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

Case Number: T 0953/21 - 3.5.04

Application Number: 13165042.6

Publication Number: 2621158

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 visualization probes

Patent Proprietor:
Odysight.AI Ltd

Opponent:
Keck, Stephan

Headword:

Relevant legal provisions:
EPC Art. 83, 99(1), 100(b), 108 sentence 2
EPC R. 6(4), 76(2)(a), 6(5)
RPBA Art. 13(1) (2007), 13(2) (2007)
RFees Art. 2(1), item 11

Keyword:

Oral submissions by an accompanying person (yes)
Admissibility of the opposition (yes)
Admissibility of the opponent's appeal (yes)
Sufficiency of disclosure - main request (no) - auxiliary
request 1 and 2 (no)
Auxiliary requests 3 to 5 - amendment after board's
communication - admitted (no)

Decisions cited:

G 0001/18, G 0003/97, G 0003/99, G 0004/95, G 0004/97,
G 0009/93, J 0014/19, T 0025/85, T 0226/85, T 0409/91,
T 0435/91, T 0694/92, T 0798/93, T 0590/94, T 1697/12,
T 0989/15, T 0752/16, T 2638/16, T 0954/17, T 1839/18,
T 2091/18, T 2773/18, T 0084/19, T 0149/21, T 0867/21,
T 1731/21

Catchword:



Beschwerdekammern

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Case Number: T 0953/21 - 3.5.04

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

Appellant I:
(Patent Proprietor)

Odysight.AI Ltd
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Representative:

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Appellant II:
(Opponent)

Keck, Stephan
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Representative:

Witte, Weller & Partner Patentanwälte mbB
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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 May 2021 concerning maintenance of the
European Patent No. 2621158 in amended form.**

Composition of the Board:

Chair

B. Willems

Members:

A. Seeger

T. Karamanli

Summary of Facts and Submissions

- I. The present appeals arise from the interlocutory decision of the opposition division finding that European patent No. 2 621 158 ("the patent") as amended according to the second auxiliary request filed on 2 March 2021 met the requirements of the EPC.
- II. Notice of opposition to the patent was filed by Mr Stephan Keck (opponent). The grounds for opposition were the following.
- (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 patent extended beyond the content of the application as filed (Article 100(c) EPC).
- III. In its interlocutory decision the opposition division reached the following conclusions.
- (a) The ground for opposition under Article 100(b) EPC did not prejudice the maintenance of the patent as granted. However, the ground for opposition mentioned in Article 100(c) EPC prejudiced the maintenance of the patent as granted because the word "whereby" in the definition of the feature *"the number of conducting balls or pads consists of 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" of claim 1 defined a causal relationship which was not disclosed in the application as filed on which the patent was based.

- (b) The first auxiliary request then on file was not allowable because the subject-matter of claims 3 and 5 was not directly and unambiguously derivable from the content of the parent application as filed and therefore the requirements of Article 76(1) EPC were not met.
- (c) The second auxiliary request then on file met the requirements of the EPC.

- IV. Both the patent proprietor and the opponent filed notice of appeal. The opponent paid the reduced appeal fee in accordance with Article 2(1), item 11 of the Rules relating to Fees (RFees).
- V. By letter dated 25 June 2021, the opponent filed a declaration in accordance with Rule 6(6) EPC then in force that they were a natural person within the meaning of Rule 6(4)(b) EPC then in force.
- VI. In its statement setting out the grounds of appeal, the patent proprietor submitted that the opposition was filed by the opponent as a straw man and that it was inadmissible for several reasons.

The patent proprietor also provided arguments as to why the ground for opposition under Article 100(c) EPC did not prejudice the maintenance of the patent as granted and why claims 3 and 5 of the first auxiliary request, on which the decision under appeal was based, met the requirements of Article 76(1) EPC. It agreed with the finding in the decision under appeal with regard to the second auxiliary request.

- VII. In their statement setting out the grounds of appeal, the opponent challenged the opposition division's finding in its decision on Article 100(b) EPC that the disclosure of the patent specification was sufficient to enable a person skilled in the art to carry out the invention. They also provided arguments as to why the second auxiliary request, on which the decision under appeal was based, did not meet the requirements of Articles 123(2), (3) and 56 EPC.
- VIII. By letter dated 26 January 2022, the opponent filed a reply to the patent proprietor's statement of grounds of appeal. They disputed that their opposition was inadmissible and, referring to their statement of grounds of appeal, reiterated their view that the patent as granted was invalid.
- IX. By letter dated 27 January 2022, the patent proprietor filed a reply to the opponent's statement of grounds of appeal. It argued, inter alia, that the opponent's appeal was inadmissible, and gave reasons for this. Furthermore, it refuted the opponent's objections.
- X. The board issued a summons to oral proceedings. In a communication under Article 15(1) RPBA dated 6 December 2023, the board invited the opponent under Rule 77(2) EPC to remedy the deficiencies (lack of indication of their nationality and country of residence) in their notice of opposition within a period of two months. The board also 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 required individual authorisation or a reference to a general authorisation which

indicated that the patent proprietor's representative was entitled to sub-authorise was lacking from the file.

- (b) Concerning the admissibility of the opposition, the address indicated in the notice of opposition met the requirements for prompt postal delivery pursuant to Rule 76(2)(a) in conjunction with Rule 41(2)(c) EPC. With regard to the patent proprietor's assertion that the opposition had allegedly been filed on behalf of a third party ("straw man"), no circumvention of the law by abuse of process was apparent, and the patent proprietor's arguments in this respect did not appear convincing.
- (c) The chip shown in the embodiment of a 0.7 x 0.7 mm CMOS sensor contained enough space to implement the circuitry required for multiplexing the signals of multiple pads of conventional CMOS image sensors to three or four pads.
- (d) The application did not appear to disclose a lower limit for the size of the visualisation probe which was obtainable by the method disclosed in the patent in suit. This lower limit, and hence the values to be excluded, seemed to be dependent on the available technology, and increasingly lower limits might be obtainable with different methods and technologies still to be invented in the future. Therefore it might be discussed at the oral proceedings whether the claimed open-ended range for the maximum outer diameter of the visualisation probe was sufficiently disclosed. It might also be discussed whether the patent 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.

- XI. With its letters dated 16 January 2024, the patent proprietor filed an authorisation for its newly appointed representatives which entitled them to give sub-authorisations, and amended claims of auxiliary requests 3, 4 and 5. The patent proprietor noted that the board had not provided its preliminary opinion on the patent proprietor's view that the appeal of the straw-man opponent was to be held inadmissible. It also argued that the opponent had still not discharged their burden of proof and hence the objection of alleged insufficiency of disclosure should be dismissed. Decision T 2773/18 confirmed that values of a parameter which were not obtainable in practice could not justify an objection of insufficient disclosure. Considering what diameter of a visualisation probe a skilled person would exclude as being part of the claimed scope was only relevant to sufficiency if the opponent had discharged their burden of proof. Based on exemplary dimensions disclosed in the patent, the person skilled in the art could identify a reasonable lower limit for the size of the CMOS sensor at the time the invention was made. Hence the skilled person would know what diameter of a probe including a CMOS sensor and illumination means would work, and would be able to reproduce these probes. It was illustrated how the skilled person would be able to reproduce a probe with a diameter of 1 mm. Given the requirements of a CMOS sensor mentioned in the claim, the skilled person would have known what type of CMOS sensor to choose.
- XII. In their letter dated 17 January 2024, the opponent indicated their nationality and country of residence. 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. The opponent 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 requirements of Article 83 EPC were not met.

XIII. The board held oral proceedings on 31 January 2024 and 5 February 2024.

As the case at hand is closely related to appeal cases T 2401/19 and T 2702/19, the oral proceedings in these three cases were held consecutively, starting with the case at hand 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.

Appellant I (patent proprietor) requested that the decision under appeal be set aside and that the opposition be rejected as inadmissible (main request'), or alternatively, that the patent be maintained as granted (main request), or that the patent be maintained as amended according to the highest auxiliary request not allowed by the opposition

division (auxiliary request 1), or according to the highest auxiliary request allowed by the opposition division (auxiliary request 2) or according to any of auxiliary requests 3 to 5 filed by letter dated 16 January 2024.

Further, it requested that the appeal filed by the opponent be rejected as inadmissible.

Appellant II (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

At the end of the oral proceedings, the Chair announced the board's decision.

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

"A visualization probe comprising: illumination means (92); 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 on 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 said visualization probe satisfies the condition that its maximum outer diameter is no more

than 2,8mm; 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."

XV. Claim 1 of the patent proprietor's auxiliary requests 1 and 2 differs from claim 1 of the patent as granted only in feature ii), which reads as follows (features added compared with claim 1 of the main request are underlined and deleted features are ~~struck through~~):

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

XVI. Claim 1 of the patent proprietor's 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 visualization probe comprising: illumination means (92); 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 on 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 said visualization probe satisfies the condition that its maximum outer diameter is ~~no more than~~ between 1,0mm and 2,8mm; 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 the patent proprietor's 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 visualization probe comprising: illumination means (92); 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 on 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 said visualization probe satisfies the condition that its maximum outer diameter is no more than 2,8mm; 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 the patent proprietor's 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 visualization probe comprising: illumination means (92); 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 on 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 said visualization probe satisfies the condition that its maximum outer diameter is ~~no more than~~ between 1,0 mm and 2,8mm; 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 patent proprietor's appeal is admissible.
2. Mr Douma's authorisation

It is clear from the authorisation on file that the patent proprietor'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 According to decision G 4/95 (OJ EPO 1996, 412), the following main criteria should be considered by the EPO when exercising its discretion to allow the making of oral submissions by an accompanying person in opposition appeal proceedings.

- (a) The professional representative should request permission for such oral submissions to be made. The request should state the name and qualifications of the accompanying person, and should specify the subject-matter of the proposed oral submissions.
- (b) The request should be made sufficiently in advance of the oral proceedings so that all opposing parties are able properly to prepare themselves in relation to the proposed oral submissions.
- (c) A request which is made shortly before or at the oral proceedings should in the absence of exceptional circumstances be refused, unless each opposing party agrees to the making of the oral submissions requested.
- (d) The EPO should be satisfied that oral submissions by an accompanying person are made under the continuing responsibility and control of the professional representative.

3.2 By letter dated 16 January 2024, the patent proprietor informed the board that Ms Birnbaum, head of its IP

department, would respond to new technical arguments that might be presented by the respondent. Thus the above-mentioned criterion (a) is met.

- 3.3 The board is satisfied that the above-mentioned criterion (d) is met, which was not disputed by the opponent.
- 3.4 The criteria (b) and (c) set out in decision G 4/95 relate to the timing of the request of 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 (see G 4/95, point 10 of the Reasons).
- 3.5 The opponent argued that the presence of Ms Birnbaum had been announced only 14 days before the oral proceedings and the patent proprietor's request should therefore be refused.
- 3.6 The patent proprietor replied that the presence of Ms Birnbaum had been announced in a prompt reply to the board's communication under Article 15(1) RPBA.
- 3.7 In the case at hand, Ms Birnbaum was only to respond to *new* technical arguments that might be submitted by the opponent at the oral proceedings before the board (emphasis by the board). Hence no specific oral submissions were proposed which would have required time for the opponent to properly prepare themselves. In these exceptional circumstances, the board saw no reason to refuse the patent proprietor's request that Ms Birnbaum be allowed to make oral submissions as an

accompanying person at the oral proceedings, even though the request had been filed only shortly before those oral proceedings.

3.8 In view of the above, the board allowed Ms Birnbaum to make oral submissions at the oral proceedings as an accompanying person of the patent proprietor's professional representative.

4. Admissibility of the opposition

4.1 Article 99(1) EPC and Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC.

Rule 77(2) EPC states that if the opposition division notes that the notice of opposition does not comply with provisions other than those referred to in Rule 77(1) EPC, it must communicate this to the opponent and invite it to remedy the deficiencies noted within a set period. This wording covers the data required under Article 99(1) EPC and Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC, namely the particulars of the opponent (corresponding to those provided in Rule 41(2) (c) EPC for the applicant in the request for grant). These particulars are the name, address, nationality and state of residence (natural person) or principal place of business (legal entity).

4.2 The patent proprietor submitted that the opposition was inadmissible for several reasons. The board does not agree for the following reasons.

4.2.1 The patent proprietor argued that the opposition did not comply with the legal requirements to identify the opponent. The opponent argued that they could be easily identified.

For admissibility of the opposition it is indeed necessary that the opponent be readily identifiable before expiry of the opposition period, subject to any deficiency being remedied under Rule 77(2) EPC (see T 25/85, OJ EPO 1986, 81, point 6 of the Reasons; G 3/97 and G 4/97, OJ EPO 1999, 245 and 270, point 2.1 of the Reasons; G 3/99, OJ EPO 2002, 347, point 12 of the Reasons). If the identity of the opponent is not established before expiry of the opposition period, the opposition is inadmissible (see T 25/85, points 6 and 7 of the Reasons and T 590/94, point 1.2 of the Reasons). The admissibility of an opposition on grounds relating to the identity of an opponent may be challenged during the course of the appeal, even if no such challenge had been raised before the opposition division (see e.g. decision G 4/97). In the case at hand, the opponent's name was indicated in the notice of opposition and there is no inconsistent information about the opponent's name in the file. With regard to the patent proprietor's objection that it was not clear who actually was the opponent's representative in the opposition proceedings, the board points out that the question of the representative does not affect the identity of the opponent. It follows that the opponent in the case at hand was readily identifiable within the opposition period. Therefore the facts of the case at hand differ from those in case T 25/85, in which the opponent had not been named at all within the opposition period.

- 4.2.2 The patent proprietor argued that the opponent's address indicated in the notice of opposition was not their residential address but their business address, i.e. the visitor address of the law firm Witte, Weller & Partner Patentanwälte mbB in Stuttgart, Germany.

Therefore the requirements of Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC were not met.

The board does not agree with the patent proprietor's view. Rule 41(2) (c) EPC states that: "*Addresses shall be indicated in accordance with applicable customary requirements for prompt postal delivery and shall comprise all the relevant administrative units, including the house number, if any*". It follows quite clearly that the address is relevant merely for rapid notification via the postal service and not for identification purposes. There is indeed no requirement in the EPC that the address of natural persons indicated in the notice of opposition must be their residential address and cannot be their business address, as the patent proprietor's line of argument implies. The board further notes that no letters were returned as undeliverable, so all official communications were clearly able to reach the opponent. Hence the address indicated in the notice of opposition performed its function of prompt postal delivery pursuant to Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC. More is not required.

- 4.2.3 The patent proprietor further argued that the notice of opposition did not comply with the legal requirements under Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC for identifying the opponent, since the opponent had not indicated their nationality and their state of residence in the notice of opposition.

The opponent argued that they could be easily identified. Any deficiency of address should have been communicated to them in accordance with Rule 77(2) EPC. They should have been given an opportunity to remedy that deficiency within a specified period, but that

never happened. Instead, the opposition division had explicitly stated in its decision that the opposition was admissible.

It is undisputed that the opponent did not indicate their nationality and their country of residence in the notice of opposition. These details are obviously not necessary to identify the opponent within the opposition period, because if they are lacking these deficiencies can be remedied within a period to be set by the opposition division in accordance with Rule 77(2) EPC. It is clear from the file that, as the opponent argued, they had not been given an opportunity in the first-instance proceedings to remedy these deficiencies within a specified period. Therefore the board invited the opponent to remedy these deficiencies (lack of indication of nationality and country of residence) within a period of two months. These deficiencies were remedied within that period.

- 4.2.4 In view of the above, the board finds that the opposition meets the requirements of Article 99(1) EPC and Rule 76(2) (a) in conjunction with Rule 41(2) (c) EPC.
- 4.3 Filing of opposition allegedly on behalf of a third party - "straw man"
 - 4.3.1 The patent proprietor argued that it was an undisputed fact that the opponent had acted as a "straw man" for an unnamed third party. Neither the opponent nor their representative(s) themselves had any interest in or any motive for lodging opposition proceedings against a whole family of patents relating to video camera heads, visualisation probes and medical devices. They were clearly serving the interests of one of their clients.

Filing an opposition by a straw man was an attempt to file a revocation claim without disclosing the possible infringer who would materially benefit from the revocation. The sole reason for the web of deceit by the formal opponent and Mr Gahlert, the formal representative and colleague of the formal opponent, was for the material opponent not to surface and show an interest in these patents because it was infringing them. Instead of following the proper channels, i.e. contacting the patent proprietor and initiating discussions (to which the patent proprietor had always responded and always would respond properly), the material opponent chose to set up this bypass and to continue its infringing activities. This abuse of process was further supported by the fact that the formal opponent and their representative had made incorrect, incomplete and contradictory statements in the course of the proceedings as to the roles of the people involved. To conceal the true identity of the material opponent together with omitting required information on the formal opponent and making contradictory statements concerning the named representatives amounted to an abuse of due process as it hampered the patent proprietor's right to a fair trial and the generally accepted principle of equality of arms. Not only did the patent proprietor not know its true adversary, but it was also deprived of its right to know who was picking up the gloves and to properly defend against such (in this case unwarranted) attacks. Not only did the notice of opposition lack the required information on the formal opponent, but Mr Keck and Mr Gahlert had also deliberately rearranged their formal procedural status. When it suited them, they abandoned the procedural roles indicated in the notice of opposition and reorganised them. It only became clear in the opponent's written submission dated

3 February 2020 that the opponent's representative was not the law firm Witte, Weller & Partner Patentanwälte mbB named as the opponent's representative in the notice of opposition or Mr Gahlert, a representative from that law firm, but that the opponent's sole representative was Mr Keck, who was a representative from that law firm and named in the notice of opposition as the opponent. It followed that the formal opponent in these opposition proceedings was in fact acting as a "straw-man opponent" to hide the identity of the material opponent. The use of the opponent as a formal opponent ("straw man") without disclosing the material opponent was an abuse of due process in the case at hand and therefore rendered the opposition inadmissible.

The opponent argued that they had never said that they were a so-called straw man or that they were being instructed by a third party. They added that even if they had been, the EPC did not distinguish between "formal opponents" and "material opponents", but just referred to "the opponents". In the case at hand there was no abuse of process, according to decisions G 3/97 and G 4/97. Since the opponent did not have any different rights from the patent proprietor in the opposition proceedings, no rights to a fair trial were taken away from the patent proprietor and there was no abuse of rights by the opponent.

- 4.3.2 The board considers the patent proprietor's arguments not to be convincing for the following reasons.
- 4.3.3 Decisions G 3/97 and G 4/97 are relevant to the question of whether an opposition is inadmissible if the opponent is a "straw man" acting on behalf of another person. According to these decisions (see

point 3.2.1 of the Reasons), the legislator explicitly designed the opposition procedure as a legal remedy in the public interest which, according to Article 99(1) EPC, is open to "any person", and it would be incompatible with this to require that the opponent show an interest, of whatever kind, in invalidating the patent. Therefore the patent proprietor's argument that the opponent was clearly acting as a straw man in the interests of one of their clients because neither they nor their representative(s) had any interest in or a motive of their own for opposing the patent must fail. An opponent's status is a procedural status, and the basis on which it is obtained is a matter of procedural law. This is addressed in Article 99(1) EPC in conjunction with Article 100 EPC, Rule 76 and Rule 77(1) EPC (former Rule 55 and Rule 56(1) EPC 1973). The opponent is the person who meets the requirements set out therein for filing an opposition: in particular, the person must be identifiable. The EPC does not specify any further formal conditions to be met by the opponent. A person who meets the EPC requirements for filing an admissible opposition becomes a party to the opposition proceedings (Article 99(3) EPC). Thus the EPC does not require that the opponent have their own interest in the outcome of the opposition proceedings.

- 4.3.4 In the present case, Mr Keck is a professional representative and the only opponent indicated in the notice of opposition.

The board does not share the patent proprietor's view that it is an undisputed fact that the opponent filed the opposition as a "straw man" for an unnamed third party.

If the question arises of whether someone is acting as an opponent before the EPO on behalf of a client, it is above all important to bear in mind that, under the EPC, any person is allowed to file an opposition and the EPC does not require that the opponent (and even less so their representatives) show an interest, of whatever kind, in invalidating the patent. Therefore it cannot be inferred that Mr Keck is acting as a straw man solely from the fact that they are a professional representative. Also, the patent proprietor's argument that the opponent was clearly acting as a straw man in the interests of one of their clients because neither they nor their representative(s) had any interest in or a motive of their own for opposing the patent must fail.

The board further notes that Mr Keck has never said that they were a so-called straw man and that there is no indication or even evidence of such an assumption in the documents before the board. As explained in point 4.2.1 above, contradictory or unclear information about the opponent's representative does not affect whether the opponent can be identified. Nor does Mr Keck's statement that they are the opponent's sole representative allow the conclusion to be drawn that they are a straw man. Rather, this statement made it clear that they wished to represent themselves in the opposition proceedings rather than being represented by one of the persons named as representatives in the notice of opposition. There is no objection to such an approach in the present case, since Mr Keck, a natural person with an address within the territory of one of the contracting states, is not compelled under Article 133(1) EPC to be represented by a professional representative in proceedings established by the EPC.

It follows that there are no special reasons for investigating, with a view to assessing the admissibility of the opposition, the question of whether or not Mr Keck, who has filed the opposition in accordance with the EPC provisions (see point 4.2 above), is acting as a straw man. As a matter of principle, the patent proprietor cannot expect the EPO to compel the opponent to disclose their motives in order to exclude the possibility that they may be acting in the interest of a third party (G 3/97 and G 4/97, point 3.2.2 of the Reasons). By filing an opposition complying with the EPC requirements, Mr Keck became the legitimate opponent and party to the opposition proceedings under Article 99(3) EPC, and only their acts are relevant. For this reason alone, the patent proprietor's objection and its arguments that the opposition was inadmissible because the opponent was acting on behalf of a third party and their involvement was to be regarded as circumventing the law by abuse of process cannot be accepted.

- 4.3.5 Even supposing that Mr Keck was acting as a straw man on behalf of a third party, the board sees no reason for the opposition to be inadmissible.
- 4.3.6 In decisions G 3/97 and G 4/97, the Enlarged Board of Appeal held that there is no general objection to the opponent's acting on behalf of a third party (point 3 of the Reasons), and the fact that the opponent is acting on behalf of a third party does not render the opposition inadmissible (point 1(a) of the Order and point 3.2 of the Reasons). The opposition is however inadmissible if the opponent's involvement is to be regarded as circumventing the law by abuse of due process (decisions G 3/97 and G 4/97, point 1(b) of the Order and point 4 of the Reasons).

Such a circumvention of the law arises, in particular, if:

- (a) the opponent is acting on behalf of the patent proprietor since, according to decision G 9/93 (OJ EPO 1994, 891), a patent proprietor cannot oppose its own patent (G 3/97 and G 4/97, point 1(c) of the Order and point 4.1 of the Reasons);
- (b) the opponent is acting on behalf of a client in the context of activities which, taken as a whole, are typically associated with professional representatives, without possessing the relevant qualifications required by Article 134 EPC (G 3/97 and G 4/97, point 1(c) of the Order and point 4.2.1 of the Reasons)

4.3.7 In the case at hand, neither of the aforementioned situations is present. It can be concluded from the patent proprietor's submissions that the opponent is not acting on behalf of the patent proprietor. Also, the opponent is a European professional representative within the meaning of Article 134(1) EPC. Moreover, circumvention of the law by abuse of process does not exist merely because the opponent is a professional representative who files an opposition in their own name on behalf of a client (G 3/97 and G 4/97, point 1(d) of the Order and point 4.2.2 of the Reasons).

4.3.8 The patent proprietor saw an abuse of process in the following circumstances.

Neither the opponent nor their representative(s) themselves had any interest in or a motive for lodging opposition proceedings against the patent, but they were clearly serving the interests of one of their clients. The formal opponent in these opposition proceedings was effectively acting as a "straw-man opponent" to disguise the identity of the material opponent. The concealment of the true identity of the material opponent, the omission of necessary information about the formal opponent and the contradictory information about the designated representatives constituted an abuse of due process as it prejudiced the patent proprietor's right to a fair trial and the generally recognised principle of equality of arms. The use of the opponent as a formal opponent ("straw man") without disclosure of the material opponent was therefore an abuse of due process in the case at hand and thus rendered the opposition inadmissible.

4.3.9 The patent proprietor's arguments are not convincing.

As already explained in point 4.3.3 above, the EPC does not require that the opponent (and even less so their representatives) show an interest, of whatever kind, in invalidating the patent. The opponent's motives also play no part in the opposition procedure, so the opponent is not obliged, for example, to reveal to the patent proprietor why a patent disturbs them (G 3/97 and G 4/97, point 3.2.3 of the Reasons). The opposition procedure is designed to give the public the opportunity to challenge the validity of the patent in question (G 9/93, point 3 of the Reasons). This takes account, *inter alia*, of the fact that a patent office cannot be aware of all the actual circumstances which argue against patentability. For the purpose of the

opposition procedure - to prevent the maintenance of clearly invalid patents, by making it possible to institute proceedings before the EPO itself - it does not matter who provides the EPO with the relevant information (see also T 798/93, OJ EPO 1997, 363, point 4, final paragraph of the Reasons). Therefore, if a professional representative files an opposition in their own name on behalf of a client, the patent proprietor cannot expect the opponent to be obliged to disclose their client's motives or to say who their client is. Rather, the proprietor has to accept in such cases that the existence of a client is not disclosed. In this context, the Enlarged Board of Appeal held in decisions G 3/97 and G 4/97 (point 3.2.2 of the Reasons): *"By filing the opposition, he himself has assumed the procedural status of an opponent. Therefore, in relation to the patent proprietor and the EPO, he is the only person who matters. If, for the purpose of opposition, the opponent does not need to show an interest in the invalidation of the patent, then no harm is done if a third party has an interest in the invalidation of the patent. The question of the internal legal relationship between the opponent and any third parties has, as a matter of principle, no legal significance for external purposes, i.e. vis-à-vis the EPO and the patent proprietor. At all events, as long as the legal system has no objection to the filing of an opposition by the principal himself, no objection can be made to his inciting a straw man to file an opposition."* Accordingly, the internal legal relationship between the opponent and any instructing party has no legal significance for external purposes. Nor can an opponent cease to be the legitimate opponent once the existence of a client instructing the representative acting as opponent is confirmed or identified. The opponent does not have a right of

disposition over his status as a party. If they have met the requirements for an admissible opposition, they are the opponent and remain such until the end of the proceedings or of their involvement in them (decisions G 3/97 and G 4/97, point 2.2 of the Reasons).

Against this background, the alleged use of the opponent as a straw man without disclosing the identity of their client cannot constitute an abuse of due process in this case and therefore did not lead to the opposition being inadmissible. The board also agrees with the opponent that the patent proprietor is not deprived of any rights to a fair trial and that there is no abuse of rights by the opponent, since the opponent had no different rights in the opposition proceedings from the patent proprietor.

4.3.10 For the reasons mentioned above, the board could not establish that the law had been circumvented by abuse of process. The board points out that, according to decisions G 3/97 and G 4/97 (point 2 of the Order and point 5 of the Reasons), in determining whether the law has been circumvented by abuse of process, the principle of the free evaluation of evidence applies. The burden of proof lies with the person alleging that the opposition is inadmissible. The deciding body has to be satisfied, on the basis of clear and convincing evidence, that such abuse is occurring.

4.3.11 It follows that in the case at hand Mr Keck was the true opponent, having acquired the relevant procedural status, and there cannot be another true opponent apart from the formally authorised one (see also G 3/97, points 2.1 and 2.2 of the Reasons).

4.4 In view of the above, the board finds that the opposition is admissible.

5. Admissibility of the opponent's appeal

5.1 The patent proprietor submitted that as a result of the inadmissibility of an opposition the opponent's appeal was also inadmissible.

This argument does not apply in the case at hand because the board found the opposition admissible (see point 4. above).

5.2 In addition, the patent proprietor submitted that the appeal itself was inadmissible under Rule 101 EPC for failing to meet the requirements of Article 108 EPC and Rule 99 EPC. The patent proprietor argued that the opponent had not really filed the present appeal as a natural person within the meaning of Rule 6(4)(b) EPC then in force but as a straw man, i.e. a person acting on behalf of a company having a substantial commercial interest in the patent proprietor's patents. Therefore the opponent was not entitled to the reduced appeal fee under Article 2(1), item 11 RFees and Rule 6(4)(b) EPC then in force, but should have paid the appeal fee in full. Paying only the reduced appeal fee in this situation was an abuse of process. In support of its view, the patent proprietor referred to decision T 1839/18, point 2.20 of the Reasons.

The opponent argued again that they had never said that they were a so-called straw man or that they were being instructed by a third party. Therefore they were the opponent and party in these opposition proceedings. They were a natural person within the meaning of Rule 6(4)(b) EPC then in force and they had indicated

this in the notice of opposition and in their declaration filed by letter dated 25 June 2021 in accordance with Rule 6(6) EPC then in force. Consequently, they were entitled to pay the reduced appeal fee under Article 2(1), item 11 RFees. Hence there was no abuse of process. And even if they were acting on behalf of a third party, how would it be possible to know whether or not that third party was also entitled to the reduced appeal fee? It was far-fetched to assume that a straw man would file an appeal just to reduce the appeal fee, as the fee reduction was a small amount compared with the overall cost. Moreover, if a straw man were to file an appeal upon instruction by a third party, then this would only concern the internal relationship between the straw man and the third party.

- 5.3 The board first notes that if the opponent was not entitled to the reduced appeal fee their appeal would be deemed not to have been filed for failure to pay the required amount of the appeal fee (Article 108, second sentence, EPC in conjunction with Article 8 RFees; G 1/18, OJ EPO 2020, A26). Consequently, the issue of eligibility to pay the reduced appeal fee does not affect the admissibility of the opponent's appeal.

In the case at hand, it could not be established that the opponent had acted on behalf of a third party (see point 4.3.4 above). Filing the opposition rendered Mr Keck the legitimate opponent and party to the opposition proceedings under Article 99(3) EPC and only their acts are relevant. For this reason alone, the patent proprietor's objection and its arguments that the opposition was inadmissible because the opponent was acting on behalf of a third party and their involvement was to be regarded as circumventing the law

by abuse of process cannot be accepted.

- 5.4 Even supposing that Mr Keck was acting as a "straw man" on behalf of a third party, the board follows the findings in T 84/19, point 9 of the Reasons (confirmed in T 1731/21, point 1.9 of the Reasons), where the board held that the entitlement to pay a reduced appeal fee under the conditions set by Article 2(1), item 11 RFees and Rule 6(4), (5) EPC then in force must be assessed vis-à-vis the party which has assumed the procedural status of an appellant. The opponent exercises their own right as a member of the public to file an opposition, even if a third party ("client") has instructed the opponent to file the opposition. In such a case, the opponent cannot be regarded as acting on the basis of the client's personal entitlement. As the opponent pointed out, whether an opponent's acts are consistent with the client's intentions or instructions is only relevant to the internal relationship between the opponent and the client and has no bearing on the opposition proceedings. Accordingly, there cannot be another true opponent apart from the formally authorised opponent, so the client can under no circumstances be treated as a party (see G 3/97, points 2.1 and 2.2 of the Reasons). In the case at hand, Mr Keck filed the appeal and there is no doubt that they are entitled to a reduction in the appeal fee in accordance with Article 2(1), item 11 RFees and Rule 6(4)(b) EPC then in force.

The board cannot recognise any circumvention of the law by abuse of process in this approach. As noted in decision T 1839/18, point 2.20 of the Reasons, the revised fee structure of the EPO was adopted by the Administrative Council decision on 13 December 2017 (CA/D 17/7) in full knowledge and awareness of the

established case law of the Enlarged Board of Appeal regarding opponents acting as a straw man. Had the Administrative Council wished to impose further conditions for taking advantage of paying a reduced fee and in order to avoid abuses, it would no doubt have done so.

- 5.5 The patent proprietor also based its arguments regarding circumvention of the law by abuse of process on decision T 1839/18, point 2.20 of the Reasons. However, the board cannot see how this decision can support the patent proprietor's position. In case T 1839/18, the board did not have to decide on the question of whether the payment of the reduced appeal fee amounted to an abuse of process, since in the case at stake the appeal fee had been paid in full and no abuse was alleged. The board in case T 1839/18 pointed out in point 2.20 of the Reasons: *"Though the Board appreciates the proprietor's concern for office finances, it is not apparent what advantage an opponent under an assumed guise might gain over the proprietor from a fee reduction. If under their true guise they had no right to the fee reduction they would run the risk - if found out - of their opposition being deemed not filed for non payment of the appeal fee, Art 8, RFee [sic] with Art 99(1), last sentence, which would rather be to their detriment."* However, the board in case T 1839/18 did not identify any circumstances under which it could be concluded that there was a circumvention of the law by abuse of process if the party acting as a straw man assumes the status of opponent but actually *"under their true guise"* does not meet the requirements for a reduced appeal fee. Rather, it noted in point 2.20 of the Reasons that it was not up to the boards of appeal to *"question the wisdom of decisions made by the Administrative Council in full*

knowledge and awareness of the established jurisprudence of the Enlarged Board of Appeal. Should the Administrative Council have wished to impose further conditions for taking advantage of paying a reduced fee and in order to avoid abuses, it would no doubt have done so." (see T 1839/18, Reason 2.20).

- 5.6 In view of the above, the board cannot accept the patent proprietor's argument that allowing straw-man opponents to pay the reduced appeal fee without having to present any particular with regard to the third party could lead to a circumvention of the law by abuse of process.
- 5.7 From the above considerations it follows that the opponent was entitled to pay the reduced appeal fee.
- 5.8 Since there are no other objections against the admissibility of the opponent's appeal, it is admissible.
6. Patent as granted (main request - ground for opposition under Article 100(b) EPC - insufficiency of disclosure)
- 6.1 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).

- 6.2 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 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 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).

6.3 Claim 1 of the granted patent defines a visualisation probe comprising illumination means, an objective lens assembly and a CMOS sensor.

Claim 1 of the granted patent specifies that "*said visualization probe satisfies the condition that its maximum outer diameter is no more than 2,8mm*".

6.4 The opponent argued as follows.

No details had been provided in the patent specification as to how an upper limit of 2.8 mm for the maximum outer diameter of the video camera head could be achieved, in particular how this could be achieved for small sizes below 1 mm or even below 0.5 mm that fell under the terms of the claim (see the opponent's statement of grounds of appeal, point 1.12).

The person skilled in the art would of course rule out very small values of the maximum outer diameter such as 0.001 mm as nonsensical, but nothing more. Hence it was not apparent how the claimed invention could be carried out over the whole scope claimed.

No reasonable lower limit for the maximum outer diameter of the visualisation probe was known or derivable from the patent.

All the specific values of diameters in the patent which the patent proprietor had referred to were diameters of a distal tip (see paragraphs [0098] to [0105] of the patent). However, the distal tip was not the same as the visualisation probe, which could be smaller than the distal tip due to the space needed for a working channel as shown for example in Figures 24A and 24B and set out in paragraph [0103] of the patent.

However, the diameter of the distal tip could also be smaller than the diameter of the visualisation probe, for example at portion 32 shown in Figure 3C.

Furthermore, the person skilled in the art would have known that the CMOS sensor could be made smaller, for example by using fewer pixels (see paragraph [0007] of the patent mentioning a trade-off between a small diameter and a high-quality image).

The figures presented by the patent proprietor in points 30 to 39 of its letter dated 16 January 2024 were inconsistent with the disclosure of the patent. Even if it were to be assumed that the elements shown in the four corners of Figures 11 and 12 of the patent were TSVs (through silicon vias) each having a size of 0.1 x 0.1 mm, it was not possible to construct a CMOS chip having the indicated size of 0.405 x 0.405 mm with four pads on its back side (each pad having a minimum size of 0.15 x 0.15 mm according to paragraph [0009] of the patent) and the claimed patterned back side. There was simply no margin left.

6.5 It had therefore been plausibly argued that the common general knowledge would not enable the skilled person to put the claimed invention into practice and that it was thus up to the patent proprietor to prove the contrary.

6.6 The patent proprietor argued as follows.

The opponent had not discharged their burden of proof and had not substantiated by verifiable facts what values of the visualisation probe's maximum outer diameter the person skilled in the art would consider to be part of the claimed scope but could not

reproduce. Mere allegations did not suffice to shift the burden of proof onto the patent proprietor.

Claim 1 specified that the visualisation probe comprised illumination means, an objective lens assembly and a CMOS sensor, the CMOS sensor comprising a silicon substrate having three or four balls or pads on its back side.

According to the patent, these components of the visualisation probe had certain minimum sizes as follows.

- (a) The CMOS sensor had a size of either 0.7 x 0.7 mm (see paragraph [0072] of the patent) or 0.5 x 0.5 mm (see paragraph [0104] of the patent).
- (b) Each pad on the back side of the silicon substrate of the CMOS sensor had a minimum dimension of 0.15 to 0.35 mm (see paragraph [0009] of the patent).
- (c) The illumination means could be LEDs with a size of 0.625 x 0.285 mm (see paragraph [0099] of the patent) or an LED having a diameter of 0.25 mm or an array of MicroLEDs (see paragraph [0103] of the patent).

The presence of these components required by the claim and their minimum dimensions defined an implicit lower limit for the maximum diameter of the visualisation probe.

For the CMOS sensor, the person skilled in the art would have known, based on paragraph [0007] of the patent, that there was a lower limit to the number of pixels because otherwise the resolution would have been

too low and the space needed for the illumination would have been too large in relation to the size of the CMOS sensor.

The patent disclosed visualisation probes with diameters of 1.51 mm (see paragraph [0100]), 1.75 mm (see paragraph [0103]) and 1.99 mm (see paragraph [0102]). The patent also disclosed that by using a smaller sensor such as 0.5 x 0.5 mm (instead of 0.7 x 0.7 mm) and smaller illumination means the diameter of the visualisation probe could be further reduced by 0.3 mm (see paragraph [0104]). Finally, the patent disclosed a diameter of the visualisation probe of between 1.0 mm and 2.8 mm (see paragraph [0105]).

Figure 21 of the patent showed a distal tip with a camera head and illumination means, i.e. without a working channel. The figures in points 30 to 39 of the patent proprietor's letter dated 16 January 2024 were based thereon. From Figure 6 and paragraph [0107] of the patent it was apparent that the visualisation probe was inside the distal tip and hence its diameter had to be smaller than that of said tip.

Thus the person skilled in the art would have known - based on the disclosure of the patent and the common general knowledge - which visualisation probes would work and which would not. In this context, the patent proprietor referred to decision T 2773/18, points 3.2 to 3.4 of the Reasons.

6.7 The board is not convinced by the opponent's argument referring to portion 32 of Figure 3C that the distal tip can have a smaller diameter than the visualisation probe. According to paragraph [0082] of the patent, Figures 4A to 4C illustrate three different options for

tip 32 of Figures 3C to 3E. Figure 4A shows a tip provided with a working channel. In Figure 4B, the tip is larger and, in addition to a visualisation probe, also comprises three working channels. Likewise, in Figure 4C, four different working channels are provided. Similar arrangements are shown in Figures 21, 22, 23, 24A and 24B of the patent. In none of these figures does the distal tip have a smaller diameter than the visualisation probe.

The board thus concurs with the patent proprietor that the visualisation probe is inside the distal tip as shown in Figure 6 of the patent and the maximum outer diameter of the visualisation probe is smaller than the diameter of the distal tip.

- 6.8 However, the board concurs with the opponent that the sizes indicated in the patent for the distal tip are not to be equated with the sizes of the visualisation probe. As shown in Figures 4A, 4B, 4C, 22, 23 and 24A, the distal tip may comprise one or more working channels which do not need to be part of the visualisation probe as defined in claim 1.
- 6.9 In summary, the sizes disclosed for the distal tip in the patent can be regarded as upper limits for the size of the visualisation probe.
- 6.10 The board concurs with the opponent that the figure submitted by the patent proprietor in point 38 of its letter dated 16 January 2024 (including the specific form of the sensor and its location relative to the illumination means) is as such not disclosed in the patent, although it somehow resembles Figure 21 of the patent.

6.11 However, the board agrees with the patent proprietor that Figure 21 and paragraph [0100] of the patent describe an arrangement in which the distal tip does not comprise a working channel. Hence here the diameter of the distal tip (1.51 mm) is a reasonably close upper limit for the size of the visualisation probe.

Furthermore, the board agrees with the patent proprietor that paragraph [0104] of the patent discloses that by using a 0.5 x 0.5 mm sensor and a smaller LED it is possible to reduce the diameter of the distal tip by an additional 0.3 mm. Applying this to the arrangement shown in Figure 21 means that the patent discloses a reasonably close upper limit for the size of the visualisation probe of 1.21 mm = 1.51 mm - 0.3 mm.

Although these examples "*satisfy the following conditions 1.0 mm < Tip's Diameter < 2.8 mm*" referred to in paragraph [0105] of the patent, the board is not convinced that the person skilled in the art would understand from the patent that these conditions define an implementable range for the size of the distal tip.

6.12 Therefore the board finds that the patent does not disclose any examples of the visualisation probe's diameter indicated by the opponent, namely 1.0 mm or 0.5 mm.

6.13 The board is not persuaded by the opponent's argument that the size of the CMOS sensor would not be a limitation to the size of the visualisation probe because the CMOS sensor may be tilted relative to the axis of the distal tip. The board finds that at least Figure 6A of the patent discloses an arrangement in

which the normal vector of the CMOS sensor substrate is parallel to the axis of the distal tip.

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

As argued by the opponent, 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.

The board agrees with the patent proprietor that 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.

6.15 The board agrees with the patent proprietor 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.

6.16 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 visualisation probe 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. As argued by the opponent, the patent does not disclose how to carry out the invention over the whole effective claimed range of the maximum outer diameter of the visualisation probe, i.e. also for values below 1 mm or even below 0.5 mm. Therefore the ground for opposition under Article 100(b) EPC prejudices the maintenance of the patent as granted.

7. Auxiliary requests 1 and 2 - insufficiency of disclosure (Article 83 EPC)
 - 7.1 Claim 1 of auxiliary requests 1 and 2 contains the same feature, quoted under point 6.3 above, as claim 1 of the patent as granted.
 - 7.2 Therefore the invention as claimed in claim 1 of auxiliary requests 1 and 2 is insufficiently disclosed for the same reasons as those set out under point 6. above for the invention as claimed in claim 1 of the patent as granted.
 - 7.3 The parties had no arguments to add to the arguments on sufficiency of disclosure of the patent as granted.
 - 7.4 Hence the board finds that auxiliary requests 1 and 2 do not meet the requirements of Article 83 EPC.
8. Auxiliary requests 3 and 5 - admittance (Article 13(2) RPBA)
 - 8.1 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.
 - 8.2 Auxiliary requests 3 and 5 were filed by the patent proprietor in reply to the board's communication under Article 15(1) RPBA. These auxiliary requests therefore constitute amendments to the patent proprietor's appeal case within the meaning of Article 13(2) RPBA.

Claim 1 of auxiliary requests 3 and 5 was, inter alia, amended to specify that "*said visualization probe satisfies the condition that its maximum outer diameter is between 1,0 mm and 2,8 mm*".

- 8.3 The patent proprietor argued that there were exceptional circumstances because the issue of an open-ended range of the maximum outer diameter of the visualisation probe had been brought up for the first time in point 7.8 of the board's communication under Article 15(1) RPBA.
- 8.4 The opponent argued that prior to the board's communication under Article 15(1) RPBA this issue had already been addressed:
- (a) during the oral proceedings before the opposition division (see point 18 of the minutes)
 - (b) in the decision under appeal (see the last two sentences under point 26.1.1 and the last sentence under point 26.1.5)
 - (c) in the opponent's statement of grounds of appeal (see point 1.12)
 - (d) in the patent proprietor's reply to the opponent's statement of grounds of appeal (see points 73 to 79)
- 8.5 The patent proprietor replied that since the opposition division's decision had been in its favour there had been no reason to file a corresponding auxiliary request already with its statement of grounds of appeal. Furthermore, point 1.12 in the opponent's statement of grounds of appeal had just been an unsubstantiated allegation which it had rebutted in its reply.

- 8.6 The board finds that the issue of an open-ended range of the maximum outer diameter of the visualisation probe had not been brought up for the first time in the board's communication under Article 15(1) RPBA. It had already been raised, albeit in short form, in point 1.12 of the opponent's statement of grounds of appeal, to which the patent proprietor had provided counter-arguments.
- 8.7 Therefore the board is of the opinion that there are no exceptional circumstances within the meaning of Article 13(2) RPBA.
- 8.8 Hence the board exercised its discretion under Article 13(2) RPBA and decided not to admit auxiliary requests 3 and 5 into the appeal proceedings.
9. Auxiliary request 4 - admittance (Article 13(2) RPBA)
- 9.1 Auxiliary request 4 was filed by the patent proprietor in reply to the board's communication under Article 15(1) RPBA. In comparison with claim 1 of the patent as granted, the feature that the number of conducting balls or pads may consist of *"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"* has been deleted in claim 1 of auxiliary request 4.
- 9.2 The patent proprietor referred to decision T 2638/16 and argued that deleting features in claim 1 did not constitute an amendment under Article 13(2) RPBA since it did not imply any change in the facts or legal scope of the case. It also argued that the deletion of the feature quoted under point 9.1 above from claim 1

addressed the potential concern under Article 123(2) EPC which the board had expressed in its preliminary opinion in relation to this feature.

The opponent had no comments.

- 9.3 The board does not agree with the patent proprietor's view that deleting features in claim 1 does not constitute an amendment under Article 13(2) RPBA. In decision T 2638/16, point 4 of the Reasons, the board held: *"This deletion [of an alternative within a claim] is not considered an amendment of the appeal case, since no new procedural situation concerning the remaining subject-matter was created, as this could be the case, if the deletion entailed a completely new weighting and hence a change of the subject of the proceedings. In the present case, the deletion simply sets aside one of the objections under discussion without shedding new light on the remaining subject-matter and without other consequences on the parties' respective appeal cases. It is thus comparable to the withdrawal of certain objections or lines of attack by an opponent, which has also never been seen as a change of case which was at the discretion of the board."*

The board has reservations concerning the approach of not considering certain deletions as amendments under certain conditions. Rather, it agrees with the analysis in decision J 14/19, points 1.1 to 1.5 of the Reasons and decision T 2091/18, points 4.1 and 4.2 of the Reasons, according to which any change over the appeal case as defined in Article 12(2) RPBA represents an amendment within the meaning of Article 13 RPBA. The board cannot find anything in the relevant provisions of the RPBA that would justify interpreting the term "amendment" in a way such that certain types of

deletions of claims or of features in a claim would be excluded if they served only to restrict the appeal procedure. Such deletions are still changes to the party's appeal case as set out in the statement of grounds or the reply to the appeal. They therefore represent an amendment within the meaning of Article 13 RPBA. The board agrees with the finding in decision T 2091/18 that the question of whether an appeal case has been amended within the meaning of Article 13(2) RPBA must be separated from considerations of the impact on the progress of the appeal proceedings.

In the board's view, it is consistent with the provisions of Article 13 RPBA and the case law to consider the deletions in claim 1 of auxiliary request 4 as an amendment to the patent proprietor's appeal case within the meaning of Article 13(2) RPBA.

9.4 In its letter dated 16 January 2024, the appellant argued that the deletion of feature 1I addressed Article 123(2) concerns which the board had expressed in its preliminary opinion. In point 8.5.4 of its preliminary opinion, the board confirmed that the term "wherein" had its basis in the application as filed as indicated by the opposition division (Article 123(2) EPC). However, it was to be discussed whether "whereby" and "wherein" shared a meaning in the context of the claim and whether the scope of protection was changed by substituting "whereby" with "wherein". The board accepts that raising this issue may be seen as exceptional circumstances within the meaning of Article 13(2) RPBA.

9.5 However, when exercising its discretion under Article 13(2) RPBA, the board may also rely on 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*").

In the case at hand, the board finds it appropriate, in exercising its discretion under Article 13(2) RPBA, to rely on the criterion set out in Article 13(1) RPBA as to whether a party has demonstrated that any amendment, prima facie, overcomes the issues raised by another party in the appeal proceedings.

9.6 Claim 1 of auxiliary request 4 contains the same feature, quoted under point 6.3 above, as claim 1 of the patent as granted, which gives rise to an objection of insufficiency of disclosure (see point 6. above). Therefore the amendments to claim 1 of auxiliary request 4, prima facie, do not overcome the objection of insufficiency of disclosure raised by the opponent.

The patent proprietor had no counter-arguments.

9.7 In view of the above, 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 4 into the appeal proceedings.

10. Revocation of the patent

Since the ground for opposition under Article 100(b) EPC prejudices maintenance of the patent as granted (see point 6. above) and the patent as amended according to the appellant's auxiliary requests 1 or 2, which were taken into account in the appeal proceedings, does not meet the requirements of the EPC (see point 7. above), the patent must be revoked (Article 101(2), first sentence, EPC and Article 101(3)(b) EPC).

Order

For these reasons it is decided that:

1. The opposition is admissible.
2. The opponent's appeal is admissible.
3. The decision under appeal is set aside.
4. The European patent is revoked.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated