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**Datasheet for the decision
of 11 July 2024**

Case Number: T 0466/21 - 3.5.04

Application Number: 10763433.9

Publication Number: 2473407

IPC: B64G1/00

Language of the proceedings: EN

Title of invention:

DISTRIBUTING PRE-PROCESSING DATA OF IMAGERY DATA

Applicant:

Elbit Systems Ltd.

Headword:

Relevant legal provisions:

EPC Art. 84

RPBA 2020 Art. 13(2)

Keyword:

Main request - clarity (no)

Auxiliary request - amendment after notification of Art. 15(1)

RPBA communication - taken into account (no)

Decisions cited:

Catchword:



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Case Number: T 0466/21 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 11 July 2024

Appellant: Elbit Systems Ltd.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 17 December
2020 refusing European patent application
No. 10763433.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair B. Willems
Members: F. Sanahuja
B. Müller

Summary of Facts and Submissions

- I. The appeal is against the examining division's decision to refuse European patent application No. 10 763 433.9.
- II. The documents cited in the decision under appeal included the following:

D5 US 2008/0270569 A1
- III. The application was refused on the following grounds:
 - (a) Claim 1 of the then main request and claim 1 of the then auxiliary request were not clear (Article 84 EPC).
 - (b) The subject-matter of claim 1 of the then main request and auxiliary request lacked inventive step over the disclosure of D5 combined with the common general knowledge of the person skilled in the art (Article 56 EPC).
- IV. The applicant (appellant) filed notice of appeal. With its statement of grounds of appeal, the appellant filed a main request and submitted that this request corresponded to the main request on which the decision under appeal was based. The appellant provided arguments to support its opinion that claim 1 of its main and sole request was clear and its subject-matter involved an inventive step.
- V. The appellant was summoned to oral proceedings. In a communication under Article 15(1) RPBA, the board gave

the following preliminary opinion.

(a) Claim 1 of the then sole request was not clear (Article 84 EPC).

(b) For the assessment of inventive step starting from document D5 it might have to be discussed whether using the extracted data for post-processing in D5 anticipated the claimed feature of applying pre-processing data to an image to obtain a processed version of that image.

VI. With its letter dated 11 June 2024 the appellant submitted amended claims of an auxiliary request. As a "preliminary request" it requested that the appeal proceedings be stayed in the current case pending the outcome of the referral to the Enlarged Board of Appeal from case T 439/22. Its second request was for referral of the case to the Enlarged Board of Appeal pursuant to Article 112(1)(a) EPC. It submitted arguments to support its opinion that the claims of the main request and the auxiliary request met the requirements of Articles 56, 84 and 123(2) EPC.

VII. On 11 July 2024, the board held oral proceedings using videoconferencing technology, as requested by the appellant.

VIII. During the oral proceedings the appellant submitted the following documents as evidence of common general knowledge to show how the skilled person would read the term "pre-processing data":

D6 M. Sonka et al., "*Image Processing, Analysis and Machine Vision*", chapter 4: Image pre-processing, pp. 56 to 57

D7 P.E. Trahanias and A.N. Venetsanopoulos, "*Color Image Enhancement Through 3-D Histogram Equalization*", IEEE, 1992

IX. The appellant's final requests were that the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main request filed with the statement of grounds of appeal or the auxiliary request filed with its above-mentioned letter dated 11 June 2024.

X. Claim 1 of the main request reads as follows:

"A method comprising:

decompressing (120), in a central server (100), a remotely obtained (22) original compressed image, to yield a decompressed original image;

processing (140), in the central server, the decompressed original image, by applying at least one user-defined image processing algorithm, to yield a processed image and pre-processing data, wherein the pre-processing data are such that they yield the processed image when applied to the decompressed original image at a reduced amount of computations compared with said processing at the central server;

sending the pre-processing data to at least one remote server (300A, 300B);

obtaining, at the at least one remote server, the original compressed image;

decompressing (320A, 320B), at the at least one remote server, the original compressed image, to yield the decompressed original image; and

applying, at the at least one remote server, the pre-processing data to the decompressed original image, to yield the processed image at said reduced amount of computations."

- XI. Claim 1 of the auxiliary request has been amended as follows (additions with respect to claim 1 of the main request being underlined and deletions being ~~struck through~~):

"A method comprising:

decompressing (120), in a central server (100), a remotely obtained (22) original compressed image, to yield a pre-processed decompressed original image;

processing (140), in the central server, the pre-processed decompressed original image by applying at least one user-defined image processing algorithm, to yield a processed decompressed image and pre-processing data, wherein the pre-processing data are such that they yield the processed decompressed image when applied to the pre-processed decompressed original image at a reduced amount of computations compared with said processing at the central server, and wherein the pre-processing data pertains to a relation between the processed decompressed image and the pre-processed decompressed original image and

comprises parameters exhibiting a statistical characterization of the processed decompressed image;

sending the pre-processing data to at least one remote server (300A, 300B);

obtaining, at the at least one remote server, the original compressed image;

decompressing (320A, 320B), at the at least one remote server, the original compressed image, to yield the pre-processed decompressed original image; and

applying, at the at least one remote server, the pre-processing data to the pre-processed decompressed original image, to yield the processed decompressed image at said reduced amount of computations."

Reasons for the Decision

1. The appeal is admissible.
2. *Main request - clarity (Article 84 EPC)*
 - 2.1 Under Article 84 EPC, the claims must be clear.

According to the case law of the boards of appeal, a claim cannot be considered clear within the meaning of Article 84 EPC if it comprises an unclear technical feature for which no unequivocal generally accepted meaning exists in the relevant art (see Case Law of the Boards of Appeal of the European Patent Office, 10th edition, 2022, "Case Law", II.A.3.1).

The claims must be clear in themselves when read by the person skilled in the art, without any reference to the

content of the description (see Case Law, II.A.3.1).

2.2 The examining division considered that it was not clear what "pre-processing data" were and how they were obtained (see point 11.1.2 of the decision under appeal). Furthermore, it was not clear what was meant by the phrase "*such that [the pre-processed data] yield the processed image when applied to the decompressed original image*" (see point 11.1.3 of the decision under appeal).

2.3 The appellant submitted that the term "pre-processing data" was unambiguous to the person skilled in the art. Pre-processing data were "before processing instructions", i.e. initial instructions that could be executed or applied to an unprocessed image to yield a processed image at a quicker rate (see bullet point c) on page 5 of the statement of grounds of appeal).

Documents D6 and D7 illustrated examples of pre-processing. For example, the histogram equalisation pre-processing of document D7 generated adjustments for each pixel of an image. These adjustments were pre-processing data. Document D6 produced a statistical characterisation of an image in the form of an average of neighbouring pixels.

The person skilled in the art would have known which image-processing algorithms generated pre-processing data such that, when applied to the decompressed original image, they would yield the processed image at a reduced amount of computations.

The pre-processing data represented thus a "recipe" for adapting the decompressed image to arrive at the processed image. The person skilled in the art

understood from the wording of claim 1 alone, or from the disclosure of the application as a whole, how pre-processing data yielded the processed image when applied to the decompressed original image, and that applying pre-processing data to an image involved secondary processing, the nature of which was apparent to the person skilled in the art (see bullet point b) on page 4, second full paragraph on page 6, and the paragraph bridging pages 6 and 7, of the statement of grounds of appeal).

The appellant referred, *inter alia*, to page 6, line 28 to page 7, line 3 of the description in support of its view that the generation of pre-processing data and its application in the form of instructions to a decompressed image was clear. The passage on page 7, lines 11 to 13, showed that usage of pre-processing data while processing the compressed imagery data facilitated the processing from a computational point of view, and lines 17 to 19 on the same page stated that pre-processing data pertained to a relation between the decompressed imagery data and the pre-processed decompressed imagery data. In addition, lines 1 and 2 on page 8 of the description made it clear that pre-processing data comprised, but were not limited to, parameters exhibiting a statistical characterisation of the decompressed image data.

- 2.4 The board is not convinced that, from the content of claim 1 and using common general knowledge, the person skilled in the art would understand what is meant by the term "pre-processing data" and how to apply the pre-processing data to an image to yield a processed image.

2.4.1 The term "pre-processing data" does not have an unequivocal generally accepted meaning in the art, particularly when used to refer to a "recipe" or set of instructions. Pre-processing as such normally denotes a step of processing input data to produce output data to be used as input to another process. However, the output of the pre-processing step does not comprise instructions to be applied to the input data.

It is not apparent whether or how an unspecified user-defined image-processing algorithm can generate pre-processing data in addition to a processed image (see also point 11.1.2 of the decision under appeal). An image-processing algorithm applied to an original image normally produces a processed image, but not information on how the original image has been, or is to be, modified. Thus, the claimed user-defined image-processing algorithms do not clarify the nature of pre-processing data. Moreover, the board is not convinced that it would be straightforward for the person skilled in the art to identify image-processing algorithms capable of producing pre-processing data, because the technical characteristics of pre-processing data, i.e. the output of the image-processing algorithm, are not clearly defined.

2.4.2 Furthermore, the concept of applying data (or pre-processing data) to a decompressed image - as opposed to applying processing steps - is not common in the field of image processing. Therefore, the person skilled in the art could not have relied on common general knowledge to understand the technical features involved in the step of "*applying ... the pre-processing data to the decompressed original image*". In addition, since the term "pre-processing data" is not clearly defined, the nature of any

secondary processing involved in "applying" the "pre-processing data" to a decompressed image is not apparent.

2.5 In addition, the board considers that, even when taking account of the content of the description, the nature of the pre-processing data and how said pre-processing data are to be applied would remain unclear.

2.5.1 The passage from page 6, line 28 to page 7, line 3 of the description discloses that "*[t]he pre-processing data comprises information associated with the user defined image processing algorithms that need be applied on the imagery process*" and that "*[t]he pre-processing data is generated such that application (or execution) of the imagery data on corresponding decompressed imagery data results in processed imagery data*".

However, contrary to the appellant's view, the board cannot see any indication in this passage that pre-processing data are instructions which, when applied to the decompressed original image, yield a processed image at a reduced amount of calculations. This passage states that pre-processing data comprise information associated with an image-processing algorithm. However, it cannot be concluded that this information is the alleged instructions because no details of the information are disclosed. Moreover, this passage describes the application of imagery data (as opposed to the claimed pre-processing data) to decompressed imagery data. This incoherent statement is not helpful in equating pre-processing data to a set of instructions.

The passages on page 7 (see the last paragraph in

point 2.3 above) describing the pre-processing data in terms of a result to be achieved ("*facilitates the processing from a computational point of view*") and the vague relationship between a decompressed original and a processed image do not contribute to clarifying the nature of pre-processing data.

2.5.2 On page 8, lines 1 and 2, of the description, pre-processing data are described as comprising parameters exhibiting a statistical characterisation of the decompressed image data. However, as discussed in point 2.4.2 above, it is not apparent how data, e.g. parameters exhibiting a statistical characterisation of the decompressed image data, can be applied to a decompressed image. Thus, this passage of the description does not clarify how to apply the claimed pre-processed data.

2.5.3 In view of points 2.5.1 and 2.5.2 above, the board considers that the inconsistent teaching of the description does not clarify the nature of "pre-processing data" or how to apply it to a decompressed image.

2.6 In the light of the considerations above, claim 1 of the main request is not clear (Article 84 EPC).

3. *Auxiliary request - admittance into the appeal proceedings (Article 13(2) RPBA)*

3.1 Under Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1) RPBA 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.

In applying Article 13(2) RPBA, the board may also rely on the criteria set out in Article 13(1) RPBA (see Supplementary publication 2 of the OJ EPO 2020, explanatory notes to Article 13(2), page 60, fourth paragraph).

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

- 3.2 Claim 1 of the auxiliary request further defines pre-processing data as pertaining to a relation between the processed decompressed image and the pre-processed decompressed original image and comprising parameters exhibiting a statistical characterisation of the processed decompressed image.
- 3.3 The appellant argued that the auxiliary request should be admitted into the appeal proceedings because the board's view in its communication under Article 15(1) RPBA that the description should not be taken into account in determining whether the claims were clear amounted to exceptional circumstances within the meaning of Article 13(2) RPBA. Moreover, the amendments to claim 1 of the auxiliary request addressed the clarity objections raised against claim 1 of the main request.
- 3.4 Even if the board were to follow the appellant's argument that the board's statements in section 2 of its communication amounted to exceptional circumstances

within the meaning of Article 13(2) RPBA, the board could still rely on the criteria set out in Article 13(1) RPBA in applying Article 13(2) RPBA.

From the discussion regarding the clarity of claim 1 of the main request, it is immediately apparent that including in claim 1 the definition of pre-processing data referred to in point 3.2 above cannot, *prima facie*, overcome the clarity objections raised by the board (see points 2.4 and 2.5 above).

3.5 In view of the above, under Article 13(2) RPBA, the board does not take the auxiliary request into account in the appeal proceedings.

4. *Conclusion*

Since the main request is not allowable and the auxiliary request is not taken into account in the appeal proceedings, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated