

Catchword:

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 0137/18 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 1 July 2021

Appellant: (Patent Proprietor)	Mitutoyo Corporation 20-1, Sakado 1-chome Takatsu-ku Kawasaki-shi, Kanagawa 213-8533 (JP)
Representative:	Müller-Boré & Partner Patentanwälte PartG mbB Friedenheimer Brücke 21 80639 München (DE)
Appellant: (Opponent)	Carl Mahr Holding GmbH Carl-Mahr-Str. 1 37073 Göttingen (DE)
Representative:	Rüger Abel Patentanwälte PartGmbB Patentanwälte Webergasse 3 73728 Esslingen a. N. (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 9 November 2017 concerning maintenance of the European Patent No. 2541191 in amended form.**

Composition of the Board:

Chairman	G. Decker
Members:	A. Hornung
	H. von Gronau

Summary of Facts and Submissions

I. Both the patentee and the opponent appealed against the interlocutory decision of the opposition division maintaining European patent No. 2 541 191 in amended form.

Opposition had been filed against the patent as a whole and based on the ground for opposition of Article 100(a) EPC, together with Article 56 EPC.

The opposition division had found that the patent as amended according to a first auxiliary request then on file and the invention to which it related met the requirements of the EPC.

II. Oral proceedings before the board were held on 1 July 2021.

III. The patentee requested that the decision under appeal be set aside and a patent be maintained on the basis of the set of claims as granted or, as a first auxiliary request, that the appeal of the opponent be dismissed, i.e. that the patent be maintained on the basis of the set of claims according to the first auxiliary request as maintained by the opposition division during the first-instance opposition proceedings. Should the board have objections regarding the patentability of the subject-matter of the granted claims or the claims of the first auxiliary request, the patentee requested that the case be remitted to the opposition division for further prosecution. As further auxiliary requests, it requested that a patent be maintained on the basis of one of the sets of claims filed with the statement of grounds of appeal as a second to ninth auxiliary request or on the basis of one of the sets

of claims filed with the letter dated 28 May 2021 as an auxiliary request 0' to 9'.

IV. The opponent requested that the decision under appeal be set aside and the patent be revoked.

V. The following documents will be referred to in the present decision:

D1: JP 2007225380 A; human translated document D1", filed by the patentee with its statement of grounds of appeal, will be considered to represent a valid translation of D1;

D4: Final Draft International Standard ISO/FDIS 12181-2, "Geometrical product specifications (GPS) - Roundness, Part 2: Specification operators"; Voting begins on: 2010-12-16; Voting terminates on: 2011-02-16;

D4': International Standard ISO/FDIS 12181-2, "Geometrical product specifications (GPS) - Roundness, Part 2: Specification operators"; First edition 2011-04-01.

VI. The patentee's written submissions are designated P1 to P4 as follows:

P1: statement of grounds of appeal, filed with letter dated 28 February 2018,
P2: letter dated 20 July 2018 (reply to the opponent's statement of grounds of appeal),
P3: letter dated 20 May 2019,
P4: letter dated 28 May 2021.

The opponent's written submissions are designated O1 and O2 as follows:

O1: statement of grounds of appeal, filed with letter dated 19 March 2018,
O2: letter dated 1 August 2018.

VII. Independent claim 3 according to the patentee's main request reads as follows (reference is made to the numbering of the features **A** to **H** of claim 3 as used in the appealed decision and in the parties' submissions):

A "A method of measuring a circular shape characteristic,

B in which a shape measuring device measures a profile shape of a circular cross-section of an object to be measured having the circular cross-section,

C and a calculator calculates a circular shape characteristic of the circular cross-section based on profile data

D obtained by applying a rolling circle process

E and a filtering process to the measured data obtained by the shape measuring device, the method comprising:

F inputting an input parameter through an input device, the input parameter being one of three parameters including a cutoff value of the filtering process, a minimum number of samples to be used in a sampling process, and a ratio of a radius of the circular cross-section to a radius of a gauge head to be used in the rolling circle process;

G determining, based on the input parameter input through the input device, the other two parameters of the three parameters, by referring to a parameter table that stores a relationship between the three parameters; and

H performing sampling of the measured data based on the minimum number of samples determined by the parameter table or used as input paramater *[sic]*".

Independent claim 2 according to the first auxiliary request differs from claim 3 of the main request in that it comprises the following additional features **I** and **J** at the end of the claim:

I "applying, by the calculator, the rolling circle process to the sampled measured data, using the radius of the gauge head determined based on the ratio of the radius of the circular cross-section to the radius of the gauge head; and

J applying, by the calculator, the filtering process to the rolling circle processed data, based on the cutoff value".

Reasons for the Decision

1. Main request - inventive step

The subject-matter of claim 3 lacks an inventive step in view of D1 in combination with D4' and common general knowledge (Articles 100(a) and 56 EPC).

1.1 It is undisputed that D1 represents the closest prior art.

1.2 Distinguishing features

The subject-matter of claim 3 differs from the method disclosed in D1 only in that it comprises features **G** and **H**.

1.2.1 It is undisputed that features **A** to **D** of claim 3 are anticipated by D1. In addition, the board concurs with the opponent that features **E** and **F** are also anticipated by D1.

1.2.2 Feature **E** defines that profile data used in the calculation of a circular shape characteristic is "obtained by applying (...) a filtering process to the measured data obtained by the shape measuring device". This wording leaves open the question whether the filtering process of feature **E** is applied to data obtained by a mechanical gauge head *before or after* applying a rolling circle process. Actually, it is only in dependent claim 4 as granted that it is defined that the filtering process is applied to data obtained by a mechanical gauge head *after* being processed by a calculator applying a rolling circle process.

D1, [0016], discloses a "display setting section [which] includes a setting section that sets various conditions necessary to measure a workpiece (a rotation speed of a workpiece, a cut-off wavelength of the filter process, and so forth)". Moreover, the measurement of a workpiece in D1 comprises a roundness analysis of the workpiece (see e.g. D1, [0013]), which implicitly involves the calculation of "a circular shape characteristic of the circular cross-section" of the workpiece as defined in claim 3.

Therefore, in view of the fact that the cut-off wavelength of the filter process of D1 is one of the "various conditions necessary to measure a workpiece", the filter

process mentioned in D1, [0016], is also "necessary to measure the workpiece". The question as to when exactly the filter process of D1 is carried out is left open in D1. However, this is of no relevance for assessing novelty of feature **E** of claim 3 because claim 3 does not specify the exact kind of data on which the filter process is applied to. It follows that the filter process disclosed in D1, [0016], anticipates feature **E**.

1.2.3 Feature **F** defines "inputting an input parameter through an input device, the input parameter being one of three parameters including a cutoff value of the filtering process (...)".

According to D1, [0016], a setting section sets a cut-off wavelength of the filter process. The setting section of D1 corresponds to the input device of feature **F** inputting a cut-off value of the filtering process, thereby anticipating feature **F** of claim 3.

1.3 Objective technical problem

During the first-instance opposition proceedings, it was undisputed that the objective technical problem to be solved by the distinguishing features **G** and **H** could be formulated as "measuring circular shape characteristics with high accuracy under optimum conditions, without increasing the burden on an operator" (see e.g. paragraph [0006] of the patent and point 12.5 of the appealed decision). This formulation of the objective technical problem was adopted by the parties and the board.

1.4 Admittance of document D4' into the proceedings

D4' was filed by the opponent with its statement of grounds of appeal and, hence, is late-filed. D4' consists

of the identical text as D4, which has been filed during the nine-month opposition period. D4', contrary to D4, undisputedly constitutes state of the art under Article 54(2) EPC.

The board decides to admit D4' into the appeal proceedings because it is *prima facie* highly relevant for the outcome of the appeal proceedings. Indeed, D4' discloses explicitly the distinguishing features **G** and **H** except for the aspect that the radius of a mechanical gauge head is equivalent to the radius of a simulated gauge head to be used in a digital rolling circle process. Furthermore, the patentee could not be surprised by the technical content of D4', as it is identical to the technical content of D4. Actually, D4' shows merely that the technical content as such of D4 was made available to the public before the filing date of the patent application on which the present patent is based.

1.5 Distinguishing features **G** and **H** do not involve an inventive step.

1.5.1 According to D1, with reference to figure 2, a workpiece shape analysis is carried out by using a surface roughness measurement detector 21 (see [0018]) having a microscopic stylus with a curvature radius of, for instance, 2 microns (see [0014]). The measurement data obtained by the surface roughness detector is input to a data process unit 30 at step S40 (see [0019]) to carry out the shape analysis which consists in that "the rolling circle waviness filter process is implemented for the measurement data (at step S90)" (see [0021]).

1.5.2 The skilled person is further taught by D1 that "[t]he rolling circle waviness filter process (...) allows data measured by the [surface roughness measurement] detector

21 to be equally treated as data measured by the roundness measurement detector so as to analyze shapes such as roundness and cylindricity" (see D1, [0022] and figure 3). This means that the rolling circle waviness filter process of D1, applied to data Ws obtained by the microscopic roughness detector, simulates the measurement process by a macroscopic roundness detector. According to D1, [0023], second sentence, the data Wr obtained by the rolling circle waviness filter process using a radius Rt is the same data as the data obtained with a macroscopic roundness detector also having a radius Rt. In other words, the radius used in the rolling circle waviness filter process and the radius of the mechanical gauge head of the macroscopic roundness detector are the same in D1 and serve the same purpose. The skilled person understands that the rolling circle waviness filter process of D1 using a radius Rt is equivalent to a measurement process carried out by using a mechanical stylus with a corresponding radius Rt.

1.5.3 While the skilled person is taught, in general terms, a measurement process for executing a shape analysis of a cylindrical workpiece, it is neither taught, for instance, how to select concretely the "various conditions necessary to measure a workpiece", such as the cut-off wavelength of the filter process mentioned in D1, [0016], nor taught to which concrete type of data the filtering process mentioned in D1, [0016], is effectively to be applied to. This missing information corresponds to features **G** and **H** of claim 3.

1.5.4 In order to define the "various conditions necessary to measure a workpiece", the skilled person consults D4' which defines a standard how parameters necessary for measuring a workpiece, e.g. the minimum number of sample points and the minimum ratio between the diameter of the

cylindrical workpiece and the tip radius of the mechanical gauge head, have to be selected: see table 1 on page 4 of D4'.

1.5.5 Since D1, [0022] and [0023], discloses the equivalence between the radius of the mechanical gauge head and the radius of the simulated gauge head used in the rolling circle process of D1 (see point 1.5.2 above), the skilled person understands that the tip radius r mentioned in table 1 of D4' corresponds to the radius of the gauge head to be used in the rolling circle process of D1. Therefore, table 1 of D4' corresponds to "the parameter table that stores a relationship between the three parameters" defined in feature **G** of claim 3.

1.5.6 In order to solve the objective technical problem, the skilled person, starting from the measurement process disclosed in general terms in D1, after consulting table 1 of D4', "determin[es], based on the input parameter input through the input device [i.e. the cut-off wavelength of the filter process], the other two parameters [i.e. the "minimum number of sample points" and the "minimum d:r ratio"] of the three parameters, by referring to a parameter table [i.e. table 1 of D4'] that stores a relationship between the three parameters", as defined in feature **G**, without exercising any inventive skills.

1.5.7 In order to carry out a surface roughness analysis of a workpiece in D1, a large amount of measured data is to be obtained by using the surface roughness detector having a microscopic stylus with a curvature radius of 2 microns (see D1, [0014]). However, such a large amount of measured data, which is due to the high spatial resolution of the surface roughness detector, is not only useless for the subsequent shape analysis but induces also additional processing cost due to the high number of points which

have been measured on the workpiece. In order to carry out the circular shape analysis under optimum conditions, it is obvious for the skilled person to reduce the number of points to be processed by "performing sampling of the measured data based on the minimum number of samples determined by the parameter table" of D4', as defined in feature **H**, without exercising any inventive skills.

1.5.8 It follows that the subject-matter of claim 3 lacks an inventive step in view of D1 in combination with D4' and common general knowledge.

1.6 Patentee's arguments in favour of inventive step

1.6.1 Distinguishing features

The patentee submitted that features **E** and **F** were novel over D1.

In particular, D1 did not disclose that "a filtering process is applied to the measured data obtained by the shape measuring device" (emphasis in the original; see P1, chapter "Feature E", pages 4 and 5). From the combined wording of features **C**, **D** and **E**, the order of the steps for calculating the circular shape characteristics was clear in the sense that the filtering process of feature **E** was carried out on the data obtained by the rolling circle process of feature **D**. The patentee further argued that "D1 nowhere discloses that the cut-off wavelength of the filter process is used for the surface roughness analysis or for the shape analysis of D1" and that "D1 does not directly and unambiguously disclose if and when the filter process is applied" (emphasis in the original; see P2, point 4.1.1). Therefore, feature **E** was novel over the disclosure of D1.

Concerning feature **F**, the patentee argued that since D1 did not disclose that the filtering process was applied to the measured data obtained by the shape measuring device, D1 could not disclose inputting the corresponding cutoff value of the filtering process. Therefore, feature **F** was novel over the disclosure of D1.

The board cannot follow the patentee's argument since D1, [0016], discloses that a cut-off wavelength of a filtering process is indeed necessary to measure a workpiece in D1, implying that a filtering process must be applied at a certain point in time to the measured data obtained by the shape measuring device of D1. Moreover, the shape measuring device of D1 is adapted to carry out the rolling circle waviness filter process (step S90; figure 2) including a filtering process. This disclosure of D1 is sufficient to anticipate both features **E** and **F** because feature **E** leaves open the question whether the filtering process is applied before or after the rolling circle waviness filter process. Features **D** and **E** are separated by the term "and", leaving open the order at which the steps defined in features **D** and **E** are to be carried out.

1.6.2 Admittance of document D4' into the proceedings

The patentee requested that D4' not be admitted into the appeal proceedings because it was late-filed and "has no prima facie relevance for the outcome of the proceedings" (see P2, page 3, third paragraph).

The board acknowledges that D4' was late-filed. However, for the reasons provided in point 1.4 above, D4' is *prima facie* highly relevant for the outcome of the proceedings. For this reason, in combination with the reasons provided in point 1.4 above, D4' is to be admitted into the proceedings.

1.6.3 According to the patentee, the skilled person would not combine the teaching of D1 with the teaching of D4' for the following reason: in D1 "the measurement of the roundness profile is performed by using a simulation, i.e. by applying a rolling circle waviness filter process to the measured data obtained for a surface roughness analysis" and in D4' this measurement is performed by "using a physical measurement, i.e. a tactile measurement" (see P2, page 9, two last paragraphs; emphasis in the original). "[T]he difference between performing a measurement of a roundness profile with a simulated test sphere (D1) or (...) with a physical test sphere (D4) is significant. Both types of measurement are prone to different failures", so that these measurements "have to be treated differently" (see P2, paragraph bridging pages 9 and 10; emphasis in the original). The patentee mentioned various causes for the different failures, for instance, "vibrations of the physical measurement device which are conveyed to the physical test sphere" or "miscalculations of the underlying simulation" (see P2, page 10, first paragraph).

The board is not convinced by this argument. As submitted by the opponent (see O2, page 12, second and third paragraph) and as explained in the appealed decision, point 12.9, "starting from D1 the skilled person would consider all those prior art disclosures that relate to the use of optimized filtering and rolling circle parameters for the purpose of measuring and/or evaluating circular shape characteristics. The skilled person knows that measuring by a real rolling circle or evaluating by a virtual rolling circle are essentially similar procedures and would therefore apply the parameters of one process to the other" (emphasis in the original). The board concurs

with the opponent that the simulation is supposed to simulate and replace the real measurement.

Moreover, even if the failures or distortions in the measured roundness profile were, as submitted by the patentee, due to different causes depending on whether a simulation or a physical measurement was used, the general principle according to which these failures are reduced or avoided by adequately selecting the measurement parameters is independent of the exact cause of the failures. Therefore, the board sees no reason why the skilled person would refrain from combining the teaching of D1 with the teaching of D4'.

1.6.4 The patentee further argued that, even if the skilled person were to combine D1 and D4', they would not arrive at the subject-matter of claim 3 at least for the reason that "D4 did not teach **feature H**, i.e. that the data which has already been measured is sampled according to the number of sample points disclosed in Table 1 of D4" (see P2, page 10, fourth paragraph; emphasis in the original).

In the patentee's view, "in D1 the rolling circle waviness filter process is performed on the measurement data without any sampling of said measurement data (cf. D1, par. [0021])" (see P4, page 7, second paragraph; emphasis in the original). The skilled person had no reason to sample the measurement data in an additional step for the following reasons:

- "[T]he shape analysis will provide a valid result even if the number of measuring points is higher than the minimum number of samples" (see P4, page 8, second paragraph; emphasis in the original), which will regularly be the case since the measured data in D1 is

also suitable for determining surface roughness requiring a high density of measurements points.

- "D4' is silent regarding a step in which already obtained measurement points (...) are sampled in an additional step to select a corresponding number of minimum sample points" (see P4, page 7, third paragraph; emphasis in the original).
- In case that the skilled person would nevertheless consult D4', they would use table 1 of D4' "merely to verify that the number of measurement points in the measurement data is not below the minimum number of sample points specified in D4' to ensure that the shape analysis is valid" (see P4, page 8, first paragraph; emphasis in the original), but not to reduce the number of points already measured and subsequently used for the rolling circle waviness filter process of D1.
- "[T]he skilled person would notice that implementing such a sampling would at first glance seem to increase the complexity of the shape analysis process and require additional processing resources for performing the sampling" (see P4, page 9, first paragraph).

The board acknowledges that D1 does not disclose performing sampling of the measured data as defined in feature H of claim 3. However, as submitted by the opponent during oral proceedings, sampling the large amount of measured data before implementing the rolling circle waviness filter process is indispensable for improving the calculation efficiency of the simulation process. Indeed, in D1, the measured data is large since it is obtained by measuring the object surface with a microscopic stylus having a tip of 2 microns. This large amount of data and spatial resolution is necessary for the surface roughness analysis. However, for the surface shape analysis a simulated stylus used in the rolling circle

waviness filter process of D1 has a radius of 800 microns, i.e. 400 times larger than the roughness detector. This makes it clear that the original measurement points are present in far too large a number, which makes the computational effort for evaluating the surface shape characteristics unnecessarily complex. In order to render the simulation process more efficient, it would be obvious for the skilled person to reduce the number of measured points to be taken into account for determining the macroscopic surface shape characteristics and to perform sampling of the measured data before implementing the rolling circle waviness filter process of D1. The sampling rate would obviously be determined on the basis of the minimum number of sample points and the two other parameters of table 1 of D4', thereby arriving at feature **H** of claim 3 in an obvious manner.

1.6.5 The patentee further argued that "from D4' the skilled person does not receive any suggestions of storing a parameter table (see feature **G**) and of providing an input device for inputting an input parameter (see feature **F**) and to automatically determine the other two parameters based on the stored parameter table (see feature **G**)" (see P4, page 9, fourth and fifth paragraphs; emphasis in the original).

The board is not convinced by this argument. D1, [0016], discloses an input device for inputting the cut-off frequency of the filter process, which corresponds to one of the three parameters of table 1 of D4', namely to the parameter of the first column of table 1, called "Filter transmitting from 1 UPR to". As submitted by the opponent during oral proceedings, the skilled person, when implementing the teaching of D4', would obviously store table 1 in a memory of the shape analysis device of D1 for improving the efficient retrieval of the two other

parameters of table 1 of D4'. This is achieved by storing table 1 of D4' which allows the automatic determination of two parameters once one of the three parameters is input. See also O2, page 17, point 2.2.2 (iii).

1.6.6 The patentee still further argued that feature **H** of claim 3 defined "performing sampling of the measured data based on the minimum number of samples determined by the parameter table". D4', however, did not teach that a minimum number of points must be sampled, but allowed the evaluation of the shape characteristics also on the basis of a larger number of sampled points.

The board is not convinced by this argument. First of all, feature **H** of claim 3 is not limited to perform sampling of a *minimum* number of samples, but merely *based* on a minimum number of samples, i.e. sampling of a number of samples larger than a minimum number of samples is also covered by the wording of feature **H**. Moreover, as submitted by the opponent during oral proceedings, it is clear for the skilled person to follow the teaching of D4', corresponding to instructions of an international standard. Therefore, the optimum number of sample points will generally be equal or at least close to the minimum number of sample points indicated in table 1 of D4'.

1.6.7 It follows that none of the patentee's arguments in favour of inventive step of the subject-matter of claim 3 were found convincing.

2. First auxiliary request - inventive step

The subject-matter of claim 2 lacks an inventive step in view of D1 in combination with D4' and common general knowledge (Articles 100(a) and 56 EPC).

2.1 Claim 2 of the first auxiliary request differs from claim 3 of the main request in that it contains in addition features **I** and **J**.

The closest prior art remains D1.

Feature **I** is novel over D1 because D1 does not disclose that the rolling circle waviness filter process of D1 is applied to the *sampled* measured data as defined in feature **H**, nor that the radius of the gauge head is determined on the basis of the ratio of the radius of the circular cross-section to the radius of the gauge head.

Feature **J** is also novel over D1 because D1 does not disclose that the filtering process is applied to the rolling circle process.

The objective technical problem (see point 1.3 above) remains the same as for the subject-matter of claim 3 of the main request as features **I** and **J** do not provide a technical effect not already covered by the present formulation of the objective technical problem.

2.2 Feature **I** merely defines the consequence of the rolling circle waviness filter process of D1 being carried out according to the steps defined in features **A** to **H** of claim 2. Feature **I** does not define any further limitation going beyond those defined in features **A** to **H**. Therefore, feature **I** does not involve an inventive step.

2.3 Feature **J** does not involve an inventive step for the following reason:

It is undisputed between the parties that D1, [0016], discloses a filtering process to be applied at some point in time during the process of measuring the workpiece

without, however, disclosing whether the filtering process is applied to measured data before or after the rolling circle waviness filter process of D1.

The board concurs with the opponent that it is common general knowledge to filter experimental data to cancel out high-frequency noise or other unwanted signal having a particular frequency bandwidth so as to be able to extract precise information about the circular shape characteristics of the workpiece (see O1, page 24, point 3.2.3 g)). For instance, as submitted by the opponent during the oral proceedings, in case that the surface of the object whose roundness is to be measured contains grooves generating disturbing data after having applied the rolling circle process, it would be obvious for the skilled person to implement a filtering process to the rolling circle processed data to filter out the grooves from the measured data before calculating the circular shape characteristics of the object. Therefore, applying a filtering process whenever it improves the efficiency and reliability of the determination of the circular shape characteristics of the object will be considered by the skilled person. In particular, depending on the actual circumstances of the measurement constellation, filtering data obtained by the rolling circle process represents an obvious possibility requiring no inventive skills.

2.4 Patentee's arguments in favour of inventive step

2.4.1 The patentee argued that D1 provided no hint to apply the filtering process to the rolling circle processed data. There was also no other generally valid incentive for the skilled person to apply a filtering process to the rolling circle processed data. On the contrary, since it was clear for the skilled person that the filtering process of D1 was carried out on the measured data in order to improve

the surface roughness measurement, i.e. that it was carried out on the measured data before applying the rolling circle process, there was no reason to apply a second filtering step to the rolling circle processed data.

The board concurs with the opponent which submitted during oral proceedings that D1 did not disclose that only one single filtering process is to be carried out. Depending on the actual circumstances, the surface roughness measurement might require a first filtering step and the circular shape measurement might require a further filtering step, different from the first filtering step. This is because, even after filtering out very high-frequency noise for improving the accuracy of the surface roughness measurement, noise and other unwanted signals might still be present in the rolling circle processed data.

2.4.2 During the oral proceedings, the patentee further argued that the filtering of the rolling circle processed data had an additional technical effect, namely the "comparability" of the roundness measurement results with devices using a mechanical stylus. Filtering the rolling circle processed data allowed this filtered data to be compared to data obtained by a conventional circular shape characteristic measuring device using a mechanical stylus generally requiring filtering the data.

The board is not convinced by this argument. As explained in point 2.3 above, in order to filter out unwanted signals in the rolling circle processed data, the skilled person would filter that data anyway, thereby arriving at feature **J** of claim 2. The existence of a hypothetical additional technical effect, such as the "comparability" mentioned by the patentee, does not render the filtering

process inventive. It is to be noted that no such technical effect of "comparability" is disclosed in the patent application as filed, thereby raising doubts whether this technical effect is actually achieved by the method of claim 2.

3. For the reasons set out in point 2. above, the ground of lack of inventive step (Article 100(a) EPC in conjunction with Article 56 EPC) precludes the maintenance of a patent in the amended version found patentable in the interlocutory decision of the opposition division.

The decision under appeal, therefore, must be set aside.

4. Remittal of the case

4.1 The board notes that the patentee had filed a total of nineteen auxiliary requests 1 to 9 and 0' to 9' during the opposition appeal proceedings and that it maintained all these requests. Except from auxiliary request 1, none of these auxiliary requests had been decided upon or at least preliminarily assessed by the opposition division. It is to be noted that the board has not taken any decision yet on the admissibility of the auxiliary requests into the opposition proceedings.

4.2 The board's decision according to which the subject-matter of claim 2 of the first auxiliary request lacked an inventive step is based on the disclosure of D1 in combination with D4'. The decision under appeal did not consider D4' at all. However, the patentability of the subject-matter of any further auxiliary request would have to be assessed at least in view of D4'. This assessment of patentability amounts to a fresh case.

4.3 The patentee requested that the case be remitted to the opposition division for further prosecution.

4.4 During the oral proceedings before the board, the opponent stated that for reasons of procedural efficiency, it preferred continuing the debate on patentability of the claimed subject-matter of the further auxiliary requests.

The board, however, is of the opinion that the reasons given in points 4.1 to 4.3 above are more substantive and outweigh the reason of procedural efficiency.

4.5 In view of the reasons given in points 4.1 to 4.4 above, the board comes to the conclusion that the examination of the unexamined auxiliary requests comprises a complexity not compatible with the primary object of the appeal proceedings to review the decision under appeal in a judicial manner (Article 12(2) RPBA 2020).

Therefore, the board decides to make use of its discretion under Article 111(1) EPC and Article 11 RPBA 2020 in remitting the case to the opposition division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division for further prosecution.

The Registrar: The Chairman:

C. Moser G. Decker

Decision electronically authenticated