Internal distribution code:

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

Datasheet for the decision of 5 October 2020

Case Number: T 1521/15 - 3.2.02

Application Number: 04703444.2

Publication Number: 1589876

IPC: A61B6/03, A61B5/113, A61N5/10

Language of the proceedings: EN

Title of invention:
COMPUTED TOMOGRAPHY SCANNING

Patent Proprietor:
Elekta AB (publ)

Opponent:
Siemens Aktiengesellschaft

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 123(2)
RPBA 2020 Art. 11

Keyword:
Novelty (yes) - claim 1
Inventive step (yes) - claims 1 and 6
Added subject-matter (no)

Decisions cited:
T 0003/90

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 1521/15 - 3.2.02

D E C I S I O N
of Technical Board of Appeal 3.2.02
of 5 October 2020

Appellant: (Patent Proprietor)	Elekta AB (publ) P.O. Box 7593 103 93 Stockholm (SE)
Representative:	Downing, Michael Philip Downing IP Limited Grosvenor House 7 Horseshoe Crescent Beaconsfield, Bucks. HP9 1LJ (GB)
Respondent: (Opponent)	Siemens Aktiengesellschaft Werner-von-Siemens-Straße 1 80333 München (DE)
Representative:	Siemens AG Postfach 22 16 34 80506 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 5 June 2015 revoking European patent No. 1589876 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	M. Alvazzi Delfrate
Members:	M. Stern
	N. Obrovski

Summary of Facts and Submissions

I. The patent proprietor lodged an appeal against the decision of the Opposition Division revoking European patent No. 1 589 876.

In the decision it was held that the subject-matter of claim 1 (filed on 7 March 2015 with letter dated 5 March 2015) lacked an inventive step over the following documents:

D1: EP-A-1 061 474
D2: M. Kachelrieß et al.: "Kymogram detection and kymogram-correlated image reconstruction from subsecond spiral computed tomography scans of the heart", Med. Phys., Vol. 29 (7), pages 1489-1503, July 2002
D2': M. Kachelrieß et al.: "ECG-correlated image reconstruction from subsecond multi-slice spiral CT scans of the heart", Med. Phys., Vol. 27 (8), pages 1881-1902, August 2000

II. The following documents are also relevant for the present decision:

D6: WO-A-01/60236
D7: US-B-6 385 288

III. The appellant (patent proprietor) requested in its statement of grounds of appeal that the decision under appeal be set aside and that the patent be maintained on the basis of the claims filed on 7 March 2015 with letter dated 5 March 2015.

The respondent (opponent) requested in its reply to the statement of grounds of appeal that the appeal be

dismissed. Moreover, it requested that in case that the subject-matter of claim 1 were found to be patentable, the case be remitted to the opposition division for assessing the inventive step of the subject-matter of claim 6.

IV. The Board summoned the parties to oral proceedings and issued a communication dated 22 April 2020 indicating its provisional, non-binding opinion.

V. By letter dated 3 July 2020, the respondent (opponent) indicated that it would not be participating at the oral proceedings. By communication dated 26 August 2020, oral proceedings were cancelled.

VI. Claims 1, 2 and 6 read as follows:

"1. A cone beam CT scanner acquiring two-dimensional projection images and including means for acquiring information as to the patient respiration cycle from a feature in the projection images to determine the breathing phase and means for selection of acquired two-dimensional projection images from the set of data acquired during a scan on the basis of the acquired respiration cycle information."

"2. A cone beam CT scanner according to claim 1, adapted to monitor the phase of the patient's breathing, via the means for acquiring information, continuously during acquisition of projection images."

"6. A radiotherapy device comprising a cone beam CT scanner and a source of therapeutic radiation, in which the CT scanner is adapted to apply respiration correlation techniques to the acquired two-dimensional projection images and the source is adapted to deliver

therapeutic radiation during the scan at times correlated with the patient's breathing cycle."

Claims 2 to 5 are dependent claims.

VII. The arguments of the appellant which are relevant for the present decision may be summarised as follows:

Claim 1 - Novelty over D1 and D2

Cone-beam CT used a wide-angle cone beam that can view the entire field of view in one rotation and which rotated comparatively slowly around the patient - typically once. This was more suited to integration into a radiotherapy apparatus, for example. In contrast, spiral CT took slices in a very short time, typically under a second, each slice being therefore a snapshot (akin to a strobe image) that captured the subject at the moment when the slice was taken. The scanner then moved up the patient slowly, over a period that would be several times longer than a cardiac cycle but could be within a single breath hold, and thus each slice showed the state of the subject at the moment that slice was captured. This would probably not correspond to the other slices. So the imaging problem existed in the form of a lack of consistency between slices - each slice was a good clear image, but may or may not correspond to the adjacent or other slices. The problem was to find a set of slices that corresponded to each other, i.e. were at comparable phase points, so that a clear 3D volume could be created. Once that was achieved (e.g., as set out in D1) then an image was obtained which could be used for clinical diagnosis.

The Opposition Division should have interpreted "cone beam" through the eyes of the skilled person, and hence should have dismissed D1 and D2 as irrelevant regarding a cone-beam scanner. Moreover, the spiral CT scanners of D1 and D2 were disclosed for determining cardiac motion, not for respiratory motion. In summary, there were numerous aspects in which documents D1 and D2 failed to show the features of claim 1. In particular, the following were missing: a cone beam CT scanner, acquiring information as to the patient respiration cycle to determine the breathing phase, and acquiring that information (i.e. as the patient respiration cycle) from a feature in the projection images.

Claim 1 - Inventive step

The closest prior art, D1, did not set a problem of determining respiratory motion. It called for a method of determining object motion without external information such as ECG or spirometry, which was not the same. The Opposition Division read this passage with the benefit of hindsight and interpreted it as a suggestion to use the apparatus of D1 to extract respiratory information - information that was not present in D1's kymogram signal. D2 in fact contained a specific suggestion about thoracic and lung imaging. This comment showed what other uses may be made of the device. This suggestion by the authors of D1 and D2 was to better image the lungs by solving the problems introduced by the cardiac cycle. Both documents used a motion detector that was only suitable for cardiac monitoring. In particular, it could not show different phase points, only the rest state of the cardiac cycle which had no direct equivalent phase point in the respiratory cycle. Moreover, D1 and D2 employed multi-slice scanners, not cone-beam CT scanners. The present

invention offered a different solution, in the form of a cone-beam CT geometry and a different form of motion detection. The problem addressed by the invention was not addressed by D1, and the solutions proposed by the invention were not suggested by D2. The present invention was therefore inventive over D1 and D2.

VIII. The arguments of the respondent which are relevant for the present decision may be summarised as follows:

Claim 1 - Novelty over D1 and D2

The Opposition Division concluded in its decision that claim 1 differed from D1 in that the selected images were two-dimensional and that the breathing phase was determined. Its analysis had been based on paragraphs [0008] to [0011] of D1 without taking into account that paragraph [0014] disclosed yet another alternative for determining the cardiac kymogram. According to paragraph [0014], it was possible to calculate projection images ("Schattenbilder") from spiral raw data. Since data at a given z-position overlapped, it was possible to sample data at different instances in time. Cardiac positions could then be determined. Moreover, claim 1 of D1 disclosed that from the spiral CT image data information regarding movement phases of the imaged object could be obtained without additional information such as, e.g., ECG or the breathing position measured by spirometry. The skilled person would directly und unambiguously understand this to mean that information on the respiratory phase obtained from projection images were obtained. According to paragraph [0014], the projection images were two-dimensional. It followed that the subject-matter of claim 1 lacked novelty over D1.

The claimed subject-matter also lacked novelty over D2. The Opposition Division had wrongly concluded that D2 failed to disclose the extraction of information about the breathing phase of the patient from the projection images. However, D2 mentioned on page 1503, last paragraph, that the disclosed kymogram technique could be useful for thoracic and lung imaging.

Claim 1 - Inventive step

A multi-slice CT scanner, even with a limited number of detector rows, such as that disclosed in D1, emitted a fan beam with an extension into the z-direction. It was therefore to be considered a cone-beam. D2 designated even a 4-slice CT scanner as a cone-beam CT scanner (page 1491, paragraph 3). Hence, the multi-slice CT scanner of D1 was a cone-beam CT scanner. Claim 1 of D1 suggested to extract object movements from CT images without use of a spirometer for measuring breathing phases. D1 incited the skilled person to use the method for tracking the center of mass (COM) disclosed in D2 (page 1491) for determining the breathing phase rather than the cardiac phase. The method was useful down to frequencies of 30 bpm, which overlapped with breathing frequencies. From the suggestion in D1, the skilled person would change the method of D2 using an image reconstruction method according to the 180 MCI method disclosed in D2', which D2 cited.

Claim 6 - Inventive step

The case should be remitted to the Opposition Division for examination and decision on the inventiveness of the subject-matter of independent claim 6. Its obviousness resulted from the combination of D6 with either common general knowledge, D1, D1/D2 or D7.

Departing from D6, the skilled person faced the problem of providing an alternative trigger. Applying respiration correlation techniques to the acquired two-dimensional projection images was rendered obvious by D1 and D1/D2. Hence, the skilled person could easily provide this feature as a trigger source for the device of D6. Moreover D7 proposed to determine the position of an affected part of a patient based on the breathing moving history of that part. Hence, D7 used a breath correlation technique for CT images. Thus, the combination of D6 with D7 rendered obvious the subject-matter of claim 6.

Claim 2 - Article 123(2) EPC

The feature "via the means for acquiring information" added subject-matter, contrary to Article 123(2) EPC. The monitoring of the phase of the patient's breathing continuously as defined in original claim 9 could not be identified with the continuous monitoring by the breath control means of page 3, paragraph 3.

Reasons for the Decision

1. The appeal is admissible.

2. By letter dated dated 3 July 2020, the respondent, who had requested oral proceedings on an auxiliary basis, indicated that it would not be participating at the summoned oral proceedings. According to the generally established practice, the Board considers that such statement amounts to a withdrawal of the request for oral proceedings (see T 3/90, OJ EPO 1992, 737, point 1, and the case-law following this decision). As a consequence, oral proceedings were cancelled.

3. *The invention*

The invention relates to CT scanning, a process by which the patient is irradiated with a rotating X-ray source and a three-dimensional image of the patient is reconstructed from two-dimensional slices along the longitudinal axis of the patient. One problem in CT scanning is that over the time required to acquire the necessary slices, the patient is not motionless, for example due to breathing movements. Two ways have been used to solve this problem. One is to trigger the CT on a particular phase of the patient's breathing. This is termed "respiration gated CT" and implies that one CT slice is acquired for every breath (see paragraph [0004] of the patent). This means that it takes a long time to acquire a complete volume of data. Another technique is to monitor the phase of the patient's breathing whilst acquiring CT slices continuously. Once the data is acquired, slices that have comparable breathing phases are selected from the complete set and these are then used to visualise the volume. This has the advantage that any phase can be selected retrospectively and therefore the effect of breathing can be studied. This is termed "respiration correlated CT" (see paragraphs [0003] to [0005] of the patent). The invention relates to the latter.

The scanner of claim 1 is a cone-beam CT scanner acquiring two-dimensional projection images and including:

- means for acquiring information as to the patient respiration cycle from a feature in the two-dimensional projection images to determine the breathing phase and

- means for selection of acquired two-dimensional projection images from the set of data acquired during a scan on the basis of the acquired respiration cycle information.

That is, the scanner identifies a feature in the two-dimensional projection images that varies with the respiratory cycle and which enables an image to be associated with a specific phase point. Then, images with like phase points can be collated and used to reconstruct a three-dimensional volume image which represents the volume at that phase point.

4. *Claim 1 - Novelty over D1*

4.1 Document D1 is concerned with spiral CT scanners performing cardiac imaging using a "kymogram" function that indicates cardiac movement for reconstructing CT images with reduced motion artifacts (abstract; page 2, lines 46 to 51).

D1 discloses in a first alternative a cardiac kymogram function $K(\alpha_0)$ that depends on the projection angle α_0 (paragraph [0011]). The minima of $K(\alpha_0)$ represent the points in time where the heart motion is minimal. $K(\alpha_0)$ functions as a motion detector which allows a motion-correlated reconstruction of CT images. In another alternative (disclosed in paragraph [0014]), the cardiac kymogram function is calculated from projection images ("Schattenbilder") which are two-dimensional.

4.2 D1, however, does not take into account respiratory motion. There is just one passage in D1 which mentions the problem of respiratory motion, namely claim 1 of D1, where it is said: "from which (spiral CT image data) information in respect of (…) object movement

phases can be obtained without additional information (such as, e.g., ECG or breathing position measure by spirometry)" [translation by the Board]. In other words, claim 1 of D1 explicitly specifies the construction of a kymogram function without necessitating further information from an ECG or the breathing position measured by a spirometer. This does not mean, however, that the kymogram function is necessarily obtained from information on the respiratory cycle, let alone that this information is obtained from the two-dimensional projection images, as defined in claim 1. In fact, as the appellant pointed out, a spiral CT may be carried out within a single breath hold, i.e. over a period of time that corresponds to only part of a respiratory cycle but corresponds, at the same time, to several cardiac cycles, which are shorter than respiratory cycles.

Hence, the definition in claim 1 of D1 is no direct and unambiguous disclosure of *"means for acquiring information as to the patient respiration cycle from a feature in the (two-dimensional) projection images to determine the breathing phase"*, as defined in claim 1 of the patent.

Moreover, nothing in D1 indicates that the cardiac motion-correlated image reconstruction process should involve "means for *selection of acquired two-dimensional projection images from the set of data acquired during a scan on the basis of the acquired respiration cycle information"*, as claimed.

4.3 Furthermore, the question arises whether the multi-slice spiral CT scanner of D1 (page 2, lines 5 to 9) anticipates a cone-beam CT (CBCT) scanner as claimed. D1 discloses a detector having a number (m) of detector

rows (page 2, line 56 to page 3, line 8) without specifying this number (m).

A spiral CT scanner (as that of D1) is a CT scanner in which the X-ray source and the detector rotate around the patient while the patient is moved along his longitudinal axis (z). As the inventors of D1 explain in a scientific article, D2 (see, e.g., the abstract), there are essentially three types of spiral CT scanners: single-slice, multi-slice and cone-beam spiral CT scanners, depending on the number of rows of elements (or slices transverse to the longitudinal direction z) of the detector. In order to illuminate multiple rows of detector elements in a multi-slice scanner, the X-ray source must emit a beam which is divergent along the longitudinal direction, that is, in a strict geometrical sense, as a sort of cone beam, rather than a fan beam as used in a single-slice scanner (it should be noted that the beam does not need to be strictly conical, but may be pyramidal too, to qualify as a cone beam).

The Board accepts, however, appellant's argument that for the skilled person in the field of CT imaging, a multi-slice spiral CT scanner (as in D1) and a cone-beam CT scanner (as in the patent), which includes a cone-beam spiral CT, are different, distinct and not interchangeable concepts. This view is corroborated by the scientific article D2, which explains the terminology and distinguishes between these different types of scanners (see the abstract, first sentence, or the first paragraph of the Introduction, last sentence). In particular, D2 designates CT scanners having detectors with 4 rows or slices as multi-slice CT scanners (MSCT) (Siemens SOMATOM Volume Zoom MSCT scanner; last full paragraph of page 1490), while

scanners having detectors with 12 or 16 rows or slices are considered to be cone-beam CT scanners (CBCT) (Siemens SOMATOM Sensation 16 CBCT scanner; paragraph bridging pages 1490 and 1491; page 1501, second paragraph). In the light of these explanations it appears to the Board that the designation in D2 of data from a 4-slice and a 12-slice scanner as "cone-beam data" (on page 1491, second paragraph of D2) has to be seen as an editorial error (as indicated above, a 4-slice scanner is previously designated in D2 as a multi-slice, rather than a cone-beam CT scanner).

Therefore, the Board considers that a cone-beam spiral CT scanner should be interpreted as a spiral CT scanner with a substantial number of detector element rows, in contrast to a multi-slice spiral CT scanner having only a few detector element rows. Since D1 discloses a multi-slice spiral CT scanner without specifying the number of detector rows or slices, it does not anticipate a cone-beam CT scanner as claimed.

4.4 In summary, the scanner of claim 1 differs from that of D1 in that it is a cone-beam scanner comprising means for acquiring information as to the patient respiration cycle from a feature in the two-dimensional projection images to determine the breathing phase, and means for selection of acquired two-dimensional projection images on the basis of this information.

4.5 The subject-matter of claim 1 is therefore novel over D1.

5. *Claim 1 - Novelty over D2*

5.1 D2 discloses kymogram-correlated CT image reconstruction from 4-slice, 12-slice or 16-slice

spiral CT scanners, the kymogram function being obtained from the projection data providing information of the cardiac motion (second half of the abstract). The last paragraph of the document merely refers to the usefulness of the kymogram technique for "thoracic and lung imaging". However, this clearly does not disclose that information concerning the patient respiration cycle is acquired from a feature in the projection images to determine the breathing phase (*"means for acquiring information as to the patient respiration cycle from a feature in the projection images to determine the breathing phase"*, as defined in claim 1 of the patent). Consequently, there is no disclosure in D2 that on the basis of this information the acquired two-dimensional projections are selected during a scan (*"means for selection of acquired two-dimensional projection images from the set of data acquired during a scan on the basis of the acquired respiration cycle information"*, as defined in claim 1).

5.2 The subject-matter of claim 1 is therefore novel over D2.

6. Claim 1 - Inventive step

6.1 It is not in dispute that D1 constitutes the closest prior art regarding the subject-matter of claim 1.

6.2 As indicated under point 4.4 above, the CT scanner of claim 1 differs from that of D1 in that it is a cone-beam CT scanner comprising means for acquiring information as to the patient respiration cycle from a feature in the two-dimensional projection images to determine the breathing phase, and means for selection of acquired two-dimensional projection images on the basis of this information.

6.3 Claim 1 of D1 explicitly specifies the construction of a kymogram function without necessitating further information from an ECG or the breathing position measured by a spirometer. D1 teaches to avoid information from an ECG by extracting information on cardiac movement from the image data. Hence, if also measurements of the breathing position with a spirometer are to be avoided, it would be obvious to the skilled person to extract this information from the image data, too. Therefore, means for acquiring information as to the patient respiration cycle from a feature in the image data to determine the breathing phase is suggested by D1. However, D1 does not provide any disclosure or suggestion as to how these means should be devised, in particular, whether they should be devised as means for acquiring this information as to the patient respiration cycle from a feature in the acquired two-dimensional projection images, as claim 1 defines.

6.4 The objective technical problem associated with the latter features is the following: finding means to implement the determination of the breathing phase from the image data.

6.5 Document D2 does not provide a solution to the posed problem of determining the breathing phase from image data since it discloses the use of a kymogram function from projection data providing information of the cardiac motion (see point 5.1 above). That is, the specific methods disclosed in both, D1 and D2, all deal with cardiac-correlated image reconstruction. Therefore, the skilled person attempting to solve the aforementioned objective technical problem would not find it obvious to combine D1 with D2 - and even less

to combine D1 with D2 and yet a further document, D2', cited in D2 (as Reference 3). According to the problem-solution-approach, D2 should be combined with the teaching of D1 if it offers a solution to the objective technical problem formulated, but not when it solves a different one. As a consequence, obviousness cannot be acknowledged, even if the combination of D1 and D2 serendipitously leads to the claimed subject-matter.

The Opposition Division considered that the skilled person would recognise document D2 as presenting a potential solution to the problem posed in the impugned decision (point 7.9), because D2 presented motion detection as part of an image-based technique which could be used in devices that are able to resolve lung features (e.g., Figure 16), where breathing features were expected to be most prevalent.

The Board considers this argument to be based on hindsight knowledge of the invention. D2 merely mentions the usefulness of the cardiac kymogram technique for "thoracic and lung imaging" (D2, last paragraph). This is different from constructing a kymogram function from the projection data providing information of the respiratory cycle and providing a breathing-correlated image reconstruction method as claimed.

6.6 The Board therefore concludes that it is not obvious for the the skilled person departing from the multi-slice spiral CT scanner with cardiac-correlated image reconstruction as disclosed in D1 to arrive at the claimed spiral cone-beam CT scanner with means for the selection of acquired two-dimensional projection images on the basis of the information on the patient respiration cycle.

6.7 Hence, the subject-matter of claim 1 satisfies the requirements of an inventive step within the meaning of Article 56 EPC.

7. *Independent claim 6 - Inventive step*

7.1 The respondent requested to remit the case to the Opposition Division for examination and decision on the inventiveness of independent claim 6.

Particularly in view of the fact that the ground of opposition of lack of inventive step has already been considered in the appealed decision regarding claim 1, the Board does not see any special reasons for remitting the case (Article 11 RPBA 2020). There is no right for having each and every aspect of a case considered and decided by two instances.

7.2 The respondent objected that independent claim 6 lacked an inventive step over D6 in combination with either the common general knowledge, D1, "D1/D2" or D7.

7.3 Independent claim 6 concerns a radiotherapy device comprising a cone-beam CT scanner and a source of therapeutic radiation, in which the CT scanner is adapted to apply respiration correlation techniques to the acquired two-dimensional projection images and the source is adapted to deliver therapeutic radiation during the scan at times correlated with the patient's breathing cycle.

7.4 The closest prior-art document D6 discloses a radiation device comprising a cone-beam CT scanner and a source of radiation therapy (page 7, lines 9 to 15), wherein therapeutic radiation is delivered using an external

device for breathing control as a trigger or gating source (page 41, lines 9 to 20).

7.5 Hence, the device of claim 6 differs from that of D6 in that the scanner is adapted to apply respiration correlation techniques to the acquired two-dimensional projection images and the source is adapted to deliver therapeutic radiation during the scan at times correlated with the patient's breathing cycle.

7.6 The objective technical problem was formulated by the respondent as finding an alternative trigger source.

7.7 The Board notes that it has not been shown, let alone proven, that the aforementioned differentiating features were common general knowledge. Thus, on the basis of common general knowledge alone, the skilled person would have not readily modified the device of D6 to include these features.

Neither are the differentiating features disclosed in D1 or "D1/D2" (the meaning of the latter is unclear), as indicated above. Hence, based on the teaching of these documents, the skilled person would have not been able to incorporate the differentiating features into the device of D6. As mentioned above, there is only a suggestion in D1 to acquire information as to the patient respiration cycle from a feature in the projection images to determine the breathing phase, in order to eliminate external breathing triggers. Thus, the combination of D6 with D1 does not readily lead the skilled person to the claimed subject-matter; the skilled person would rather need to combine D6 with D1, and then take yet another step to implement what D1 suggests as a further possibility.

Finally, the combination of D6 with D7 also fails to render the claimed subject-matter obvious. Rather than applying respiration correlation techniques to the acquired two-dimensional projection images, the radiation therapy apparatus of D7 employs external patient position detecting means for carrying out radiotherapy with higher accuracy (column 11, lines 40 to 58).

7.8 Hence, the subject-matter of independent claim 6 satisfies the requirements of an inventive step within the meaning of Article 56 EPC.

8. *Claim 2 - Article 123(2) EPC*

8.1 Claim 2, appended to claim 1, defines that the scanner is *"adapted to monitor the phase of the patient's breathing, via the means for acquiring information, continuously during acquisition of projection images"*.

8.2 With the exception of the underlined definition, this expression is identical to that of original claim 9, appended to original independent claim 8. Moreover, page 3, paragraph 3 of the application as filed explicitly states that it is possible to use a feature in the projection image(s) to determine the breathing phase. It is therefore clear for the skilled person that the monitoring of the phase of the patient's breathing defined in original claim 9 is "via the means for acquiring information" (as to the patient respiratory cycle) recited in original claim 8.

8.3 It follows that claim 2 complies with the requirements of Article 123(2) EPC.

9. The Board therefore concludes that none of the objections brought forward prejudice the maintenance of the patent on the basis of the appellant's request.

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 with the order to maintain the patent as amended in the following version:

   - claims 1 to 6 filed with letter dated 5 March 2015;

   - description and figures of the patent as granted.

The Registrar: The Chairman:

D. Hampe M. Alvazzi Delfrate

Decision electronically authenticated