

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>016816-1WO_107P</b>	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. <b>PCT/EP2017/052492</b>	International filing date ( <i>day/month/year</i> ) <b>06 February 2017 (06.02.2017)</b>	Priority date ( <i>day/month/year</i> ) <b>18 February 2016 (18.02.2016)</b>	
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>			
Applicant <b>TRW AUTOMOTIVE GMBH</b>			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																						
<input type="checkbox"/>	Box No. II	Priority																						
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																						
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																						
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																						
<input type="checkbox"/>	Box No. VI	Certain documents cited																						
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application																						
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

<p align="center">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report <b>21 August 2018 (21.08.2018)</b></p>
	<p>Authorized officer</p> <p align="center"><b>Nora Lindner</b></p> <p>e-mail: pct.team5@wipo.int</p>

From the INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing <i>(day/month/year)</i> <b>18 April 2017</b>	
Applicant's or agent's file reference <b>016816-1WO_107P</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/EP2017/052492</b>	International filing date <i>(day/month/year)</i> <b>06 February 2017</b>
Priority date <i>(day/month/year)</i> <b>18 February 2016</b>	
International Patent Classification (IPC) or both national classification and IPC <b>B60R 21/231(2011.01)i; B60R 21/2338(2011.01)i; B60R 21/239(2006.01)i</b>	
Applicant <b>TRW AUTOMOTIVE GMBH</b>	

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2017/052492

## Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
  - the international application in the language in which it was filed.
  - a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).
3.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
  - a.  forming part of the international application as filed:
    - in the form of an Annex C/ST.25 text file.
    - on paper or in the form of an image file.
  - b.  furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
  - c.  furnished subsequent to the international filing date for the purposes of international search only:
    - in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
    - on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
4.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/EP2017/052492****Box No. VII      Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

See Supplemental Box

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

**Box V****Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- [1] Reference is made to the following document:

D1:	JP 2005 186886 A (NIHON PLAST CO LTD) 14 July 2005 (2005-07-14)
-----	--

- [2] The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-3, 5-12 and 15-18 is not novel (PCT Article 33(2)).

D1 discloses:

- [2.1] Claim 1 - a knee airbag (figures 1 and 2) having a front wall, which faces a vehicle occupant (2) in the inflated state of the airbag, on the front side, and a rear wall which is disposed opposite the front wall in the inflated state of the airbag, wherein the front wall and the rear wall enclose an inner volume (A, B), and having a separating element (9) which runs along the front wall and the rear wall inside the inner volume at a distance from the front wall and the rear wall and which subdivides the inner volume (A, B) in sections into a rear-side and a front-side volume (B, A), wherein either the rear-side volume (A) or the front-side volume (B) forms a continuous flow connection (G; figure 2) between an end near the gas generator (4) and an end remote from the gas generator (9a) of the knee airbag, whereas a direct flow connection from the end near the gas generator (4) to the other volume, i.e. the front-side volume (B; figure 2) or the rear-side volume (A), is at least restricted (in the case of figure 2, the direct flow to volume B is inhibited).
- [2.2] Claim 2 - a knee airbag, wherein the separating element (9) extends over the entire width of the knee airbag (figure 3).
- [2.3] Claim 3 - a knee airbag, wherein the separating element (9) is connected on its long edges to the rear wall and to the front wall (see outer seam in figure 3).
- [2.4] Claim 5 - a knee airbag, wherein the separating element (9) is designed in such a way that a defined gas flow (through openings 9a) through the separating element (9) from the back-side volume (A) or the front-side volume (B) to the other, i.e. the front-side volume (B) or the back-side volume (A), is possible.
- [2.5] Claim 6 - a knee airbag, wherein the direct transition from the end near the gas generator (4) of the knee airbag to the front-side volume (B) or to the rear-side volume (A) is substantially (vague and unclear expression) sealed.
- [2.6] Claim 7 - a knee airbag, wherein the end near the gas generator of the knee airbag is fluidically connected (by way of 11a) to the front-side volume (B) or the rear-side volume (A).
- [2.7] Claim 8 - a knee airbag, wherein the inner volume (A, B) is subdivided into a plurality of chambers (figures 2 and 3) by way of the separating element (9) and by way of rebound straps (11-13), each of which are connected to the separating element (9) as well as to the front wall and/or rear wall.
- [2.8] Claim 9 - a knee airbag, wherein the separating element (9) delimits at least one chamber in the rear-side volume (A) and at least one chamber in the front-side volume (B) (figures 2 and 3).
- [2.9] Claim 10 - a knee airbag, wherein the direct transition from the end near the gas generator (4) of the knee airbag to the front-side volume (B) or to the rear-side volume (A) is at least substantially (vague and unclear expression) sealed by way of a rebound strap (11).
- [2.10] Claim 11 - a knee airbag, wherein a chamber nearest to the gas generator and a chamber remotest from the gas generator are provided, each of which are delimited by rebound straps (11-13), in particular ( optional), wherein the separating element (9) does not extend into the chamber nearest to and/or remotest from the gas generator.
- [2.11] Claim 12 - a knee airbag, wherein in the installed and inflated state, the knee airbag (figures 2 and 3) has a bent area in which the knee airbag bends upward toward the chamber nearest to the gas generator, which chamber is located beneath a control panel (1), and the separating element (9) extends in the bent area (figures 2 and 3).

**Supplemental Box**

- [2.12] Claim 15 - a knee airbag, wherein opposite rebound straps (11-13) engage with different points of the separating element (9) (figures 2 and 3).
- [2.13] Claim 16 - a knee airbag, wherein the separating element (9) and the rebound straps (11-13) have a gas permeability and a geometry of such a kind that first of all the chambers forming the rear-side volume (A) are fully inflated, prior to the chambers forming the front-side volume (B) (figures 2 and 3).
- [2.14] Claim 17 - a knee airbag, wherein the chamber remotest from the gas generator is fully inflated prior to the chamber in the front-side volume (B) which is located nearest to the chamber nearest to the gas generator (figure 2).
- [2.15] Claim 18 - a knee airbag, wherein the separating element (9) is composed of a single part (figures 2 and 3) or of a plurality of rebound strap sections that are interconnected.
- [3] Dependent claims 4, 14 and 19 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.
- [3.1] Dependent claim 4 defines a minor structural modification to the separating element according to claim 3 of the kind that a person skilled in the art would make as a matter of routine, especially since the resulting advantages are readily foreseeable. The subject matter of claim 4 is therefore also not inventive.
- [3.2] Dependent claim 14 defines a minor structural modification to the design of the separating element and the rebound straps according to claim 15 of the kind that a person skilled in the art would make as a matter of routine, especially since the resulting advantages are readily foreseeable. The subject matter of claim 4 is therefore also not inventive.
- [3.3] The feature of claim 19 is merely one of several obvious possibilities from which a person skilled in the art seeking to simplify the design of the separating element would choose, according to the circumstances, without exercising inventive skill.
- [4] The combination of features in dependent claims 2, 5, 6, 8 and 13 is neither known nor obvious from the available prior art.

**Box VII****Certain defects in the international application**

- [1] Independent claim 1 has not been drafted in the two-part form (PCT Rule 6.3(b)). However, in the present case, the two-part form would seem to be appropriate. The features known in combination from the prior art document D1 should therefore be summarized in the preamble (PCT Rule 6.3(b)(i)) and the remaining features specified in the characterizing part (PCT Rule 6.3(b)(ii)).
- [2] Contrary to the requirements of PCT Rule 5.1(a)(ii), the description does not cite D1 or indicate the relevant prior art disclosed therein.