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**Datasheet for the decision
of 5 February 2024**

Case Number: T 2401/19 - 3.5.04

Application Number: 10816798.2

Publication Number: 2478693

IPC: H04N5/228, A61B1/00, A61B1/05,
A61B17/29, G02B23/24,
H04N5/225, A61B1/005

Language of the proceedings: EN

Title of invention:
SMALL DIAMETER VIDEO CAMERA HEADS AND VISUALIZATION PROBES AND
MEDICAL DEVICES CONTAINING THEM

Patent Proprietor:
Odysight.AI Ltd

Opponent:
Keck, Stephan

Headword:

Relevant legal provisions:
EPC Art. 83, 100(b), 113(1), 123(2)
EPC R. 106
RPBA Art. 12(4) (2007)
RPBA 2020 Art. 13(1), 13(2)

Keyword:

Oral submissions by an accompanying person (yes)
Re-opening the debate (only with respect to the appellant's objection under Rule 106 EPC)
New documents filed with the statement of grounds of appeal - admitted (yes)
New documents filed after the statement of grounds of appeal - admitted (yes)
Main request (patent as granted) - insufficiency of disclosure - (yes)
Auxiliary requests 1 to 3 - insufficiency of disclosure - (yes)
Auxiliary requests 4 to 6 - amendment after board's communication - give rise to a new objection - admitted (no)
Auxiliary request 7 - amendment after board's communication - cogent reasons - admitted (yes)
Auxiliary request 7 - added subject-matter (yes)
Auxiliary request 8 - amendment after board's communication - gives rise to a new objection - admitted (no)
Objection under Rule 106 EPC (dismissed)

Decisions cited:

G 0012/91, G 0004/95, J 0020/85, J 0003/90, R 0010/08,
R 0014/10, T 0226/85, T 0409/91, T 0435/91, T 0694/92,
T 1123/04, T 0577/11, T 1697/12, T 0989/15, T 0752/16,
T 0954/17, T 1656/17, T 2773/18, T 0149/21, T 0867/21

Catchword:



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Case Number: T 2401/19 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 5 February 2024

Appellant: Odysight.AI Ltd
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8496500 Omer (IL)

Representative: Bird & Bird LLP - Hamburg
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Respondent: Keck, Stephan
(Opponent) Königstr. 5
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Representative: Witte, Weller & Partner Patentanwälte mbB
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 27 June 2019
revoking European patent No. 2478693 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chair B. Willems
Members: A. Seeger
T. Karamanli

Summary of Facts and Submissions

- I. The appeal is against the opposition division's decision to revoke European patent No. 2 478 693 ("the patent"). The patent was based on an international application published as WO 2011/033513 A1 ("the application as filed").
- II. Notice of opposition to the patent was filed on the following grounds for opposition.
- (a) The subject-matter of the granted claims did not involve an inventive step (Articles 100(a) and 56 EPC).
 - (b) The patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art (Article 100(b) EPC).
 - (c) The subject-matter of the granted claims extended beyond the content of the application as filed (Article 100(c) EPC).
- III. The opposition division revoked the patent pursuant to Article 101(2) and (3)(b) EPC because the ground for opposition under Article 100(b) EPC prejudiced the maintenance of the patent as granted and the amendments in accordance with the first to fourth auxiliary requests then on file made by the patent proprietor during the opposition proceedings did not meet the requirements of the EPC.
- IV. The patent proprietor (appellant) filed notice of appeal on 27 August 2019 and a statement of grounds of appeal on 7 November 2019. With the statement of grounds of appeal, the appellant maintained the main request and auxiliary requests 1 to 3 filed by letter

dated 8 June 2018, on which the decision under appeal was based. It also filed the following documents:

A1: Excerpt from a text book of communication systems engineering

A2: Expert opinion of Professor Gabby Sarusi dated 6 November 2019

A3: Inventor Declaration of Elazar Sonnenschein

V. By letter dated 17 April 2020, the opponent (respondent) filed a reply to the statement of grounds of appeal.

VI. By letter dated 30 September 2022, the appellant filed further submissions. The following documents were attached to this letter:

A4: Copy of the interlocutory decision dated 3 May 2021 issued in opposition proceedings concerning European patent No. 2 621 158

A5: Expert Declaration of Andrew Wolfe dated 11 December 2019

A6: Wikipedia article on multiplexing

A7: Excerpt from M. Mano, "Digital Design", second edition, 1991

VII. The board issued a summons to oral proceedings and a communication under Article 15(1) RPBA. In this communication, it gave, inter alia, the following preliminary opinion.

- (a) With regard to the sub-authorisation on file for Mr Douma, a legal practitioner, the board noted that the file did not contain the required individual authorisation or a reference to a general authorisation which indicated that the patent proprietor's representative was entitled to sub-authorise.
- (b) The board was inclined to admit documents A1 to A7 into the proceedings.
- (c) The chip shown in the embodiment of a 0.7 x 0.7 mm CMOS sensor provided enough space to implement the circuitry required for multiplexing the signals of multiple pads of conventional CMOS image sensors to the three or four pads as claimed. However, the board was not convinced that the same was true for the whole open-ended range claimed, i.e. for all diameters of a video camera smaller than 1.1 mm. It was unclear how to achieve such a *"drastic reduction of size and number of balls compared to what was known in the art before the filing of the application"*.
- (d) It might be discussed at the oral proceedings whether the patent as granted disclosed sufficient information to achieve a considerable reduction in the number of pads for all types of CMOS sensors available before the filing date of the patent.
- (e) Should the patent as granted be found not to disclose the invention in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art, the same would hold for the first to third auxiliary requests.

VIII. With its letters dated 16 January 2024, the appellant filed an authorisation for its newly appointed representatives which entitled them to give sub-authorisations, and amended claims of auxiliary requests 4 to 6. The appellant argued that the respondent had still not discharged their burden of proof and hence the objection of alleged insufficiency of disclosure should be dismissed. The decision in case T 2773/18 confirmed that values of a parameter which were not obtainable in practice could not justify an objection of insufficiency of disclosure. The respondent had not stated what CMOS sensors, with what small diameter, the skilled person would consider to fall under the scope of claim 1 and why the skilled person could not reproduce these CMOS sensors based on their common general knowledge and the teaching of the patent. The board had wrongly interpreted the respondent's arguments relating to multiplexing techniques as an argument relating to what small-diameter CMOS sensors could not be reproduced. The respondent had not mentioned any low ranges which could not be reproduced. Nevertheless, the claims of auxiliary request 4 had been amended to define a lower limit. However, the skilled person, based on their common general knowledge and the teachings in the patent, would know what diameter of a CMOS sensor would work, and would be able to reproduce these CMOS sensors. It was not a requirement of sufficiency of disclosure that the claim be reproducible from any known prior art. The appellant had demonstrated that starting from the Agilent sensor the person skilled in the art could arrive at a sensor within the scope of the claim. However, even if the skilled person sought to reproduce the claimed invention starting from an existing prior-art CMOS sensor, they would know what CMOS sensor to use as a basis given the requirements of

a CMOS sensor mentioned in the claim.

The appellant requested that Ms Birnbaum, head of the appellant's IP department, be allowed to make oral submissions as an accompanying person at the oral proceedings.

- IX. In a letter dated 17 January 2024, the respondent requested that documents A5 to A7, which they claimed were late filed and also not suitable to resolve the issue of insufficiency of disclosure, not be admitted into the proceedings. Regarding the objection of insufficiency of disclosure, they argued that because four detailed expert opinions were necessary to explain how the skilled person could be enabled to carry out the invention it was clear that the invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person. The experts could not be regarded as a skilled person having average knowledge and ability in the relevant technical field. Moreover, it was unclear how various components, such as multiplexers, drivers, oscillators and controllers, could be integrated into the imager chip without enlarging the chip size. No details were provided in the patent specification of how an upper limit of 1.1 mm or smaller for the maximum outer diameter of the video camera head could be achieved. The respondent referred to decisions T 149/21 and T 867/21 and concluded that claim 1 of the granted patent specified a result to be achieved, rather than clearly defining a technical teaching of how to achieve said result, in particular over the whole range claimed and for all types of CMOS sensors. Hence the claimed invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person.

- X. The board held oral proceedings on 1 February 2024 and 5 February 2024.

As the case at hand is closely related to appeal cases T 2702/19 and T 953/21, the oral proceedings in these three cases were held consecutively, starting with case T 953/21 and continuing with cases T 2401/19 and T 2702/19. The board announced a final decision in each of these three appeal cases on 5 February 2024, after having heard the parties in the other related cases.

The parties' **final requests** were as follows.

The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), or alternatively, that the patent be maintained as amended according to one of auxiliary requests 1 to 3 filed by letter dated 8 June 2018 or auxiliary requests 4 to 6 filed by letter dated 16 January 2024 or auxiliary requests 7 and 8 filed at the oral proceedings of 1 February 2024.

The respondent requested that the appeal be dismissed.

Once the parties had confirmed their final requests and the debate was closed, the oral proceedings were interrupted on 1 February 2024 at 18.33 hrs and were resumed on 5 February 2024 at 16.11 hrs. Immediately after resumption of the oral proceedings, the appellant filed an objection under Rule 106 EPC. The debate was re-opened only with respect to this objection. At 16.36 hrs the appellant filed an amended objection under Rule 106 EPC, which replaced the previously filed objection under Rule 106 EPC and reads as follows:

"Proprietor raises objection that there was a violation of the right to be heard (Art. 112a(2)(c) EPC in connection with Art. 113 EPC) during the appeal proceedings.

Reasons: During first instance opposition proceedings the opponent did not raise the argument that the patent would be insufficiently disclosed due to a claimed open-ended range, and the decision of the opposition division to revoke the patent was exclusively based on another alleged lack of sufficiency argument. In the response to proprietor's grounds of appeal the opponent likewise did not specifically address this argument, but only generally mentioned that features 1F, 1H and 1I would not be sufficiently disclosed over the whole claimed range in the context of a lack of sufficiency objection regarding the question whether the skilled person would be able to reproduce the invention at all. At the oral proceedings of appeal the question of the correctness of the decision of the opposition division was not discussed at all. Rather, the Board started with a discussion of sufficiency further to the points in [sic] had raised on its own motion in the preliminary opinion circulated prior to the hearing. When the proprietor then tried to defend itself against this by also referring to auxiliary requests filed prior to and at the hearing, the Board did not only respond to objections raised by the opponent regarding claims 3, 4 and 7 of the auxiliary requests, but out of its own motion raised on [sic] objection of alleged intermediate generalization of claim 1 of auxiliary request 7. When the proprietor then objected to the Board raising objections out of its own motion, the Board suggested that it did not do so, and then the opponent picked the objection raised by the Board. When the proprietor then tried to respond to this objection

by filing auxiliary request 8, the Board exercised its discretion to not admit auxiliary request 8 due to new complex matters which would be introduced. We submit that in those in [sic] circumstances, in which a completely new line of sufficiency arguments only surfaces in the preliminary opinion and at the hearing, the proprietor is deprived of the right to be heard in accordance with Art. 113 EPC in a fundamental manner if the proprietor is not allowed to defend itself based on an auxiliary request."

At the end of the oral proceedings on 5 February 2024, the Chair announced the board's decision.

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

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

characterized in that the number of conducting balls or pads consists of one of:

i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and

ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."

XII. Claim 1 of auxiliary request 1 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the

through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

wherein ~~characterized in that~~ the number of conducting balls or pads consists of one of:

i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and

ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."

XIII. Claim 1 of auxiliary request 2 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head ~~comprising~~ consisting of an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and

c) through silicon vias, including holes through the silicon substrate filled with a conducting material, to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

wherein ~~characterized in that~~ the number of conducting balls or pads consists of one of:

i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and

ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."

XIV. Claim 1 of auxiliary request 3 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

wherein ~~characterized in that~~ the number of conducting balls or pads consists of one of:

- i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and
- ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon;

and wherein the output video signal from the CMOS sensor (1) is carried by an electric current."

XV. Claim 1 of auxiliary request 4 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm, wherein a minimum dimension of the CMOS sensor is 0,5 x 0,5 mm,

characterized in that the number of conducting balls or pads consists of one of:

i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and

ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."

XVI. Claim 1 of auxiliary request 5 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens

assembly is 2,5 mm, wherein a minimum dimension of the CMOS sensor is 0,5 x 0,5 mm,

characterized in that the number of conducting balls or pads consists of one of:

i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and

ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), ~~whereby~~wherein a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."

XVII. Claim 1 of auxiliary request 6 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the maximum outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm, wherein a minimum dimension of the CMOS sensor is 0,5 x 0,5 mm,

characterized in that the number of conducting balls or pads consists of ~~one of:~~

~~i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and~~

~~ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."~~

XVIII. Claim 1 of auxiliary request 7 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a CMOS sensor (1), the CMOS sensor (1) comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and

c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the ~~maximum~~ outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

characterized in that the number of conducting balls or pads consists of ~~one of:~~

~~i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and~~

~~ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."~~

XIX. Claim 1 of auxiliary request 8 reads as follows (features added compared with claim 1 of the patent as granted are underlined and deleted features are ~~struck through~~):

"A video camera head comprising an objective lens assembly (20) and a 0.7mm x 0.7mm CMOS sensor (1), comprising a silicon substrate having:

- a) a front side at which circuitry is created;
- b) a back side comprising either conducting balls or pads; and
- c) through silicon vias to provide electrical connections between the circuitry created at the front side of the silicon substrate and the back side;

wherein the back side is patterned to provide electrical conductivity between the bottoms of the through silicon vias and either the conducting balls or pads; and

wherein the dimensions of said video camera head satisfy the following condition:

the ~~maximum~~ outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm,

characterized in that the number of conducting balls or pads consists of ~~one of:~~

~~i) four balls or pads, respectively connected to voltage input (Vdd), ground (Vss), shutter timing (SHTR), and video signal output current (POUT); and~~

~~ii) three balls or pads, respectively connected to voltage input (Vdd), ground (Vss), and video signal output current (POUT), whereby a predetermined value for the shutter timing (SHTR) is implemented in the circuitry of the silicon."~~

Reasons for the Decision

1. The appeal is admissible.

2. Mr Douma's authorisation

It is clear from the authorisation on file that the appellant's representative was authorised to grant sub-authorisations. Mr Douma was therefore validly authorised.

3. Oral submissions at the oral proceedings by Ms Birnbaum as an accompanying person

3.1 During oral proceedings under Article 116 EPC in the context of opposition or opposition appeal proceedings, a person accompanying the professional representative of a party may be allowed to make oral submissions on specific legal or technical issues on behalf of that party, otherwise than under Article 117 EPC, in addition to the complete presentation of the party's case by the professional representative. Such oral submissions cannot be made as a matter of right, but only with the permission of and at the discretion of the EPO (see decision G 4/95, OJ EPO 1996, 412, points 8 and 9 of the Reasons; Headnotes I and II(a)).

3.2 By letter dated 16 January 2024, the appellant informed the board that Ms Birnbaum, head of the appellant's IP department, would respond to new technical arguments that might be presented by the respondent.

3.3 The criteria set out in decision G 4/95 relate to the content and timing of the request by a party that its accompanying person be permitted to make oral submissions. These criteria governing the board's

discretion are aimed at ensuring that no oral submissions which take the opposing party by surprise and for which that party is not prepared are presented by or on behalf of a party. Accordingly, especially where such requests are made shortly before or at the oral proceedings, they should be refused unless there are exceptional circumstances or the opposing party agrees (see G 4/95, Order and point 10 of the Reasons). The respondent had no objection.

- 3.4 In view of the above, the board allowed Ms Birnbaum to make oral submissions at the oral proceedings as an accompanying person of the appellant's professional representative.
4. Re-opening the debate with respect to the appellant's objection under Rule 106 EPC
- 4.1 As to the significance of the closing of the debate, the Enlarged Board of Appeal confirmed in its decision G 12/91 (OJ EPO 1994, 285) that, as far as oral proceedings are concerned, it marks the moment up to which parties may submit observations. That moment is fixed by the decision-making department - having first heard the parties' submissions - to allow itself time to consider its decision. Once the debate has been closed, further submissions by the parties must be disregarded unless the decision-making department allows the parties to present comments within a fixed time limit or decides to re-open oral proceedings for further substantive debate of the issues (see G 12/91, point 3 of the Reasons). These considerations equally apply to proceedings before the boards of appeal (see decisions R 10/08, point 8 of the Reasons and R 14/10, point 6.1 of the Reasons). In the aftermath of decision G 12/91, the principle that no submissions may be made

by the parties after closure of the debate unless the board decides to re-open it was explicitly included in the Rules of Procedure of the Boards of Appeal (see Article 15(5) RPBA). Hence the closing and also, as a rule, the re-opening of the debate are at the board's discretion.

The re-opening of the debate constitutes an exception (see decision R 10/08, point 8 of the Reasons). In the board's view, this is justified because re-opening the debate at a stage where a conclusion or even a decision of the board could be taken after deliberation would undoubtedly lead to delays (see also T 577/11, point 3.1 of the Reasons).

If the debate on an issue has been closed without a decision being announced, it is at the discretion of the board not only whether to re-open the debate, but also to what extent (see T 577/11, point 3.1 of the Reasons and T 1656/17, point 3.3 of the Reasons). This is in line with the exceptional nature of re-opening the debate as it allows further discussion to be limited to what is needed, thus avoiding unnecessary and procedurally inefficient repetition of the entire earlier debate (see also T 577/11, point 3.1 of the Reasons).

- 4.2 In the case at hand, the parties confirmed their final requests at the end of the first day of the oral proceedings (1 February 2024) and the debate was then closed shortly before the oral proceedings were interrupted at 18.33 hrs. The oral proceedings were resumed on 5 February 2024 at 16.11 hrs. Shortly thereafter, the appellant filed an objection under Rule 106 EPC on the grounds that its right to be heard under Article 113(1) EPC had been violated during the

oral proceedings on 1 February 2024.

- 4.3 According to the case law, the purpose of Rule 106 EPC is to give the board a chance to react immediately and appropriately by either removing the cause of the objection or by dismissing it, thereby ensuring legal certainty for the parties and the public as to whether the ensuing substantive decision of the board is open to review under Article 112a EPC (see Case Law of the Boards of Appeal of the European Patent Office, 10th edition 2022, "Case Law", V.B.3.6.1).

In view of the purpose of an objection under Rule 106 EPC, the board considered it appropriate to re-open the debate, but only with respect to the appellant's objection under Rule 106 EPC.

5. Admittance of documents A1 to A3
(Article 12(4) RPBA 2007)
- 5.1 In the current case the statement of grounds of appeal was filed before the revised version of the Rules of Procedure of the Boards of Appeal entered into force, i.e. before 1 January 2020 (RPBA - see OJ EPO 2019, A63). Thus, in accordance with Article 25(2) RPBA, Article 12(4) to (6) RPBA does not apply. Instead, Article 12(4) of the Rules of Procedure of the Boards of Appeal in the version of 2007 (RPBA 2007 - see OJ EPO 2007, 536) continues to apply.
- 5.2 According to Article 12(4) RPBA 2007, everything presented by the parties under Article 12(1) RPBA 2007 has to be taken into account by the board if and to the extent it relates to the case under appeal and meets the requirements in Article 12(2) RPBA 2007. However, the board has the discretionary power to hold

inadmissible facts, evidence and requests which could have been presented in the first-instance proceedings.

- 5.3 The board notes that the appellant submitted documents A1 to A3 with its statement of grounds of appeal as further evidence relating to the ground for opposition under Article 100(b) EPC (see statement of grounds of appeal, point 15, last sentence).
- 5.4 Since the opposition division in its preliminary opinion attached to the summons adopted the view of the appellant (see communication attached to the summons, point 6), the appellant had no reason to present documents A1 to A3 already in preparation for the oral proceedings before the opposition division.
- 5.5 The respondent did not object to the admittance of documents A1 to A3.
- 5.6 In view of the above, the board takes documents A1 to A3 into account in the appeal proceedings, under Article 12(4) RPBA 2007.
6. Admittance of documents A4 to A7 (Article 13(1) RPBA)
- 6.1 Under Article 13(1) RPBA, which applies in the case at hand pursuant to Article 25(1) RPBA, any amendment to a party's appeal case after it has filed its grounds of appeal or reply is subject to the party's justification for its amendment and may be admitted only at the discretion of the board.

The board is to exercise its discretion in view of, *inter alia*, the current state of the proceedings, the suitability of the amendment to resolve the issues which were admissibly raised by another party in the

appeal proceedings or which were raised by the board, and whether the amendment is detrimental to procedural economy.

6.2 The appellant's letter dated 30 September 2022 and the attached documents A4 to A7 were filed after the appellant had filed its statement of grounds of appeal. These documents are therefore amendments to the appellant's appeal case within the meaning of Article 13(1) RPBA.

6.3 The appellant argued as follows.

- (a) The filing of documents A4 to A7 was caused by new developments that occurred after the appellant had filed its statement of grounds of appeal (see appellant's letter dated 30 September 2022, points 1 and 2). These developments related to document A4, which is a copy of the decision of an opposition division of the EPO on European patent No. 2 621 158 resulting from a divisional application of the application on which the current patent is based.
- (b) Document A5 was a relevant document cited in document A4 which had not yet been available when the appellant had to file its statement of grounds of appeal in the current case (see appellant's letter dated 30 September 2022, point 6).
- (c) Documents A6 and A7 were filed as proof of common general knowledge about multiplexing in reaction to an argument submitted by the respondent in their reply to the statement of grounds of appeal (see appellant's letter dated 30 September 2022, points 13 and 14).

6.4 The respondent submitted that documents A4 to A7 should not be admitted into the appeal proceedings, and argued as follows.

(a) It had taken the appellant more than two years and five months to respond to the respondent's reply to the statement of grounds of appeal and to submit these documents. However, all these documents had been available to the appellant for some time and could therefore have been submitted much earlier in the appeal proceedings. For instance, document A5 was dated 11 December 2019. Had these documents been filed earlier, the respondent could already have addressed them in their reply.

(b) The appellant had not provided reasons for submitting these documents at this late stage of the appeal proceedings.

(c) These documents were not suitable to resolve the issue of insufficiency of disclosure.

6.5 The board finds that, contrary to the respondent's view, the appellant has indeed provided reasons why documents A4 to A7 were submitted at this stage of the appeal proceedings (see point 6.3 above).

The board is not convinced that documents A4 to A7 can be disregarded as irrelevant from the outset.

It is true that documents A4 to A7 were filed more than two years after the respondent's reply to the statement of grounds of appeal. However, they were still filed more than a year before the oral proceedings before the board, so the respondent and the board had sufficient

time to consider their content. Therefore the board finds that admitting these documents into the appeal proceedings is not detrimental to procedural economy.

6.6 In view of the above, the board exercised its discretion under Article 13(1) RPBA and decided to admit documents A4 to A7 into the appeal proceedings.

7. Patent as granted (main request) - ground for opposition under Article 100(b) EPC - insufficiency of disclosure

7.1 The ground for opposition under Article 100(b) EPC prejudices the maintenance of the European patent if it does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art.

The claimed invention must be sufficiently disclosed, based on the patent specification as a whole, including examples, and taking into account the common general knowledge of the person skilled in the art. At least one way of enabling the person skilled in the art to carry out the invention must be disclosed, but this is sufficient only if it allows the invention to be performed in the whole range claimed (see Case Law, II.C.1).

An objection of lack of sufficiency of disclosure presupposes that there are serious doubts, substantiated by verifiable facts, and it depends on the evidence available in each case whether or not a claimed invention can be considered as enabled on the basis of the disclosure of one worked example (see e.g. decisions T 226/85, OJ EPO 1988, 336; T 409/91,

OJ EPO 1994, 653; and T 694/92, OJ EPO 1997, 408; see also Case Law, II.C.5.3).

It is established case law of the boards of appeal that the requirements of sufficiency of disclosure are met if the person skilled in the art can carry out the invention as defined in the independent claims over the whole scope of the claims without undue burden using their common general knowledge (see e.g. decisions T 409/91; T 435/91, OJ EPO 1995, 188; see also Case Law, II.C.5.4).

Claims may be considered insufficiently disclosed if they cover, through open-ended ranges, embodiments that could not be obtained with the process disclosed in the patent, but which might be obtainable with different methods still to be invented in the future (see decision T 1697/12, points 5.5.3 and 5.5.4 of the Reasons; see also Case Law, II.C.5.5.2).

The requirement of sufficiency of disclosure does not refer to those variants falling under the literal wording of the claim which the skilled person would immediately exclude as being clearly outside the scope of practical application of the claimed subject-matter, for example claims including an open-ended range for a parameter where it was clear to a skilled person that the open-ended range was limited in practice. Values of the parameter which were not obtainable in practice would not be regarded by the skilled person as being covered by the claims and thus could not justify an objection of insufficiency of disclosure (see Case Law, II.C.8.1).

7.2 In opposition proceedings, the burden of proof initially lies with the opponent, who must establish,

on the balance of probabilities, that a skilled person reading the patent, using common general knowledge, would be unable to carry out the invention. This means that the opponent initially also bears the burden of proving that the invention cannot be carried out within the whole range claimed (see also Case Law, II.C.8.1).

When the patent does not give any information as to how a feature of the invention can be put into practice, only a weak presumption exists that the invention is sufficiently disclosed. In such a case, the opponent can discharge its burden of proof by plausibly arguing that common general knowledge would not enable the skilled person to put this feature into practice.

If the opponent has discharged its burden of proof and so conclusively established the facts, the patent proprietor then bears the burden of proving the alleged facts. It is then up to the patent proprietor to prove the contrary, i.e. that the skilled person's common general knowledge would enable them to carry out the invention (see Case Law, II.C.9.1).

7.3 Claim 1 of the granted patent defines a video camera head comprising an objective lens assembly and a CMOS sensor.

Claim 1 of the granted patent specifies that "*the maximum outer diameter of said video camera head is 1,1mm*".

This means that claim 1, in principle, encompasses video camera heads with outer diameters between zero and 1.1 mm.

7.4 The respondent argued that the patent did not disclose how to carry out the invention as defined in claim 1 over the whole scope. In particular, it was not disclosed how to carry out the invention for very small values of the maximum outer diameter of the video camera head, i.e. for values below 0.5 mm which fell under the terms of claim 1.

Furthermore, no reasonable lower limit for the maximum outer diameter of the video camera head was known or derivable from the patent.

7.5 The appellant argued that according to claim 1 the video camera head comprised an objective lens assembly and a CMOS sensor. The CMOS sensor comprised a silicon substrate having a back side comprising either conducting balls or pads and through silicon vias. According to the patent, these components of the video camera head, and in particular the CMOS sensor having a certain number of pads, had certain minimum sizes.

The presence of these components required by the claim and their minimum dimensions defined an implicit lower limit for the maximum outer diameter of the video camera head.

7.6 The board is not convinced by the appellant's argument that from the example given in the patent of a 0.5 x 0.5 mm CMOS sensor the person skilled in the art would understand that this is the smallest implementable size of a CMOS sensor and that lower values would be nonsensical.

It would not be unreasonable to try to further reduce the size of the CMOS sensor by using fewer pixels at a given pixel size. This is because paragraph [0007] of

the patent discloses that *"a compromise must be made based on the primary goal of the device, i.e. whether a small diameter is more important than a high-quality image"*. Hence the board finds that the person skilled in the art would have understood that the sensor size may be further reduced at the expense of some image quality.

There is a lower limit to the number of pixels because otherwise the resolution would have been too low and the space needed for the illumination means would have been too large in relation to the size of the CMOS sensor. However, it is not apparent to the board where this limit is because there is no clear boundary between when a visualisation probe could and could not be considered to yield insufficient image quality. Therefore no clear limit can be derived from this consideration as to which sensor sizes the person skilled in the art would exclude as nonsensical.

The board is also not convinced that the situation dealt with in decision T 2773/18 is comparable with the case at hand because in that decision the relevant claim did not contain an open-ended range.

7.7 The board agrees with the appellant that the number of pads on the back side of the silicon substrate specified in claim 1 (three or four) and their minimum size may imply a lower limit to the CMOS sensor size. However, even if the person skilled in the art were to interpret the phrase in paragraph [0009] of the patent *"Since current technologies suggest that each pad has a minimum dimension (150 to 350 microns)"* as defining what could be implemented on the priority date of the patent and take these values as read, the board is not convinced that the person skilled in the art would rule

out any values below 150 microns as nonsensical. Therefore the board is not convinced that the person skilled in the art could derive from this phrase an implicit lower limit for the maximum outer diameter of the visualisation probe below which they would consider the values to be nonsensical.

- 7.8 In conclusion, the person skilled in the art, using their common general knowledge, could not derive from the patent a limit for the values of the maximum outer diameter of the video camera head below which they would immediately exclude variants as being clearly outside the scope of practical application of the claimed subject-matter and thus could not justify an objection of insufficiency of disclosure. Hence the respondent plausibly argued that the patent does not disclose how to carry out the invention over the whole effective claimed range of the maximum outer diameter of the medical device, i.e. also for values of this maximum outer diameter below 0.5 mm.
- 7.9 The board notes that documents A1 to A7 filed by the appellant do not concern the above issue of a lower limit for the maximum outer diameter of the visualisation probe. Nor did the parties rely upon these documents in this respect.
- 7.10 In view of the above, the ground of opposition under Article 100(b) EPC prejudices the maintenance of the patent as granted.
8. Auxiliary requests 1 to 3 - sufficiency of disclosure (Article 83 EPC)

- 8.1 Claim 1 of auxiliary requests 1 to 3 contains the same feature, quoted under point 7.3 above, as claim 1 of the patent as granted.
- 8.2 Therefore the invention as claimed in claim 1 of auxiliary requests 1 to 3 is insufficiently disclosed for the same reasons as those set out under point 7. above for claim 1 of the patent as granted.
- 8.3 The parties had no comments.
- 8.4 Hence the board finds that auxiliary requests 1 to 3 do not meet the requirements of Article 83 EPC.
9. Auxiliary requests 4 to 6 - admittance (Article 13(2) RPBA)
- 9.1 Under Article 13(2) RPBA as in force from 1 January 2024 (see OJ EPO 2023, A103), any amendment to a party's appeal case after notification of a communication under Article 15(1) RPBA will, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

When exercising its discretion under Article 13(2) RPBA, the board may also rely on the criteria set out in Article 13(1) RPBA (see, for example, decisions T 954/17, point 3.10 of the Reasons; T 989/15, point 16.2 of the Reasons; T 752/16, point 3.2 of the Reasons; and Supplementary publication 2, OJ EPO 2020, Table setting out the amendments to the RPBA and the explanatory remarks, Explanatory remarks on Article 13(2), fourth paragraph: "*At the third level of the convergent approach, the Board may also rely on criteria applicable at the second level of the*

convergent approach, i.e. as set out in proposed new paragraph 1 of Article 13").

Under Article 13(1) RPBA, a board exercises its discretion as to whether to admit a new request in view of, inter alia, whether the party has demonstrated that any such amendment, prima facie, overcomes the issues raised by another party in the appeal proceedings or by the board and does not give rise to new objections.

9.2 Auxiliary requests 4 to 6 were filed after notification of the board's communication under Article 15(1) RPBA and are therefore amendments to the appellant's case within the meaning of Article 13(2) RPBA.

Claim 1 of auxiliary requests 4 to 6 contains the following amended feature: "*wherein a minimum dimension of the CMOS sensor is 0,5 x 0,5 mm*".

9.3 The appellant argued as follows.

(a) Auxiliary requests 4 to 6 were filed as a direct response to the new sub-objection of insufficient disclosure due to an open-ended range of the maximum outer diameter of the video camera head introduced by the board in point 8.6 of its communication under Article 15(1) RPBA. Prior to this communication, this sub-objection of insufficient disclosure had never been an issue in the proceedings.

(b) According to claim 1 of auxiliary requests 4 to 6, the video camera head comprised a CMOS sensor. Specifying a minimum size of the CMOS sensor thus defined an effective minimum size of the video camera head. This resolved the issue of an

open-ended lower range of the video camera's maximum outer diameter.

- (c) The patent disclosed CMOS sensors of sizes 0.7 x 0.7 mm and 0.5 x 0.5 mm in paragraphs [0071] and [0076] of the patent, respectively. Hence the minimum disclosed CMOS sensor size was 0.5 x 0.5 mm.

9.4 The respondent argued as follows.

- (a) They had previously raised this issue in points 3.4 and 3.8 of their letter dated 17 April 2020.
- (b) The amended feature did not resolve the issue at stake, namely the claimed open-ended range of the maximum outer diameter of the video camera head, as there was no established relationship between the dimension of the CMOS sensor and the outer diameter of the video camera head.
- (c) There was no disclosure in the patent that a CMOS sensor size of 0.5 x 0.5 mm was the minimum possible dimension.

9.5 The board takes the view that in point 8.6 of its communication a new aspect of the objection of insufficient disclosure had indeed been introduced, namely the issue of insufficiency of disclosure due to an open-ended range of the maximum outer diameter of the video camera head. In point 3.4 of their letter dated 17 April 2020, the respondent argued that it was unclear how to achieve such a "*drastic reduction of size and number of balls compared to what was known in the art before the filing of the application*". In point 3.8 of the same letter it was stated that "*it*

cannot be expected that it is per se possible to perform the drastic reduction of the number of pads for all CMOS sensors available before the filing date of patent in suit". These points thus addressed the question of whether the patent sufficiently disclosed how to reduce the number of pads for all types of CMOS sensors. However, the respondent's letter dated 17 April 2020 did not address the issue of an open-ended range of the maximum outer diameter of the video camera head.

Therefore the board acknowledges that there are exceptional circumstances within the meaning of Article 13(2) RPBA.

- 9.6 It is true that page 34, lines 7 to 13 and page 35, lines 17 to 19 of the application as filed (corresponding to paragraphs [0071] and [0075] of the patent) disclose CMOS sensor sizes of 0.7 x 0.7 mm and 0.5 x 0.5 mm, respectively. However, it is not immediately apparent from these passages that a CMOS sensor size of 0.5 x 0.5 mm is the minimum possible dimension, i.e. that it would not be possible to further reduce the CMOS sensor size for example by reducing the number of pixels therein.

Hence the amended feature in claim 1 of auxiliary requests 4 to 6, prima facie, gives rise to a new objection under Article 123(2) EPC.

- 9.7 Therefore the board exercised its discretion under Article 13(2) RPBA, taking into account the criteria of Article 13(1) RPBA, and decided not to admit auxiliary requests 4 to 6 into the appeal proceedings.
10. Auxiliary request 7 - admittance (Article 13(2) RPBA)

10.1 Auxiliary request 7 is an amendment to the appellant's case within the meaning of Article 13(2) RPBA, since it was filed at the oral proceedings before the board and hence after notification of the board's communication under Article 15(1) RPBA.

Claim 1 of auxiliary request 7 contains the following amended feature: "*the outer diameter of said video camera head is 1,1mm*".

10.2 The appellant argued that there were exceptional circumstances within the meaning of Article 13(2) RPBA because the respondent's letter dated 17 January 2024 and the discussion during the oral proceedings before the board had revealed a new aspect. This new aspect was that it may be questioned whether there was an established relationship between the dimension of the CMOS sensor and the outer diameter of the video camera head. This new aspect was addressed by the amendments to claim 1. The outer diameter of the video camera head (and thus also its minimum outer diameter) was now specified directly, not via a minimum dimension of the CMOS sensor comprised in the video camera head.

10.3 The respondent argued that the appellant should have filed auxiliary request 7 promptly in reply to the board's communication.

10.4 The board takes the view that in point 8.6 of its communication pursuant to Article 15(1) RPBA a new aspect of the objection of insufficient disclosure had indeed been introduced (see point 9.5 above), to which the appellant reacted by filing auxiliary requests 4 to 6. The board agrees with the appellant that in the assessment of these auxiliary requests during the oral

proceedings further aspects were revealed and new objections were raised. This sequence of events may be considered as exceptional circumstances within the meaning of Article 13(2) RPBA. It is further noted that, when exercising its discretion under Article 13(2) RPBA, the board may also apply the criteria set out in Article 13(1) RPBA, but is not required to do so (see point 9.1 above). In the case at hand, the board finds that, regarding the admittance of auxiliary request 7, the presence of exceptional circumstances in view of the above-mentioned sequence of events is a sufficient reason to exercise its discretion under Article 13(2) RPBA in the appellant's favour. Thus the board does not need to consider the criteria of Article 13(1) RPBA.

10.5 Therefore the board exercised its discretion under Article 13(2) RPBA and decided to admit auxiliary request 7 into the appeal proceedings.

11. Auxiliary request 7 - allowability

11.1 The respondent raised the following objections against auxiliary request 7.

(a) Claim 1: there was no basis in the application as filed (Article 123(2) EPC) for the outer diameter of the video camera head being 1.1 mm without specifying the CMOS sensor size being 0.7 x 0.7 mm. Page 35, lines 1 to 15 of the application as filed (corresponding to paragraph [0075] of the patent as granted) read in the relevant part: "*The sensor is the 0.7mmx0.7mm sensor described herein above. The diameter of the camera head 90 is 1.1mm*". This showed that the camera head diameter of 1.1 mm was

only disclosed in combination with a 0.7 x 0.7 mm CMOS sensor.

- (b) Claim 3: the amendment reading "*of the CMOS sensor*" was a mere clarification. This amendment was not occasioned by a ground for opposition, contrary to the requirements of Rule 80 EPC.
- (c) Claim 4: by changing the term "*back side illumination fabrication technology*" to "*back side illumination technology*" the scope of protection was extended, contrary to the requirements of Article 123(3) EPC.
- (d) Claim 7: contrary to Article 123(2) EPC, there was no basis in the application as filed for the claimed pixel cell dimensions in a "*CMOS sensor*". Page 24, lines 7 to 15 of the application as filed (corresponding to paragraph [0042] of the patent as granted) provided a basis for the claimed pixel cell dimensions only in a "*solid state imager*".

11.2 The appellant argued as follows.

- (a) Claim 1: page 43, lines 1 to 9 of the application as filed (corresponding to paragraph [0102] of the patent as granted) disclosed a video camera head diameter of 1.1 mm without a restriction to a 0.7 x 0.7 mm CMOS sensor. The same was disclosed on page 6, lines 24 to 28 of the application as filed (corresponding to paragraph [0018] of the patent as granted). The diameter of a video camera head as shown in Figure 26A was determined by the maximum diameter of the various components, such as lenses, glass substrate and silicon substrate. Hence there was no direct link between a specific CMOS sensor size and the resulting video camera head diameter.
- (b) Claim 3: the amendment was a reaction to an objection under Article 123(2) EPC raised by the

respondent during the first-instance opposition proceedings.

- (c) Claim 4: the scope of protection was determined by the independent claims, i.e. claim 1, which specified a general CMOS sensor. An amendment to a dependent claim, i.e. claim 4, further restricting the CMOS sensor could not change the scope of protection.
- (d) Claim 7: the person skilled in the art would have understood that a CMOS sensor was a special case of a solid state imager. This was disclosed on page 17, lines 5 to 9 (corresponding to paragraph [0028], lines 40 to 42 of the patent as granted), stating: "*The term 'solid state imager' or in brief, 'SSI', as used herein, indicates any suitable solid state image pick up device (for instance a CMOS or a CCD)*". Furthermore, page 23, lines 1 to 15 of the application as filed (corresponding to paragraph [0039] of the patent as granted) disclosed a 0.7 x 0.7 mm CMOS sensor. Hence the reference to a "*solid state imager with dimensions 700microns X 700 microns*" on page 24, lines 7 to 15 of the application as filed (corresponding to paragraph [0042] of the patent as granted) would have been understood by the person skilled in the art as a reference to the above-defined CMOS sensor. Claim 7 did not need to be restricted to a CMOS sensor size of 0.7 x 0.7 mm because it only specified possible dimensions of a pixel cell. These possible dimensions of a pixel cell were independent of the number of pixel cells and thus of the CMOS sensor size.

11.3 The board is convinced by the respondent's argument that the person skilled in the art would have understood from page 35, lines 1 to 15 of the

application as filed (corresponding to paragraph [0075] of the patent as granted) that the sensor size of 0.7 x 0.7 mm was directly linked to the diameter of the camera head. This understanding is not changed by Figure 26A (and the corresponding part of the description) because this figure shows a silicon substrate covering the entire diameter of the video camera head. Hence the sizes of lenses and glass substrate would be adapted to the diameter of the silicon substrate. Furthermore, this understanding is confirmed by the passage on page 35, lines 17 to 19 of the application as filed (corresponding to paragraph [0076] of the patent), disclosing that by using a smaller sensor and smaller light-emitting components it would have been possible to reduce the diameter of the distal tip. As shown for example in Figure 6, the diameter of the distal tip is almost the same as the diameter of a video camera head inside it. Hence the person skilled in the art would have understood that using a smaller sensor allows a video camera head with a smaller diameter.

In view of the above, the board finds that specifying the outer diameter of the video camera head to be 1.1 mm without specifying the CMOS sensor size to be 0.7 x 0.7 mm is an unallowable intermediate generalisation. Therefore claim 1 of auxiliary request 7 does not meet the requirements of Article 123(2) EPC. As a consequence, auxiliary request 7 is not allowable.

12. Auxiliary request 8 - admittance (Article 13(2) RPBA)

12.1 Auxiliary request 8 is an amendment to the appellant's case within the meaning of Article 13(2) RPBA, since it was filed at the oral proceedings before the board and

thus after notification of the board's communication under Article 15(1) RPBA.

Claim 1 of auxiliary request 8 has been amended to specify the following:

"A video camera head comprising an objective lens assembly (20) and a 0.7mm x 0.7mm CMOS sensor (1)[...] wherein the dimensions of said video camera head satisfy the following condition:

the outer diameter of said video camera head is 1,1mm and the maximum length of said objective lens assembly is 2,5 mm".

12.2 The appellant argued that there were exceptional circumstances within the meaning of Article 13(2) RPBA. The objection against claim 1 of auxiliary request 7 that specifying the outer diameter of the video camera head without specifying the CMOS sensor size was an unallowable intermediate generalisation had only been raised during the oral proceedings before the board.

As a basis for the amendments to claim 1, the appellant referred to page 35, lines 1 to 15, page 6, lines 24 to 28, and claim 1 of the application as filed. The appellant also referred to page 39, line 12 ff and Table 4 on page 41 of the application as filed.

The appellant argued that the objection of added subject-matter against claim 1 of auxiliary request 7 had been resolved by specifying the specific CMOS sensor size of 0.7 x 0.7 mm in claim 1.

Furthermore, all dependent claims against which objections had been raised had been deleted.

12.3 The respondent argued that there were no exceptional circumstances within the meaning of Article 13(2) RPBA because the matter at issue had been discussed throughout the appeal proceedings.

Moreover, the discussion on Article 123(2) EPC with respect to claim 1 of auxiliary request 8 would be complex since there was prima facie no clear and unambiguous disclosure of the claimed combination of features in the application as filed.

12.4 The board acknowledges that there are exceptional circumstances within the meaning of Article 13(2) RPBA.

However, as explained above (see point 9.1), when exercising its discretion under Article 13(2) RPBA, the board may also rely on the criteria set out in Article 13(1) RPBA.

The appellant indicated numerous passages of the application as filed as a basis for the feature quoted in point 12.1 above. However, those passages that illustrate the existing relationship between the sensor size, the field of view (FOV) and the length of the lens do not disclose at first sight that the length of the lens assembly may be as small as 1 mm or less. The passage disclosing the claimed values of the outer diameter of the video camera head and the length of the objective lens assembly does not disclose at first sight a CMOS sensor of 0.7 x 0.7 mm. Thus none of the passages cited by the appellant provides prima facie a clear and unambiguous disclosure for the combination of features cited in point 12.1 above. As argued by the respondent, a comprehensive analysis of the issue of added subject-matter would require close scrutiny and

complex assessment of the disclosure of passages which at first sight are not linked.

Hence the board agrees with the respondent that there is prima facie no clear and unambiguous disclosure in the application as filed of the combination of the features "a 0.7mm x 0.7mm CMOS sensor", "the outer diameter of said video camera head is 1,1mm" and "the maximum length of said objective lens assembly is 2,5 mm", i.e. any length of the objective lens assembly below 2.5 mm.

- 12.5 In view of the above, the appellant has not demonstrated that the amendments to claim 1, prima facie, do not give rise to a new objection under Article 123(2) EPC.
- 12.6 Therefore the board exercised its discretion under Article 13(2) RPBA, taking into account the criteria of Article 13(1) RPBA, and decided not to admit auxiliary request 8 into the appeal proceedings.
13. Appellant's objection under Rule 106 EPC
 - 13.1 The appellant's objection was based on the ground under Article 112a(2)(c) EPC, i.e. that a fundamental violation of its right to be heard under Article 113 EPC had occurred during the appeal proceedings.
 - 13.2 The appellant confirmed at the oral proceedings before the board that auxiliary request 8 was the request for which, in its view, the right to be heard had not been respected by the board. The appellant argued as follows.

The board should not have asked for the basis for a specific claimed combination of features in the application as filed when applying the criteria under Article 13(1) RPBA. Moreover, when the board asked the appellant to indicate a basis for the amendments in claim 1 of auxiliary request 8, it had effectively raised an objection of intermediate generalisation against that claim of its own motion.

The appellant had not been in a position to fully defend its new auxiliary request 8, as this request was not discussed in full at the oral proceedings. The appellant acknowledged that, as with the other requests in question, the admittance of auxiliary request 8 was discussed first. However, even the discussion on the admittance of this request was cut short with the argument that it would have been too complex to discuss Article 123(2) EPC.

- 13.3 The respondent submitted that the appellant had had sufficient opportunity to file amended claims of auxiliary requests and that the appellant's auxiliary requests had been discussed in the proceedings before the board. The fact that these requests gave rise to new objections lay entirely in the sphere of responsibility of the appellant.
- 13.4 Article 113(1) EPC states that the decisions of the EPO may only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments. This provision guarantees that proceedings before the EPO are conducted openly and fairly (see J 20/85, OJ EPO 1987, 102, point 4 of the Reasons; J 3/90, OJ EPO 1991, 550, point 12 of the Reasons). It is established case law of the boards of appeal that the opportunity to present comments and

arguments guaranteed by Article 113(1) EPC is a fundamental principle of the procedures before the EPO (see e.g. T 1123/04, point 2.2.4 of the Reasons).

- 13.5 Applying these principles to the case at hand, the board concludes that the parties' right to be heard under Article 113(1) EPC was respected for the following reasons.
- 13.6 As is apparent from the minutes of the oral proceedings before the board, the parties had ample opportunity to present their comments on the issues discussed, including the question of admittance of auxiliary request 8. At the oral proceedings before the board, the appellant also confirmed that the parties had always been asked whether they had further comments or requests before the board deliberated and that the appellant had been given sufficient time when it had asked for a break. Moreover, it is evident from the minutes of the oral proceedings before the board that the appellant did comment on the respondent's objection to the admission of auxiliary request 8 on the grounds that the discussion on Article 123(2) EPC with respect to claim 1 would prima facie be complex. Therefore the board cannot accept the appellant's argument that the discussion on the admittance of auxiliary request 8 was cut short.

In addition, even if there are exceptional circumstances within the meaning of Article 13(2) RPBA, this does not mean that all new auxiliary requests filed by the appellant in response have to be admitted. The board has discretion under Article 13(2) RPBA and, in exercising that discretion, may also take into account the criteria of Article 13(1) RPBA and base its discretionary decision on the admittance of an

auxiliary request on those criteria (see point 9.1 above).

Under Article 13(1) RPBA, a board exercises its discretion as to whether to admit a new request in view of, *inter alia*, whether the party has demonstrated that any such amendment, *prima facie*, overcomes the issues raised by another party in the appeal proceedings or by the board and does not give rise to new objections. Therefore the board finds that it was justified to discuss - on a *prima facie* level - whether the amendments to claim 1 of auxiliary request 8 overcame the issues raised by the respondent and whether these amendments gave rise to new objections, in particular a new objection of added subject-matter. The board agrees with the respondent that if amended claims give rise to new objections this is the sole responsibility of the party that filed those claims.

In this context, one standard question usually put to the party filing amended claims for the first time at the oral proceedings is for it to indicate the basis for the amendments in the application as filed, unless that party has done so on its own initiative. Therefore, in the present case, the appellant was invited to indicate where in the application as filed there was a basis for the combination of features defined in claim 1 of auxiliary request 8. It is not apparent to the board how simply asking this standard question could constitute raising a new objection of added subject-matter of its own motion.

The board is also not convinced by the appellant's argument that its right to be heard under Article 113(1) EPC was violated because it was not able to defend its case as auxiliary request 8 was not

discussed in full at the oral proceedings. The appellant is in effect stating that it disagrees with the board's discretionary decision not to admit auxiliary request 8 into the appeal proceedings. However, if a party disagrees with a discretionary decision of the board on the admittance of requests or documents, this cannot mean that its right to be heard under Article 113(1) EPC has therefore been violated. If it did, a party could deprive any such decision by the board unfavourable to it of its effect. This would clearly be unacceptable. Therefore, the board finds that the appellant's right to be heard under Article 113(1) EPC was not infringed.

13.7 In view of the above, the board dismissed the appellant's objection under Rule 106 EPC.

14. Conclusion

Since none of the appellant's requests is allowable, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated