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**Datasheet for the decision  
of 17 April 2012**

**Case Number:** T 1403/08 - 3.5.04

**Application Number:** 04291944.9

**Publication Number:** 1622087

**IPC:** G06T17/50, G06T1/00

**Language of the proceedings:** EN

**Title of invention:**

Automatic digital cartographic image production

**Applicant:**

Imagerie stereo appliquee au relief S.A.

**Headword:**

**Relevant legal provisions:**

EPC 1973 Art. 84

**Keyword:**

Claims - clarity (no)

**Decisions cited:**

G 0001/04

**Catchword:**



Case Number: T1403/08 - 3.5.04

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.04**  
**of 17 April 2012**

**Appellant:** Imagerie Stéréo Appliquée au Relief S.A.  
(Applicant) 2600, route des Crêtes Gaia II  
06905 Valbonne Sophia Antipolis (FRANCE)

**Representative:** Ulrich, Thomas  
EADS Deutschland GmbH  
LG-PM - Patente  
81663 München (ALLEMAGNE)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted 10 March 2008  
refusing European patent application No.  
04291944.9 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman:** F. Edlinger  
**Members:** C. Kunzelmann  
C. Vallet

## Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division to refuse European patent application No. 04 291 944.9, published as EP 1 622 087 A1.
- II. The decision under appeal was based on the ground that the subject-matter of *inter alia* claim 1 then on file did not involve an inventive step within the meaning of Article 56 EPC 1973 having regard to the disclosure in document D1. The reasons were mainly the following:
- The subject-matter of claim 1 differed from that known from D1 only in that cartographic images were produced. The system of D1 was suitable for the processing of images irrespective of their type of content. Thus a person skilled in the art would apply the system of D1 to cartographic images, especially since the image processing chain in general which was claimed with the characterising features in claim 1 was independent of the type or content of the data.
- III. The applicant appealed and submitted that D1 disclosed a visual programming environment but not a general image processing system. D1 did not solve the problem underlying the claimed invention, i.e. to provide a simplified possibility of producing digital cartographic images which could be carried out by a person without any programming knowledge and without any specific skills in digital image processing.
- 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 16 January 2012. In this

communication the board expressed doubts that the claims were clear (Article 84 EPC 1973).

V. Oral proceedings before the board were held on 17 April 2012. In the oral proceedings the appellant filed claims 1 to 9 according to a new main request and claims 1 to 8 according to a new first subsidiary request, replacing the claims of all previous requests. 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 submitted in the oral proceedings or, in the alternative, on the basis of the claims of the new first subsidiary request submitted in the oral proceedings. At the end of the oral proceedings the chairman announced the board's decision.

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

"Method for producing digital cartographic image data by means of a modular digital cartographic image production system, said method comprising:  
running a modular automatic digital image data processing chain (DIP),  
running an automatic piloting chain (AP) and  
running a user interface (UI),  
wherein the user interface (UI) communicates with the automatic piloting chain (AP) and provides no direct access to the digital image data processing chain (DIP),  
wherein the automatic piloting chain (AP) interfaces the image data processing chain (DIP) and automatically steers and controls the image data processing chain (DIP) according to a data-driven image data processing workflow (IDPW) stored in a database and describing the production process steps as a dynamic workflow routine,

wherein the automatic piloting chain (AP) is triggered by image data processing states (T1, T2, T3) of the image data processing chain (DIP), so that the processing workflow (IDPW) automatically steers and controls the image data processing chain (DIP) depending on the image data processing states (T1, T2, T3) by running modules of the digital data processing chain (DIP) which are triggered by trigger points provided in the image data processing workflow (IDPW), wherein the image data processing chain (DIP) is adapted to obtain image data of various image sources and to produce digital cartographic image data and wherein the image data processing chain (DIP) transmits the produced digital cartographic image data via a one-way interface to the user interface (UI)."

VII. The text of claim 1 of the auxiliary request ("subsidiary request") differs from that of claim 1 of the main request in that the wording

"wherein the automatic digital image data processing chain (DIP) comprises in workflow order

- an input interface subroutine (IR)
- a pre-processing subroutine (Pre-PR)
- a processing subroutine (PR)
- a post-processing subroutine (Post-PR)
- a quality control subroutine (QCR) and
- an output subroutine (OR)

and wherein each of the subroutines receives data from the preceding subroutine and provides processed data to the subsequent subroutine,"

is added after the expression "describing the production process steps as a dynamic workflow routine,".

## Reasons for the Decision

1. The appeal is admissible
2. *Main request: clarity of claim 1 (Article 84 EPC 1973)*
  - 2.1 Article 84 EPC 1973 states that "[t]he claims shall define the matter for which protection is sought. They shall be clear and concise and be supported by the description". This signifies e.g. that "an independent claim within the meaning of Rule 29 EPC [1973] should explicitly specify all of the essential features needed to define the invention, and that the meaning of these features should be clear for the person skilled in the art from the wording of the claim alone" - see point 6.2 of the opinion of the Enlarged Board of Appeal in case G 1/04 (OJ EPO 2006, 334). It is also established case law that all features which are necessary for solving the technical problem with which the application is concerned have to be regarded as essential features (see Case Law of the Boards of Appeal of the European Patent Office, 6th edition 2010, II.B.1.1.4).
  - 2.2 The present application identifies state-of-the-art methods and systems for producing cartographic images in paragraphs [0002] to [0004]. (In this decision references to the application are to the version published as EP 1 622 087 A1.) Against this backdrop, paragraphs [0005] and [0006] state that "[a] major drawback of all of the methods and systems known from the state of the art is the lack of flexibility and the **high need for human interaction** in the process of producing digital cartographic images which requires **highly skilled operator personal** (sic). It is therefore

an object of the invention to provide a simplified possibility for producing digital cartographic images".

- 2.3 Furthermore, the application specifies in paragraph [0007] that "[t]he solution provided by the invention ... follows a common concept: a modular layout, chosen in a **very specific manner such that an optimisation of the digital cartographic image production [is achieved] and the need for human interaction can be minimized. It is this very specific layout that provides the desired advantage over the state of the art.** In particular, the provision of an automatic piloting chain/module which interfaces with a separate digital image processing chain/module allows, on the one hand, to optimise those chains/modules independently, and on the other hand provides a workflow framework around the digital image processing chain/module which allows an automated steering and control of the digital image processing chain/module, being modularly independent of the digital image processing chain/module and the respective image processing algorithms. **A user of the invention does no longer have to know detailed knowledge about the separate image processing steps, as the processing workflow takes over the task of initiating, surveying and/or controlling the digital image processing chain/module and the results of the different processing steps.** Thus, the processing workflow takes over the task of the image production management. The user interface may provide only very simplified graphical display functions, and may even be set up without any possibility to interact with, control or change the individual processing steps sub-modules or subroutines of the digital image processing chain/module" (emphasis by the board).

- 2.4 Thus the application identifies two intimately linked problems. First, the invention should allow operators having less professional skill (than operators of state-of-the-art digital cartographic image production systems) to nevertheless produce the desired digital cartographic images by using the invention's modular digital cartographic image production system. Second, the invention should be flexible, in particular in handling new types of input data or output formats, modifications of the image data processing workflow (i.e. of the image production process steps previously requiring highly skilled operators), modifications of the relatively simple image-processing routines in the image data processing chain, software updates, adaptation to new sensors providing input data, etc.
- 2.5 The application does not disclose how the invention may solve only one of these two problems. Indeed, a fully automated image production system for use by operators having very little skill (such as operators only able to start the system) may solve the first problem. But such a system in general may be inflexible in that it would give the operators fewer options and input possibilities to influence the output image than state-of-the-art systems. On the other hand, a very flexible image production system in general may still require highly skilled operators. Thus the application concerns a way of reconciling two opposing requirements.
- 2.6 The board accepts that a modular structure may provide some flexibility. Hence the feature that the digital image processing chain is modular and the fact that separate (but interfacing) chains are provided, as specified in claim 1, allows at least in certain cases the independent optimisation of those chains and/or modules (see paragraph [0007]).



2.7 However, this modularity alone does not reduce the need for human interaction or the necessary skills on the part of the operators. A digital cartographic image production system may be modular but nevertheless require highly skilled operators. Whether the digital cartographic image production system of the invention can be correctly operated by operators having little skill also depends on the functions and designs of the individual modules. Only if the modules appropriately reflect or replace the relevant know-how of the operators of state-of-the-art systems will the digital cartographic image production system of the invention produce the desired cartographic image data.

2.8 Claim 1 does not specify the chains and modules in this respect. In particular, the features of claim 1 that the user interface "provides no direct access to the digital image data processing chain (DIP)" and that this processing chain "transmits the produced digital cartographic image data via a one-way interface to the user interface (UI)" do not make clear the extent to which the user (i.e. the operator) is barred from influencing the process of producing digital cartographic image data. The operator has access to the automatic piloting chain which in turn steers and controls the digital image data processing chain. Thus the operator has indirect access to the digital image data processing chain.

2.9 The appellant argued that two interacting procedures, namely a workflow procedure which is separate and parallel to an image data processing procedure, the interaction being as specified in claim 1, solve both problems underlying the invention. This does not convince the board of the clarity of claim 1, in view

of the abstract level of the terms and expressions used in claim 1. The possible variations in cartographic image production systems, image processing routines, and operator skills are such that it is not clear which functionalities essential for solving the first problem in general are associated with the one or the other of the two chains specified in claim 1. Since no general guidance is provided by examples in the description, it is not possible to clearly establish the meaning of these terms and expressions and thus the boundaries of the matter for which protection is sought by claim 1.

2.9.1 The appellant further argued that the know-how which had to be implemented in the individual modules and chains was part of the common general knowledge of a person skilled in the art of designing digital cartographic image production systems. This does not convince the board either. It may be that for certain state-of-the-art digital cartographic image production systems a person skilled in the art would have known, on the basis of his common general knowledge, how to implement certain specific functionalities in modules so that the system could be operated by operators with specific skills. But it is not clear for which systems and functionalities in general this would result in a method (or system) solving the first problem underlying the invention. The functionalities for which such an implementation formed part of common general knowledge might depend on, for instance, the available input image data and the desired format of the output data, the desired workflow, or the skills of the operator. Claim 1 does not specify any of these.

2.10 Thus the board finds that claim 1 of the main request does not comply with Article 84 EPC 1973.

3. *Auxiliary request: clarity of claim 1 (Article 84 EPC 1973)*

Claim 1 of the auxiliary request specifies in more detail features of the automatic digital image data processing chain. These features are related to the second problem underlying the invention. However, they do not clarify the features for solving the first problem underlying the invention, in view of the opposing requirements (see e.g. point 2.5 above). Thus the above objections to claim 1 of the main request apply also to claim 1 of the auxiliary request. Hence the board finds that claim 1 of the auxiliary request also fails to comply with Article 84 EPC 1973.

4. In view of the above, the appeal is to be dismissed.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

F. Edlinger

Decision electronically authenticated