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Datasheet for the decision
of 28 September 2022

Case Number:	T 2626/18 - 3.5.01
Application Number:	11190452.0
Publication Number:	2461286
IPC:	G06Q40/00
Language of the proceedings:	EN

Title of invention:
System and method for forecasting frequencies associated to future loss and for related automated operation of loss resolving units

Applicant:
Swiss Reinsurance Company Ltd.

Headword:
Insurance risk prediction/SWISS RE

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - all requests (no) - insurance risk prediction and loss frequency (not technical)

Decisions cited:
T 0641/00, T 0154/04, T 1358/09, T 2079/10, T 1082/13,
T 2455/13, T 0550/14

Catchword:
The appellant argued that the claimed features relating to the
abstract business concept neither could have been provided by
the business person to the technical expert for programming,
nor would the technical expert have corresponding knowledge
starting from a networked standard computer system. The
appellant thereby alleged that there was to be considered an
imaginary third person who came up with the concept of the
invention to be implemented on a computer system. The Board
notes that when assessing inventive step in the field of
computer implemented business related inventions following the
COMVIK approach and the corresponding case law, there is no
room for such a third expert. When analysing the features of a
claim and answering the question of whether they provide a
technical contribution, each such feature has to be judged to
be either a contribution of the technical expert or of the
non-technical business person in order to conclude whether
there is an inventive technical contribution.

(See point 4.13 of the reasons)

Case Number: **T 2626/18 - 3.5.01**

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 28 September 2022

Appellant: (Applicant)	Swiss Reinsurance Company Ltd. Mythenquai 50/60 8022 Zürich (CH)
Representative:	Leimgruber, Fabian Alfred Rupert ThomannFischer Elisabethenstrasse 30 4010 Basel (CH)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 6 June 2018 refusing European patent application No. 11190452.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	M. Höhn
Members:	W. Zubrzycki
	B. Müller

Summary of Facts and Submissions

I.   This appeal is against the decision of the examining
          division to refuse European patent application
          No. 11190452.0 for lack of inventive step, because it
          was an obvious computer implementation of a business
          method on a computer system (Article 56 EPC).

II.   In the statement setting out the grounds of appeal, the
          appellant requested that the decision under appeal be
          set aside and the case be remitted to the examining
          division for further search and examination on the
          basis of the claims according to the annexed "Anhang
          A" (main request), which essentially corresponded to
          the refused claims, or that a patent be granted on the
          basis of these claims (auxiliary request).

          The appellant additionally requested ("Zusatzantrag")
          that the Board establish that the approach adopted by
          the examining division to determine technical character
          of the invention contradicted established case law.

III.   The Board arranged for oral proceedings as a
          videoconference. In a communication accompanying the
          summons, the Board set out its preliminary opinion that
          claim 1 lacked clarity and inventive step (Articles 84
          and 56 EPC) and that the examining division's approach
          complied with established case law.

IV.   With a reply dated 29 August 2022, the appellant filed
          amended main, first and second auxiliary requests. It
          requested that the decision under appeal be set aside
          and that a patent be granted on the basis of the claims
          according to the annexed "Anhang A" (main request) or,
          alternatively, on the basis of the claims according to

the annexed "Anhang B" or "Anhang C" (first and second auxiliary requests). Additionally, it requested that the oral proceedings be held on the premises of the Boards of Appeal in Haar.

V. In a communication dated 13 September 2022, the Board acceded to the appellant's request to hold the oral proceedings in Haar.

VI. The oral proceedings took place on 28 September 2022. The appellant's final requests were that:
- the case be remitted to the department of first instance for further prosecution including the carrying-out of a search on written prior art (main request),
- a European patent be granted on the basis of the claims of "Anhang A" (first auxiliary request) or "Anhang B" (second auxiliary request) or "Anhang C" (third auxiliary request), all of these claim sets filed with the reply dated 29 August 2022.

VII. At the end of the oral proceedings the Chairman announced the Board's decision.

VIII. Claim 1 according to Anhang A reads:

"*A forecasting and signaling system for automated and automatically tuned operation of a loss resolving unit (40) by means of a control unit controller (10) by forecasting loss frequencies and severities based on captured measure parameters of measuring devices (201,...,261), interacting electronically by signal generation modules and appropriate signal generation, whereas the signal generation is based on forecasted frequencies associated to future loss and loss distributions for individual risks of a plurality of*

operating units (30) by means of the control unit controller (10), the operating units being exposed to said risk measurable by physical parameters for causing a loss at a loss unit (20,...,26), whereas in case of an occurring loss at a loss unit (20,...,26) the system comprises measuring devices (201,...,261) to scan for, measure and transmit measure parameters to the control unit controller (10), and whereas the control unit controller (10) comprises means to operate the automated loss resolving unit (40) resolving the occurred loss, characterized

in that the control unit controller (10) comprises a trigger module to dynamically scan, monitor and capture for measuring devices (201,...,261) assigned to the loss units (20,...,26) for measure parameters and to select measurable measure parameters capturing a process dynamic and/or static characteristic of at least one liability risk driver (311-313) by means of the control unit controller (10), each liability risk driver (311-313) representing a measurable real-world liability exposure (31) of an operating unit (30), wherein measuring possibilities at the measuring devices (201,...,261) are dynamically captured and the at least one liability risk driver (311313) is generated based on the on the captured measuring devices (201,...,261) and assigned to the currently measured parameters, and wherein the measuring parameters associated with the generated liability risk drivers (311-313) are measured and transmitted to the control unit controller(10),

in that the control unit controller (10) comprises a driver selector (15) to select a set (16) of liability risk drivers (311-313) parameterizing the liability exposure (31) of the operating unit (30) and

dynamically assign the measured measure parameters to the liability risk drivers (311-313), whereas a liability exposure signal of the operating unit (30) is generated based upon measuring the selected measure parameters by means of the measuring devices (201,...,261),

in that the driver selector (15) comprises means to dynamically adapt the set (16) of liability risk drivers (311-313) varying the liability risk drivers (311-313) in relation to the measured liability exposure signal by periodic time response, and adjust the liability risk driven interaction between the loss resolving unit (40) and the operating unit (30) based upon the adapted liability exposure signal,

in that the control unit controller (10) comprises a scenario generator (131) for generating loss scenarios, wherein loss scenarios are given by variables of the control unit controller (10) connecting the liability risk drivers (311-313) to form a function structure, wherein for each scenario a loss model is generated with a frequency distribution function assigned and wherein an expected loss in generated by an aggregator (135) based on a model input and a generated frequency of losses out of the frequency of events and a distribution of a number of losses per event, and

in that a structure of the currently used liability risk divers (311-313) is adapted by the control unit controller (10) by generating and assigning the appropriate liability risk drivers (311-313) based on the currently scanned measure parameters, wherein the liability risk driver structure is based on the generated scenarios, and wherein a specific risk is decomposed by the scenarios into system components of

the control unit controller (10), on which the risk
drivers (311-313) act independently."

IX.   Claim 1 according to "Anhang B" adds, at the end of the
        preamble, the following wording:
        "the loss resolving unit (40) comprising dedicated
        repair nodes comprising automatic or semiautomatic
        systems to maintain operation or recover loss of the
        loss units (2) in case of the occurring loss".

X.   Claim 1 according to "Anhang C" adds the following
        wording to claim 1 of the first auxiliary request after
        "a frequency distribution function assigned":
        "wherein the scenario generator (131) comprises a
        processing module to generate the frequency of loss
        scenario and the severity in natural units of a loss
        unit (20,...,26), and".

XI.   The appellant argued that the claimed invention
        included more technical features than the use of a
        general-purpose computer to implement a business
        scheme.

        Firstly, predicting future losses was a complex task
        which before the present invention was typically
        performed by a human expert. The present invention
        replaced the human expert with an automated method
        including operations which the human expert would not
        have carried out. This enhanced the standard computer
        functionality by more than just routine programming
        and, therefore, contributed to technical character.

        Secondly, while the human experts used only historic
        data, the claimed invention analysed measured,
        up-to-date physical parameters in order to improve the
        accuracy of risk predictions. This was an

implementation choice which could only have come from the technically skilled person who was aware that electronic sensors capable of measuring physical parameters existed. While using sensors might seem trivial today, at the priority date it was not.

Thirdly, the fact that the claimed invention dynamically adapted its structure to the sensor measurements also involved technical considerations.

Fourthly, the claimed invention scanned measured parameters in order to select parameters which could be used for loss prediction. This step involved technical considerations similar to those discussed in decision T 2079/10 (Steuerung von zellulär aufgebauten Alarmsystemen/SWISSRE, Reasons, points 4.2 and 4.3).

Fifthly, the appellant argued that the claimed features were not limited to the abstract business concept and could not have been provided by the business person to a technical expert for programming. Nor would the technical expert starting from a networked standard computer system have had corresponding knowledge (see page 20, section d) of the letter dated 29 August 2022).

The claimed subject-matter should have been covered by a prior art search. Lack of such a search made it impossible for the appellant to provide arguments in favour of technicality and inventiveness.

Reasons for the Decision

1.   Admissibility under Article 13(2) RPBA 2020

        The Board admits the first, second and third auxiliary
        requests into the proceedings under Article 13(2) RPBA
        2020, because they are a bona fide attempt to overcome
        clarity objections raised by the Board in the appeal
        proceedings.

2.   Background

2.1   The invention concerns insurance-risk prediction and
        provides a model analysing potential losses of a
        company to be insured in order to determine the price
        of the company's insurance policy (originally filed
        application, page 2, line 6 to page 4, line 15).

        The model analyses a hypothetical scenario, in which an
        event causes a loss to the company (page 18, line 1 to
        page 19, line 9). While not explicitly disclosed, but
        argued by the appellant during oral proceedings, such
        an event could be, for example, an accident on the
        company's premises. Looking at the Table on page 35 of
        the original application, the model contains
        interconnected components called liability risk drivers
        or LRD members. For example, there is a liability risk
        driver predicting possible property damage and human
        injuries resulting from human error (page 44). Another
        liability risk driver predicts the amount awarded by
        courts to injured persons as a result of mass
        litigation (page 35, line 19, to page 36, line 25). The
        model combines the output of the liability risk drivers
        and calculates the expected loss cost (page 51, line 26
        to page 52, line 8). As shown in the third column of
        the aforementioned Table, the liability risk drivers

employed by the main embodiment analyse business and
legal factors only.

3.   The claimed invention

The claimed invention additionally assigns to the
liability risk drivers physical parameters acquired by
measuring devices. The application is not specific as
to what sort of physical parameters are used; it
discloses merely that the measuring devices "*can
comprise...all kind of sensors and data capturing or
data filtering devices*" (page 14, lines 9 to 11). The
application does not disclose any embodiment in which
particular sensor measurements are processed.

Furthermore, the claimed invention comprises a loss
resolving unit that resolves an unspecific loss
occurring at a so-called loss unit.

The claims do not provide any technical details of the
computer implementation. The application merely states
that the claimed units can be implemented in software
(page 15, lines 20 to 22).

4.   First auxiliary request, Article 56 EPC

4.1   The Board finds it more efficient to directly analyse
        the patentability of the auxiliary requests before
        deciding on the main request for remittal.

4.2   In the communication accompanying the summons, the
        Board raised several clarity objections and the
        appellant amended the claims in order to address them.
        Although the Board considers that claim 1 of the first
        auxiliary request is still unclear, the above
        understanding of the claimed invention allows the Board

to assess inventive step.

4.3   The examining division considered that a notoriously
        known computer system was an appropriate starting point
        for assessing inventive step of the claimed invention
        and did not cite any written prior art. The European
        Search Report merely contained a so-called no-search
        declaration. The examining division considered that the
        distinguishing features defined a business method.
        Furthermore, following the COMVIK approach (T 641/00 -
        Two identities/COMVIK), they held that the
        implementation of this method on the computer system
        would have been obvious once it had been provided by
        the business person as a requirement specification to
        the technically skilled person within the framework of
        the technical problem of implementation.

4.4   The examining division interpreted measuring devices as
        administrative units acquiring administrative values
        which did not contribute to the technical character of
        the invention. However, the Board interprets them as
        sensors according to the above invention summary and
        explanations provided by the appellant during the oral
        proceedings.

        Based on this understanding, the Board considers that
        the appropriate starting point is a computer system
        connected to sensors rather than just a computer. The
        Board judges that computer systems collecting sensor
        measurements were notorious at the priority date.
        Accordingly, no written evidence is required.

4.5   The claim differs from this starting point by the
        control unit controller, its sub-units, the loss units
        and the loss resolving unit.

4.6   The main point of dispute in this appeal is whether
        these distinguishing features define a technical
        solution, as argued by the appellant (see section XI.,
        above), or non-technical matter that could be envisaged
        by the business person and thus be part of the
        requirement specification given to the technically
        skilled person, as considered by the examining
        division.

4.7   Based on the above understanding of the claimed
        invention, the Board concludes that the distinguishing
        features relate per se to an abstract insurance model
        for predicting future losses and resolving losses that
        have already occurred. The Board agrees with the
        examining division that this model constitutes a
        business method excluded from patentability under
        Article 52(2)(c) EPC.

4.8   The Board accepts the appellant's argument that the
        claimed model could be automatically executed on a
        computer, thereby replacing human experts in performing
        the risk analysis. This, however, does not alter the
        finding that designing a new abstract insurance model
        is a non-technical innovation. Technical considerations
        come into play only when the model is implemented on a
        computer. However, in view of the lack of technical
        detail of the claimed subject-matter, which is merely
        specified on a meta level, the claimed implementation
        is limited to routine programming,. Moreover, the Board
        does not see any technical hurdles to be overcome or
        any unexpected technical effects that have been
        achieved. When applying the COMVIK approach, an
        implementation would have been obvious to the skilled
        person, i.e. a programmer with ordinary programming
        skills, tasked with implementing the claimed insurance

model using physical parameters.

4.9   The Board also accepts that the claimed model predicts
        future losses in a different way from a human expert.

        However, it is established case law that a comparison
        with the prior art, for example with what humans did
        before the invention, is not a suitable basis for
        establishing technical character of subject-matter
        excluded from patentability or for distinguishing
        between technical and non-technical features
        (see T 1358/09, Reasons, point 5.4).

4.10   The Board disagrees with the appellant's view that only
        the skilled person could have come up with employing
        directly observed up-to-date physical parameters.

        The Board points out that interacting with and
        exploiting information about the physical world belongs
        to the very nature of any business-related activity,
        including insurance-risk analysis (see T 154/04,
        Reasons, point 20). Accepting such features as
        sufficient for establishing patentability would render
        the exclusion of business methods under Article 52(2)
        (c) EPC meaningless.

        Furthermore, in view of T 2455/13 (Reasons, points 3.10
        to 3.12), the business person knows about the
        possibility of realising business-related concepts or
        models on a computer system and knows how to realise
        these on an abstract meta-level. The Board therefore
        judges that the business person, such as an insurance
        expert, would have recognised that a predicted loss
        could depend on physical parameters.

        What the business person does not know, however, is how

exactly the business-related concepts or models can be
implemented on a computer system. This falls within the
sphere of the technical expert and is subject to the
assessment of inventive step (see T 1082/13, Reasons,
point 4.8). Starting from the computer connected to
sensors and given the requirement to use the inform
ation of physical parameters, the Board judges,
however, that it would have been obvious for the
technical expert to acquire such parameters from the
sensors. Furthermore, in view of the lack of technical
detail, the Board does not see the need for inventive
skills to implement the abstract business model.

4.11   The Board judges that the claimed invention does not
        contain sufficient technical detail to credibly achieve
        a (further) technical effect by scanning and selecting
        measured parameters and by dynamically adapting the
        model to these parameters. For this to be the case, the
        processed physical parameters and criteria on which the
        selection is based would have needed to be defined in
        much more detail.

4.12   In any event, the Board disagrees with the argument
        that the claimed invention provides effects similar to
        those in case T 2079/10. In that case, the claimed
        invention refined measured data based on technical
        considerations about sensors' positions. In contrast,
        the invention in the present case passes the measured
        parameters to the insurance model without any such
        pre-processing.

4.13   With its argument that neither the business person nor
        the technical person could have come up with the
        claimed features, the appellant seems to thereby allege
        that only an imaginary third person could have devised
        concepts enabling the invention to be implemented on a

computer system. The appellant apparently considers
that the fact that such a third person is needed
supports inventive step. However, the Board notes that,
when assessing inventive step in the field of
computer-implemented business-related inventions
following the COMVIK approach and the corresponding
case law, there is no room for such a third expert.
When analysing the features of a claim and answering
the question of whether they provide a technical
contribution, each feature has to be judged to be
either a contribution of the technical expert or a
contribution of the non-technical business person in
order to conclude whether there is an inventive
technical contribution.

In the present case, the Board concludes that the
business-related insurance model falls within the
sphere of the business person for the reasons given
above.

4.14   Hence, claim 1 lacks an inventive step.

5.   Second and third auxiliary requests

5.1   Claim 1 of the third auxiliary request adds to claim 1
        of the first auxiliary request that the loss resolving
        unit comprises repair nodes which automatically recover
        a loss and that the frequency and severity of predicted
        losses are provided in natural units.

5.2   The Board judges that, at the claimed level of
        generality, these features do not add anything of
        inventive merit. They define further refinements of the
        non-technical abstract insurance model, the
        implementation of which would have been obvious.

5.3   Hence, claim 1 of the third auxiliary request lacks an
        inventive step (Article 56 EPC).

5.4   The broader claim 1 of the second auxiliary request
        lacks an inventive step *a fortiori*.

6.   Main request - remittal to the department of first
        instance

6.1   For the above reasons, the Board considers that the
        invention claimed by the independent claims of the
        auxiliary requests and, for the same reasons, by the
        broader refused independent claims lack an inventive
        step starting from the notorious prior art. Remittal to
        the examining division for a further search would
        therefore have no purpose.

        Accordingly, the appellant's main request is refused.

7.   Right to be heard

        The appellant argued that the lack of written prior art
        and the fact that the examining division held that all
        relevant aspects of the invention were part of a
        non-technical method without any supporting evidence
        deprived it of a chance to argue for technicality and
        inventive step in a proper way. As a result, its right
        to be heard was violated.

        However, the Board is not persuaded and it judges that
        the appellant's right to be heard was duly respected.
        In the Board's opinion, the approach applied by the
        examining division and the Board allowed the appellant
        to put forward arguments in favour of technicality and
        inventiveness, e.g. by identifying technical effects
        and technical considerations involved (see T 550/14,

Reasons, point 3.4). In fact, the appellant did provide such arguments in the proceedings before the examining division as well as in the appeal proceedings, and those arguments were duly considered.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek   M. Höhn

Decision electronically authenticated