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**Datasheet for the decision  
of 28 June 2011**

**Case Number:** T 1976/10 - 3.5.04

**Application Number:** 06015919.1

**Publication Number:** 1885134

**IPC:** H04N 7/64

**Language of the proceedings:** EN

**Title of invention:**

A communication system for video data and a method for distributing video data over a network

**Applicant:**

POLITECNICO DI TORINO

**Opponent:**

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**Headword:**

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**Relevant legal provisions:**

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**Relevant legal provisions (EPC 1973):**

EPC Art. 54, 111(1)

**Keyword:**

"Novelty (yes)"

"Decision re appeals - remittal (yes)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 1976/10 - 3.5.04

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.04  
of 28 June 2011

**Appellant:**

POLITECHNICO DI TORINO  
Corso Duca degli Abruzzi, 24  
I-10129 Tornio (IT)

**Representative:**

Dini, Roberto  
Metroconsult S.r.l.  
Via Sestriere 100  
I-10060 None (TO) (IT)

**Decision under appeal:**

Decision of the Examining Division of the  
European Patent Office posted 29 April 2010  
refusing European patent application  
No. 06015919.1 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman:** F. Edlinger  
**Members:** C. Kunzelmann  
B. Müller

## Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division to refuse European patent application No. 06 015 919.1.
- II. The decision to refuse was based on the ground that the subject-matter of claim 1 lacked novelty (Articles 54(1), (2) EPC 1973) over document
- D1: SU, C.-C. et al. 'Multiple description video coding based on slice group interchange.'  
In: 25th PCS Proceedings: Picture Coding Symposium 2006, 24.4.2006 - 26.4.2006, Beijing, China; XP 30080267.
- III. The applicant appealed and filed new claims 1 to 29 with the statement of grounds of appeal.
- IV. The board issued a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), annexed to a summons to oral proceedings dated 23 February 2011. In this communication the board expressed doubts that the subject-matter of claim 1 complied with Article 123(2) EPC. It also indicated that it intended to remit the case to the first instance (Article 111(1) EPC 1973) if it came to the conclusion that the requirements of Article 123(2) EPC were met and the claimed subject-matter was new.
- V. With letter of 27 May 2011 the appellant filed claims 1 to 29 according to a main request and according to first to fourth auxiliary requests.

VI. Oral proceedings were held before the board on 28 June 2011. In the oral proceedings the appellant withdrew the main request and the first auxiliary request submitted with letter of 27 May 2011 and made the second, third and fourth auxiliary requests submitted with letter of 27 May 2011 its new main request, first and second auxiliary request, respectively. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the new main request, first or second auxiliary request, respectively. At the end of the oral proceedings the chairman announced the board's decision.

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

"A communication system for video data arranged as a sequence of video frames (3), wherein each video frame has a left edge and a right edge and comprises slices (3', 3''), said system comprising:  
means (1) for generating M-1 redundant representations (22, 23) of said video data;  
means (2) for generating M video descriptions (31, 32, 33) of said video data, based on said M-1 redundant representations, wherein said means (2) for generating M video descriptions (31, 32, 33) are adapted to use M possible circular shifts of the M-1 redundant representations and the non-redundant representation of said slices (3', 3''), characterised in that each slice (3', 3'') comprises the video data starting from the left edge of the video frame (3) and ending with the right edge of the video frame (3), and in that M is greater than or equal to 2."

VIII. The reasons given in the decision under appeal may be summarised as follows:

All the features specified in claim 1 then on file were disclosed in paragraphs 2.1 and 2.2 and figures 2 and 3 of D1. Claim 1 did not specify that a "plurality" of redundant representations was generated. In particular, figure 3 of D1 disclosed that a video description was generated using circular shifts of the main and M-1 side representations of each video frame.

IX. The appellant's arguments may be summarised as follows.

D1 used the slice group coding tool available in H.264. Slice groups were an aggregation of independent slices. In figure 3 of D1 a checkerboard structure was adopted. One slice group corresponded to the white fields of the checkerboard structure and the second slice group corresponded to the black fields of the checkerboard structure illustrated in figure 3 of D1. Thus the width of each slice within the slice groups was smaller than the width of the frame. The invention on the other hand used slices in which each slice comprised the video data starting from the left edge of the video frame and ending with the right edge of the video frame. Video coding using slice groups was an alternative to video coding using slices. Within H.264, video coding using slice groups led to increased computational and bandwidth demands compared to video coding using slices (but no slice groups), for instance because of additional header information which was required for the slice groups and because of the independent coding of the slices within each slice group.

## Reasons for the Decision

1. The appeal is admissible.
2. *Amendments (Article 123(2) EPC)*
  - 2.1 Claim 1 of the main request is mainly based on claims 1 to 3 as originally filed. The feature that each video frame has a left edge and a right edge and comprises slices is disclosed in figures 2 and 3, on page 10, lines 18 to 20, and on page 8, lines 25 and 26, as originally filed. The feature of M-1 redundant representations of the slices, with M being the number of video descriptions, is disclosed, for instance, on page 8, lines 25 to 33, and on page 11, lines 1 to 9, as originally filed. The feature of using the M possible circular shifts of a non-redundant representation and M-1 redundant representations for generating the M video descriptions is disclosed on page 11, lines 11 to 21, as originally filed. The feature that each slice comprises the video data starting from the left edge of the video frame and ending with the right edge of the video frame is disclosed in figures 2 and 3 as originally filed, which show the case of frames divided into two slices, on the basis of which representations (or descriptions) are generated (see page 10, line 18, to page 11, line 9, and page 13, paragraph 3). The feature of M being greater than or equal to 2 is disclosed for instance on page 11, lines 2 to 9, and page 15, table 2.
  - 2.2 Hence the board finds that claim 1 of the main request does not contain subject-matter which extends beyond

the content of the application as filed and thus complies with Article 123(2) EPC.

3. *Novelty (Articles 54(1), (2) EPC 1973)*

3.1 Present amended claim 1 of the main request specifies that each slice comprises the video data starting from the left edge of the video frame and ending with the right edge of the video frame, as illustrated in figures 2 and 3.

3.2 D1, on the other hand, discloses a slice group based multiple description coding (SG-MDC) scheme (see title and section 2). More particularly, it adopts a dispersed macroblock to slice group map in which a coded frame consists of two slice groups (SGA and SGB). The slice groups form a checkerboard pattern (see figure 1). Slice groups are a coding tool provided in H.264. D1 does not specify how the slice groups (SGA and SGB) are each partitioned into slices. In any case, neither of the slice groups comprises a slice extending from the left edge to the right edge of the video frame. Thus D1 does not disclose that each slice comprises the video data starting from the left edge of the video frame and ending with the right edge of the video frame.

3.3 Furthermore, in the H.264 standard a slice is an integer number of macroblocks (or macroblock pairs) ordered consecutively in the raster scan within a particular slice group. Thus in figure 1 of D1 for instance the top left slice of slice group SGA starts from the top left edge of the frame. But the top left slice of slice group SGB does not start from the left edge of the frame. Analogous considerations apply to

the bottom right slices of slice groups SGA and SGB, which cannot each end with the right edge of the frame.

3.4 Hence the board finds that the subject-matter of claim 1 is new (Articles 54(1)(2) EPC 1973) with respect to the disclosure in document D1.

4. *Remittal (Article 111(1) EPC 1973)*

4.1 Thus the only reason given in the decision under appeal for refusing the application does not apply to present claim 1 of the main request, and the appeal is allowable. However, a patent cannot be granted at the present stage of the proceedings because the examination as to the other requirements of patentability, such as novelty with respect to the other available documents or inventive step (Article 56 EPC 1973) with respect to the available documents, has not been carried out on the basis of present claim 1 of the main request. Furthermore, no examination of independent method claim 29 of the present main request or of the dependent claims has been carried out.

4.2 Under these circumstances the board exercises its discretion under Article 111(1) EPC 1973 in remitting the case to the first instance for further prosecution, as indicated in the communication dated 23 February 2011.

4.3 In view of the above there is no need for the board to consider the appellant's first and second auxiliary requests.



**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:

The Chairman:

D. Meyfarth

F. Edlinger