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**Datasheet for the decision  
of 19 September 2022**

**Case Number:** T 2071/21 - 3.2.01

**Application Number:** 17716602.2

**Publication Number:** 3416843

**IPC:** B60K6/48, B60W10/02, B60W10/06,  
B60W10/08, B60W10/11,  
B60W20/40, B60W20/00, B60W30/19

**Language of the proceedings:** EN

**Title of invention:**  
DRIVELINE OF A HYBRID VEHICLE, IN PARTICULAR OF AN INDUSTRIAL  
OR COMMERCIAL VEHICLE

**Applicant:**  
Iveco S.p.A.

**Headword:**

**Relevant legal provisions:**  
EPC Art. 123(2), 84, 111(1)  
RPBA 2020 Art. 11

**Keyword:**

Amendments - extension beyond the content of the application  
as filed (no)

Claims - clarity (yes)

Remittal - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 2071/21 - 3.2.01

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.01**  
**of 19 September 2022**

**Appellant:** Iveco S.p.A.  
(Applicant) Via Puglia 35  
10156 Torino (IT)

**Representative:** Faraldi, Marco  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 9 July 2021  
refusing European patent application No.  
17716602.2 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** H. Geuss  
**Members:** J. J. de Acha González  
P. Guntz

## **Summary of Facts and Submissions**

- I. The appeal of the applicant lies against the decision of the Examining Division to refuse European patent application 17716602.2.
- II. As regards the main request underlying the contested decision the Examining Division held that:
  - the subject-matter of claim 1 went beyond the content of the application as originally filed (Article 123(2) EPC); and that
  - claim 1 was not clear and lacked an essential feature (Article 84 EPC).
- III. With the statement of grounds of appeal, the appellant (applicant) requested that the decision of the Examining Division be set aside and a patent be granted on the basis of the main request, or, in the alternative, on the basis of the auxiliary request, both requests filed with the statement of grounds of appeal.
- IV. In a communication pursuant to Article 15(1) RPBA 2020 (Rules of Procedure of the Boards of Appeal OJ EPO 2019, A63) dated 19 August 2022 the Board presented its preliminary view of the case. In particular, the Board pointed out that the subject-matter of claim 1 of the main request did not extend beyond the content of the application as originally filed (Article 123(2) EPC) and that claim 1 of the main request was clear and did not lack the alleged essential feature (Article 84 EPC). The Board further informed the appellant that it intended to remit the case to the Examining Division

for further prosecution on the basis of the main request.

- V. With letter dated 25 August 2022 the appellant withdrew the request for oral proceedings and agreed to remit the case to the Examining Division for further prosecution in line with the communication of the Board.
- VI. Oral proceedings set for 15 November 2022 were cancelled on issuing this decision.
- VII. Claim 1 of the main request reads as follows:

*"Method for controlling a driveline of a hybrid vehicle, in particular of an industrial or commercial vehicle, the driveline comprising a thermal drivetrain (E), a gearbox (GR) connectable to said thermal drivetrain (E) by means of a main clutch (MC), and an electric drivetrain (EE) connectable to the driveline in a point thereof between said gearbox (GR) and a drive axle (DS) of the vehicle, the method comprising a step of activating said electric drivetrain to drive the driveline during a gear change (A), while, simultaneously, the vehicle is accelerating (B); the method further comprising the following steps prior to activation of the electric drivetrain (EE):*

- *acquisition of a first signal representative of an open condition of said main clutch,*
- *acquisition of a second signal indicative of an expected variation of the transmission ratio of the gearbox,*
- *acquisition of a third signal indicative of a effectively implemented variation of the transmission ratio of the gearbox,*

- *determining a limit torque to be delivered by the electric drivetrain and a relative delivery time interval;*
- *control the torque delivered by the electric drivetrain (EE) based on said limit torque and said delivery time interval;*

*the method being characterized in that said limit torque is calculated as a mean value between a first torque value delivered by the thermal drivetrain before opening of the main clutch and a second value of a torque delivered by the thermal drivetrain after engagement of the higher ratio based on a delivery curve of the thermal drivetrain, previously stored in a memory of the processing unit."*

## **Reasons for the Decision**

### *Main request*

1. The set of claims of the main request filed with the statement of grounds of appeal corresponds to the set of claims of the main request underlying the contested decision.
2. *Article 123(2) EPC*
  - 2.1 The subject-matter of claim 1 does not go beyond the content of the application as originally filed.
  - 2.2 The Examining Division considered that the amendment of a feature of claim 1 from "*said limit torque is coinciding with a mean value between...*" to "*said limit torque is calculated as a mean value between...*"

resulted in subject-matter that was not directly and unambiguously derivable from the originally filed documents since the term "calculated" in the context of the application did not necessarily mean "carrying out a mathematic operation" but might also stand for the use of a predefined value.

- 2.3 However, the subject-matter in claim 1 resulting from the above mentioned feature finds a basis on claims 3 and 5 as originally filed. It derives directly and unambiguously from claim 3 ("*calculation of a limit torque...*") and claim 5 ("*...said limit torque is:...coinciding with a mean value...*") that in one alternative of the invention the limit torque is calculated as a mean value between a first torque value delivered by the thermal drivetrain before opening of the main clutch and a second value of a torque delivered by the thermal drivetrain after engagement of the higher ratio based on a delivery curve of the thermal drivetrain, previously stored in a memory of the processing unit. In this respect, "coinciding with" in claim 5 as originally filed equates to "equal to".

The subject-matter of claim 1 is therefore based on originally filed claims 1, 3, 4 and 5 together with description page 8, lines 11 to 13 and page 7, lines 19 to 24.

3. *Article 84 EPC*

- 3.1 Claim 1 of the main request is clear and does not lack an essential feature.
- 3.2 In the Examining Division's view claim 1 was not clear since it did not specify at which point of the driveline the limit torque delivered by the electric

drivetrain and the torques delivered by the thermal drivetrain (before opening the main clutch and after engagement of the higher ratio of the gearbox) were defined. Such a common reference point for considering thermal drivetrain and electric drivetrain torques was considered essential for obtaining the desired technical effect of the invention.

- 3.3 When reading claim 1 and bearing in mind the description, however, it is clear for the skilled person that the torque of the electric drivetrain and the torque of the thermal drivetrain are the output torques of the respective drivetrains, i.e. for the thermal drivetrain the torque at its output shaft and for the electric drivetrain the torque at its output shaft as well. This was also seemingly supported by the Examining Division in its decision regarding the torque of the thermal drivetrain (see page 5, third paragraph of the impugned decision).

According to the description as originally filed the torque provided by the engine to the output shaft an instant before the gear change and after the gear change is approximately the same since it assumes that the power to the wheels is approximately unchanged an instant before and an instant after the gear change (the vehicle speed being also approximately the same; see page 12, lines 15 ff of the description). Accordingly, the difference in torque delivered by the engine explained in that part of the description can only be the one at its output shaft (input of the gearbox) which increases in an upshift to maintain the power delivered to the wheels, due to the change of speed ratio from the gear change (speed of the output shaft is reduced with respect to the speed of the main shaft which remains approximately constant, vehicle



speed). This is further clarified with reference to figure 3.

There is either no essential features missing in claim 1 since as long as a torque is provided by the electric drivetrain during the gear shift, the drive gaps are avoided and the driveline guided (see pages 2 and 3 of the description as originally filed). There is no need to consider a common reference point for the engine and motor torques, since claim 1 leaves open what torque is delivered by the electric drivetrain based on the calculated limit torque. The skilled person will select in each specific case that torque which makes the gear shift smoother, the limit of the torque being the calculated mean. It is further noted that the different torques at different points of the driveline of the different drivetrains are all related through the ratios of the gears of the gearbox (during a specific gear shift) and those of the connection of the electric drive train to the main shaft (see sentence bridging pages 6 and 7 of the description as originally filed).

4. It follows from the above that the reasons for refusing the main request are incorrect. The appeal is therefore allowable.
5. *Remittal*
  - 5.1 The impugned decision is only based on Articles 123(2) and 84 EPC for claim 1 of the main request.
  - 5.2 Under Article 111(1) EPC the Board of Appeal may either decide on the appeal or remit the case to the department which was responsible for the decision appealed.

Under Article 11 RPBA 2020 the Board may remit the case to the department whose decision was appealed if there are special reasons for doing so.

- 5.3 The Board holds that such special reasons are immediately apparent in the present case as the contested decision does not deal with the issues of novelty and inventive step (Articles 54 and 56 EPC) for any of the requests that were considered.

Under these circumstances and further considering that the appellant agreed with a remittal, the Board considers it appropriate to remit the case to the Examining Division for further prosecution.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution.

The Registrar:

The Chairman:



A. Voyé

H. Geuss

Decision electronically authenticated