Internal distribution code:
(A) [ - ] Publication in OJ
(B) [ - ] To Chairmen and Members
(C) [ - ] To Chairmen
(D) [ X ] No distribution

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)
Case Number: T 1062/13 – 3.3.01

DE C I S I O N
of Technical Board of Appeal 3.3.01
of 18 January 2019

Joint Appellants: Eisai R&D Management Co., Ltd.
(Joint Applicants)
6-10, Koishikawa 4-chome
Bunkyo-ku
Tokyo 112-8088 (JP)

Yatsuhashi, Hiroshi
982-17, Kiba 1-chome
Omura-shi
Nagasaki 856-0046 (JP)

Akiyama, Masanori
1-3-25, Shoan
Suginami-ku,
Tokyo 1670054 (JP)

Representative: Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

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:
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: M. Schalow

The Chairwoman: M. Blasi

Decision electronically authenticated