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

Case Number: T 2059/22 - 3.2.02

Application Number: 16805639.8

Publication Number: 3377142

IPC: A61M1/16

Language of the proceedings: EN

Title of invention:

BLOOD TREATMENT APPARATUS WITH MULTIPLE AXIS MONITOR MOUNT

Patent Proprietor:

Gambro Lundia AB

Opponent:

Fresenius Medical Care AG

Headword:

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

Novelty - (yes)

Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 2059/22 - 3.2.02

D E C I S I O N
of Technical Board of Appeal 3.2.02
of 16 October 2024

Appellant: Fresenius Medical Care AG
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 5 July 2022
rejecting the opposition filed against European
patent No. 3377142 pursuant to Article 101(2)
EPC**

Composition of the Board:

Chairman A. Martinez Möller
Members: D. Ceccarelli
S. Ruhwinkel

Summary of Facts and Submissions

I. The opponent appealed against the Opposition Division's decision to reject the opposition against the European patent.

II. Oral proceedings took place by videoconference on 16 October 2024. At the end of the oral proceedings, the parties' requests were as follows.

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

The respondent (patent proprietor) requested that the appeal be dismissed or that the patent be maintained on the basis of one of auxiliary requests 1 to 3 filed on 28 March 2023 with the reply to the appellant's statement setting out the grounds of appeal.

III. The following documents are mentioned in this decision:

D2: EP 2 033 181 B1

D4: US 5,788,851 A

D18a: "5008 Service Manual", Fresenius Medical Care, edition 9/01.11

D18b: "5008 Hämodialysesystem Service Manual", Fresenius Medical Care, edition 6/09.06

D19: "5008S Service Manual", Fresenius Medical Care, edition 9/01.11

D19a: "5008S Service Manual", Fresenius Medical Care, edition 15A-2014

D19b: "5008S Service Manual", Fresenius Medical Care, edition 12/02.13

D21: US 2003/0222848 A1

D22: US 2013/0083458 A1

IV. Claim 1 of the patent as granted reads as follows:

"An extracorporeal blood treatment apparatus comprising:

one or more pumps (14) located on a front face of a housing (12), wherein the one or more pumps (14) are configured to move blood and a treatment solution during extracorporeal blood treatment; a monitor (20) comprising a display surface (22) configured to display visual images thereon; a monitor mount (30) comprising a base (32) attached to a top surface of the housing (12) and a monitor arm (34) attached to the base (32) and the monitor (20), wherein the monitor (20) is positioned above the base (32) and the top surface of the housing (12), and wherein the monitor arm (34) is configured to:

rotate about a swivel axis (31; 131) that is oriented vertically through the base (32) and the top surface of the housing (12) such that the monitor (20) can be rotated between a front-facing position in which the display surface (22) faces the same direction as the front face of the housing (12) and one of a left-facing position in which the display surface (22) faces the same direction as a left side of the housing (12) and a right-facing position in which the display surface (22) faces the same direction as a right side of the housing (12);
rotate about a tilt axis (33; 133) oriented

transverse to the swivel axis (31; 131), wherein the tilt axis (33; 133) is located above the base (32) and the top surface of the housing (12), wherein the monitor (20) is configured to rotate about the tilt axis (33; 133) between a stowed position and an operating position, wherein in the stowed position the display surface (22) of the monitor (20) is oriented in a plane that is generally transverse to the swivel axis (31; 131), wherein in the operating position the display surface (22) of the monitor (20) is oriented in a plane that is generally aligned with the swivel axis (31; 131);

a control unit (111) located within the housing (12) and operably connected to the one or more pumps (14), wherein the control unit (111) is configured to operate the one or more pumps (14) to move blood and a treatment solution and the monitor (20); and

characterized in that the extracorporeal blood treatment apparatus further comprises a first cable (192) connecting the monitor (20) to the control unit (111), wherein the first cable (192) comprises a first segment (196) generally aligned with the tilt axis (33; 133) and a second segment (198) generally aligned with the swivel axis (31; 131), wherein the first segment (196) is closer to the monitor than the second segment (198), and wherein the second segment (198) is closer to the control unit (111) than the first segment (196), and further wherein the second segment (198) of the first cable (192) passes into the housing (12)."

Claims 2 to 21 are dependent claims. Claims 22 to 24 define methods of manipulating the monitor on an extracorporeal blood treatment apparatus according to any of the previous claims.

- V. The appellant's arguments relevant to this decision can be summarised as follows.

Novelty

The subject-matter of claim 1 of the patent as granted lacked novelty over the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) and 5008S (as described in D19, D19a and D19b).

The claim could be divided into three parts. The first part defined a standard extracorporeal blood treatment apparatus, for example in the form of a dialysis machine as described in D18a and D19. The second part concerned the definition of a monitor arm. The third part defined the routing of the cable connecting the monitor and the control unit of the blood treatment apparatus.

In the definition of the monitor arm, the claim did not exclude that the monitor arm could include several components or could be within the monitor. In no embodiment of the patent was there an element which alone permitted both rotations of the monitor about a swivel axis and a tilt axis as defined in the claim. Each of the holding elements of the monitor holding arm in the first figure on page 10-16 of D18a (on which two braking screws with reference number 2 in the figure were located) was a monitor arm within the meaning of claim 1 of the patent as granted as these elements

could rotate as defined in the claim. Such elements were similar to struts 140 in Figure 8 of the patent which made up the monitor arm as claimed. D19 disclosed the same configuration.

In the definition of the cable rooting, the term "generally aligned" did not exclude that the elements to which it referred could be at a certain distance from each other, as shown for the cables slightly offset from the rotation axis in the figures on page 10-18 of D18a and 10-21 of D19. This distance would still allow minimising the stress on the cables upon rotation of the monitor arm, this being the effect the claimed definition of the cable rooting had to achieve.

Inventive step

The subject-matter of claim 1 of the patent as granted was not inventive when starting from either of the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) and 5008S (as described in D19, D19a and D19b) as the closest prior art.

If the Board considered that the closest prior art did not disclose a monitor arm configured to rotate about a swivel axis and a tilt axis as claimed and a cable with a segment generally aligned with the swivel axis as claimed, these distinguishing features addressed different technical problems.

The monitor arm as claimed was a mere technical alternative to the monitor and the monitor arm disclosed in D18a and D19. The monitor disclosed in each of these documents could perform the same

rotations relative to a base of the extracorporeal blood treatment apparatus as the monitor according to claim 1 of the patent as granted. The claimed alternative was within the competence of the person skilled in the art, who could implement a number of different mechanical arrangements for performing these rotations.

Moreover, if the technical problem addressed by the claimed monitor arm was to increase the durability of the monitor mount, the person skilled in the art would have turned to D2 - and implemented a monitor arm in the form of vertical bars 24, Figure 3 - D4 - and implemented a monitor arm in the form of articulation 47, Figure 2 - or D22 - and implemented a monitor arm in the form of junction board 106, Figure 3.

A cable with a segment generally aligned with the swivel axis, as claimed, addressed the problem of increasing the durability of the cable. The person skilled in the art was taught by the closest prior art that a short circuit in the cable within the monitor arm could represent a problem (pages 10-20 and 10-21 of D18a) and would have turned to D2 or D4 which taught that cable segments should be aligned with axes of rotation for minimising cable stress (Figure 2A and paragraph [0025] of D2 and Figure 2 of D4, showing a cable aligned with axes "A" and "H" and, implicitly, also with axis "T"). Alternatively, the person skilled in the art would have turned to D21, which taught cable routing for displays along rotating axes for minimising wear and tear of the cables (paragraphs [0070] and [0081] and Figure 15), or D22, which disclosed cable segments identical to those of the patent in suit (Figure 4B), and arrived at the cable routing as

claimed in an obvious way.

The same arguments applied when starting from D4 as the closest prior art, in combination with common general knowledge, or D22.

VI. The respondent's arguments relevant to this decision can be summarised as follows.

Novelty

D18a, D18b, D19, D19a and D19b did not belong to the state of the art as they were not publicly available at the priority date of the patent. In any case, the subject-matter of claim 1 of the patent as granted was novel over the prior uses of the Fresenius Medical Care dialysis systems 5008 and 5008S as described in these documents.

D18a, D18b, D19, D19a and D19b did not disclose a monitor arm configured to rotate about both a swivel axis and a tilt axis as claimed. The elements in these documents identified as the monitor arm by the appellant belonged to a back part of the monitor and were within the monitor unit. Although the claim did not exclude that the monitor arm could comprise more than one structural entity, these elements could not be considered a monitor arm according to the claim wording. In contrast, Figure 8 of the patent showed a monitor arm according to the claim wording and comprising struts 140 and mount bridge 142 which was configured to rotate around the two axes as claimed.

D18a, D18b, D19, D19a and D19b did not disclose a cable comprising a segment generally aligned with the swivel axis as claimed. The expression "generally aligned"

meant that the cable segment had to be along the swivel axis within the inherent tolerances of a physical configuration. In the Fresenius Medical Care dialysis systems 5008 and 5008S, the cable was positioned parallel to a swivel axis extending through a base of a monitor mount offset from the swivel axis. This was clear from the figures in D18a, D18b, D19, D19a and D19b, showing a pole entering the base and extending along the swivel axis, this making it physically impossible to have a cable segment along the swivel axis. It followed that there was no cable segment generally aligned with the swivel axis.

Inventive step

The subject-matter of claim 1 of the patent as granted was inventive when starting from either of the prior uses of the Fresenius Medical Care dialysis systems 5008 and 5008S as the closest prior art.

The distinguishing features over these prior uses were the monitor arm configured to rotate about both a swivel axis and a tilt axis and a cable comprising a segment generally aligned with the swivel axis. These features had the technical effect of having a compact and more robust monitor mount with reduced stress on the cable when the monitor position was adjusted. Hence, they both addressed the problem of increasing the useful life of the extracorporeal blood treatment apparatus.

D2 disclosed a monitor for a surgical system. It stressed the importance of placing the monitor in various positions and orientations, also far from surgical system, for the surgeon to have access to the screen in various working positions. There was no need

for such a monitor for a dialysis system, in which the screen was normally operated in front of the treatment device. Moreover, if the monitor mount of the closest prior art was replaced with the monitor mount according to D2, there would be no cable segment generally aligned with the tilt axis as claimed. Figure 2B showed a screw 23 along the tilt axis which made it physically impossible to have a cable segment along this axis.

D4 related to a dialysis system with a monitor mount and a monitor rotatable around a swivel axis and a tilt axis ("T" in Figure 2). The monitor mount did not comprise a base attached to a top surface of a housing with one or more pumps located on a front surface of the housing. Moreover, D4 did not disclose a cable segment generally aligned with the tilt axis as claimed.

D22 had been filed late and should not be admitted into the appeal proceedings. In any case, D22 related to a general-purpose computer, and there was no reason why the person skilled in the art of extracorporeal blood treatment would have turned to D22 in view of the technical problem solved by the distinguishing features over the closest prior art. Monitors for extracorporeal blood treatment devices did not have to be as large and massive as the monitors disclosed in D22. Moreover, D22 disclosed a monitor arm (102, Figure 3) which was configured to rotate around a tilting axis along which a screw (121a, Figure 3) was located. It was physically impossible to have a cable segment along this axis. Junction board 106 was not a monitor arm within the meaning of claim 1 of the patent as granted.

D21 had been filed late and should not be admitted into the appeal proceedings. In any case, D21 was completely

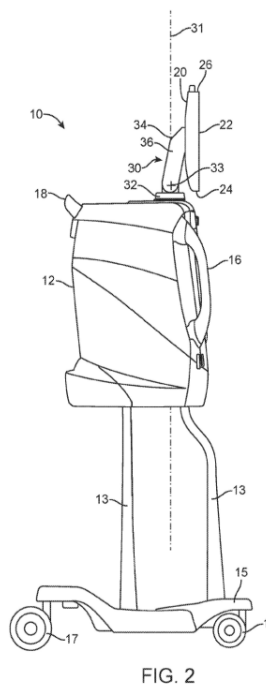
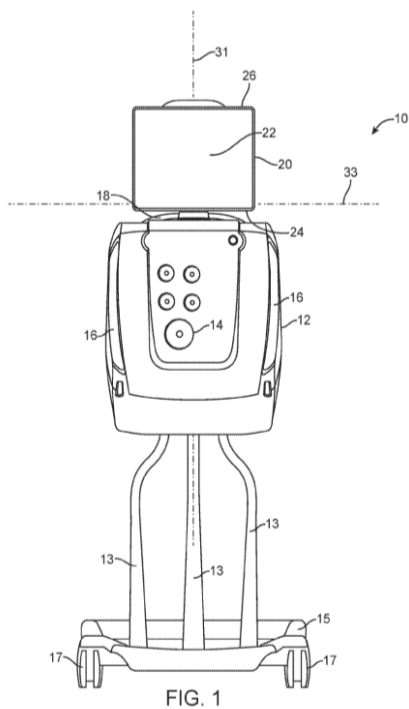
unrelated to the medical field and did not disclose a monitor arm configured to rotate around a swivel axis as defined in claim 1 of the patent as granted.

The subject-matter of claim 1 of the patent as granted was inventive also when starting from D4 as the distinguishing features over this document were the same as those over the prior uses.

Reasons for the Decision

1. The patent in suit

The patent relates to an extracorporeal blood treatment apparatus with a housing, on a front face of which one or more pumps are located; a control unit within the housing and operably connected to the one or more pumps; and a monitor, as shown for example in Figures 1 and 2, reproduced below.



In such an apparatus, the monitor (20) provides a convenient interface with the control unit but may pose challenges for transportation and storage of the apparatus (paragraph [0003] of the patent).

The claimed apparatus further comprises a monitor mount (30) with a base (32) attached to a top surface of the housing (12) and a monitor arm (34) attached to the base and the monitor.

The monitor arm is configured to rotate about a swivel axis (31), which is oriented vertically through the base and the top surface of the housing, and a tilt axis (33) oriented transverse to the swivel axis and located above the base and the top surface of the housing.

These rotational movements allow adjusting the orientation of the monitor so that a display surface of the monitor is more easily viewed by operators working on different sides of the apparatus and operators of different heights (paragraphs [0009] and [0010] of the patent). They also allow reaching a stowed position in which the display surface is oriented generally horizontal, thus providing a lower profile of the apparatus, convenient for transportation (paragraph [0011] of the patent and Figure 6).

The extracorporeal blood treatment apparatus further comprises a cable connecting the monitor to the control unit, as shown in Figure 7, reproduced below.

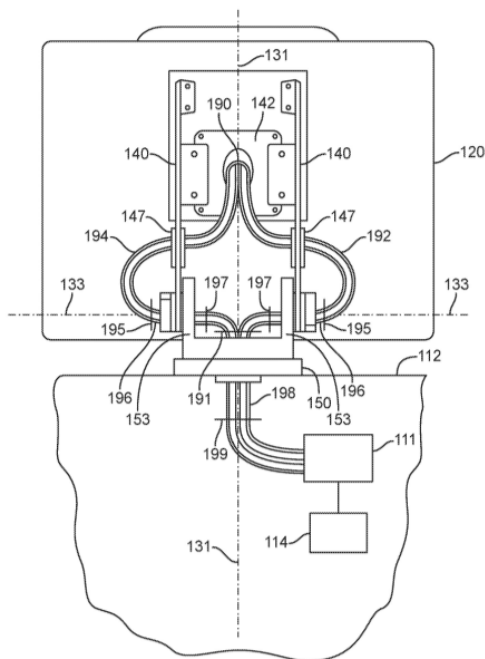


FIG. 7

The cable (192) comprises a first segment (196) generally aligned with the tilt axis and a second segment (198) generally aligned with the swivel axis and passing into the housing. The first segment is closer to the monitor than the second segment, and the second segment is closer to the control unit (111) than the first segment.

The routing of the cabling may reduce torsional forces applied during rotation of the monitor about both the swivel and the tilt axes (paragraph [0012] of the patent).

2. Patent as granted - novelty

The appellant argued that the subject-matter of claim 1 of the patent as granted lacked novelty over the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) and 5008S

(as described in D19, D19a and D19b).

2.1 It is common ground that D18a and D18b disclose an extracorporeal blood treatment apparatus comprising pumps located on a front face of a housing, a monitor comprising a display surface, and a monitor mount comprising a base attached to a top surface of the housing and a monitor arm, the monitor being positioned above the base and the top surface of the housing (first page of D18a). The monitor and the monitor arm are best illustrated in the figures on pages 10-16 to 10-18 of D18a. The figure on the first page, the first and the third figures on page 10-16, the first figure on page 10-17, and the second figure on page 10-18 of D18a are reproduced below.

Figure on the first page of D18a



First figure on page 10-16 of D18a



First figure on page 10-17 of D18a



Second figure on page 10-18 of D18a



Third figure on page 10-16 of D18a

The monitor is configured to rotate about a swivel axis (either axis (b) or axis (c) in the first figure on page 10-17 of D18a) that is oriented vertically through the base and the top surface of the housing and about a tilt axis (axis (a) in the first figure on page 10-17

of D18a) that is oriented transverse to the swivel axis and is located above the base and the top surface of the housing. The extracorporeal blood treatment apparatus comprises a control unit located within the housing and operably connected to the one or more pumps and a cable connecting the monitor to the control unit (second figure on page 10-18 of D18a).

It is common ground that the disclosure of D19, D19a and D19b is the same as that of D18a and D18b as far as the monitor, the monitor arm and the cable are concerned.

- 2.2 None of D18a, D18b, D19, D19a and D19b discloses a monitor arm configured to rotate both about a swivel axis and a tilt axis as defined in claim 1 of the patent as granted.

While the Board accepts the appellant's argument that the claim does not exclude that the monitor arm could include several components, it is the Board's view that a monitor arm according to the claim cannot be within the monitor because it must be an arm being part of a monitor mount for connecting the monitor to the housing. A monitor arm according to the claim wording must be an elongate arrangement, thus in the form of an arm, coupled to the monitor at one of its two extremities. Arm 34 (Figures 2 to 4 and 6) and strut elements 140 together with mount bridge 142 (Figures 7 and 8 of the patent) fulfil these claim requirements. In contrast, the holding elements coupled to the two breaking screws with reference number 2 in the first figure on page 10-16 of D18a, each finally considered to be a monitor arm as claimed by the appellant, do not fulfil these claim requirements and, as a consequence, are not monitor arms as defined in claim 1 of the

patent as granted.

The appellant's argument that no embodiment of the patent comprised an element which alone permitted both rotations of the monitor about a swivel axis and a tilt axis as defined in the claim is irrelevant. The claim does not require that. Instead, it requires the monitor arm be configured to rotate about those axes.

2.3 None of D18a, D18b, D19, D19a and D19b discloses a cable comprising a segment generally aligned with the swivel axis as claimed. The Board agrees with the respondent that the expression "generally aligned" means that the cable segment must lie along the axis, with the inherent tolerances that can be expected in view of the physical elements involved. This is the case with the cable routing shown in Figure 7 of the patent. A configuration as disclosed in D18a (second figure on page 10-18, for example), in which the cable segment is instead offset from the swivel axis, cannot be understood to fall within the claim wording. Contrary to the appellant's argument, because the cable segment is offset from the swivel axis, rotation of the monitor about this axis bends the cable segment, this being what the patent intends to avoid.

2.4 In conclusion, the subject-matter of claim 1 of the patent as granted is novel over the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) and 5008S (as described in D19, D19a and D19b) by virtue of a monitor arm configured to rotate both about a swivel axis and a tilt axis and a cable comprising a segment generally aligned with the swivel axis as defined in the claim. In view of this conclusion, it is not necessary to establish whether the prior uses belong to the state of

the art of the patent in suit.

2.5 It follows that the ground for opposition of lack of novelty (Articles 54 and 100(a) EPC) does not prejudice the maintenance of the patent as granted.

3. Patent as granted - inventive step

3.1 The appellant argued that the subject-matter of claim 1 of the patent as granted was not inventive when starting from either of the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) and 5008S (as described in D19, D19a and D19b) as the closest prior art.

3.2 The distinguishing features of the claimed subject-matter, as identified above, have the technical effect that upon rotation of the monitor, by consequence of the rotation of the monitor arm, the cable does not suffer any major stress. It is not bent, but it only experiences some limited torsion. This is due both to the configuration of the monitor arm, being able to rotate along the two axes as claimed, and the cable segments being generally aligned with these rotation axes.

As a consequence, the appellant's argument that the distinguishing features addressed two independent problems is not accepted. In view of the established technical effect, the Board shares the respondent's view that the distinguishing features, together, solve the objective technical problem of providing a more durable extracorporeal blood treatment apparatus.

3.3 The common general knowledge does not teach the provision of the distinguishing features for the

solution of the objective technical problem. It is irrelevant whether the person skilled in the art would have known alternative configurations for a monitor arm if the common general knowledge did not teach such configurations for the solution of the objective technical problem.

The appellant argued that the person skilled in the art would have turned to D2, D4, D21 and D22. However, the person skilled in the art, if contemplating the combinations at all in view of the objective technical problem, would have replaced the monitor mount and the cable routing of the devices according to the prior uses with those disclosed in D2, D4, D21 and D22. This would not have led to the subject-matter of claim 1 of the patent as granted.

As the respondent pointed out, D2 does not disclose a monitor mount with a cable segment generally aligned with a tilt axis as defined in claim 1 of the patent as granted. Figure 2B of D2 shows a screw 23 along the tilt axis, which leaves no space for a cable segment along this axis.

D4 does not disclose a monitor arm configured to rotate about both a swivel axis and a tilt axis and a cable segment generally aligned with a tilt axis as defined in claim 1 of the patent as granted. Monitor arm 30 (Figure 2) is not configured to rotate about a tilt axis and in the document, contrary to the appellant's assertion, there is no disclosure on the cable routing relative to the "T" axis in Figure 2.

D21 does not disclose a monitor arm configured to rotate about a swivel axis as defined in claim 1 of the patent as granted.

D22 does not disclose a cable segment generally aligned with a tilt axis as defined in claim 1 of the patent as granted. Junction board 106 in Figures 1 to 4A is not a monitor arm in view of the considerations in point 2.2 above. Cantilever 102 in Figures 1 to 4A can be considered a monitor arm. However, for the person skilled in the art, this monitor arm is configured to rotate about tilt axis 120 (Figures 2 and 3) but not axis 110 (Figure 2 to 4A), only the latter having a cable segment generally aligned with it.

3.4 In conclusion, the subject-matter of claim 1 of the patent as granted is inventive when starting from the prior uses of the Fresenius Medical Care dialysis systems 5008 (as described in D18a and D18b) or 5008S (as described in D19, D19a and D19b), in view of common general knowledge, D2, D4, D21 and D22.

3.5 The appellant argued against inventive step also starting from D4. However, D4 does not disclose a monitor arm configured to rotate both about a swivel axis and a tilt axis and a cable comprising a segment generally aligned with the tilt axis as defined in claim 1 of the patent as granted. The objective technical problem solved by these distinguishing features is to provide a more durable extracorporeal blood treatment apparatus for the same reasons as explained when starting from the prior uses of the Fresenius Medical Care dialysis systems 5008 or 5008S.

For the same reasons as explained when starting from the prior uses of the Fresenius Medical Care dialysis systems 5008 or 5008S, also when starting from D4, in view of common general knowledge or D22, the person skilled in the art would have not arrived at the

subject-matter of claim 1 of the patent as granted in an obvious way.

3.6 It follows that the ground for opposition of lack of inventive step (Articles 56 and 100(a) EPC) does not prejudice the maintenance of the patent as granted. In view of this conclusion, it is not necessary to consider the respondent's objection to the admittance of D21 and D22 into the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Chavinier-Tomsic

A. Martinez Möller

Decision electronically authenticated