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# Datasheet for the decision
## of 18 January 2019

**Case Number:** T 1062/13 - 3.3.01

**Application Number:** 04729294.1

**Publication Number:** 1617214

**IPC:** G01N33/48

**Language of the proceedings:** EN

**Title of invention:**
METHOD OF CREATING DISEASE PROGNOSIS MODEL, METHOD OF
PREDICTING DISEASE PROGNOSIS USING THE MODEL, DEVICE FOR
PREDICTING DISEASE PROGNOSIS USING THE MODEL, ITS PROGRAM, AND
RECORDING MEDIUM

**Applicants:**
Eisai R&D Management Co., Ltd.
Yatsuhashi, Hiroshi
Akiyama, Masanori

**Headword:**
Decision tree/EISAI

**Relevant legal provisions:**
EPC Art. 123(2)

**Keyword:**
Amendments - added subject-matter (yes)

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**Case Number: T 1062/13 - 3.3.01**

# D E C I S I O N
## of  Technical Board of Appeal 3.3.01
## of 18 January 2019

**Joint Appellants:**

(Joint Applicants)

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**Representative:**

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**Decision under appeal:** **Decision of the Examining Division of the
European Patent Office posted on 10 January 2013
refusing European patent application No.
04729294.1 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

| | |
|---|---|
| **Chairwoman** | M. Blasi |
| **Members:** | J. Molina de Alba |
| | R. de Man |

**Summary of Facts and Submissions**

I.    The appellants (applicants) filed an appeal against the
      decision of the examining division to refuse European
      patent application No. 04 729 294.1.

      The decision was based on the claims of a main request
      and an auxiliary request. In the decision, the
      examining division held that both requests added
      subject-matter. Further, in an *obiter dictum*, the
      division considered that neither of the requests
      fulfilled the requirements of Articles 84 and 56 EPC.

II.   With the statement of grounds of appeal, the appellants
      filed three sets of claims together with amended pages
      of the description as the main request and auxiliary
      requests 1 and 2.

III.  In its preliminary opinion, sent as an annex to the
      summons to oral proceedings, the board considered,
      among other things, that claim 1 of the main request
      added subject-matter and that the method claimed in
      each of the requests on file lacked inventive step.

IV.   With a letter dated 6 December 2018, the appellants
      filed an additional claim set as auxiliary request III.

      Claim 1 of auxiliary request III reads as follows
      (emphasis in the original):

      "*1. A method for preparing a decision tree model for
      use in a one-year survival judgement to predict a
      probability of mortality whether or not a patient of a
      liver disease will survive one year from a time of
      testing, the decision tree model being prepared on the*

*basis of clinical laboratory test values for the liver disease, the method comprising the steps of:*

*inputting a plurality of measured clinical laboratory test values derived from blood tests of patients having the liver disease, measured values of survival years, and patient data into a computer (3);*

*processing the input values by a data mining method to determine clinical laboratory test items which have an influence on the certainty of the prediction with respect to the one-year survival of the liver disease;*

**characterized by**

*determining a priority of the clinical laboratory test items which have an influence on the certainty of the one-year survival judgement of the liver disease in the case of existence of a plurality of clinical laboratory test items according to*

> *PIVKA, CH-E, age of testing, or*
> *PIVKA, CH-E, age of testing, CL, or*
> *PIVKA, CH-E, AFP, BUN, or*
> *PIVKA, CH-E, AFP, TTT, or*
> *PIVKA, PIVKA, AFP, TBIL, or*
> *PIVKA, PIVAK [sic],*

*wherein the clinical laboratory test item with the highest priority is PIVKA; and*

*constructing a decision tree from nodes and links according to the determined priority, wherein*

> *each of the node [sic] corresponds to a classifying attribute and each link connecting an upper node*

*with a lower node corresponds to an attribute value range;*

*classifying attributes are constructed from specifications of clinical blood test items, individual patient data items, and specifications of numerical value ranges of the individual patient data items as defined by conditional symbols for subsequent comparison thereof with a clinical blood test finding for a certain patient; and*

*terminal nodes (22A, ..., 22L) of the decision tree indicate one-year survival probabilities.*"

V.      Oral proceedings were held before the board on 18 January 2019. In the course of the proceedings, the appellants withdrew the main request and auxiliary requests I and II.

VI.     The appellants' arguments, where relevant to the present decision, may be summarised as follows:

The basis in the application as filed for the sets of clinical laboratory test items specified in claim 1 of auxiliary request III was Figure 2; the item sets were not to be read as alternatives but as a whole, where each item set represented one of the branches that constituted the decision tree depicted in Figure 2. Said branches had been linked with the word "or" because linking them with the word "and" would have described a linear juxtaposition of branches rather than the tree in the figure. Moreover, the item sets were not open to the addition of further items.

VII.    The appellants' final requests were that the decision under appeal be set aside and that a patent be granted

on the basis of the set of claims filed as auxiliary
request III with the letter dated 6 December 2018.

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


**Reasons for the Decision**


1.      The appeal is admissible.

2.      Added subject-matter under Article 123(2) EPC - claim 1
        of auxiliary request III

        Claim 1 of auxiliary request III discloses the
        following sets of clinical laboratory test items for
        drawing the decision tree which results from data
        mining the input values:

            PIVKA, CH-E, age of testing, or
            PIVKA, CH-E, age of testing, CL, or
            PIVKA, CH-E, AFP, BUN, or
            PIVKA, CH-E, AFP, TTT, or
            PIVKA, PIVKA, AFP, TBIL, or
            PIVKA, PIVKA

        According to the appellants, the basis for this list of
        item sets in the application as filed is Figure 2,
        which is reproduced below:

# FIG.2

**TYPE C ONE YEAR SURVIVAL JUDGMENT
RESULTS : DECISION TREE**
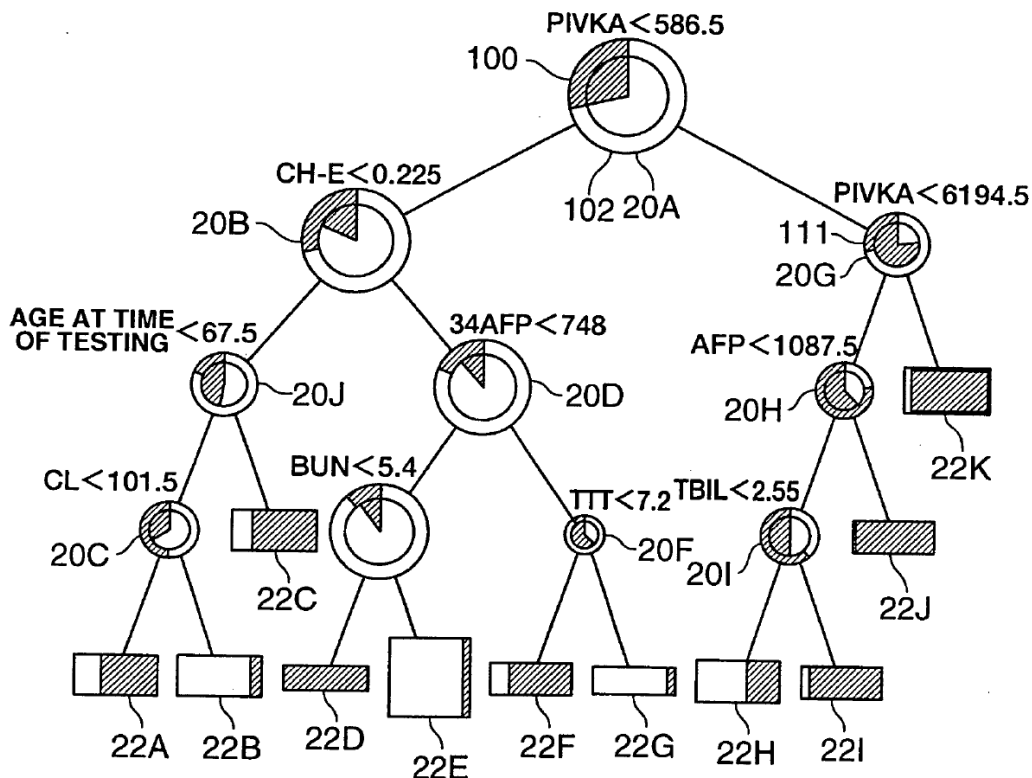


It is apparent from the figure, that each of the item
sets in claim 1 corresponds to one branch of the tree.
However, for the reasons explained below, the board
holds that the list of item sets in claim 1 generalises
Figure 2 by encompassing not only the decision tree
disclosed in Figure 2 but also other trees. Claim 1
therefore adds subject-matter.

On the one hand, the fact that the item sets in claim 1
are linked by the word "or" implies that the branches
of the tree in Figure 2 are disclosed individually and
not necessarily in a connected form building a tree.
Hence, claim 1 encompasses the construction of not only
the specific decision tree illustrated in Figure 2, but

also each of its branches or groups of branches taken
in isolation as individual trees. This represents an
unallowable generalisation of the information disclosed
in Figure 2. In this context, the appellants' argument
that the claimed decision tree cannot be defined by
linking the item sets with the word "and" is not
convincing since the unsuitability of the word "and"
does not render the word "or" allowable.

On the other hand, the board cannot read in the wording
of claim 1 that the item sets are limited to the listed
items. Hence, the sets may be broadened with further
items so that claim 1 encompasses the preparation of
not only the decision tree in Figure 2 but also more
ramified trees which result from the consideration of
larger sets of items. Such decision trees or their
preparation were not disclosed in the application as
filed.

In consequence, claim 1 of auxiliary request III adds
subject-matter and contravenes Article 123(2) EPC.


**Order**

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


                    The appeal is dismissed

The Registrar:                          The Chairwoman:

M. Schalow                              M. Blasi


Decision electronically authenticated