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**Datasheet for the decision  
of 13 January 2023**

**Case Number:** T 1656/17 - 3.5.04

**Application Number:** 08745686.9

**Publication Number:** 2145330

**IPC:** H04N9/04, H04N19/186,  
H04N19/85, G06T3/40, H04N1/64

**Language of the proceedings:** EN

**Title of invention:**  
VIDEO CAMERA

**Patent Proprietor:**  
RED.COM, LLC

**Opponent:**  
D Young & Co LLP

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56, 100(a), 111(1), 113(1), 123(2)  
EPC R. 106  
RPBA Art. 12(2), 12(4)  
RPBA 2020 Art. 11, 13(2)

**Keyword:**

Board limited to examine objections of lack of inventive step dealt with in the appealed decision (no)  
Re-opening the debate on the main request (no)  
Re-opening the debate on auxiliary request 1 (yes, but only on a specific point)  
Oral submissions by an accompanying person (yes)  
Postponement of the oral proceedings (no)  
Reply to the statement of grounds of appeal - sufficient substantiation of objections of lack of inventive step (yes)  
Evidence - amendment after summons - admitted (yes) - exceptional circumstances (yes)  
Auxiliary request 3a - amendment after summons - admitted (yes) - exceptional circumstances (yes)  
Remittal to the opposition division - (no)  
Main request (patent as granted) - inventive step - (no)  
Auxiliary requests 1, 2, 3a, 4, 6 - inventive step - (no)  
Auxiliary request 5 - amendments - added subject-matter (yes)  
Objections 1 to 6 under Rule 106 EPC - all dismissed

**Decisions cited:**

G 0007/91, G 0008/91, G 0009/91, G 0010/91, G 0012/91,  
G 0009/92, G 0004/93, G 0008/93, G 0004/95, R 0010/08,  
R 0014/10, J 0020/85, J 0003/90, J 0014/19, T 0534/89,  
T 0034/90, T 0506/91, T 0585/92, T 0169/93, T 0542/96,  
T 0149/02, T 1123/04, T 0577/11, T 1914/12, T 0187/18,  
T 1807/19

**Catchword:**

There is no legal basis in the EPC or the RPBA (in the versions of 2007 and 2020) that prevents the board from examining in the case at hand an objection of lack of inventive step raised by the respondent in the appeal proceedings against the patent as granted or as amended that was not addressed in the decision under appeal. Nor does the case law prevent the board from doing so. This means that the board may examine whether such an objection is substantiated, whether it should be admitted into the appeal proceedings and whether it prejudices the maintenance of the patent as granted or as amended, as the case may be. (See section 2 of the Reasons)



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Case Number: T 1656/17 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 13 January 2023**

**Appellant:** RED.COM, LLC  
(Patent Proprietor) 34 Parker  
Irvine, CA 92618 (US)

**Representative:** KIPA AB  
Drottninggatan 11  
252 21 Helsingborg (SE)

**Respondent:** D Young & Co LLP  
(Opponent) 120 Holborn  
London EC1N 2DY (GB)

**Representative:** D Young & Co LLP  
120 Holborn  
London EC1N 2DY (GB)

**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 23 May 2017  
revoking European patent No. 2145330 pursuant to  
Article 101(2) and (3)(b) EPC.**

**Composition of the Board:**

**Chair** T. Karamanli  
**Members:** A. Seeger  
B. Le Guen

## Summary of Facts and Submissions

- I. The appeal is against the opposition division's decision to revoke European patent No. 2 145 330 B1 ("**the patent**" or "**the patent as granted**").
- II. Notice of opposition was filed against the patent in its entirety based on the ground for opposition under Articles 100(a) and 56 EPC (lack of inventive step). During the opposition proceedings, the opponent also objected that auxiliary request 5 forming the basis for the decision under appeal did not meet the requirements of Article 123(2) EPC.
- III. The prior-art documents cited in the decision under appeal included the following:
- D1: US 6,154,493 A
- D5: "RED digital camera", 31 December 2006, XP055034617, retrieved from the internet: <http://www.dvxuser.com/articles/redteam/REDDVXUSER.pdf> [retrieved on 3 August 2012]
- D9: US 6,825,876 B1
- D10: L. Zhang et al., "Real-time lossless compression of mosaic video sequences", Real-time Imaging, vol. 11, issues 5 to 6, October to December 2005, pp. 370-377
- IV. The opposition division revoked the patent under Article 101(2) and (3) (b) EPC because the subject-matter of claims 1 and 7 of the patent as granted (main

request) and each of the then first to sixth auxiliary requests lacked inventive step within the meaning of Article 56 EPC in view of the disclosure of documents D5 and D9.

- V. The **patent proprietor (appellant)** filed notice of appeal. With its statement of grounds of appeal, the appellant maintained the main request and the first to sixth auxiliary request forming the basis for the decision under appeal.
- VI. In its reply to the statement of grounds of appeal ("**the reply**" or "**the respondent's reply**"), the **opponent (respondent)** requested that the appeal be dismissed.
- VII. On 10 May 2021, a summons to oral proceedings was issued. In a communication of 25 March 2022 under Article 15(1) of the Rules of Procedure of the Boards of Appeal in the 2020 version (RPBA 2020, see OJ EPO 2021, A35), the board gave, inter alia, the following preliminary opinion.
- (a) The subject-matter of granted claims 1 and 7 did not involve an inventive step in view of the disclosure of documents D5 and D9. The same applied to the subject-matter of claim 1 of auxiliary requests 1 to 6.
- (b) Documents D9 and D10 might also be regarded as possible starting points for the assessment of inventive step for the subject-matter of granted claims 1 and 7. The parties should be prepared to discuss during the oral proceedings whether the claimed subject-matter involved an inventive step in view of D9 or D10 combined with either D5 or D6. Documents D9 and D10 seemed to disclose all the

features of granted claim 1 except the requirements that (i) the light sensitive device be configured to convert with a resolution of at least 2k at a frame rate of at least 23 frames per second and (ii) the compressed raw mosaiced image data be stored at a rate of at least 23 frames per second. Furthermore, a possible issue to be discussed at the oral proceedings was whether these requirements merely expressed a wish of camera users in the cinematography community in the form of a result to be achieved, which by definition could not contribute to inventive step.

VIII. By a letter received on 17 June 2022, the appellant submitted comments on the board's preliminary opinion.

IX. The oral proceedings before the board started on 5 July 2022.

At the beginning of the oral proceedings, the parties confirmed their requests as being as follows.

The appellant (patent proprietor) 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 on the basis of the claims according to one of auxiliary requests 1 to 6 filed with the statement of grounds of appeal.

The respondent (opponent) requested that the appeal be dismissed.

During the oral proceedings on that day, the board came to, inter alia, the following conclusions:

- Decision G 9/91 did not apply to the case at hand because no new ground for opposition had been raised in the appeal proceedings. Therefore, the board could examine whether an objection in support of the ground for opposition of lack of inventive step raised by the respondent during the appeal proceedings was substantiated, whether it should be admitted into the appeal proceedings and whether it prejudiced the maintenance of the patent.
- With respect to Article 12(4) of the Rules of Procedure of the Boards of Appeal in the 2007 version (RPBA 2007, see OJ EPO 2007, 536) in combination with Article 12(2) RPBA 2007, the references made by the respondent in its reply were not to be equated to a general reference and, consequently, were considered sufficient substantiation, in particular in view of point 4 of the notice of opposition specifically referred to under point 3.1.2 of the respondent's reply. Inventive step could be discussed starting from document D10.
- Regarding the appellant's main request, the subject-matter of claim 1 of the patent as granted did not involve an inventive step in view of the disclosure of document D10 and, therefore, the ground for opposition under Article 100(a) EPC together with Article 56 EPC prejudiced the maintenance of the patent as granted.
- The subject-matter of claim 1 of the appellant's auxiliary request 1 did not involve an inventive step within the meaning of Article 56 EPC in view of the disclosure of document D10.

At the end of that day of the oral proceedings, the debate on the main request (patent as granted) and auxiliary request 1 was closed. The parties and the

board agreed that the oral proceedings would be adjourned to 14 July 2022 and that they would continue on that date by videoconference. The parties agreed that the summons to continue the oral proceedings would be issued with a shorter notice than the two months' notice under Rule 115(1) EPC. The oral proceedings were then adjourned.

X. In a letter dated 8 July 2022, the appellant withdrew its agreement to the oral proceedings being continued by videoconference on 14 July 2022. The appellant requested that the oral proceedings be continued in person and that a summons under Rule 115(1) EPC to resume the oral proceedings be issued with at least two months' notice.

XI. On 25 July 2022, a summons to in-person oral proceedings was issued, according to which the oral proceedings were to be resumed on 21 October 2022. In its communication under Article 15(1) RPBA 2020 attached to the summons, the board informed the parties as follows.

*"At the oral proceedings on 5 July 2022, the debate on the main request (patent as granted) and auxiliary request 1 was closed.*

*Therefore, after the resumption of the oral proceedings on 21 October 2022, auxiliary requests 2 to 6 filed with the statement of grounds of appeal will be discussed."*

XII. By letter dated 17 October 2022, the appellant filed claims according to a new auxiliary request 3A and the following documents:



- D38a: A. Bovik, "Handbook of Image and Video Processing", 2nd edn., published 2005, ISBN: 0-12-119792-1, pp. 724, 739 and 740
- D46: D. Salomon, "Data Compression, The Complete Reference", 4th edn., published 2007, ISBN: 1-84628-602-6, pp. 353, 354 and 369
- D47: C. Poynton, "Digital Video and HDTV, Algorithms and Interfaces", published 2007, ISBN: 1-55860-792-7, p. 12
- D48: G. Kennel, "Color and Mastering for Digital Cinema, Digital Cinema Industry Handbook Series", published 2007, ISBN: 0-240-80874-6, pp. 27 and 57

The appellant requested that documents D9 and D10 not be considered and relied on various lines of argument. The appellant further requested that if the board maintained that documents D9 and D10 had been properly introduced as the closest prior art, the case be *"referred to the Opposition Division for review of the complete case using D9 and D10 as the closest prior art"*. As an auxiliary request, the appellant requested that *"the remaining auxiliary requests are referred back to the Opposition Division for review with D10 as the closest prior art"*.

- XIII. In a letter dated 19 October 2022, the respondent argued that it agreed with the assertion in the board's communication attached to the summons dated 25 July 2022, i.e. that the debate on the main request and auxiliary request 1 was closed at the oral proceedings on 5 July 2022, and that therefore the discussion at the oral proceedings on 21 October 2022

should start with the discussion of the appellant's auxiliary request 2. It referred to Article 11 RPBA 2020 and Article 111(1), second sentence, EPC and argued against a remittal. Furthermore, it requested that the new documents and auxiliary request 3A, filed by the appellant by letter dated 17 October 2022, not be admitted into the appeal proceedings in view of Article 13(2) RPBA 2020.

XIV. The oral proceedings were resumed on 21 October 2022.

During these oral proceedings, the appellant filed several objections under Rule 106 EPC.

(a) After the board decided not to re-open the debate on the main request and, exercising its discretion under Article 111(1), second sentence, EPC and taking into account Article 11 RPBA 2020, not to remit the case to the department of first instance for further prosecution on the basis of the main request, the appellant filed the following objection under Rule 106 EPC ("**objection 1**"):

*"D10 as the starting point for inventive step for the main request has not been sufficiently substantiated in the respondent's response to the appellant's grounds of appeal since the respondent has failed to present their complete case with respect to D10 with respect to inventive step in their submission. A mere reference in the respondent's response to their previous submissions during the Opposition proceedings is not enough substantiation for the relevance of D10 to be used as the closest prior art in the appeal proceedings.*

*By considering the respondent's response to the*

*grounds of appeal to be sufficiently substantiated with regards to D10 and proceed with a discussion regarding inventive step starting from D10, the appellant's right to be heard under Art. 113 EPC has been violated."*

- (b) The board further decided to re-open the debate only on whether the objection of lack of inventive step under Article 56 EPC raised against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art had been sufficiently substantiated in the respondent's reply. Taking into account the parties' arguments, the board concluded that this objection of lack of inventive step had been sufficiently substantiated and was therefore to be taken into account under Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007 and that this meant that the debate that had taken place as to whether the subject-matter of claim 1 of auxiliary request 1 involved an inventive step starting from document D10 as the closest prior art and the board's conclusions on this could not be called into question.

The appellant then filed the following further objection under Rule 106 EPC ("**objection 2**"):

*"D10 as the starting point for inventive step for the auxiliary request 1 has not been sufficiently substantiated in the respondent's response to the appellant's grounds of appeal since the respondent has failed to present their complete case with respect to D10 with respect to inventive step in their submission. A mere reference in the respondent's response to their previous submissions during the Opposition proceedings is not enough substantiation for the relevance of D10 to be used*

*as the closest prior art in the appeal proceedings.*

*By considering the respondent's response to the grounds of appeal to be sufficiently substantiated with regards to D10 the appellant's right to be heard under Art. 113 EPC has been violated."*

- (c) After the board considered that the respondent had sufficiently substantiated its objection that the subject-matter of claim 1 of auxiliary request 2 lacked an inventive step starting from document D10 in its reply and, thus, this objection was taken into account pursuant to Article 12(4) RPBA 2007 in combination with Article 12(2) RPBA 2007, the appellant filed a further objection under Rule 106 EPC ("**objection 3**"). The wording of this objection corresponds to that of objection 2, with only the term "auxiliary request 1" being replaced by "auxiliary request 2".
  
- (d) The oral proceedings were interrupted at 17.49 hrs for deliberation by the board on the admittance of documents D38a, D46, D47 and D48.

At 18.20 hrs, one of the respondent's representatives entered the room where the board was deliberating and closed the door behind him ("**the room incident**"). He asked about the timetable of the oral proceedings on that day as the respondent's representatives had to catch a plane to London. The chair immediately asked him to leave the room as the board was deliberating, adding that the parties would be called in in a few minutes. The representative immediately left the room at 18.21 hrs.

The oral proceedings were resumed at 18.25 hrs, and the parties were then informed that the board, exercising its discretion under Article 13(2) RPBA 2020, decided to admit documents D38a, D46, D47 and D48 into the appeal proceedings. Upon resuming the oral proceedings, the board did not make any comment on the room incident. However, the room incident was discussed after the appellant had stated that this incident violated the appellant's right to be heard under Article 113(1) EPC and that it wished to raise an objection under Rule 106 EPC.

After this discussion, the respondent stated that one of its representatives had a flight to catch and asked for an adjournment of the oral proceedings. The appellant requested that if the oral proceedings were adjourned, they be held in person and a new summons be issued with at least two months' notice. The appellant also proposed filing its objection under Rule 106 EPC in writing shortly after the adjournment of the oral proceedings. After a brief discussion with the parties and a quick consultation with the other board members, the chair stated that, in view of the events during and after the first day of the oral proceedings on 5 July 2022, according to which the appellant had not kept to the agreements it had made at the end of the oral proceedings (i.e. to adjourn the oral proceedings until 14 July 2022 and to hold them as a videoconference), the board did not trust that the objection would indeed be filed shortly after the adjournment. The appellant was asked to file its objection under Rule 106 EPC before the oral proceedings were adjourned. The board added that it was possible to file the objection under Rule 106 EPC in handwritten form.

The appellant stated that it was willing to file the objection under Rule 106 EPC before the adjournment of the oral proceedings and asked for a break.

The chair suggested a break of 15 minutes and closed all debates on which the board had reached a conclusion on 21 October 2022. The oral proceedings were interrupted at 18.40 hrs. After the appellant had informed the board that its objection under Rule 106 EPC was ready, the oral proceedings were resumed at 18.49 hrs, and the appellant filed the following objection under Rule 106 EPC ("**objection 4**"):

*"During the oral proceedings at 18:21 the representative of the respondent deVille entered the room OP05 during the interruption for deliberation of the Board. He closed the door behind him and was alone with the board in the room. The appellant is not aware if and what was discussed in the room. Mr deVille left the room at 18:22. Since we as the representatives of the appellant was [sic] not present in the room while the door was closed. The appellants right to be heard under Art. 113 EPC has been violated."*

After the filing of objection 4, the oral proceedings were adjourned.

- XV. On 27 October 2022, the board issued summons to in-person oral proceedings, according to which the oral proceedings were to be resumed on 11 January 2023.
- XVI. By letter dated 28 December 2022, the appellant raised objections of suspected partiality under Article 24(3)

EPC against the members of the board.

- XVII. By letter dated 3 January 2023, the respondent requested that Mr McCann, an employee of the same law firm as the respondent's representative, be allowed to make oral submissions at the oral proceedings to be resumed on 11 January 2023 as an accompanying person. It also filed submissions on auxiliary requests 2 to 6.
- XVIII. By letter dated 6 January 2023, the respondent filed a signed witness statement of one of its professional representatives dated 6 January 2023 in which the representative described the circumstances of the room incident and the filing of objection 4.
- XIX. The oral proceedings were resumed on 11 January 2023.

On 11 January 2023, at 14.05 hrs, the oral proceedings before the board in its original composition were interrupted and an alternate board was appointed. After the alternate board decided that the objection of suspected partiality against the members of the board in its original composition be refused, the oral proceedings before the board in its original composition were resumed on 13 January 2023, at 9.02 hrs.

At 09.04 hrs, shortly after the resumption of the oral proceedings before the board in its original composition on 13 January 2023, the appellant filed the following objection under Rule 106 EPC ("**objection 5**"):

*"This is an expansion of the objection under R. 106 EPC filed 18:49 on October 21, 2022. The objection was submitted under time constrain due to the oral proceedings was going to be adjourned to provide the*

*representatives of the Respondent with the advantage to catch a plane. To put a time constrain on our right to formulate and submit an objection was objected to. The time constrain lead to a discussion about submission of the objection under R. 106 EPC. This in turn lead to a statement from the Chair that we, as representatives, cannot be trusted. The reasoning given was based on a withdrawal of an agreement from July 5, 2022 to resume the oral proceedings on July 14, 2022 without a summons. The withdrawal of the agreement is a statutory right. A decision to refuse an objection under Art. 24(3) EPC has been taken by an alternate Board regarding partiality of the original composition of the Board. However, we have not been able to take part of the reasoning for the decision. The reasoning of the decision could impact the objection under R. 106. EPC. Especially as we still don't know how the view expressed by the Board, and in particular the chair, cannot be considered to be suspected partiality."*

The appellant confirmed that objections 4 and 5 under Rule 106 EPC were to be read together as one objection.

The appellant requested that the oral proceedings be postponed until the written decision of the alternate board was issued.

At 16.53 hrs, the appellant filed a further objection under Rule 106 EPC ("**objection 6**"), which reads as follows:

*"D10 as the starting point in combination with D9 for lack of inventive step for the auxiliary request 4 has not been sufficiently substantiated in the respondent's response to the appellant's grounds of appeal since the respondent has failed to present their complete case*



*with respect to D10 in view of D9 with respect to inventive step in their submission. A mere reference in the respondent's response to their previous submissions during the Opposition proceedings is not enough substantiation for the relevance of D10 in view of D9 to be used as the closest prior art in the appeal proceedings. Especially as the opposition as originally filed, referred to in the respondent's [sic] response to the appeal, lacks any reasoning that claim 1 plus claim 4 would lack inventive step in view of the sole combination of D10 in view of D9.*

*By considering the respondent's response to the grounds of appeal to be sufficiently substantiated with regards to D10 in view of D9 and proceed with a discussion regarding inventive step starting from D10 in view of D9 for auxiliary request 4, the appellant's right to be heard under Art. 113 EPC has been violated."*

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 on the basis of the claims according to one of auxiliary requests 1 and 2 filed with the statement of grounds of appeal, auxiliary request 3a filed with the letter dated 17 October 2022, and auxiliary requests 4 to 6 filed with the statement of grounds of appeal.

The respondent requested that the appeal be dismissed.

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

XX. Claim 1 of the patent as granted ("appellant's main request") reads as follows:

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced image data representing at least first, second and third colors of the focused light;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the raw mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, **characterized in that** the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and **in that** the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the

image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second."

XXI. Claim 1 of the appellant's auxiliary request 1 reads as follows (features added compared to claim 1 of the main request are underlined and deleted features are ~~struck through~~):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced image [sic] data representing at least first, second and third colors of the focused light having a 12-bit data;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute a lossy compression algorithm which compresses for storage in the memory device the raw, 12-bit data, mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, characterized in that the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the

third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second."

XXII. Claim 1 of the appellant's auxiliary request 2 reads as follows (amendments compared to claim 1 of the main request are underlined):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced ~~image~~ [sic] data representing at least first, second and third colors of the focused light having a 12-bit data;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the raw, 12-bit data, mosaiced image data at a compression ratio of at least 6 to 1 such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, characterized in that the light sensitive device is configured to convert with a resolution of at least 2k

at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second."

XXIII. Claim 1 of the appellant's auxiliary request 3A reads as follows (amendments compared to claim 1 of the main request are underlined and deleted features are ~~struck through~~):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced ~~image~~ [sic] data representing at least first, second and third colors of the focused light having a 12-bit data and a frame rate of at least twenty-three frames per second;  
a memory device (24); and

an image processing system (20,22) comprising a compression module configured to execute a lossy compression algorithm which compresses for storage in the memory device each frame of the raw, 12-bit data, twenty-three frame per second, mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, characterized in that the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second; and wherein the image processing system is configured to compress the data at a compression ratio of at least six to one."

XXIV. Claim 1 of the appellant's auxiliary request 4 reads as follows (amendments compared to claim 1 of the main request are underlined):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced image data representing at least first, second and third colors of the focused light;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the raw mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, **characterized in that** the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the

compressed raw mosaiced image data at a rate of at least 23 frames per second, wherein the compression module (22) is disposed within the housing and comprising a separate compression chip."

XXV. Claim 1 of the appellant's auxiliary request 5 reads as follows (amendments compared to claim 1 of the main request are underlined):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced image data representing at least first, second and third colors of the focused light;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the raw mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, **characterized in that** the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to



obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second, wherein the light sensitive device (18) includes a first group of sensor cells configured to detect the first color, a second group of sensor cells configured to detect the second color, and a third group of sensor cells configured to detect the third color, the third group of sensor cells comprising twice as many sensor cells as the first or second group of sensor cells, and wherein image data related to each of the groups of sensor cells are separately compressed."

XXVI. Claim 1 of the appellant's auxiliary request 6 reads as follows (amendments compared to claim 1 of the main request are underlined):

"A video camera (10) comprising:  
a portable housing (12);  
a lens assembly (16) supported by the housing and configured to focus light;  
a light sensitive device (18) configured to convert the focused light into raw mosaiced image data representing at least first, second and third colors of the focused light;  
a memory device (24); and  
an image processing system (20,22) comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the

raw mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data, **characterized in that** the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least twenty-three frames per second, and in that the image processing system comprises an image processing module (20) configured to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the first color to obtain a first average value, and to calculate an average of values of image data of the third color from at least four sensor cells adjacent to a sensor cell of the second color to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first color and subtracting the second average value from a value of the image data from the sensor cell of the second color, and following the subtraction the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second, wherein the light sensitive device (18) includes a first group of sensor cells configured to detect the first color, a second group of sensor cells configured to detect the second color, and a third group of sensor cells configured to detect the third color, the third group of sensor cells comprising twice as many sensor cells as the first or second group of sensor cells, and wherein image data related to each of the groups of sensor cells are processed using separate image data processing modules."

XXVII. The appellant's arguments relevant to the present decision may be summarised as follows.

(a) *Extent of the judicial review by the boards of appeal*

Documents D9 and D10 could not be considered properly introduced as the closest prior art for the main request (patent as granted) or any of the auxiliary requests in view of the judicial nature of the appeal proceedings, the case law of the Enlarged Board of Appeal and the boundaries of the decision under appeal.

Any objection of lack of inventive step starting from document D9 or D10 as the closest prior art against the patent as granted could not be examined by the board since such an objection was not part of the decision under appeal. In the decision under appeal, the opposition division considered only document D5 as a proper closest prior art and found that the subject-matter of granted claims 1 and 7 lacked an inventive step in view of documents D5 and D9. Moreover, in its preliminary opinion given in its communication dated 17 June 2016 annexed to summons to oral proceedings, the opposition division concluded that neither document D9 nor document D10 could be a proper starting point because neither disclosed a video camera having a resolution of at least 2k and a frame rate of at least 23 frames per second, as required by the wording of granted claim 1. Hence, combinations of prior art, starting from D9 or D10, were never discussed during the oral hearing before the opposition division and were not part of the decision.

The primary function of the appeal proceedings was to give a judicial decision upon the correctness of a separate earlier decision taken by a department of the EPO (see decision G 9/91, OJ EPO 1993, 408). Decision G 9/91 also clarified that an appeal procedure was to be considered a judicial procedure and was by its very nature less investigative than an administrative procedure. This approach reduced the procedural uncertainty for patentees having otherwise to face unforeseeable complications at a very late stage of the proceedings, putting the patent at risk of being revoked, which meant an irrevocable loss of rights. Opponents were in a better position, having always the possibility to initiate revocation proceedings before national courts if they did not succeed before the EPO.

The current appeal was against the decision to revoke the patent based on D5 as the closest prior art. A discussion on inventive step starting from D10 would "go outside of the framework for the appeal". Hence, the appellant only approved that the appeal "related to" the decision taken by the opposition division.

(b) *Re-opening the debate on the appellant's main request (patent as granted)*

The debate on the main request, which was closed at the end of the first day of the oral proceedings on 5 July 2022, should be re-opened because the board made a mistake in its application of Article 12(4) RPBA 2007 when it took into account the respondent's attack of lack of inventive step starting from document D10 as the closest prior

art. In respect of this attack, the respondent's reply only contained verbatim repetitions of arguments put forward in the first-instance proceedings. In cases T 1311/13 and T 1516/18, the boards had found that a verbatim repetition of arguments put forward in the first-instance proceedings could not be considered sufficient substantiation under Article 12(2) RPBA 2007. In addition, the respondent's reply was not clear or concise because it stated that the opposition division's preliminary opinion was accepted as the respondent's own arguments. However, in its preliminary opinion, the opposition division had found that document D9 or document D10 could not be considered the closest prior art.

*(c) Re-opening the debate on auxiliary request 1*

The debate on the auxiliary request 1, which was closed at the end of the first day of the oral proceedings on 5 July 2022, should be re-opened because the board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art. This attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in the respondent's reply. Hence, the respondent should not be allowed to exchange document D5 with document D10 as the closest prior art. Doing that at the oral proceedings on 5 July 2022 had prevented the appellant from reacting.

*(d) Postponement of the oral proceedings*

The reasons why the appellant's objections of suspected partiality had been refused by the alternate board could influence the formulation of its objection 5 under Rule 106 EPC. However, these reasons were not yet known because the alternate board had not yet put its decision in writing and dispatched it. The oral proceedings should therefore be postponed until the reasons for refusing the appellant's objections of suspected partiality were known.

- (e) *Main request - substantiation of the attack of lack of inventive step starting from document D10*

The board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step starting from document D10 as the closest prior art since this attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in the respondent's reply. This reply contained a mere general reference to the respondent's submissions made in the opposition proceedings without comprehensively applying the problem-solution approach. However, it was established case law that such a reference could not be considered sufficient substantiation. Moreover, the respondent had not provided arguments why document D10 was a better starting point for the assessment of inventive step than document D5. In any case, the respondent had also not sufficiently substantiated an attack starting from document D10 during the opposition proceedings since the submissions made in the first-instance proceedings were vague and did not include a full substantiation using the problem-solution approach.

The attack of lack of inventive step starting from document D10 was thus a new attack raised in the appeal proceedings and constituted a late change of facts. Therefore, any attack in the appeal proceedings starting from document D10 was new and to be considered late filed.

Moreover, the respondent's reply was not clear or concise because it stated that the opposition division's preliminary opinion was accepted as the respondent's own arguments. However, in its preliminary opinion, the opposition division had found that document D9 or D10 could not be considered the closest prior art.

(f) *Main request - inventive step*

- (i) Document D10 only disclosed the part of granted claim 1 relating to the mathematical method for de-correlating image data of a first and second colour based on image data of a third colour ("**colour de-correlation**"). Document D10 did not disclose a camera configured to carry out the steps of this mathematical method. According to document D10, these steps were carried out by a PC. In 2005, the year document D10 was published, a camera implementing such steps would not have been portable.
- (ii) The data processed by the PC in document D10 was not data coming from a real sensor on the camera. Hence, this data was not raw mosaiced image data.

- (iii) The objective technical problem should be formulated as to provide compressed raw image data usable for high-end cinema production. This objective technical problem corresponded to the problem described in paragraph [0004] of the patent as granted and applied also to non-digital cameras. When formulating the objective technical problem, reference should be made to the technical problem mentioned in the description. Only if the technical problem mentioned there turned out to be incorrect in view of the cited prior art should it be reformulated.
  
- (iv) The aspects of increased spatial and temporal resolutions were pointers to the solution and should thus not be included in the objective technical problem. If these aspects were included in the objective technical problem, at least the requirement that the spatial and temporal resolutions be improved "for high-end cinema production" should also be included because, before the priority date of the patent, values of 2k and 23 frames per second were for high-end cinema.
  
- (v) Increasing the spatial resolution to 2k and the temporal resolution to 23 frames per second required significantly more processing power. According to document D10, a PC was required to process even less data. Thus, the person skilled in the art reading document D10 would have understood that processing video data



having a spatial resolution of 2k at 23 frames per second was not possible.

Experimental data should have been provided by the respondent to support its opinion that the spatial and temporal resolutions of the camera disclosed in document D10 could be improved to values specified in the claim.

- (vi) More coding artifacts would be created by increasing the spatial resolution. This was contrary to the feature specified in granted claim 1 requiring that the compressed raw mosaiced image data remained visually lossless. Experimental data should have been provided by the respondent to prove that the compression could remain visually lossless when increasing the spatial resolution. Hence, increasing the spatial resolution to 2k was not obvious.

- (g) *Remittal to the department of first instance for further prosecution on the basis of the main request*

Documents D10 and D9 as the closest prior art had not been properly introduced into the appeal proceedings since in view of G 9/91, G 7/91, G 10/91, G 8/91 and T 239/96, the boundaries of the decision under appeal were the legal and factual framework defined by the decision of the opposition division, which did not include D10 and D9 as the closest prior art or the sole document used for attacking inventive step of claim 1 of the main request.

The disclosure of document D10 had not been discussed at the oral proceedings before the opposition division. It had been discussed for the first time at the oral proceedings before the board on 5 July 2022. The choice of the closest prior art had an effect on the distinguishing features and their technical effects.

Furthermore, the board had changed its arguments on D10 and introduced new arguments as late as during the oral proceedings. This was especially true for the auxiliary requests which had never been discussed in view of D10 at any point in the proceedings. The board's changing of arguments and introduction of new arguments clearly constituted the introduction of new facts and evidence. The board presented a new interpretation of the disclosure of D10 which previously had not been presented to the appellant during any written procedure, and thus the appellant had had no chance to consider or comment on these facts and arguments previously. This went against the notion that the appeal was a jurisdictional review of a previous decision issued by the department of first instance.

By introducing new interpretations of D10, especially for the auxiliary requests, the board had presented the appellant a new line of argument which included new distinguishing features and a plurality of partial problems to be solved. Thus, the appellant was presented with entirely new lines of argument for the examination of inventive step at the oral proceedings. This was particularly true for the auxiliary requests which had never been

discussed in view of D10 in the proceedings prior to the oral hearing.

The board also alleged that most of the partial problems were solved by common general knowledge, this also having never been discussed until the oral proceedings before the board. Moreover, the use of D10 as the closest prior art would necessarily influence the choice of any art combined with D10 for the remaining auxiliary requests, presenting additional issues which had not been addressed thus far in the proceedings.

The respondent had only referred to arguments submitted at the first-instance proceedings in its reply. At the oral proceedings on 5 July 2022, new parts of document D10 had been relied upon, and a new interpretation of that document and new lines of argument within the meaning of J 14/19 had been provided. It had been discussed whether the camera disclosed in document D10 had compression capability. The opposition division's preliminary opinion had stated that the camera did not have on-board capabilities. The respondent had agreed to this preliminary opinion in its reply. The implementation of JPEG had also been discussed for the first time at the oral proceedings on 5 July 2022. This discussion could have taken place much earlier. These late-raised lines of argument put the appellant at a disadvantage because the possibility of filing new requests was limited by the 2020 version of the RPBA, while whether the respondent's reply was sufficiently substantiated fell within the framework of the 2007 version of the RPBA.

It was requested that the case be remitted to the opposition division not because document D10 had been used as the closest prior art in the discussion at the oral proceedings on 5 July 2022 but because new lines of argument had been provided in that discussion. For example, whether the camera disclosed in document D10 had on-board capabilities for compressing data had never been discussed previously. Also, the fact that the distinguishing features of claim 1 solved partial problems had never been brought to the appellant's attention before the oral proceedings on 5 July 2022. The appellant had not had a fair chance to file new evidence and new claim requests in reaction to these new lines of argument. At the oral proceedings on 5 July 2022, each step of the problem-solution approach had been discussed in turn, and there had been no possibility to re-discuss a step after the board had given its conclusions on it. It had never been explained to the appellant why it was considered that the camera disclosed in document D10 had on-board capabilities. This point was essential for the preparation of new claim requests.

In the interest of the appellant's right to fair and complete proceedings, the case should be remitted to the opposition division, without a board's decision on the main request, for examination of the case on the basis of the main request, using document D10 as the closest prior art. Remitting the case to the opposition division based on an expressed request from the patent proprietor would be in line with decision T 1914/12 and would result in a much fairer resolution of the case, whatever the outcome.

Not remitting the case to the opposition division for a thorough discussion of the new lines of argument provided on 5 July 2022 would violate the appellant's right to be heard.

- (h) *Auxiliary request 1 - substantiation of the attack of lack of inventive step starting from document D10*

The board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step starting from document D10 as the closest prior art since this attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in the respondent's reply. The standard for substantiation should be the same for the statement of grounds of appeal and any reply to it.

Claim 1 of auxiliary request 1 contained at least two features not specified in claim 1 of the main request, i.e. the representation of the raw mosaiced image data with 12 bits and the fact that the compression algorithm was lossy.

Point 3.2 of the respondent's reply did not refer to document D10 or common general knowledge. In point 3.2 of the reply, reference was made to the grounds for the decision under appeal, which only took into account the combination of documents D5 and D9. The respondent's comments in that point were a reaction to the discussions that had taken place at the oral proceedings before the opposition division. In those oral proceedings, inventive step had only been discussed starting from document D5

as the closest prior art and in view of document D9. The respondent should have clarified in point 3.2 of its reply that the comments provided in that point also applied if document D10 were taken as the closest prior art. Moreover, by stating, at the oral proceedings before the board, that it had not committed to any closest prior art in point 3.2 of its reply, the respondent implicitly admitted that it had not sufficiently substantiated its objection of lack of inventive step starting from document D10 for auxiliary request 1.

D10 had previously not been argued as the closest prior art for auxiliary request 1. As defined in T 187/18, a new combination of documents was not a mere elaboration of a previous line of argument but a change to the party's case. The arguments presented during the oral proceedings on 5 July 2022 on "lossy compression" were newly introduced and not the same as the arguments presented in the reply, this amounting to an amendment to the respondent's case in view of J 14/19.

Moreover, in case T 1807/19, a document labelled as D14 had been dealt with for the main request, and the question had been whether that document could also be used for the remaining requests. The only reason this was accepted by the board in case T 1807/19 was that the distinguishing features did not change when using document D14 as the starting point for the remaining requests. In the case in hand, however, there were two additional distinguishing features to be taken into account.

Hence, the respondent should not be allowed to exchange document D5 with document D10 as the closest prior art. Doing so at the oral proceedings on 5 July 2022 had prevented the appellant from reacting.

Additionally, point 3.2 of the respondent's reply merely indicated that the expression "visually lossless" implied "lossy". This was evidently not correct and, hence, could not be considered a proper substantiation.

(i) *Auxiliary request 1 - inventive step*

- (i) Document D10 referred to the lossless mode of JPEG 2000. Even if it was undisputed that some modes of JPEG 2000 supported a 12-bit colour representation, there was no evidence on file that the lossless mode of JPEG 2000 had this feature.
- (ii) All the distinguishing features considered together had the surprising effect of providing a higher compression ratio while maintaining the visually lossless property of the compressed raw mosaiced image data. The formulation of partial objective technical problems was thus not appropriate. The objective technical problem should remain the same as for the main request, namely how to increase temporal and spatial resolution of the video for high-end cinema production.
- (iii) Document D10 taught away from using lossy compression, especially for high-end

applications such as high-end cinema production.

(iv) For 12-bit data, a lot more data needed to be compressed. Thus, it was surprising that the compressed raw mosaiced image data still remained visually lossless.

(j) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 1*

There were no further comments on the request for remittal of the case to the opposition division for further prosecution on the basis of auxiliary request 1.

(k) *Auxiliary request 2 - substantiation of the attack of lack of inventive step starting from document D10*

The board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step starting from document D10 as the closest prior art since this attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in the respondent's reply. The standard for substantiation should be the same for the statement of grounds of appeal and any reply to it.

Point 3.3 of the respondent's reply did not refer to document D10 or common general knowledge. In that point, the respondent referred to points 18 and 19 of the grounds for the contested decision. D10 had never been discussed for auxiliary



request 2, neither alone nor in view of any other prior art. D10 could therefore not be considered to have been properly introduced for auxiliary request 2.

Compared to claim 1 of the main request, claim 1 of auxiliary request 2, like auxiliary request 1, contained the representation of the raw mosaiced image data with 12 bits. As stated for auxiliary request 1, the reply was not sufficiently substantiated in respect of this feature.

Claim 1 of auxiliary request 2 also contained the additional feature over claim 1 of the main request that mosaiced image data was compressed at a compression ratio of at least 6 to 1. Point 3.3 of the respondent's reply merely stated that this feature *"in connection with the (rather vague) further feature that the compressed image remains visually lossless is a result to be achieved, and moreover a result that is rather naturally desirable"*. This argument related more to the "visually lossless" feature than to the feature "compression ratio of at least 6 to 1". The feature "compression ratio of at least 6 to 1" was not a wish but a requirement of the claim. The only specific statement in point 3.3 related to document D9, which, according to the respondent, disclosed that compression ratios of 10:1 and 40:1 were common in the art. No argument was provided for a compression ratio of 6:1. In point 3.3, the respondent did not refer to document D10 as the closest prior art and did not explain why or how the disclosure of document D9 related to the disclosure of document D10 or a high-end camera. Document D9 mentioned high losses and, therefore,

was not combinable with the method of document D10, which relied on lossless compression. There was also no explanation why the common general knowledge identified in document D9 could be applied to the system disclosed in document D10. The respondent should have stated where the feature "compression ratio of at least 6 to 1" was disclosed in document D10. The respondent's reliance on document D9 could be understood to imply that the respondent no longer relied on document D10 as the closest prior art.

- (1) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 2*

Inventive step regarding auxiliary request 2 had not yet been discussed at the oral proceedings before the board.

Moreover, lack of inventive step of the subject-matter of claim 1 of auxiliary request 2 in view of the disclosure of document D10 combined with common general knowledge had not been a reason for revoking the patent. This objection had never been discussed during the first-instance proceedings for auxiliary request 2. The statement of grounds of appeal was within the boundary of the decision under appeal. The opponent was only the respondent since it had not filed an appeal. If lack of inventive step was discussed starting from document D10 as the closest prior art and the respondent provided a new line of argument, the question of remittal would again arise.

The appellant should be given the opportunity to

have that issue considered at two instances. The board's exercise of its discretion should still guarantee that the parties' right to be heard was observed. The discussion of the feature "compression ratio of at least 6 to 1" would be lengthy and should not take place for the first time in appeal proceedings. What could be considered common general knowledge had to be discussed. The appellant referred to point 8 of decision T 1914/12.

(m) *Auxiliary request 2 - admittance of documents D38a, D46, D47 and D48 (Article 13(2) RPBA 2020)*

Documents D38a, D46, D47 and D48, which had been filed as evidence of common general knowledge, should be admitted into the appeal proceedings. Submitting evidence of common general knowledge should always be possible, even at a late stage of the appeal proceedings.

The subject-matter of claim 1 of auxiliary request 2 differed from the disclosure of document D10 by four distinguishing features ("a resolution of at least 2k", "a frame rate of at least twenty-three frames per second", "12-bit data" and "a compression ratio of at least 6 to 1"). The intention was to demonstrate with documents D38a, D46, D47 and D48 that these distinguishing features had to be interpreted in the context of the claim as a whole and that formulating partial objective technical problems was not appropriate. The appellant wanted to show that the features "12-bit data" and "a compression ratio of at least 6 to 1" achieved a synergistic effect. For this purpose, the appellant had to be given the opportunity to

discuss the common general knowledge of the person skilled in the art of data compression. Documents D38a, D46, D47 and D48 had been filed in reaction to an objection of lack of inventive step, starting from document D10 and involving partial objective technical problems, which had been raised for the first time during the oral proceedings before the board. This was an exceptional circumstance within the meaning of Article 13(2) RPBA 2020.

(n) *Auxiliary request 3a - admittance (Article 13(2) RPBA 2020)*

Auxiliary request 3a should be admitted into the appeal proceedings since there were exceptional circumstances within the meaning of Article 13(2) RPBA 2020. Amended claim 1 of auxiliary request 3a, which combined the features of a lossy compression algorithm and a compression ratio of at least 6 to 1, was a reaction to new lines of argument put forward by the respondent in the oral proceedings against claim 1 of auxiliary requests 1 and 2, namely that near-lossless could also mean lossy and that a compression ratio of at least 6 to 1 did not exclude lossless compression.

(o) *Auxiliary requests 2 and 3a - inventive step*

- (i) The choice of a compression ratio of at least 6 to 1 could not be made without the benefit of hindsight of the solution.
- (ii) Claim 1 not only required that the compression ratio was at least 6 to 1 but also that the compressed raw mosaiced image

data remained visually lossless. This was a requirement of the claim, not a wish.

- (iii) By referring to the feature that the compression ratio be at least 6 to 1 in connection with the feature that the compressed image remain visually lossless as a result to be achieved (see the reply, point 3.3, second paragraph, first sentence), the respondent in fact raised a clarity objection, not an objection of lack of inventive step.
- (iv) The additional feature of a compression ratio of at least 6 to 1 interacted with the other features to achieve a synergistic technical effect. The features in question were the resolution of at least 2k, the frame rate of at least 23 frames per second and the representation of the raw mosaiced image data with 12 bits. The synergistic effect was providing (i) on-camera recording and storage of compressed raw data that was visually lossless and (ii) image quality high enough for cinema production.
- (v) The features of "12-bit data" and a "compression ratio of at least 6 to 1" achieved a synergistic effect. It was harder to compress 12-bit data than 8-bit data because of the increased prevalence of noise in higher bit depth data.
- (vi) The maximum compression ratio achieved in document D10 was about 2 to 1. That was in

line with what was considered achievable at the relevant time by lossless compression. However, this was not even close to the claimed compression ratio of 6 to 1. To achieve a compression ratio of 6 to 1, a change from lossless compression to lossy compression was needed. However, this was not obvious starting from document D10, which consistently applied lossless compression.

- (p) *Auxiliary request 4 - substantiation of the attack of lack of inventive step in view of document D10 combined with document D9*

The board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step in view of document D10 combined with document D9 since this attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in point 3.5 in the respondent's reply. In point 3.5, the respondent merely referred to document D9. Document D9 had always been argued starting from document D5. In the first-instance proceedings, document D10 had not been discussed as a starting point for auxiliary request 4, neither in point 8.4 of the notice of opposition nor at any later stage. What was referred to in point 3.5 thus concerned other combinations of prior-art documents. Therefore, the respondent had not substantiated why the combination of documents D10 and D9 would render the subject-matter of claim 1 of auxiliary request 4 obvious. Reasoning was required on why and how these two documents would be combined. A mere reference to previous

submissions during the opposition proceedings was not enough.

- (q) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 4*

Reference was made to the arguments provided for the request to remit the case to the department of first instance on the basis of the main request. Here again, document D10 had never previously been discussed for auxiliary request 4.

- (r) *Auxiliary request 4 - inventive step*

The disclosure of document D9 related to particular chipsets. Further evidence about these chipsets should have been provided by the respondent to show that they actually included a separate compression chip.

- (s) *Auxiliary request 5 - added subject-matter*

- (i) The feature of claim 1 reading "*image data related to each of the groups of sensor cells are separately compressed*" was implicitly disclosed by the following parts of the application as filed:
- claim 3
  - paragraphs [0038] ff
  - paragraphs [0085] to [0095]
  - Figures 4, 9, 12, 13, 15 and 16
- (ii) Since in steps 64 to 72 of Figure 12 the colour signals were individually processed, it was implicit that they were also

individually compressed.

- (t) *Auxiliary request 6 - substantiation of the attack of lack of inventive step in view of document D10 combined with document D1*

The board, in application of Article 12(4) RPBA 2007, should not take into account the respondent's attack of lack of inventive step in view of document D10 combined with document D1 since this attack could not be considered sufficiently substantiated under Article 12(2) RPBA 2007 in point 3.7 in the respondent's reply. In point 3.7, the respondent merely referred to document D1 and point 10.3 of its submissions dated 18 February 2016. In the first-instance proceedings, document D10 had never been discussed as a starting point for auxiliary request 6, neither in point 8.4 of the notice of opposition nor at any later stage. Therefore, the respondent had not substantiated why the combination of documents D10 and D1 rendered the subject-matter of claim 1 of auxiliary request 6 obvious.

- (u) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 6*

Reference was made to the arguments provided for the request to remit the case to the department of first instance on the basis of the main request. Here again, document D10 had never previously been discussed for auxiliary request 6.

- (v) *Auxiliary request 6 - inventive step*



Claim 1 defined an image processing system comprising a compression module and an image processing module. The distinguishing feature "*wherein image data related to each of the groups of sensor cells are processed using separate image data processing modules*" thus related to a processing of image data other than compressing.

(w) *Appellant's objections 1, 2, 3 and 6 under Rule 106 EPC*

The board infringed the appellant's right to be heard under Article 113(1) EPC by considering the respondent's objections of lack of inventive step starting from document D10 against claim 1 of the patent as granted and auxiliary requests 1, 2 and 4 to be sufficiently substantiated in the reply when actually they had not been. Since the objections of the respondent were not sufficiently substantiated in the reply, the appellant was not in a position to take a stand and defend its position in the discussion on inventive step starting from document D10.

(x) *Appellant's combined objections 4 and 5 under Rule 106 EPC*

(i) The appellant's right to be heard under Article 113(1) EPC was violated because of the room incident. Article 19(1), third sentence, RPBA 2020 stated that the board's deliberations had to be secret. It was thus a severe problem when a party entered the room during a board's deliberation and closed the door without the other party being present. The appellant did not know

what exactly the respondent's representative had discussed with the board or what had happened in the room with the door closed. He might have gained information while being in the room with the board. Although this was not the board's fault, it could put the respondent at an advantage. There was no proof that the respondent's representative had not heard any of the board's deliberation. Moreover, he might have gained information from other cues such as the body language of the board members. The witness statement filed on 6 January 2023 contained the following passage: "*Therefore, I opened the door entered the room and walked to the end of the room were [sic] the Board of Appeal were located. The Chair when she saw me said to me 'You cannot be in here. Please leave'.*" This statement meant that the respondent's representative had been in the room for some time before the chair had seen him. The board members could have been standing or sitting with their backs to the door when the respondent's representative entered the room. Moreover, the simple fact that he might have heard why the documents had been admitted into the appeal proceedings could have given the respondent an advantage. It was enough for an infringement of Article 113(1) EPC that there was a suspicion that the respondent's representative had gained information he should not have.

This was the worst procedural violation the

appellant's representatives had seen in their career. One way to remedy this violation of the appellant's right to be heard was to restart the whole oral proceedings before the current board. If a rule was broken, there had to be some kind of remedy.

As to the respondent's question why the appellant's representatives had not followed the respondent's representative into the room, it was not logical to ask them to contravene the provisions of Article 19 RPBA 2020.

- (ii) The appellant's right to be heard was also violated because it had not been given sufficient time at the oral proceedings on 21 October 2022 to draft its objection under Rule 106 EPC on the room incident.

It had proposed to file its objection within a week after the adjournment of the oral proceedings. However, it had been under the impression that it would not have been allowed to file its objection after that day of the oral proceedings, i.e. after 21 October 2022. As stated by the respondent, the appellant had corrected the wording of its objection after filing it. However, this correction was the mere addition of a "not" so that there was no need for the appellant to request more time to make that correction.

XXVIII. The respondent's arguments relevant to the present decision may be summarised as follows.

(a) *Extent of the judicial review by the boards of appeal*

The board was competent to examine facts on its own motion. There was no legal provision preventing the board from examining the objection of lack of inventive step starting from document D9 or D10 as the closest prior art against the patent as granted. According to the case law of the boards of appeal, Article 114(1) EPC also applied in appeal proceedings (see section V.A.4 of the Case Law of the Boards of Appeal of the European Patent Office, 10th edition, 2022, "**Case Law**"). Therefore, a discussion of inventive step could start from document D9 or D10 in the appeal proceedings.

(b) *Re-opening the debate on the appellant's main request (patent as granted)*

By its letter dated 17 October 2022, the appellant had filed new arguments, evidence and requests and had attempted to re-open the discussion and to challenge the conclusions reached by the board at the oral proceedings on 5 July 2022, contrary to the agreement that the oral proceedings of 5 July 2022 had been interrupted as an adjournment. The appellant's submission therefore appeared to be an abuse of the concession granted by the board to suspend the oral proceedings of 5 July 2022 and provide two months' notice under Rule 115 EPC. The appellant's submission was also contrary to the closure of the debate at the oral proceedings on 5 July 2022. There was no reason to re-open the

debate on the main request. The arguments submitted by the appellant in its letter dated 17 October 2022 in support of its view that document D10 could not be the closest prior art were exactly the same as those it had submitted in reply to the notice of opposition. It was clear from the respondent's reply that it considered documents D9 and D10 to be suitable starting points. The oral proceedings had been adjourned at the appellant's request owing to a strike at an airline company. The adjournment had been consented to on the condition that the debate on the main request and auxiliary request 1 would be closed. The appellant originally proposed 14 July 2022 as the date until which the oral proceedings could be adjourned. The appellant was now taking advantage of the situation to file new arguments. The purpose of the adjournment was not to give the appellant an opportunity to submit new arguments. Re-opening the debate on the main request would not be efficient or fair. Professional representatives were bound by the epi Code of Conduct. It was odd that a professional representative agreed to the conditions of the adjournment of the oral proceedings in front of the board and then used the delay to try to re-open the debate.

(c) *Re-opening the debate on auxiliary request 1*

It would not be coherent to re-open the debate on auxiliary request 1, even on a specific point, after the board had found in the oral proceedings on 5 July 2022 that the subject-matter of claim 1 of auxiliary request 1 lacked an inventive step.

(d) *Postponement of the oral proceedings*

Since all the relevant facts on the appellant's objection 5 under Rule 106 EPC had been established in the oral proceedings before this board on 13 January 2023, postponement of the oral proceedings as requested by the appellant would be pointless.

- (e) *Main request - substantiation of the attack of lack of inventive step starting from document D10*

The attack of lack of inventive step starting from document D10 had been sufficiently substantiated in point 3.1.2 of the respondent's reply since this passage did not contain general but specific references to submissions made during the opposition proceedings. The objection of lack of inventive step starting from document D10 had been sufficiently substantiated in the first-instance proceedings. Therefore, this objection was not new and consequently not late filed.

- (f) *Main request - inventive step*

- (i) The following passages of document D10 anticipated all the features of claim 1 of the patent as granted except the conversion with a resolution of at least 2k: section 1, first, fourth and sixth paragraphs; section 2, second to fifth paragraphs; section 4, second and third paragraphs. A portable housing, a lens assembly configured to focus light, a light sensitive device configured to convert the focused light and a memory device were implicitly anticipated by these passages.

The features specifying that (i) the light sensitive device was configured to convert at a frame rate of at least 23 frames per second and (ii) the compressed raw mosaic image data was stored at a rate of at least 23 frames per second were disclosed in document D10, section 4, page 376, right-hand column.

- (ii) Document D10 dealt with digital video cameras, including Bayer colour filter arrays, and with how to achieve real-time lossless compression of mosaic video sequences. From the whole disclosure of document D10, it was evident that the workflow disclosed was intended to be performed on a camera, not a PC. The PC was merely used for simulation purposes.
- (iii) Increasing the spatial and temporal resolutions of videos was a general desire of the person skilled in the art. Thus, these aspects were not pointers to the solution but parts of a technical problem the person skilled in the art of video cameras would have wanted to solve starting from document D10.
- (iv) The person skilled in the art always tried to increase the resolutions of cameras. The wide range of values specified in the claim ("at least 2k" and "at least 23 frames per second") obviously included numbers (e.g. 2k, 4k, 23/24 frames per second) the person skilled in the art would have wished to

achieve while maintaining a visually lossless compression.

- (v) The core idea of the invention described in the patent as granted lied in the colour de-correlation preceding compression. This core idea was disclosed in document D10.
  - (vi) The only relevant question for the assessment of obviousness in the case in hand was whether the person skilled in the art would have wished to achieve values in the ranges specified in the claim in a portable camera while maintaining a visually lossless compression.
  - (vii) Document D10 hinted at processing at least 23 frames per second.
- (g) *Remittal to the department of first instance for further prosecution on the basis of the main request*

Under Article 11 RPBA 2020, the board should not remit a case to the department whose decision was appealed for further prosecution unless special reasons presented themselves for doing so. The aim of the new provision was to reduce the likelihood of a ping-pong effect between the boards of appeal and the first-instance departments and a consequent undue prolongation of the entire proceedings before the EPO. The boards should not normally remit a case if they could decide all the issues without undue burden (see Case Law, V.A.9.1.1-3). It was settled case law that parties did not have a



fundamental right to have their case examined at two instances. Accordingly, they had no absolute right to have each and every matter examined at two instances. Article 111(1), second sentence, EPC left it instead to the board's discretion to decide on an appeal either by exercising any power conferred on the department of first instance or by remitting the case to that department (see Case Law, V.A.9.2.1).

In the case at hand, there was no special reason within the meaning of Article 11 RPBA 2020 to remit the case to the opposition division. An objection of lack of inventive step starting from either document D9 or document D10 was present in the notice of opposition. As the opponent, the respondent did not have control over which prior-art document the opposition division chose to use as the starting point during the first-instance oral proceedings. If it had control, it would have argued starting from all documents. An objection of lack of inventive step starting from document D10 had been raised against claim 1 of the main request in point 3.1.2 of the reply. The board's preliminary opinion, issued before the first day of the oral proceedings, had stated that the parties should be prepared to discuss inventive step starting from document D9 or document D10. Thus, the discussion of inventive step starting from document D10 that took place on 5 July 2022 could not have taken the appellant by surprise. It was moreover established on 5 July 2022 that the board had the right to examine new facts and evidence provided that the appellant's right to be heard under Article 113(1) EPC was observed. Furthermore, there was nothing to be gained from remitting the

case to the first-instance department. The board had already found on 5 July 2022 that the subject-matter of claim 1 of the main request lacked inventive step starting from document D10. The chances were high that the case would come back to the board if the case were remitted to the opposition division. Remitting the case would only perpetuate the illusion of a granted patent, and this would be at odds with the principles of the European patent system.

- (h) *Auxiliary request 1 - substantiation of the attack of lack of inventive step starting from document D10*

The objection of lack of inventive step starting from document D10 was sufficiently substantiated in the reply. Point 3.2 of the reply did not commit to any specific closest prior art. Therefore, it was clear that any closest prior art discussed before in that reply was considered a potential starting point for assessing inventive step of the subject-matter of claim 1 of auxiliary request 1. Point 3.1.2 of the reply dealt with inventive step starting from document D10 for the main request. Point 3.2 identified the additional features of claim 1 of auxiliary request 1 and explained why these features would have been obvious to the person skilled in the art. It was clear that these comments were applicable starting from any of the closest prior-art documents identified for the main request. The sentence in point 3.2 of the reply, which referred to points 15 to 17 of the grounds for the decision under appeal, began with "See also", which meant that this was an additional argument and not a statement that the closest

prior-art document referred to in the grounds for the decision under appeal was the only one relied on by the respondent.

Moreover, compression was either lossy or lossless. Because there were only these two options, no further evidence needed to be provided.

(i) *Auxiliary request 1 - inventive step*

(i) The pre-processing of the data output by the Bayer filter disclosed in document D10 necessarily caused losses. Thus, document D10 implicitly disclosed a lossy compression that was visually lossless.

(ii) The reference to JPEG 2000 in document D10 implicitly disclosed representing each colour with 12 bits since it was known that JPEG 2000 supported that representation.

(iii) A colour representation with 12 bits merely represented an obvious choice among several for extending the colour space.

(j) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 1*

There were no additional comments on the appellant's request for remittal of the case to the opposition division for further prosecution on the basis of auxiliary request 1.

(k) *Auxiliary request 2 - substantiation of the attack of lack of inventive step starting from*

*document D10*

The objection of lack of inventive step starting from document D10 was sufficiently substantiated in the reply. The issue whether that objection was sufficiently substantiated in the reply had already been discussed with respect to higher-ranking requests. It was clear from point 3.3 of the reply that the feature "compression ratio of at least 6 to 1" was seen as a mere result to be achieved and, in any case, as an obvious compression choice in view of the common general knowledge of the person skilled in the art as implicitly acknowledged in paragraphs [0037] and [0039] of the patent specification and derivable from column 3, line 40 of document D9. It was indicated that the trade-off between compression and quality was obvious to the person skilled in the art, as evidenced by document D9, column 3, lines 39 to 45. This view applied irrespective of the document considered to be the closest prior art.

- (l) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 2*

There were no reasons for remittal.

- (m) *Auxiliary request 2 - admittance of documents D38a, D46, D47 and D48 (Article 13(2) RPBA 2020)*

Documents D38a, D46, D47 and D48 should not be admitted into the appeal proceedings. It was not clear what these documents would clarify. In addition, documents D46, D47 and D48 had been published after the priority date of the patent

application on which the patent in suit was based. The feature of "a compression ratio of at least 6 to 1" was a mere promise and could not achieve a synergistic effect with the feature "12-bit data", no matter which prior-art documents were considered. Hence, it was not clear what would be clarified by documents D38a, D46, D47 and D48.

(n) *Auxiliary request 3a - admittance (Article 13(2) RPBA 2020)*

Auxiliary request 3a had been filed only four days before the resumption of the oral proceedings on 21 October 2022. Thus, this request was late filed and should not be admitted into the appeal proceedings. The appeal proceedings had been going on for several years. Neither the issues nor the substantial arguments had changed, as confirmed on page 33, second paragraph of the appellant's letter dated 17 October 2022.

(o) *Auxiliary requests 2 and 3a - inventive step*

- (i) The compression ratio of (at least) 6 to 1 was an arbitrary choice among possible compression ratios.
- (ii) The statement in the reply, point 3.3, second paragraph, first sentence that the compression ratio of at least 6 to 1 in connection with the further feature that the compressed image remained visually lossless was a result to be achieved was not an objection of lack of clarity but meant, as explained in the following sentence of the second paragraph in

point 3.3 of the reply, that a mere objective could not constitute an inventive step.

- (iii) According to the patent specification (e.g. paragraphs [0038] and [0039]), the ratios and the visually lossless property of the compression specified in claim 1 were only the result of applying standard compression techniques after the colour de-correlation (which was known from the disclosure of document D10).
  
- (p) *Auxiliary request 4 - substantiation of the attack of lack of inventive step in view of document D10 combined with document D9*

The objection of lack of inventive step in view of document D10 combined with document D9 was sufficiently substantiated in the reply. The issue whether the respondent's objection of lack of inventive step based on document D10 as the closest prior art was sufficiently substantiated in its reply had already been discussed with respect to higher-ranking requests. In point 3.5 of its reply, the respondent identified the additional features of claim 1 of auxiliary request 4 compared to claim 1 as granted and stated that these additional features were derivable from document D9. Reference was also made to point 8.4 of the notice of opposition and point 10.1 of the submission dated 18 February 2016. It was difficult to see how the reader could not have understood that the objection was based on a combination of documents and that the view on the additional features applied irrespective of which document was considered the

closest prior art, i.e. also document D10.  
Therefore, the combination of documents D10 and D9  
was sufficiently substantiated.

- (q) *Remittal of the case to the first-instance  
department for further prosecution on the basis of  
auxiliary request 4*

There were no reasons to remit the case to the  
opposition division because the distinguishing  
features of claim 1 of auxiliary request 4 had  
already been discussed before the opposition  
division.

- (r) *Auxiliary request 4 - inventive step*

Since a chipset was a set of chips and document D9,  
column 11, lines 57 to 63 disclosed that the  
wavelet transform engine was implemented in  
hardware, it would have been obvious to the person  
skilled in the art to partition the chipset such  
that one of the chips implemented the wavelet  
transform engine.

- (s) *Auxiliary request 5 - added subject-matter*

There was no basis in the application as filed for  
the feature in claim 1 specifying that "*image data  
related to each of the groups of sensor cells are  
separately compressed*".

- (t) *Auxiliary request 6 - substantiation of the attack  
of lack of inventive step in view of document D10  
combined with document D1*

The objection of lack of inventive step in view of

documents D10 and D1 was sufficiently substantiated in point 3.7 of the reply.

- (u) *Remittal of the case to the first-instance department for further prosecution on the basis of auxiliary request 6*

There were no reasons to remit the case to the opposition division.

- (v) *Auxiliary request 6 - inventive step*

(i) Claim 1 did not specify that the "image data processing modules" are part of the "image processing module". Therefore, the person skilled in the art would not have interpreted the feature "processed using separate image data processing modules" in claim 1 as excluding data compression.

(ii) Separate image processing modules for different colour channels were known from document D1 (see column 4, lines 49 to 51; Figure 2; column 3, lines 54 to 59).

- (w) *Appellant's objections 1, 2, 3 and 6*

There were no comments.

- (x) *Appellant's combined objections 4 and 5*

(i) Reference was made to the witness statement dated 6 January 2023. The respondent's representative had been in the room for less than a minute and could not have heard anything. Moreover, the board's



deliberation had been on the admittance of documents D38a, D46, D47 and D48 into the appeal proceedings. This matter had been decided by the board in the appellant's favour. Hence, no advantage could have been gained by the respondent even if its representative had heard something. These events had no bearing on the proceedings. Why had the appellant's representatives not followed the respondent's representative into the room if they had thought that the appellant's right to be heard could have been violated?

- (ii) At the oral proceedings on 21 October 2022, the appellant's representatives had not been under any time pressure to formulate the appellant's objection under Rule 106 EPC. They had been asked how much time they needed to formulate their objection. The objection had then been filed and briefly discussed. The respondent's representatives had noted that some words were missing, following which the appellant corrected the wording of its objection. This suggested that the appellant had had ample time to review and resubmit its objection.

## **Reasons for the Decision**

1. The appeal is admissible.
2. *Extent of the judicial review by the boards of appeal*
  - 2.1 The appellant essentially argued that the board could only examine the objections of lack of inventive step

raised against subject-matter claimed in the patent as granted or as amended which were dealt with in the decision under appeal since it was the primary function of the appeal proceedings to give a judicial decision upon the correctness of a separate earlier decision taken by a first-instance department (see decision G 9/91, OJ EPO 1993, 408). The opposition division had revoked the patent because the subject-matter of claims 1 and 7 of the patent as granted and each of the then first to sixth auxiliary requests lacked inventive step within the meaning of Article 56 EPC in view of the disclosure of documents D5 and D9. The appellant considered that a discussion in the appeal proceedings of inventive step, starting from document D9 or D10, would therefore "go outside of the framework for the appeal".

The respondent argued that there was no legal provision prohibiting the examination or discussion of inventive step starting from document D9 or D10 in the appeal proceedings.

- 2.2 The board agrees with the appellant that, according to the established case law of the boards of appeal, the primary function of appeal proceedings is to give a judicial decision upon the correctness of a separate earlier decision taken by a department of first instance (see T 34/90, OJ EPO 1992, 454; G 9/91; G 10/91, OJ EPO 1993, 420; T 534/89, OJ EPO 1994, 464; T 506/91). Article 12(2) RPBA 2020 now expressly states that the primary object of the appeal proceedings is to review the decision under appeal in a judicial manner.

It is also established case law that appeal proceedings are wholly separate and independent from the first-instance proceedings and are not a mere continuation of

first-instance proceedings (see e.g. T 34/90). The main purpose of inter partes appeal proceedings is to give the losing party a possibility to challenge the opposition division's decision (see G 9/91 and G 10/91 (containing identical "Summary of Facts and Submissions" and "Reasons for the Decision"), point 18 of the Reasons). In view of the contentious nature of opposition appeal proceedings and their status as a post-grant procedure, the judicial procedure for examining an administrative decision of a first-instance department is by its very nature less investigative than an administrative procedure (see G 9/91 and G 10/91, point 18 of the Reasons). It is therefore justified to apply Article 114(1) EPC, which, as argued by the respondent, also covers appeal proceedings, generally in a more restrictive manner in appeal proceedings than in opposition proceedings (see G 9/91 and G 10/91, point 18 of the Reasons; Case Law, V.A.4.1.1).

2.3 In accordance with the case law of the Enlarged Board of Appeal, substantive examination in opposition appeal proceedings is subject to the following limitations.

(a) In decision G 9/91, the Enlarged Board of Appeal held that the power of the boards of appeal to examine and decide on the maintenance of a European patent under Articles 101 and 102 EPC 1973 (now only Article 101 EPC) depends upon the extent to which the patent is opposed in the notice of opposition pursuant to Rule 55(c) EPC 1973 (now Rule 76(2)(c) EPC). However, subject-matters of claims depending on an independent claim, which falls in appeal proceedings, may be examined as to their patentability even if they have not been explicitly opposed, provided their validity is

prima facie in doubt on the basis of already available information (see decision G 9/91, point 11 of the Reasons and the Order).

- (b) Fresh grounds for opposition may be considered in appeal proceedings only with the approval of the patent proprietor (see G 10/91 and G 9/91, point 18 of the Reasons).
  
- (c) In decisions G 9/92 and G 4/93 (both OJ EPO 1994, 875), the Enlarged Board of Appeal held that appeal proceedings are determined by the petition initiating them (ne ultra petita), and it concluded that the principle of prohibition of reformatio in peius applies where the sole appellant against an interlocutory decision maintaining the patent in amended form is the patent proprietor or the opponent. In the first case, neither the board nor the non-appealing opponent as a party as of right may challenge the maintenance of the patent as amended in accordance with the interlocutory decision. In the second case, the patent proprietor is primarily restricted to defending the patent in the form in which it was maintained by the opposition division. However, the principle of prohibition of reformatio in peius, which is intended to prevent the sole appellant from being placed in a worse position than before the appeal was filed, does not apply to an appeal of the patent proprietor against a decision revoking the patent since in such a case it is not possible for the appellant to obtain a worse result. It is established case law of the boards of appeal that the principle of prohibition of reformatio in peius cannot be construed to apply separately to each point or issue decided or the reasoning leading to

the impugned decision (see e.g. T 149/02).

(d) In decisions G 7/91 and G 8/91 (OJ EPO 1993, 356 and 346), the Enlarged Board of Appeal ruled that, as far as the substantive issues settled by the contested first-instance decision were concerned, inter partes appeal proceedings were terminated when the sole appellant withdrew its appeal. The same applies if the opponent as the sole appellant withdraws its opposition (see G 8/93, OJ EPO 1994, 887).

2.4 In the case at hand, the board's power of judicial review is not subject to any of the above limitations.

The opposition was directed against the granted patent in its entirety, and the opposition division revoked the patent. Therefore, the limitations mentioned in points 2.3 (a) and (c) above obviously do not apply. Also the limitation mentioned in point 2.3 (d) does not apply for obvious reasons. Moreover, these limitations have not been invoked by the parties. The board's power of judicial review could therefore only have been limited to the extent that new grounds for opposition may only be taken into account in appeal proceedings with the consent of the patent proprietor (see point 2.3 (b) above). However, this is not the situation here. The ground for opposition of lack of inventive step under Articles 100(a) and 56 EPC was dealt with in the first-instance proceedings. Therefore, the objection raised by the respondent in the appeal proceedings that there is a lack of inventive step based on document D9 or D10 as the closest prior art does not constitute a new ground for opposition but falls under the ground for opposition raised under Articles 100(a) and 56 EPC in the first-

instance proceedings.

2.5 The appellant referred to decision G 9/91 and submitted that the current appeal was directed against the opposition division's decision to revoke the patent on the basis of document D5 as the closest prior art and that, in view of the primary function of appeal proceedings to give a judicial decision upon the correctness of a separate earlier decision taken by a department of first instance, it only agreed that the appeal related to the decision of the opposition division.

2.6 In the board's view, it cannot be inferred from the primary object of the appeal proceedings to review the decision under appeal in a judicial manner (see point 2.2 above) that the judicial review must be limited to determining whether the decision issued by a department of first instance was correct on its merits. Nor can it be concluded that the boards of appeal are restricted to examination of the grounds for the contested decision or to the facts and evidence on which the decision was based.

This is confirmed by the RPBA 2007 and RPBA 2020, which contain key provisions governing the appeal procedure.

Under Article 12(1)(a) and (b) RPBA 2007 (now Article 12(1)(b) and (c) RPBA 2020), *inter partes* appeal proceedings are based on the statement of grounds of appeal and the reply to it. Article 12(1)(a) RPBA 2020 stipulates that the appeal proceedings are also based on the decision under appeal and the minutes of any oral proceedings before the department having issued that decision.

Pursuant to Article 12(4) RPBA 2007, the boards of appeal have to take into account everything presented by the parties under Article 12(1) RPBA 2007 if and to the extent that it relates to the case under appeal, unless it does not meet the requirements of Article 12(2) RPBA 2007. However, Article 12(4) RPBA 2007 also provides the boards of appeal with the power to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first-instance proceedings.

Under Article 12(2) RPBA 2020, a party's appeal case must be directed to requests, facts, objections, arguments and evidence on which the decision under appeal was based. Any part of a party's appeal case which does not meet the requirements of Article 12(2) RPBA 2020 is to be regarded as an amendment unless the party demonstrates that this part was admissibly raised and maintained in the first-instance proceedings (Article 12(4), first sentence, RPBA 2020). This means that if the party can demonstrate this in the appeal proceedings, the part in question will not be considered an amendment and, therefore, will be part of the appeal proceedings. If, however, the party is unable to do so, amendments within the meaning of Article 12(4) RPBA 2020 also include parts of an appeal case that the party submitted in the proceedings before the department of first instance but on which that department did not base its decision. This part of the appeal case may only be admitted at the discretion of the boards of appeal pursuant to Article 12(4), second sentence, RPBA 2020.

In addition, Article 12(6) RPBA 2020, in a similar way as Article 12(4) RPBA 2007 before it, explicitly refers to the boards' discretion not to admit requests, facts,

objections or evidence which were not admitted in the first-instance proceedings (first sentence) or which should have been submitted or were not maintained in those proceedings (second sentence).

It follows from the above that, under the provisions of both the RPBA 2007 and RPBA 2020, a board must, subject to certain conditions, take into account a party's submissions made in the statement of grounds of appeal or in the reply to it or, if not, may nevertheless, in the exercise of its discretion, admit them into the appeal proceedings even if they are late filed. The latter is also in line with Article 114(2) EPC. This means that neither under the provisions of the RPBA 2007 nor under those of the RPBA 2020 are the boards of appeal limited to taking into account only requests, facts, objections, arguments or evidence on which the decision under appeal was based.

2.7 Referring to decision G 9/91, the appellant also argued that the approach that the appeal procedure was by its very nature less investigative than an administrative procedure reduced the procedural uncertainty for patent proprietors, which would otherwise be confronted with unforeseeable complications at a very late stage of the proceedings, putting the patent at risk of being revoked, which meant an irrevocable loss of rights. Opponents were in a better position in this respect as they would have always the option of initiating revocation proceedings before national courts if they did not succeed before the EPO.

2.8 The appellant obviously refers to point 18 of the Reasons for decision G 9/91 and opinion G 10/91, which reads as follows:

*"The purpose of the appeal procedure inter partes is*



mainly to give the losing party a possibility to challenge the decision of the Opposition Division on its merits. It is not in conformity with this purpose to consider grounds for opposition on which the decision of the Opposition Division have not been based. Furthermore, in contrast to the merely administrative character of the opposition procedure, the appeal procedure is to be considered as a judicial procedure, as explained by the Enlarged Board in its recently issued decisions in the cases G 7/91 and G 8/91 (see point 7 of the reasons). Such procedure is by its very nature less investigative than an administrative procedure. Although Article 114(1) EPC formally covers also the appeal procedure, it is therefore justified to apply this provision generally in a more restrictive manner in such procedure than in opposition procedure. In particular with regard to fresh grounds for opposition, for the above reasons the Enlarged Board considers that such grounds may in principle not be introduced at the appeal stage. This approach also reduces the procedural uncertainty for patentees having otherwise to face unforeseeable complications at a very late stage of the proceedings, putting at risk the revocation of the patent, which means an irrevocable loss of rights. Opponents are in this respect in a better position, having always the possibility to initiate revocation proceedings before national courts, if they do not succeed before the EPO." (Emphasis added by the board.)

- 2.9 This finding of the Enlarged Board of Appeal has to be seen in the context of the question of law dealt with in G 9/91 and G 10/91, namely whether the scope of appeal is restricted to the grounds referred to by the opponent in its statement of grounds for opposition (see points 12 ff of the Reasons). Therefore, this

passage concerns the extent of the obligation and the power to examine grounds for opposition raised for the first time in appeal proceedings ("fresh grounds for opposition"). The board cannot derive from this passage or any other passage in G 9/91 or G 10/91 any further limitation of the scope of judicial review in appeal proceedings. It cannot see any limitation on the examination of objections raised by an opponent in the appeal proceedings that are based on a ground for opposition raised in the first-instance proceedings since such objections do not constitute "fresh grounds for opposition".

In this context, the board observes that decision G 9/91 and opinion G 10/91 concern questions on Rule 55(c) EPC 1973 (now Rule 76(2)(c) EPC), namely, whether the scope of appeal of an opponent is dependent upon the extent to which the patent is opposed in the notice of opposition, and whether the scope of appeal is restricted to the grounds for opposition referred to by the opponent in its statement under Rule 55(c) EPC 1973 (now Rule 76(2)(c) EPC), respectively (see points 7, 8 and 12 of the Reasons). Thus, these questions, as well as the answers to them by the Enlarged Board of Appeal as set out in the Order of G 9/91 and the Opinion of G 10/91, are unrelated to the appellant's submission that the board could only examine the objections of lack of inventive step raised against subject-matter claimed in the patent as granted or amended which had been dealt with in the decision under appeal.

Furthermore, in the case at hand, the opposition division revoked the patent in suit, and the respondent is thus not adversely affected by this decision within the meaning of Article 107, first sentence, EPC because

that decision is in conformity with the respondent's request made in the first-instance proceedings. Consequently, in view of Article 107 EPC, the respondent was not entitled to appeal against the decision of the opposition division. Moreover, as the patent has been revoked, it was not possible for the appellant to have an even worse outcome, and therefore the principle of prohibition of reformatio in peius does not apply. As pointed out in decision G 9/92, a *"non-appealing party as a respondent has the opportunity to make what it considers to be appropriate and necessary submissions in the appeal proceedings to defend the result obtained before the first instance"* (see point 11 of the Reasons). Thus, since the opposition division has taken the decision to revoke the patent, the respondent was not generally precluded from using the opportunity in the appeal proceedings to raise again issues that were the subject of the proceedings before the opposition division (see also e.g. T 169/93, point 2 of the Reasons and T 542/96, point 2 of the Reasons) or even new issues. Accordingly, the appellant, who appealed against the decision to revoke its patent, had to reckon with the respondent possibly making use of this opportunity and, if the respondent did so, that the board would then also examine objections raised in the appeal proceedings which were not the subject of the contested decision.

- 2.10 In view of the above, the board agrees with the respondent that there is no legal basis in the EPC or the RPBA (in the versions of 2007 and 2020) that prevents the board from examining in the case at hand an objection of lack of inventive step raised by the respondent in the appeal proceedings against the patent as granted or as amended that was not addressed in the

decision under appeal. Nor does the case law discussed above prevent the board from doing so. This means that the board may examine whether such an objection is substantiated, whether it should be admitted into the appeal proceedings and whether it prejudices the maintenance of the patent as granted or as amended, as the case may be. The board thus has the power to examine the respondent's objections of lack of inventive step, starting from document D9 or D10, raised against the patent as granted or the patent as amended.

3. *Re-opening the debate*

3.1 By its letter dated 17 October 2022 and at the oral proceedings on 21 October 2022, the appellant requested, inter alia, that documents D9 and D10 not be considered as properly introduced as the closest prior art for the main request (patent as granted) and auxiliary request 1 and gave reasons for these requests.

3.2 In view of the course of the first day of the oral proceedings (5 July 2022), when the board announced its conclusions on the main request and auxiliary request 1 and closed the debate on these requests, dealing with these requests and the appellant's arguments filed by letter dated 17 October 2022 would have required re-opening the debate closed on 5 July 2022. Therefore, the appellant in fact requested that the debate on the main request and auxiliary request 1 be re-opened. Both parties agreed to this interpretation of the appellant's submissions. The respondent objected to any re-opening of the debate.

3.3 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 current Article 15(5) RPBA 2020). 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). This applies all the more when the board re-opens the debate after announcing a conclusion following the debate and the board's deliberation.

If the debate on an issue has been closed without announcement of a decision, it is not only at the discretion of the board whether to re-open the debate, but also to what extent (see T 577/11, point 3.1 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 an unnecessary and procedurally inefficient repetition of the entire earlier debate (see also T 577/11, point 3.1 of the Reasons).

The above considerations also apply if oral proceedings continue on a second day to hear the parties on issues for which the debate has not been closed.

#### 3.4 Re-opening the debate on the appellant's main request (patent as granted)

In the case in hand, it was discussed on the first day of the oral proceedings (5 July 2022) whether the ground for opposition under Articles 100(a) and 56 EPC prejudiced the maintenance of the patent as granted. It was also discussed whether the board had the power to consider an objection of lack of inventive step starting from document D10 as the closest prior art since such an attack had not been dealt with in the decision under appeal and whether the respondent had sufficiently substantiated its objection of lack of inventive step starting from document D10 in its reply with regard to Article 12(4) RPBA 2007 in combination with Article 12(2) RPBA 2007. The board informed the parties of its conclusions on all these issues and also of its opinion on inventive step. The chair closed the debate on the appellant's main request (patent as granted) at the end of the first day of the oral proceedings.

In its letter of 17 October 2022 and on the second day of the oral proceedings on 21 October 2022, the appellant argued that documents D10 and D9 had not been properly introduced into the appeal proceedings in view of the judicial nature of the appeal proceedings, the case law of the Enlarged Board of Appeal and the boundaries of the decision under appeal. It also argued that the board had made a mistake in its application of Article 12(4) RPBA 2007 by taking into account the respondent's attack of lack of inventive step starting from document D10 as the closest prior art. In respect of this attack, the reply only contained verbatim repetitions of arguments put forward in the first-instance proceedings. In accordance with the case law of the boards of appeal, this could not be considered sufficient substantiation under Article 12(2) RPBA 2007. In addition, the reply was not clear or concise because it stated that the opposition division's preliminary opinion was accepted as the respondent's own arguments. However, in its preliminary opinion, the opposition division had found that document D9 or D10 could not be considered the closest prior art.

The board agrees with the respondent that the issues with respect to the main request, raised by the appellant in its letter dated 17 October 2022 and at the oral proceedings of 21 October 2022, are essentially the same as those which had been extensively discussed during the first day of oral proceedings (5 July 2022) and on which the parties had been given the opportunity to comment at that time. The board shares the respondent's view that the fact that the oral proceedings could not be closed on the first day and that a further day of oral proceedings was

therefore necessary cannot be used by the appellant as an opportunity to repeat or supplement issues which had already been discussed and on which the debate had been closed. This is all the more so since the board had already announced its conclusions on these issues after the in-depth discussion and before closing the debate. Re-opening the debate at the oral proceedings on 21 October 2022 would undoubtedly have led to unwarranted delays. Such delays would not only have been contrary to the need for procedural economy, they would also have been unfair to the respondent. Re-opening the debate might have been justified if a violation of a party's right to be heard under Article 113(1) EPC had evidently been committed during the debate on the main request before it had been closed. However, this was not the case as the parties had had the opportunity to comment on all the issues for which the appellant requested that the debate be re-opened.

In view of the above, the board exercised its discretion and decided not to re-open the debate on the main request. As a result, submissions on the main request, which were made by the parties after the close of the debate on the main request and which do not relate to the question of re-opening the debate, are not taken into account.

### 3.5 Re-opening the debate on auxiliary request 1

In its letter dated 17 October 2022 and during the second day of the oral proceedings on 21 October 2022, the appellant referred to point 3.2 of the respondent's reply and argued that the respondent had not sufficiently substantiated its objection of lack of inventive step starting from document D10 against



auxiliary request 1. This issue had not been discussed in the debate on auxiliary request 1, which had been closed on 5 July 2022. Since this issue could have been decisive for the board's ruling, the board considered it appropriate to hear the parties on this point. The board also did not consider the re-opening of the closed debate on a specific and decisive point that had not yet been discussed to be contrary to the need for procedural economy or unfair to the respondent. The parties have to bear in mind that a board may decide to re-open a closed debate as long as no decision terminating the appeal proceedings has been taken. The respondent, objecting to a re-opening of the debate, also did not argue that it was not in a position to address the point in question.

Therefore, during the second day of the oral proceedings, the board exercised its discretion and decided to re-open the debate on auxiliary request 1 but only for a specific point, namely the discussion about whether the objection of lack of inventive step under Article 56 EPC raised against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art had been sufficiently substantiated in the respondent's reply in view of Article 12(4) RPBA 2007 and Article 12(2) RPBA 2007. For the same reasons as given in point 3.4, penultimate paragraph above for the main request, the debate on any other issue concerning auxiliary request 1 was not re-opened. Therefore, submissions of the parties on any such other issue made after the close of the debate on auxiliary request 1 are not taken into account.

4. *Oral submissions by Mr McCann at the oral proceedings*

- 4.1 By letter dated 3 January 2023 and thus shortly before the resumption of the oral proceedings on 11 January 2023, the respondent requested that Mr McCann be allowed to make oral submissions at the oral proceedings as an accompanying person. The appellant did not object to this request.
- 4.2 The criteria set out in decision G 4/95 (OJ EPO 1996, 412) relate to the content and 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 are presented by or on behalf of a party which take the opposing party by surprise and for which that party is not prepared. 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, cited above, Order and point 10 of the Reasons). Since the appellant agreed, the board allowed Mr McCann to make oral submissions as an "accompanying person" of the respondent's representative.
5. *Postponement of the oral proceedings*
- 5.1 After the alternate board had announced its interlocutory decision under Article 106(2) EPC at the oral proceedings of 12 January 2023 to refuse the appellant's objections of suspected partiality against the members of the board in its original composition (i.e. this board), the appeal proceedings in the case at hand were continued before this board, and the oral proceedings were resumed on 13 January 2023 before this board.

5.2 During the discussion of its objection 5 under Rule 106 EPC, the appellant requested that the oral proceedings be postponed until the alternate board had put its decision in writing and dispatched it. The appellant essentially argued that the as yet unknown reasons for the refusal of its objection of suspected partiality by the alternate board could have an impact on its objection 5 under Rule 106 EPC in relation to the course of the oral proceedings on 21 October 2021.

5.3 The board did not find the appellant's arguments convincing and decided not to postpone the oral proceedings for the following reasons.

5.4 On 12 January 2023, the alternate board took an interlocutory decision under Article 106(2) EPC on the appellant's objection under Article 24(3) EPC. Article 3(3) RPBA 2020 stipulates that before such a decision is taken, there must be no further proceedings in the case. Since the decision on the appellant's objection under Article 24(3) EPC was taken on 12 January 2023 and the objection was refused, this board was again responsible for the examination of the current appeal pursuant to Article 21(1) EPC. Therefore, the oral proceedings could continue before this board on 13 January 2023.

There is neither a provision in the EPC or the RPBA 2020 nor case law of the boards of appeal under which this board would be bound by the ratio decidendi of the interlocutory decision of the alternate board when examining the current appeal. This means that the reasoning of the alternate board could not establish any further facts and could have no impact on the examination of the current appeal by this board.

The board also agrees with the respondent that all relevant facts on the appellant's objection 5 could be established in the oral proceedings on 13 January 2023 before this board.

- 5.5 In view of the above, the board saw no reason to postpone the oral proceedings.
6. *Patent as granted (main request) - substantiation of the objection of lack of inventive step starting from document D10 (Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007)*
- 6.1 In its reply, the respondent raised, inter alia, an objection of lack of inventive step starting from document D10 as the closest prior art against the patent as granted (see point 3.1.2 of the reply, labelled "D10 as the closest prior art"). The appellant essentially argued that this objection had not been sufficiently substantiated in the respondent's reply and that, therefore, the board, in application of Article 12(4) and (2) RPBA 2007, should not take this objection into account.
- 6.2 In the case at hand, the statement of grounds of appeal was filed before the RPBA 2020 entered into force, i.e. 1 January 2020 (see Article 24(1) RPBA 2020). Thus, in accordance with Article 25(2) RPBA 2020, Article 12(4) to (6) RPBA 2020 does not apply to the statement of grounds of appeal and to the reply to it filed in due time. Instead, Article 12(4) RPBA 2007 continues to apply.

Article 12(4) RPBA 2007 stipulates that, inter alia, the statement of grounds of appeal (Article 12(1)(a) RPBA 2007) and the reply (Article 12(1)(b) RPBA 2007)

have to be taken into account by the board if they meet the requirements of Article 12(2) RPBA 2007. Under Article 12(2) RPBA 2007, the statement of grounds of appeal and the reply must contain a party's complete case. They must set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on.

6.3 The appellant argued that the attack of lack of inventive step starting from document D10 had not been substantiated in the respondent's reply as it was only made by general references to previous submissions made in the first-instance proceedings. Furthermore, these previous submissions were vague and did not include a full substantiation using the problem-solution approach. The attack of lack of inventive step starting from document D10 was thus a new attack raised in the appeal proceedings and constituted a late change of facts.

The board is not convinced by these arguments for the following reasons.

The board concurs with the appellant that, in line with the case law of the boards of appeal, objections raised in appeal proceedings limited to a mere general or unspecific reference to the notice of opposition or other submissions made in the first-instance proceedings cannot, as a rule, be regarded as sufficiently substantiated (see Case Law, V.A.4.3.5 b) iii), which refers to Article 12(3) RPBA 2020 corresponding to Article 12(2) RPBA 2007).

In the case at hand, however, the situation is

different since the respondent's reply does not make general and unspecific reference to earlier submissions made in the first-instance proceedings.

Point 3.1.2 of the reply contains submissions on the attack of lack of inventive step based on document D10. The respondent expressly stated in that point that document D10 disclosed all the features of claim 1 as granted except for a frame rate of at least 23 frames per second and a resolution of at least 2k. The respondent also submitted that these distinguishing features were obvious to the person skilled in the art and known for example from document D5.

The board agrees with the respondent that the references to the previous first-instance submissions in point 3.1.2. of the reply are not general but specific. The respondent referred to point 4 of its notice of opposition and to point 6 of its letter dated 18 February 2016. Thus, the respondent clearly indicated which parts of its earlier submissions it relied on in support of its objection of lack of inventive step with document D10 as the closest prior art in the appeal proceedings. Point 4 of the notice of opposition contains a substantially reasoned objection of lack of inventive step using the problem-solution approach. Point 6 of the letter dated 18 February 2016 deals with aspects related to document D10. The sufficiently substantiated reasoning in the first-instance submissions could still be used by the respondent in appeal proceedings as there was indeed no reason for the respondent to change it. The decision under appeal is not based on the attack of lack of inventive step starting from document D10 and thus does not contain any reasons for the decision in this respect which the respondent should have dealt with.

The reply, in combination with the specific references to the previous first-instance submissions, thus sets out the facts and evidence and a logical chain of arguments on which the respondent based its objection of lack of inventive step starting from document D10. Thus, the reply enables the reader to understand the reasons why the respondent considered the objection of lack of inventive step starting from document D10 to be valid. The board therefore concludes that this objection is sufficiently substantiated in point 3.1.2 of the reply.

- 6.4 The appellant further argued that the respondent's objection was not sufficiently substantiated as it had not submitted arguments why it had been wrong for the opposition division to consider document D10 not suitable as a starting point for an attack on inventive step (see the communication attached to the summons to oral proceedings before the opposition division, points 9.1.1 to 9.1.4).

The board is not convinced by this argument. For obvious reasons, the contested decision revoking the patent is based only on the objection of lack of inventive step in view of document D5 as the closest prior art but does not comment on further attacks on lack of inventive step starting from a prior-art document other than document D5 which had been raised by the respondent in the first-instance proceedings. Since the opposition division decided to revoke the patent, it is not the respondent but the appellant that has to demonstrate on appeal that the reasons for revoking the patent were not sound, i.e. that the opposition division's decision was wrong as to the merits (see also T 585/92, OJ EPO 1996, 129, point 3.2

of the Reasons). Moreover, there is nothing in the EPC or the RPBA 2007 or 2020 which requires that the respondent demonstrate on appeal why the opposition division's preliminary view, set out in the communication attached to the summons to oral proceedings before the opposition division, was incorrect. Therefore, in the case at hand, no arguments had to be put forward by the respondent as to why it had been wrong for the opposition division not to have considered document D10 suitable as a starting point for an attack on inventive step.

- 6.5 By its letter dated 17 October 2022, the appellant also submitted that the respondent's reply was not clear or concise because it stated that the opposition division's preliminary opinion was accepted as the respondent's own arguments. However, in its preliminary opinion, the opposition division had found that document D9 or D10 could not be considered the closest prior art.

Since these submissions were filed after the debate had been closed on the main request, they are not taken into account (see also point 3.4 above).

- 6.6 Finally, the board notes that throughout the opposition proceedings the opponent maintained the raised objection of lack of inventive step based on document D10 as one of the possible closest prior-art documents and raised it again in its reply. Therefore, the board cannot see why this objection should be considered late filed. The board further notes that there is no decision of the opposition division according to which the objection of lack of inventive step based on document D10 as the closest prior art was not admitted. Hence, the board has no discretion under



Article 12(4) RPBA 2007 to hold this objection inadmissible.

6.7 It follows from the above that the objection of lack of inventive step on the basis of document D10 as the closest prior art meets the requirements of Article 12(2) RPBA 2007 and that it is to be taken into account by the board under Article 12(4) RPBA 2007.

7. *Patent as granted (main request) - ground for opposition under Articles 100(a) and 56 EPC (lack of inventive step) - document D10 as the closest prior art for assessing the inventive step of the subject-matter of claim 1 of the patent as granted*

7.1 Disclosure of document D10

7.1.1 The passages of document D10 cited by the respondent disclose a video camera (see section 1, first paragraph: "*digital video cameras*") comprising:

a portable housing (implicit in digital video cameras, as argued by the respondent)

a lens assembly supported by the housing and configured to focus light (implicit in digital video cameras, as argued by the respondent)

a light sensitive device configured to convert the focused light into raw mosaiced image data representing at least first, second and third colours of the focused light (see section 1, first paragraph: "*Bayer color filter array (see Fig. 1) [1]. At each pixel, only one of the three primary colors is captured*" and Figure 1(a))

a memory device (see section 1, fourth paragraph: "*compress the raw mosaic video losslessly and store it on camera*", implying that the camera has a memory device for storage of the compressed video, as argued by the respondent)

an image processing system comprising a compression module configured to execute an algorithm which compresses for storage in the memory device the raw mosaiced image data such that the compressed raw mosaiced image data remains visually lossless, such that a visual inspection cannot determine between an original image and the compressed raw image data (see section 1, fourth paragraph: "*raw mosaic color video data should be first compressed on camera without any loss or under a very tight bound on compression errors (near-lossless coding)*"), the image processing system comprising an image processing module configured to calculate an average of values of image data of the third colour from at least four sensor cells adjacent to a sensor cell of the first colour to obtain a first average value, and to calculate an average of values of image data of the third colour from at least four sensor cells adjacent to a sensor cell of the second colour to obtain a second average value, and to modify the image data by subtracting the first average value from a value of the image data from the sensor cell of the first colour and subtracting the second average value from a value of the image data from the sensor cell of the second colour (see section 2, fifth paragraph: "*to code the color difference signals G-R and G-B, we need to estimate the missing green values from the existing green samples at the pixels  $R_{even,odd}$  and  $B_{odd,even}$ . Denote these estimates as  $\hat{G}_{even,odd}$  and  $\hat{G}_{odd,even}$  respectively. Fig. 4 shows the case that  $\hat{G}_{even,odd}$  is to be interpolated by its neighbors. The*

case to interpolate  $\hat{G}_{odd,even}$  is symmetrical. Being similar to computing  $\hat{G}_{odd,odd}$ , computing the estimates  $\hat{G}_{even,odd}$  and  $\hat{G}_{odd,even}$  can be implemented using bi-linear ... convolution but in horizontal and vertical directions" and section 2, third paragraph: "we use bi-linear interpolator so that  $\hat{G}_{odd,odd}$  is computed as the average of its four nearest neighbors"), and following the subtraction, the image processing system is configured to compress the modified raw mosaiced image data (see section 2, fourth paragraph: "we compress the color difference signals G-R and G-B rather than the red signal R and the blue signal B themselves") and store the compressed raw mosaiced image data (see section 1, fourth paragraph: "compress the raw mosaic video losslessly and store it on camera")

7.1.2 The above analysis was contested by the appellant.

According to the appellant, document D10 only disclosed the part of claim 1 relating to the mathematical method for colour de-correlation. Document D10 did not disclose a camera configured to carry out the steps of this mathematical method. According to page 376 of document D10, these steps were carried out by a PC. In 2005, the year document D10 was published, a camera implementing such steps would not have been portable. The last paragraph on page 370 of document D10 only stated "raw mosaic color video data should be first compressed on camera" but did not say how this was done. Hence, no camera was disclosed carrying out the mathematical method. The processing on the PC and on a camera in document D10 related to separate embodiments.

The appellant also argued that the data processed by the PC in document D10 (see page 376, right-hand column) was not data coming from a real sensor on the

camera. Hence, this data was not raw mosaiced image data.

- 7.1.3 The board does not find the appellant's arguments persuasive.

As submitted by the respondent, document D10 deals with digital video cameras, including Bayer colour filter arrays, and with how to achieve real-time lossless compression of mosaic video sequences. From the whole disclosure of document D10, it is evident that the workflow disclosed is intended to be performed on a camera, not a PC. The PC is merely used for simulation purposes. Thus, the board finds that document D10 discloses, on a conceptual level, a camera having all the features identified in point 7.1.1 above. As stated in that point, the board shares the respondent's view that the reference to a digital camera implies a portable housing and a lens assembly. The board sees no reason to believe that, in 2005, a camera implementing the workflow disclosed in document D10 would not have been "portable".

As to the appellant's argument that the test data mentioned in document D10 was not real camera sensor data, the respondent noted that document D10 mentioned second to fourth video sequences "*captured by a digital video camera at a rate of 24-frames/second*" (see page 376, right-hand column, first paragraph). In the board's view, such video sequences clearly are "real camera sensor data".

- 7.1.4 The respondent submitted that, in addition to the features identified in point 7.1.1 above, document D10 disclosed the features of claim 1 according to which the light sensitive device was configured to convert at

a frame rate of at least 23 frames per second and the compressed raw mosaiced image data was stored at a rate of at least 23 frames per second. The respondent referred to section 4, page 376, right-hand column: *"The second to fourth video sequences are captured by a digital video camera at a rate of 24-frames per second."*

The board is not convinced by the respondent's argument because the cited passage of document D10 is part of section 4 labelled "Experimental results". As submitted by the appellant, these experimental results were obtained by running the disclosed method on a PC (see page 376, left-hand column, last sentence: *"In our PC (3GHz CPU, 2GB RAM), a 768x512 sequence can be compressed in real time, i.e. the used time for each frame is less than 1/24s"*). Therefore, although document D10 teaches a method to be carried on a camera (see points 7.1.1 and 7.1.2 above), the board accepts the appellant's argument that document D10 does not disclose a camera processing at least 23 frames per second.

## 7.2 Distinguishing features

- 7.2.1 In view of point 7.1 above, the board finds that the subject-matter of claim 1 differs from the disclosure of document D10 in that the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least 23 frames per second and the image processing system is configured to compress the modified raw mosaiced image data and store the compressed raw mosaiced image data at a rate of at least 23 frames per second.

7.2.2 In other words, the video camera defined in claim 1 differs from the one disclosed in document D10 in that it operates on images with a spatial resolution of at least 2k and at a frame rate of at least 23 frames per second.

7.3 Objective technical problem

7.3.1 It is common ground that the distinguishing features have the technical effects of increasing the spatial resolution of a frame to 2k and increasing the temporal resolution to a frame rate of at least 23 frames per second. It is also undisputed that before the priority date of the patent, a spatial resolution of a frame of 2k and a frame rate of 23 frames per second were typical values for high-end cinema production.

7.3.2 The appellant submitted that the objective technical problem should be formulated as to provide compressed RAW image data usable for high-end cinema production.

The appellant argued that this objective technical problem corresponded to the problem described in paragraph [0004] of the patent as granted and applied also to non-digital cameras. When formulating the objective technical problem, reference should be made to the technical problem mentioned in the description. Only if the technical problem mentioned there turned out to be incorrect in view of the cited prior art should it be reformulated.

7.3.3 In the board's view, the appellant's formulation of the objective technical problem is not appropriate when assessing whether the subject-matter of claim 1 of the granted patent involves an inventive step starting from the disclosure of document D10. Document D10 discloses

the core aspects of the compression and image processing modules of the claimed video camera (see point 7.1 above). This necessitates a reformulation of the technical problem mentioned in the description of the patent as granted.

7.3.4 The correct procedure for formulating the objective technical problem is to choose a problem based on the technical effect of exactly those features distinguishing the claim from the closest prior art that is as specific as possible without containing elements or pointers to the solution (see Case Law, I.D.4.2).

7.3.5 The appellant argued that the aspects of increased spatial and temporal resolutions were pointers to the solution and should thus not be included in the objective technical problem.

The board does not find this argument convincing. It agrees with the respondent that increasing the spatial and temporal resolutions of videos is a general desire of the person skilled in the art. Thus, these aspects are not pointers to the solution but parts of a technical problem the person skilled in the art of video cameras would have wanted to solve starting from document D10.

7.3.6 The appellant submitted that the requirement that the spatial and temporal resolutions be improved "for high-end cinema production" should be included in the objective technical problem. The respondent objected to this addition as being vague. However, since it is undisputed that a spatial resolution of 2k and a frame rate of 23 frames per second were typical values for high-end cinema production before the priority date of

the patent (see point 7.3.1 above), the board accepts that adding the quoted requirement to the formulation of the objective technical problem provides appropriate context.

7.3.7 In view of the above, the board comes to the conclusion that the objective technical problem may be formulated as how to increase temporal and spatial resolution of the video for high-end cinema production.

7.4 Obviousness

7.4.1 As argued by the respondent, the person skilled in the art always tries to increase the resolutions of cameras. The wide ranges of values specified in the claim ("at least 2k" and "at least 23 frames per second") obviously include numbers (e.g. 2k, 4k, 23/24 frames per second) the person skilled in the art would have wished to achieve.

7.4.2 As put forward by the respondent, the core idea of the invention described in the patent as granted lies in the colour de-correlation preceding compression. This core idea is disclosed in document D10 (see point 7.1 above). The board notes that the patent does not teach that additional features are needed to achieve a spatial resolution of 2k and a temporal resolution of 23 frames per second on board of a (portable) camera. Thus, the board sees no reason to believe that the person skilled in the art would have been faced with technical difficulties to achieve these values before the priority date of the patent.

The board thus finds that the subject-matter of claim 1 of the patent as granted would have been obvious to the



person skilled in the art in view of the disclosure of document D10 alone.

7.4.3 As an aside, the board notes that its conclusion would not have changed even if it had accepted the original formulation of the objective technical problem proposed by the appellant (see point 7.3.2 above). This original formulation contains the requirement that the compressed RAW image data should be usable for high-end cinema production. Since it is undisputed that a spatial resolution of 2k and a frame rate of 23 frames per second were typical values for a high-end cinema production (see point 7.3.1 above), those values would have been obvious to the person skilled in the art faced with that requirement.

7.4.4 The appellant argued that increasing the spatial resolution to 2k and the temporal resolution to 23 frames per second required significantly more processing power. According to document D10, a PC was required to process even less data. Thus, the person skilled in the art reading document D10 would have understood that processing video data having a spatial resolution of 2k at 23 frames per second on board of a camera with a portable housing was not possible. Experimental data should have been provided by the respondent to support its opinion that the spatial and temporal resolutions of the camera disclosed in document D10 could be improved to the values specified in the claim.

7.4.5 The board is not convinced by these arguments for the following reasons.

As stated under point 7.4.2 above, the patent does not teach that features other than the colour

de-correlation are needed to achieve a spatial resolution of 2k and a temporal resolution of 23 frames per second on board of a camera with a portable housing while providing visually lossless compression. The patent does not contain experimental data "proving" that the colour de-correlation is sufficient to achieve these results. Thus, the board sees no reason to require experimental data from the respondent "proving" that, before the priority date of the patent, the spatial and temporal resolutions of the camera disclosed in document D10 (carrying out a method anticipating the colour de-correlation specified in claim 1 of the patent as granted) could be improved to the values specified in the claim without impairing the camera's portability and its capacity to carry out a visually lossless compression.

In fact, in light of the patent specification, it is evident to the board that the combination of the distinguishing features identified in point 7.2 above with the features requiring that the camera's housing be portable and that the compression be visually lossless merely represent a goal the inventors set themselves. In these circumstances, the board agrees with the respondent that the only relevant question for the assessment of obviousness in the case in hand is whether the person skilled in the art would have wished to achieve values in the ranges specified in the claim in a portable camera while maintaining a visually lossless compression.

As submitted by the respondent, document D10 provides prompts towards processing at least 23 frames per second (see page 376, left-hand column, second paragraph, last sentence: "*the used time for each frame is less than 1/24s*" and page 376, right-hand column,

first paragraph: "[t]he second to fourth video sequences are captured by a digital video camera at a rate of 24-frames/second").

Moreover, the increase in spatial resolution is from 1280x1536 pixels (see D10, page 376, right-hand column, first paragraph, penultimate sentence) to 2048x1152 pixels (see paragraph [0014] of the patent as granted). This is only a factor of 1.2.

Without any limit on the cost of the components, the board sees no reason to believe that it would not have been possible to include a processing power into a portable camera capable of achieving these spatial and temporal resolutions. Thus, the board disagrees that the person skilled in the art reading document D10 would have understood that processing 2k video data at 23 frames per second on board of a camera with a portable housing was not possible.

In view of the above, the board finds that the wish of increasing the spatial resolution to at least 2k and the temporal resolution to 23 frames per second while maintaining the portability of the camera would have been obvious to the person skilled in the art.

- 7.4.6 The appellant also argued that more coding artifacts would be created by increasing the spatial resolution. This was contrary to the feature specified in claim 1 requiring that the compressed raw mosaiced image data remain visually lossless. Experimental data should have been provided by the respondent to prove that the compression could remain visually lossless when increasing the spatial resolution. Hence, increasing the spatial resolution to 2k was not obvious.

The board is not convinced that increasing the spatial resolution of the camera disclosed in document D10 would have led to more coding artifacts. This is because document D10 discloses applying lossless compression.

7.4.7 In view of the above, the board finds that the subject-matter of claim 1 of the patent as granted does not involve an inventive step within the meaning of Article 56 EPC in view of the disclosure of document D10 alone. Therefore, the ground for opposition under Articles 100(a) and 56 EPC prejudices the maintenance of the patent as granted.

8. *Remittal to the department of first instance (Article 111(1), second sentence, EPC and Article 11 RPBA 2020) on the basis of the main request*

8.1 After the board had decided on the second day of the oral proceedings (21 October 2022) not to re-open the debate on the main request, the appellant requested that the case be remitted to the department of first instance for further prosecution without a decision on the main request. The appellant essentially argued that the disclosure of document D10 had not been discussed at the oral proceedings before the opposition division but for the first time at the oral proceedings before the board on 5 July 2022, where the appellant had been presented with a new interpretation of document D10 and new arguments on the objection of lack of inventive step starting from document D10. In the interest of the appellant's right to fair and complete proceedings and not violating the appellant's right to be heard, the case should be remitted to the opposition division without a board's decision on the main request.

The respondent did not agree to a remittal. It essentially argued that there was no special reason within the meaning of Article 11 RPBA 2020 to remit the case to the opposition division and that there would be nothing to be gained from remitting the case to the opposition division as the board had already found on 5 July 2022 that the subject-matter of claim 1 of the main request lacked inventive step starting from document D10.

- 8.2 Under Article 111(1), second sentence, EPC, the board may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution.

Furthermore, under Article 11 RPBA 2020, which applies in the case at hand in accordance with the transitional provisions of Article 25 RPBA 2020, the board does not remit a case to the department whose decision was appealed for further prosecution unless special reasons present themselves for doing so. According to the explanatory remarks on Article 11 RPBA 2020 (Supplementary publication 2, OJ EPO 2020), the aim of the new provision is to reduce the likelihood of a ping-pong effect between the boards of appeal and the departments of first instance and a consequent undue prolongation of the entire proceedings before the EPO. When exercising their discretion under Article 111(1) EPC, the boards of appeal should take account of this aim. Whether special reasons within the meaning of Article 11 RPBA 2020 present themselves is to be decided on a case-by-case basis. The boards of appeal should not, as a rule, remit a case if they can decide all the issues without undue burden.

The appropriateness of remittal to the department of first instance and the existence of special reasons within the meaning of Article 11 RPBA 2020 are matters for discretionary decision by the board, which assesses each case on its merits. Even if the primary purpose of the appeal proceedings is to review the decision under appeal in a judicial manner (Article 12(2) RPBA 2020), it is established case law (see Case Law, V.A.9.2.1) that parties do not have a fundamental right to have their case examined at two instances and that, accordingly, they have no absolute right to have each and every matter examined at two instances. When deciding whether to remit a case, the boards of appeal consider the specific facts of the case (see Case Law, V.A.9.1.1).

- 8.3 In the case in hand, after a detailed discussion on the first day of the oral proceedings (5 July 2022), the board reached the opinion that the appellant's main request is not allowable because the subject-matter of claim 1 of the patent as granted does not involve an inventive step in view of document D10 and that, therefore, the ground for opposition under Article 100(a) EPC together with Article 56 EPC prejudices the maintenance of the patent as granted. On the same day, the debate was closed on the main request. On the second day of the oral proceedings (21 October 2022), the board exercised its discretion and decided not to re-open the debate on the main request.

In view of this course of the oral proceedings, the board shares the view of the respondent that remittal of the case to the opposition division would be of no avail in the case at hand. Before the request for

remittal was made, the board had already come to the opinion that the subject-matter of claim 1 of the patent as granted lacks inventive step in view of document D10. This alone speaks against remittal of the case as the board can obviously decide on inventive step without undue burden, and remittal would result in an undue prolongation of the entire proceedings before the EPO. Thus, remitting the case in hand without deciding on the main request would be contrary to what was intended by Article 11 RPBA 2020. Furthermore, as pointed out by the respondent, Article 111(1) EPC does not imply an absolute right to have an issue decided on at two instances.

8.4 Nor can the appellant's arguments constitute a special reason under Article 11 RPBA 2020 which would justify remitting the case to the opposition division without a decision on the main request.

8.4.1 The board is of the view that it has the power to consider an objection of lack of inventive step starting from document D10 as the closest prior art, even though such an attack had not been dealt with in the decision under appeal (see point 2. above), and that the respondent sufficiently substantiated its objection of lack of inventive step starting from document D10 in its reply with regard to Article 12(4) RPBA 2007 in combination with Article 12(2) RPBA 2007 (see point 6. above). Therefore, the appellant's arguments do not constitute special reasons under Article 11 RPBA 2020 justifying a remittal.

8.4.2 The appellant's further argument in support of a remittal is that the disclosure of document D10 was not discussed in the oral proceedings before the opposition division but was discussed for the first time in the

oral proceedings before the board on 5 July 2022, However, this argument is not convincing. Whether the respondent's objection of lack of inventive step over document D10, which was part of the first-instance proceedings and was raised again in the appeal proceedings, was not discussed in the oral proceedings before the opposition division or was not dealt with in the decision under appeal may play a role in the question of remittal but does not necessarily lead to a remittal. As explained above, it is at the discretion of the board to decide on an appeal either by exercising any power conferred on the department of first instance or by remitting the case to that department for further prosecution. Moreover, the issue of inventive step over document D10 was not raised for the first time in the appeal proceedings at the oral proceedings on 5 July 2022. The respondent's reply contained, in point 3.1.2, the sufficiently substantiated objection of lack of inventive step starting from document D10 (see point 6. above). In its communication dated 25 March 2022, the board stated in its preliminary opinion that the parties should be prepared to discuss inventive step starting from document D10 at the oral proceedings on 5 July 2022. Therefore, the parties could be expected to deal with this issue in preparation for the oral proceedings. In its letter of 17 June 2022, the appellant commented on this point but only to the extent that a discussion of inventive step using document D10 as the starting point *"would go outside of the framework for the appeal"* and that, therefore, *"the appellant only approves that the appeal relates to the decision by the opposition division"*. If the appellant, based on its assessment of the legal and factual situation, did not deal with the respondent's objection of lack of inventive step starting from document D10 and the content of this



document in its preparation for the oral proceedings, this was its decision alone. However, this could not have any influence on the course of the discussion of these issues at the oral proceedings before the board. Hence, as also argued by the respondent, the discussion of inventive step starting from document D10, which took place on 5 July 2022, could not have taken the appellant by surprise.

- 8.4.3 The board also does not accept the appellant's argument that a remittal was justified because, in the appellant's view, new parts of document D10 had been relied upon and a new interpretation of that document had been presented as well as new lines of argument at the oral proceedings on 5 July 2022. Even if this were the case, this need not lead to a remittal since it is established case law that Article 111(1) EPC does not imply an absolute right to have an issue decided on at two instances. Here, too, it is at the discretion of the board to decide on the appeal either by exercising any power conferred on the department of first instance or by remitting the case to that department for further prosecution. If the board does not remit the case, it may consider new facts and evidence, as explained under point 2. above, provided that the parties' right to be heard under Article 113(1) EPC is not infringed. Even assuming, *arguendo*, that new facts and evidence were presented to the appellant at the oral proceedings on 5 July 2022, the appellant had sufficient opportunity to consider them and respond accordingly. Consequently, in the case at hand, the appellant's right to be heard under Article 113(1) EPC was observed in any event.

In any case, the board finds that all relevant parts of document D10 discussed at the oral proceedings on 5 July 2022 had been referred to by the respondent in

point 3.1.2 of its reply, taking into account the specific references to point 4 of the notice of opposition and point 6 of its letter dated 18 February 2016 included in that point.

Point 4 of the notice of opposition refers in particular to:

- (a) document D10, section 1, fourth paragraph, stating:  
*"raw mosaic color video data should be first compressed on camera" and "to compress the raw mosaic video losslessly and store it on camera"*
- (b) document D10, section 2, paragraphs 3 to 6 disclosing the colour transformation and subsequent compression
- (c) document D10, section 4, paragraphs 2 and 3 disclosing the experimental results

Furthermore, point 6 of the opponent's letter dated 18 February 2016 discussed in the second and third paragraph of point 6.1 whether the camera disclosed in document D10 had on-board capabilities for compressing data.

Moreover, the board finds that the exact formulation of the objective technical problem for the main request (and also of the partial objective technical problems for the auxiliary requests) and the discussion on the implementation of JPEG are not new lines of argument but natural developments in the discussion of the case which emerged in the exchange of the parties' arguments and from the board's questions.

8.4.4 The decision in case T 1914/12 to remit the case to the department of first instance is not pertinent in the case in hand. Apart from the fact that each board has its own discretion under Article 111(1), second

sentence, EPC to remit the case to the first-instance department, taking into account the facts of the case before it, the facts in case T 1914/12 differ from those in the case in hand since in case T 1914/12 a new distinguishing feature had been identified (see T 1914/12, point 8 of the Reasons). This is not the case here.

8.4.5 On the appellant's argument that remittal to the opposition division was the only appropriate and fair outcome, the board notes again that it is established case law that Article 111(1) EPC does not imply an absolute right to have an issue decided at two instances. In the case in hand, the fairness of the proceedings was ensured as the board, by its communication under Article 15(1) RPBA 2020 and at the oral proceedings on 5 July 2022, gave both parties sufficient opportunity to consider the relevant facts, evidence and arguments for the main request and to respond accordingly. The board therefore considers that the appellant's right to be heard under Article 113(1) EPC was not violated.

8.4.6 The board is not persuaded by the appellant's further argument in support of its request for remittal that the late lines of argument disadvantaged the appellant because the possibility of submitting new requests was limited by the RPBA 2020, while the question of whether the respondent's reply was sufficiently substantiated fell within the framework of the RPBA 2007. Notwithstanding the fact that the board cannot identify any late lines of argument put forward by the respondent (see point 8.4.3 above), the board notes that this legal situation, i.e. that in some appeal cases both the provisions of Article 12(4) RPBA 2007 and Article 13 RPBA 2020 are applicable, results from

the transitional provisions in Article 25 RPBA 2020 and was thus intended by the legislator. If the appellant's view was accepted, a remittal would be justified in every appeal case in which this legal situation arises. In addition, the provisions of Article 13(1) RPBA 2020 and Article 13(2) RPBA 2020 would effectively no longer be applicable in such appeal cases. This would contradict what was intended by the transitional provisions, namely the application of the provisions of the RPBA 2020 also in the appeal proceedings pending when the RPBA 2020 came into force. The appellant's approach would also increase the likelihood of the so-called ping-pong effect, which would be contrary to what is intended by revised Article 11 RPBA 2020. Therefore, this legal situation cannot be taken as a reason to remit the case to the first-instance department.

8.4.7 On the basis of the foregoing, the board does also not accept the appellant's argument that not remitting the case to the opposition division for a thorough discussion of the new lines of argument provided at the oral proceedings on 5 July 2022 would violate the appellant's right to be heard under Article 113(1) EPC.

8.5 In view of the above, the board finds that there are no special reasons within the meaning of Article 11 RPBA 2020 justifying a remittal of the case to the opposition division without a decision on the main request. Against this background, the board exercised its discretion under Article 111(1), second sentence, EPC, taking into account Article 11 RPBA 2020, and decided not to remit the case to the department of first instance for further prosecution on the basis of the main request.

9. *Auxiliary request 1 - substantiation of the objection of lack of inventive step starting from document D10 (Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007)*

9.1 The appellant essentially argued that the objection of lack of inventive step, starting from document D10, raised against auxiliary request 1 had not been sufficiently substantiated in the reply, as required by Article 12(2) RPBA 2007, because the respondent's submissions on auxiliary request 1 in point 3.2 of the reply did not refer to document D10 as the closest prior art, and therefore this attack should not be taken into account under Article 12(4) RPBA 2007.

The respondent argued that the objection of lack of inventive step starting from document D10 was sufficiently substantiated in the reply since point 3.2 of the reply did not commit to any specific closest prior art, and it was therefore clear that any closest prior art discussed before in the reply was considered a potential starting point for assessing inventive step of the subject-matter of claim 1 of auxiliary request 1.

9.2 The board is not convinced by the appellant's arguments for the following reasons.

9.2.1 In point 3.2 of the reply, the respondent stated that claim 1 of auxiliary request 1 comprised all features of claim 1 as granted and further defined that the compression was a lossy compression and the raw mosaiced image data was 12-bit data. Hence, the respondent identified two additional features in claim 1 of auxiliary request 1 as compared to claim 1 as granted. The respondent then elaborated on these two

additional features in point 3.2 as follows: *"Lossy compression is merely a clarification, since 'visually lossless' already implies 'lossy'. This feature therefore cannot constitute an inventive step. Using 12-bit data instead of 8-bit data or 10-bit data is an obvious choice when aiming at increasing the picture quality. Therefore this feature, too, does not constitute an inventive step."* Consequently, the respondent provided arguments why, in its view, neither of these two additional features of claim 1 of auxiliary request 1 as compared to claim 1 as granted could establish an inventive step.

The appellant argued that point 3.2 simply indicated that the expression "visually lossless" implied "lossy" and that this was evidently not correct and, hence, could not be considered proper substantiation. However, for the objection of lack of inventive step to be considered sufficiently substantiated, the arguments need not be conclusive or correct (see also Case Law, IV.C.2.2.8 d), which deals with a comparable situation, albeit in opposition proceedings). This is a question of the merits of the appeal case. Therefore, it is not relevant here for the question of sufficient substantiation whether it is correct to argue that the designation of a compression as "visually lossless" must mean something other than "lossless" and thus implies that the compression involves some loss, or in other words that it is a "lossy compression".

As rightly noted by the appellant, point 3.2 of the reply does not explicitly mention any closest prior art. However, the board agrees with the respondent that point 3.2 cannot be considered completely detached from the submissions previously made in the reply on lack of inventive step of the patent as granted. In

points 3.1.1 to 3.1.6 of its reply, the respondent raised objections of lack of inventive step starting from different pieces of prior art as the closest prior art such as document D10. In point 3.2, the respondent referred to granted claim 1 and explained why the additional features in claim 1 of auxiliary request 1 could not "constitute" an inventive step. This can only be understood to mean that it was submitted that these additional features did not render the claimed subject-matter inventive, i.e. that amended claim 1 of auxiliary request 1 did not overcome the objections of lack of inventive step raised against the subject-matter of granted claim 1. Therefore, it is a natural reading of the reply that the arguments provided under point 3.2 must be seen in the context of the objections of lack of inventive step which were raised in points 3.1.1 to 3.1.6 against the patent as granted. Consequently, as argued by the respondent, it is clear from the reply that any closest prior art discussed under points 3.1.1 to 3.1.6 is a potential starting point for the assessment of inventive step of the subject-matter of claim 1 of auxiliary request 1. Therefore, the appellant's argument that the respondent implicitly admitted that it had not sufficiently substantiated its objection of lack of inventive step based on document D10 against auxiliary request 1 by stating that it had not committed itself to any closest prior art in point 3.2 of its reply is not valid. This notwithstanding, an objection of lack of inventive step raised under points 3.1.1 to 3.1.6 against the subject-matter of granted claim 1 must be sufficiently substantiated so that it can be taken into account together with the submissions under point 3.2 of the reply. This is the case for the objection of lack of inventive step starting from document D10 raised in point 3.1.2 of the reply (see point 6. above).

Therefore, the submissions in point 3.2 of the reply together with those in point 3.1.2 of the reply contain the facts and evidence and a logical chain of arguments on the lack of inventive step starting from document D10. Thus, the reply enables the reader to understand the reasons why the respondent considered the objection of lack of inventive step against claim 1 of auxiliary request 1 starting from document D10 to be valid. The board therefore concludes that this objection is sufficiently substantiated in point 3.2 in connection with point 3.1.2 of the reply. The board agrees with the appellant that, as a rule, the same standard of sufficient substantiation should apply to the statement of grounds of appeal and any reply thereto when applying Article 12(2) RPBA 2007. However, the board cannot see how it failed to do so in the case at hand.

9.2.2 In point 3.2, third paragraph of the reply, the respondent concluded:

*"Hence, independent claims 1 and 7 of the auxiliary request 1 lack an inventive step. See also sections 15 to 17 of the grounds for the decision revoking the patent that have been issued on 23 May 2017 by the Opposition Division."*

The appellant concluded from the reference to points 15 to 17 of the Reasons of the contested decision that the attack of lack of inventive step in point 3.2 of the reply could only have been meant for the combination of documents D5 and D9. The reason put forward by the appellant was that only these prior-art documents, not document D10, had been relied on in the cited sections of the contested decision. The board does not find this argument convincing. In the board's view, the statement



in point 3.2, third paragraph of the reply reproduced above does not alter the board's conclusion on sufficient substantiation. The first sentence of that statement contains the respondent's conclusion that claims 1 and 7 of auxiliary request 1 lacked an inventive step. Obviously, because of the word "*Hence*", this conclusion refers to the previous paragraphs in point 3.2, in which, as explained in point 9.2.1 above, the respondent substantiated its objection of lack of inventive step starting from document D10. As the respondent pointed out, the second sentence of the above quoted statement, which refers to paragraphs 15 to 17 of the Reasons of the contested decision, begins with "*See also ...*". In view of the wording of these two sentences and the context in which they are placed, the board agrees with the respondent that the reference in the second sentence contains an additional argument for a lack of inventive step and not a statement that the prior art dealt with in the cited sections of the grounds of the contested decision, i.e. the combination of documents D5 and D9, was the only prior art relied on by the respondent.

- 9.2.3 During the discussion on auxiliary request 1 on the second day of the oral proceedings (21 October 2022), the appellant argued for the first time that as auxiliary request 1 had been filed at the oral proceedings before the opposition division, the respondent had had the possibility at that stage to submit arguments why the subject-matter of claim 1 of auxiliary request 1 was obvious when starting from document D10. The board understands this argument to mean that the respondent could and should have raised this objection of lack of inventive step in the oral proceedings before the opposition division. Hence, this argument is not relevant to whether this objection is

sufficiently substantiated in point 3.2 of the reply in view of Article 12(4) RPBA 2007 and Article 12(2) RPBA 2007.

Moreover, this argument was filed after the debate on auxiliary request 1 was closed on the first day of the oral proceedings (5 July 2022). On the second day of the oral proceedings (21 October 2022), the debate was only re-opened for a specific point, namely whether the objection of lack of inventive step under Article 56 EPC starting from document D10 as the closest prior art raised against claim 1 of auxiliary request 1 had been sufficiently substantiated in the respondent's reply in view of Article 12(4) RPBA 2007 and Article 12(2) RPBA 2007 (see point 3.5 above). As a result, the debate on any other issue concerning auxiliary request 1 was not re-opened, and submissions of the parties on any such other issue made after the close of the debate on auxiliary request 1 are not taken into account (see also point 3.5 above).

Therefore, the appellant's argument that the respondent could and should have raised this objection of lack of inventive step during the oral proceedings before the opposition division is not taken into account.

#### 9.2.4 Turning now to the case law cited by the appellant.

(a) In its letter dated 17 October 2022, with respect to point 3.2 of the reply and points 15 to 17 of the Reasons for the decision under appeal, the appellant referred to section V.A.4.2.2 1) of the Case Law and quoted from it the abstracts of decisions T 187/18 and J 14/19. The board notes that, as can also be seen from the heading of section V.A.4.2.2 of the Case Law, the quoted

subsection V.A.4.2.2 1) concerns amendments to a party's appeal case within the meaning of Article 13(1) and (2) RPBA 2020. The appellant submitted that document D10 had previously not been argued as the closest prior art for auxiliary request 1 and, as "defined" in decision T 187/18, a new combination was not a mere elaboration of a previous line of argument but a change to the party's case. It further argued that the arguments presented during the oral proceedings on 5 July 2022 on "lossy compression" were newly introduced and not the same as the arguments in the respondent's reply, amounting to an amendment to the respondent's case in view of J 14/19. The cited case law and the appellant's arguments do not concern whether the objection of lack of inventive step under Article 56 EPC raised against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art has been sufficiently substantiated in the respondent's reply in view of Article 12(4) RPBA 2007 and Article 12(2) RPBA 2007. Rather, they have to do with whether there has been an amendment to the respondent's appeal case. Since they were submitted after the debate on auxiliary request 1 had been closed on 5 July 2022, they are not taken into account for the same reasons as set out in point 9.2.3 above.

- (b) During the oral proceedings on 21 October 2022, the appellant also referred to decision T 1807/19 and argued that, in view of this decision, the respondent should not be allowed to exchange document D5 with document D10 as the closest prior art. The board finds that, apart from the fact that no such exchange took place in view of the above considerations, decision T 1807/19, which deals

with an amendment under Article 13(2) RPBA 2020 and not with the requirements of Article 12(2) RPBA 2007, and the argument based on it do not concern whether the objection of lack of inventive step under Article 56 EPC raised against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art is sufficiently substantiated in point 3.2 of the respondent's reply. Since the appellant's submissions were made after the debate had been closed on auxiliary request 1 on 5 July 2022, they are not taken into account for the same reasons as set out in point 9.2.3 above.

- 9.3 In view of the above, the board finds that the respondent's objection of lack of inventive step against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art has been sufficiently substantiated in the reply and is therefore to be taken into account under Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007.
10. *Auxiliary request 1 - inventive step (Article 56 EPC)*
- 10.1 Claim 1 of auxiliary request 1 differs from claim 1 of the patent as granted in that the former further specifies that each colour is represented by 12-bit data and lossy compression is executed.
- 10.2 The respondent argued that the pre-processing of the data output by the Bayer filter disclosed in document D10 necessarily introduced losses. Thus, document D10 implicitly disclosed a lossy compression that was visually lossless. Moreover, the reference to JPEG 2000 on page 376, right-hand column of document D10 implicitly disclosed representing each

colour with 12 bits since it was known that JPEG 2000 supported that representation.

10.3 The board does not find these arguments convincing for the following reasons.

It may well be that the pre-processing of the data output by the Bayer filter disclosed in document D10 introduces losses. However, the board is not persuaded that this pre-processing can be considered part of the compression.

As argued by the appellant, document D10 refers to the lossless mode of JPEG 2000. Even if it is undisputed that some modes of JPEG 2000 support a 12-bit colour representation, there is no evidence on file that the lossless mode of JPEG 2000 has this feature.

10.4 Thus, the board finds that the subject-matter of claim 1 of auxiliary request 1 differs from the disclosure of document D10 by the following distinguishing features:

- (a) the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least 23 frames per second and the compressed raw mosaiced image data is stored at a rate of at least 23 frames per second (see point 7.2.1 above)
- (b) the raw mosaiced image data is represented with 12 bits
- (c) the algorithm which compresses the raw mosaiced image data is a lossy compression algorithm

10.5 These distinguishing features have the following respective technical effects:

- (a) increasing the spatial resolution of a frame to 2k and increasing the temporal resolution to a frame rate of at least 23 frames per second (see point 7.3.1 above)
- (b) increasing the number of possible colours
- (c) reducing the data rate (or, equivalently, increasing the compression ratio)

10.6 The board cannot identify any technical success achieved by the distinguishing features over and above the sum of their individual effects. Hence, what has to be established is whether each feature identified in point 10.4 above is separately obvious in light of the prior art (see Case Law, I.D.9.3.2)

10.7 In view of the previous point, it is appropriate to formulate three partial objective technical problems as follows:

- (a) increasing the spatial and temporal resolutions of the video for high-end cinema production (see point 7.3.7 above)
- (b) increasing the number of possible colours
- (c) reducing the data rate or in other words increasing the compression ratio

10.8 The features identified in point 10.4(a) above would have been obvious to the person skilled in the art for the reasons given in point 7.4 above.

10.9 Regarding the feature identified in point 10.4(b) above, the board agrees with the respondent that a colour representation with 12 bits merely represents an obvious choice among several to extend the colour space. It is established case law that a mere arbitrary

choice from a host of possible solutions cannot be considered inventive if not justified by a previously unknown technical effect that distinguished the claimed solution from the other solutions (see Case Law, I.D.9.21.9). In the case in hand, no unknown technical effect resulting from the choice of 12 bits can be identified. Therefore, the board finds that the feature identified in point 10.4(b) above would also have been obvious to the person skilled in the art.

10.10 Regarding the feature identified in point 10.4(c) above, it would have been obvious to the person skilled in the art that getting rid of (i.e. losing) some information in a signal enables compressing it at a higher compression rate, thus leading to a reduced data rate. Therefore, the board finds that the feature identified in point 10.4(c) above would also have been obvious to the person skilled in the art.

10.11 According to the appellant, all the distinguishing features considered together had the surprising effect of providing a higher compression rate while maintaining the visually lossless property of the compressed raw mosaiced image data. The formulation of partial objective technical problems was thus not appropriate. The objective technical problem should remain the same as for the main request, namely how to increase temporal and spatial resolution of the video for high-end cinema production.

The board is not convinced by these arguments because using 12-bit data per colour and applying lossy compression are measures independent of the increase in temporal and spatial resolutions of the video. Hence, the formulation of the objective technical problem cannot be the same as for the main request.

Furthermore, the board takes the view that applying lossy compression achieves the effect of increasing the compression ratio irrespective of the number of bits used to represent each colour. Hence, the board is not convinced that the distinguishing features achieve a technical success over and above the sum of their individual effects.

10.12 The appellant argued that document D10 taught away from using lossy compression because it stated on:

- (a) page 370, right-hand column, last paragraph: "*raw mosaic color video data should be first compressed on camera without any loss*"
- (b) page 371, left column, first paragraph: "*The new workflow permits the raw mosaic video to be decoded without any loss... For high-end applications where the visual quality has paramount importance, this is particularly important. It is necessary to compress the raw mosaic video losslessly and store it on camera*"
- (c) page 376, right column, first paragraph: "*The proposed mosaic video lossless coding techniques*"

According to the appellant, document D10 especially taught away from using lossy compression for high-end applications such as high-end cinema production.

The board is not convinced by these arguments because the person skilled in art wanting to increase the compression ratio would have understood that lossless compression cannot achieve compression ratios beyond a certain limit and that to arrive at higher compression ratios at least some loss of information must be accepted. This is in fact hinted at by document D10, where the following is stated in the paragraph bridging pages 370 and 371: "*raw mosaic color video data should*



*be first compressed on camera without any loss **or under a very tight bound on compression errors (near-lossless coding)***" (emphasis added by the board).

- 10.13 The appellant argued that in the case of 12-bit data, a lot more data needed to be compressed. Thus, it was surprising that the compressed raw mosaiced image data still remained visually lossless.

The board does not accept this argument because claim 1 of auxiliary request 1 does not specify how "lossy" the executed compression algorithm must be. The person skilled in the art would have expected a loss of information to be visually undetectable until a certain point.

Moreover, the board notes that paragraph [0038] of the patent as granted only mentions the application of known, standard compression techniques. The board sees no reason to believe that different (let alone surprising) effects would have been obtained by carrying out these techniques on data having different bit depths.

- 10.14 In view of the above, the board finds that the subject-matter of claim 1 of auxiliary request 1 lacks inventive step within the meaning of Article 56 EPC in view of document D10 alone.

11. *Remittal to the department of first instance (Article 111(1), second sentence, EPC and Article 11 RPBA 2020) on the basis of auxiliary request 1*

- 11.1 The appellant requested that the case be remitted to the department of first instance for further

prosecution without a decision on auxiliary request 1. The respondent did not agree to a remittal.

- 11.2 Both parties referred to their arguments provided for the request that the case be remitted to the department of first instance on the basis of the main request.
- 11.3 In the case in hand, after a detailed discussion on the first day of the oral proceedings (5 July 2022), the board reached the opinion that the appellant's auxiliary request 1 is not allowable because the subject-matter of claim 1 of that request does not involve an inventive step under Article 56 EPC in view of document D10. On the same day, the debate was closed on auxiliary request 1. On the second day of the oral proceedings (21 October 2022), the board exercised its discretion and decided to re-open the debate only on whether the objection of lack of inventive step under Article 56 EPC raised against claim 1 of auxiliary request 1 starting from document D10 as the closest prior art had been sufficiently substantiated in the reply. The board found that this objection had been sufficiently substantiated (see point 9.2.1 above).
- 11.4 In view of this course of the oral proceedings, the board shares the view of the respondent that remittal of the case to the opposition division would be of no avail in the case at hand. Before the request for remittal was made, the board had already come to the conclusion that the subject-matter of claim 1 of auxiliary request 1 did not involve an inventive step in view of document D10. The re-opening of the debate did not concern whether the objection of lack of inventive step starting from document D10 was justified but only whether that objection was substantiated. Moreover, the debate on inventive step, before it was

closed on 5 July 2022, took place before the request for remittal was made. This alone speaks against remittal of the case as the board can obviously decide on inventive step without undue burden, and remittal would result in an undue prolongation of the entire proceedings before the EPO. Thus, remitting the case in hand without deciding on auxiliary request 1 would be contrary to what was intended by Article 11 RPBA 2020. Furthermore, as pointed out by the respondent, Article 111(1) EPC does not imply an absolute right to have an issue decided on at two instances.

As to the parties' further arguments, the board refers to its reasoning in point 8.4 above.

11.5 In view of the above, the board finds that there are no special reasons within the meaning of Article 11 RPBA 2020 justifying a remittal of the case to the opposition division without a decision on auxiliary request 1. Against this background, the board exercised its discretion under Article 111(1), second sentence, EPC, taking into account Article 11 RPBA 2020, and decided not to remit the case to the department of first instance for further prosecution on the basis of auxiliary request 1.

12. *Auxiliary request 2 - substantiation of the objection of lack of inventive step starting from document D10 (Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007)*

12.1 The appellant essentially argued that the objection of lack of inventive step starting from document D10 raised against claim 1 of auxiliary request 2 should not be taken into account under Article 12(4) RPBA 2007 because it had not been sufficiently substantiated in

point 3.3 of the reply, as required by Article 12(2) RPBA 2007. This was particularly the case for the additional feature that mosaiced image data was compressed at a compression ratio of at least 6 to 1. Point 3.3 of the reply merely stated that this feature *"in connection with the (rather vague) further feature that the compressed image remains visually lossless is a result to be achieved, and moreover a result that is rather naturally desirable"*. This argument related more to the "visually lossless" feature than to the feature "compression ratio of at least 6 to 1". Furthermore, in point 3.3. of the reply, it was not explained why or how the disclosure of document D9 related to the disclosure of document D10 or a high-end camera or why the common general knowledge identified in document D9 could be applied to the system disclosed in document D10.

The respondent argued that the objection of lack of inventive step starting from document D10 was sufficiently substantiated in point 3.3 of its reply. It was clear that the feature "compression ratio of at least 6 to 1" was seen as a mere result to be achieved and, in any case, as an obvious compression choice in view of the common general knowledge of the person skilled in the art, as implicitly acknowledged in paragraphs [0037] and [0039] of the patent specification and derivable from column 3, line 40 of document D9. This view applied irrespective of the document taken as the closest prior art.

12.2 The board is not convinced by the appellant's arguments for the following reasons.

12.2.1 In point 3.3 of the reply, the respondent stated the following:

*"Claim 1 of auxiliary request 2 comprises all the features of claim 1 as granted and further defines that the compression is at a compression ratio of at least 6 to 1 and that the raw mosaiced image data is 12-bit data. The compression ratio of at least 6 to 1 in connection with the (rather vague) further feature that the compressed image remains visually lossless is a result to be achieved, and moreover a result that is rather naturally desirable. A mere objective, however, cannot constitute an inventive step. Furthermore, the European patent describes in paragraph [0037] that any type of compression process can be used and in paragraph [0039] that many (known) compression techniques allow adjustment of the compression rate to a desired value such as 6:1. Choosing such a compression rate therefore would not be inventive. Also, compression ratios between 10:1 and 40:1 are common in the art according to D9 (col. 3, line 40). As regards the 12-bit data, the same reasoning applies as to auxiliary request 1.*

*Hence, independent claims 1 and 6 of the auxiliary request 2 lack an inventive step. See also sections 18 to 19 of the grounds for the decision revoking the European patent that have been issued on 23 May 2017 by the Opposition Division."*

12.2.2 It follows from the above quoted passage that, in point 3.3 of the reply, the respondent identified two additional features in claim 1 of auxiliary request 2 as compared to claim 1 as granted. The respondent then gave reasons why, in its view, these features did not constitute an inventive step.

12.2.3 For reasons similar to those set out in point 9.2.1 above, the arguments provided under point 3.3 must be seen in the context of the objections of lack of inventive step which were raised in points 3.1.1 to 3.1.6 of the reply against the patent as granted. Consequently, as argued by the respondent, any closest prior art discussed under points 3.1.1 to 3.1.6 is a potential starting point for the assessment of inventive step of the subject-matter of claim 1 of auxiliary request 2. As explained under point 9.2.1 above, an objection of lack of inventive step raised under points 3.1.1 to 3.1.6 against the subject-matter of granted claim 1 must be sufficiently substantiated so that it can be taken into account together with the submissions under point 3.3 of the reply. This is the case for the objection of lack of inventive step starting from document D10 which was raised in point 3.1.2 of the reply (see point 6. above). Therefore, the submissions in point 3.3 of the reply can be read together with those in point 3.1.2 of the reply.

12.2.4 As far as the feature "12-bit data" is concerned, the respondent referred in point 3.3 to the same reasoning it had given for auxiliary request 1. This reference to a reasoning provided in the reply for a higher-ranking auxiliary request enables the reader to understand the respondent's submissions on this feature and avoids unnecessary repetition of previous submissions made in the reply. The board's finding for auxiliary request 1 that the reply with regard to the feature "12-bit data" is sufficiently substantiated in point 3.2 (see point 9.2 above) therefore also applies here.

12.2.5 The board further considers that the reply is also sufficiently substantiated for the feature that

mosaiced image data is compressed at a compression ratio of at least 6 to 1. The respondent argued that this feature could not establish an inventive step as the compression ratio of at least 6 to 1 in connection with the (rather vague) further feature that the compressed image remained visually lossless was a result to be achieved and that a mere objective could not constitute an inventive step. According to the appellant, this argument related more to the "visually lossless" feature than to the feature "compression ratio of at least 6 to 1". However, the appellant's argument is not related to the substantiation of the objection and thus is not relevant to the issue at hand. For the objection of lack of inventive step to be considered sufficiently substantiated, the arguments need not be conclusive or correct (see also Case Law, IV.C.2.2.8 d)). Whether arguments are conclusive and correct is a question of the merits of the appeal case. In the case at hand, whether it is reasonable to see the combination of the features of "visually lossless" and "compression ratio of at least 6 to 1" as merely specifying an objective or result to be achieved might be relevant for assessing inventive step but not for substantiation.

- 12.2.6 The respondent further submitted in point 3.3 of its reply that, according to paragraph [0037] of the patent, any type of compression process could be used and that, according to paragraph [0039] of the patent, many (known) compression techniques allowed adjustment of the compression rate to a desired value such as 6 to 1. The respondent concluded from this that choosing such a compression ratio was not inventive. The reply thus enables the reader to understand the reasons why the respondent concluded that the choice of compression ratio of at least 6 to 1 was not inventive.

Whether this conclusion is correct is irrelevant to the question of substantiation but is a question of the merits of the appeal case.

12.2.7 The appellant's further argument that the respondent did not explain in point 3.3 of the reply why or how the disclosure of document D9 related to the disclosure of document D10 or a high-end camera is not convincing. The board notes that point 3.3 of the reply states that "*compression ratios between 10:1 and 40:1 are common in the art according to D9 (col. 3, line 40)*". This statement makes it clear that the respondent referred to document D9 as proof that compression ratios between 10:1 and 40:1 were part of the common general knowledge of the person skilled in the art at the relevant date. It cannot be derived from this statement that the respondent considered document D9 to be the closest prior art or based its attack of lack of inventive step on the combination of prior-art documents D10 and D9. Therefore, there was no reason for the respondent to explain in its reply why or how the disclosure of document D9 related to the disclosure of document D10 or a high-end camera.

12.2.8 As pointed out by the appellant, point 3.3 of the reply refers to points 18 to 19 of the Reasons for the decision under appeal. However, for similar reasons as those outlined in point 9.2.2 above, the board considers that this reference merely represents an additional argument for lack of inventive step, not a statement that the combination of prior-art documents D5 and D9 dealt with in points 18 and 19 of the Reasons of the contested decision was the only one relied on by the respondent.



12.3 In view of the above, the submissions in point 3.3 of the reply together with those in points 3.1.2 and 3.2 of the reply contain the facts and evidence and a logical chain of arguments on lack of inventive step starting from document D10. Thus, the reply enables the reader to understand the reasons why the respondent considered the objection of lack of inventive step against claim 1 of auxiliary request 2 starting from document D10 to be valid. The board therefore concludes that this objection is sufficiently substantiated in point 3.3 in connection with points 3.1.2 and 3.2 of the reply. The board agrees with the appellant that, as a rule, the same standard of sufficient substantiation should apply to the statement of grounds of appeal and any reply thereto when applying Article 12(2) RPBA 2007. However, the board cannot see how it failed to do so in the current case.

The board finds that the respondent's objection of lack of inventive step against claim 1 of auxiliary request 2 starting from document D10 as the closest prior art is sufficiently substantiated in the reply and is therefore to be taken into account under Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007.

13. *Remittal to the department of first instance (Article 111(1), second sentence, EPC and Article 11 RPBA 2020) on the basis of auxiliary request 2*

13.1 The appellant requested that the case be remitted to the department of first instance for further prosecution on the basis of auxiliary request 2. The respondent was not in favour of a remittal.

13.2 The appellant essentially submitted that lack of inventive step of auxiliary request 2 had not yet been discussed at the oral proceedings before the board and that the discussion of the feature "compression ratio of at least 6 to 1" would be lengthy and should not take place for the first time in appeal proceedings. Moreover, the objection of lack of inventive step of the subject-matter of claim 1 of auxiliary request 2 in view of the disclosure of document D10 combined with the common general knowledge of the person skilled in the art had not been a reason for revoking the patent and had never been discussed during the first-instance proceedings for auxiliary request 2. The appellant should be given the opportunity to have that issue considered at two instances.

13.3 The board is not convinced by the appellant's arguments for the following reasons.

The respondent raised and substantiated an objection of lack of inventive step against claim 1 of the second auxiliary request starting from document D10 as the closest prior art in point 3.3 in connection with points 3.1.2 and 3.2 of the reply (see point 12.3 above).

It is true that auxiliary request 2 had been filed during the oral proceedings before the opposition division and that in those oral proceedings only an objection of lack of inventive step starting from document D5 had been discussed and decided upon. The decision under appeal deals with that objection only. As explained in point 2. above, in the case in hand, the respondent raising objections of lack of inventive step on appeal is not limited to those dealt with in the decision under appeal, and the board is not

prevented from examining an objection of lack of inventive step raised by the respondent not addressed in the decision under appeal.

One aim of revised Article 11 RPBA 2020 is to reduce the likelihood of a ping-pong effect between the boards of appeal and the first-instance departments (see also point 8.2 above). The board notes that the additional feature of a "*compression ratio of at least 6 to 1*" in claim 1 of auxiliary request 2 was dealt with in points 19.1 to 19.4 of the decision under appeal. In point 19.3 of the decision under appeal, the opposition division arrived at the following conclusion: "*The amended feature is [a] mere result to be achieved, which does not go beyond normal skilled user adjustments of the compression rate until a desired quality is achieved. Alternatively, this feature can be regarded as describing a possible effect (or possible compression rate) which can be achieved by the features H3 of claim 1 as disclosed in D9. These features lead to de-correlated image data GUV, which results in higher compression rates.*" In view of this finding, made without consideration of the disclosure of document D5, the opposition division would most likely again conclude that the additional feature "*compression ratio of at least 6 to 1*" cannot render the claimed subject-matter inventive, even if it were to start from document D10 as the closest prior art. Then there would possibly be a further appeal. All in all, this would lead to an unreasonable prolongation of the entire proceedings. However, this possible scenario is precisely what revised Article 11 RPBA 2020 is intended to avoid. Thus, remitting the case in hand without deciding on auxiliary request 2 would be contrary to what was intended by Article 11 RPBA 2020.

The board is also in a position to decide on inventive step without undue burden. Furthermore, as explained in point 8.2 above, there is no absolute right to have each and every matter examined and decided on at two instances.

Finally, the example of T 1914/12, referred to by the appellant, is not relevant in the case at hand. Case T 1914/12 differs from the case at hand in that a further distinguishing feature was identified which had not been taken into account in the first-instance proceedings (see T 1914/12, point 8 of the Reasons).

13.4 In view of the above, the board finds that there are no special reasons within the meaning of Article 11 RPBA 2020 justifying a remittal of the case to the opposition division without a decision on auxiliary request 2. Against this background, the board exercised its discretion under Article 111(1), second sentence, EPC, taking into account Article 11 RPBA 2020, and decided not to remit the case to the department of first instance for further prosecution on the basis of auxiliary request 2.

14. *Auxiliary request 2 - admittance of documents D38a, D46, D47 and D48 (Article 13(2) RPBA 2020)*

14.1 In the case at hand, the summons to oral proceedings was notified after the date on which RPBA 2020 entered into force, i.e. 1 January 2020 (Article 24(1) RPBA 2020). Thus, in accordance with Article 25(1) and (3) RPBA 2020, Article 13(2) RPBA 2020 applies to the question of whether to admit documents D38a, D46, D47 and D48, which were filed by letter dated 17 October 2022 and thus after notification of the summons to oral proceedings.

- 14.2 Under Article 13(2) RPBA 2020, any amendment to a party's appeal case made after notification of a summons to oral proceedings is, in principle, not to be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
- 14.3 Documents D38a, D46, D47 and D48 were filed after notification of the summons to oral proceedings and are therefore an amendment to the appellant's appeal case under Article 13(2) RPBA 2020. The appellant provided reasons why, in its view, there were exceptional circumstances (see point XXVII.(m)) within the meaning of Article 13(2) RPBA 2020 for filing documents D38a, D46, D47 and D48 at that stage of the appeal proceedings.
- 14.4 The board agrees with the appellant that in the context of the objection of lack of inventive step against claim 1 of auxiliary request 2 starting from document D10, the issue of whether there were multiple partial objective technical problems involved was raised for the first time during the oral proceedings before the board. This was not contested by the respondent. The board accepts that this new issue can be considered an exceptional circumstance within the meaning of Article 13(2) RPBA 2020.
- 14.5 In view of the above, the board, exercising its discretion under Article 13(2) RPBA 2020, decided to admit documents D38a, D46, D47 and D48 into the appeal proceedings.
15. *Auxiliary request 2 - inventive step (Article 56 EPC)*

15.1 Claim 1 of auxiliary request 2 differs from claim 1 of the patent as granted in that the former further specifies that:

- (a) each colour is represented by 12-bit data
- (b) the mosaiced image data is compressed at a compression ratio of at least 6 to 1

15.2 It is common ground between the appellant and the respondent that document D10 does not disclose compressing the mosaiced image data at a compression ratio of at least 6 to 1. Thus, the board finds that the subject-matter of claim 1 of auxiliary request 2 differs from the disclosure of document D10 by the following distinguishing features:

- (a) the light sensitive device is configured to convert with a resolution of at least 2k at a frame rate of at least 23 frames per second and the compressed raw mosaiced image data is stored at a rate of at least 23 frames per second (see point 7.2.1 above)
- (b) the raw mosaiced image data is represented with 12 bits (see point 10.4 above)
- (c) the compression ratio is at least 6 to 1

15.3 The first two features were found obvious by the board in points 7.4 and 10.9 above. The third feature simply leads to higher compression, an effect unrelated to the effects achieved by the first two features. Thus, it remains to be established whether the third feature is separately obvious in light of the prior art.

15.4 The board shares the respondent's view that a compression ratio of (at least) 6 to 1 is an arbitrary choice among possible compression ratios. The appellant's argument that this choice could not be made without the benefit of hindsight of the solution is

unpersuasive because, as stated in point 10.9 above, it is established case law that a mere arbitrary choice from a host of possible solutions cannot be considered inventive if not justified by a previously unknown technical effect that distinguishes the claimed solution from the other solutions.

15.5 The appellant argued that claim 1 not only required that the compression ratio be at least 6 to 1 but also that the compressed raw mosaiced image data remain visually lossless.

15.6 The board does not find this argument persuasive for the following reasons.

Claim 1 does not specify features impacting the compression apart from the colour de-correlation anticipated by the disclosure of document D10 (see point 7.1.1 above).

Furthermore, as submitted by the respondent, paragraph [0038] of the patent specification states that *"the compression module can be configured to apply any known compression technique"* and paragraph [0039] of the patent specification states that *"[d]epending on the type of compression technique used, the various parameters of the compression technique can be set to provide a visually lossless output. For example, many of the compression techniques noted above can be adjusted to different compression rates, wherein when decompressed, the resulting image is better quality for lower compression rates and lower quality for higher compression rates. ... For example, the compression module 22 can be configured to compress the image data at a compression ratio of about 6:1, 7:1, 8:1 or greater"*.

Hence, according to the patent specification, the compression ratios and visually lossless property of the compression specified in claim 1 of auxiliary request 2 are only the result of applying standard compression techniques after the colour de-correlation (which is known from the disclosure of document D10). The board finds that in these circumstances the combination of these features is to be considered either the mere expression of an obvious wish (or "result to be achieved", as the respondent called it) or an effect that would have been achieved by combining the disclosure of document D10 with standard methods. For these reasons, the feature set out under point 15.2(c) above cannot render the claimed subject-matter inventive.

- 15.7 The appellant argued that the respondent, by referring to the feature that the compression ratio be at least 6 to 1 in connection with the feature that the compressed image remain visually lossless as a result to be achieved (see the reply, point 3.3, second paragraph, first sentence), in fact raised a clarity objection, not an objection of lack of inventive step.

The board is not convinced by this argument and agrees with the respondent that this statement is to be understood to mean - as explained in the reply, point 3.3, second paragraph, second sentence - that a mere objective cannot constitute an inventive step.

- 15.8 The appellant submitted that the invention as claimed had to be considered as a whole. The additional feature of a compression ratio of at least 6 to 1 interacted with other features to achieve a synergistic technical effect. The features in question were the resolution of



at least 2k, the frame rate of at least 23 frames per second and the representation of the raw mosaiced image data with 12 bits. The synergistic effect was that of providing (i) on-camera recording and storage of compressed raw data that was visually lossless and (ii) image quality high enough for cinema production. This effect could be deduced from paragraphs [0005], [0039], [0063] and [0066] of the patent specification and was a result of the steps depicted in Figures 8 and 8a.

The board is not convinced by these arguments. The features of a spatial resolution of at least 2k, a frame rate of at least 23 frames per second, a representation of each colour with 12 bits and a compression ratio of at least 6 to 1 may have the overall effect put forward by the appellant. However, this effect is simply the sum of the effects of the individual features, not a synergistic effect over and above this sum.

15.9 The appellant argued that the features of "12-bit data" and a "compression ratio of at least 6 to 1" achieved a synergistic effect. In the appellant's view, it was harder to compress 12-bit data than 8-bit data because of the increased prevalence of noise in higher bit depth data. The appellant referred to page 12 of document D47 and to the box on page 57 of document D48.

The board is not convinced by the appellant's arguments.

To the board, page 12 of document D47 just discusses the contouring artifacts that may be caused by an 8-bit representation of luminance values. The box on page 57 of document D48 states that contouring artifacts are essentially eliminated by moving from 8 to 10 bits. The

board cannot find any evidence in these passages that a compression ratio of at least 6 to 1 is harder to achieve with 12-bit data than with 8-bit data. Moreover, as stated above, the patent specification teaches that the desired compression ratios are reached merely by applying standard compression techniques, irrespective of the bit depth of the data. Thus, the alleged problem can also not be deduced from the patent.

Even assuming, *arguendo*, that a compression ratio of at least 6 to 1 was harder to achieve with 12-bit data than with 8-bit data, the board is of the view that this would not be relevant when assessing whether the claimed subject-matter is obvious. The reason is that no features are defined in claim 1 of auxiliary request 2 or mentioned in the patent specification specifically addressing the alleged increased difficulty of achieving such a ratio. Claim 1 merely formulates the wish of having a certain type of data (12-bit data) compressed at a certain compression ratio (at least 6 to 1). In these circumstances, the board cannot acknowledge technical effects going above this formulation. Therefore, the effect of 12-bit data and a compression ratio of at least 6 to 1 is just the sum of the effects of the individual features.

15.10 The appellant also contended that the feature of achieving a compression ratio of at least 6 to 1 while remaining visually lossless was a requirement of the claim, not a wish. According to paragraph [0063] of the patent specification, this was something the appellant had discovered. This paragraph referred to Figures 8 and 8a, which both disclosed a separation of the colour planes. It was this feature that allowed achieving a compression ratio of 6 to 1 while remaining visually

lossless. The burden of proving that this result could not be achieved on the basis of the patent specification was on the respondent.

The board is not convinced by these arguments. Firstly, the question in the case in hand is not whether this feature can be achieved on the basis of the patent specification but whether it can contribute to establish an inventive step. Secondly, as put forward by the respondent, document D10, page 372, right-hand column also teaches a separation of the colour planes. Thirdly, neither claim 1 nor the patent specification, e.g. paragraph [0063], teaches that features other than the colour de-correlation (known from document D10) and standard compression techniques are needed to achieve the result of a compression ratio of at least 6 to 1 while remaining visually lossless (see also point 15.6 above). Thus, if the result of a compression ratio of at least 6 to 1 while remaining visually lossless had been achieved on the basis of the patent specification (i.e. it did not represent a mere wish, as submitted by the appellant), the person skilled in the art would also have arrived at this result on the basis of the disclosure of document D10 and standard compression techniques forming part of their common general knowledge.

15.11 The appellant argued that the maximum compression ratio achieved in document D10 was about 2 to 1. That was in line with what was considered achievable at the relevant time by lossless compression. However, this was not even close to the claimed compression ratio of 6 to 1. To achieve a compression ratio of 6 to 1, a change from lossless compression to lossy compression would have been needed. However, this was not obvious starting from document D10, which consistently applied

lossless compression and required in the paragraph bridging pages 370 and 371: "*raw mosaic color video data should be first compressed on camera without any loss or under a very tight bound on compression errors (near-lossless coding)*". Hence, the person skilled in the art would at best have applied near-lossless coding. According to section 3.6 on pages 739 to 740 of document D38a, the term "*near-lossless*" had a specific meaning. As explained in document D38a, such near-lossless compression achieved a compression ratio ranging from 1.5:1 to 3:1 (see D38a, page 739, right-hand column, last paragraph) but gave rise to contouring artifacts (see D38a, page 740, right-hand column, first paragraph). Hence, the person skilled in the art would not have arrived at a visually lossless compression having a ratio of at least 6 to 1.

The board is not convinced by these arguments because, as stated in point 10.12 above, the person skilled in art wanting to increase the compression ratio would have understood that lossless compression cannot achieve compression ratios beyond a certain limit and that to arrive at higher compression ratios at least some loss of information needs to be accepted. Moreover, as found in point 15.8 above, in the case in hand, the requirement of a visually lossless compression having a compression ratio of at least 6 to 1 is to be considered either as the mere expression of an obvious wish or as an effect that would have been achieved by combining the disclosure of document D10 with standard compression techniques. In the latter case, it needs to be considered whether a compression ratio of (at least) 6 to 1 is an arbitrary choice among compression ratios the person skilled in the art would have considered possible in combination with standard compression techniques. In this respect,

the board is not convinced that the term "*near-lossless*" in the quoted passage of document D10 is to be interpreted as meant in document D38a. Document D38a mentions this term in the paragraph bridging the cited pages 739 to 740 as applying when "*the end-use of the image is not human perception. In such applications, the image is subjected to postprocessing to extract parameters of interest like ground temperature or vegetation indices. The uncertainty about reconstruction errors introduced by a lossy compression technique is undesirable*". However, this is not at all the context of document D10, in which the test scenes shown in Figure 8 are apparently aimed at human perception, and no post-processing is mentioned. Therefore, the board interprets the term "*near-lossless*" in the quoted passage of document D10 as meaning that some minimal difference between an original and an encoded image can be accepted. This term is thus to be regarded as a prompt towards the use of lossy compression. For lossy compression, as argued by the respondent, compression ratios of at least 6 to 1 are possible according to the paragraph bridging the cited pages 739 to 740 in section 3.6 of document D38a, which states: "*state-of-the-art lossy compression techniques ... compression ratios in excess of 20:1 with virtually no loss in visual fidelity*".

15.12 In view of the above, the board finds that the subject-matter of claim 1 of auxiliary request 2 lacks inventive step in view of document D10 combined with the common general knowledge of the person skilled in the art.

16. *Auxiliary request 3a - admittance (Article 13(2) RPBA 2020)*

- 16.1 The appellant filed the claims of auxiliary request 3a by letter dated 17 October 2022 and thus after notification of the summons to oral proceedings. Auxiliary request 3a is therefore an amendment to the appellant's case within the meaning of Article 13(2) RPBA 2020.
- 16.2 In the appellant's view, auxiliary request 3a should be admitted into the appeal proceedings since there were exceptional circumstances. Amended claim 1 of auxiliary request 3a, which combined the features of a lossy compression algorithm and a compression ratio of at least 6 to 1, was a reaction to new lines of argument put forward by the respondent in the oral proceedings against claim 1 of auxiliary requests 1 and 2, namely that "near-lossless" could also mean "lossy" and that a compression ratio of at least 6 to 1 did not exclude lossless compression.
- 16.3 The respondent submitted that auxiliary request 3a, which had been filed only four days before the resumption of the oral proceedings on 21 October 2022, should not be admitted into the appeal proceedings. The appeal proceedings had been going on for several years. Neither the issues nor the substantial arguments had changed, as confirmed on page 33, second paragraph of the appellant's letter dated 17 October 2022.
- 16.4 The board accepts that during the discussion on claim 1 of auxiliary request 2 at the oral proceedings, the respondent submitted as a new argument that a compression ratio of at least 6 to 1 could be implemented using lossless compression if the image had special properties, for example, if the image had a constant colour (see minutes of the oral proceedings before the board, page 48, first paragraph). This

argument was directed to the objection of lack of inventive step against claim 1 of auxiliary request 2 relied on by the respondent in its reply, and therefore it did not go beyond the framework set out therein. The respondent's argument served to refine or develop the arguments already presented in its reply and counter the appellant's arguments made at the oral proceedings. Thus, although this argument does not constitute an amendment of the respondent's appeal case, it introduced a new, arguably relevant aspect into the discussion on inventive step which had only become clear at the oral proceedings.

In the board's view, this can be considered, in the case at hand, an exceptional circumstance within the meaning of Article 13(2) RPBA 2020 which justifies amending claim 1 such that the compression ratio of at least 6 to 1 is achieved using lossy compression.

16.5 Therefore, the board, exercising its discretion under Article 13(2) RPBA 2020, decided to admit auxiliary request 3a into the appeal proceedings.

17. *Auxiliary request 3a - inventive step (Article 56 EPC)*

17.1 The subject-matter of claim 1 of auxiliary request 3a differs from that of claim 1 of auxiliary request 2 in that the mosaiced image data is compressed by a lossy compression algorithm.

17.2 In the considerations on the objection of lack of inventive step against claim 1 of auxiliary request 2, the board assumed that the compression ratio of at least 6 to 1 was achieved by a lossy compression algorithm (see point 15.11 above). Therefore, the board finds that the subject-matter of claim 1 of auxiliary

request 3a lacks inventive step in view of document D10 combined with the common general knowledge of the person skilled in the art for the reasons provided in point 15. above.

18. *Auxiliary request 4 - substantiation of the objection of lack of inventive step in view of document D10 combined with document D9 (Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007)*

18.1 The appellant essentially argued that the objection of lack of inventive step in view of a combination of document D10 with document D9 raised against claim 1 of auxiliary request 4 should not be taken into account under Article 12(4) RPBA 2007 because it had not been sufficiently substantiated in point 3.5 of the reply, as required by Article 12(2) RPBA 2007. The appellant argued that document D10 had never previously been discussed for auxiliary request 4 and that the respondent had not substantiated in its reply why the combination of documents D10 and D9 rendered the subject-matter of claim 1 of auxiliary request 4 obvious. A reasoning was required on why and how these two documents would be combined. A mere reference to previous submissions during the opposition proceedings was not enough.

The respondent argued that its objection of lack of inventive step in view of documents D10 and D9 was sufficiently substantiated in point 3.5 of its reply, as, in this passage and in the passages of the first-instance submissions referred to, it was clearly indicated that the features added from granted claim 4 were derivable from document D9 and that this view applied irrespective of which document was considered the closest prior art.



18.2 The board is not convinced by the appellant's arguments for the following reasons.

In point 3.5 of its reply, the respondent stated the following:

*"Auxiliary request 4 had previously been submitted on 30 September 2015 (as auxiliary request 1, then) and on 23 February 2017. Independent claims 1 and 6 of auxiliary request 4 correspond to combinations of claim 1 with claim 4, and claim 7 with claim 8 as granted, respectively. Claims 4 and 8 as granted do not contain any feature that would constitute an inventive step because they are known from D9, for example. See section 8.4 of the Notice of Opposition of 16 April 2015 and sections 22 and 23 of the grounds for the decision revoking the patent that have been issued on 23 May 2017 by the Opposition Division. Additionally, we refer to section 10.1 of our submission of 18 February 2016."*

It follows from the above quoted passage that in point 3.5 of the reply, the respondent identified the features of granted claim 4 as the additional features in claim 1 of auxiliary request 4 as compared to claim 1 as granted. The respondent then explained why, in its view, the features added from granted claim 4 did not involve an inventive step.

For reasons similar to those set out in point 9.2.1 above, the arguments provided under point 3.5 must be seen in the context of the objections of lack of inventive step which were raised in points 3.1.1 to 3.1.6 of the reply against the patent as granted. Consequently, as argued by the respondent, it is clear

when reading the reply that any closest prior art discussed under points 3.1.1 to 3.1.6 is a potential starting point for the assessment of inventive step of the subject-matter of claim 1 of auxiliary request 4. As explained above under point 9.2.1, an objection of lack of inventive step raised under points 3.1.1 to 3.1.6 against the subject-matter of granted claim 1 must be sufficiently substantiated so that it can be taken into account together with the submissions under point 3.5 of the reply. This is the case for the objection of lack of inventive step, starting from document D10, which was raised in point 3.1.2 of the reply (see point 6. above). Therefore, the submissions in point 3.5 of the reply can be read together with those in point 3.1.2 of the reply. Hence, the statement *"do not contain any feature that would constitute an inventive step because they are known from D9, for example"* under point 3.5 of the reply must obviously be understood as meaning that the respondent raised an objection of lack of inventive step in view of documents D10 and D9.

The appellant's arguments that the respondent had not substantiated in point 3.5 of the reply why the combination of documents D10 and D9 rendered the subject-matter of claim 1 of auxiliary request 4 obvious and why and how these two documents would be combined are not convincing. Regarding the features added from granted claim 4 to claim 1 of auxiliary request 4, point 3.5 of the reply refers to point 8.4 of the notice of opposition and point 10.1 of the respondent's submission dated 18 February 2016. Thus, the respondent clearly indicated which specific parts of its earlier submissions it relied on in support of its view that the features added from granted claim 4 were known from document D9. The board therefore sees

this reference to the respondent's earlier submissions in the first-instance proceedings as specific and not general, thus it cannot be said from the outset that there is not sufficient substantiation (see also point 6.3 above). Point 10.1 of the letter dated 18 February 2016 concerns the then auxiliary request 1, which corresponds to current auxiliary request 4. In this point, the respondent referred to point 8.4 of the notice of opposition and stated that there it had shown that the features of granted claim 4 were known from document D9. Point 10.1 also contains a substantially reasoned objection of lack of inventive step using the problem-solution approach as the respondent formulates an objective technical problem ("*how to achieve a higher throughput?*"), identifies the teaching of document D9 needed to solve this problem ("*use a separate compression chip*") and provides reasons why the person skilled in the art would have considered combining documents D10 and D9 ("*all relate to the same technical field*"). It was then concluded: "*Hence, independent claims 1 and 6 are also not inventive in view of D10 (in which the aim of achieving high throughput is expressly mentioned in the abstract, for example) combined with D9, D11 combined with D9, and D12 combined with D9.*" Since this conclusion explicitly mentions the combination of document D10 with document D9, the appellant's argument that this combination had never been discussed at the first-instance proceedings for auxiliary request 4 must fail.

The sufficiently substantiated reasoning in the first-instance submissions could still be used by the respondent in appeal proceedings as there was indeed no reason for the respondent to change it. In points 22 and 23 of the Reasons for the decision under appeal, to which point 3.5 of the reply also refers, the

opposition division agreed with the respondent that the features added in claim 1 of the then auxiliary request 4, which corresponds to current auxiliary request 4, in comparison to granted claim 1, were disclosed in document D9. The decision under appeal thus does not contain any reasons in this respect which the respondent should have explicitly addressed in its reply.

The reply, in combination with the specific references to the previous first-instance submissions, thus sets out the facts and evidence and a logical chain of arguments for a lack of inventive step in view of document D10 combined with document D9. Hence, the reply enables the reader to understand the reasons why the respondent considered the objection of lack of inventive step in view of documents D10 and D9 to be valid. The board therefore concludes that this objection is sufficiently substantiated in point 3.5 in connection with point 3.1.2 of the reply. The board agrees with the appellant that, as a rule, the same standard of sufficient substantiation should apply to the statement of grounds of appeal and any reply thereto when applying Article 12(2) RPBA 2007. However, the board cannot see how it failed to do so in the current case.

- 18.3 In view of the above, the board finds that the respondent's objection of lack of inventive step against claim 1 of auxiliary request 4 in view of documents D10 and D9 is sufficiently substantiated and is therefore to be taken into account under Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007.

19. *Remittal to the department of first instance (Article 111(1), second sentence, EPC and Article 11 RPBA 2020) on the basis of auxiliary request 4*
- 19.1 The appellant requested that the case be remitted to the department of first instance for further prosecution on the basis of auxiliary request 4. The respondent was against a remittal.
- 19.2 The appellant referred to its written submissions provided for the request to remit the case to the department of first instance on the basis of the main request (see point 8. above). The respondent argued that the additional features of claim 1 of auxiliary request 4 had been discussed before the opposition division.
- 19.3 The board is not convinced by the appellant's arguments for the following reasons.
- 19.3.1 The respondent raised and substantiated an objection of lack of inventive step against claim 1 of auxiliary request 4 starting from document D10 as the closest prior art in point 3.5 in connection with point 3.1.2 of the reply (see point 18.2 above).

It is true that auxiliary request 4 had been filed shortly before the oral proceedings before the opposition division and that in those oral proceedings only an objection of lack of inventive step starting from document D5 had been discussed and decided upon. The decision under appeal deals with that objection only. As explained in point 2. above, in the case in hand, the respondent raising objections of lack of inventive step on appeal is not limited to those dealt with in the decision under appeal, and the board is not

prevented from examining an objection of lack of inventive step raised by the respondent not addressed in the decision under appeal.

One aim of revised Article 11 RPBA 2020 is to reduce the likelihood of a ping-pong effect between the boards of appeal and the first-instance departments (see also point 8.2 above). The board notes that the additional feature that the compression module is disposed within the housing and comprises a separate compression chip in claim 1 of auxiliary request 4 was dealt with in points 23.1 to 23.4 of the decision under appeal. In point 23.2 of the decision under appeal, the opposition arrived at the following conclusion: *"The opposition division agrees with the opponent that these features are disclosed in D9 (col. 11, lines 57-63). Even without reference to any document the opposition division does not see any further technical effect extending beyond a normal partitioning of the image processing in different chips. For example, even in the patent specification it is explicitly mentioned that the compression module can be 'a commercially available compression chip that performs a compression technique in accordance with the JPEG 2000 standard' (p. [0036]). Such a use of commercially available compression chip does not require an inventive activity."* In view of this finding, made without consideration of the disclosure of document D5, the opposition division would most likely again conclude that the additional feature specified in claim 1 of auxiliary request 4 cannot render the claimed subject-matter inventive, even if it were to start from document D10 as the closest prior art. Then there would possibly be a further appeal. All in all, this would lead to an unreasonable prolongation of the entire proceedings. However, this possible scenario is precisely what

revised Article 11 RPBA 2020 is intended to avoid. Thus, remitting the case in hand without deciding on auxiliary request 4 would be contrary to what was intended by Article 11 RPBA 2020.

The board is also in a position to decide on inventive step without undue burden. Furthermore, as explained in point 8.2 above, there is no absolute right to have each and every matter examined and decided on at two instances.

19.3.2 As to the appellant's further arguments, the board refers to its reasoning in point 8.4 above.

19.4 In view of the above, the board finds that there are no special reasons within the meaning of Article 11 RPBA 2020 justifying a remittal of the case to the opposition division without a decision on auxiliary request 4. Against this background, the board exercised its discretion under Article 111(1), second sentence, EPC, taking into account Article 11 RPBA 2020, and decided not to remit the case to the department of first instance for further prosecution on the basis of auxiliary request 4.

20. *Auxiliary request 4 - inventive step (Article 56 EPC)*

20.1 Claim 1 of auxiliary request 4 differs from claim 1 of the main request in that the former further specifies that the compression module is disposed within the housing and comprises a separate compression chip.

20.2 It is common ground between the parties that this feature is not disclosed in document D10.

- 20.3 The technical effect of this feature may be seen in reducing the power consumption of the compression module.
- 20.4 This effect is independent of the technical effects achieved by the distinguishing features identified for claim 1 of the main request (see point 7.3.1 above).
- 20.5 Hence, an additional partial objective technical problem may be formulated as how to reduce power consumption of the compression module.
- 20.6 Faced with this problem, the person skilled in the art would have considered document D9 because it also discloses a method for compressing colour difference signals before de-mosaicing (see the section starting at column 27, line 51 on "Efficient Color Space Transformations for RGB Mosaic Images").
- 20.7 Document D9 discloses in column 11, lines 51 to 65 that *"the Image Processor 102 may be implemented as a 'camera on a chip(set)'"* and that *"the Image Processor 102 preferably supports hardware implementation of a wavelet transform engine complete with a wavelet filter bank, so that the wavelet transform process may be pipelined through a series of dedicated hardware gates"*.

It would have been obvious to the person skilled in the art that using dedicated hardware may reduce the power consumption relative to an implementation on a general-purpose processor.

- 20.8 As argued by the respondent, since a chipset is a set of chips and document D9 discloses that the wavelet transform engine is implemented in hardware,



partitioning the chipset such that one of the chips implements the wavelet transform engine would have been obvious to the person skilled in the art.

By partitioning the chipset to the camera disclosed in document D10 in such a manner, the person skilled in the art would have arrived at the feature identified in point 20.1 above.

- 20.9 The appellant referred to document D9, column 11, lines 52 to 58 stating: "*the Image Processor 102 may be implemented as a 'camera on a chip(set)' using, for instance, a Sierra Imaging Raptor I or II chipset (available form Sierra Imaging, Inc. of Scotts Valley, Calif.), a Sound Vision Clarity 1 or 2 chipset (available form Sound Vision, Inc. of Framingham, Mass.) or similar chipset that integrates a processing core with image processing periphery*". The appellant argued that the disclosure of document D9 related to the chipsets of either Sierra Imaging Raptor I or II or Sound Vision Clarity 1 or 2. Further evidence on these chipsets should have been provided by the respondent to show that they included a separate compression chip.

The board is not convinced by this argument because the quoted passage of document D9 includes the statements "*for instance*" and "*or similar chipset*". Hence, the board is not convinced that the disclosure of document D9 is restricted to the chipsets Sierra Imaging Raptor I or II or Sound Vision Clarity 1 or 2.

- 20.10 In view of the above, the board finds that the subject-matter of claim 1 of auxiliary request 4 does not involve an inventive step within the meaning of Article 56 EPC having regard to the combined disclosure of documents D10 and D9.

21. *Auxiliary request 5 - added subject-matter  
(Article 123(2) EPC)*
- 21.1 Claim 1 of auxiliary request 5 specifies that "*image data related to each of the groups of sensor cells are separately compressed*".
- 21.2 The respondent objected that there was no basis for this feature in the application as filed on which the patent was based.
- 21.3 The appellant argued that this feature was implicitly disclosed by the following parts of the application as filed (i.e. the international application with publication number WO 2008/128112 A1):
- (a) claim 3
  - (b) paragraphs [0038] ff
  - (c) paragraphs [0085] to [0095]
  - (d) Figures 4, 9, 12, 13, 15 and 16
- 21.4 The appellant argued that since in steps 64 to 72 of Figure 12 the colour signals were individually processed, it was implicit that they were also individually compressed.
- 21.5 The board is not convinced by the appellant's arguments because none of the cited passages excludes that the colour signals are jointly compressed and decompressed. According to the flow chart in Figure 12, the red and blue picture elements are treated separately from the green picture elements after applying the decompression algorithm (see steps 62 and 66 to 72). Therefore, it cannot be directly and unambiguously derived from the cited passages that the colour signals are treated individually by the decompression algorithm.

21.6 In view of the above, the board finds that claim 1 of auxiliary request 5 does not meet the requirements of Article 123(2) EPC.

22. *Auxiliary request 6 - substantiation of the objection of lack of inventive step in view of document D10 combined with document D1 (Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007)*

22.1 The appellant essentially argued that the objection of lack of inventive step in view of a combination of document D10 with document D1 raised against auxiliary request 6 should not be taken into account under Article 12(4) RPBA 2007 because it had not been sufficiently substantiated in point 3.7 of the reply, as required by Article 12(2) RPBA 2007. The appellant argued that document D10 had never previously been discussed for auxiliary request 6 and that the respondent had not substantiated in its reply why the combination of documents D10 and D1 rendered the subject-matter of claim 1 of auxiliary request 6 obvious.

The respondent argued that its objection of lack of inventive step in view of documents D10 and D1 was sufficiently substantiated in point 3.7 of its reply.

22.2 The board is not convinced by the appellant's arguments for the following reasons.

In point 3.7 of its reply, the respondent stated the following:

*"Auxiliary request 6 had previously been submitted on 30 September 2015 (as auxiliary request 3, then) and on*

*23 February 2017. Claim 1 of auxiliary request 6 comprises all of the features of claim 1 as granted and further defines that the light sensitive device includes first, second, and third groups of sensor cells configured to detect the first, second, and third colour, respectively, the third group comprising twice as many sensor cells as the first or second group, wherein image data related to each of the groups are processed using separate image data processing modules. This added feature, however, is not originally disclosed. Auxiliary request 6 therefore extends beyond the content of the application and is consequently not admissible. Furthermore, the feature is contradictory, because the averaged green pixel values cannot be subtracted from the red and blue pixel values, if the three colours are processed in different modules. Additionally, separate image processing modules for different colour channels are known from D1 (cf. col. 4, l. 49-51; Fig. 2; and col. 3, l. 54-59). See section 10.3 of our submission of 18 February 2016 as well as sections 25 and 26 of the grounds for the decision revoking the patent that have been issued on 23 May 2017 by the Opposition Division."*

It follows from the above quoted passage that in point 3.7 of the reply, the respondent identified the additional features of claim 1 of auxiliary request 6 as compared to claim 1 as granted. The respondent then took the view that the added features were known from document D1 and indicated where they were disclosed in document D1.

For reasons similar to those set out in point 9.2.1 above, the arguments provided under point 3.7 of the reply must be seen in the context of the objections of lack of inventive step which were raised in

points 3.1.1 to 3.1.6 of the reply against the patent as granted. Consequently, any closest prior art discussed under points 3.1.1 to 3.1.6 is a potential starting point for the assessment of inventive step of the subject-matter of claim 1 of auxiliary request 6. As explained above under point 9.2.1, an objection of lack of inventive step raised under points 3.1.1 to 3.1.6 against the subject-matter of granted claim 1 must be sufficiently substantiated for it to be taken into account together with the submissions under point 3.7 of the reply. This is the case for the objection of lack of inventive step starting from document D10 which was raised in point 3.1.2 of the reply (see point 6. above). Therefore, the submissions in point 3.7 of the reply can be read together with those in point 3.1.2 of the reply. Hence, the statement "*separate image processing modules for different colour channels are known from D1 (cf. col. 4, l. 49-51; Fig. 2; and col. 3, l. 54-59)*" under point 3.7 of the reply must obviously be understood as meaning that the respondent raised an objection of lack of inventive step in view of documents D10 and D1.

The respondent also substantiated in point 3.7 of the reply why the combination of documents D10 and D1 rendered the subject-matter of claim 1 of auxiliary request 6 obvious and why and how these two documents would be combined. Point 3.7 of the reply refers to point 10.3 of the respondent's submission dated 18 February 2016. Thus, the respondent clearly indicated which specific parts of its earlier submissions it relied on in support of its view that the added features in claim 1 were known from document D1. The board therefore sees this reference to the respondent's earlier submissions in the first-instance proceedings as specific and not general, so

that it cannot be said from the outset that there is not sufficient substantiation (see point 6.3 above). Point 10.3 of the letter dated 18 February 2016 concerns the then auxiliary request 3, which corresponds to current auxiliary request 6. This point identifies where the additional features of claim 1 are disclosed in document D1 ("*cf. col. 4, l. 49-51 and Fig. 2 of D1*") and provides reasons why the person skilled in the art would have considered combining documents D10 and D1 ("*D1 relates to the same technical field as D7, D9, D10 and D12*"). It was then concluded that claim 1 lacked inventive step "*in view of a combination of D7 with D1, D9 with D1, D10 with D1, and D12 with D1*". Since this conclusion explicitly mentions the combination of document D10 with document D1, this combination had also been discussed in point 10.3 of the letter dated 18 February 2016.

The sufficiently substantiated reasoning in the first-instance submissions could be used by the respondent in appeal proceedings as there was indeed no reason for the respondent to change it. In points 25 and 26 of the Reasons for the decision under appeal, to which point 3.7 of the reply also refers, the opposition division agreed with the respondent that the added features in claim 1 of the then auxiliary request 6, which corresponds to current auxiliary request 6, were disclosed in document D1. The decision under appeal thus does not contain any reasons in this respect which the respondent should have explicitly addressed in its reply.

The reply, in combination with the specific reference to the respondent's previous first-instance submissions, thus sets out the facts and evidence and a logical chain of arguments for a lack of inventive step

in view of document D10 combined with document D1. Hence, the reply enables the reader to understand the reasons why the respondent considered the objection of lack of inventive step in view of documents D10 and D1 to be valid. The board therefore concludes that this objection is sufficiently substantiated in point 3.7 in connection with point 3.1.2 of the reply. The board agrees with the appellant that, as a rule, the same standard of sufficient substantiation should apply to the statement of grounds of appeal and any reply thereto when applying Article 12(2) RPBA 2007. However, the board cannot see how it failed to do so in the current case.

22.3 In view of the above, the board finds that the respondent's objection of lack of inventive step against claim 1 of auxiliary request 6 in view of documents D10 and D1 is sufficiently substantiated and is therefore to be taken into account under Article 12(4) RPBA 2007 together with Article 12(2) RPBA 2007.

23. *Remittal to the department of first instance (Article 111(1), second sentence, EPC and Article 11 RPBA 2020) on the basis of auxiliary request 6*

23.1 The appellant requested that the case be remitted to the department of first instance for further prosecution on the basis of auxiliary request 6. The respondent was against a remittal.

23.2 The appellant referred to its written submissions provided for the request to remit the case to the department of first instance on the basis of the main request (see point 8.4 above).

23.3 The board is not convinced by the appellant's arguments for the following reasons.

23.3.1 The respondent raised and substantiated an objection of lack of inventive step against claim 1 of auxiliary request 6 starting from document D10 as the closest prior art in points 3.1.2 and 3.7 of the reply (see point 22.2 above).

It is true that auxiliary request 6 had been filed shortly before the oral proceedings before the opposition division and that in those oral proceedings only an objection of lack of inventive step starting from document D5 had been discussed and decided upon. The decision under appeal deals with that objection only. As explained in point 2. above, in the case in hand, the respondent raising objections of lack of inventive step on appeal is not limited to those dealt with in the decision under appeal, and the board is not prevented from examining an objection of lack of inventive step raised by the respondent not addressed in the decision under appeal.

One aim of revised Article 11 RPBA 2020 is to reduce the likelihood of a ping-pong effect between the boards of appeal and the first-instance departments (see also point 8.2 above). The board notes that the additional features that the light sensitive device comprises groups of cells of three different colours and that the image data related to each of the groups of cells is separately processed as specified in claim 1 of auxiliary request 6 were dealt with in points 26.1 to 26.3 of the decision under appeal. In point 26.1 of the decision under appeal, the opposition reached the following conclusion: "*The opposition division considers these features either implicitly disclosed in*



*D9, wherein each color data is compressed separately or it is an obvious parallelisation of the image processing, which does not require any inventive activity. Moreover it appears that this definition is in contradiction with the functionality of the image processing module defined in claim 1, which requires interactions between the different color planes."* In view of this finding, made without consideration of the disclosure of document D5, the opposition division would most likely again conclude that the additional features specified in claim 1 of auxiliary request 6 cannot render the claimed subject-matter inventive, even if it were to start from document D10 as the closest prior art. Then there would possibly be a further appeal. All in all, this would lead to an unreasonable prolongation of the entire proceedings. However, this possible scenario is precisely what revised Article 11 RPBA 2020 is intended to avoid. Thus, remitting the case in hand without deciding on auxiliary request 6 would be contrary to what was intended by Article 11 RPBA 2020.

The board is also in a position to decide on inventive step without undue burden. Furthermore, as explained in point 8.2 above, there is no absolute right to have each and every matter examined and decided on at two instances.

23.3.2 As to the appellant's further arguments, the board refers to its reasoning in point 8.4 above.

23.4 In view of the above, the board finds that there are no special reasons within the meaning of Article 11 RPBA 2020 justifying a remittal of the case to the opposition division without a decision on auxiliary request 6. Against this background, the board exercised

its discretion under Article 111(1), second sentence, EPC, taking into account Article 11 RPBA 2020, and decided not to remit the case to the department of first instance for further prosecution on the basis of auxiliary request 6.

24. *Auxiliary request 6 - inventive step (Article 56 EPC)*

24.1 Claim 1 of auxiliary request 6 differs from claim 1 of the main request in that the former further specifies that:

(a) the light sensitive device includes a first group of sensor cells configured to detect the first colour, a second group of sensor cells configured to detect the second colour and a third group of sensor cells configured to detect the third colour, the third group of sensor cells comprising twice as many sensor cells as the first or second group of sensor cells

(b) image data related to each of the groups of sensor cells is processed using separate image data processing modules

24.2 It is undisputed that feature (a) is disclosed in Figure 1(a) of document D10.

24.3 It is also common ground between the parties that feature (b) is not disclosed in document D10.

24.4 The technical effect of this further distinguishing feature may be regarded as parallelising the processing of image data for each group of sensor cells.

This effect is independent of the technical effects achieved by the distinguishing features identified for claim 1 of the main request (see point 7.3.1 above).

24.5 Hence, a further partial problem may be formulated as how to parallelise the processing of image data for each group of sensor cells.

24.6 Faced with this problem, the person skilled in the art would have considered document D1 because it discloses the same subtraction of red, green and blue pixel signals in a Bayer pattern as in document D10 (see column 4, lines 49 to 51).

Document D1 discloses that image data for each group of sensor cells is separately compressed, and thus processed, using separate modules (see D1, Figure 2: 210, 220, 212, 222, 214, 224, 216, 226).

24.7 The person skilled in the art would have applied this teaching of document D1 to the camera disclosed in document D10, thus arriving at distinguishing feature (b).

24.8 At the oral proceedings on 13 January 2021, the respondent also submitted arguments relying on the passage in column 4, lines 30 to 36 of document D1. The appellant objected that these arguments should not be admitted into the appeal proceedings because they had been put forward for the first time in the oral proceedings.

In the respondent's view, these arguments were to be admitted into the appeal proceedings pursuant to Article 13(2) RPBA 2020 because they were a reaction to a new argument submitted by the appellant in the oral

proceedings on 13 January 2023, namely that, when interpreted correctly, claim 1 of auxiliary request 6 specified that the separate image data processing modules were part of the image processing module. The appellant's new argument addressed point 3.7 of the reply for the first time in the appeal proceedings.

The appellant essentially argued that it could not have been expected to address issues other than those dealt with in the decision under appeal.

The board shares the respondent's view that the appellant's new argument constitutes an exceptional circumstance justifying the admittance of the respondent's arguments relying on the passage in column 4, lines 30 to 36 of document D1 into the appeal proceedings. Thus, the board, exercising its discretion under Article 13(2) RPBA 2020, decided to admit the respondent's arguments.

The above notwithstanding, the board considers that there is in fact no need to rely on the passage in column 4, lines 30 to 36 of document D1 to arrive at the conclusion that distinguishing feature (b) would have been obvious to the person skilled in the art. The passages referred in point 24.6 suffice.

24.9 The appellant submitted that claim 1 defined an image processing system comprising a compression module and an image processing module. The appellant argued that distinguishing feature (b) related to processing of image data other than compressing.

24.10 The board is not convinced by these arguments because, as put forward by the respondent, claim 1 does not specify that the "image data processing modules" are

part of the "image processing module". Therefore, the person skilled in the art would not have interpreted the feature "processed using separate image data processing modules" in claim 1 as excluding data compression.

24.11 In view of the above, the board finds that the subject-matter of claim 1 of auxiliary request 6 does not involve an inventive step in view of the disclosure of document D10 and document D1.

25. *Appellant's objections 1, 2, 3 and 6 under Rule 106 EPC*

25.1 According to the appellant's objections 1, 2, 3 and 6 under Rule 106 EPC, the board infringed the appellant's right to be heard under Article 113(1) EPC by considering the respondent's objections of lack of inventive step starting from document D10 against claim 1 of the patent as granted and auxiliary requests 1, 2 and 4 sufficiently substantiated in the reply when they had not actually been sufficiently substantiated.

25.2 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 be 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).

25.3 Applying these principles to the case in hand, the board concludes that the parties' right to be heard was observed.

As is apparent from the minutes of the oral proceedings before the board, the parties had ample opportunity to present their comments on whether the objections of lack of inventive step starting from document D10 raised by the respondent in its reply were sufficiently substantiated.

With its objections under Rule 106 EPC, the appellant is in effect stating that it disagrees with the board's conclusions that the objections of lack of inventive step against claim 1 of the patent as granted and auxiliary requests 1, 2 and 4 were sufficiently substantiated in the reply, or, in other words, that it does not accept these conclusions. The board's assessment of the sufficiency of substantiation does not, in the board's view, violate the appellant's right to be heard under Article 113(1) EPC, even though the appellant may disagree with the outcome of this assessment. Article 113(1) EPC could have been violated if the parties had not had sufficient opportunity to comment on the sufficiency of substantiation. However, as explained above, the parties were given sufficient opportunity to comment before the board came to its conclusions.

The board is also not convinced by the appellant's argument that its right to be heard under Article 113(1) EPC was infringed because it was not able to defend its case in the discussion on inventive step starting from document D10 due to the lack of substantiation of the respondent's objections. Here, the appellant again seeks to challenge the board's

conclusions that the respondent's objections had been sufficiently substantiated in the reply. However, if a party disagrees with a conclusion of the board, this cannot mean that therefore its right to be heard has been violated. If it did, a party could deprive any assessment or conclusion by the board unfavourable to it of its effect. This would clearly be unacceptable. Moreover, it is evident from the appellant's written submissions and the minutes of the oral proceedings before the board that the appellant did comment on the substance of the respondent's objections.

25.4 In view of the above, the board dismissed the appellant's objections 1, 2, 3 and 6 under Rule 106 EPC.

26. *Appellant's combined objections 4 and 5 under Rule 106 EPC*

The appellant provided several lines of argument in support of its combined objections 4 and 5 under Rule 106 EPC.

26.1 Room incident

26.1.1 As far as the room incident is concerned, the following is recorded in the minutes of the oral proceedings on 21 October 2022 before the board.

As to what happened during this room incident, the following is recorded on page 35 of these minutes:

*"At 18.20 hrs, one of the respondent's representatives entered the room and closed the door behind him. He asked about the timing of the oral proceedings on that day, because the representatives had to catch a plane*

*to London. The chairwoman immediately asked him to leave the room as the board was deliberating, adding that the parties would be called in in a few minutes. The representative immediately left the room at 18.21 hrs."*

On page 36 of these minutes, it is recorded that at the beginning of the discussion on the room incident, the chair stated *"that the respondent's representative should not have entered the room during the board's deliberation, that he however had only stayed in the room for less than a minute, that the board could assure that he had immediately been asked by the chairwoman to leave the room and that, in response to the representative's question about the timing of the oral proceedings on that day, the chairwoman had only said that the parties would be called in in a few minutes"*.

- 26.1.2 In its witness statement dated 6 January 2023, the respondent's representative described the circumstances of the room incident as follows:

*"I knocked on the door of the room where the Board of Appeal were located but because the room was very large, they may not have heard me. Therefore, I opened the door entered the room and walked to the end of the room were [sic] the Board of Appeal were located. The Chair when she saw me said to me 'You cannot be in here. Please leave'. I said 'I'm so sorry, but I must ask about the timing for the rest of today'. The Chair said 'We are just getting to that. Now, please leave'. I immediately left the room. I cannot remember whether the door was opened or closed when I was in the room."*



26.1.3 The board finds that the descriptions of the sequence of events in the room incident in the minutes and the witness statement are substantially the same and do not contradict each other. The board further notes that these descriptions have not been challenged by the appellant.

The board agrees with the appellant that the respondent's representative should not have entered the room during the interruption of the oral proceedings for the board's deliberation. However, the board cannot identify any violation of the appellant's right to be heard under Article 113(1) EPC in the course of the room incident. It is undisputed that the respondent's representative had immediately been asked by the chair to leave the room and that he was in the room for less than a minute. It is also clear from the minutes and the witness statement that the respondent's representative only asked about the timing of the oral proceedings on that day and that the chair only commented on this point, namely that the chair only said that the parties would be called in in a few minutes. The only issue commented upon was therefore the timing of the oral proceedings. It cannot be inferred from this that the room incident gave cause to question the fair and orderly conduct of the oral proceedings or that the respondent's representative obtained knowledge or information about the case from the board in an unfair manner.

The board also does not accept the appellant's argument that even if the board did not talk with the respondent's representative about substantive matters of the case, he may nevertheless have gained information about the case while being in the deliberation room with the board, e.g. from other cues

such as the body language of the board members. In the board's opinion, the appellant's assumptions are subjective speculations as to what could have taken place during the room incident. There is no objective indication for these assumptions. It can be assumed that the board, if it had still been deliberating, would have interrupted the deliberation as soon as the respondent's representative entered the room. The appellant's assumption that the respondent's representative could have entered the room without the board immediately noticing has no basis and is also not in accordance with the minutes, where it is recorded that the chair said that the board could assure that the respondent's representative had immediately been asked by the chair to leave the room. There is no doubt that the board would not have assured this if it had the slightest reason to believe that the respondent's representative could have gained any information from the deliberation. Nor does it follow from the witness statement that the respondent's representative entered the room without the board immediately noticing. The short duration of the representative's presence in the room of less than one minute also speaks against the appellant's assumptions.

26.2 Time pressure for filing objection 4 under Rule 106 EPC at the oral proceedings on 21 October 2022

The appellant argued that it had not been given sufficient time to draft the objection under Rule 106 EPC filed on 21 October 2022 at 18.49 hrs.

Also in this respect, the board cannot identify any violation of the appellant's right to be heard under Article 113(1) EPC. According to the minutes, the appellant had not requested more time than the 15

minutes it had been given by the board to formulate its objection 4 under Rule 106 EPC. The appellant had in fact indicated to the board before the end of these 15 minutes that it had finished preparing its objection and that it was ready to file it.

But most of all, the fact that the oral proceedings had to be adjourned after the appellant's objection 4 had been filed and that it had been briefly discussed with the parties does not mean that the discussion of objection 4 was thus concluded. On 21 October 2022, the debate had not been closed on that issue, nor did the board confront the parties with a decision. The discussion of this issue was continued, and the appellant was given the opportunity to comment or elaborate on its objection in the further course of the oral proceedings on 13 January 2023, as the minutes show. Hence, it is difficult to see how the appellant's right to be heard under Article 113(1) EPC could have been violated.

26.3 Awaiting the written reasons for the decision of the alternate board

The appellant argued that the reasoning for the decision of the alternate board could have an impact on its objection under Rule 106 EPC and that its right to be heard under Article 113(1) EPC would therefore be infringed if the written reasons for that decision were not awaited first.

However, the board cannot see any violation of the appellant's right to be heard under Article 113(1) EPC. The board agrees with the respondent that all relevant facts regarding the appellant's objection 5 could be established in the oral proceedings on 13 January 2023

before this board. Furthermore, as explained in point 5.4 above, there is neither a provision in the EPC or the RPBA 2020 nor case law under which this board would be bound by the ratio decidendi of the interlocutory decision of the alternate board when examining the current appeal. This means that the reasoning of the alternate board could not establish any further facts and could have no impact on the examination of the current appeal by this board.

26.4 In view of the above, the board dismissed the appellant's combined objections 4 and 5 under Rule 106 EPC.

27. *Conclusion*

The appellant's main request is not allowable because the ground for opposition under Articles 100(a) and 56 EPC prejudices the maintenance of the patent as granted. Auxiliary requests 1, 2, 3A, 4 and 6 are not allowable because the subject-matter of claim 1 of each of these requests does not involve an inventive step within the meaning of Article 56 EPC. Claim 1 of auxiliary request 5 does not meet the requirements of Article 123(2) EPC. Since none of these 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

T. Karamanli

Decision electronically authenticated