

Commissioner's Decision # 1349

Décision du Commissaire # 1349

TOPIC: O-00, J-00, J-10

SUJET: O-00, J-00, J-10

Application No: 2,235,566

Demande no: 2,235,566

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application 2,235,566, having been rejected by the Examiner under subsection 30(3) of the *Patent Rules*, was reviewed by the Patent Appeal Board and by the Commissioner of Patents. The recommendation of the Board and the decision of the Commissioner are as follows:

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Introduction

1. This decision deals with a review of the findings of the examiner in respect of Canadian patent application No. 2,235,566, entitled AMOTOR VEHICLE MONITORING SYSTEM FOR DETERMINING A COST OF INSURANCE@ and assigned to Progressive Casualty Insurance Company. The application pertains to the calculation of vehicle insurance using driver-related data obtained from in-vehicle sensors. Base insurance costs are calculated at a central facility using an initial driver profile (age, marital status, driving experience, etc.). These costs are then adjusted, in view of vehicle operation and driver behaviour, using data communicated from in-vehicle monitoring of various vehicle sensors.
2. After several office actions, a Final Action (FA) rejected the application, concluding that all 53 claims lack statutory subject matter and are obvious. Having found the applicant=s response to the FA did not overcome the defects, the examiner forwarded the application and a Summary of Reasons (SOR) to the Patent Appeal Board (PAB) on 31 March 2010.
3. The SOR maintained the rejection of the application on the same grounds identified in the FA, but updated the grounds for lack of statutory subject matter in view of *Re Amazon.com=s Patent Application 2,246,933* (2009), Commissioner=s Decision 1290 [CD1290], and the grounds for obviousness in view of *Sanofi-Synthelabo Canada Inc. v. Apotex Inc.*, 2008 SCC 61, [Sanofi].

4. A panel of three PAB members (Athe panel@) was established to review the case, and an invitation to attend a hearing was sent to the applicant. In view of the decision by the Federal Court of Appeal in *Canada (Attorney General) v. Amazon.com Inc.*, 2011 FCA 328 [Amazon], the panel at the same time sent a memorandum identifying additional considerations relevant to the assessment of statutory subject matter and obviousness. The applicant was invited to provide a written response to the memorandum ahead of the proposed hearing date.
5. The applicant declined the opportunity for an oral hearing and indicated that no written submission was forthcoming. Accordingly, this recommendation is based on the written record as it stands.

Issues

6. In view of the SOR, there are two issues for the panel to decide:
 - \$ Are claims 1 to 53 obvious in view of the cited art?
 - \$ Are claims 1 to 53 directed to non-statutory subject matter?

Background

- [3] The application pertains to systems for determining vehicle insurance premiums. As discussed in the Background (pages 1-6), conventional methods for determining costs of motor vehicle insurance are based on calculations using data obtained from a personal interview with a driver, and data gleaned from their publicly available driving record. Using this data, the driver is classified into a broad actuarial class (risk classification) for which insurance rates are assigned, based on the empirical experience of the insurer. The Background lists many commonly known factors relevant to these risk

classifications, such as age, sex, marital status, geographic location, vehicle type, and driving record.

- [4] The problem identified in the Background (page 4) is that much of the data gathered from the applicant in the interview is not verifiable, and even existing public records may be insufficient to assess the likelihood of a subsequent claim. Thus, the conventional system is primarily based on past realized losses or claims, and does not use data sufficiently relevant to reliably predict the manner or safety of future operation of a vehicle. This has led to a need for a system of obtaining better insurance data.
- [5] The applicant proposes (page 5) *Aa new and improved motor vehicle monitoring, recording and communication system@*. The goal is *to Abase insurance charges with regard to current material data representative of actual driving characteristics@* and by doing so, will result in a substantially *Areduced insurance rating error over conventional insurance cost systems.@*

Claims

- [6] Claims 1-53 contain seven independent claims, including system, apparatus, process and method claims. Claim 1 is representative of the proposed system:

A system for determining a cost of insurance based upon actual operator actions or driving characteristics for a vehicle during a selected period, and whereby the cost of insurance is adjustable at a central processor by relating the operator actions or driving characteristics to predetermined safety standards, said system comprising:

- means for determining a base cost of insurance based on an initial insured profile;
- one or more sensors for the vehicle, each of said sensors providing a data output, and each of said data outputs being representative of an operating state for the vehicle or an action of the operator during said selected period;
- a controller coupled to said sensors for receiving the data outputs from said sensors, said controller including means for storing said data outputs;
- a communication link, said communication link being coupled to and responsive to said controller for transmitting one or more of said data outputs to the central processor and wherein said central processor is located remotely from the vehicle;
- means for consolidating said data outputs for identifying a surcharge or a discount to be applied to the base cost of the insurance; and
- means for generating a final cost of insurance for a designated period from the base cost and the surcharge or the discount.

[7] The claim defines an integrated system comprising vehicle components (sensors, storage and controller means), which monitor/gather vehicle operating characteristics, a central insurance facility remote from the vehicle, which calculates a final insurance cost, and a communication link to transmit the sensor data to the central facility. From the description, determining *Aa base cost of insurance@* is understood as the conventional techniques of insurance risk calculations based on a driver profile to determine a premium. The *Asurcharge or discount@* relates to the amount the base cost (premium) is increased or reduced based on the additional driver behaviour data obtained from on-board vehicle sensors. The *Aselected period@* is understood as a period of time for which data is recorded from the sensors and stored in a buffer, whereas *Aa designated period@* is a time period for which an insurance rate is calculated.

[8] The remaining independent claims define alternative embodiments of the invention. Independent claims 16, 39, and 45 define apparatus/systems:

§ claim 16: an apparatus for determining a cost of insurance comprising a receiver in a vehicle to gather the vehicle sensor data, and a processor at a central facility configured to apply an insurance surcharge or discount based on the sensor data;

§ claim 39: a system similar to claim 1, with added detail on storage means and computation means. Sensor data is recorded for data outputs whose values satisfy predetermined conditions, and the computation means computes insurance costs related to predetermined periods; and

§ claim 45: a system similar to that of claim 1, further defining means in the central processor for updating a program component;

whereas claims 24, 36 and 49 are method/process claims:

§ claim 24: a computer implemented method which reflects the system of claim 1, comprising monitoring the vehicle sensors, storing the data, transmitting the data to the central processing center and determining a surcharge or discount to be applied to produce a final cost of insurance;

§ claim 36: a process for acquiring and recording vehicle insurance related data comprising steps to monitor sensor data that is considered material to the determination of an insurance cost and record it in a sensor data file, and steps to consolidate the

sensor data with a trigger event file at a remote facility in a form for determining a vehicle cost of insurance for the time period; and

§ claim 49: a process for acquiring and recording vehicle insurance related data comprising steps to monitor sensor data that is considered material to the determination of an insurance cost, record the data in a vehicle record file, and consolidate the file at a remote facility for determining the cost of insurance.

[13] With respect to claim 16, which defines an apparatus comprising a receiver and a processor, although the processor is explicitly defined *Aat a central facility*®, the location of the receiver is not defined. Nor does the claim define any means for communication of the vehicle data to the central processor. One might therefore conclude that the apparatus of claim 16 is a standalone general purpose processor using received sensor data having either an attached receiver, or having a receiver that is not at the central facility which receives the data but does not appear to be communicating with the processor. However, a purposive reading of the claim, and specification as a whole, suggests that the claimed receiver and processor are intended to be in communication as if they are a single device. From the description, the skilled person understands that the receiving function is performed by the on-board computer which monitors and records the vehicle sensors and operator actions. The received data is then transmitted to a central processor. Therefore, claim 16 is defining a similar integrated system as defined by the other independent claims, but in an inexplicit manner. If not for our finding on obviousness (below), amendment of claim 16 to overcome this lack of clarity would be required under paragraph 31(c) of the *Patent Rules*.

[14] The dependent claims add limitations such as selecting certain sensor data for the insurance calculations, specifying a time period for determining the insurance cost, defining a trigger event to transmit data, using a wireless communication link, dispatching an assist vehicle on a trigger event, and capability for updating a program. The prosecution history reveals no disagreement between the applicant or examiner as to the meaning or understanding of these claims.

Issue 1: Obviousness

Principles of law

[15] Section 28.3 of the *Patent Act* sets out the information against which a claim is assessed in an obviousness inquiry:

28.3 The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[16] A four step approach for assessing obviousness is set out in *Sanofi*, as follows:

- (1) (a) Identify the notional person skilled in the art;
- (b) Identify the relevant common general knowledge (CGK) of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the state of the art and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

Cited References

[17] The SOR cites the following prior art:

Patent Documents:

EP 383, 593	22 August 1990	<i>Asano et al.</i>
EP 700,009	06 March 1996	<i>Perez</i>
US 5,638,273	10 June 1997	<i>Coiner et al.</i>
US 5,694,322	02 December 1997	<i>Westerlage et al.</i>

Publications:

Narten, Encyclopedia of Computer Science, 3rd ed (1993), entry for file server
Wikipedia (2007), entry for client-server, accessed 27 November 2007
 (referred together as client-server in the SOR)

[18] All of the references were publicly available prior to the claim date of 11 February 1998, except for *Wikipedia* (2007). Furthermore, there is nothing in the *Wikipedia* reference which on its own would corroborate that the knowledge

contained therein was CGK for the skilled person before the claim date. Therefore, the panel will not consider this reference in the obviousness analysis.

[19] For the remaining references, the applicant did not suggest, nor do we find, any reason that the cited prior art would not be found by the person skilled in the art (as defined in Step 1, below) performing a reasonable search of the prior art. Therefore, we consider each of the references to be valid citations for the obviousness analysis in this case.

Analysis

Step 1: Identify the person skilled in the art and their relevant common general knowledge:

[20] Our memorandum to the applicant on 24 July 2012 reviewed the statements in the SOR pertaining to the person skilled in the art and the CGK. We invited the applicant to address any points in writing and/or at a hearing. In the absence of any response from the applicant disagreeing with these statements, we find the following definitions are reasonable and we adopt them for our analysis.

[21] The SOR states that the skilled person or team consists of business or insurance professionals, as well as engineers or other technologists. Although the panel finds this to be a reasonable statement, we recognize this broadly defines the skilled person or team. We understand that for this case, Ainsurance professionals@ are, minimally, persons trained and skilled in determining vehicle insurance premiums, and Aengineers or other technologists@ are, minimally, persons trained and skilled in the computer and electronic arts, including vehicle data acquisition and data processing.

- [22] The SOR (referencing pages 1-6 of the application) characterizes the CGK of that person or team as including conventional methods for determining insurance premiums. In our memorandum we noted this would include the use of Adriver profiles@. We consider that the use of a Adriver profile@ to determine a base cost of insurance is the conventional use of factors such as driver=s age, sex, driving history, or marital status to calculate an insurance premium. This is well known to any layperson who purchases insurance, and standard practice in the insurance industry. Furthermore, adjustments to an insurance rate based on a good driving record (a Adiscount@) or a bad driving record (a Asurcharge@) was also well known before the claim date.
- [23] The SOR further states the skilled person has knowledge of systems for monitoring, recording and communicating data concerning vehicle operation, and is knowledgeable to assemble and install such systems, and adapt these systems to obtain the desired types of information, such as information relevant to computing an insurance premium. The SOR further notes that the CGK would also include knowledge of systems for controlling vehicle operation, communicating data and control information to and from a remote system, recording and analysing vehicle operation data, and mobile positioning and vehicle tracking systems, as well as knowledge of the risks and costs associated with certain driving behaviour. Such knowledge also includes that of basic network architectures, such as the client-server model, and their associated advantages.
- [24] Although not objecting to the statements of CGK in the SOR *per se*, the applicant objected to the use of their own description to define certain aspects of the CGK. However, the panel sees no reason why statements made by an applicant in the description should not be taken at face value. In this case, having

considered the particulars of CGK being drawn from the description, the panel finds that such knowledge would be well understood in the insurance and engineering fields. We consider that where an application states that something is known or conventional in the prior art, that statement will be relied upon. This is also consistent with Office practice.

Step 2: Identify the inventive concept:

- [25] The SOR states that the inventive concept common to all claims is a system comprising both on-vehicle equipment and a remote data processing system. The remote data processing system calculates an insurance premium based on an initial insurance profile, the on-vehicle equipment monitors and records vehicle operation and driver behaviour, and communicates this data to the remote data-processing system, which uses this data to recalculate the insurance premium to be charged.

- [26] The SOR identifies additional concepts in claims 36 and 49, that only data identified as being relevant to the calculation of an insurance premium is recorded by the on-vehicle equipment, and in claim 36, that upon certain Atrigger events@, information concerning that event is communicated to a remote station for storage.

- [27] The panel finds the statements in the SOR as to the inventive concepts reasonable, based on the skilled person and CGK discussed above, and based on our understanding from the description of the problems in conventional insurance systems (namely, the problem of obtaining more current and relevant data that reflects driver behaviour in order to calculate adjustments to a base cost of insurance). Additionally, the applicant did not propose any alternative inventive concept(s).

[28] Further, we need not refine the inventive concept to decide the obviousness issue before us. It is clear that during the course of prosecution, the applicant and examiner identified several differences between the independent claims and the prior art which formed the basis for the obviousness analysis in the SOR. The panel finds that in view of the prosecution history, it is sufficient to consider the differences identified between the examiner and the applicant in our *Sanofi* step 3 analysis below.

[29] We also note that no further inventive concept(s) for the dependant claims were identified in the SOR, nor does any correspondence from the applicant provide an indication of any additional inventive distinguishing features in the dependent claims. We advised the applicant in the panel memorandum that unless we were provided specific arguments explaining why the inclusion of features in the dependant claims should be viewed as inventive, then in our view, no other features need be considered. As we noted above, no submission was received. Having considered these facts, we will now resolve the obviousness question by considering the differences identified in relation to the independent claims.

Step 3: Identify what, if any, differences exist between the matter cited as forming part of the Astate of the art@ and the inventive concept of the claim or the claim as construed:

Overview of cited art:

[30] The SOR (pages 8-9) provides a brief summary of the three main cited pieces of prior art used by the examiner (*Perez, Westerlage et al.*, and *Coiner et al.*). We have reviewed each of these summaries and find that they accurately reflect the main teachings. Again, the applicant did not respond to our

invitation to comment on the matter presented by the examiner in the SOR, including this synopsis of the art.

Principal arguments by Applicant

[31] In the response to the FA, the applicant maintained several earlier argued differences of the claimed invention over the prior art. In comparison to *Perez*, the applicant contends that the claimed subject matter distinguishes over the cited art by:

Centralized risk assessment: transmitting collected sensor data to a central facility and computing the risk assessment at the central location, rather than calculating a risk assessment on-board the vehicle;

Integrated vehicle sensors: relying on sensors that are incorporated or integrated into an on-board system on the vehicle itself, rather than using sensors that are incorporated in roadways or other locations accessible to vehicles;

Use of driver profile data and sensor data: specifying that the central facility calculates the final cost of insurance using received sensor data and driver profile information, rather than only using sensor data (as the sole basis for determining the insurance premium); and

Centralized updates: in claim 45, specifying the central facility has means for updating the software for

calculating the insurance premium, rather than requiring updates to every distributed in-vehicle risk assessment processor.

[32] The applicant further argued that none of the additional cited references overcame the above-listed differences from *Perez*.

Our findings on these differences are as follows:

a) differences over *Perez*

[33] The panel has reviewed the cited prior art. We find *Perez* to be very similar to the common inventive concept stated in the SOR. *Perez* addresses a similar problem in obtaining sensor data (sensors both internal and external to the vehicle) to be used in calculating insurance costs. On-board processing is performed to determine a risk assessment. A communication link to transmit assessment data to a remote insurance facility is also taught.

[34] Centralized risk assessment: The applicant contends that the Arisk assessment@ is done on-board the vehicle in *Perez*, whereas in the instant invention, the risk assessment is done at the central facility. In the system of the instant application, the sensor data is comprised of raw data elements, calculated data elements and derived data elements (description, page 17). This data is then processed (monitored and stored) by an on-board computer, and transmitted to the remote (central) facility, where it is used to determine a surcharge or discount to be applied to the base cost of insurance. What the applicant refers to as the Arisk assessment@ in the present application is understood to be the calculations of surcharges and discounts done at the remote facility. No actual risk assessment or insurance calculations are done in the vehicle.

[35] In *Perez*, sensor data is also monitored and gathered, using an on-board processor. However, risk assessment processing is performed on-board the vehicle directly on the acquired sensor data, rather than transmitting the sensor data to a central facility. We note that *Perez* (page 3) does have means to *transmit the above risk assessment as a basis for premium calculations* to an external system. Therefore, while both systems pertain to the similar goal of using vehicle sensor data to determine insurance costs, the difference is in how this goal is achieved. In *Perez*, means are provided for local risk assessment processing of sensor data in every vehicle, followed by transmission to an external system, while in the instant claims, means are provided for transmission of the sensor data to a central (remote) processor, at which location any risk assessment or insurance calculations are performed. The difference pertains to where the processing of the risk assessment is performed, and the resulting type of data transmitted to the central facility, which we will consider in step 4.

[36] Integrated vehicle sensors: In regards to the applicant's statement that *Perez* relies on roadway sensors external to the vehicle, whereas the instant application uses integrated vehicle sensors, this difference reflects only one aspect of *Perez*. While *Perez* teaches that the system can use sensors that receive external signals from devices in the region of the roadway, the system also uses sensors that monitor the operating state of the vehicle (see claim 1). *Perez* specifically lists examples of vehicle-based sensor data, such as speed, acceleration, tire pressure data, distance maintained from other vehicles or use of seat belts. Roadway sensors are used to relay information to the driver on speed restrictions, weather-related road conditions, or traffic congestion. Therefore, the roadway sensor data is used in addition to the

vehicle sensor data in *Perez*. We find no explanation in the present application as to why it is preferable only to use vehicle sensor data, nor do we find any support for a conclusion that there is some unexpected advantage or ingenuity in the *omission* of roadway sensor data. Therefore, we find that the use of only the integrated vehicle sensors in the instant application is not a difference of the inventive concept over *Perez*.

[37] Use of driver profile and sensor data: In regards to the assertion by the applicant that *Perez* does not teach the use of an initial driver profile in combination with sensor data to determine the final costs at the remote facility, the panel agrees that *Perez* does not explicitly disclose the feature of using driver profiles. This was also identified in the SOR (page 9 ,bottom), which also noted that Adriver profiles@ was not explicitly defined in all of the instant claims. We have already noted in Step 1 that the use of driver profiles themselves to determine (base) insurance costs is CGK. However, we do find that the state of the art does not teach calculating a base cost of insurance using driver profile information in combination with vehicle sensor data adjustment to arrive at a final cost of insurance.

[38] Centralized updates: Finally, the applicant contends that the updating of the insurance calculation software (>program component=) at the remote facility in claim 45 is a difference over requiring updating at each vehicle, as done in *Perez*. The panel considers that the applicant is presenting an *advantage* of the centralized risk assessment we discussed above. However, we will consider this a possible difference over the state of the art in step 4.

b) differences over *Westerlage et al.* and *Coiner et al.*

- [39] *Westerlage et al.* and *Coiner et al.* do not specifically teach using sensor data in calculating insurance costs, but they both pertain to gathering sensor data in vehicles that reflects the operation and state of the vehicle, and to sending the data to a remote facility to be processed. *Coiner et al.* does mention that similar data collection and analysis systems have been used in the insurance field.
- [40] The applicant did not advance any further arguments in regards to these two references in their response to the Final Action. The examiner identified the general difference between these references and the inventive concept as being the fact neither explicitly relate to determining costs of insurance. We find both references are applicable and relevant to teach the state of the art on gathering sensor data from vehicles.
- [41] Further, as detailed in the SOR (with appropriate citations) both *Westerlage et al.* and *Coiner et al.* disclose the additional features of a) identifying and selecting only relevant sensor data for communication to the remote facility for later analysis; and b) using trigger events to determine when to collect or transmit data from the sensors. These correspond to the additional inventive concepts present in claims 36 and 49 [para 25]. In view of these references, we consider the inventive concepts of claims 36 and 49 define no additional differences over the prior art.

Panel=s summary of differences

- [42] We find that differences between the common inventive concepts of claims 1, 16, 24, 36, 39, 45, and 49 and the state of the art can be stated as:

< the state of the art does not teach transmitting vehicle sensor data to a remote (central) facility for

determination of a risk assessment, rather than processing a risk assessment in the vehicle;

< the state of the art does not teach calculating a base cost of insurance using driver profile information in combination with vehicle sensor data adjustment to arrive at a final cost of insurance;

and we further consider the additional difference in claim 45, namely:

< the state of the art does not teach updating the insurance calculation software program at the remote facility.

Step 4: Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

< Is there any degree of invention in transmitting sensor data to the remote facility for determination of a risk assessment, rather than processing a risk assessment in the vehicle?

[43] We first note that whether the data is called processed sensor data, risk assessment data or a surcharge/discount data has no material significance to the question of ingenuity because the intellectual significance or meaning of data by itself does not confer inventiveness to a system or method.

[44] Next, we consider whether or not there is ingenuity in either the idea of transmitting the sensor data to the remote facility, or in the implementation of that idea. We note that *Westerlage*

et al, *Asano et al* and *Coiner et al* each teach a variation on a technical solution to transmit some form of sensor Adata@ from a vehicle to a central processing facility. Thus, the idea of using central processing of vehicle generated data is well known on the claim date. Further, the present application discloses (page 5) that *Acurent motor vehicle control and operating systems comprise electronic systems that are readily adaptable for modification to obtain the desired type of information@* and later (page 19) the data gathering process *Acan be implemented with conventional computer programming@*. Therefore, it is considered to be routine for the skilled person to monitor, gather and transmit the sensor data to the central facility.

[45] Further, the applicant has argued that the primary reference does not teach using the sensor data at a remote facility. We disagree. As we noted earlier, *Perez* teaches that after the sensor data is first processed on-board to determine a risk assessment, the system can *A...transmit the above risk assessment as a basis for premium calculations by the insurance company@* to an external system. In fact, at the outset, *Perez* discloses that the invention *Asets out the possibilities for the supplementary or alternative calculation of the insurance premium of a respective insured party@* (page 1). We understand that transmitting risk assessment data to an external system is *Asupplemental@* to performing additional insurance calculations at that external location or facility.

[46] Finally, we also note there are no unexpected advantages or technical limitations to overcome in deciding to process the sensor data at the remote facility instead of on-board. Transmitting the sensor data to a central processor would be understood by a person skilled in the art to have the expected advantage of reducing the processing workload and complexity in the vehicle. It would also be expected to reduce and simplify

maintenance of the hardware and software in the vehicle. Both these advantages are obvious in view of the well known advantages of a client-server architecture (for example, see *Narten, Afile server@*). Furthermore, Asano et al. (Figure 1, abstract) specifically address these advantages in vehicle data processing. Choosing the system architecture of claim 1 would be one of a finite number of design choices available to the skilled person.

- [47] In view of the above, the panel concludes there would be no ingenuity in choosing to eliminate the partial processing of a risk assessment in a vehicle and consolidate the processing at a remote/central facility. Reducing complexity in the vehicle by centralizing a processing step, unless there are some unexpected challenges or advantages, does not require inventive ingenuity.

< Is there any degree of invention in calculating a base cost of insurance using driver profile information in combination with vehicle sensor data adjustment to arrive at a final cost of insurance?

- [48] In step 3 above, we note that *Perez* does not explicitly disclose using driver profiles. The applicant argues (response to FA, page 15) that *APerez specifically rejects, and distinguishes his method from, the insurance industry=s practice of determining rates based on an insured=s profile (including driving record), describing the industry=s existing tariff system as >complicated and often confusing=@. From this, the applicant argued that *Perez* therefore based the final cost of insurance solely on the risk assessment performed on-board the vehicle.*

- [49] We would first agree with the applicant that the insurance industry=s conventional practice is to determine rates based on

an insured profile (driver profile). This affirms the applicant=s additional statements in the Background and also our assessment of the CGK, that driver profiles (based on factors such as age, sex, marital status, etc) are used to determine a base cost of insurance. Prior to any insurance premium being determined, information about the risks being insured must be gathered; the collection of this information establishes a profile of the insured unit of risk. This is the industry=s conventional insurance practice.

- [50] We do not think the absence of explicit reference to a driver profile in *Perez* means that such a base cost is not being utilized. The skilled person, having the CGK of using driver profiles in the industry, would not conclude from reading *Perez* that the long standing practice would be abandoned, absent any teaching that it was. Not explicitly disclosing the use of driver profiles to calculate an insurance premium does not mean that *Perez* teaches away from that feature.
- [51] Further, the skilled reader of *Perez* would understand from page 1 that *Apossibilities for supplemental or alternative calculation of the insurance premium@* means it would be supplemental to the CGK of calculating a premium only using the driver profile information. To be *Asupplemental@*, the use of the vehicle risk assessment information is supplementing other insurance premium calculations, which must be done at the remote facility, as that is the only external link to the vehicles in *Perez*.
- [52] Finally, in our view, *Perez* makes no explicit or implicit statement that the final cost of insurance is based solely on the risk assessment calculated on-board the vehicle; that is a narrow reading of the statements in *Perez* by the applicant. The panel reiterates that the solution in *Perez* is supplemental to

the past practices of the industry, and that the risk assessment data is also transmitted to an external (central) facility, as *Aa basis for premium calculations*®, as we noted earlier. Knowing the CGK of using driver profiles to determine a base insurance cost, the person skilled in the art would readily understand that the risk assessment data being sent to the external facility is precisely in order to combine the data from the vehicle with a driver profile base cost, as a basis for a final insurance calculation.

- [53] Therefore, we conclude there is no ingenuity to explicitly combine the transmitted risk assessment data with the conventional industry base calculations, since the system of Perez already permits such a technical functionality, and a purposive reading of the reference teaches an equivalent combination.

< Is there any degree of invention in updating the insurance calculation software program at the remote facility (versus at each vehicle)?

- [54] The alleged difference of providing means for updating the software or program component in claim 45, in the view of the panel, is an obvious advantage over the in-vehicle risk assessment architecture in *Perez*. Once the decision has been made to utilize a client-server architecture with a centralized Arisk® processor, instead of a plurality of distributed on-board processors, then the updating of the program component must also occur centrally. It is an expected result of the system architecture that was chosen, with known advantages. Further, we have already discussed the ease of maintaining and upgrading software at a single location: this is well known to the person skilled in the art, for example in client server architecture (again, see *Narten*).

[55] In view of the reasons above, we conclude that independent claims 1, 16, 24, 36, 39, 45, and 49 do not define an inventive difference over the cited references. As explained earlier [para. 14], none of the features of the dependent claims overcome this finding.

Conclusions on Issue 1

[56] Having found that there is no degree of ingenuity over the cited prior art, the panel finds that claims 1-53 are obvious and do not comply with section 28.3 of the *Patent Act*.

Issue 2: Statutory Subject Matter

[57] The second issue before the panel is whether or not claims 1-53 comply with section 2 of the *Patent Act*. The SOR provided a section 2 analysis under a Aform and substance@ approach, and found all claims defective for failing to define statutory subject matter.

Legal Principles and Guidelines

[58] Section 2 of the *Patent Act* sets out the categories of statutory subject matter:

"invention" means any new and useful art,
process, machine, manufacture or composition of
matter, or any new and useful improvement in any
art, process, machine, manufacture or
composition of matter.

- [59] An invention must not be directed to subject matter which is excluded from protection under the Act, such as a mere scientific principle, abstract theorem, fine art, work of art, or mental operation or process. Claims to these types of inventions are defective for failing to define an invention under Section 2 of the *Patent Act*.
- [60] In *Amazon*, the Federal Court of Appeal provided guidance on s.2, referring to the decision in *Schlumberger Canada Ltd. v. Canada (Commissioner of Patents)*, [1982] 1 F.C. 845 (C.A.) [*Schlumberger*]. One may reasonably conclude that *Schlumberger* is a case in which what was claimed to be a computerized method was nevertheless reduced to being only an abstract principle and mental process. As discussed in *Amazon* [paras. 62 to 69], because a patent cannot grant for an abstract idea, it is implicit in the definition of invention that the subject matter of the claim must be something with physical existence or something that manifests a discernible effect or change: the physicality requirement cannot be met merely by the fact that the claim is limited to a practical application such as by the presence of a computer. From *Amazon*, para. 62:

[62] *Schlumberger* exemplifies an unsuccessful attempt to patent a method of collecting, recording and analyzing seismic data using a computer programmed according to a mathematical formula. That use of the computer was a practical application, and the resulting information was useful. But the patent application failed for want of patentable subject-matter because the Court concluded that the only novel aspect of the claimed invention was the mathematical formula which, as a "mere scientific principle or abstract theorem", cannot be the subject of a patent because of the prohibition in subsection 27(8).

[61] The Court went on to state (para 63) that the issue of statutory matter might be resolved by a consideration of whether or not the purposively construed claims at issue could be distinguished from the facts in *Schlumberger*. On one hand, the claims might not be distinguished from *Schlumberger* if the only essential elements are an algorithm or mathematical formula that is programmed onto the computer; the claims in *Schlumberger* were not saved by the fact they contemplated the use of a physical tool such as the computer. On the other hand, the claims at issue might be distinguished if the scheme, algorithm or process is not the whole of the invention, but rather one of a number of essential elements in combination with the computer.

Analysis

[62] The panel letter and memorandum invited the applicant to address *Amazon* and the relevance to the assessment of statutory subject matter in this case. However, the applicant chose not to make a submission.

[63] In our Obviousness analysis above, we have already considered the person skilled in the art and their common general knowledge (CGK), both of which are relevant to a review of subject matter under section 2 of the Act. Furthermore, although we did not explicitly state the problem and solution addressed by the present invention, we did accept the inventive concepts from the SOR, which reflect the solution to the problem faced by the inventors as we understand from the specification. The inventive concept includes the two main features of on-vehicle equipment to monitor and record vehicle operation and driver behaviour, and means to communicate the sensor data to the remote

or central facility for use in recalculating an insurance premium to be charged.

[64] Although not determinative of subject matter issues, features defined in a claim that are included within an inventive concept are presumed to be essential for that claim. One must determine if said features are material to the working of the invention (material to the solution), or if the features are simply material to the operating environment, such as for matters of convenience or efficiency.

[65] We note that the gathering of sensor data to reflect driver behaviour and the communication of this data to a central facility for the calculation of insurance premiums was not CGK at the claim date. One skilled in the art would not consider that these features define the conventional working environment of a system or method for an insurance calculation. Instead, these features pertain to the technical arrangement and combination of means necessary in order to obtain current and relevant driver behaviour data. These features are providing the solution of the invention, and are therefore material to its operation and ability to achieve that solution.

[66] Having considered the skilled person, their CGK, and the invention as disclosed in the specification, the panel finds that monitoring the vehicle operating characteristics and communicating the data to the central facility are essential features which are material to the working of the invention. They achieve the practical result of updating an insurance premium based on actual vehicle operating characteristics and driver behaviour.

[67] This conclusion is also consistent with the finding of *Re Application 2,344,781 of Progressive Insurance*, Commissioner's Decision No. 1336 (2013) [CD1336]. In CD1336, the Commissioner of Patents found, in a similar fact situation for a related application from the same applicant, that the monitoring of vehicle operating characteristics for a selected period to gather data on driver behaviour, and a communication link between the vehicle and a remote facility which process the data for insurance calculations were essential features to the invention in that case.

[68] The present analysis is thus distinguishable from the solution in *Schlumberger*, as characterized by *Amazon*, in that the arrangement of components and steps in the present claims defines more than an abstract principle and mental process. Having

found these features essential, the claimed invention defines something with physical existence or something that manifests a discernible effect or change beyond merely having a practical application such as the presence of a computer.

Conclusions on Issue 2

[69] We find that the features of monitoring the vehicle operating characteristics and communicating those characteristics to the central facility for use in calculation of insurance premiums are essential to the claimed invention. The claimed subject matter is not merely abstract, nor otherwise excluded from patentability. Thus the panel finds that claims 1 to 53 are directed to statutory subject matter and define an invention under Section 2 of the *Patent Act*.

Recommendation

[70] In view of the above findings, the Board recommends that the application be refused as claims 1 to 53 are obvious and therefore non-compliant with section 28.3 of the *Patent Act*.

Andrew Strong
Member

Paul Sabharwal
Member

Christine Teixeira
Member

Decision

[71] I concur with the Patent Appeal Board=s findings and its recommendation that the application be refused as claims 1 to 53 are obvious and therefore non-compliant with section 28.3 of the *Patent Act*.

[72] Accordingly, I refuse to grant a patent on this application. Under Section 41 of the *Patent Act*, the applicant has six months within which to appeal my decision to the Federal Court of Canada.

Sylvain Laporte
Commissioner of Patents

Dated at Gatineau, Quebec,
this 11th day of July 2013

