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Datasheet for the decision of 8 December 2017

Case Number: T 1141/15 - 3.2.01

Application Number: 06758661.0

Publication Number: 1883576

IPC: B64C9/16, B64C7/00

Language of the proceedings: EN

Title of invention:
AEROSPACE VEHICLE FAIRING SYSTEMS AND ASSOCIATED METHODS

Patent Proprietor:
The Boeing Company

Opponents:
1.Airbus Operations Limited(GB) / 2.AIRBUS SAS(FR) /3. Airbus Operations SAS(FR) / 4.Airbus Operations GmbH (DE) / 5.Airbus Operations SL(ES)

Headword:

Relevant legal provisions:
EPC Art. 100(c), 54(1), 56
RPBA Art. 12(4)

Keyword:
Amendments - patent as granted - extension beyond the content of the application as filed (yes)
Correct exercise of discretion by opposition division not to admit late filed evidence of public prior use
Late-filed evidence of public prior use filed with grounds of appeal - justification for late filing (no)
Novelty - auxiliary request 1 (yes)
Inventive step - auxiliary request 1 (yes)

Decisions cited:
G 0002/10, T 0451/88, T 0748/91, T 0857/91, T 0272/92, T 0896/92, T 0818/93, T 1664/06

Catchword:

Europäisches Patentamt
European Patent Office
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Case Number: T 1141/15 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 8 December 2017

Appellant II: (Patent Proprietor)	The Boeing Company 100 North Riverside Plaza Chicago, IL 60606-1596 (US)
Representative:	Land, Addick Adrianus Gosling Arnold & Siedsma Bezuidenhoutseweg 57 2594 AC Den Haag (NL)
Appellants I: (Opponents)	1.Airbus Operations Limited(GB) / 2.AIRBUS SAS(FR) / 3.Airbus Operations SAS(FR) / 4.Airbus Operations GmbH(DE) / 5.Airbus Operations SL(ES) Pegasus House Aerospace Avenue Filton Bristol BS34 7PA (GB)
Representative:	Worthington, Richard Easton Withers & Rogers LLP 4 More London Riverside London SE1 2AU (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 30 March 2015 concerning maintenance of the European Patent No. 1883576 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	W. Marx
	O. Loizou

Summary of Facts and Submissions

I. The appeal by the opponents 1 to 5 (appellants I) and the patent proprietor (appellant II) are directed against the decision of the opposition division to maintain European patent No. 1 883 576 in amended form on the basis of auxiliary request 1 filed with letter dated 23 December 2014.

II. In its decision the opposition division held that the provisions of Article 123(2) EPC were not met for the subject-matter of claims 1 and 8 as granted, but that auxiliary request 1 was allowable in view of the following prior art:

A1: US-A-4784355;
A2: US-A-4892274;
A3: US-A-4867394.

Prior art document A4, which was filed after expiry of the 9-month period according to Article 99(1) EPC, and the late-filed evidence A5 to A8 of alleged public prior use by delivery of Airbus A330-301 aircraft serial number (MSN) 037 and registration on 31 December 1993 by Compagnie Air France Europe SA were not admitted into the opposition proceedings.

III. With its grounds of appeal, the appellants I filed documents A9 to A12 and Affidavits by their employee's, Jens Puschmann and Alex Calder, which together with A5 to A8 allegedly demonstrated beyond reasonable doubt that the delivery of Airbus A330-301 according to A5 to A8 constituted a public prior use of the claimed invention. Furthermore, photograph E1 and the Affidavit of Ian Whitehouse were filed as evidence of public prior use by the public first flight of the first Airbus A380, registered F-WWOW, on 27 April 2005.

IV. Oral proceedings before the board took place on 8 December 2017 in the absence of the opponents, as announced in their letter dated 7 November 2017.

The appellants I (opponents 1 to 5) requested in writing that the decision under appeal be set aside and the patent be revoked.
The appellant II (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), or in the alternative, that the appeal of the appellants I be dismissed and the patent be maintained in amended form as allowed by the opposition division (auxiliary request 1), or that the patent be maintained in amended form on the basis of one of the auxiliary requests 2-7A as filed with letter dated 23 December 2014 or one of the auxiliary requests 2B, 2C, 4B, 4C, 7B, 7C as filed with letter dated 4 January 2016.

V. Claim 1 as granted reads as follows (the underlined portion was objected to under Article 100(c) EPC):

"A fairing system (100a; 100b), comprising: an airfoil (110a) having a trailing edge (112) and an airfoil section (111a; 111b) with a trailing edge portion (112a; 112b); and
a fairing (120a; 120b) mounted to the airfoil section (111a; 111b), the fairing (120a; 120b) having a longitudinal axis (L2; L3) and a fairing section (122a; 122b) extending along the longitudinal axis (L2; L3) forward and aft of the trailing edge portion (112a; 112b) of the airfoil section (111a; 111b), with the airfoil section (111a; 111b) corresponding to a planform projection of a segment of the fairing section (122a; 122b) on the airfoil (110a);

the airfoil (110a) including a movable surface (113a; 113b) and the fairing (120a; 120b) housing at least a portion of a drive mechanism (115) and/or support structure for the movable surface (113a; 113b);
characterized in that the fairing section (122a; 122b) has:

a wide portion (124a), at least part of the wide portion (124a) of the fairing section (122a; 122b) being located aft of the airfoil section (111a; 111b), the wide portion (124a) of the fairing section (122a; 122b) having a single spanwise width (W1) measured perpendicular to the longitudinal axis (L2; L3) of the fairing (120a; 120b) that is greater than or equal to a spanwise width (W2, W3, W4) of any other portion (124b-d) of the fairing section (122a, 122b); and/or
a first side (S1) and a second side (S2), each side (S1, S2) being laterally displaced from the longitudinal axis (L3), each side (S1, S2) having a point (P1, P2) of maximum curvature, the point (P1, P2) of maximum curvature for at least one of the first and second sides (S1, S2) being located aft of the airfoil section (111b)."

Claim 1 according to auxiliary request 1 differs from claim 1 of the main request in that the underlined term in the preamble is replaced by:

the airfoil (110a) including a movable surface (113a; 113b) and the fairing (120a; 120b) housing a drive mechanism (115) and the associated supports required to support and move the movable surface (113a)

Independent claim 8 according to auxiliary request 1 reads as follows:

"A method for making a fairing system (100a; 100b), comprising:
locating a fairing (120a; 120b) proximate to an airfoil (110a), the airfoil (110a) having a trailing edge (112) and an airfoil section (111a; 111b) with a trailing edge portion (112a; 112b), a section (122a; 122b) of the fairing (120a; 120b) extending along a longitudinal axis (L2; L3) of the fairing forward and aft of the trailing edge portion (112a; 112b) of the airfoil section (111a; 111b), the airfoil section (111a; 111b) corresponding to a planform projection of a segment of the fairing section (122a; 122b) on the airfoil (110a);
mounting the fairing (120a; 120b) to the airfoil (110a) so that:
(a) at least part of a wide portion (124a) of the fairing section (122a; 122b) is located aft of the airfoil section (111a; 111b), the wide portion (124a) of the fairing section (122a; 122b) having a single spanwise width (W1) measured perpendicular to the longitudinal axis (L2; L3) of the fairing that is greater than or equal to a spanwise width (W2, W3, W4) of any other portion (124b-d) of the fairing section (122a; 122b); or
(b) a point (P1, P2) of maximum curvature for at least one of a first side (S1) and a second side (S2) is located aft of the airfoil section (111a; 111b), the first side (S1) and the second side (S2) each being laterally displaced from the longitudinal axis (L3); or
(c) both (a) and (b);
the airfoil (110a) including a movable surface (113a; 113b) and mounting the fairing (120a; 120b) to the airfoil (110a) includes mounting a fairing (120a; 120b) that is configured to house a drive mechanism (115) and the associated supports required to support and move the movable surface (113a)."

VI. The appellants I (opponents 1 to 5) essentially argued as follows:

As regards contravention of Article 123(2) EPC with regard to claims 1 and 8 as granted, the proprietor's argument that the patent related to aerodynamic improvements to fairing systems for aerospace vehicles inferred that the invention related generally to fairings. This was inconsistent with the proprietor's arguments regarding inventive step where the proprietor drew a distinction between an engine pylon fairing and a flap support fairing and alleged that the drive mechanism and support structure for the flap housed by the fairing was crucial to the validity of granted claim 1. There was no link between the teaching of the specific embodiments of the application as filed and the specific fairings identified in the background section (page 1, lines 8-19) of the application as filed. The reference to "current fairings" in the specific embodiments would instead be interpreted by the skilled person as referring to fairings of the same type as those described in the specific embodiments to which claim 1 of the patent related: namely a fairing system which housed a drive mechanism and the associated supports required to support and move the movable surface (as detailed on page 7, lines 23 and 24).

As regards the link between the present invention and "existing aircraft" on page 11, lines 10-18, there were many existing aircraft at the date of the invention yet a specific current aircraft fairing was discussed in the "background" section of the application as filed and there was nothing to suggest to equate the two. As regards the link between embodiments of the invention and a retrofit of the fairing 20 shown in Figure 1, the

application as filed made clear (page 1, lines 23-25) that the fairing 20 housed "portions of a support structure and a drive mechanism". Thus both the support structure and the drive mechanism were essential elements housed within the fairings and it was not envisaged that the invention would be applied to a fairing which housed, for example, openly a portion of the support structure for the movable surface.

Documents A9 to A11 and the Affidavits by opponent's employees, Jens Puschmann and Alex Calder, together with A5 to A8 demonstrated beyond reasonable doubt that the delivery of the related Airbus A330-301 aircraft constituted a public prior use of the claimed invention. This evidence was *prima facie* so highly relevant to prejudice the novelty of at least the independent claims of the patent as amended, so admission into the proceedings was requested.

The Affidavit of Ian Whitehouse confirmed that the photograph in E1 showed the outboard wing engine pylon having a fairing with a fairing extension that housed the flap support and flap drive mechanism for the wing trailing edge flap. Since this public prior use was *prima facie* so highly relevant to prejudice (in combination with A3) the inventive step of at least the independent claims of the patent as amended, admission of the evidence to the proceedings was requested.

The language of claim 1 of auxiliary request 1 was sufficiently clear without requiring the restrictive interpretation put forward by the opposition division. Claim 1 required only "at least part of the wide portion of the fairing section being located aft of the airfoil section" meaning that some part of the wide portion may be located forward of, or at, the trailing

edge of the airfoil section. There was an important difference between language which stated that "the wide portion **is** a single spanwise width...", and the claimed feature that "the wide portion **has** a single spanwise width...", requiring that the wide portion included (not: was) the portion of maximum width of the fairing.

Claim 1 lacked novelty with respect to A1 or A2, which described a fairing system according to the preamble of claim 1. The characterising portion of claim 1 included three alternative features, namely:
i) "the fairing system has a wide portion ... having a single spanwise width ... greater than ... a spanwise width of any other portion of the fairing section",
ii) "the fairing system has a wide portion ... having a single spanwise width ... equal to a spanwise width of any other portion of the fairing section",
iii) "the fairing system has a first side and a second side, ... each side having a point of maximum curvature, the point of maximum curvature for at least one of the first and second sides being located aft of the airfoil section".
Each of the features i), ii) and iii), i.e. also their combination, was described in A1 (Fig.1) or A2 (Fig. 6) which showed that at least part of a wide portion of the fairing section having a single spanwise width as specified by features i), ii) was located aft of the airfoil section, and the point of maximum curvature for at least one of the two sides of the fairing section was located aft of the airfoil section (feature iii)).

According to T 818/93, a feature was disclosed (even if disclosed solely in the drawings) if the skilled person could clearly derive the structure and function from the drawings. T 748/91 demonstrated that it was part of the disclosure where the skilled person could conclude

from the drawings that one dimension was evidently larger than another. In case of A1 and A2, which related to the design of flap systems, the disputed feature was the shape of the flap system fairing. The skilled person, an aerodynamicist who was used to looking at the shape of aircraft parts and interpreting their purpose, would look at the shape of the flap system fairings described in A1 and A2 and understand the requirements for their design.

The flap system fairings shown in Figure 1 of A1 had a tapered forward portion blending in a smooth fashion to a "wide portion" before blending rearwardly in a smooth fashion to a tapered aft portion. At least part of the wide portion of the fairing section was located aft of the airfoil section. Furthermore, it was apparent to the skilled person that the wide portion had a single spanwise width as claimed, i.e included the maximum spanwise width of the fairing section, and that the aft taper of the fairing section was more pronounced than the forward taper (as was conventional in the design of flap system fairings). Thus, the fairing section reached a maximum width at approximately the trailing edge of the airfoil section, and the sides of the fairing section had a maximum curvature aft of the airfoil section. No specific dimension, or ratio between two dimensions, was taken from Figure 1 of A1 to appreciate this fact.
The skilled aerodynamicist expected to find the maximum width of the fairing section at approximately the airfoil trailing edge, not least because of flap system packaging constraints. Furthermore, he appreciated the shape and the function of the flap fairing depicted in Figure 1 of A1, according to which the fairing section was to be brought close to the tapered aft portion over a relatively short distance so as to reduce profile

drag without creating significant flow separation. Thus, the characterising features of claim 1 were taught by A1.

Without having to take a specific measurement, or ratio between two dimensions, from the figures, A2 showed a flap fairing having a parallel sided portion and tapering aft body portion. The skilled aerodynamicist was not surprised in observing that the flap fairings described in A2 were parallel sided along the majority of their length, which provided well-known advantages in terms of reduced manufacturing. He appreciated that A2 taught a flap fairing which was parallel sided (i.e. had equal maximum width) in the region of the airfoil trailing edge, and that the sides of the fairing had maximum curvature aft of the airfoil section.

Claim 1 as amended lacked an inventive step with respect to A1 or A2 in combination with A3. According to the contested decision, the skilled person would apparently not have considered the teachings of A3 in order to improve the aerodynamics of the fairing of A1 or A2, since a 'pylon fairing' and a 'flap support fairing' were somehow apparently aerodynamically different. However (see minutes, paragraph 7), the same aerodynamic laws were applicable to both fairings, as confirmed by the opponents' technical expert, Ian Whitehouse, at the oral proceedings. No evidence was provided by the proprietor or the opposition division to the contrary. A3 gave a clear teaching that a fairing having the shape shown in Figure 4 thereof provided an aerodynamic improvement when mounted to a wing. Making the fairing system described in any of A1 or A2 implicitly involved the steps of locating and mounting the fairing to the airfoil, so also claim 8 lacked an inventive step.

VII. The arguments of the appellant II (patent proprietor) may be summarised as follows:

The patent and the application on which it was based related to aerodynamic improvements to fairing systems for aerospace vehicles and did not disclose any structural of functional modifications, but merely modifications to the shape of the fairings, leading to improved aerodynamic efficiency. This was clear from the definition of the problem as provided in the "Background" section of the application as filed (see page 1, line 8, to page 2, line 2). Fairings were often mounted on the wing to house portions of the drive mechanisms and/or support structure that could not be enclosed in the wing. These generally streamlined fairings still created drag on the aircraft. This problem was solved by shaping the fairing such that its widest portion (as shown in Figures 2 to 6) or the point of maximum curvature (shown in Figure 7) was located aft of the airfoil section, resulting in "a drag reduction and/or lift increase over that of airfoils having current fairings" (first embodiment, page 6, lines 20-25; second embodiment, paragraph bridging pages 10 and 11, or page 11, lines 5-6) and "a favorable pressure gradient with respect to drag and/or lift as compared to current fairings" (page 7, lines 1-6). Thus, the application as filed clearly dealt exclusively with aerodynamic improvements due to the novel shape of the fairings. Consequently, the skilled person would understand that the modified aerodynamic shape could be applied to fairings in general. Since the skilled person was aware that fairings were mounted on the wing to house portions of the drive mechanisms and/or support structure that could not be enclosed in the wing, he would read these features into the fairing

systems having the claimed aerodynamic shape. Moreover, it was stated in the application as filed (page 7, lines 28 ff) that the fairing system could include more or fewer pieces, and a fairing system 120b was shown in the drawings which was located outside of flap 113b.

In fact, the application as filed specifically made a connection (see page 11, lines 10-18) between the fairing systems having the novel shape with the wide portion and/or the point of maximum curvature aft of the trailing edge and the prior art fairings as discussed in the "Background" section. As explicitly mentioned, prior art fairings 20 as shown in Figure 1 could be removed and replaced by a fairing similar to the first or second fairing system 100a, 100b as discussed in connection with Figures 2-7. Given this clear disclosure of the combination of the contents of a prior art fairing with the exterior shape of a fairing constructed in accordance with the invention (also claimed in original claim 25), claims 1 and 8 as granted did not include added subject matter.

The contested decision focussed on the term "selected embodiments" (page 11, lines 11-12) which would signify that only selected embodiments of the prior art fairing could be replaced with a fairing system according to the invention. The application as filed frequently used wording like "certain embodiments", "selected embodiments", et cetera. The qualifiers "certain", "selected", et cetera, did not imply any restrictions, but merely indicated that not all fairing systems in accordance with the invention (e.g. first fittings on new aircraft) were retrofitted on existing aircraft. The term "selected embodiments" clearly referred to the invention, not to the existing aircraft, which would be suitable for retrofit. Consequently, the disclosure on

page 11, lines 10-18 in combination with page 1, lines 16-19 of the application as filed provided a clear basis for the wording in the pre-characterizing part of claim 1 and in claim 8, which did not contravene the provisions of Article 123(2) EPC.

Late-filed documents A5-A8 were not admitted by the opposition division in using its discretionary power. All evidence needed to support an assertion of allegedly public prior use had to be filed at least in good time for it to be taken into account by the opposition division. Documents A9-A12 and the associated affidavits and annexes filed with the grounds of appeal could - and should - have been presented in opposition proceedings (Article 12(4) of the Rules of Procedure). If the board were to admit any of these documents, it was requested that the case be remitted to the department of first instance.

Late-filed document E1 was provided in connection with an entirely new inventive step attack on claim 1 and related to alleged public prior use of an aircraft by the opponents themselves, i.e. the principles of proof up to the hilt applied. The website from which the photograph E1 was taken went online 2015, i.e. ten years after the priority date of the patent in suit. No tangible evidence had been presented to identify the date of the photograph or that it was available to the public before the priority date. Moreover, the photograph showed the A380 prototype on the tarmac, probably on Airbus' private grounds. Given that the aircraft shown was a prototype, it was highly unlikely that it was accessible to the general public. It was established case law that use of a product for test purposes was to be treated as confidential. The confidential nature of the A380 prototype was further

clear from the fact that its registration number was not to be found on the French Civil Aircraft Register. Consequently, E1 should not be admitted into the appeal proceedings.

As regards interpretation of the term "wide portion" in claim 1, it comprised only a part of the fairing section which had a spanwise width that was either greater than or equal to another spanwise width. Moreover, the opponents used the teaching of the patent in suit to interpret various schematic drawings in A1 and A2, neither of which was concerned with fairing systems or their shape. Schematic drawings which were not supported by any explanatory text could not be considered as disclosure when it came to details (see T 896/92). Dimensions obtained merely by measuring a diagrammatic representation in a document did not form part of any disclosure (T 857/91, T 272/92). Schematic drawings had to be distinguished from scaled construction drawings (T 451/88) and could not be used to derive a ratio between dimensions (T 1664/06). The decisions cited by the opponents related to different sets of circumstances (see T 818/93 - shape, structure and function of stents had already been described in a fair amount of detail; T 748/91 - size ratios were inferred from a schematic drawing under certain circumstances, e.g. the thickness of layers were presented as an essential feature in the description and a ratio for the various thicknesses was eventually derived from the drawings). The actual teaching of A1 and A2 had nothing to do with fairings, which were merely mentioned once, and lacked a clear connection between description and illustration of the fairings.

As regards novelty over A1 or A2, the opponents relied on measurements in the schematic drawing and the

derivation of a ratio between two dimensions when establishing that the fairing had a wide portion at least partially aft of the airfoil section. Moreover, they referred to a shaded area they drew in Fig. 1 of A1 or Fig. 6 of A2, which did not constitute a "wide portion" in the sense of features i) and ii) of claim 1, since it covered parts of the fairing section that had a spanwise width that was smaller than a spanwise width at another point of the fairing.

A combination of A1 or A2 with document A3 was based on an incorrect interpretation of the actual teaching of A3 as well as a fair amount of hindsight. The skilled person would not have considered the teachings of A3 (which related to a very specific aerodynamic problem) to improve the aerodynamics of the flap track fairing of A1 or A2. As regards the opponents' view that each fairing design was subject to the same aerodynamics and all fairing designs were interchangeable, its technical expert, Mr. Whitehouse, stated during the oral proceedings before the opposition division (not reproduced in the minutes) that aircraft wing design was "holistic", in the sense that all elements of the design were interconnected, so a change in one design parameter had consequences for the entire design.

Reasons for the Decision

1. Patent as granted - extension beyond the disclosure of the application as filed (Article 100(c) EPC)

1.1 According to the contested decision (see point 20.), the following feature was considered not to be originally disclosed in the application as filed:

"the airfoil (110a) including a movable surface (113a; 113b) and the fairing (120a; 120b) housing at least a portion of a drive mechanism (115) and/or support structure for the movable surface (113a; 113b)"

Due to the "and/or" combination claimed, the feature in dispute comprises three alternatives, namely:

(a) the airfoil including a movable surface and the fairing housing at least a portion of a drive mechanism for the movable surface,

(b) the airfoil including a movable surface and the fairing housing at least a portion of a support structure for the movable surface,

(c) the airfoil including a movable surface and the fairing housing at least a portion of a drive mechanism and support structure for the movable surface.

1.2 According to the established jurisprudence of the Boards of Appeal, a uniform concept of disclosure and the same standard has to be applied when assessing amendments and novelty ("gold" standard, see G 2/10). This means that the skilled person may not be presented with new technical information which he would not derive directly and unambiguously, using common general knowledge, from the application as filed.

1.3 The only mention of the "and/or" combination as claimed is to be found in the description as filed on page 1, lines 11-19, which relates to the background of the invention. This passage describes that movable surfaces of modern high-speed aircraft are often located at or near the leading and trailing edges of the wing where the wing is too thin to fully enclose the support and/or drives mechanism for operating movable surfaces (provided for low speed operations), so that fairings

are often mounted on the wing to house portions of the drive mechanisms and/or support structure. It is also said that these fairings are generally streamlined to have a low drag profile during high-speed flight.

However, the board cannot see that there exists a clear link between this passage in the first paragraph of the background section of the application as filed, which forms part of the preamble of claim 1 as granted, and the invention as specified in the characterising portion of granted claim 1 (i.e. a widest portion or point of maximum curvature of the fairing located aft of the airfoil section) and as described in relation to the specific embodiments of the application as filed (as shown in Figures 2-7). In particular, the problem of drag reduction is not yet addressed in this passage.

1.3.1 The reference to "current fairings" in the application as filed (page 6, lines 20-25; page 7, lines 1-6; paragraph bridging pages 10 and 11) describes the advantages of drag reduction or lift increase in comparison to airfoils having "current fairings", i.e. fairings as known in the prior art. The invention therefore might lie in aerodynamic improvements due to the novel shape of the fairings, as alleged by the appellant II. Nevertheless, the board does not follow the view of appellant II that the modified aerodynamic shape according to the specific embodiments as shown in Figures 2-7 could be applied to fairings in general as described in the first paragraph of the background section on page 1 of the application as filed.

A clear link between the advantages described with respect to aircraft drag/lift and the drive mechanism or support structure for the movable surface is to be found only on page 7, lines 23-24, which forms the

basis for claim 1 as amended according to auxiliary request 1, and which is limited to an embodiment in which the fairing houses both a drive mechanism **and** the associated supports required to support and move the movable surface. The description of the embodiments in the application as filed even makes clear that the advantages resulting from the novel shape of the fairings were observed only "in certain embodiments" (see page 6, lines 20-24: "**It has been discovered that in certain embodiments**, locating at least part of the wide portion 124a of the first fairing section 122a aft of the first airfoil section 111a ... can affect the airflow ... **resulting in a drag reduction and/or lift increase over that of airfoils having current fairings**."). The qualifier "certain" used in this context might refer to certain embodiments according to the invention, thus indicating that not all fairing systems in accordance with the invention might provide the advantageous effect as described. However, in turn, this does not yet establish a clear and unambiguous link between the inventive concept as claimed in the characterising portion of claim 1 and the rather general information given in the background section on page 1, lines 8-19, of the application as filed, referring to fairings in general.

The skilled reader would not read features described in relation to a specific embodiment of the invention into a general teaching relating to the background of the invention, as alleged by appellant II, since this would open the door to allow any intermediate generalisation. The appellant II alleges that the patent does not disclose or suggest any structural of functional modifications of the fairings, but only modifications to the shape of prior art fairings. However, the board considers that this holds true only for prior art

fairings as described in the second paragraph of the background section in the application as filed (page 1 from line 20 onwards) in relation to Figure 1, because this passage describes the shape of fairings known in the prior art structurally (page 1, lines 25 ff: "The fairing has a longitudinal axis L2 that is at least approximately parallel to the longitudinal axis L1 of the fuselage 51. The fairing 20 has a streamlined planform ... where the widest part relative to the longitudinal axis L2 of the fairing is entirely forward of the trailing edge of the airfoil") and also regarding their function (page 1, line 24: "to house portions of a support structure **and** a drive mechanism that are required to operate the flap"), i.e. they are of the same type as later described in the application as filed for the specific embodiments of the invention. Moreover, these prior art fairings are said to create still drag on the aircraft (see page 2, line 2), i.e. they do not yet provide the advantage of reduced drag as described in relation to the specific embodiments according to Figures 2 to 7 in the application as filed (see above), so that aerodynamic improvements are required. In contrast, a fairing as comprised by the wording of granted claim 1 and which houses only portions of a support structure (or portions of a drive mechanism) provides a different functionality and might also show structural deviations. Therefore, the more general disclosure referring to such kind of fairings in the first paragraph of the background section of the application as filed (page 1, lines 18-19) cannot provide a basis for the skilled person to derive clearly and unambiguously the amendment in dispute. The board is not satisfied that the skilled person would recognise without doubt that the inventive shape of the fairings as specified in the characterising portion of claim 1 as granted is applicable to any kind of

fairings, in particular fairings different from those housing the support structure and the drive mechanism of the movable surface.

The appellant II also refers to page 7, lines 28 ff, of the application as filed. The modifications addressed in this passage with regard to the first fairing system 100a ("can have other arrangements, including more or fewer pieces") refers to the embodiment of Figure 4 as previously described which shows a fairing 120a that includes multiple pieces 125a, 125b. However, this does not provide any information as regards the parts which are housed by the fairing. On the contrary, the embodiment according to Figure 4 is explicitly said (page 7, lines 22-24) to house a drive mechanism **and** the associated supports to support and move the first movable surface. The passage cited by the appellant II also states that "the fairing can house other components (e.g., other aerospace vehicle system components) or no components". In the boards view, this does not provide a clear and unambiguous teaching that the term "components" might also include the drive mechanism or the associated supports of the flap which were explicitly mentioned before. The appellant II also refers to a second fairing system 120b (see Figures 2 and 7) which is located laterally offset with regard to a movable surface 113b. In this respect, the description as filed is totally silent on which parts are housed by fairing 120b and therefore cannot provide a clear and unambiguous disclosure of a fairing which houses only a drive mechanism or a support structure for the movable surface 113b or even portions thereof, as would be required for the amendment under discussion in view of the "and/or"-combination claimed.

Therefore, the board cannot follow the appellant II in that the skilled person would understand that the modified aerodynamic shape of fairings as claimed is directly and unambiguously linked to fairings in general, e.g. also to fairings which house only a support structure for the movable surface (but not the drive mechanism) or even only portions of it, as comprised by the amended wording in claim 1 as granted.

1.3.2 The appellant II also refers to an allegedly explicit link between specific embodiments of the invention and fairings in general as described in the "Background" section (see page 11, lines 10-11: "In certain embodiments, fairing systems 100 in accordance with aspects of the present invention can be retrofitted on existing aircraft"; see also claim 25 as filed). The mere reference to "existing aircraft" does not allow to derive clearly and unambiguously that fairing systems as claimed can be retrofitted in order to replace fairings in general, irrespective of whether the term "in certain embodiments" refers to embodiments of the invention (and not to existing aircraft, as argued by appellant II). Moreover, as admitted by appellant II, it is further referred on page 11 (lines 11 ff) to the prior art fairing 20 shown in Figure 1 and replacement of such fairings by a fairing as discussed in connection with Figures 2-7. As argued already above, the prior art fairing 20 according to Figure 1 houses portions of a support structure **and** a drive mechanism required to operate the flap, so that only a specific prior art fairing according to the "and"-alternative specified in granted claim 1 having the exterior shape of a fairing constructed in accordance with the teachings of the invention is originally disclosed. The board therefore follows the view of appellants I that it is not directly and unambiguously derivable that the

invention would be applied to a fairing which houses, for example, only a portion of a drive mechanism or only a portion of a support structure.

1.4 Therefore, the board comes to the conclusion that the subject-matter of claim 1 as granted extends beyond the disclosure of the application as filed (Article 100(c) EPC).

2. Admission of late-filed evidence

2.1 The opposition division using its discretionary powers refused to admit late-filed documents A5-A8 into the opposition proceedings.

According to established case law, a Board of Appeal should only overrule the way in which a first-instance department has exercised its discretion if it comes to the conclusion either that the first-instance department in its decision has not exercised its discretion in accordance with the right principles, or that it has exercised its discretion in an unreasonable way, and has thus exceeded the proper limits of its discretion.

The opposition division (see point 19. of the contested decision) considered that the prior use according to documents A5-A8 has not been sufficiently proven and that no evidence has been provided as to the fairing housing "at least a portion of a drive mechanism and/or support structure for the movable surface". The board finds that the opposition division acted correctly in judging whether the alleged prior use had been proven to the required degree of proof and at the same time addressing the relevance of documents A5 to A8, i.e. no deficiency in the exercise of the discretion can be

recognised. This has not been contested by the appellants I and is even supported by the fact that further documents were filed with the grounds of appeal to fill the gaps in the evidence produced.

Therefore, the board sees no reason to overturn the decision of the opposition division not to admit documents A5 to A8 into the procedure.

2.2 Further evidence A9 to A12 was filed for the first time with the grounds of appeal, together with Affidavits and further annexes, in order to supplement the evidence A5 to A8 of the alleged public prior use filed in opposition proceedings. In view of A5 to A8 not being admitted, the board sees no reason why late-filed evidence A9 to A12, the Affidavits and annexes should be admitted either. In particular, no objections with regard to patentability are raised which rely solely on this evidence without taking into account A5 to A8.

2.3 Photograph E1 was filed by the appellants I for the first time with the grounds of appeal together with the Affidavit of Ian Whitehouse, allegedly as evidence of Public Prior Use by the public first flight of the first Airbus A380, registered F-WWOW, on 27 April 2005. The board notes that the alleged prior use concerns one of the appellants' I own products, so that it must be assumed that they have not only recently become aware of it. Therefore, it should have been possible to introduce this prior art already during the procedure before the opposition division. In fact, the appellants I have not justified at all filing of this evidence at such a late stage of the proceedings, but merely argued that it prejudiced the inventive step of the independent claims of the patent as amended.

In the board's view, filing evidence of an alleged prior use based on an appellants' own product at such a late stage of the proceedings with no good reasons for the delay is to be regarded as an abuse of the proceedings which alone already speaks, irrespective of its potential relevance, against admission of such evidence.

Moreover, apart from doubts as regards the date of origin of the photograph, the appellants I have failed to provide any evidence that the first Airbus A380 according to E1 was accessible to the public. E1 shows the aircraft on the tarmac, probably on Airbus' private grounds, i.e. the first Airbus A380 might have been a prototype performing confidential testing on Airbus's private grounds which was not accessible to the public. A confidential nature is also suggested by the fact that E1 refers to the aircraft's maiden flight and that no proof has been provided by the appellants I as regards the aircraft's registration number in the French Civil Aircraft Register.

In view of the foregoing, the board decided that it was appropriate to exercise its discretion under Article 12(4) of the Rules of Procedure of the Boards of Appeal (RPBA, OJ EPO 2007, 536) to not admit this alleged prior use based on photograph E1 into the appeal proceedings.

3. Auxiliary request 1 - Novelty (Article 54(1) EPC

3.1 The subject-matter of claim 1 and of method claim 8 according to the auxiliary request 1 is new over the disclosure of each of documents A1 or A2.

3.2 The board agrees with the interpretation of the term "wide portion" in the contested decision, according to which this term used in claims 1 and 8 may not be seen isolated from the passage of the claim identifying its meaning, namely "**having** a **single** spanwise width measured perpendicular to the longitudinal axis of the fairing that is greater than or equal to a spanwise width of any other portion of the fairing section". In particular, the meaning of the term "single" cannot be ignored in this context and implies that a portion having a single spanwise width cannot relate to a portion of varying width. The board therefore does not follow the interpretation put forward by appellants I that the wide portion "includes" the portion of maximum width of the fairing. The "wide portion" as claimed is considered to be the portion of maximum width, as also supported by the embodiments described in the patent specification. As such, the "wide portion" can either be a single section (see Figure 7: first portion 124a has a first width W1, which is also referred to as "widest portion", see column 7, line 31) or a portion of the fairing having a constant width which is equal to the maximum width of the fairing (see Figure 3, column 5, lines 15-24: portion between the sections marked 'W1' and 'W2'). Only when a part of the fairing section has a spanwise width that is either greater than or equal to another spanwise width, did that part belong to the "wide portion" of the fairing section.

3.3 The board also agrees with the finding of the opposition division that the drawings in documents A1 and A2 are highly schematic and cannot be used for extracting detail information regarding the shape of the fairing. According to the established case law (as cited e.g. by appellant II), schematic drawings as disclosed in A1 or A2 cannot be used to derive

dimensions or ratios of dimensions, as required when trying the identify a "wide portion" as claimed and as understood by the board, i.e. a portion of maximum width of the fairing.

Decisions T 818/93 and T 748/91 which are cited by the appellants I to prove the contrary are not applicable in the present case. Decision T 818/93 relates to features fully derivable from the drawings in terms of structure and function by the person skilled in the art, but does not relate to dimensions obtained from drawings. Decision T 748/91 was concerned with ratios of dimensions which were found to be disclosed on the basis of further information given in the description. This is not the case in documents A1 or A2 which do not provide any information on parts which are merely designated as "fairings" or "pylons" when describing the figures.

3.4 In view of the foregoing, the location of a "wide portion" according to the board's understanding and as specified in the first part of the characterising portion of claim 1 and correspondingly in claim 8, namely "at least part of the wide portion of the fairing section being located aft of the airfoil section", cannot be derived from the drawings in A1 or A2. Establishing the exact location of a "wide portion" or "portion of maximum width" of a fairing in relation to the airfoil section would require to measure and compare dimensions of the fairing's width along the longitudinal axis of the fairings in the drawings of A1 or A2, which are purely schematic and cannot serve as a basis for comparing dimensions.

The board also considers that it is not possible to derive the location of maximum curvature as claimed

from a schematic drawing, even on the assumption that the fairings shown in A1 or A2 are of conventional design having a streamlined shape. Thus, the feature specified in the second part of the characterising portion of claim 1 and correspondingly in claim 8, specifying a point of maximum curvature for at least one of the fairing's sides being located aft of the airfoil section, is also not known from A1 or A2.

3.5 Therefore, the board concludes that the subject-matter of independent claims 1 and 8 is novel over documents A1 and A2 (Article 54(1) EPC).

4. Auxiliary request 1 - Inventive step (Article 56 EPC)

4.1 The subject-matter of claims 1 and 8 according to the auxiliary request 1 involves an inventive step.

4.2 As argued already above, the prior art documents A1 and A2 do not show where a "wide portion", i.e. the portion of maximum width of the fairing, or a point of maximum curvature is located with respect to the airfoil section having a trailing edge portion.

Following the parties in that the related problem can be seen in improving the aerodynamics of fairings known in the prior art, the board was not convinced that the person skilled in the art would apply the teaching of A3, which related to the shape of a fairing of a pylon carrying an engine nacelle, in an obvious manner to the flap track fairings known from A1 or A2. A3 addresses a specific problem of supersonic airflow occurring in a channel formed by the side of the aircraft's fuselage, the under surface of the wing between the fuselage and the pylon, the inboard surface of the pylon, and the engine's nacelle. The board agrees with the finding of

the opposition division that the advantages observed in such kind of tunnel-type flow conditions involving an engine pylon fairing are not necessarily reproduced in an airflow around a fairing as known from A1 or A2. The same aerodynamic laws might be applicable to both fairings, as argued by the appellants I, but this does not necessarily mean that the solution in A3 to a very specific aerodynamic problem might be considered when trying to improve any kind of fairings.

4.3 No further lines of arguments have been presented, so inventiveness of the subject-matter of claims 1 and 8 of auxiliary request 1 is acknowledged by the board (Article 56 EPC).

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairman:

A. Vottner G. Pricolo

Decision electronically authenticated