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Datasheet for the decision of 21 January 2026

Case Number: T 1311/24 - 3.5.05

Application Number: 17202928.2

Publication Number: 3326888

IPC: B61L15/00, G01M17/08, G01R31/00

Language of the proceedings: EN

Title of invention:
Test device for and method of testing interoperability of railway vehicles

Patent Proprietor:
Bombardier Transportation GmbH

Opponents:
ÖBB-Technische Services-Gesellschaft mbH
Siemens Mobility GmbH

Headword:
Correctly functioning railway vehicles/BOMBARDIER

Relevant legal provisions:
EPC Art. 83, 100(b)

Keyword:
Sufficiency of disclosure - all claim requests (no)

Decisions cited:
G 0001/24

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Case Number: T 1311/24 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 21 January 2026

Appellant I: (Patent Proprietor)	Bombardier Transportation GmbH Eichhornstraße 3 10785 Berlin (DE)
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Party as of right: (Opponent 1)	ÖBB-Technische Services-Gesellschaft mbH Grillgasse 48 1110 Wien (AT)
Representative:	Puchberger & Partner Patentanwälte Reichsratsstraße 13 1010 Wien (AT)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 6 September 2024 concerning maintenance of the European Patent No. 3326888 in amended form.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	P. Tabery
	F. Bostedt
	J. Eraso Helguera
	C. Heath

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to maintain the patent in amended form in accordance with **"auxiliary request 4a"**.

The opposition division found that the subject-matter of claim 1 of the main request and of auxiliary request 3a filed during the first-instance oral proceedings lacked novelty, that auxiliary request 2a, filed on 6 May 2024, did not comply with Rule 80 EPC and that auxiliary request 4, filed during the oral proceedings, was not admitted into the proceedings for being late-filed and for lack of *prima facie* allowability under Articles 123(2) and 54 EPC.

II. Oral proceedings before the board were held on 21 January 2026. The final requests of the parties were as follows:

- The appellant-proprietor ("the proprietor") requested that the appealed decision be set aside and that the oppositions be rejected (**main request**), or, in the alternative, that the patent be maintained in amended form in accordance with **auxiliary requests 1, 3a and 3b, 8a and 8b, 2a and 2b, 4a and 4b to 7a and 7b, and 9a and 9b.**

  Present **auxiliary request 3a** is identical to auxiliary request 4a which was found allowable by the opposition division.

- The appellant-opponent O2 ("opponent O2") requested that the appealed decision be set aside and that the patent be revoked.

The respondent-opponent O1 ("opponent O1") requested that the patent proprietor's appeal be dismissed.

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

III. Claim 1 of the **main request** reads as follows (opposition division's feature labelling):

F1.1 "A test device (1) for testing interoperability of railway vehicles (30, 31) that are intended to be part of a railway train, wherein the test device (1) comprises:

F1.2 - at least one interface unit (11, 13, 15) adapted to establish and maintain communication between the test device (1) and a railway vehicle (30, 31) under test via a train communication channel (17),

F1.3 - at least one connector for connecting the train communication channel (17) to the at least one interface unit (11, 13, 15),

F1.4 - a data processing and control unit (5) adapted to

F1.5 - control output of communication signals via the at least one interface unit (11, 13, 15) to the railway vehicle (30, 31) under test and

F1.6 - process communication signals received via the at least one interface unit (11, 13, 15) from the railway vehicle (30, 31) under test,

F1.7 thereby simulating a communication behaviour according to at least one functionality of a

first railway vehicle coupled via the train communication channel (17) to the railway vehicle (30, 31) under test,

F1.8 - a user interface adapted to output test results from testing the railway vehicle (30, 31) under test to a user and/or adapted to receive control input from a user in order to initiate and/or control testing the railway vehicle (30, 31) under test,

characterized in that

F1.9 the test device (1) further comprises a data storage (7) comprising data enabling the data processing and control unit (5) to simulate the communication behaviour of different types of railway vehicles that may be coupled to the railway vehicle (30, 31) under test or to another railway vehicle under test and

F1.10 enabling the data processing and control unit (5) to evaluate the communication signals received in order to determine whether the railway vehicle (30, 31) under test or the other railway vehicle under test is correctly functioning within a railway train."

Claim 1 of **auxiliary request 1** differs from claim 1 of the main request in that, in features F1.9 and F1.10, the alternatives "*or to another railway vehicle under test*" and "*or the other railway vehicle under test*", respectively, have been deleted.

Claim 1 of **auxiliary request 3a** differs from claim 1 of the main request in that the following features have been appended (board's feature labelling):

F1.11 "wherein the data processing and control unit (5) is adapted to simulate the communication behaviour according to one functionality or more than one functionality of the first railway vehicle by determining output time(s) of at least one communication signal caused by the one functionality or by the more than one functionality and by outputting the at least one communication signal to the railway vehicle (30, 31) under test at the determined output time(s),

F1.12 wherein the output time(s) are stored in a data storage to which the data processing and control unit (5) has access, wherein values of output times are stored corresponding to - in case of no malfunction - a correct timing of the simulated functionality or functionalities and values of output times are stored corresponding to malfunctions and wherein the data processing and control unit (5) is adapted to determine output times by accessing the data storage and reading out the stored value, thereby simulating the functionality or functionalities with correct timing and according to a malfunction."

Claim 1 of **auxiliary request 3b** differs from claim 1 of auxiliary request 3a in that the same alternatives have been deleted as in auxiliary request 1. This applies also to **auxiliary requests 8b, 2b, 4b to 7b and 9b** compared to their corresponding "a" series.

Claim 1 of **auxiliary request 8a** differs from claim 1 of the main request in that the following features have been appended (board's feature labelling):

F1.13 "wherein the test device comprises a simulation unit, which is a state machine that is adapted to simulate states according to the communicative behaviour of the first railway vehicle,

F1.14 wherein the simulation unit is adapted to adopt one state of the first railway vehicle at a time and to adopt different states of the first railway vehicle, one after the other,

F1.15 wherein one of several predefined events causes the simulation unit to change from one of the possible states to another of the possible states,

F1.16 wherein a communication signal received by the test device from the vehicle under test causes the simulation unit to change to a corresponding state and

F1.17 wherein it depends on the content of the received communication signal if the state of the state machine changes at all and/or into which new state the state of the state machine changes."

Claim 1 of **auxiliary request 2a** differs from claim 1 of the main request in that feature F1.11 has been appended.

Claim 1 of **auxiliary request 4a** differs from claim 1 of auxiliary request 3a in that, in feature F1.12, the wording "*thereby simulating the functionality or functionalities with correct timing and according to a malfunction*" has been deleted.

Claim 1 of **auxiliary request 5a** differs from claim 1 of auxiliary request 3a in that, in feature F1.12, the

wording "*thereby simulating the functionality or functionalities with correct timing and according to a malfunction*" has been amended to read "*therefore simulating the functionality or functionalities with correct timing and according to a malfunction*" (board's emphasis).

Claim 1 of **auxiliary request 6a** differs from claim 1 of auxiliary request 3a in that, in feature F1.12, the wording "*thereby simulating the functionality or functionalities with correct timing and according to a malfunction*" has been amended to read "*and wherein the test device is adapted to simulate the functionality or functionalities with correct timing and according to a malfunction*".

Claim 1 of **auxiliary request 7a** differs from claim 1 of auxiliary request 3a in that, in feature F1.12, the wording "*thereby simulating the functionality or functionalities with correct timing and according to a malfunction*" has been amended to read "*and, therefore, the test device is capable of simulating the functionality or functionalities with correct timing and according to a malfunction*".

Claim 1 of **auxiliary request 9a** differs from claim 1 of auxiliary request 2a in that the following feature has been appended (board's feature labelling):

F1.18 "wherein the one functionality or the more than one functionality of the first railway vehicle comprise(s) a process that is to be performed on reception of a command signal and the test device is adapted to output a confirmation signal that the process has been performed, wherein the confirmation

signal is the communication signal to the railway vehicle (30, 31) or one of the at least one communication signal to the railway vehicle (30, 31) under test that is output at the determined output time, wherein the determined output time corresponds to a delay after receipt of the command signal by the test device."

Reasons for the Decision

1. The present patent concerns a test device for determining whether a "railway vehicle under test" is "correctly functioning" within a railway train. According to the patent description, the test device allows to evaluate whether a communication interface unit of a railway vehicle reacts properly to messages sent via the train communication channel.

2. Main request

2.1 Interpretation of claim 1

2.1.1 The proprietor submits that claim 1 only relates to sending communication signals to and receiving communication signals from the "railway vehicle under test" via the "train communication channel". Evaluating these signals, using the data mentioned in **feature F1.10** of claim 1, may thus only provide information as to whether a "train communication channel interface unit" of the railway vehicle under test is "correctly functioning" with respect to these signals. When reading claim 1 with a mind willing to understand, the skilled reader would thus understand the feature "*data [...] enabling [...] to evaluate the communication*

signals in order to determine whether the railway vehicle under test ... is correctly functioning within a railway train" as relating only to what can be determined by evaluating these communication aspects of the "railway vehicle under test". This was in line with the patent description, which states that the invention relates to the railway vehicle's communication signals. Furthermore, the skilled person would recognise that the claimed method steps could not guarantee that the vehicle under test was "correctly functioning" in the sense of a full certification. Rather, it was implied that the aspect of "correctly functioning" could only relate to the functionality that could actually be tested in feature F1.7 of claim 1. This was also consistent with the patent description, which had to be consulted when interpreting the claim, in accordance with decision **G 1/24**. Lastly, the proprietor emphasised that feature F1.10 of claim 1 did not recite the determination as a separate method step, but rather as an aim that was enabled by the underlying data.

2.1.2 The board disagrees. Rather, the board concurs with the opponents's view that the wording "*the railway vehicle under test [...] is correctly functioning within a railway train*" used in feature F1.10 of claim 1 refers to all aspects of the entire railway vehicle, at least insofar as these aspects impact *other* vehicles in the train. Communication capabilities are certainly included. However, other electrical capabilities are not excluded and these aspects may even comprise mechanical properties of the railway vehicle. As the content of the communication signals is not specified in claim 1, a skilled reader would assume that these may comprise specific proprietary information, such as measurement data, which enable the test device to determine whether the entire vehicle is "correctly

functioning". The board also notes that the opposed patent does not define the phrase "*correctly functioning within a railway train*" differently. Hence, even if the conclusions of **G 1/24** were to be applied to the assessment of compliance with Article 83 EPC (rather than only to Articles 52 to 57 EPC), consulting the description in accordance with **G 1/24** cannot lead to the interpretation desired by the proprietor.

2.1.3 However, even if the skilled reader were to construct the expression "correctly functioning" as referring only to the communication capabilities of the "vehicle under test", the board still considers that the phrase "*correctly functioning within a railway train*" cannot be interpreted as only relating to the communication signals with respect to the functionality that could actually be tested according to feature F1.7 of claim 1. As the opponents argued, the skilled reader would understand that the claimed data indeed enables an operator to positively determine that **all relevant** communication capabilities of the "vehicle under test" are "correctly functioning". The board understands this to mean that it is verified, at least, that the "vehicle under test" does not exhibit malfunctions having a negative impact on *other* vehicles in the train. This evidently requires data to test a broad range of communication capabilities of the "vehicle under test".

2.2 Sufficiency of disclosure (Article 100(b) EPC)

2.2.1 As pointed out by opponent O2, the original disclosure of the patent in suit does not provide any teaching as to how the "*[data] enabling the data processing and control unit to evaluate the communication signals received in order to determine whether the railway*

vehicle under test [...] is correctly functioning within a railway train" (board's emphasis) of **feature F1.10** may actually be determined.

2.2.2 Notably, according to page 7, fifth paragraph, of the original description

> "[a] large number of functions can be tested by only evaluating the communication behaviour of the corresponding devices in the vehicle under test."

The examples given there are: passenger door controllers, traction and brake control, pantograph and pantograph motor control, passenger information system (see page 1, last paragraph of the description as filed).

2.2.3 The proprietor argues that the patent description provides a full teaching on how the skilled person would carry out the invention (with reference to paragraphs [0014] and [0044] of the patent in suit). The communication signal received by the test device had to be equal to an *expected* communication signal. It also had to be received within a predetermined time interval. The expected communication signal and the predetermined time interval were both known to the skilled person. Thus, the skilled person could well determine whether the vehicle was "correctly functioning" within the meaning of feature 1.10.

2.2.4 The board disagrees. Whether or not a vehicle is "*correctly functioning within a railway train*" may depend on many other aspects besides the communication behaviour of the corresponding devices in the "vehicle under test". However, some of these aspects may not even be readily detectable via the claimed "train

communication channel", as required by feature F1.7 of claim 1. This applies in particular to the purely *mechanical* components of the vehicle, in accordance with the board's interpretation of claim 1 as set out in point 2.1.2 above.

2.2.5 The same objection would apply even if claim 1 were construed as indicated in point 2.1.3 above to the benefit of the proprietor. As the opponents noted, the patent description does not define *which* aspects of the communication behaviour are relevant for the vehicle to be "correctly functioning" within the meaning of feature F1.10 of claim 1. The passages of the patent cited by the proprietor only disclose testing a limited range of communication signals. Therefore, the skilled person would have to determine these relevant aspects on its own, without any guidance from the patent itself. Consequently, the opposed patent fails to provide an embodiment in which the communication behaviour of the "vehicle under test" is fully evaluated to positively determine that it is indeed "correctly functioning". The proprietor also did not demonstrate that determining all relevant aspects would be within the skilled person's common general knowledge and, during the oral proceedings before the board, agreed that a claim to a "correctly functioning train" by measuring only certain parameters may be an "overstatement".

2.2.6 Furthermore, the proprietor argued that the skilled person was aware of the vehicles' correct communication behaviour. Following the teaching of paragraphs [0014] and [0044], the skilled person would verify both the correct *content* and the correct *timing* of the communication signal. Therefore, the skilled person would know how to provide the data of feature F1.10 of

claim 1. As this data enabled malfunctions to be detected, it necessarily enabled it to be determined that a vehicle was not "correctly functioning". Conversely, in the absence of a malfunction, the vehicle was "correctly functioning" with respect to the tested functionalities.

2.2.7 The board is not convinced. First, the absence of a malfunction in a test of *certain* functionalities cannot guarantee that the "vehicle under test" is in fact "correctly functioning" with respect to *other* functionalities. This observation applies whether or not "correctly functioning" is construed to include mechanical properties. While the skilled person might be familiar with the full specification of a railway vehicle, the patent fails to disclose *which* functionalities are actually necessary for the vehicle to be "*correctly functioning within a railway train*". There is simply no guidance on how to determine such a subset of features, which are arguably commonly known. Furthermore, the opposed patent does not provide any information regarding the contents of the communication signals, notably whether these adhere to commonly known standards or, to the contrary, contain proprietary information. In consequence, the patent fails to disclose at least *one way* of carrying out the claimed invention, let alone *over the whole scope claimed*.

2.3 In view of the above, the ground for opposition under Article 100(b) EPC prejudices the maintenance of the patent as granted.

3. Auxiliary request 1

3.1 The deletion of alternative features does not change the board's reasoning as to insufficiency of disclosure

provided with respect to claim 1 of the main request in point 2.2 above. The proprietor did not contest this at the oral proceedings before the board.

3.2 Consequently, auxiliary request 1 is not allowable under Article 83 EPC.

4. Auxiliary requests 3a and 3b

4.1 The proprietor argued that the additional feature included in claim 1 of **auxiliary requests 3a and 3b** made it clear which functionality was being tested and thus which aspects of the vehicle had to be "correctly functioning".

4.2 The board concurs with the opponents that the amendment to claim 1 does not have an impact on the board's reasoning as to the issue of insufficiency of disclosure provided with respect to claim 1 of the main request in point 2.2 above. Although claim 1 now explicitly mentions the *timing* of the communication signals, this does not overcome the objection that the patent does not provide information on how the functions that need to be "correctly functioning" are to be selected, or on the actual contents of the respective signals. Above all, there is no reason why the skilled person would give a different meaning to the expression "correctly functioning" merely because the "correct timing" is now mentioned in claim 1.

4.3 The deletion of alternatives according to auxiliary request 3b does not affect this conclusion, either.

4.4 For these reasons, auxiliary request 3a and 3b are likewise not allowable under Article 83 EPC.

5. Auxiliary requests 8a and 8b

5.1 In addition to including the first alternative of **features F1.9 and F1.10** of claim 1 as granted without amendment, claim 1 of these auxiliary requests provides further details on how the test device determines which communication signal can be sent in a particular situation.

5.2 However, these amendments also cannot overcome the objection that the patent does not provide information on how the functions that need to be "correctly functioning" are to be selected, or what the actual contents of the respective communication signals might be. Therefore, the amendments cannot alter the board's reasoning as to insufficiency of disclosure provided with respect to claim 1 of the main request in point 2.2 above.

5.3 For these reasons, auxiliary request 8a and 8b are not allowable under Article 83 EPC, either.

6. Auxiliary requests 2a and 2b, 4a and 4b to 7a and 7b and 9a and 9b

6.1 These auxiliary requests were not discussed with the parties at the oral proceedings before the board. The board thus still holds, as set out in the board's preliminary opinion, that the objection of insufficient disclosure is not overcome by the amendments to claim 1 of these requests. This was not disputed by the proprietor.

6.2 Therefore, auxiliary request 2a and 2b, 4a and 4b to 7a and 7b and 9a and 9b are likewise not allowable under Article 83 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated