European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft: Recourse to Article 21.5 of the DSU by the European Union

(DS316)

FIRST WRITTEN SUBMISSION OF THE UNITED STATES (NON-BCI VERSION)

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First Compliance Appellate Report	Appellate Body Report, European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft, WT/DS316/AB/R, adopted 1 June 2011, DSR 2011:I, p. 7
First Compliance Panel Report	Panel Report, European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft, WT/DS316/R, adopted 1 June 2011, as modified by Appellate Body Report WT/DS316/AB/R, DSR 2011:II, p. 685
Japan – DRAMS (Panel)	Panel Report, Japan – Countervailing Duties on Dynamic Random Access Memories from Korea, WT/DS336/R, adopted 17 December 2007, as modified by Appellate Body Report WT/DS336/AB/R, DSR 2007:VII, p. 2805
Original Appellate Report	Appellate Body Report, European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft – Recourse to Article 21.5 of the DSU by the United States, WT/DS316/AB/RW and Add.1, adopted 28 May 2018
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US – Upland Cotton (Panel)	Panel Report, United States – Subsidies on Upland Cotton, WT/DS267/R, Add.1 to Add.3 and Corr.1, adopted 21 March 2005, as modified by Appellate Body Report WT/DS267/AB/R, DSR 2005:II, p. 299
US – Upland Cotton (21.5) (Panel)	Panel Report, United States – Subsidies on Upland Cotton – Recourse to Article 21.5 of the DSU by Brazil, WT/DS267/RW and Corr.1, adopted 20 June 2008, as modified by Appellate Body Report WT/DS267/AB/RW, DSR 2008:III, p. 997

INTRODUCTION

1. Nothing has happened since the establishment of the first compliance panel that should alter the DSB's findings that the European Union ("EU") and its member States France, Germany, Spain, and the United Kingdom[1] failed to comply with the DSB's recommendations and rulings with respect to the approximately $9 billion in French, German, Spanish, and UK LA/MSF[2] for the A380 and the A350 XWB. On the contrary, as the United States demonstrates in this submission, the EU has brought itself further out of compliance through a series of amendments to the original LA/MSF agreements – "intervening events"[3] – that made the terms of pre-existing LA/MSF contracts even more favorable to Airbus, increasing the amount of the subsidies and prolonging their lives. The EU has also failed to remove the extensive, ongoing adverse effects that its LA/MSF subsidies were found to cause.

2. As the appellate report found in the first compliance proceeding, "withdrawal of a subsidy, under Article 7.8 of the *Agreement on Subsidies and Countervailing Measures* ("SCM Agreement"), concerns the taking away of that subsidy, and thus that a Member 'granting or maintaining' a subsidy cease such conduct."[4] However, none of the EU's declared measures taken to comply have taken away any of the LA/MSF subsidies for the A380 or the A350 XWB, nor has the EU ceased granting or maintaining such subsidies.

3. In particular, the French, German, Spanish, and UK amendments to the A380 contracts (collectively, the "2018 Amendments")[5] keep the pre-existing A380 LA/MSF contracts in place, while **[*****]**. Recoupment of principal amounts – if it ever occurs – would have to be through levy payments associated with A380 deliveries occurring from **[*****]**. An analysis by NERA confirms that from a financial perspective, the 2018 Amendments increased the benefit conferred by the A380 LA/MSF subsidies. In addition, the 2018 Amendments prolonged the lives of the corresponding A380 LA/MSF subsidies.

4. The EU asserts that the life of Spanish LA/MSF for the A380 came to an end through amortization, and that it has therefore been withdrawn. But the analysis performed by the EU's consultant, Professor Klasen, argues that the amortization of Spanish LA/MSF for the A380

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[1] In this submission, the United States uses "EU" to refer both singly to the European Union and collectively to the EU and the four member States subject to the recommendations and rulings of the Dispute Settlement Body ("DSB").

[2] In its first written submission, the EU refers to its measures used to finance the launch of Airbus aircraft as "MSF." In the original proceeding, the United States referred to the EU subsidies collectively as "launch aid," while the EU used "Member State Financing" or "MSF." The original panel opted not to adopt either term, instead using the combination "LA/MSF." Original Panel Report, para. 7.291. Subsequent reports followed this approach. Although the United States considers "launch aid" to more accurately reflect the nature of the measures at issue, it has used "LA/MSF" in this submission because that is the term used in the findings adopted by the DSB.

[3] *See* First Compliance Panel Report, para. 6.913; First Compliance Appellate Report, para. 5.400.

[4] First Compliance Appellate Report, para. 5.366.

[5] The amendments were finalized in 2018, **[*****]**. *See* Declaration of **[*****]** (Oct. 4, 2018) (Exhibit EU-19(BCI)). The term "2018 Amendments" is used for the sake of simplicity.

occurred **[*******]**, whereas the **[*******]**.[6] Furthermore, Professor Klasen's amortization analysis is deeply flawed, ignoring the Appellate Body's guidance to take intervening events (such as the amendment to the Spanish A380 LA/MSF agreement) into account, and also ignoring the "marketing life" methodology that the Appellate Body and the first compliance panel appear to have favored.[7]

5. The **[*******]** amendment to the German LA/MSF agreement for the A350 XWB, in the EU's own words, "retains the basic structure of the A350XWB MSF loan, as set out in the **[*******]** KfW loan agreement."[8] The amendment merely modified the original LA/MSF contract's **[*******]**.[9] NERA demonstrates that from a financial perspective, these changes increased the benefit conferred by the pre-existing German LA/MSF subsidy for the A350 XWB. In addition, the German amendment prolonged the life of German LA/MSF for the A350 XWB to at least **[*******]**.

6. Another compliance step identified by the EU is Airbus's supposed repayment of the outstanding principal and interest due for UK LA/MSF for the A350 XWB. However, repaying a subsidized loan on its own subsidized terms does not necessarily achieve withdrawal, as the first compliance panel found.[10] Furthermore, the EU fails to establish as a factual matter that Airbus repaid the full amount owed to the UK. Even assuming *arguendo* that it did, it is important to note that Airbus has **[*******]**.[11] There is no evidence that this will not happen again in this instance.

7. Also striking is the absence of any indication that the EU and its member states performed due diligence before entering into the amendments to the four A380 LA/MSF contracts and the German A350 XWB LA/MSF contract. Unlike for prior tranches of LA/MSF, the EU has not submitted evidence of any project appraisals or other independent assessments of the riskiness of the A380 and A350 XWB programs, as of the time of the amendments. This omission is particularly glaring, given that the A380 program had repeatedly fallen short of Airbus's forecasts throughout its history, and the 2018 Amendments **[*******]**. In fact, it appears that the EU and its member States invested more time and resources to assess the commercial

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[6] Declaration of **[*******]** (Oct. 4, 2018) (Exhibit EU-19(BCI)). In the first compliance proceeding, the panel used the date of the French A350 XWB *Protocole* in its subsidy analysis for LA/MSF for the A350 XWB, rather than relying on the later *Convention*, which finalized the terms of the LA/MSF. *See* First Compliance Panel Report, para. 6.399. Consistent with this approach, the date of the 2018 Amendments should be considered to be **[*******]**, rather than the dates that the amendments themselves were executed.

[7] First Compliance Appellate Report, para. 5.400.

[8] EU FWS, para. 94.

[9] *See* EU FWS, paras. 96-99.

[10] First Compliance Panel Report, paras. 6.1072 ("it could be argued that the full repayment of a subsidized loan implies that a subsidized financial contribution has been *provided* to the recipient in its entirety, not removed or 'returned', as the European Union argues.") (emphasis original).

[11] See First Compliance Panel Report, para. 5.28.

reasonableness of the 2018 Amendments *ex post*, for purposes of the present dispute, than they did *ex ante* before entering into them.

8. The EU does not assert that it took any compliance steps that resulted in the withdrawal of French and Spanish LA/MSF for the A350 XWB. In addition, the EU does not assert that it took any compliance steps to withdraw five infrastructure grant subsidies[12] that were found WTO inconsistent in the original proceeding, and which the first compliance panel found remain in existence.[13] Accordingly, there is no basis to find that the EU has withdrawn these subsidies either.

9. The EU has also maintained and expanded a pipeline of research and technological development (R&TD) subsidies, which further undermine any compliance that the EU might have achieved in this dispute. A number of R&TD measures were found to be subsidies in the original proceeding, and recent R&TD measures appear to provide funding to develop technologies that have direct commercial application in the LCA industry. The Panel should take these R&TD measures into account in assessing the EU's compliance with the recommendations of the DSB.

10. The EU also fails to demonstrate that it has taken appropriate steps to remove the adverse effects of its subsidies. Indeed, it barely even attempts to demonstrate as much. Instead, it puts forward legal arguments that rely on mischaracterizations of the findings adopted in the first compliance proceeding. In fact, its arguments on removal of the adverse effects fundamentally contradict the adopted findings in the compliance proceeding. Thus, rather than attempt to actually remove the adverse effects, the EU, in effect, seeks to use this second compliance proceeding as an appeal of the adopted findings that its LA/MSF subsidies, through product effects, cause adverse effects to the interests of the United States.

I. PAST PANEL AND APPELLATE FINDINGS REGARDING LA/MSF

11. Section III of the EU's first written submission purports to set out the key findings regarding LA/MSF in past panel and appellate reports. It is riddled with omissions and inaccuracies. To ensure a proper evaluation of the EU's assertions regarding the existing LA/MSF subsidies, the United States sets forth the actual findings below, identifying where relevant the errors in the EU's presentation.

[12] *I.e.*, the 2003 grant of EUR 13.1 million to Airbus Spain for its facility in Puerto Real; the 2003 grant of EUR 37.9 million to Airbus Spain for its plant in Illescas; the 2003 grant of EUR 5.9 million to EADS-CASA for a new facility in Puerto de Santa María; the 2003 grant of EUR 17.5 million to Airbus' facilities in Puerto Real; and the 2004 grant of EUR 7.6 million to Airbus Spain for it facility in Illescas. *See* First Compliance Panel Report, paras. 6.900, 6.907.

[13] *See* First Compliance Panel Report, para. 6.907, third bullet.

A. Relevant Features of the LA/MSF Subsidies

12. In the original proceeding, the Appellate Body identified four "key features of the repayment terms" of LA/MSF for the A300, A310, A320, A330/340, and A380:[14]

(1) LA/MSF finances a proportion of the development costs of Airbus LCA models, accounting for 100 percent of the earliest aircraft, and decreasing to a maximum of 33 percent for later models.[15]

(2) LA/MSF funds are disbursed in amounts based on development costs incurred by Airbus, either in advance of the cost being incurred with later adjustments to match actual costs, or as reimbursements of costs after they are incurred.[16]

(3) "{M}ost LA/MSF contracts require that Airbus reimburse all funding contributions, plus any interest at the agreed rate, exclusively from revenues generated by deliveries of the LCA model that is financed. Such repayments are made in the form of per-aircraft levies and follow a pre-established repayment schedule."[17]

(4) "Once repayment begins, it is generally graduated on varying ascending scales, meaning that repayments on the first aircraft deliveries are lower than repayments on later deliveries."[18]

13. The first compliance panel found with respect to the A350XWB LA/MSF contracts that "overall, the repayment of the LA/MSF is back-loaded, primarily levy-based, dependent on the sales of aircraft and unsecured. To this extent, the A350XWB LA/MSF contracts share the same core features as the LA/MSF measures considered in the original proceeding."[19]

14. As the EU notes, the original panel found that "the evidence and arguments advanced by the parties do not lead us to conclude that LA/MSF, by definition, involves below-market financing."[20] On the other hand, every single instance of LA/MSF has been found to be a

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[14] Original Appellate Report, para. 604.

[15] Original Appellate Report, para. 605.

[16] Original Appellate Report, para. 606.

[17] Original Appellate Report, para. 607.

[18] Original Appellate Report, para. 607.

[19] First Compliance Panel Report, para. 6.286. In its first written submission, the EU asserts with respect to the ascending scale of LA/MSF payments that "the United States has pejoratively termed this feature 'back-loading.'" EU FWS, para. 32. As this quotation shows, "back-loaded" is a characterization adopted by the first compliance panel, and not an effort by the United States to cast undue aspersions on LA/MSF.

[20] Original Panel Report, para. 7.578.

subsidy that causes adverse effects to the interests of the United States.[21] Thus, whatever the theoretical possibilities, the Airbus governments have, over the course of 50 years, continually failed to render LA/MSF to Airbus on non-subsidized terms. In aggregate, the principal disbursed under the various LA/MSF packages amounted to approximately $20 billion.[22]

15. Panels and the Appellate Body have reached these conclusions based on comparison of the internal rate of return ("IRR") for LA/MSF with the IRR for benchmark financing. As neither party has proffered evidence of financing available from commercial lenders that is comparable to LA/MSF, the original and compliance panels constructed benchmarks based on Airbus's cost of capital and a project-specific risk premium appropriate for each of the Airbus LCA programs financed. In each case, the panels have based this comparison on a number of conservative assumptions. As the first compliance panel explained:

> we find that the (likely understated) rate of return that a market lender would require for lending on similar terms and conditions to the A350XWB LA/MSF contract is in each case higher than the (likely overstated) IRR calculated by the European Union as representing the rates of return that the member States expected and accepted.[23]

16. As this quotation shows, the panel and appellate reports have examined each LA/MSF package as a whole, evaluating whether the financial terms in LA/MSF reflected what a market lender would require to assume the package of risks represented by LA/MSF. There has never been a finding that LA/MSF had "subsidized" and "unsubsidized" "elements." Similarly, the adverse effects analysis has examined the effects of LA/MSF as a whole. Thus, the EU's repeated suggestions that this Panel somehow consider the "subsidized elements" of LA/MSF in isolation[24] have no grounding in the findings of the original or compliance proceedings.

17. Consistent with the Appellate Body's guidance in the original proceeding, the first compliance panel examined when the life of the subsidy conferred through each of the LA/MSF packages expired. It considered two potential metrics to determine the life of the subsidy – the expected term of each individual financing package ("loan life") and the period that the aircraft

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[21] Original Panel Report, para. 8.1(a)(i); Compliance Panel Report, para. 7.1(c)(1).

[22] In its first written submission, the EU accuses the United States of presenting this amount as the value of the benefit. EU FWS, para. 38. This is not the case. Because to date neither party has identified commercial lenders that provide financing on terms comparable to LA/MSF, it has so far proved impracticable to calculate the benefit in terms of the difference between payments under the LA/MSF and a benchmark. Thus, the aggregate value of LA/MSF principal disbursed on subsidized terms has been the best way to appreciate the relative significance of LA/MSF in Airbus's operations.

[23] First Compliance Panel Report, para. 6.633.

[24] *E.g.*, EU FWS, paras. 26, 39-40, 42-46, 48-50, 118, 286 note 406, 326-334, 337, 358, 400.

program brought into being by each package remained in the market ("marketing life"). The compliance panel found:

> Given that it was expected that the nature, amounts and projected use of the LA/MSF subsidies would enable Airbus to develop and bring to market one or more of its LCA products, we believe that it would be at least equally appropriate to equate the *ex ante* lives of the relevant LA/MSF subsidies with the anticipated marketing lives of the relevant LCA that it was expected would be developed and brought to market with LA/MSF. In other words, because of the anticipated "product creating" nature of LA/MSF, we see no reason why the *ex ante* lives of the challenged LA/MSF subsidies should not be defined by the expected marketing lives of the funded LCA programmes. In this respect, we recall that the Appellate Body found "no reason to disagree with the notion that allocation of a subsidy over the anticipated marketing life of an aircraft programme could be one way to assess the duration of a subsidy over time".[25]

The first compliance panel ultimately decided that it need not choose between these two possibilities because "it is apparent that under either methodology, the *ex ante* lives of most of the identified LA/MSF subsidies will have come to an end before the end of the implementation period."[26] The EU first written submission asserts that the first compliance adopted the "Loan Life Approach,"[27] but this is plainly not the case. As the quotation above shows, the first compliance panel did not endorse one approach and, if anything, appeared to favor the marketing life approach. The EU also at various time refers to the first compliance panel as having "amortized" the benefit of LA/MSF over the life of the subsidy.[28] However, this is not a term adopted by the first compliance panel, and in no way reflects that panel's analysis.

18. In the original proceeding, the United States argued that each grant of LA/MSF by an Airbus government to an LCA program was a subsidy causing adverse effects, and that they collectively operated as an unwritten LCA program.[29] However, the Appellate Body found that the alleged unwritten program was not within the original panel's terms of reference, and that the panel's findings regarding the program were "moot and of no legal effect."[30] In any event, the compliance panel found that in evaluating adverse effects, it was proper to perform an aggregate analysis of all grants of LA/MSF and their effects on successive Airbus product launches. The

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[25] First Compliance Panel Report, para. 6.878.

[26] First Compliance Panel Report, para. 6.879.

[27] EU FWS, para. 39.

[28] *E.g.*, EU FWS, paras. 24, 39, 177, and 179.

[29] Original Panel Report, para. 7.498.

[30] Original Appellate Report, para. 795-796. The EU first written submission asserts that "the original panel rejected this argument." EU FWS, para. 36. As the Appellate Body declared this finding "moot and of no legal effect," it can play no role in this Panel's analysis.

appellate report in the compliance proceeding conducted an aggregate assessment of LA/MSF for the A380 and A350 XWB, which included findings that LA/MSF for the A350 XWB enabled the launch of that aircraft, and that "a successful and timely launch of the A350XWB appears to have been important to ease the pressure on Airbus' ability to bring to market and sell the A380."[31]

B. Findings with Respect to the Causal Pathway and Adverse effects of LA/MSF for the A380 and A350 XWB

19. Section III of the EU first written submission also makes a number of incorrect assertions about the adopted findings regarding these subsidies. Most glaringly, the EU contends that the compliance panel clarified that A380 LA/MSF was not critical to the very existence of the A380, and that the direct effects of A380 LA/MSF would not last the entire marketing life of the A380 program.[32] However, a review of the paragraphs in the compliance panel report cited by the EU shows that the EU's statements are erroneous, and obviously so. In any event, the United States addresses these and other erroneous characterizations of previous findings regarding causation and adverse effects below in Section VII.B.

C. Guidance on the Operation of Articles 5, 6.3, and 7.8 of the SCM Agreement

20. The EU's recitation of relevant legal findings is strangely silent with respect to the findings in the original proceeding, which provide the starting point for all that has followed. In its report, the Appellate Body found that whether a subsidy confers a benefit is evaluated as of the time of its grant, and is not revisited afterward:

> a panel's assessment of benefit should focus on the relevant market benchmark at the time the financial contribution is granted to the recipient. That benchmark entails a consideration of what a market participant would have been able to secure on the market at that time. The market benchmark is predicated upon a projection as to the anticipated flow of returns that are expected to accrue as a result of the financial contribution. Consequently, the determination of benefit under Article 1.1(b) of the SCM Agreement is an *ex ante* analysis that does not depend on how the particular financial contribution actually performed after it was granted.[33]

21. The Appellate Body found further, that while a panel may not revisit its initial determination of the existence of a benefit, it must take account of events that may affect the recipient's enjoyment of the expected benefit. It explained:

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[31] First Compliance Appellate Report, para. 5.628.

[32] EU FWS, para. 44.

[33] Original Appellate Report, para. 706.

> an adverse effects analysis under Article 5 must consider the trajectory of the subsidy as it was projected to materialize over a certain period at the time of the grant. Separately, where it is so argued, a panel must assess whether there are "intervening events" that occurred after the grant of the subsidy that may affect the projected value of the subsidy as determined under the *ex ante* analysis. Such events may be relevant to an adverse effects analysis because they may affect the link that a complaining party is seeking to establish between the subsidy and its alleged effects.[34]

22. Finally, the Appellate Body stated explicitly that the expiration of a subsidy did not terminate the subsidizing Member's obligation under Article 5 not to cause adverse effects through the use of the subsidy:

> By its terms, Article 5 of the SCM Agreement imposes an obligation on Members not to cause adverse effects to the interests of other Members through the use of any subsidy as defined in Article 1. We disagree with the proposition that this obligation does not arise in respect of subsidies that have come to an end by the time of the reference period. In fact, we do not exclude that, under certain circumstances, a past subsidy that no longer exists may be found to cause or have caused adverse effects that continue to be present during the reference period.[35]

In the original proceeding, the Appellate Body found that LA/MSF for the A300, A310, and A320 was inconsistent with Articles 5 and 6.3 of the SCM Agreement *despite the EU's arguments that the lives of those subsidies had expired*.

23. In the compliance proceeding, the Appellate Body did not reverse its finding that expired subsidies may be inconsistent with Articles 5 and 6.3 of the SCM Agreement. However, it found Article 7.8 of the SCM Agreement defines a Member's obligation to comply with the recommendations and rulings of the DSB with regard to subsidies causing adverse effects. It concluded that:

> the obligation to "take appropriate steps to remove the adverse effects or … withdraw the subsidy" {under Article 7.8} concerns the subsidies that continue to be "grant{ed} or maintain{ed}" by the implementing Member at the end of the implementation period. An implementing Member cannot be required to withdraw a subsidy that has ceased to exist.[36]

24. The appellate report explained that this finding with respect to Article 7.8 did not negate a previous finding that the expired subsidy is inconsistent with Article 5:

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[34] Original Appellate Report, para. 709.

[35] Original Appellate Report, para. 712.

[36] First Compliance Appellate Report, para. 5.383.

> a Member is always under the obligation to ensure that it does not grant or maintain subsidies that cause adverse effects, within the meaning of Article 5 of the SCM Agreement. However, a finding of inconsistency under Article 5 need not always trigger the obligation to "take appropriate steps to remove the adverse effects or … withdraw the subsidy" as stipulated in Article 7.8. This is because, by its terms, Article 7.8 is concerned only with subsidies that the Member is "granting or maintaining" in the implementation period.[37]

The appellate report then concluded that "{i}t follows from our finding that, in the present dispute, the European Union *has no compliance obligation* with respect to subsidies that expired before 1 December 2011."[38] The wording is significant. The report did not find that the EU had satisfied its obligation under Article 5, or that the EU had "withdrawn" the expired subsidies. It found instead that *even if the subsidies were inconsistent with Article 5*, no compliance obligation accrued under Article 7.8 if the subsidies had expired before the end of the compliance period.

II. THE 2018 AMENDMENTS DID NOT WITHDRAW ANY A380 LA/MSF SUBSIDIES

A. Factual Background: A380 LA/MSF and the 2018 Amendments

25. The 2018 Amendments represent Airbus's successful attempt to shift from itself to the funding governments the mounting costs of keeping the A380 program alive. As of 2018, Airbus had suffered from many years of lower-than-anticipated demand for the A380, as well as massive problems pertaining to production and supply chain. Nonetheless, Airbus continued to believe that the future of the A380 program was bright, and that **[*******]** but still industrially sustainable rate of six per year.[39]

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[37] First Compliance Appellate Report, para. 5.373.

[38] First Compliance Appellate Report, para. 5.383 (emphasis original).

[39] EU FWS, para. 137; *see also, e.g.*, *Full Year 2017 Airbus SE Commercial Aircraft Orders and Deliveries Call - Final*, Fair Disclosure Wire (Jan. 15, 2018) (Exhibit USA-1) ("Then we can get to the A380. And this is an airplane, I assure you, whose time will come. 317 orders, we've delivered over 200 aircraft already; 95 in backlog. And why will its time come? For a lot of reasons. One is congestion. Every 15 years, air traffic doubles. Every 15 years. You're not going to double the number of flights going to Heathrow or Frankfurt or Charles de Gaulle or JFK or LAX or Hong Kong or Beijing. So if people want to fly, they need to fly in bigger aircraft. And it just so happens that we have the aircraft they want to fly in, the most comfortable airplane flying today. And that's a combination whose time is coming very, very shortly. But of course, we have to get from here to there, and we're talking to a few key airlines right now to get from here to there."); 2018 German A380 Amendment (Exhibit EU-20(HSBI)), Annex 2; *Airbus SE Investor Meeting - Final*, Fair Disclosure Wire (July 18, 2018) (Exhibit USA-2) (stating that 6 per year is a rate that Airbus can "still make {} work industrially"). Airbus planned to produce 12 A380s in 2018, eight in 2019, and six per year starting in 2020. *Full Year 2017 Airbus SE Earnings Call*, Fair Disclosure Wire (Feb. 15, 2018) (Exhibit USA-3); *see also Full Year 2017 Airbus SE Commercial Aircraft Orders and Deliveries Call - Final*, Fair Disclosure Wire (Jan. 15, 2018) (Exhibit USA-1).

26. However, **[*******]**.[40] So in **[*******]**, Airbus and the lending governments (France, Germany, Spain, and the UK) agreed to **[*******]**. Specifically, Airbus and the lending governments agreed **[*******]**[41] – while making repayment of outstanding principal contingent on **[*******]**.

27. In agreeing to these amendments, the Airbus governments conformed to their decades-old pattern of propping up Airbus's risky LCA ventures with massive subsidies. And, rather than independently assessing the risks to their taxpayers posed by the 2018 Amendments, the Airbus governments relied on **[*******]**.[42]

1. Status of A380 order book and the Emirates campaign in 2017-2018

28. As of the beginning of February 2018, Airbus had received enough A380 orders to keep the program running until at least **[*******]**, even under the highly conservative assumption that none of the orders identified by PwC as being "at risk" would eventually materialize.[43] In particular, Airbus's A380 order book included 85 outstanding orders. These 85 included 41 Emirates orders, including **[*******]**.[44] PwC estimates that **[*******]** of the 85 outstanding A380 orders were at risk.[45] Airbus planned to produce 12 A380s in 2018, 8 in 2019, and maintain a constant rate of six per year thereafter.[46]

29. Nonetheless, Airbus wanted to fill out the order book to ensure that the A380 program would remain operational at least **[*******]**, by which time Airbus expected increased global demand for the A380. However, the years of waiting entailed costs and risks. Indeed, Airbus –despite past LA/MSF and other subsidies, including for the A380 – had operated the A380 program at a loss for many years in the past.[47]

30. Airbus's CEO hoped to secure an additional order for at least 20 A380s from Emirates, with follow-on orders from British Airways owner IAG, Japan's ANA Holdings Inc., and Thai

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[40] Minutes of a meeting of the board of directors of Airbus, **[*******]** (Exhibit EU-18(HSBI)).

[41] *See* 2018 French A3380 Amendment (Exhibit EU-21(BCI)), Article 3; 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 3(1)(a); 2018 Spanish A380 Amendment (Exhibit EU-23(BCI)), Article 2; 2018 UK A380 Amendment (Exhibit EU-22(BCI)), Schedule 3, para. 4.1.

[42] 2018 German A380 Amendment (Exhibit EU-20(HSBI)), Annex 2. The analysis reported that **[***]**." According to this analysis, **[*******]**. The analysis offers **[*******]**. The analysis also **[[**HSBI**]]**. *Id.* (under the header **[*******]**).

[43] *See* PwC Report (Exhibit EU-17(HSBI)), para. 31.

[44] *See* PwC Report (Exhibit EU-17(HSBI)), para. 36.

[45] *See* PwC Report (Exhibit EU-17(HSBI)), para. 31.

[46] *E.g.*, *Full Year 2017 Airbus SE Commercial Aircraft Orders and Deliveries Call - Final*, Fair Disclosure Wire (Jan. 15, 2018) (Exhibit USA-1).

[47] *See, e.g.*, Airbus assures on A380 break-even this year, David Kaminski-Morrow, FlightGlobal (Feb. 27, 2015) (Exhibit USA-16); Airbus Annual Report 2017, p. 77 (Exhibit USA-9).

Airways International before the Dubai Air Show in November 2017.[48] Such an order would have enabled the A380 program to continue running until at least **[***]**. In November 2017, Airbus was close to a major deal with Emirates. In a press release announcing Emirates' 100th A380 delivery on November 3, 2017, Emirates CEO Sheikh Ahmed bin Saeed Al-Maktoum stated "{f}or Emirates, the A380 has been a success. . . . We remain committed to the programme and will work closely with Airbus and our partners to continually enhance our A380 product as we look ahead to receiving our remaining 42 aircraft on order."[49] Airbus **[***]**.[50]

31. Airbus failed to clinch the deal at the Dubai Air Show later in November.[51] But negotiations continued, and Emirates eventually placed orders for 36 additional aircraft, including 16 options, in February 2018.[52] With this deal in hand, Airbus has sufficient orders to continue producing A380s until at least **[***]** if Emirates exercises zero of the 16 options, or **[***]** if Emirates exercises all 16 options – even under the conservative assumption that all of the orders identified by PwC as being at-risk will eventually be cancelled.

2. Terms of the 2018 Amendments

32. In parallel, the Airbus governments agreed to the 2018 Amendments that the EU identifies as measures taken to comply in this proceeding. **[***]**.[53] The **[***]**.[54] All four 2018 Amendments were finalized **[***]**.

33. The terms of the 2018 Amendments include the following:

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[48] *See Future of Airbus A380 said to hinge on Emirates order*, Benjamin Katz, Bloomberg (July 25, 2017) (Exhibit USA-4) ("Airbus SE is working on vital sales campaigns aimed at extending the life of its flagship A380 superjumbo, with outgoing marketing chief John Leahy seeking to secure orders by the Dubai Air Show in November, people familiar with the matter said. Key to the push is a requirement for 20 jets worth $8.7 billion at leading A380 customer Emirates, with follow-on orders from British Airways owner IAG SA, Japan's ANA Holdings Inc. and Thai Airways International PCL also in the mix, according to the people, who asked not to be named as the talks are private.").

[49] *Emirates welcomes 100th A380 to its fleet*, Press Release, Airbus (Nov. 3, 2017) (Exhibit USA-5).

[50] *See* Declaration of **[***]** (Oct. 4, 2018) (Exhibit EU-19(BCI)).

[51] *See Airbus Suffers Early Dubai Blow as Boeing Wins Surprise 787 Deal*, Anurag Kotoky and Benjamin D Katz, Bloomberg (Nov. 13, 2017) (Exhibit USA-6).

[52] *See Emirates firms up orders for 36 A380s worth US$ 16 billion*, Press Release, Emirates (Feb. 11, 2018) (Exhibit USA-7).

[53] *See* Declaration of **[***]** (Oct. 4, 2018) (Exhibit EU-19(BCI)).

[54] Declaration of **[***]** (Oct. 4, 2018) (Exhibit EU-19(BCI)).

- The French A380 Amendment, dated **[***]**.[55] Airbus also agreed to modify **[***]**;[56] **[***]**.[57] In the event of A380 program termination, **[***]**.[58]
- The German A380 Amendment, dated **[***]**,[59] **[***]**.[60] Airbus agreed to modify **[***] [[**HSBI**]]**.[61] Airbus also agreed to **[***]**,[62] and a **[***]**.[63] **[***] [[**HSBI**]]**.[64] In the event of A380 program termination **[***]**.[65]
- The Spanish A380 Amendment, dated **[***]**,[66] **[***]**.[67] Airbus also agreed to modify **[***]**.[68] The amendment includes a **[***] [[**HSBI**]]**.[69] In the event of A380 program termination **[***]**.

[55] 2018 French A380 Amendment (Exhibit EU-21(BCI)), Article 3; PwC Report (Exhibit EU-17(HSBI)), para. 71.

[56] 2018 French A380 Amendment (Exhibit EU-21(BCI)), Article 2 (showing that under the French A380 amendment, **[***]**).

[57] 2018 French A380 Amendment (Exhibit EU-21(BCI)), Article 5.

[58] *See* 2018 French A380 Amendment (Exhibit EU-21(BCI)).

[59] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)).

[60] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 3(1)(a); PwC Report (Exhibit EU-17(HSBI)), para. 89. **[***]**. *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 3(1)(a).

[61] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 3(1)(b); *id.*, Attachment 3; PwC Report (Exhibit EU-17(HSBI)), paras. 30, 90.

[62] **[***]**. *See* PwC Report (Exhibit EU-17(HSBI)), para. 110.

[63] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 2(1); PwC Report (Exhibit EU-17(HSBI)), para. 88.

[64] 2018 German A380 Amendment (Exhibit EU-20(BCI)), Attachment 3.

[65] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Section 5.

[66] 2018 Spanish A380 Amendment (Exhibit EU-23(BCI)).

[67] *See* 2018 Spanish A380 Amendment (Exhibit EU-23(BCI)), Article 2; PwC Report (Exhibit EU-17(HSBI)), para. 48.

[68] *See* 2018 Spanish A380 Amendment (Exhibit EU-23(BCI)), Article 2; PwC Report (Exhibit EU-17(HSBI)), para. 111.

[69] PwC Report (Exhibit EU-17(HSBI)), para. 112, Table 12; **[***]** *ibid.*, para. 31, Table 2.

- The UK A380 Amendment, based on a draft dated **[***]**,[70] **[***]**.[71] Airbus also agreed to make **[***]**.[72] Under Airbus's **[***] [[**HSBI**]]**. In fact, according to PwC, **[[**HSBI**]]**.[73] In the event of A380 program termination, **[***]**.[74]

34. Thus, the 2018 Amendments **[***]**. The 2018 Amendments ensured that the lending governments would **[***]**.

35. These terms ensured that the lending governments bear the cost of Airbus keeping the A380 program alive for **[***]**, while Airbus seeks to capture potential future demand. And if that demand fails to materialize, it is the lending governments and their taxpayers that will bear the cost.

36. There is no evidence that the Airbus governments performed any independent project appraisal, economic analysis or other due diligence to test the assumption that the 2018 Amendments were necessary to keep the A380 program alive, and enable Airbus to capture future demand, nor to test whether Airbus's latest demand forecasts for the A380 were reliable.[75] In addition, there is no evidence that the Airbus governments sought to negotiate terms for the 2018 Amendments that were more favorable to them than those proposed by Airbus. A commercial lender situated similarly to the Airbus governments would likely have sought to secure repayment of the outstanding principal through **[***]** – particularly given the strong financial condition of Airbus as a whole (thanks to past subsidies), and the past underperformance of the A380 program.[76] Yet there is no evidence that the Airbus governments even considered such an arrangement.

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[70] 2018 UK A380 Amendment (Exhibit EU-22(BCI)).

[71] *See* 2018 UK A380 Amendment (Exhibit EU-22(BCI)), Schedule 3, para. 4.1; PwC Report (Exhibit EU-17(HSBI)), para. 129.

[72] *See* 2018 UK A380 Amendment (Exhibit EU-22(BCI)), Schedule 3, paras. 4.2, 4.12; PwC Report (Exhibit EU-17(HSBI)), para. 130. **[***]**. *Ibid.*, para. 126.

[73] PwC Report (Exhibit EU-17(HSBI)), para. 201, Table 23.

[74] *See* 2018 UK A380 Amendment (Exhibit EU-22(BCI)), Schedule 3, para. 4.9.

[75] Such due diligence is standard in a commercial setting. *See Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 37.

[76] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 29. An annex to the German A380 LA/MSF agreement predicts that Airbus would deliver **[***]** A380s over the next 20 years, and the Spanish A380 LA/MSF agreement predicts that Airbus would deliver **[***]** units of the passenger version and **[***]** units of the freighter version of the A380 over the next 20 years. Airbus's Global Market Forecast (GMF) from 1999 projected demand of 1,208 aircraft with more than 400 seats (*i.e.*, VLA) over the next 20 years. Original Panel Report, para. 7.651; *see also* First Compliance Panel Report, para. 6.712. In actuality, as of February 2018, Airbus had only delivered a total of 222 units of the A380. *See* PwC Report (Exhibit EU-17(HSBI)), para. 31, Table 3.

B. The 2018 Amendments Are Intervening Events that Increased the Amount of the Pre-Existing A380 LA/MSF Subsidies and Prolonged Their Lives.

37. An intervening event includes an unplanned adjustment to the terms of a pre-existing subsidy, which affects the *ex ante* amount of the subsidy, the time period over which the subsidy materializes, or both. In the original dispute, the Appellate Body stated:

> {W}here it is so argued, a panel must assess whether there are "intervening events" that occurred after the grant of the subsidy that may affect the projected value of the subsidy as determined under the *ex ante* analysis.[77]

38. In addition, the first compliance panel found:

> In our view, there is no reason why an "intervening event" must be defined in terms of circumstances that will only ever ***decrease*** the *ex ante* "life" of a subsidy. We see nothing in the language used by the Appellate Body to describe an "intervening event" that would prevent the possibility of finding that an event occurring after the granting of a subsidy might ***increase*** the ***ex ante*** "life" of a subsidy. While the extent to which any one or more particular events may be characterized as such will, of course, ultimately depend upon the particular facts, one circumstance that might be considered to ***increase*** the *ex ante* life of a subsidized loan, for example, could be the unplanned adjustment of its terms in a way that increases the amount of subsidization. We therefore agree with the parties that an "intervening event" may either ***increase*** or ***decrease*** the *ex ante* life of a subsidy.[78]

39. The appellate report did not modify this finding and upheld the first compliance panel's findings regarding intervening events.[79] In addition, the appellate report stated:

> {W}e recall that an *ex ante* analysis regarding the benefit of a subsidy serves as ***the starting point*** of the analysis to determine whether a subsidy continues to exist at the end of the implementation period. For such a determination, it is also necessary to conduct an analysis regarding "whether there are 'intervening events' that occurred after the grant of the subsidy that may affect the projected value of the subsidy as determined under the *ex ante* analysis." Thus, an examination of the *ex ante* "life" of a subsidy, based on the expectation ***at the time the subsidy was granted***, should be complemented by an evaluation of subsequent

[77] Original Appellate Report, para. 709.

[78] First Compliance Panel Report, para. 6.913.

[79] *See* First Compliance Appellate Report, paras. 5.400-5.402.

> ***intervening events*** that were alleged to have occurred after the grant of the subsidy so as to determine whether the subsidy ***materialized*** as expected.[80]

40. Taken together, these findings make clear that intervening events can either decrease or increase the projected value of a subsidy as determined under an *ex ante* analysis, and they can also shorten or prolong the *ex ante* "life" of a subsidy. Furthermore, when it is so argued, panels must determine whether an intervening event after the grant of a subsidy has occurred.

41. The 2018 Amendments are unplanned adjustments to the terms of the original A380 LA/MSF subsidies, which increased the projected amounts of the subsidies and prolonged their lives. Accordingly, the 2018 Amendments are intervening events.

42. Furthermore, there is no basis for the EU's argument that the 2018 Amendments somehow replaced the pre-existing A380 LA/MSF subsidies. These points are discussed further below.

1. The 2018 Amendments increased the amounts of the pre-existing LA/MSF subsidies for the A380.

43. NERA's analysis of the 2018 Amendments demonstrates that they increased the benefit conferred by the pre-existing LA/MSF subsidies for the A380. They did this by **[*******]**.[81]

44. Prior to the 2018 Amendments, the A380 LA/MSF contracts were structured so that repayments would be made through per-aircraft levies **[***]**.[82] The adopted reports in the original and first compliance proceedings found that each of the A380 LA/MSF contracts conferred subsidies to Airbus.[83] The 2018 Amendments made the terms of A380 LA/MSF even more favorable to Airbus, by **[*******]**. Furthermore, the 2018 Amendments only permit the Airbus governments to recover the outstanding principal for A380 LA/MSF if **[*******] [[**HSBI**]] [*******]**. Moreover, **[[**HSBI**]]**.[84]

45. To demonstrate that the 2018 Amendments increased the pre-existing subsidies conferred by the A380 LA/MSF contracts, NERA calculates the IRRs of the original LA/MSF subsidies, considering only cash flows from 2018 onward, and compares them to the corresponding IRRs of the amended LA/MSF from 2018 onward. (For the latter set of IRRs, NERA relies on the

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[80] First Compliance Appellate Report, para. 5.400 (emphasis original).

[81] *See supra*, Section II.A.2.

[82] *See* French A380 LA/MSF Agreement (Exhibit EU-12(BCI)), Article 6; German A380 LA/MSF Agreement (Exhibit EU-14(BCI)), Clause 7; Spanish A380 LA/MSF Agreement (Exhibit EU-15(BCI)), Clause 7; UK A380 LA/MSF Agreement (Exhibit EU-16(BCI)), Clause 8.

[83] *See* Original Panel Report, paras. 7.490, 8.1; Original Appellate Report, para. 929; First Compliance Panel Report, paras. 6.655-6.656; First Compliance Appellate Report, para. 5.350.

[84] PwC Report (Exhibit EU-17(HSBI)), para. 201, Table 23.

IRRs calculated by the EU's consultants, PwC.) NERA's calculations **[***]**.[85] NERA finds that the IRRs of the original German, Spanish, and UK LA/MSF for the A380 are higher than the corresponding IRRs of the LA/MSF as amended in 2018.[86] This means that the 2018 Amendments made Airbus better off – and the governments of Germany, Spain, and the UK worse off – than they would have been, absent the amendments.[87]

46. For French LA/MSF for the A380, the results are inconclusive, due to **[***]**.[88] The results are highly sensitive to this input. For example, if Airbus **[***] [[**HSBI**]] [***]**, then the IRR of original French LA/MSF for the A380 would be higher than the IRR of French LA/MSF for the A380 as amended.[89]

47. NERA also computed the IRR of the original A380 LA/MSF packages considered together, and the IRR of the amended LA/MSF packages considered together, showing that the former is higher than the latter.[90] This means that, considering the 2018 Amendments as one unified transaction, it made Airbus better off financially, and the Airbus governments worse off.[91] This is additional confirmation that the 2018 Amendments increased the pre-existing A380 LA/MSF subsidies to Airbus.

2. The 2018 Amendments prolonged the lives of the pre-existing LA/MSF subsidies for the A380.

48. Each of the 2018 Amendments included provisions that reflected an expectation as of the date of the amendments that both the A380 program itself, as well as the LA/MSF that funds it, would continue until at least **[***]**, and in some cases even later. For example:

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[85] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 16 & note 29.

[86] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 17. For **[***]**. *Id.*, para. 1, note 1.

[87] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 18.

[88] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 19.

[89] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 19; PwC Report (Exhibit EU-17(HSBI)), para. 31, Table 2.

[90] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), paras. 17, 20.

[91] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 20.

- The French A380 amendment extended the A380 LA/MSF contract's expiration date from **[*******]**.[92] The amended contract provides for repayments to occur **[*******]**.[93]
- The German A380 amendment was predicated on an **[***** **[[**HSBI**]]]**.[94] The German A380 contract contains a **[***** **[[**HSBI**]]** *****]**.
- The Spanish A380 amendment includes a **[***** **[[**HSBI**]]]**.[95]
- The UK A380 amendment provides that per-aircraft levies would be paid **[*******]**.[96]

49. Thus, all four 2018 Amendments revised the terms and conditions of the original A380 LA/MSF contracts, based on an expectation that the A380 would continue to be marketed – and payments under the A380 LA/MSF contracts (as amended) would continue to be made – decades into the future.

3. There is no support for the EU argument that the 2018 Amendments somehow "replaced" the pre-existing A380 LA/MSF subsidies.

50. The EU argues that the 2018 Amendments "replac{ed} the original, subsidised financial contributions with new financial contributions."[97] For that reason, the EU argues that its compliance status vis-à-vis A380 LA/MSF should be assessed on the basis of the market-consistency of the 2018 Amendments themselves, divorced from the pre-existing A380 LA/MSF.[98] Thus, the EU asks the Panel to find that it withdrew A380 LA/MSF subsidies based on a fiction that the subsidies no longer exist.

51. In reality, the 2018 Amendments were just that: amendments of the pre-existing A380 LA/MSF contracts. The 2018 Amendments did not require Airbus to disgorge the financial contribution or benefit that it had previously received under the A380 LA/MSF contracts, nor did they terminate the original A380 LA/MSF contracts. Rather, the 2018 Amendments kept the A380 LA/MSF contracts in place, under terms that were modified specifically to **[*******]**. As explained above, the 2018 Amendments both increased the amount of the pre-existing subsidies

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[92] 2018 French A380 Amendment (Exhibit EU-21(BCI)), Article 5.

[93] 2018 French A380 Amendment (Exhibit EU-21(BCI)), Articles 1, 2; French A380 LA/MSF Agreement (Exhibit EU-12(BCI)), Article 7.1.

[94] 2018 German A380 Amendment (Exhibit EU-20(BCI)), Attachment 3.

[95] PwC Report (Exhibit EU-17(HSBI)), para. 112. In addition, the **[*******]** of the Spanish LA/MSF contract for the A380, **[*******]**, was an intervening event that prolonged the life of the subsidy, and may have increased the benefit of Spanish A380 LA/MSF to Airbus as well. *See id.*, para. 108. However, the EU has not submitted the **[*******]**.

[96] 2018 UK A380 Amendment (Exhibit EU-22(BCI)), Schedule 3.

[97] EU FWS, para. 150.

[98] *See, e.g.*, EU FWS, paras. 150-151.

and prolonged their lives. Thus, French, German, Spanish, and UK LA/MSF subsidies for the A380 remain in place and in fact have been enhanced by the 2018 Amendments.

52. Accordingly, there is no support for the EU's characterization of the 2018 Amendments as replacements for the pre-existing A380 LA/MSF subsidies. There is also no support for the EU's legal position that withdrawal under Article 7.8 of the SCM Agreement should be assessed on the basis of the 2018 Amendments in isolation. Rather, as discussed in the following section, the Panel should assess the question of whether the 2018 Amendments resulted in withdrawal of the pre-existing A380 subsidies on the basis of whether they took away the pre-existing subsidies. They did not, and therefore they failed to achieve withdrawal.

C. The EU and PwC Subsidy Analysis of the 2018 Amendments Does Not Support the EU's Withdrawal Arguments.

53. Article 7.8 of the SCM Agreement states:

> Where a panel report or an Appellate Body report is adopted in which it is determined that any subsidy has resulted in adverse effects to the interests of another Member within the meaning of Article 5, the Member granting or maintaining such subsidy shall take appropriate steps to remove the adverse effects or shall withdraw the subsidy.

54. In the first compliance proceeding, the appellate report stated:

> Regarding the ordinary meaning of the word "withdraw", we note that the relevant dictionary definitions of this term include: "{d}raw back or remove (a thing) from its place or position"; "{t}ake back or away (something bestowed or enjoyed)"; "{c}ease to do, refrain from doing". This suggests that withdrawal of a subsidy, under Article 7.8 of the SCM Agreement, concerns the taking away of that subsidy, and thus that a Member "granting or maintaining" a subsidy cease such conduct. In order to withdraw a subsidy, an implementing Member may be able to take action to align the terms of the subsidy with a market benchmark, or to otherwise modify the terms of the subsidy such that it no longer qualifies as a subsidy.[99]

55. Thus, the term "withdraw" in Article 7.8 of the SCM Agreement refers to a "taking away" of a pre-existing subsidy previously found to be WTO inconsistent, such that the implementing Member ceases to grant or maintain the pre-existing subsidy. The Appellate Body did not make a blanket statement that *any* modification of the terms of a pre-existing subsidy would result in withdrawal. Rather, the Appellate Body stated that the basic question in a "withdrawal" analysis of any measure taken to comply – be it a modification of the terms of the subsidy, or any other measure taken to comply – is whether the measure taken to comply resulted

[99] First Compliance Appellate Report, para. 5.366.

in a "taking away" of the pre-existing subsidy, such that the implementing Member ceases to grant or maintain it. If the measure taken to comply fails to do this, then there is no withdrawal within the meaning of Article 7.8.

56. In this case, the 2018 Amendments are amendments to the terms of pre-existing subsidies found to be WTO inconsistent, namely, French, German, Spanish, and UK LA/MSF for the A380. However, as discussed above, the 2018 Amendments do not take away the pre-existing subsidies at all. Rather, as discussed above in Section II.B, the 2018 Amendments increase the pre-existing subsidies and prolong their lives. Accordingly, the 2018 Amendments fail to achieve withdrawal within the meaning of Article 7.8 – and in fact, they bring the EU further out of compliance with its WTO obligations.

57. In its submission, the EU fails to properly address the correct legal question – that is, whether the 2018 Amendments, as intervening events, withdrew the pre-existing A380 LA/MSF subsidies. Instead, the EU argues that the 2018 Amendments withdrew the A380 LA/MSF subsidies "through alignment with a contemporaneous market benchmark."[100] By this, the EU means that the amendments themselves – rather than the original A380 LA/MSF subsidies, as modified by the amendments – are aligned with a market benchmark.[101] However, the relevant question under Article 7.8 of the SCM Agreement is not whether the EU adopted some measure that is not a subsidy, subsequent to the DSB's recommendations and rulings in the original dispute. Rather, the relevant question is whether the EU withdrew the pre-existing subsidy – a question which, again, the EU fails to address.

58. This alone provides a sufficient basis to conclude that the EU has not withdrawn the subsidy and come into compliance with the DSB's recommendations. Even on the basis of the EU's own argument, moreover, the EU is also incorrect that the 2018 Amendments "align{ed}" the A380 LA/MSF subsidies with a contemporaneous market benchmark. To support this assertion, the EU and PwC argue that the 2018 Amendments were "consistent with what a market lender in the same position {as the Airbus governments} would have demanded at the same time," *i.e.*, in **[***]**.[102] According to the EU, this is because if the A380 LA/MSF contracts remained unamended, then a series of dominoes would have fallen:

- Airbus would have failed to capture the Emirates order;
- which would have required it to wind down the A380 program by **[***]**;
- which would have prevented the Airbus governments from recovering the amount of LA/MSF that remained outstanding.[103]

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[100] EU FWS, header before para. 117.

[101] *See* EU FWS, paras. 158-159.

[102] EU FWS, para. 160.

[103] PwC Report (Exhibit EU-17(HSBI)), para. 149; EU FWS, para. 164.

59. Thus, the EU and PwC attempt to frame the Airbus governments as facing a binary choice: either do nothing and leave the A380 contracts unamended, which would supposedly lead to the termination of the A380 program and therefore no additional recovery of outstanding LA/MSF principal amounts; or agree to Airbus's demands, which would supposedly enable Airbus to continue the A380 program and therefore "unlock{}" the potential (however remote) for additional recovery of outstanding LA/MSF.[104]

60. Underpinning the EU and PWC argument is an assumption that, absent the 2018 Amendments, Airbus would have terminated the A380 program by **[*******]**, thus preventing the Airbus governments from recovering the A380 LA/MSF principal that would remain outstanding at that time.[105] This leads PwC to infer that the Airbus governments would have been better off accepting any alternative to the original A380 contracts, so long as the alternative offered some potential for additional recovery of outstanding LA/MSF principal. PwC then performs a financial analysis purporting to show that the **[*******]** A380 LA/MSF contracts do indeed offer the potential for some additional recovery of outstanding principal, while the **[*******]** A380 LA/MSF amendment is **[*******]** with respect to the potential future recovery of outstanding principal. PwC fails to establish that this is the case for **[*******]** LA/MSF for the A380, and instead argues that the 2018 A380 amendment leaves the "risk position of the **[*******]** government . . . unchanged".[106]

61. This argument has several flaws, as discussed below.

1. The EU and PwC analysis incorrectly assumes that Airbus would capture no additional orders in the absence of the 2018 Amendments.

62. As noted above, PwC's analysis depends on the assumption that a private creditor in the position of the Airbus governments in 2018 would have assumed that, absent the 2018 Amendments to the LA/MSF contracts, Airbus would terminate the A380 program by **[*******]**, thus preventing the Airbus governments from recovering most of the outstanding A380 LA/MSF principal.[107] This assumption makes any alternative to leaving the contracts unamended seem attractive, provided that it **[*******]**. However, in reality, a private creditor would have had good reasons to believe that Airbus – already heavily subsidized by past LA/MSF, including for the A380 – would have sought to capture the 2018 Emirates order or a similar volume of orders from another airline customer, even in the absence of the 2018 Amendments.

63. Both the EU and PwC argue that as of 2018, Airbus "had to take a critical **[[**HSBI**]]** decision about the future of the A380 programme" – meaning that Airbus **[*******]**.[108] However, this is logically distinct from the question of whether a private creditor would have assumed that

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[104] EU FWS, para. 164.

[105] *See* PwC Report (Exhibit EU-17(HSBI)), para. 149, Table 14.

[106] PwC Report (Exhibit EU-17(HSBI)), para. 199.

[107] *See* PwC Report (Exhibit EU-17(HSBI)), para. 149, Table 14.

[108] EU FWS, para. 125.

Airbus would not secure the 2018 Emirates order or any other order, in the absence of the 2018 Amendments. The EU and PwC gloss over this latter question. Similarly, **[*******] [[**HSBI**]]**.[109]

64. As of 2018, a private creditor would likely have believed that Airbus had an incentive to pursue Emirates or another customer aggressively, even if doing so meant selling at a loss relative to recurring costs. As discussed above, Airbus remained confident about future market demand for the A380.[110] Keeping the A380 program running, even at a near-term loss – which hypothetically could have resulted from highly favorable terms for customers – would have enabled Airbus to reap the increased A380 demand that Airbus predicted **[*******]**.[111]

65. As NERA discusses, keeping the A380 program alive until the time when it expected future demand to materialize represented what is known in finance as a "real option" to Airbus – that is, the ability to undertake certain business operations in the future if those operations are revealed to be profitable.[112] Accordingly, a private creditor would likely have reasoned that, given Airbus's expectations of a bright future for the A380, Airbus should have been willing to pay to preserve the real option, including through reductions in sales prices to customers. NERA also explains that a private creditor would have known that Airbus is a large company with significant yearly cash flows and an A credit rating, which would have supported the inference by a private creditor that Airbus as a company was able to finance such an expenditure.[113] Indeed, Airbus had operated the A380 program at a loss in the past.[114]

66. Second, Emirates signaled its strong commitment to the A380 program **[*******]**.[115] On November 3, 2017, Emirates issued a press release hailing its receipt of the 100th A380, which quoted the incoming CEO as stating:

> "For Emirates, the A380 has been a success. We've been able to utilise it at slot-constrained airports, as well as at regional and 'secondary' airports where we have grown passenger demand. Each time we deploy an A380 onto a route, it typically stimulates further traffic and demand as travellers are attracted by our flagship A380 experience. ***We remain committed to the programme and will***

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[109] Minutes of a meeting of the board of directors of Airbus, **[*******]** (Exhibit EU-18(HSBI))

[110] *E.g.*, Minutes of a meeting of the board of directors of Airbus, **[*******]** (Exhibit EU-18(HSBI)); 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2; Airbus SE FY2017 Earnings Call (Feb. 15, 2018).

[111] *See* EU FWS, para. 145.

[112] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 30.

[113] *Effects of the 2018 Amendments on Pre-Existing A380 LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 29.

[114] *E.g.*, Airbus assures on A380 break-even this year, David Kaminski-Morrow, FlightGlobal (Feb. 27, 2015) (Exhibit USA-16); Airbus Annual Report 2017, p. 77 (Exhibit USA-9).

[115] Declaration of **[*******]** (Oct. 4, 2018) (Exhibit EU-19(BCI)).

> ***work closely with Airbus and our partners to continually enhance our A380 product as we look ahead to receiving our remaining 42 aircraft on order.***"[116]

67. Thus, even before the 2018 Amendments, Emirates' incoming leadership had reaffirmed its commitment to the A380 program as a whole, and had signaled that it intended to receive all outstanding A380 orders **[***]**.[117] A private creditor would likely have been aware of this statement by Emirates, and would also have considered the possibility that another airline customer might have placed additional A380 orders in the near future, **[***]**.[118]

2. The EU and PwC analysis incorrectly ignores the risk that forecast customer demand for the A380 would not materialize.

68. In computing the "net advantages" of the 2018 Amendments, PwC assumes that it is 100 percent certain that A380 deliveries would occur **[***]**.[119] These projections called for **[[**HSBI**]]**. PwC included the levy payments associated with all of these projected deliveries in its calculation of "net advantages" of the 2018 Amendments, without making any adjustment for the risk that such deliveries might not occur.[120] However, Airbus's ability to capture any A380 orders beyond the 2018 Emirates orders was highly uncertain as of 2018.

69. As an initial matter, it is important to distinguish this point from the one discussed in the prior section. The prior section addressed a hypothetical private creditor's prediction of how Airbus would behave in a no-amendment scenario. That is a separate question from a private creditor's own objective prediction of how *customers* would react to the continued availability of the A380 through the **[***]** – which would determine the timing and amount of any future payments under the existing A380 LA/MSF contracts, under any amendment and extension of LA/MSF.

70. The risk of the A380 program's underperformance relative to Airbus's forecasts would have been apparent to a private creditor. As the original panel found:

> Because of the graduated levy-based and success-dependent nature of LA/MSF payments, Airbus has an economic incentive to be optimistic in its forecasts of,

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[116] *Emirates welcomes 100th A380 to its fleet*, Press Release, Emirates (Nov. 2, 2017) (Exhibit USA-9) (emphasis added).

[117] Moreover, as noted above, Airbus' A380 order book had enough orders to sustain production until at least **[***]**, even under the highly conservative assumption that none of the orders identified by PwC as being "at risk" would eventually materialize. *See* PwC Report (Exhibit EU-17(HSBI)), para. 31. To the extent that Airbus believed it needed even more orders in order to justify continuing the A380 program, Airbus had a strong incentive to capture them, because it would enable Airbus to **[***]**.

[118] *See* 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2.

[119] *See* PwC Report (Exhibit EU-17(HSBI)), paras. 165, 167, 193, 201.

[120] *See* PwC Report (Exhibit EU-17(HSBI)), para. 30 (citing an "updated delivery schedule as of April 17, 2018" provided by Airbus).

> *inter alia*, the number of aircraft likely to be sold and the pace of those sales, when preparing a business case in support of a programme for which LA/MSF is sought…. While the European Communities contends that the business case delivery forecasts have been "often met, and indeed exceeded," experience to date suggests that this may not be the case in respect of the A380.[121]

71. This text would itself have been available to a commercial lender in **[***]**. In addition, as noted in the first compliance report, Credit Suisse/First Boston considered that Airbus's Global Market Forecast predictions from 2000 should be approached with caution "{g}iven all {Airbus'} numbers are based on the most optimistic (internal) demand forecast in an as yet unproven market, in which new competition may well arise."[122]

72. It also bears noting that **[[**HSBI**]]**.

73. Moreover, Airbus has at times artificially inflated its A380 demand projections. The A380 is typically configured with more than 500 seats, **[***]**.[123] In addition, **[***]**.[124] However, the analysis **[***]**.[125]

74. Accordingly, PwC's analysis should not have assigned a 100 percent certainty to Airbus's forecast A380 deliveries in computing the "net advantages" of the Amendments. This error leads PwC to overstate the "net advantages," rendering its financial analysis unreliable.

3. The EU and PwC analysis incorrectly ignores the Airbus governments' failure to perform adequate due diligence prior to entering into the 2018 Amendments.

75. The panel in *Japan – DRAMS (Korea)* noted that one way to establish the existence of a benefit is to "rely on evidence of whether or not the financial contribution was provided on the basis of commercial considerations."[126] In addition, the first compliance panel quoted the Appellate Body's reasoning that the evaluation of benefit is based on the *ex ante* expectations of the grantor and recipient, and observed that:

> {I}t is apparent that it {*i.e.*, this reasoning} also recognizes that a commercial investor would be normally expected to perform a certain degree of due diligence

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[121] Original Panel Report, para. 7.1926 (citations omitted).

[122] First Compliance Panel Report, para. 6.550; *see also id.*, paras. 6.545-6.568.

[123] *See* Original Panel Report, para. 7.1927, note 5619.

[124] 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2.

[125] *See 777-9 Characteristics*, Boeing website (Exhibit USA-24); 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2. The 777-9 is scheduled to enter into service in 2019 and has already secured 263 firm orders that are likely to be delivered between 2016-2035. *See* Ascend Data – 777-9 Net Orders (Exhibit USA-25).

[126] *Japan – DRAMS (Panel)*, para. 7.276.

> in relation to the current and future "economic conditions" of a particular project before agreeing to enter into a loan contract.[127]

76. On this basis, the first compliance panel found that the absence of adequate due diligence by France, Germany, and Spain was one basis for finding that LA/MSF for the A350 XWB conferred a benefit to Airbus. In particular, these countries – unlike the UK – performed no project appraisals (as had been done for prior tranches of LA/MSF) nor any other rigorous assessment of the commercial prospects of the financed LCA program.[128] Furthermore, even the UK government's analysis was based on information provided by Airbus.[129] Accordingly, the first compliance panel found:

> In our view, the conclusions we have reached about the method and facts used by the European Union member States to inform their decisions to agree to provide Airbus with approximately EUR **[*******]** in A350XWB LA/MSF suggest that they have each, to differing degrees, fallen short of the standard that one would expect a commercial lender to normally satisfy. As we see it, this evidence suggests that the European Union member States entered into the A350XWB LA/MSF contracts in a manner that is inconsistent with that of a commercial lender, thereby confirming our finding of subsidisation.[130]

77. Similarly, there is no evidence that the Airbus governments performed an adequate level of due diligence in considering whether to enter into the 2018 Amendments to the A380 LA/MSF agreements. In particular, a commercial lender in the position of the lending governments would have carefully probed three key assertions that underpin the purported rationale for the amendments: (1) that Airbus would not have captured an additional Emirates sale in the absence of the amendments, (2) that the amendments significantly increased the likelihood that Airbus would have captured the Emirates sale, and (3) that by the mid-2020s, demand for the A380 would increase and continue for more than a decade.

78. Indeed, as discussed above, there were strong reasons for a lender to be skeptical of each of these assertions. Yet the EU has not submitted any evidence that France, Germany, Spain, or the UK conducted any due diligence to test them. On the contrary – as far as the evidence indicates – the lending governments performed no project appraisals, commissioned no assessments by industry experts, and engaged no outside consultants. The only evidence of any analysis comes from **[*******]**.[131] In fact, it appears that the EU and its member states have invested more time and resources to assess the commercial reasonableness of the 2018 Amendments *ex*

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[127] First Compliance Panel Report, para. 6.651.

[128] First Compliance Panel Report, para. 6.649.

[129] First Compliance Panel Report, para. 6.649.

[130] First Compliance Panel Report, para. 6.651.

[131] 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2.

post, for the purpose of the present dispute, than they did *ex ante* before entering into the 2018 Amendments.

79. This partly explains why the 2018 Amendments are so unfavorable to the lending governments. In particular, they make any additional repayment of outstanding A380 LA/MSF contingent upon the realization of Airbus's delivery forecasts **[*******]**.[132] A reasonable commercial lender could have sought better terms. For example, a reasonable commercial lender could have sought to achieve repayment on a fixed schedule, rather than through future A380 deliveries. This would have drastically reduced the risk of the amendments to the lenders, while enabling Airbus to use the **[*******]** to entice Emirates or another airline customer to place new orders.

80. Yet there is no evidence that the Airbus governments even sought better terms. On the contrary, **[*******]**.[133] This is yet another consideration that the EU and PwC ignore in arguing that the 2018 Amendments were consistent with the behavior of a commercial lender, and is yet another reason that the argument fails.

III. THE EU DID NOT WITHDRAW THE SPANISH A380 LA/MSF AGREEMENT THROUGH "AMORTIZATION"

81. The EU argues that it withdrew Spanish LA/MSF for the A380, because according to the EU's consultant, Professor Klasen, Spanish LA/MSF for the A380 expired **[*******]**.[134] This argument is flawed for several reasons.

82. First, the very fact that the Spanish government negotiated to amend the terms and conditions of A380 LA/MSF in **[*******]** confirms that the A380 LA/MSF subsidy had not yet come to an end. Just as there is no need for a doctor to operate on a dead patient, so too there is no need for a borrower and a lender to amend the terms and conditions of a loan contract whose life has already come to an end.

83. Second, Professor Klasen's assessment of the life of the loan ignores intervening events in general, including: **[***** **[[**HSBI**]]]**,[135] and the **[*******]** amendment to the Spanish A380 LA/MSF contract, finalized in 2018, which extended the life of the loan **[*******]** until **[[**HSBI**]]**.[136] As discussed above, the Appellate Body has found that intervening events must be taken into

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[132] *E.g.*, 2018 German A380 Amendment (Exhibit EU-20(BCI)), Annex 2.

[133] Minutes of a meeting of the board of directors of Airbus, **[*******]** (Exhibit EU-18(HSBI)), p. 2.

[134] EU FWS, para. 180; Professor Klasen, "Expected Life of MSF Subsidies for the A380 and A350XWB Programmes" (Oct. 8, 2018) (Exhibit EU-24(BCI)).

[135] *See* PwC Report, para. 108. As noted above, the EU has not submitted the **[*******]** to Spanish LA/MSF for the A380.

[136] PwC Report (Exhibit EU-17(HSBI)), para. 112.

account in assessing the "life" of a subsidy.[137] However, Professor Klasen ignores **[***]**, both of which extended the life of the subsidy well past 2018.[138]

84. Third, Professor Klasen's assessment of the life of the subsidy improperly relies exclusively on the "loan life" methodology, while ignoring the "marketing life" methodology that the Appellate Body and the first compliance panel recognized as a valid way to measure the life of LA/MSF subsidies.[139] Accordingly, Professor Klasen's analysis of the *ex ante* life of Spanish LA/MSF for the A380 is incomplete and thus unreliable.[140]

85. Fourth, Professor Klasen's so-called "unamortised benefit" analysis is meaningless and has no legal or factual basis. The "unamortised benefit" analysis purports to establish the percentage of each subsidy's benefit "amortized" at a particular point in time, based on an assumption of Professor Klasen's own making – namely, that the benefit of LA/MSF depreciates in a straight line over the time period when repayments occur.[141] Professor Klasen fails to identify any authority that would justify this approach. The EU does not even attempt to defend Professor Klasen's "unamortised benefit" analysis, nor does it rely on it in its legal arguments. Accordingly, the Panel should disregard Professor Klasen's "unamortized benefit" analysis and any conclusions drawn from it.

86. As a result, the EU and Professor Klasen fail to establish that the EU has withdrawn Spanish LA/MSF for the A380 by bringing the life of the subsidy to an end. In addition, the EU

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[137] First Compliance Appellate Report, para. 5.400 (emphasis original).

[138] Professor Klasen also ignores other intervening events, such as the other amendments to the A380 LA/MSF contracts, as well as all amendments to LA/MSF contracts for the A350 XWB.

[139] Professor Klasen, "Expected Life of MSF Subsidies for the A380 and A350XWB Programmes" (Oct. 8, 2018) (Exhibit EU-24(BCI)), para. 30; First Compliance Panel Report, para. 6.878 ("{W}e recall that the Appellate Body found 'no reason to disagree with the notion that allocation of a subsidy over the anticipated marketing life of an aircraft programme could be one way to assess the duration of a subsidy over time'."). Professor Klasen attempts to justify this approach by arguing that the first compliance panel found that LA/MSF for the A380 and the A350 XWB "were not 'critical to {the} very existence' of the A380 and the A350XWB." Professor Klasen, "Expected Life of MSF Subsidies for the A380 and A350XWB Programmes" (Oct. 8, 2018) (Exhibit EU-24(BCI)), paras. 7, 30 (brackets original to Professor Klasen) (quoting First Compliance Panel Report, para. 6.1507). However, Professor Klasen mischaracterizes the quoted portion of the First Compliance Panel Report, which does not in fact assert that LA/MSF was not critical to the very existence of the A380 and the A350 XWB.

[140] It is not necessary for the Panel to address Professor Klasen's arguments regarding the end-dates for the *ex ante* lives of subsidies other than Spanish LA/MSF for the A380. However, the United States notes that these arguments are deeply flawed as well. An illustrative, non-exhaustive list of Professor Klasen's errors in this respect include the following: Professor Klasen ignores highly relevant provisions in the French and German contracts providing LA/MSF for the A380. French A380 LA/MSF Contract (Exhibit EU-13(BCI)), Art. 7.3; German A380 LA/MSF Contract (Exhibit EU-14(BCI)), Art. 10.1. In addition, Professor Klasen ignores provisions in the UK contract that **[***]**. *See* UK A380 LA/MSF Contract (Exhibit EU-16(BCI)), Schedule 3.

[141] Professor Klasen, "Expected Life of MSF Subsidies for the A380 and A350XWB Programmes" (Oct. 8, 2018) (Exhibit EU-24(BCI)), para. 9.

and Professor Klasen do not assert that the EU has withdrawn any other subsidies by bringing their lives to an end. Thus, while there are many additional flaws in Professor Klasen's "life of the subsidy" analyses of other LA/MSF subsidies, it is unnecessary for the Panel to address them.

IV. THE EU FAILS TO ESTABLISH THAT IT WITHDREW THE GERMAN LA/MSF SUBSIDY FOR THE A350 XWB

87. Like the A380 Amendments, the **[*******]** amendment to German LA/MSF for the A350 XWB increased the pre-existing LA/MSF subsidy and prolonged its life. In particular, as NERA demonstrates, the IRR of the German LA/MSF contract for the A350 XWB would have been higher if the German government had simply left it unamended – and by the same token, the amendment made Airbus better off financially than it otherwise would have been. Accordingly, there is no support for the EU argument that the amendment somehow met its compliance obligations in this dispute. On the contrary, the amendment took the EU further out of compliance.

A. Factual Background

88. On **[*******]**, Germany and Airbus finalized the original LA/MSF contract for the A350 XWB.[142] The contract entitled Airbus to borrow EUR **[*******]** million on the unsecured, success-dependent, levy-based, back-loaded terms and conditions that characterize LA/MSF to Airbus generally.[143] The original German LA/MSF contract for the A350 XWB provided that **[*******]**.[144]

89. As discussed in the first compliance report, the original contract provided for periodic interest payable on outstanding principal and **[*******]**.[145] In addition, the contract provided for an annual **[*******]** fee of **[*******]**, and a semi-annual **[*******]** fee of **[*******]**.[146]

[142] *See* First Compliance Panel Report, para. 6.236.

[143] *See* First Compliance Panel Report, paras. 6.236-6.248.

[144] *See* German A350 XWB LA/MSF Agreement (Exhibit EU-10(BCI)), clause 3.2.

[145] First Compliance Panel Report, para. 6.240.

[146] First Compliance Panel Report, para. 6.241.

90. According to the EU, **[***]**.[147] This **[***]** purportedly **[***]**.[148] The EU has not provided a copy of the legal documents implementing **[***]**. However, according to the EU, it **[***]**.[149] Airbus appears to have **[***]**.[150]

91. On **[***]**, Germany and Airbus agreed to amend the German A350 XWB LA/MSF contract **[***]**.[151] These modifications purportedly **[***]**.[152] Airbus also agreed to **[***]**.[153]

92. **[***]**.[154]

B. The [***] Amendment to German LA/MSF for the A350 XWB Increased the Amount of the Pre-Existing LA/MSF Subsidy and Prolonged Its Life.

93. The **[***]** Amendment to German A350 XWB LA/MSF, finalized in **[***]**, is an intervening event for essentially the same reasons that the 2018 Amendments for the A380 are intervening events. In particular, the **[***]** Amendment is an unplanned adjustment to the terms of the pre-existing German LA/MSF for the A350 XWB. Furthermore, the **[***]** Amendment increased the benefit conferred by the pre-existing German LA/MSF subsidy for the A350 XWB. NERA analyzed the financial impact of the **[***]** Amendment by comparing the IRR of the original German LA/MSF subsidy for the A350 XWB, as of **[***]**, to the IRR of the amended German LA/MSF subsidy for the A350 XWB, as of **[***]**.[155] NERA finds that the former IRR is higher than the latter, meaning that the German Government would have been in a better financial position if it had simply left the terms of the original A350 XWB LA/MSF unamended.[156] Accordingly, no reasonable commercial lender in the position of the Government of Germany would have agreed to enter into the **[***]** Amendment.

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[147] *See* EU FWS, para. 93.

[148] German A350 XWB **[***]** Amendment, Exhibit EU-9(BCI), preamble.

[149] EU FWS, para. 93.

[150] *See* German A350 XWB **[***]** Amendment (Exhibit EU-9(BCI)), preamble (referring to "**[***]**"). Certain text on page 11 of Exhibit EU-9 is illegible. The United States requests that the Panel instruct the EU to resubmit it in a legible form.

[151] *See* German A350 XWB **[***]** Amendment (Exhibit EU-9)(BCI)).

[152] German A350 XWB **[***]** Amendment (Exhibit EU-9)(BCI)), preamble.

[153] German A350 XWB **[***]** Amendment (Exhibit EU-9)(BCI)).

[154] *See* Professor Klasen, "Market Consistency of the **[***]** Amendment to German MSF Agreement" (Oct. 8, 2018) (Exhibit EU-11(BCI)), para. 45.

[155] *Effects of the* **[***]** *Amendment of German LA/MSF for the A350 XWB on Pre-Existing LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)).

[156] *Effects of the* **[***]** *Amendment of German LA/MSF for the A350 XWB on Pre-Existing LA/MSF*, NERA (Dec. 19, 2018) (Exhibit USA-8(HSBI)), para. 7.

94. Furthermore, the **[***]** Amendment prolonged the life of the pre-existing German LA/MSF subsidy for the A350 XWB to well after **[***]**. As noted above, the amendment was based on an expectation that A350 XWB deliveries would continue **[***]**.[157] As is true of LA/MSF to Airbus generally, the number and timing of deliveries of the A350 XWB determines the amount and timing of money that Airbus pays to Germany in fulfillment of the terms and conditions of the A350 XWB LA/MSF contract.

95. As with the 2018 Amendments discussed above, the EU argues that the **[***]** Amendment replaces the pre-existing LA/MSF subsidies.[158] The argument fails in this case for the same reasons. The **[***]** Amendment did not terminate the pre-existing LA/MSF agreement or require the immediate disgorgement of the loan principal. Rather, the Amendment left the pre-existing contract in place, and modified some of the parameters related to **[***]**, based on an updated expectation that the A350 XWB program would continue to run until at least **[***]**. The **[***]** Amendment was just that – an amendment – not a measure that eliminated the pre-existing LA/MSF subsidy.

96. The EU's consultant, Professor Klasen, argues that the **[***]** Amendment, considered solely from the vantage point of 2018, does not confer a benefit to Airbus. To support this point, Professor Klasen compares the IRR of the amended loan (considering only cash flows from 2018 onward) with a market benchmark that he constructs. However, as NERA explains, Professor Klasen has chosen the wrong analytical framework. Professor Klasen's benchmark analysis (which is modeled on that of Dr. Jordan in the first compliance dispute) might be appropriate to determine whether a new loan confers a subsidy, but it does not address the question of whether an amendment to a pre-existing, subsidized loan withdrew that loan, or the subsidy. To answer that question, it is necessary to assess the effect of the amendment on the pre-existing loan – which Professor Klasen ignores.

97. Furthermore, in order to assess whether it was commercially reasonable to amend a pre-existing loan, it is necessary to take into account not only the IRR of the amended loan, but also the IRR of the unamended loan. This is because, naturally, a commercial lender would have the option to leave the loan unamended. Professor Klasen ignores this elementary point as well.

98. Professor Klasen also makes several additional technical errors in his benchmarking exercise, as NERA discusses. Accordingly, the quantitative conclusions of the analysis are unreliable.

99. Finally, it is important to note that the EU has alluded cryptically to Germany's motivation for entering into the **[***]** Amendment, without providing a complete explanation. In particular, Professor Klasen states "the transaction {} allowed Germany to **[***]**. This was

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[157] *See* Professor Klasen, "Market Consistency of the **[***]** Amendment to German MSF Agreement" (Oct. 8, 2018) (Exhibit EU-11(BCI)), para. 45.

[158] EU FWS, para. 90.

achieved **[***]**".[159] In addition, the **[***]** to the **[***]** Amendment states: "The Borrower has asked {Germany} to **[***]** the arrangements it had entered into in order to **[***]** on the loan tranches, and to provide the Borrower with new **[***]** for these **[***]**."[160] The EU also described the amendment as "involv{ing} the **[***]**."[161] These statements suggest the amendment (or "transaction") may have been more complex than described by Professor Klasen and the EU, potentially involving **[***]**. It is possible that such features of the transaction also increased the pre-existing subsidy to Airbus, or conferred a new subsidy.

100. In sum, contrary to the arguments of the EU and Professor Klasen, the **[***]** Amendment is an intervening event that increased the pre-existing German LA/MSF subsidy for the A350 XWB and prolonged its life to at least **[***]**. It brought the EU further out of compliance with the DSB's recommendations and rulings in this dispute.

V. THE EU FAILS TO ESTABLISH THAT IT WITHDREW UK LA/MSF FOR THE A350 XWB

101. The EU argues that it has withdrawn UK LA/MSF for the A350 XWB, because Airbus repaid the outstanding principal to the UK government. However, repaying a subsidized loan on its own subsidized terms does not result in withdrawal for purposes of Article 7.8 of the SCM Agreement, as the first compliance panel report indicates.[162] Furthermore, the EU has not established as a factual matter either that Airbus repaid the full amount of outstanding principal, or that Airbus will not draw down the outstanding principal again. Accordingly, the EU has failed to withdraw UK LA/MSF for the A350 XWB.

A. Factual Background

102. On **[***]**, the UK Government and Airbus finalized the A350 XWB LA/MSF contract.[163] The contract entitled Airbus to borrow GBP 340 million on the unsecured, success-dependent, levy-based, back-loaded terms and conditions that characterize LA/MSF to Airbus generally.[164] Article 6.2 of the contract states: **[***]**.[165]

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[159] Professor Klasen, "Market Consistency of the **[***]** Amendment to German MSF Agreement" (Oct. 8, 2018) (Exhibit EU-11(BCI)), para. 2 (emphasis added); *see also id.*, para. 36.

[160] German A350 XWB **[***]** Amendment (Exhibit EU-9(BCI)), preamble (emphasis added).

[161] EU FWS, para. 96 (emphasis added); *see also id.*, para. 101.

[162] *See* First Compliance Panel Report, paras. 6.1070-6.1073 ("it could be argued that the full repayment of a subsidized loan implies that a subsidized financial contribution has been provided to the recipient in its entirety, not removed or 'returned', as the European Union argues.").

[163] First Compliance Panel Report, para. 6.257.

[164] First Compliance Panel Report, paras. 6.261-6.267.

[165] UK A350 XWB LA/MSF Agreement (Exhibit EU-28(BCI)).

103. Airbus and the UK Government **[***]**.[166] **[***]**.[167] **[***]**.[168] The first compliance panel took account of these **[***]** in its findings that UK LA/MSF for the A350 XWB is a subsidy to Airbus that is inconsistent with EU and UK compliance obligations in this dispute.[169]

104. The first compliance panel also found that LA/MSF for the A350 XWB enabled Airbus to launch the A350 XWB as and when it did. In particular, the panel found, citing the UK government appraisal, "that it would have been very difficult for Airbus and EADS to effectively fund the A350XWB programme, as envisioned at launch, in the absence of A350XWB LA/MSF"[170] and "that A350XWB LA/MSF was 'essential' for the A350XWB programme 'to proceed on the scale and in the timeframe specified'."[171]

105. On **[***]**.[172] In response, the UK Government sent a letter to an Airbus official stating that the payment "reflects: the Principle {sic}amount drawn down plus Interest accrued from **[***]** This means that the Repayable Investment has been repaid in full."[173] There is no information on the record about why Airbus made this payment. There is no information about the basis for the statement in the UK Government letter that "the Repayable Investment has been repaid in full." There is no information about any subsequent drawdowns of UK LA/MSF for the A350 XWB that Airbus may have made.

B. Repayment of a Subsidized Loan on Its Own Subsidized Terms Does Not Contribute to Withdrawal.

106. In the first compliance proceeding, the panel considered an EU argument that the repayment of principal disbursed under LA/MSF contracts eliminates the corresponding subsidy. The panel stated:

> The European Union finds support for its submission that the repayment of the LA/MSF agreements has brought the subsidy to an end in the following statement made by the Appellate Body in the original proceeding:
>
> > We understand the participants to agree with the basic proposition that a subsidy has a life, which may come to an end, either through

[166] First Compliance Panel Report, para. 6.258.

[167] First Compliance Panel Report, para. 6.258.

[168] First Compliance Panel Report, para. 6.260.

[169] First Compliance Panel Report, para. 6.259.

[170] First Compliance Panel Report, para. 6.1609.

[171] First Compliance Panel Report, para. 6.1609.

[172] Department of Business, Energy & Industrial Strategy invoice to Airbus (**[***]**) (Exhibit EU-7((BCI)).

[173] Department of Business, Energy & Industrial Strategy invoice to Airbus (**[***]**) (Exhibit EU-7(BCI)).

> *the removal of the financial contribution and/or the expiration of benefit*. (emphasis added)
>
> For the European Union, the full repayment of the LA/MSF agreements implies that the financial contributions provided to Airbus have been "returned" and, therefore, consistent with the Appellate Body's statement, no subsidies continue to exist. In our view, the European Union has misunderstood the totality of the Appellate Body's guidance on this point.
>
> First, we note that the Appellate Body statement relied upon by the European Union refers to the "removal" of a financial contribution. However, it is less than clear to us that the repayment of a loan on its subsidized terms amounts to the same thing. Rather, ***it could be argued that the full repayment of a subsidized loan implies that a subsidized financial contribution has been provided to the recipient in its entirety, not removed or "returned", as the European Union argues.***
>
> Second, while it is true that the repayment of a loan on its subsidized terms would bring about the end of the financial contribution, in the sense that there would be no longer any financial contribution in existence, the Appellate Body explicitly recognized in the original proceeding that this, alone, will not necessarily mean that the relevant subsidy has ceased to exist.[174]

107. Thus, the first compliance panel rejected the EU's interpretation of the Appellate Body report in the original proceeding as validating its theory that repaying the financial contribution of a subsidized loan in accordance with subsidized terms necessarily results in withdrawal of the corresponding subsidy. Rather, according to the first compliance panel, the repayment of the subsidized loan could imply that the subsidy has been provided to the recipient in its entirety.

108. In this proceeding, the EU ignores the first compliance panel's findings quoted above. Citing the same portion of the Appellate Body report that it relied upon before the first compliance panel, the EU recycles its argument that "the full repayment of a subsidized loan, under its terms, brings the life of the subsidy to an end, and achieves withdrawal of the subsidy within the meaning of Article 7.8."[175] Furthermore, the EU mischaracterizes the above-quoted portion of the first compliance panel report as supporting its argument, neglecting to mention that the first compliance panel rejected its argument and its misinterpretation of the Appellate Body's statements, and neglecting to quote the language that appears above in boldface.[176]

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[174] First Compliance Panel Report, paras. 6.1070-6.1073 (emphasis added).

[175] EU FWS, para. 69.

[176] EU FWS, para. 68 ("With respect to the full repayment of a subsidised loan, under its terms, the first compliance panel in the present dispute confirmed that such repayment 'bring{s} about the end of the financial contribution, in the sense that there would be no longer any financial contribution in existence'.").

109. The EU describes Airbus's repayment to the UK government as an instance of "the full repayment of a subsidised loan," and argues that it achieves withdrawal within the meaning of Article 7.8 of the SCM Agreement for that reason.[177] However, as the first compliance panel explained, the full repayment of a subsidized loan implies that a subsidized financial contribution has been provided to the recipient in its entirety, not removed or "returned", as the EU argues. Indeed, Airbus's repayment appears to have been effected pursuant to **[*******]**. Thus, the possibility of early repayment is part of the spectrum of facts that informed the parties' *ex ante* expectation as to the life of the subsidy, and it was also an element of the contract that the first compliance panel had before it when it found that the contract transmitted a subsidy to Airbus. The fact that the contract has continued to operate as originally envisioned, including through Airbus's **[*******]**, cannot logically serve as an intervening event that changes the life or benefit of the subsidy.[178]

C. The EU Fails to Establish that Airbus Fully Repaid What It Owed Under the UK LA/MSF Contract for the A350 XWB.

110. As noted above, the UK LA/MSF contract for the A350 XWB provided for GBP 340 million to be disbursed to Airbus. In addition, the contract provided that **[*******]**.[179] **[*******]**, Airbus had made only **[*******]** deliveries of the A350 XWB,[180] implying that the total amount of levy repayment by Airbus as of **[*******]** was **[*******]**. Accordingly, at least approximately **[*******]** in UK LA/MSF principal for the A350 XWB was outstanding as of **[*******]**.

111. However, the amount of Airbus's repayment to the UK Government was only **[*******]**.[181] It is unclear why the EU and the UK Government believe that this "fully" repaid the amount of LA/MSF that was outstanding as of **[*******]**. The EU does not provide any supporting analysis, nor does it attempt to reconcile the UK Government's disbursements with Airbus's repayments.

112. Accordingly, the EU has failed to establish that Airbus repaid UK LA/MSF for the A350 XWB. On the contrary, it appears that at least approximately **[*******]** of LA/MSF principal for the A350 XWB remained outstanding, when the UK Government acknowledged Airbus's repayment in **[*******]**.

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[177] EU FWS, para. 88.

[178] *See* EU FWS, para. 89, note 139 (raising an alternative argument that Airbus's repayment to the UK was an intervening event).

[179] *See* First Compliance Panel Report, para. 6.261.

[180] Airbus Orders & Deliveries Data (Nov. 2018) (Exhibit USA-49).

[181] Department of Business, Energy & Industrial Strategy invoice to Airbus (**[*******]**) (Exhibit EU-7(BCI)).

D. The EU Has Failed to Establish that Airbus Will Not Draw Down UK LA/MSF for the A350 XWB Again.

113. As the original panel noted, in **[***]**.[182] Subsequently, Airbus drew down LA/MSF for the A350 XWB **[***]**, receiving up to £340 million in LA/MSF principal.[183]

114. The EU has not provided any evidence that Airbus will not draw down UK LA/MSF for the A350 XWB again. This is yet another reason that the panel should reject the EU's argument that Airbus's purported repayment of UK LA/MSF for the A350 XWB results in withdrawal of the corresponding subsidy. This was not true **[***]**, nor is it true now.

VI. THE EU CONTINUES TO SUBSIDIZE AIRBUS THROUGH R&TD SUBSIDIES.

115. The terms of reference of the Panel provide that it is to examine "the matter referred to the DSB by the European Union and certain member States in document WT/DS316/39." That document described the matter at issue as "a 'disagreement', under Article 21.5 of the DSU, 'as to the existence or consistency with a covered agreement of measures taken to comply with the recommendations and rulings' of the Dispute Settlement Body ('DSB') in EC and Certain member States – Measures Affecting Trade in Large Civil Aircraft." It is well established that, in addition to the measures that the Member subject to recommendations and rulings of the DSB has declared to be "measures taken to comply," a compliance panel may examine "undeclared" measures taken to comply that otherwise affect the existence or consistency of that Member's measures taken to comply.

116. The EU, as the party requesting a panel in this proceeding, bears the burden of establishing the existence of measures taken to comply for purposes of Article 21.5 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU") and Article 7.8 of the SCM Agreement – that is, that its measures taken to comply have withdrawn the subsidy or removed the adverse effects determined to exist. As indicated in the preceding sections of this submission and sections VII.A through VII.G below, the EU has not achieved compliance through the declared measures taken to comply, namely, those enumerated in its request for establishment of the Panel. In addition, it has failed entirely to address other measures that affect its compliance with the recommendations and rulings of the DSB – ongoing EU research and technological development ("R&TD") subsidies that complement and supplement the adverse effects of existing LA/MSF and regional subsidies.

117. The R&TD subsidies have been a part of this dispute since the original proceeding. The United States challenged a wide range of R&TD measures at the EU and member State-level – most taking the form of grants. The panel and Appellate Body found that R&TD measures were specific subsidies within the meaning of Articles 1 and 2 of the SCM Agreement.[184] The original

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[182] First Compliance Panel Report, para. 6.289 note 462.

[183] First Compliance Panel Report, para. 6.289 note 462.

[184] *See* Original Panel Report, paras. 7.1415, 7.1608; Original Appellate Report, para. 952.

panel also found that these measures cause adverse effects to the United States, but the Appellate Body reversed these findings.[185]

118. The particular subsidies covered by the original panel and Appellate Body findings include:

(i) EC grants for LCA-related R&TD projects in which Airbus participated pursuant to the:

- Second Framework Programme for Community Activities in the Field of Research and Technological Development (1987-1991) ("Second Framework Programme");
- Third Framework Programme for Community Activities in the Field of Research and Technological Development (1990-1994) ("Third Framework Programme");
- Fourth Framework Programme of the European Community Activities in the Field of Research and Technological Development and Demonstration (1994-1998) ("Fourth Framework Programme");
- Fifth Framework Programme of the European Community for Research, Technological Development and Demonstration Activities (1998-2002) ("Fifth Framework Programme");
- Sixth Framework Programme of the European Community for Research, Technological Development and Demonstration Activities, Contributing to the Creation of the European Research Area and to Innovation (2002-2006) ("Sixth Framework Programme");

(ii) French government grants for LCA-related R&TD projects in which Airbus participated, between 1986 and 2005;

(iii) German federal government grants for LCA-related R&TD projects in which Airbus participated (LUFO I, LUFO II, and LUFO III);

(iv) Grants from three German sub-federal public entities for LCA-related R&TD projects in which Airbus participated;

(v) Spanish government loans for LCA-related R&TD projects in which Airbus participated under the PTA programme; and

[185] *See* Original Appellate Report, paras. 1401-1409. In addition, the Appellate Body found that one particular program, the Spanish PROFIT program, was outside the terms of reference. *Id.*, para. 649.

(vi) UK government grants for LCA-related R&TD projects in which Airbus participated under the CARAD programme.

119. Since the original proceedings, the EU and member State governments have continued to provide R&TD subsidies to Airbus, including through the aforementioned programs previously found to constitute subsidies. The primary vehicles for subsidies at the EU level are the "Framework Programmes". Under the Framework Programmes, the European Commission disburses funding directly to consortia performing R&TD in certain sectors, including consortia in the aeronautics sector led by Airbus or in which Airbus was a participant. Each grant in the aeronautics sector is for an individual, discrete research project focusing on a particular aeronautics technology or production process, many tied directly to Airbus.

120. Subsidies the EU and member States provided under the Second through Sixth Framework Programmes allowed Airbus to develop technologies that it is currently using in several aircraft programs, including large composite structures on the A380 and A350XWB. For example, one project funded under the Fifth Framework Programme was the "Technology Application to the Near Term Business Goals and Objectives of the Aerospace Industry" or "TANGO" project.[186] Conducted from 2000-2005, the TANGO project's purpose was to achieve major reductions in the operating costs of civil aircraft through large-scale validation on new design, manufacturing, and testing of composite airframe structures by key European airframe manufacturers, including Airbus.[187]

121. The TANGO project "directly supported the development of production methods for the composite center wing box of the A380 . . ."[188] According to Airbus:

> And last but not least I should mention the TANGO (Technology Application to the Near Term Business Goals and Objectives of the Aerospace Industry) project, partly funded by the European Commission, which generated a number of innovations. Some of the most noteworthy contributed to the A380 and ultimately to the A350, like the composite centre wing-box and some fuselage sections and shells that were also manufactured in Carbon Fibre Reinforced Plastic. The results from this research project were a fundamental basis for some of the Airbus' "first to market" innovations, like the first CFRP fuselage section in a large, commercial aircraft (i.e. Section 19 in the A380).[189]

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[186] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[187] *See* TANGO Project, CORDIS website (Exhibit USA-27).

[188] *The Impact of EU Framework Programmes in the UK*, Technologies Ltd. (July 2004) (Exhibit USA-28 (US-655-OP)) at 58 ("The TANGO project directly supported the development of production methods for the composite center wing box of the A380 and the design of the planned composite fuselage replacement for the A320.").

[189] *The Future of Aeronautics, a European Perspective*, Charles Champion, Executive Vice President, Head of Engineering Airbus, Innovation for Sustainable Aviation in a Global Environment (2012) (Exhibit USA-29).

122. The wing box, fuselage, and other composite structures of Airbus's LCA developed through the TANGO project (and other Framework Programme[190] and member state R&TD subsidies) are depicted in the EU graphic below:[191]

123. Another Framework Programme project that resulted in technologies currently used in Airbus aircraft was the "Advanced Low-Cost Aircraft Structures" or "ALCAS" project. Conducted from 2005-2009 pursuant to the Sixth Framework Programme, the ALCAS project aimed to "maintain and enhance the competitive position of the European Aerospace industry" by contributing to "reducing the operating costs of relevant European aerospace products by 15 percent, through the cost-effective, full application of carbon fibre composites to aircraft primary

[190] AWIATOR is a Fifth Framework Programme project. *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[191] *Horizon 2020: Opportunities in the Aviation sector for SME's in H2020 and the future FP*, Dr. Sebastiano Fumero, Head of Unit Aviation, DG-RTD (Apr. 28, 2017) (Exhibit USA-30) at 41.

structures."[192] The ALCAS project built on the results of the TANGO project, particularly with regard to the design, manufacture, and testing of composite wing and fuselage sections for Airbus LCA.[193]

124. Technologies developed pursuant to the ALCAS project are currently being used in Airbus aircraft, including the A350XWB. According to an EU study:

> Until recently, composite materials were used only for secondary structures. ***Thanks to the EU projects TANGO and ALCAS, Airbus became confident that composite materials can be used for primary structures as well leading to substantial weight savings and thus fuel and emission savings.*** The integrated projects TANGO and ALCAS validated and integrated knowledge about composite materials and structures gained in several smaller EU and national projects. ***The results of these projects made Airbus confident enough to design the fuselage of the new A-350 in composite material structures.***[194]

125. Similarly, engineers from DLR, Germany's national aeronautics and space research institute stated, regarding ALCAS and follow-on research projects focused on composite door surround structures, that "{s}ome of the ideas generated within ALCAS and the followup projects might make their way into the newly developed Airbus A350-1000 as long as they can pass the Technology Readiness Level (TRL) reviews."[195]

126. The EU and member States have continued to fund – and significantly ramped-up – the Framework Programmes since the original proceedings. The Seventh Framework Programme, which began in 2007, had a budget of approximately EUR 50 billion. The Eighth Framework Programme, which began in 2014, is the biggest EU R&TD subsidy programme yet. Also called "Horizon 2020," the Eighth Framework Programme has a budget of nearly EUR 80 billion, a more than sixteen-fold increase from the level of funding for the Second Framework Programme in 1987.[196]

127. Examples of projects under the Seventh and Eighth Framework Programmes that benefit Airbus include the following:

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[192] *See* ALCAS Project, CORDIS website (Exhibit USA-31).

[193] *See* ALCAS Project, CORDIS website (Exhibit USA-31).

[194] *See* MEFISTO: Methodology for framework programmes' impact assessment in Transport, Final Report – April 2010, p. 21 (Exhibit USA-32) (emphasis added).

[195] *See Design, Development and Manufacturing of the ALCAS CFRP Door Surround Structure*, M. Kleineberg, T. Ströhleim, R. Kaps, 28th International Congress of the Aeronautical Sciences (Exhibit USA-33) at 11.

[196] *See Horizon 2020: Opportunities in the Aviation sector for SME's in H2020 and the future FP*, Dr. Sebastiano Fumero, Head of Unit Aviation, DG-RTD (Apr. 28, 2017) (Exhibit USA-30) at 21.

- The MAAXIMUS project ("More Affordable Aircraft through eXtended, Intergrated and Mature nUmerical Sizing"), conducted between 2008-2015, which provided EUR 65 million for research into optimization and faster development of composite structures for commercial aircraft.[197]
- The EFFICOMP project ("Efficient Composite parts manufacturing"), an ongoing project begun in April 2016 and led by Airbus, whose objective is to reduce manufacturing cost and lead time of composite structure manufacturing for aerospace applications.[198]
- Clean Sky 2 Large Passenger Aircraft Programme, an ongoing project led by Airbus that has received EUR 83 million in funding, aims to "further mature and validate key technologies such as advanced wings and empennages design, making use of hybrid laminar airflow wing developments, as well as an all-new next generation fuselage cabin and cockpit-navigation".[199]
- The Graphene Flagship project, an ongoing project that has received EUR 88 million Euro in funding to date, aims to "improve existing and broadly used aeronautic products, especially those where high performance composites of epoxy resins and carbon fibres are implemented in airplane parts and fuselages."[200]

128. The EU has failed to withdraw the R&TD subsidies found to exist in the original proceedings, including the Second through the Sixth Framework Programmes. The EU and member States have also granted additional subsidies to Airbus under the Seventh and Eighth Framework Programmes. As the original panel found with respect to earlier Framework Programmes, the Seventh and Eighth Framework Programmes involve financial contributions that confer a benefit on Airbus, and therefore amount to subsidies within the meaning of Article 1.1 of the SCM Agreement, and are specific within the meaning of Article 2 of the SCM Agreement.

A. Financial Contribution

129. In the original proceeding, the EC did not contest that t,he Second thro2ugh the Sixth Framework Programmes – under which the EC provided funding to Airbus in the form of grants

[197] MAAXIMUS Project, CORDIS website (Exhibit USA-34); *see also Aeronautics and Air Transport Research: 7th Framework Programme 2007-2013, Project Synopses – Volume 1, Calls 2007 & 2008*, European Commission (Exhibit USA-35).

[198] *See* EFFICOMP Project, CORDIS website (Exhibit USA-36).

[199] *See* LPA GAM 2018 Project, CORDIS website (Exhibit USA-37).

[200] *See* Aerostructures Manufacturer, Graphene Flagship website (Exhibit USA-38).

– constituted financial contributions within the meaning of Article 1.1(a)(1)(i) of the SCM Agreement.[201]

130. The EU and member States continue to provide funding to Airbus in the form of grants under the Seventh and Eighth Framework Programmes.[202] Article 1.1(a)(1) of the SCM Agreement includes grants among the types of "direct transfers of funds" that constitute financial contributions within the meaning of the SCM Agreement. Accordingly, the funding that the EU provides to Airbus under the Seventh and Eighth Framework Programmes constitutes a financial contribution under Article 1.1(a)(1)(i) of the SCM Agreement.

B. Benefit

131. It is well established that a grant confers a benefit because, as the panel stated in *US – Cotton*, a grant "place{s} the recipient in a better position than the recipient otherwise would have been in the marketplace."[203] Therefore, because the funding the EU and member States provide to Airbus under the Seventh and Eighth Framework Programmes takes the form of grants, it necessarily confers a benefit – and thus constitutes a subsidy – under Article 1.1 of the SCM Agreement.

132. Publicly available information indicates that the EU dedicated more than EUR 1 billion to "Aeronautics and Air Transport" R&TD under the Seventh Framework Programme,[204] and Airbus entities participated in projects that received at least EUR 200 million in funding.[205] Under the Eighth Framework Programme, the EU made over EUR 2.7 billion in funding for aviation-related research projects,[206] of which Airbus has participated in over 80.[207]

C. Specificity

133. Finally, the subsidies the EU provides to Airbus under the Seventh and Eighth Framework Programmes are specific to Airbus and/or the aeronautics industry within the meaning of Article 2 of the SCM Agreement. In particular, as the original panel found with

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[201] Original Panel Report, para. 7.1492 note 4811.

[202] It is possible that the R&TD subsidies confer other types of financial contributions as well. The terms and conditions of the R&TD subsidies are not publicly available.

[203] *US – Upland Cotton (Panel)*, para. 7.1116.

[204] *See Aeronautics and Air Transport Research, 7th Framework Programme 2007-2013, Project Synopses – Volume 3, Calls 2012 & 2013*, European Commission (Exhibit USA-39) at 9.

[205] *See Aeronautics and Air Transport Research, 7th Framework Programme 2007-2013, Project Synopses – Volume 3, Calls 2012 & 2013*, European Commission (Exhibit USA-39) at 28-29, 32, 46, 49, 64, 67, 77, 93, 99, 105, 115, 118.

[206] *See Horizon 2020: Opportunities in the Aviation sector for SME's in H2020 and the future FP*, Dr. Sebastiano Fumero, Head of Unit Aviation, DG-RTD (Apr. 28, 2017) (Exhibit USA-30) at 23.

[207] *See* Table of Horizon 2020 Aviation Projects (Exhibit USA-40).

regard to the Second through the Sixth Framework Programmes, the legal regimes giving effect to the Seventh and Eighth Framework Programmes channel dedicated amounts of funding to aeronautics-specific research, and access to this funding is limited to enterprises or industries undertaking research in the field of aeronautics.[208] Thus, these subsidies are specific within the meaning of Article 2.1(a) of the SCM Agreement.

134. These subsidies enable Airbus to develop technology with industrial applications that can be used in aircraft programs for years to come, as discussed further in Section VII.

135. If the Panel considers that it needs additional information to find that the R&TD subsidies undermine the existence or consistency with the covered agreements of the EU's declared measures taken to comply in this dispute, then the United States requests that the Panel exercise its authority under Article 13 of the DSU to gather the relevant information from the EU.

VII. THE EU HAS FAILED TO DEMONSTRATE THAT IT HAS TAKEN APPROPRIATE STEPS TO REMOVE THE ADVERSE EFFECTS

136. The EU bears the burden of establishing its claim to have taken appropriate steps to remove the adverse effects of its subsidies. It has barely attempted to do so. Rather, the EU has once again failed to engage with the adopted DSB findings concerning the WTO-inconsistency of its LA/MSF subsidies, and it shows no indication that it genuinely seeks to bring its measures into compliance. Instead of real compliance action, or even substantive arguments as to how it might have taken appropriate steps to remove the adverse effects, the EU mischaracterizes the findings adopted in the first compliance proceeding in service of positions that fundamentally contradict the adopted findings.

137. For example:

- Whereas the findings in both the original proceeding and first compliance proceeding assessed causation by examining Airbus's counterfactual ability to offer and deliver its LCA in the absence of LA/MSF subsidies, the EU now argues that the Panel is legally bound to assess causation based on Airbus's counterfactual ability to offer its LCA in the absence of hypothetical subsidy withdrawal events that did not, in fact, occur;

- Whereas the first compliance panel discussed a hypothetical situation in which the direct effects of LA/MSF could end within a few years of the launch of an LCA model, the EU

[208] *See* Original Panel Report, para. 7.1563; *see also Horizon 2020 Work Programme 2014-2015*, European Commission Decision C(2015)2453 (Apr. 17, 2015) (Exhibit USA-41) at 7-21; *Horizon 2020 Work Programme 2016-2017*, European Commission Decision C(2017)2468 (Apr. 24, 2017) (Exhibit USA-42) at 11-19; *Horizon 2020 Work Programme 2018-2020*, European Commission Decision C(2018)4708 (July 24, 2018) (Exhibit USA-43) at 24-27, 54-55, "Annex B - Standard admissibility conditions, page limits and supporting documents" (providing that applicants must provide supporting documents regarding their operational capacity and relevant experience with the project subject matter).

now erroneously portrays this discussion as finding that the effects of existing LA/MSF came to an end within a few years of the A380 and A350 XWB launches;

- Whereas the compliance appellate report found that Airbus would have been unable to offer or deliver the A380 or A350 XWB in the post-implementation period assessed (*i.e.*, December 2011 – 2013), the EU contends that the counterfactual launch and initial deliveries of each model would have occurred shortly after the actual dates of such launches and initial deliveries, despite that these contentions effectively argue that the DSB erred by finding the EU out of compliance in the first compliance proceeding; and

- Whereas the first compliance findings rejected the notion that so-called "non-subsidized investments" and other aspects of Airbus LCA programs sever the causal link between the EU LA/MSF and the adverse effects found, the EU argues once again that Airbus's alleged non-subsidized investments "supplant the effects of {LA/}MSF subsidies."[209]

138. The EU does not advance a single argument that takes the first compliance proceeding findings as a starting point. In particular, the EU never attempts to show that, in the counterfactual situation absent existing LA/MSF, Airbus would have been unable to offer the A380 or A350 XWB as of the end of 2013, but would have been able to offer those models in the 2014 – 2018 period. Ultimately, the EU's adverse effects arguments amount to a collateral attack on the first compliance findings. That is, there is no way to accept them without calling into question the first compliance findings. The EU's arguments must therefore be rejected.

139. Below, the United States begins with five subsections that set out the proper framework for the Panel's analysis and correct the EU's misguided approach. Those sections cover the relevant DSB findings; the EU's erroneous characterizations of the DSB's findings; the EU's burden of proof; the EU's proposal of an erroneous, highly restrictive reference period; and the EU's incorrect counterfactual approach. We then detail the many ways in which the EU has failed to show that the factors it cites have attenuated the genuine and substantial causal relationship between existing LA/MSF and adverse effects. Next, the United States shows that the EU's claim fails even under its preferred, incorrect counterfactual analysis. Finally, we demonstrate that aeronautics R&D subsidies compound the EU's failure to comply, including by complementing and supplementing the effects of existing LA/MSF.

A. The Adopted DSB Findings

140. The original and compliance proceedings in this dispute concerned billions of dollars in LA/MSF, capital contributions, and other subsidies that the EU provided Airbus over decades, from Airbus's formation in the late 1960s and early 1970s through the present day. Those

[209] *See* EU FWS, para. 324.

subsidies enabled Airbus to grow into the world-class producer it is today.[210] They did so by solving the central challenge for an LCA producer: the huge risk of making the necessary up-front investment, which can exceed $10 billion, to develop an LCA program.[211]

141. Decisions about such investments must confront significant industrial, technological, and commercial risks, and must reckon with the uncertainties inherent in the industry's long time horizons.[212] Producers incur the development costs years before the program generates significant cash inflows, and many more years before it can be known whether the investment will generate a positive return.[213] Billions of dollars in LA/MSF subsidies shifted LCA development costs and risks from Airbus to the governments of France, Germany, Spain, and the United Kingdom and thereby enabled Airbus to launch, develop, and deliver each of its aircraft families.[214]

142. LA/MSF had especially pernicious effects. As the original panel found:

> Given the amount of funding transferred to Airbus under the individual LA/MSF contracts, and in the light of the formidable risks associated with the LCA business and the learning curve effects that are necessary to successfully participate in this sector, we have found that it would not have been possible for Airbus to have launched all of these models, as originally designed and at the

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[210] *See* Original Panel Report, para. 7.1920 ("Airbus would not have been able to launch any of its existing range of LCA, that is, the A300, A320, A330/A340, A340-500/600 and A380, as and when it did."); *ibid.*, para. 7.1948.

[211] *See, e.g.,* First Compliance Panel Report, para. 6.1214; Original Panel Report, paras. 2.2 ("The design, testing, certification, production, marketing and after-delivery support of LCA is an enormously complex and expensive undertaking. LCA are presently produced only by Boeing and Airbus, which both sell a range of LCA models world-wide, to serve the range of needs of their customers, principally airlines and airplane leasing companies. Both companies engage in continued development of LCA, which requires significant up-front investments over a period of 3-5 years before any revenues are obtained from customers."), 7.296, 7.1882; First Compliance Panel Report, para. 6.485 (with respect to the A350XWB, noting that Spanish Government press releases found the anticipated development cost to be $17.8 billion or more).

[212] *See, e.g.,* First Compliance Panel Report, paras. 6.461-6.579, 6.1214, 6.1510.

[213] *See, e.g.,* First Compliance Panel Report, para. 6.1214.

[214] *See, e.g.,* Original Panel Report, para. 7.1934 ("LA/MSF functions as a risk transferring device which significantly alters the economics of a decision to launch any given LCA programme. This we believe is adequately demonstrated by the Dorman Report which, in this respect, is supported by the sensitivity testing included in the A380 business case. According to both pieces of evidence, the provision of LA/MSF improves the predicted results of the aircraft programme in question, indicating that an affirmative launch decision is more likely than it would be in the absence of such financing. As noted above, we do not consider that the Dorman Report proves that any particular Airbus model would not have had a positive NPV in the absence of LA/MSF. It does, however, demonstrate how LA/MSF, by transferring risk to the government lenders, reduces the manufacturer's risk, and improves the potential profitability of any particular aircraft programme, making a decision to go ahead with LCA programme launch more likely.") ("Original Panel Report"); *ibid.,* para. 7.1948.

> times it did, without LA/MSF. Even assuming this were a possibility, and that Airbus had actually been able to launch these aircraft relying on only market financing, the increase in the level of debt Airbus would have accumulated over the years would have been massive.[215]

In confirming the original panel's findings, the Appellate Body concluded that, under the likely counterfactual scenarios, "{w}ithout the subsidies, Airbus would not have existed under these scenarios and there would be no Airbus aircraft on the market. None of the sales that the subsidized Airbus made would have occurred."[216]

143. The original panel recommended, pursuant to Article 7.8 of the SCM Agreement, that "the Member granting each subsidy found to have resulted in such adverse effects 'take appropriate steps to remove the adverse effects or . . . withdraw the subsidy."[217] The Appellate Body upheld these panel ultimate findings and recommended that "the DSB request the European Union to bring its measures, found in this Report, and in the Panel Report as modified by this Report, to be inconsistent with the *SCM Agreement*, into conformity with its obligations under that Agreement."[218]

144. On December 1, 2011, the EU informed the DSB, through a notification listing 36 supposed compliance "steps," that it had achieved compliance with its WTO obligations and the DSB's recommendations and rulings.[219] The first compliance panel made a factual finding that only two of the 36 "steps" the EU said it took to comply with the DSB recommendations and rulings were related to ongoing subsidization, and that these related exclusively to the relatively minor Bremen airport and Mühlenberger Loch subsidies.[220]

145. With respect to the other subsidies, including *all* of the LA/MSF, "the remaining 34 alleged compliance 'steps' are not 'actions' relating to the ongoing (or even past) subsidization of Airbus LCA . . . ."[221] To make matters even worse, the four Airbus member States actually granted *another* round of LA/MSF to Airbus, this time to launch its latest new model in the twin-

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[215] Original Panel Report, para. 7.1948.

[216] Original Appellate Report, para. 1264.

[217] Original Panel Report, para. 8.7 (ellipsis in original).

[218] Original Appellate Report, para. 1418.

[219] *Communication from the European Union dated 1 December 2011*, WT/DS316/17 (Dec. 5, 2011) (Exhibit USA-44).

[220] First Compliance Panel Report, para. 6.42.

[221] First Compliance Panel Report, para. 6.42. The EU did not appeal the compliance panel's finding that only two of the 36 alleged steps – and none of the LA/MSF-related steps – were affirmative compliance actions.

aisle market, the A350 XWB, amounting to an additional $4.8 billion,[222] for a total of approximately $20 billion in subsidized LA/MSF.

146. The appellate report found that the EU had no remaining compliance obligations with respect to LA/MSF subsidies provided to Airbus LCA models launched prior to the A380 – *i.e.*, LA/MSF to the A300/310, A320, A330/340, and A340-500/600. The appellate report reached this conclusion not because the EU had taken affirmative compliance action, but because those earlier LA/MSF subsidies had "expired" prior to December 1, 2011. In other words, too much time had passed by the end of the period covered by the compliance proceeding, and "{a}n implementing Member cannot be required to withdraw a subsidy that has ceased to exist."[223] As to LA/MSF to the A380 and A350 XWB, the appellate report confirmed that these measures existed in the post-implementation period and continued to cause adverse effects.[224]

147. To assess the U.S. complaint that the LA/MSF subsidies continue to cause adverse effects past the end of the implementation period, the compliance panel and appellate reports evaluated alleged adverse effects during the period from December 1, 2011 (the end of the implementation period) through 2013.[225] The appellate report found that "the orders identified in Table 19 of the Panel Report in the twin-aisle LCA market represent 'significant lost sales' to the US LCA industry and, therefore, that the LA/MSF subsidies existing in the post-implementation period are a genuine and substantial cause of serious prejudice to the United States within the meaning of Article 6.3(c) of the SCM Agreement."[226] The appellate report further found that "the orders identified in Table 19 of the Panel Report in the VLA market represent 'significant lost sales' to the US LCA industry and, therefore, that the LA/MSF subsidies existing in the post-implementation period are a genuine and substantial cause of serious prejudice to the United States within the meaning of Article 6.3(c) of the SCM Agreement."[227]

148. Table 19 of the Compliance Panel Report provides, in relevant part:[228]

Table 19: United States' "Lost Sales" Claims in the Post-Implementation Period

[222] *Airbus Set to Gain Aid for A350*, Kevin Done and Peggy Hollinger, Financial Times (June 15, 2009) (Exhibit USA-45).

[223] First Compliance Appellate Report, paras. 5.383 and 6.11.

[224] First Compliance Appellate Report, paras. 6.10, 6.20-6.23, 6.30-6.31, 6.36-6.37, 6.41, 6.44. The United States uses the phrase "post-implementation period" to refer to the period after the end of the reasonable period of time to comply with the DSB's recommendations and rulings.

[225] *See* First Compliance Panel Report, paras. 6.1805, 6.1817.

[226] First Compliance Appellate Report, para. 6.31(a).

[227] First Compliance Appellate Report, para. 6.37(a).

[228] First Compliance Panel Report, para. 6.1781, Table 19. *See also* First Compliance Appellate Report, para. 5.705, Table 10 and para. 5.723, Table 12.

Product Market / Customer	LCA model	No. of Orders 2012	No. of Orders 2013
Twin-Aisle			
Cathay Pacific Airways	A350 XWB-1000	10	
Singapore Airways	A350X WB-900		30
United Airlines	A350X WB-1000		10
Very Large Aircraft			
Emirates	A380		50
Transaero Airlines	A380	4	

149. The appellate report in the compliance proceeding also found that Boeing's VLA imports into the subsidizing Member market and exports to third country markets – *i.e.*, 747-8I deliveries – were impeded by deliveries of the A380 that would have been unavailable without LA/MSF.[229] The specific country markets, deliveries, and market shares are reproduced below from the compliance appellate report:[230]

[229] First Compliance Appellate Report, paras. 5.740-5.742.

[230] First Compliance Appellate Report, paras. 5.732, 5.742.

Table 13: Market for very large LCA

	European Union			Australia			China		
Delivery Data	**Dec. 2011**	**2012**	**2013**	**Dec. 2011**	**2012**	**2013**	**Dec. 2011**	**2012**	**2013**
Boeing Volume (Units)	0	5	5	0	0	0	0	0	0
Boeing Market Share	-	55.6%	55.6%	0.0%	-	-	0.0%	0.0%	0.0%
Airbus Volume (Units)	0	4	4	1	0	0	1	2	1
Airbus Market Share	-	44.4%	44.4%	100%	-	-	100%	100%	100%

	Korea			Singapore			United Arab Emirates		
Delivery Data	**Dec. 2011**	**2012**	**2013**	**Dec. 2011**	**2012**	**2013**	**Dec. 2011**	**2012**	**2013**
Boeing Volume (Units)	0	0	0	0	0	0	0	0	0
Boeing Market Share	-	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%
Airbus Volume (Units)	0	1	2	0	5	0	2	11	13
Airbus Market Share	-	100%	100%	-	100%	-	100%	100%	100%

150. The first compliance proceeding findings of adverse effects are based on the "product effects" of LA/MSF on the A380 and A350 XWB. The relevant findings begin with those from the original proceeding,[231] which the appellate report explained as follows:

> We agree with the United States that these findings from the original proceedings reveal that, *without A380 LA/MSF, Airbus would have been unable to fund the timely launch of the A380 programme relying exclusively on its own financial*

[231] *See* First Compliance Appellate Report, para. 5.604 ("{W}e recall that the original panel, having examined the evidence on the record, agreed with the United States that, even if Airbus had been confident that the A380 programme would have been viable without LA/MSF, it would not have been able to fund the programme relying exclusively on its own resources and 'outside financing'. The original panel rejected the European Communities' argument that the creation of EADS increased Airbus' financial flexibility. For the original panel, it was not clear how or to what degree the corporate restructuring of Airbus Industrie GIE, Aérospatiale, CASA, and Deutsche Airbus affected the ability of Airbus France (or Airbus SAS) to raise the very large amounts of capital needed for the A380 programme. Finally, the original panel also observed that the European Communities had 'submitted no evidence to support the contention that merely because, reportedly, Boeing was able to finance a significant portion of the non recurring costs of development of the 787 through risk-sharing supplier arrangements, Airbus would necessarily have been able to do the same with respect to the A380.' The Appellate Body upheld the original panel's overall conclusion that 'either directly or indirectly, LA/MSF was a necessary precondition for Airbus' launch in 2000 of the A380', noting that it was based on multiple considerations, including the A380 business case, evidence of Airbus' ability to fund the A380 in the absence of LA/MSF, and the financial and technological impact of LA/MSF provided in relation to previous models of Airbus LCA.").

> *resources and outside financing*. This in turn suggests that A380 LA/MSF had "direct effects" on Airbus's ability to launch the A380.[232]

It then observed with respect to A380 LA/MSF that:

> In this sense, A380 LA/MSF had a genuine impact on Airbus' ability to fund the timely launch of the A380. The original panel's findings, together with the Panel's analysis, indicate that these "direct effects" of A380 LA/MSF continued after the original reference period, given that the A380 LA/MSF subsidies had not expired, as well as the fact that Airbus continued to receive significant sums of money as disbursements under the French, German, and Spanish A380 LA/MSF contracts at a time when it was experiencing severe financial difficulties resulting from the extensive production delays in the A380 programme. We therefore disagree with the European Union's claim under Article 11 of the DSU that the Panel's understanding of the "direct effects" of A380 LA/MSF on Airbus' ability to launch, bring to market, and continue developing the A380 as and when it did lacks a sufficient evidentiary basis.[233]

151. Regarding the existing LA/MSF subsidies' effects on the A350 XWB, the compliance appellate report found:

> The Panel's findings regarding the "direct effects" of the A350XWB LA/MSF subsidies, read together with its findings concerning the "indirect effects" of the A380 LA/MSF subsidies, indicate to us that, without the aggregated "product effects" of the existing LA/MSF subsidies for the A380 and A350XWB programmes, Airbus would not have been able to launch the A350XWB as and when it did.[234]

152. It summarized its causation findings as follows:

> In other words, the existing LA/MSF subsidies that Airbus continued to receive made it possible to proceed with the timely launch of the A350XWB – a high-risk and expensive programme of considerable strategic importance to Airbus – and to bring to market the A380, which had suffered extensive delays.
>
> In sum, our discussion of the Panel's findings reveals that the LA/MSF subsidies existing in the post-implementation period – *i.e*. the A380 and A350XWB LA/MSF subsidies – enabled Airbus to proceed with the timely launch and development of the A350XWB, and to bring to market and to continue developing the A380. Both these events, as the above analysis shows, were

[232] First Compliance Appellate Report, para. 5.605 (emphasis added).

[233] First Compliance Appellate Report, para. 5.609. *See also ibid.*, para. 5.646.

[234] First Compliance Appellate Report, para. 5.639.

crucial to renew and sustain Airbus' competitiveness in the post implementation period.[235]

153. The compliance appellate report relied on these causation findings in making its significant lost sales findings concerning the A350 XWB and A380:

- "With regard to lost sales in the twin-aisle LCA market, our review of the Panel's finding on the product effects of LA/MSF subsidies on the A350XWB indicates that, in the absence of the LA/MSF subsidies existing in the post-implementation period (*i.e.* after 1 December 2011), ***Airbus would not have been able to offer the A350XWB at the time it did and with the features it had***. The Panel's finding that the sales of the A350XWB in the post-implementation period constituted 'lost sales' to the US LCA industry within the meaning of Article 6.3(c) of the SCM Agreement is also supported by relevant Panel findings regarding the competitive dynamics between Boeing's and Airbus' respective product offerings in the twin-aisle LCA market."[236]
- "Our review of the Panel's findings, as well as the relevant findings from the original proceedings, indicates that, in the absence of the LA/MSF subsidies existing in the post implementation period, ***Airbus would not have been able to offer the A380 at the time it did***. ***In other words, in the absence of these subsidies, Airbus would not have been able to be 'present in {both} of the relevant sales campaigns as exactly the same competitor selling identical aircraft' in the post-implementation period***."[237]

154. Notably, the compliance appellate report rejected the EU's arguments that the A380's product characteristics (such as greater size and more advanced technology compared to the 747-8I) constituted non-attribution factors that explained the Emirates and Transaero lost sales. The compliance appellate report included "doubts as to whether Airbus' pre-existing commonality advantages and other product-related advantages over Boeing could be characterized as non-attribution factors that could be said to 'dilute' the causal link between the LA/MSF subsidies existing in the post-implementation period and the relevant market phenomena."[238] Rather, the Appellate body did "not view these factors as unrelated to the effects of the subsidies," and that

[235] First Compliance Appellate Report, paras. 5.646-5.647.

[236] First Compliance Appellate Report, para. 6.30 (emphasis added).

[237] First Compliance Appellate Report, paras. 5.725-5.726 (quoting First Compliance Panel Report, para. 6.1789) (emphasis added).

[238] First Compliance Appellate Report, para. 5.729.

"absent the LA/MSF subsidies existing in the post-implementation period, Airbus would not have been able to launch and bring to market the A380 at the time it did."[239]

155. The compliance appellate report similarly found that existing LA/MSF's product effects supported findings of impedance:

> {I}n the absence of the LA/MSF subsidies existing in the post implementation period, ***Airbus would not have been able to offer the A380 at the time it did***. Furthermore, we recall that, as the Panel's analysis of the competitive dynamics in the VLA market shows, Boeing's and Airbus' respective product offerings – the 747-8 and the A380 – are sufficiently substitutable. Therefore, the Panel's conclusion regarding impedance, insofar as the VLA market is concerned, is supported by its findings on the "product effects" – including those of the A380 LA/MSF subsidies existing in the post-implementation period – and by the data concerning the deliveries of the subsidized Airbus LCA – the A380 – that hindered the sales of competing US LCA in the VLA markets concerned. Thus, contrary to the situation regarding alleged impedance in the twin-aisle LCA market, the "product effects" of the LA/MSF subsidies existing in the post implementation period, including the A380 LA/MSF subsidies, and the VLA delivery data underlying the United States' claim, concern the same aircraft model, and, as explained above, the Panel made necessary findings on both "product effects" and delivery data. On the basis of these considerations, we see no error in the Panel's conclusion that, absent the LA/MSF subsidies, the US LCA industry would have achieved a higher volume of deliveries and market share in the VLA markets at issue than its actual level in the post implementation period.[240]

As with the lost sales findings concerning Transaero and Emirates in the December 2011 – 2013 period, the ultimate conclusion as to impedance rests on a finding that, in the counterfactual situation absent LA/MSF for the A380 and A350 XWB, "Airbus would not have been able to offer the A380 at the time it did**.**"[241]

156. The following passage from the EU's first written submission accurately sums up these findings:

> Where the market presence of a model of aircraft, at the time of a sales campaign, was attributable to the direct effects and indirect effects from subsidies, this served as the basis for findings of significant lost sales, on the notion that, absent the subsidies, the Airbus product would not have competed in the sales campaign,

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[239] First Compliance Appellate Report, para. 5.729.

[240] First Compliance Appellate Report, para. 5.740. *See also ibid.*, para. 6.41.

[241] First Compliance Appellate Report, para. 5.740. *See also ibid.*, para. 6.41.

> and Boeing would instead have won the sale. Similarly, these findings relating to the market presence of Airbus' models also served as the eventual basis for findings of other forms of volume effects (and specifically, impedance).[242]

Thus, it is clear that the ultimate findings of significant lost sales and impedance rest on the conclusion that the aircraft in question would not have competed in the listed sales campaigns or been delivered in the listed country markets because they would not have been present in the market for offer or delivery.

B. The EU's "Summary" of Relevant Findings from the Original and First Compliance Proceedings is Riddled with Errors.

157. Before turning to its substantive arguments on purported removal of the adverse effects, the EU lays out in Section V.B.2 of its first written submission what it suggests is a summary of the relevant findings from the original and first compliance proceedings relating to direct and indirect effects of LA/MSF. However, this "summary" is frequently misleading.

158. *First*, the EU asserts that the first compliance panel identified two circumstances in which direct effects can arise – where the subsidies enabled the launch of an aircraft model, and where the subsidies merely accelerated the development and bringing to market of a model by a few years in advance of what would have been the case without LA/MSF.[243] The EU asserts that the findings in the first compliance proceeding were of the second variety, stating that the first compliance panel emphasized that the direct effects of the LA/MSF subsidies "mean that 'LA/MSF enabled Airbus to develop and bring to market a particular aircraft only *a few years in advance of what would have been the case without LA/MSF*'."[244] This is a mischaracterization of the first compliance panel report. The first compliance panel's statement quoted by the EU describes a hypothetical situation, *not* a factual finding that Airbus would have been able to develop and bring to market the A380 or A350 XWB "only a few years in advance" of what would have been the case without LA/MSF.[245]

159. *Second*, the EU asserts:

> Specifically, in relation to the **direct effects of A350XWB MSF** subsidies, the first compliance panel found that the Airbus company that actually existed in the 2006 to 2010 period would, in the absence of A350XWB MSF, "have been able to launch and bring to market the A350XWB", but that, "*to some degree*, {Airbus would} have had to make certain compromises with respect to the pace of the

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[242] EU FWS, para. 41 (footnotes citations omitted) (citing First Compliance Panel Report, paras. 6.1785-6.1789 and paras. 6.1806-6.1817).

[243] EU FWS, para. 264.

[244] EU FWS, para. 269 (quoting First Compliance Panel Report, para. 6.1507 (emphasis original)). *See also* EU FWS, para. 264.

[245] *See* First Compliance Panel Report, para. 6.1507.

> programme and/or the features of the aircraft". Hence, the panel report, as confirmed by the Appellate Body report, concluded that A350XWB MSF affected the launch of the A350XWB, *as and when* that launch occurred. The panel *did not* find that the A350XWB could never have been launched in **the absence of MSF**.[246]

160. The EU's conclusion in the second and third sentences – which purport to summarize the product effects of LA/MSF – in no way follows from the first sentence. As the EU notes, the quotation in the first sentence was part of an intermediate step assessing only the direct effects of A350 XWB LA/MSF. In this passage, the compliance panel was addressing the direct effects of A350 XWB in isolation from the indirect effects of other LA/MSF. But when it came time to actually draw conclusions about product effects, the first compliance panel aggregated all existing LA/MSF subsidies and treated them as a single subsidy.[247] The EU later acknowledges as much.[248] To present the effects of A350 XWB LA/MSF in isolation as the effects of all existing LA/MSF taken together is accordingly to misrepresent the findings of the first compliance proceeding. Such characterizations are not an appropriate starting point for this Panel's analysis

161. *Third*, the EU asserts that the first compliance panel "identified circumstances in which the *indirect* effects of MSF on subsequent models of LCA 'would play a relatively minor role in {the} launch and bringing to market {of a later-in-time LCA}'" and that "{t}hese circumstances provide examples of the ceasing of indirect effects of MSF."[249] The EU then states that, "{i}n the specific case of MSF granted to Airbus, the panel held that 'the managerial know-how, marketing knowledge, experience with composite technologies, and infrastructure and engineering skills gained from {earlier} programmes were likely *supplanted* by similar Learning Effects accumulated from Airbus' experiences with subsequent LCA programmes'."[250]

162. The EU conceals the context in which both compliance panel statements were made. The first statement was made in the context of explaining how – if the EU would stop subsidizing every Airbus LCA program – then as one unsubsidized program followed another, the indirect effects of its existing subsidies would diminish and eventually come to an end.[251] The second statement quoted by the EU was actually a finding that, given the age of the A300 and A310 programs, the "Learning Effects" of A300 and A310 LA/MSF on the A350 XWB were likely "supplanted" by similar Learning Effects of more recent *subsidized* aircraft programs, such as the

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[246] EU FWS, para. 265 (quoting First Compliance Panel Report, para. 6.1717) (italics original, bold and underline added).

[247] *See* First Compliance Appellate Report, para. 5.647.

[248] *See* EU FWS, para. 268 (citing First Compliance Appellate Report, para. 5.639).

[249] EU FWS, para. 270 (quoting First Compliance Panel Report, para. 6.1529).

[250] EU FWS, para. 270 (quoting First Compliance Panel Report, note 3222) (emphasis original).

[251] *See* First Compliance Panel Report, paras. 6.1528-6.1529.

A380.[252] The verb "supplanted" is key. The indirect effects of the more recent programs replaced indirect effects of programs that at the time of the A350 XWB were so old as to play a relatively minor role.

163. The first compliance appellate report affirmed the first compliance panel's finding that A380 LA/MSF had indirect effects on the A350 XWB, emphasizing that "it was of the view that the A350XWB *significantly benefitted* from the 'learning effects' *of the A380 in particular*."[253] Thus, it is hard to see how the first compliance panel's findings regarding the effects of LA/MSF for the defunct A300 and A310 (the first models in Airbus's history) are relevant to the analysis of the effects of LA/MSF for the very much extant A380.

164. *Fourth*, the EU states that, "generally, indirect effects cease to exist when their direct effects would have timed out."[254] The EU cites no support for this assertion. Therefore, it is unclear why it appears in the EU's summary of findings section. Moreover, it is incorrect. If a product would have launched later in the counterfactual situation absent LA/MSF subsidies, the learning effects would have been delayed by the same amount of time (or at least that would be the assumption absent specific evidence of why post-launch learning would have proceeded slower or faster than it actually did). Moreover, a later launch with lost sales in the interim means that the program would start generating cash later and would generate less of it. Therefore, contrary to the EU's unsupported assertion, the indirect financial and learning effects attributable to the subsidies *do* persist.

165. *Fifth*, the EU states that, "{f}or the A380, the{} adverse effects were attributed to the 'direct effects' of A380 {LA/}MSF alone."[255] To the contrary, the compliance appellate report found that the effects of A380 LA/MSF *and* A350 XWB LA/MSF worked together to enable Airbus to overcome the severe problems with the A380 program while simultaneously undertaking development of the A350 XWB, another major LCA development program.[256] Based on these findings, the first compliance appellate report concluded that the "subsidies existing in the post-implementation period – *i.e.*, the A380 and A350XWB LA/MSF subsidies" had product effects on the A380 as well as the A350 XWB:

> In sum, our discussion of the Panel's findings reveals that ***the LA/MSF subsidies existing in the post-implementation period*** – *i.e.*, the A380 ***and A350XWB LA/MSF subsidies*** – ***enabled Airbus*** to proceed with the timely launch and development of the A350XWB, and ***to bring to market and to continue developing the A380***. Both these events, as the above analysis shows, were

[252] First Compliance Panel Report, para. 6.1760, note 3222.

[253] First Compliance Appellate Report, para. 5.637 (emphasis added).

[254] EU FWS, para. 271.

[255] EU FWS, para. 262

[256] First Compliance Appellate Report, para. 5.646 (emphasis added).

> crucial to renew and sustain Airbus' competitiveness in the post-implementation period.[257]

Thus, the EU errs in characterizing the first compliance findings as if A350 XWB LA/MSF subsidies did not have product effects on the A380. Rather, the indirect effects of A350 XWB assisted Airbus in its post-launch development of the A380. In any scenario in which the EU claims that the A380 would have launched, it would have to address the indirect effects of A350 XWB LA/MSF.

C. The EU's Burden of Proof in this Second Compliance Proceeding

166. "It is well established that the general rules on the allocation of the burden of proof in WTO dispute settlement also apply to Article 21.5 of the DSU."[258] As the Appellate Body clarified in *Chile – Price Band Systems (21.5)*, "in WTO dispute settlement, as in most legal systems and international tribunals, the burden of proof rests on the party that asserts the affirmative of a claim or defence."[259] Thus, the EU bears the burden of establishing its claim to have taken appropriate steps to remove the adverse effects of existing LA/MSF.[260]

167. This means that it is the EU's burden to establish with argumentation and evidence, for example, its assertions that existing LA/MSF no longer have direct or indirect effects, *i.e.*, "product effects." Included in this is the EU's burden to demonstrate, consistent with its allegations, that the A380 and A350 XWB would be available for offer and delivery in the present period even in the absence of LA/MSF.[261]

168. Moreover, the EU's case must be consistent with both the original proceeding findings and first compliance proceeding findings adopted by the DSB. A second compliance proceeding does not "occur{} in a vacuum, but rather form{s} part of a *continuum* of events, beginning with the original panel proceedings."[262] The Appellate Body has explained that, "{a} panel's examination of a measure taken to comply cannot, therefore, be undertaken in abstraction from the findings by the original panel and the Appellate Body adopted by the DSB. Such findings identify the WTO-inconsistency with respect to the original measure, and a panel's examination of a measure taken to comply must be conducted with due cognizance of this background."[263]

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[257] First Compliance Appellate Report, para. 5.647 (emphasis added).

[258] *US – Large Civil Aircraft (21.5 – EU) (Panel)*, para. 6.18 (citing *Chile – Price Band Systems (21.5) (AB)*, paras. 134-136; and *US – Upland Cotton (21.5)* (*Panel)*, para. 9.4.

[259] *Chile – Price Band Systems (21.5) (AB)*, para. 134.

[260] *Cf.* EU FWS, para. 405.

[261] *Cf.* EU FWS, paras. 326-353, 397-403.

[262] *US – Tuna (21.5 II) (Panel)*, para. 7.144 (emphasis original).

[263] *Chile – Price Band System (21.5) (AB)*, para. 136; *see also US – Tuna (21.5 I) (AB)*, para. 5.9 ("compliance panel should take due account of the relevant reasoning that led to the original measure being found to be WTO-inconsistent in its examination of whether the measure taken to comply redresses such WTO-

Just as the original proceeding findings served as the starting point for the first compliance proceeding,[264] the first compliance proceeding serves as the starting point for this second compliance proceeding.

169. Therefore, starting with the findings adopted in the first compliance proceeding, the EU bears the burden of proving that, since the end of the first compliance reference period (*i.e.*, the end of 2013), the EU has taken appropriate steps to remove the adverse effects. Here, regarding adverse effects, the findings from the first compliance proceeding, as detailed above, establish that A380 and A350 LA/MSF have "product effects" that enable Airbus to offer and deliver those aircraft, resulting in serious prejudice in the form of significant lost sales in the twin-aisle and VLA markets and impedance in VLA country markets. Thus, the EU bears the burden of establishing a change (or changes) since the end of 2013 that severed the causal link between the subsidies and product effects, or of otherwise demonstrating that it has removed the adverse effects that its subsidies cause.

D. The EU Proposes an Erroneous Reference Period.

170. With regard to the appropriate reference period, the EU contends that "the starting point for an assessment that non-withdrawn subsidies are causing alleged present adverse effects may be no earlier than the adoption of the DSB's recommendations and rulings in the first compliance proceedings."[265] According to the EU, "the Panel must therefore assess whether there is, *after* 28 May 2018 and at present, a genuine and substantial causal link between non-withdrawn subsidies and any presently-arising market phenomena alleged to constitute adverse effects."[266] The EU's position is unsupported and would impose unwarranted restrictions on the Panel's assessment.

171. Because the EU's reasonable period of time to come into compliance expired on Dec. 1, 2011, and because the first compliance proceedings examined compliance as of the end of 2013, it would be appropriate for the Panel to use the compliance proceeding findings as a starting point, and assess the EU's claim to having removed the adverse effects by reference to the period from January 1, 2014 through the present.

172. In doing so, it is appropriate to take into account: (i) the prior findings on LA/MSF's product effects, which show that LA/MSF causes adverse effects for as long as those product

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inconsistencies."); *US – Shrimp (21.5) (Panel)*, para. 5.5 ("In other words, although we are entitled to analyse fully the consistency with a covered agreement of measures taken to comply, our examination is not done from a completely fresh start. Rather, it has to be done in the light of the evaluation of the consistency of the original measure with a covered agreement undertaken by the Original Panel and subsequently by the Appellate Body.") (internal quotes omitted).

[264] *See* First Compliance Appellate Report, para. 5.558.

[265] EU FWS, para. 226.

[266] EU FWS, para. 226 (emphasis original).

effects are ongoing,[267] (ii) the conditions of competition in this industry, where orders are relatively infrequent,[268] and, as such, the absence of a lost sale or relatively few deliveries within a period of a few months does not necessarily indicate that the subsidies have ceased causing adverse effects, and (iii) the presence or absence of any changes in the factual situation over that period and the relevance of any such facts to whether, as the EU argues, LA/MSF no longer causes product effects.

173. The EU's efforts to unduly restrict the Panel's reference period, in any event, are self-defeating. The reference period starting on May 28, 2018 urged by the EU would obviously be very short. But the EU ignores that the first compliance proceeding findings are the starting point, and that the EU bears the burden of proving that the adverse effects have since been removed. If the Panel limited itself to a very short reference period and determined that it could not draw any firm conclusions from limited data, the EU's case would fail. This is particularly appropriate, as it would be perverse in the extreme if an original responding member could obtain a favorable result merely by initiating a second compliance dispute shortly after a panel or appellate report with adverse findings in the first compliance proceeding and convincing a second compliance panel to use a reference period of only a few months, thereby effectively closing off panel review of antecedent evidence of adverse effects.

174. In sum, if the EU cannot establish that something material to the causal pathway has changed since 2013, then its claims of having removed the adverse effects fail.

E. The EU Proposes an Incorrect Counterfactual.

175. The EU proposes an incorrect counterfactual for the Panel's analysis of whether the EU has taken appropriate steps to remove the adverse effects of existing LA/MSF subsidies. According to the EU, "in the context of compliance proceedings, the relevant counterfactual must be seen through the lens of Article 7.8 of the SCM Agreement, which permits an implementing Member to comply by withdrawing the relevant subsidies or, alternatively, taking appropriate steps to remove their adverse effects."[269] The EU then argues that, in assessing whether compliance has been achieved through the removal of adverse effects, the appropriate counterfactual in these compliance proceedings entails a comparison of the current market situation with the market situation that would have existed if the A380 and A350 XWB LA/MSF had been withdrawn at the end of the implementation period, *i.e.*, in December 2011.[270] This approach is incorrect.

176. In the original proceeding, the Appellate Body clarified that when performing a unitary analysis of causation for purposes of Article 6.3 of the SCM Agreement, the effects of the

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[267] *See supra*, Section VII.A.

[268] *See* Original Panel Report, paras. 2.2, 7.1716-7.1727.

[269] *See* EU FWS, para. 278.

[270] *See* EU FWS, para. 280.

subsidies at issue should be determined by conducting a counterfactual analysis comparing the actual market situation with the market situation that would exist in the absence of those subsidies.[271]

177. The first compliance panel and appellate reports followed the same approach in analyzing the EU's claims of compliance. That is, both assessed the counterfactual market situation absent the subsidies at issue.[272] Thus, the EU is proposing that this compliance Panel take an approach different from that of the first compliance proceeding. This would be an arbitrary deviation between one compliance proceeding and another in the same dispute, and also risks contrary findings despite identical facts.[273]

178. Moreover, the counterfactual approach now pushed by the EU is problematic in several ways.

179. First, the proper counterfactual is what the current market condition would be like in the absence of the subsidies. The proper counterfactual is not what the current market condition would be like if actions that were not taken years ago had in fact been taken.

180. Second, the EU's proposed counterfactual is inconsistent with the text of Article 7.8 of the SCM Agreement, which states that "the Member granting or maintaining such subsidy shall take appropriate steps to remove the adverse effects or shall withdraw the subsidy." The Appellate Body has clarified:

> {T}he compliance options under Article 7.8 carry distinct meaning, as is made clear by the use of word "or" in Article 7.8. Indeed, the Appellate Body has emphasized that ***a panel must "assess whether the Member concerned has taken one of the actions foreseen in Article 7.8***". A Member is not required to "take appropriate steps to remove the adverse effects" of a subsidy and to "withdraw" the same subsidy. Rather, either of these actions can achieve compliance.[274]

181. However, under the EU's theory, the Member does not need to take ***either*** action to come into compliance. The EU's theory suggests for example that if the adverse effects that would persist after a hypothetical withdrawal are just as severe as the adverse effects in the absence of withdrawal, then a Member should be found to have complied. Thus, under the EU's theory, a

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[271] *See* Original Appellate Report, para. 1110 (emphasis added).

[272] *See* First Compliance Appellate Report, paras. 5.558, 5.580, 5.583; First Compliance Panel Report, para. 6.1456.

[273] *See US – Softwood Lumber VI (21.5) (AB)*, para. 103 ("doubts could arise about the objective nature of an Article 21.5 panel's assessment if, on a specific issue, that panel were *to deviate* from the reasoning in the original panel report in the absence of any change in the underlying evidence in the record").

[274] First Compliance Appellate Report, para. 5.368 (emphasis added) (internal citation omitted).

Member can achieve compliance without withdrawing the subsidy and without removing the adverse effects.

182. Article 7.8 does not have a third option. It states that a Member "***shall*** take appropriate steps to remove the adverse effects ***or shall*** withdraw the subsidy."[275] A Member that has done neither plainly has not complied with this provision.

183. Third, the EU's approach calls on the Panel, in determining a counterfactual, to determine how the subsidy was withdrawn. However, there is no one way for a Member to achieve withdrawal. There is no legal basis for a compliance panel to ground its analysis in any one (or more) hypothetical actions taken to withdraw a subsidy.

184. Fourth, as the panel and appellate reports in the original and first compliance proceedings show, the question of whether a particular action complies with WTO obligations can be extremely complicated. The approach advocated by the EU would essentially double the complexity, as a compliance panel would first have to evaluate whether the subsidizing Member's actual compliance steps withdrew the subsidy and were otherwise consistent with WTO rules. If not, the compliance panel would then need to conduct a second evaluation of whether some hypothetical compliance steps withdrew the subsidy and were otherwise consistent with WTO rules. And if it determined that the hypothetical steps did constitute withdrawal, the compliance panel would have to conduct yet another inquiry to assess the adverse effects in that scenario.

185. The same approach should be followed as in previous phases of this dispute and endorsed by the appellate report.[276] Indeed, this possibility is highlighted by the one-page argument the EU puts forward under this flawed counterfactual, which as demonstrated in Section VII.G below, is in effect an appeal of the DSB's adopted findings from the first compliance proceeding.

F. None of the Factors Identified by the EU Sever the Genuine and Substantial Causal Link Found to Exist Between LA/MSF Subsidies and Adverse Effects Related to the A380 And A350 XWB.

186. The EU argues that, even if the Panel disagrees that it has withdrawn certain LA/MSF subsidies and follows the counterfactual approach adopted in the first compliance proceedings, the EU still has removed the adverse effects by severing the causal link between A380 and A350 XWB LA/MSF and present adverse effects, "such that the former is not a genuine and substantial cause of the latter."[277] The EU's arguments regarding removal of the adverse effects focus entirely on the link in the causal chain between the LA/MSF subsidies and their product

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[275] SCM Agreement, Art. 7.8 (emphasis added).

[276] *See US – Softwood Lumber VI (21.5) (AB)*, para. 103 ("doubts could arise about the objective nature of an Article 21.5 panel's assessment if, on a specific issue, that panel were *to deviate* from the reasoning in the original panel report in the absence of any change in the underlying evidence in the record").

[277] *See* EU FWS, paras. 293-399, 365-370.

effects.[278] The EU argues that four categories of factors attenuate the causal link: (1) reduction in the benefit of certain subsidies as a result of less than full drawdown; (2) reduction in benefit as a result of "amortization;" (3) non-subsidized investments that supplant the product effects of the subsidies; and (4) "timing out" of subsidy product effects.

187. With respect to the first two, even assuming *arguendo* that the EU could establish a reduction in benefit, the EU fails to even put forward a theory of how a reduced benefit would have any effect whatsoever on the product effects of LA/MSF. With respect to non-subsidized investments, this is an argument that the EU already made unsuccessfully in the first compliance proceeding; its argument here has no more merit. And finally, the EU's "timing out" arguments rely on counterfactual propositions that are entirely unsupported by evidence and contradict findings adopted by the DSB in this dispute. Below the United States discusses each of the EU's alleged attenuating factors in greater detail.

1. "Less than full drawdown" of French and UK A350 XWB LA/MSF

188. The EU argues that the less than full drawdown of French A380 LA/MSF and French and UK A350 XWB LA/MSF reduces the benefit of the subsidies.[279] Specifically, the EU argues that Airbus did not draw down **[***]** percent of the anticipated principal under French A380 LA/MSF.[280] The EU further argues that "Airbus did not draw down fully the UK and French A350 XWB MSF loans," and as a result "the benefit of these loans is smaller than anticipated *ex ante*."[281] According to the EU, the less than full drawdown of loans attenuates the causal link between non-withdrawn LA/MSF subsidies and any alleged present adverse effects, such that the former are not a genuine and substantial cause of the latter.[282]

189. As an initial matter, the EU has not established that less than full drawdown reduces the benefit of the subsidies. The benefit of LA/MSF was determined at the time it was granted. The French and UK A350 XWB LA/MSF contracts entitled Airbus to funds on better than commercial terms.[283] Airbus's entitlement to the full LA/MSF amounts represents the extent to

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[278] The EU does not argue that, even if the product effects remain intact, the subsidies for some other reason cease to cause the market phenomena in Article 6.3.

[279] *See* EU FWS, paras. 293-299.

[280] EU FWS, para. 367.

[281] *See* EU FWS, para. 294.

[282] *See* EU FWS, paras. 299, 370.

[283] *See* First Compliance Appellate Report, para. 5.350 ("we uphold the Panel's findings, in paragraphs 6.632 (including Table 10) and 6.633 of its Report, that Airbus paid a lower interest rate for the A350XWB LA/MSF than would have been available to it on the market and that, consequently, a benefit has thereby been conferred within the meaning of Article 1.1(b) of the SCM Agreement. Consequently, we also uphold the Panel's findings, in paragraphs 6.656 and 7.1.c.i. of its Report, that the French, German, Spanish, and UK A350XWB LA/MSF contracts each constitute a subsidy within the meaning of Article 1.1 of the SCM Agreement and, thus, that

which LCA program risk has been transferred away from Airbus to the subsidizing governments. As the original panel found, this risk-transferring aspect of LA/MSF affects Airbus's investment behavior at the time the investment decision is made – *i.e.*, before all LA/MSF funds have been disbursed and before actual development costs are known.[284]

190. More importantly, even assuming *arguendo* that the benefit has somehow been reduced by an "intervening event," the EU does not even attempt to explain how the reduced benefit would impact the product effects of LA/MSF. The French and UK commitments to give the full amount of A350 XWB LA/MSF subsidies were one of the financial considerations that enabled Airbus to launch the A350 XWB in the first place. Similarly, the French commitment to give the full amount of A380 LA/MSF subsides was a critical part of the financing package that enabled Airbus to launch the A380 in 2000. The fact that Airbus (to date)[285] drew down less than the full amount – a purported occurrence years after launch, after Airbus had progressed past the initial, riskiest phase of the respective program, and after the onset of adverse effects – does not attenuate the causal link established in the first compliance proceeding between the existing subsidies and Airbus's ability to offer and deliver the A380 and A350 XWB in the post-implementation period.

191. Perhaps because there is no discernible connection between the "less than full drawdown" and LA/MSF's product effects, the EU relies on vague statements, such as the Appellate Body's explanation that intervening events "***may*** be relevant to an adverse effects analysis because they ***may*** affect the link that a complaining party is seeking to establish between the subsidy and its alleged effects."[286] It states that the Panel must take into account the nature and extent of the causal link found in the first compliance proceedings and the reduced magnitude of non-withdrawn LA/MSF.[287] Conspicuously, the EU never actually explains how the Panel should "take it into account" – that is, how it is in any way relevant. It is not. And for this reason, the reduced benefit of allegedly less than full drawdown does nothing to attenuate the genuine and substantial causal link established in the original proceeding and the compliance proceeding.

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the United States has demonstrated that the French, German, Spanish, and UK A350XWB LA/MSF contracts are specific subsidies within the meaning of Articles 1 and 2 of the SCM Agreement.").

[284] *See* Original Panel Report, para. 7.1934 ("LA/MSF, by transferring risk to the government lenders, reduces the manufacturer's risk, and improves the potential profitability of any particular aircraft programme, making a decision to go ahead with LCA programme launch more likely.").

[285] It is not clear that Airbus will not draw down additional funds in the future.

[286] Original Appellate Report, para. 709.

[287] EU FWS, paras. 299, 370.

2. So-called "amortization" of LA/MSF

192. The EU contends that the passage of time, or "amortization," of LA/MSF has reduced the benefit.[288] At the outset, it should be noted that the EU's argument conflates two distinct issues: an approach for determining the "life" of a subsidy, *i.e.*, the EU's "Loan Life" approach, and the "passage of time" as an intervening event that may attenuate the causal link between a subsidy and present adverse effects. As the first compliance panel stated, "the Appellate Body {has} at no stage equated the 'life' of a subsidy with the complete dissipation of its effects," and, "{o}n the contrary, elsewhere in its report, the Appellate Body explicitly recognized that the 'life' of a subsidy will not necessarily define the duration of its effects."[289]

193. Moreover, while the Appellate Body found the life of a subsidy analysis to be legally relevant for purposes of assessing whether the EU had compliance obligations with respect to certain LA/MSF measures, it did not adopt "amortization" as the tool to measure that life. To the contrary, it stated that "{a}lthough we neither endorse nor reject the specific amortization methodology proposed by the European Union in this case, we see no reason to disagree with the notion that allocation of a subsidy over the anticipated marketing life of an aircraft programme may be one way to assess the duration of a subsidy over time."[290]

194. Moreover, the first compliance panel found that[291]:

> {I}t is unclear to us whether the "Loan Life" approach advocated by the European Union would be the most appropriate methodology for determining the "projected value" of the subsidies provided under the LA/MSF agreements. Given that it was expected that the nature, amounts and projected use of the LA/MSF subsidies would enable Airbus to develop and bring to market one or more of its LCA products, we believe it would be at least equally appropriate to equate the *ex ante* lives of the relevant LA/MSF subsidies with the anticipated marketing lives of the relevant LCA that it was expected would be developed and brought to market with LA/MSF. In other words, because of the anticipated "product creating" nature of LA/MSF, we see no reason why the *ex ante* lives of the challenged LA/MSF subsidies should not be defined by the expected marketing lives of the funded LCA programmes. In this respect, we recall that the Appellate Body found "no reason to disagree with the notion that allocation of a subsidy over the anticipated marketing life of an aircraft programme could be one way to assess the duration of a subsidy over time."

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[288] *See* EU FWS, paras. 300, 304.

[289] *See* First Compliance Panel Report, para. 6.1488.

[290] Original Appellate Report, para. 1241.

[291] First Compliance Panel Report, paras. 6.878-6.879.

195. The EU seeks to portray its "amortization" approach, as embodied in its loan life metric for determining the life of a subsidy, as one "endorsed by the first compliance panel and upheld by the Appellate Body."[292] As the quotation from the first compliance panel report shows, not only did the Appellate Body fail to "endorse" the EU amortization approach, but it seems to lean instead toward the alternative marketing life approach.

196. Separately, just as was the case with respect to the allegedly less than full drawdown, the EU fails to even put forward an explanation of how a supposed reduction in the benefit through "amortization" would impact the genuine and substantial causal link established in the original and first compliance proceedings. At no time did either panel or appellate reports link the putative "amortization" of LA/MSF over time to a diminution of its adverse effects. Indeed, given the causal pathway for the "product effects" of LA/MSF, a downward slope in the *ex ante* expected trajectory of the subsidy at some point in its life would not affect a conclusion that absent the initial grant and payment of LA/MSF, an aircraft program would not have been launched and brought to market.

197. Rather, what mattered in the first compliance proceeding was whether the subsidy had expired, and it mattered not for assessing adverse effects but for determining whether the EU had a compliance obligation.[293] For A380 and A350 XWB LA/MSF, which had not expired, the DSB adopted findings of adverse effects. And at no point did either the compliance panel report or the compliance appellate report address the supposed diminution of the benefit in the assessment of adverse effects.

3. "Non-subsidized investments" in the A380 and A350 XWB

198. The EU argues that allegedly non-subsidized investments in the A380 and A350 XWB have attenuated the causal link between LA/MSF and any present adverse effects.[294]

199. This is a recycled version of the EU's failed "non-subsidized investment" arguments from the first compliance proceeding and should be rejected once again. The first compliance panel specifically rejected the EU's argument that the causal link between LA/MSF and the continued market presence of the A320 and A330 families was attenuated by "massive" and, allegedly, non-subsidized investments Airbus made with its own funds.[295] In support of its argument, the EU cited allegedly non-subsidized investments in: (a) "Continuing Development;" (b) "Continuing Support;" (c) the design and manufacture of three non-subsidized variants; and

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[292] *See* EU FWS, para. 305.

[293] *See* First Compliance Appellate Report, para. 5.383 ("In light of the foregoing, we find that the obligation to 'take appropriate steps to remove the adverse effects or … withdraw the subsidy' concerns the subsidies that continue to be "grant{ed} or maintain{ed}"by the implementing Member at the end of the implementation period. An implementing Member cannot be required to withdraw a subsidy that has ceased to exist. Nor do we see a basis, under Article 7.8 of the SCM Agreement, to require that an implementing Member.").

[294] *See* EU FWS, paras. 309-325; 379-391.

[295] *See* First Compliance Panel Report, para. 6.1516.

(d) the setting up of three new A320 final assembly lines.[296] The EU argued that these investments "turned the two aircraft families into different, significantly upgraded, products compared to those originally launched with the assistance of LA/MSF, thereby ensuring their continued attractiveness to customers and explaining their enduring competitiveness."[297]

200. The first compliance panel rejected the EU's arguments, finding that there was "no basis" for "concluding that such investments have diluted the link between the pre-A350 XWB LA/MSF subsidies" and the continued market presence of the A320 and A330.[298] In effect, the first compliance panel correctly reasoned that Airbus was only in a position to make those investments because of the effects of the LA/MSF subsidies. Had those subsidies not enabled the existence of the aircraft in the first place, there would have been nothing to improve and insufficient expertise to make the improvements.[299]

201. Moreover, the appellate report rejected a similar EU argument in the first compliance proceeding – *i.e.*, that the A380's product characteristics (such as greater size and more advanced technology compared to the 747-8I) constituted non-attribution factors that explained the Emirates and Transaero lost sales. The compliance appellate report conveyed "doubts as to whether Airbus' pre-existing commonality advantages and other product-related advantages over Boeing could be characterized as non-attribution factors that could be said to 'dilute' the causal link between the LA/MSF subsidies existing in the post-implementation period and the relevant market phenomena."[300] The compliance appellate report did "not view these factors as unrelated to the effects of the subsidies," and recalled that "absent the LA/MSF subsidies existing in the post-implementation period, Airbus would not have been able to launch and bring to market the A380 at the time it did."[301] If the A380's product characteristics in the post-implementation period are not "unrelated to the effects of the subsidies," then the EU has no basis to argue that the conclusion should be any different with respect to some incremental improvement to those characteristics (or those of the A350 XWB) supposedly funded using Airbus's internal funds.

202. The reasoning of the first compliance panel and appellate reports applies here and the EU's arguments should be rejected.[302] In this proceeding, the EU cites evidence of nearly

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[296] *See* First Compliance Panel Report, para. 6.1516.

[297] *See* First Compliance Panel Report, para. 6.1516.

[298] *See* First Compliance Panel Report, para. 6.1524.

[299] *See* First Compliance Panel Report, paras. 6.1524-6.1527.

[300] First Compliance Appellate Report, para. 5.729.

[301] First Compliance Appellate Report, para. 5.729.

[302] While the appellate report reversed the first compliance panel's findings of non-compliance with respect to pre-A380 LA/MSF, it contains no endorsement of the EU's theory of non-subsidized investments, and it never reversed the finding from the original proceeding that pre-A380 LA/MSF subsidies caused adverse effects. Moreover, the compliance appellate report found that "the expired subsidies remain relevant as part of a matrix of analysis that seeks to identify the effects of the subsidies existing in the post-implementation period, in respect of which the European Union continues to have a compliance obligation. Findings from the original proceedings

identical post-launch investments in the A380 and A350XWB as having attenuated the causal link between LA/MSF and the continuing market presence of those aircraft. In particular, the EU identifies the following allegedly non-subsidized investments:

- For the A380: (a) "continuing development," including investments in incremental improvements and the cost of overcoming significant delays in production[303]; (b) "continuing support," in the form of investments necessary to maintain and enhance A380 production lines[304]; and (c) the design and manufacture of a new variant, the A380plus.[305]
- For the A350 XWB: (a) "continuing development;"[306] (b) "continuing support," including maintaining and enhancing production lines for the A350XWB;[307] (c) development of a new variant, the A350-900ULR;[308] and (d) development of the Beluga XL, which supports production of the A350 XWB.[309]

203. Without first establishing that these alleged non-subsidized investments could have been undertaken in the absence of existing LA/MSF, the EU cannot show that such investments attenuate the genuine and substantial causal link. As an initial matter, the EU has not even established its premise – that the investments it cites are indeed unsubsidized. In particular, as discussed in Section VII.H, EU R&TD subsidies were responsible for many Airbus technological advancements, and the EU has failed to show that the supposedly non-subsidized investments were independent of the R&TD subsidies. Moreover, sales of the A380 and A350 XWB result in cash inflows. To the extent that cash enables Airbus to make these investments, the improvements enabled by such investments are the effects of the LA/MSF subsidies, not non-attribution factors.

204. In any event, given the product effects of LA/MSF, such investments in upgrading technologies and production processes, developing new variants, and investing in production-related infrastructure do not attenuate the genuine and substantial causal link between A380 and A350 XWB LA/MSF subsidies and the continued market presence of these aircraft. Improving a product that would not be available in the market in the present period without subsidies does

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concerning the design, structure, and operation of the expired subsidies, as well as how those subsidies affected Airbus' operations until the end of 2006, can help in understanding the extent to which the existing subsidies may cause adverse effects in the post-implementation period." First Compliance Appellate Report, footnote 1839.

[303] *See* EU FWS, paras. 384, 387.

[304] *See* EU FWS, para. 387.

[305] *See* EU FWS, paras. 385-386.

[306] *See* EU FWS, paras. 314, 316.

[307] *See* EU FWS, paras. 314-315.

[308] *See* EU FWS, paras. 314, 317-320.

[309] *See* EU FWS, paras. 314, 321-323.

nothing to show that the recipient could have offered the product (whether improved or unimproved) absent the subsidies that initially made it possible.

205. Indeed, the EU ignores the significance of LA/MSF in enabling the post-launch improvements it cites. For example, the EU cites Airbus's allegedly unsubsidized investment in improved variants of the A380 and A350 XWB, the A380plus and A350-900ULR, respectively.[310] According to the EU, the A350XWB-900ULR "enjoys a number of advantages over the A350XWB, in terms of range, maximum take-off weight, and modified fuel systems"[311] and the A380plus "will be an improved variant of the A380 with a significant increase in fuel efficiency, passenger capacity, and improved operations," including "increased range."[312] However, the EU's argument ignores **[[**HSBI**]]** and any technological improvements of these new variants are dependent upon the subsidized investments responsible for the original versions.

206. Finally, as in the first compliance proceeding, a closer look at the post-launch investments reveals that they are incremental improvements to the aircraft design or production system and as such build on the substantial foundation enabled by existing LA/MSF. For example, with regard to the A350 XWB, the "continuing support" cited by the EU includes "investments into technical support," "jigs and tools maintenance," and "specific non-recurring activities that relate to production improvements and developments in aircraft maintenance."[313] Such investment in production improvements is routine for aircraft programs;[314] it does nothing to eliminate the genuine and substantial causal link between LA/MSF and Airbus's ability to launch and bring to market the A380 and A350 XWB.

4. The supposed "timing out" of existing LA/MSF's effects

207. The EU argues that the direct and indirect effects of A380 LA/MSF and the direct effects of A350 XWB LA/MSF have "timed out."[315] According to the EU, the first compliance panel only found that A380 and A350 XWB LA/MSF caused short-lived acceleration effects. From this, the EU contends that, in the "alternative counterfactual" (*i.e.*, absent existing LA/MSF subsidies), the A380 and A350 XWB would have launched soon after they actually did in 2000 and 2006, respectively. Therefore, under the EU's theory, the current market presence of the

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[310] *See* EU FWS, paras. 316-320, 385.

[311] EU FWS, para. 316.

[312] EU FWS, para. 385.

[313] *See* EU FWS, para. 315.

[314] *See, e.g., Boeing, Qatar Airways Launch New 777 Performance Improvement Package*, Press Release, Boeing (July 12, 2016) (Exhibit USA-46) ("'Boeing never stops evaluating means of improving our already highly efficient and reliable aircraft,' said Stan Deal, senior vice president, Boeing Commercial Aviation Services. 'With our Performance Improvement Package, we're helping our customers obtain even greater performance from the market leading 777 family of aircraft.'").

[315] EU FWS, para. 326.

aircraft cannot be attributed to LA/MSF subsidies.[316] Moreover, the EU argues that all direct and indirect effects of A380 LA/MSF cease as soon as the A380 would have launched in the counterfactual. Similarly, as of the counterfactual A350 XWB launch, all direct effects from the A350 XWB cease.[317] The EU concludes that, because the aircraft would have launched, absent the subsidies, soon after 2000 and 2006, respectively, the LA/MSF subsidies no longer cause adverse effects.

208. Not only does the EU offer no real evidence to support any of these assertions, they also fundamentally contradict DSB-adopted findings in this dispute. Indeed, if the EU's arguments here are accepted, they would establish that the EU was in compliance before the end of the RPT. The adopted panel and appellate reports in the first compliance proceeding considered that argument at length, and rejected it. It is not the role of this second compliance proceeding to undermine the findings already adopted by the DSB.

209. The United States discusses the errors in the EU's first written submission further below.

a. The EU's counterfactual is inconsistent with previously adopted DSB findings.

210. The EU's arguments about the counterfactual launch and deliveries of the A380 and A350 XWB conflict with the findings adopted by the DSB in the first compliance proceeding. First, the EU adopts an erroneous premise that the first compliance proceeding found that LA/MSF merely causes acceleration effects lasting only a few years. It does so because it erroneously treats a hypothetical discussion by the compliance panel as a factual finding regarding the operation of A380 LA/MSF, and draws invalid inferences from the subsequent finding that without LA/MSF, Airbus could not have launched the A380 and brought it to market "as and when" it did. Second, the counterfactual launch and first delivery dates posited by the EU are fundamentally at odds with the adverse effects findings adopted by the DSB. Indeed, if the EU's arguments were accepted, they imply that the EU achieved compliance prior to the end of the RPT, which obviously contradicts the DSB findings.

211. First, the EU rests its counterfactual on the erroneous premise that the first compliance proceeding found that LA/MSF merely causes acceleration effects lasting only a few years. Specifically, the EU argues that, "{w}ith respect to 'as and when' effects, the first compliance panel also found that such effects 'enable{} Airbus to develop and bring to market a particular aircraft only a *few years in advance of what would have been the case without LA/MSF*."[318] The referenced statement is actually part of a hypothetical posed by the first compliance panel, in highly qualified language, for the purpose of discussing how the duration of direct effects could vary.

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[316] *See* EU FWS, paras. 331-352.

[317] *See* EU FWS, para. 332.

[318] EU FWS, para. 331 (quoting First Compliance Panel Report, para. 6.1507 (emphasis original)).

212. The compliance panel first discussed why, where the "very existence and ongoing market presence of a particular LCA programme is dependent upon a specific grant of LA/MSF, it would make sense, as a matter of logic, to consider that the *direct effects* of that LA/MSF would be likely to continue for the entire duration of the marketing life of the financed aircraft, as in the absence of those direct effects, no LCA would exist."[319] The compliance panel then continued:

> {W}here LA/MSF provided for the specific purpose of launching and bringing an aircraft to market is not critical to its very existence, then the direct effects of the relevant LA/MSF funding *could not normally be said* to last for the entire marketing life of the relevant programme. *Such a situation might arise, for example*, where LA/MSF enabled Airbus to develop and bring to market a particular aircraft only a few years in advance of what would have been the case without LA/MSF. Thus, *for example, assuming* that a particular subsidized LA/MSF measure enabled Airbus to launch and bring to market an LCA five years ahead of when it would otherwise have been possible without that LA/MSF, it is likely that the direct effects of that LA/MSF would normally be felt for only five years. Because, in the absence of the specific LA/MSF subsidy, the same aircraft would exist five years later, *it is likely* that the direct effects of the relevant LA/MSF measure could no longer be said to be a "genuine and substantial" cause of its market presence in that subsequent period. It follows, therefore, that the direct effects of the relevant LA/MSF measure *in this example* would be likely to last for less than the entire marketing life of the specifically funded LCA programme.[320]

However, the compliance panel and appellate reports never found that this "example" applied to LA/MSF for the A380 or A350 XWB. Nor did they otherwise suggest that, absent existing LA/MSF, the A380 or A350 XWB would have been launched "a few years" after their actual launch dates.

213. The EU further errs by assuming that the use of the phrase "as and when" necessarily implies short-lived acceleration effects rather than persistent effects that enable the existence and market presence of a product over an extended period. The use of the phrase "as and when" does not have that import. For example, the original panel and the Appellate Body in the original proceeding found that LA/MSF allowed Airbus to launch the A300, A310, A320, A330, A340, and A380 "as and when it did," alongside unambiguous findings that Airbus and its products would not exist in the only two plausible scenarios without LA/MSF subsidies.[321] In other words, "as and when it did" is *not* the adopted findings' shorthand for subsidy-caused

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[319] First Compliance Panel Report, para. 6.1506 (emphasis original).

[320] First Compliance Panel Report, para. 6.1507 (emphasis added).

[321] *See* Original Panel Report, para. 7.1920 ("Airbus would not have been able to launch any of its existing range of LCA, that is, the A300, A320, A330/A340, A340-500/600 and A380, *as and when it did*.") (emphasis added).

acceleration effects of a few years, nor does that phrase signal that the product would have been present in the market at any point in time.

214. Second, the EU asserts that, in a counterfactual without LA/MSF subsidies, the A380 would have launched "soon after its actual launch in 2000," and the A350 XWB would have launched "soon after its actual launch in 2006."[322] As will be discussed in Sections VII.F.4.b and VII.F.4.c below, the EU introduces no real evidence in support of these assertions. But more fundamentally, the EU's arguments are invalid because they contradict the adopted findings of the first compliance proceeding.

215. The first compliance panel reviewed instances of adverse effects in the December 2011 – 2013 period. It confirmed all of the U.S. significant lost sales allegations with respect to the A380 and the A350 XWB, which occurred in 2012 and 2013.[323] These findings were upheld on appeal and adopted by the DSB.[324] As the EU itself explains:

> As noted above, "direct effects" and "indirect effects" denote the contribution of a subsidy to the market presence of an aircraft model at a moment in time. ***Where the market presence of a model of aircraft, at the time of a sales campaign, was attributable to the direct effects and indirect effects from subsidies, this served as the basis for findings of significant lost sales, on the notion that, absent the subsidies, the Airbus product would not have competed in the sales campaign, and Boeing would instead have won the sale***. Similarly, these findings relating to the market presence of Airbus' models also served as the eventual basis for findings of other forms of volume effects (and specifically, impedance).[325]

Thus, the significant lost sales findings adopted by the DSB in the first compliance proceeding conclusively settle that, as of the end of 2013, the A380 and the A350 XWB would not have been available for offer, and therefore obviously would not have been available for delivery. It is impossible to square these findings with the EU's assertion in this proceeding that the counterfactual A380 would have launched "soon after" 2000, and the counterfactual A350 XWB "soon after" 2006.

216. Indeed, if these assertions were correct – and all product effects of A380 LA/MSF and A350 XWB LA/MSF ceased as of the counterfactual launch date[326] – then the EU would have achieved compliance prior to the end of the RPT on December 1, 2011. However, the findings of the first compliance proceeding establish conclusively that this was not the case. Thus, the

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[322] EU FWS, para. 334.

[323] First Compliance Panel Report, paras. 6.1781, 6.1798, 7.1(d)(xvi).

[324] First Compliance Appellate Report, paras. 6.30-6.31, 6.36-6.37.

[325] EU FWS, para. 41 (citing First Compliance Panel Report, paras. 6.1785-6.1789).

[326] The EU only makes assertions with respect to direct effects of A350 XWB LA/MSF, but ignores the indirect effects that subsidy had on A380 post-launch development.

EU's arguments here are fundamentally inconsistent with the adopted findings from the first compliance proceeding, and therefore fail.

217. Finally, the United States notes certain errors of logic in the EU's reasoning. The EU asserts that, once the counterfactual launch date of the A380 arrives, the market presence and the indirect effects (*i.e.*, learning and financial effects) can no longer be attributed to the A380 LA/MSF subsidies.[327] However, the compliance panel and appellate reports describe these indirect effects of LA/MSF as arising not from the mere fact of launch, but instead from the processes of "launch," "development," "design," "sales," and "deliveries" of the aircraft made possible by the subsidies.[328] To take just one example, the technological and process knowledge gained in initial design stages of an aircraft program would logically be different from the knowledge gained in elaborating design concepts into millions of individual component designs, which would also differ from knowledge gained in actual production of the aircraft.

218. Thus, if the counterfactual launch was delayed by a number of years, the progression of indirect effects would be similarly delayed. In the years immediately following the time when there would have been a launch under the counterfactual, the real-world subsidy recipient possesses a larger body of knowledge, greater financial returns from the aircraft program, and more favorable economies of scope than would the counterfactual producer that did not receive the subsidy. The real-world subsidy recipient could apply those to the next aircraft program. Each of these would represent an indirect effect of the LA/MSF on that next program. Therefore, the EU is wrong that indirect effects cease at the time of counterfactual launch.

219. In addition, displacement and impedance are a function of deliveries.[329] Several years pass between the launch of an LCA program and the date on which first deliveries occur. The time between launch and first delivery of the A380 was approximately seven years, and the time between launch and first delivery of the A350 XWB was approximately eight years.[330] Therefore, the EU is wrong that direct effects cease as of the counterfactual launch date. Even if the EU established that the A380 would have launched in 2018, for example, there would be no basis to find that current A380 deliveries – which would not follow until years after the 2018 launch in the counterfactual – were not impeding U.S. LCA deliveries as a result of the existing LA/MSF subsidies.

[327] EU FWS, para. 332.

[328] First Compliance Appellate Report, para. 5.594.

[329] *See* First Compliance Appellate Report, paras. 5.732-5.742.

[330] *See* First Compliance Panel Report, paras. 6.54, 6.552, 6.1551. The first A350 XWB delivery occurred in 2014. *See* EU FWS, para. 112.

b. The EU errs in its assertion of A380 counterfactual launch and delivery dates.

220. The EU's argument that the product effects related to the A380 have "timed out" relies on its assertions regarding counterfactual launch and first delivery dates of the A380. The EU contends that, absent existing LA/MSF, the counterfactual launch of the A380 would have occurred soon after 2000, with first deliveries occurring "soon after 2006."[331] As the United States has already explained, the counterfactual launch of the A380 alone does not establish that impedance can no longer be attributed to the subsidies because, after launch, several years will pass before an LCA manufacturer can deliver the aircraft. Moreover, the EU's counterfactual launch and first delivery dates are fundamentally at odds with the findings adopted in the first compliance proceeding.

221. In any event, the EU does not introduce a single piece of new evidence to support its counterfactual dates. Instead, the EU relies overwhelmingly on the analysis conducted by Professor David Wessels (the "Wessels Report"), which the United States submitted in the first compliance proceeding.[332] The Wessels Report was explicitly conservative, giving Airbus "the benefit of the doubt for purposes of analysis."[333] Professor Wessels also assumed something that did not actually occur: that Airbus "was able to raise the 'massive' commercial debt in order to fund its pre-A380 projects,"[334] and in so doing, he was once again conservative, stating that Airbus's counterfactual debt load "could be far greater" than he assumed.[335]

222. Professor Wessels' analysis was also limited to EADS/Airbus's financial capacity to take on a large LCA project and did not consider whether a given project would have an attractive business case. That is, Professor Wessels never stated or implied that, with sufficient funding capabilities, Airbus would choose to invest in a major new LCA project regardless of whether the project's business case was attractive. The viability of the business case at the time of the launch decision would be a necessary (but not sufficient) pre-condition to launching and bringing such an ambitious LCA program to market, yet the EU simply ignores this factor. Therefore, the Wessels Report is manifestly inadequate to provide any support to the EU's contentions.

223. In addition, the EU argues that, whereas it took approximately seven years in reality between the launch of the A380 and first delivery, it would take only six years in the counterfactual.[336] The EU's argument is limited to this single sentence: "This is because, in the

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[331] EU FWS, para. 344.

[332] *See* EU FWS, paras. 335-342.

[333] *See Assessing Airbus' Capacity to Fund Large Scale Projects Without LA/MSF*, Professor David Wessels, p. 2 (Oct. 17, 2012) (Exhibit USA-47 (US-364-FCP)) ("Wessels Report"); U.S. SWS in First Compliance Panel Proceeding, para. 543 (Exhibit USA-48).

[334] Wessels Report, Professor David Wessels, p. 2 (Oct. 17, 2012) (Exhibit USA-47 (US-364-FCP)).

[335] Wessels Report, Professor David Wessels, p. 3 (Oct. 17, 2012) (Exhibit USA-47 (US-364-FCP)).

[336] EU FWS, para. 344.

counterfactual, Airbus would have launched the A380 at a time when Airbus was a much more integrated company and experienced company with a 'can do' attitude, and hence would not have run into the technological errors and consequent A380 delays it encountered on actual launch in 2000."[337]

224. The EU offers no evidence that Airbus would have been a much more integrated company in "soon after 2000" than it was in 2000. It also does not explain how this vague increased integration would have led to earlier first deliveries of the A380, much less evidence to support such an explanation. The only evidence the EU provides is a 2014 statement by Airbus CEO Tom Enders in which he refers to Airbus's "can do" attitude.[338] The EU does not explain how a 2014 statement relates to a counterfactual event it claims would have taken place between 2000 and 2006. More importantly, the EU does not explain how this "can do" attitude would differ between the real world and the counterfactual, such that the production problems would have been lessened in the counterfactual. In short, the EU has done nothing of substance to demonstrate that first deliveries would have followed launch any more closely in the counterfactual than the seven-year gap that actually occurred.

225. Thus, the EU's entire argument rests on an erroneous reliance on the Wessels Report. It fails to provide a single piece of other evidence to support its asserted counterfactual A380 launch date. In addition, the EU's arguments regarding counterfactual first deliveries of the A380 are similarly superficial and unsupported. Moreover, the EU's arguments imply that it achieved compliance before the end of the RPT. Of course, the DSB found the exact opposite. Therefore, the EU's asserted counterfactual A380 launch and delivery dates should be given no weight.

226. Because the EU's arguments regarding the "timing out" of A380 direct and indirect effects rely on unsupported and invalid counterfactual launch and delivery dates,[339] the EU's claim that it has removed the adverse effects of A380 and A350 XWB LA/MSF fails.

c. The EU errs in its assertion of A350 XWB counterfactual launch and delivery dates.

227. The EU's argument that the product effects related to the A350 XWB have "timed out" relies on its assertions regarding counterfactual launch and first delivery dates of the A380 and the counterfactual launch date of the A350 XWB. The EU contends that, absent existing LA/MSF, the counterfactual launch of the A350 XWB would have occurred soon after 2006, with promised first deliveries – it does not mention actual first deliveries – occurring "soon after

[337] EU FWS, para. 344 (internal citation omitted).

[338] *See* EU FWS, para. 344 (citing "One Journey: One Team – Interview with Tom Enders," Airbus Annual Review 2014 (Exhibit EU-43)).

[339] The United States reiterates that, separately, the EU's claim to have removed the direct and indirect effects is based on invalid logic that fails to account for direct and indirect effects that persist even after counterfactual launch. The EU also ignores the indirect effects of A350 XWB on A380 post-launch development.

2013."[340] The EU's argument relies on a baseless assertion as to the A380 counterfactual launch date, an account of A380 LA/MSF indirect effects that contradicts the adopted findings, and an unsupported and otherwise invalid counterfactual A350 XWB launch date.

228. Before discussing these errors, however, the United States reiterates that the EU's "soon after 2006" counterfactual A350 XWB launch date is fundamentally at odds with the findings adopted in the first compliance proceeding. This is clear from the significant lost sales findings, which were based on the absence of the A350 XWB at the time of the 2012 and 2013 sales campaigns, as the EU itself recognizes.[341] Thus, before even turning to the other EU deficiencies, it is clear that its proposed counterfactual launch date of soon after 2006 is fundamentally inconsistent with the adopted DSB findings.

229. In any event, as with the A380, the EU fails to provide a single piece of new evidence to support its assertion that, absent LA/MSF, the A350 XWB would have launched soon after 2006. The EU first returns to the Wessel Report and the erroneous conclusions it draws from that report regarding the counterfactual launch and development of the A380.[342] Based on these erroneous conclusions, the EU argues that, absent A380 LA/MSF, Airbus would have been in a ***better*** position in counterfactual 2006 than it was when the real-world A350 XWB launched in 2006.[343] This is an argument that A380 LA/MSF had no indirect effects on the A350 XWB launch – which obviously contradicts the adopted findings. For this reason alone, the EU's argument fails.

230. Based on that erroneous premise, the EU concludes that Airbus could have launched the A350 XWB when it did in 2006 – which even the EU recognizes is irreconcilable with the adopted findings.[344] Therefore, to essentially pay lip service to the findings, the EU "conservatively assumes that the launch of the A350 XWB would have been delayed."[345] This "conservative" assumption that the 2006 launch would have been delayed, leads to a conclusion – without a shred of evidence – that the A350 XWB would have launched "soon after 2006."

231. The EU argues that this conclusion is consistent with the compliance panel's findings about what the Airbus company that actually existed in 2006 (*i.e.*, without pre-A350 XWB LA/MSF) would have been capable of in the absence of A350 XWB LA/MSF. The first

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[340] EU FWS, para. 348.

[341] *See* EU FWS, para. 41 ("Where the market presence of a model of aircraft, at the time of a sales campaign, was attributable to the direct effects and indirect effects from subsidies, this served as the basis for findings of significant lost sales, on the notion that, absent the subsidies, the Airbus product would not have competed in the sales campaign, and Boeing would instead have won the sale.").

[342] *See* EU FWS, para. 348.

[343] *See* EU FWS, paras. 347.

[344] *See* EU FWS, para. 348.

[345] EU FWS, para. 348.

compliance panel found that, absent A350 XWB LA/MSF alone, Airbus could not have launched the A350 XWB as it did in 2006. Rather, according to the findings, Airbus likely could have launched it eventually, but not without making compromises as to timing and/or its features.[346] Notably, this is an intermediate step based on an analysis of the direct effects of A350 XWB LA/MSF in isolation, whereas it is the aggregated effects of all existing LA/MSF that ultimately matters for determining causation. Thus, the ultimate product effects – namely, enabling the existence and market presence of the A350 XWB – were established by combining this assessment with the indirect effects of A380 LA/MSF.

232. The EU recalls that the compliance panel's discussion of the A350 XWB LA/MSF direct effects relied, at least in part, on its findings about limitations on Airbus's engineering resources and Airbus's inability to fund the A350 XWB launch.[347] The EU asserts, again without evidence, that sufficient resources would have been available in light of the A380 development in the absence of A380 LA/MSF.[348] The EU also argues that, because the cost overruns faced in the development of the A380 would have been cured by the ***absence*** of A380 LA/MSF, Airbus's inability to fund the A350 XWB program would have been solved.[349]

233. In other words, the EU's argument rests on its reasoning that the resource and financial deficiencies faced by the real-world A350 XWB would have disappeared ***because*** Airbus would have been in a much better position due to the ***absence*** of A380 LA/MSF. Again, arguing that A380 LA/MSF actually hurt Airbus's position rather than helped it in 2006 is simply another way of stating that A380 LA/MSF had no (or, more accurately, negative) indirect effects on the A350 XWB launch. Of course, the DSB found the exact opposite.

234. Finally, the EU also fails to even allege a counterfactual date of first delivery. Instead, it references "promised first deliveries." Promised first deliveries can be germane evidence to whether a particular customer would have ordered an Airbus aircraft in the counterfactual – which could be relevant to a significant lost sales inquiry. But they have nothing to do with displacement or impedance, which have been based on actual deliveries that translate into market share in country markets, consistent with Articles 6.3(a) and (b) of the SCM Agreement. And, whereas the A350 XWB had not been delivered as of the first compliance reference period, plenty of A350 XWBs have been delivered as of today.[350]

235. Because the EU's arguments regarding the "timing out" of product effects related to the A350 XWB rely on an unsupported and invalid counterfactual launch date, and no asserted

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[346] First Compliance Appellate Report, paras. 5.639, 5.646-5.647, 5.740, 6.30-6.31.

[347] EU FWS, para. 349.

[348] EU FWS, para. 350.

[349] EU FWS, para. 351.

[350] *See* Airbus Orders & Deliveries Data (Nov. 2018) (Exhibit USA-49).

counterfactual first delivery date, the EU's claim that it has removed the adverse effects of A380 and A350 XWB LA/MSF fails.

d. The EU ignores the indirect effects of A380 and A350 LA/MSF on other Airbus models.

236. In addition to the EU's utter failure to demonstrate that Airbus could offer and deliver the A380 and A350 XWB at any point since 2013 in the absence of existing LA/MSF, it also ignores the indirect effects of existing LA/MSF on other Airbus models. The A330 family is a case in point.

237. Airbus itself states that "the A330 benefits from a continuous investment of EUR 150 million every year – *integrating the latest developments from the A350 XWB and A380 Families*."[351] In addition, Airbus has repeatedly touted the technology spillovers from the A350 XWB to the A330neo. Launched in 2014 as an updated successor to the A330 and scheduled to enter service in 2018, the A330neo comprises two models: the A330-800, which Airbus markets as a competitor to the 787-8, and the A330-900, which Airbus pits against the 787-9.[352] The A330neo has essentially replaced the A330ceo as Airbus's twin-aisle offering alongside the A350 XWB, and it is indebted to the A350 XWB for many of its technological improvements:

- "The A330neo is a true new-generation aircraft building on the A330's success and leveraging on A350 XWB technology."[353]
- "In addition to the new Rolls-Royce Trent 7000 engines, the A330neo will feature incremental innovations, including aerodynamic enhancements such as new A350 XWB inspired winglets, an increased wing span and new engine pylons."[354]
- "Passengers can expect the highest levels of comfort when flying on the A330neo, with the aircraft featuring the award-winning Airspace by Airbus cabin. Originally designed for the larger A350 XWB, this features newly designed sidewalls and fixtures, larger overhead storage, advanced cabin mood lighting and the latest in-flight entertainment and connectivity."[355]
- "Utilising the state-of-the-art cabin developments implemented on the all-new A350 XWB and encompassing four key pillars – comfort, ambience, services and

[351] *A330 Family*, Airbus website (Exhibit USA-50).

[352] *The A330neo: Powering into the future*, John Leahy, Airbus Presentation (Exhibit USA-51) at 14.

[353] *Airbus Delivers First A330-900 to Launch Operator TAP Air Portugal*, Press Release, Airbus (Nov. 26, 2018) (Exhibit USA-52).

[354] *Airbus Launches the A330neo*, Press Release, Airbus (July 14, 2014) (Exhibit USA-53).

[355] *AirAsia X Orders 34 More A330neo*, Press Release, Airbus (July 19, 2018) (Exhibit USA-54).

> design – Airspace offers more personal space, a unique welcome area and Airbus' signature design elements to transform the A330neo's cabin into a true representation of luxury."[356]

238. Of course, such competitive improvements would be impossible absent the A350 XWB (and A380 learning on which the A350 XWB is contingent). The EU has not taken the first step in showing how Airbus could have achieved this absent existing LA/MSF. Thus, the EU provides no basis to avoid the conclusion that the indirect effects of existing LA/MSF extend to Airbus LCA other than the A380 and A350 XWB, including the A330neo, such that Airbus would also be unable to offer those other models in the counterfactual situation. This is yet another reason to reject the EU's claim to have removed the adverse effects.

G. The EU's Claim Fails Even Under its Preferred, Erroneous Counterfactual Approach.

239. The EU's preferred counterfactual approach is to evaluate what the market situation would be if it had withdrawn the existing subsidies by the end of the implementation period.[357] This is legally incorrect for the reasons discussed above in Section VII.E, as it deviates from the approach applied in all previous phases of this dispute, including the first compliance proceeding, and creates a number of analytical problems.

240. The EU's one-page presentation on "the proper counterfactual"[358] also errs by making what is in effect an appeal of the adopted findings from the first compliance proceeding. Specifically, the first compliance panel report, as modified by the appellate report, found based on information from the December 2011 – 2013 period that the EU had not withdrawn the A380 and A350 XWB LA/MSF subsidies or removed their adverse effects. The EU now asks this compliance panel to perform a different analysis and find that as of December 2011, it had removed the adverse effects of those subsidies. It is not the role of this compliance panel to reopen and reverse the recommendations and rulings of the DSB by adopting the opposite conclusion with respect to the very same facts in the very same period.

241. The cursory nature of the EU analysis is also problematic. It simply asserts, without any evidence or analysis, that"{t}he withdrawal of the MSF subsidies at issue, *in December 2011*, through any of the means referred to above would leave *entirely unaffected* the launch of the A380 in December 2000, 11 years earlier, and the launch of the A350 XWB in December 2006, 5 years earlier."[359] LA/MSF is a form of financing with many complicated terms. LA/MSF for one aircraft program has been found to have indirect effects on subsequent programs, including aircraft launched many years later. It has also been found to work in concert with other subsidies

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[356] *A330-900*, Airbus website (Exhibit USA-55).

[357] EU FWS, para. 278.

[358] EU FWS, paras. 277-282.

[359] EU FWS, para. 281.

that complement and supplement its effects. Thus, it is difficult to give any credence to a conclusory, blanket statement as to the effects of all potential withdrawals of LA/MSF as of a particular point in time

242. Furthermore, the EU does not even bother considering whether its conceived (but not implemented) form of withdrawal was even possible for a company in Airbus's position. The EU does not explain how Airbus would have achieved this withdrawal or how the (entirely unspecified) terms of the withdrawal might affect the company. In particular, the EU fails to consider the possibility that the terms of withdrawal as of December 2011 would impact the continued viability of the subsidized aircraft or of Airbus itself, which would indicate that the continuation of existing subsidies was causing adverse effects. Therefore, even under the EU's flawed counterfactual framework, its claims would still fail.

H. R&TD Subsidies to Airbus LCA Compound the EU's Continued Non-Compliance.

243. As explained above in Section VI, the EU failed to address undeclared measures taken to comply with the recommendations and rulings of the DSB, which take the form of R&TD subsidies granted to Airbus by the EU through a number of programs. These subsidies complemented and supplemented the effects of existing LA/MSF and the regional subsidies by enhancing Airbus's ability to launch, develop, and deliver the A380 and A350 XWB with their advanced technological features and to update existing aircraft programs so as to maintain their competitiveness with Boeing. They provide further evidence of the EU's failure to bring its WTO-inconsistent measures into conformity with its obligations under the covered agreements.

244. The EU's omission is particularly glaring in its discussion of allegedly non-subsidized investments made by Airbus that in the EU's view contributed to "the market presence and competitiveness" of the A380, the A350 XWB, and other Airbus LCA programs.[360] By simply assuming that these expenditures were "non-subsidized" without addressing their relationship to the R&TD subsidies discussed below, the EU has failed to meet its burden of proof on this issue. And, to the extent that the R&TD subsidies enabled Airbus to achieve these technological advancements, its own arguments establish the causal relationship between these subsidies and Airbus's ability to launch and update its aircraft programs.

245. In fact, the available evidence clearly establishes a "genuine" connection between these R&TD subsidies and the technologies incorporated in the A380 and A350 XWB programs. The evidence also shows that the EU continues to grant new R&TD subsidies to enable Airbus to apply advanced technologies to future LCA programs. These R&TD subsidies exacerbate the EU's failure to remove the adverse effects.

246. The United States begins by recalling the relevant prior findings. In the original proceeding, the panel found that

[360] *Cf.* EU FWS, paras. 324, 390.

> the R&TD subsidies enabled Airbus to develop features and aspects of its LCA on a schedule that it would otherwise have been unable to accomplish. Even in the case of those R&TD subsidies directed to pre-competitive research, the ability to fund such efforts at a time when it would likely have been unable to do so in light of other demands on its resources was, in our view, significant in ensuring the launch of successive models of Airbus LCA.[361]

247. The Appellate Body endorsed the original panel's approach of conducting an integrated analysis of several launch aid measures to determine whether, in the aggregate, they cause adverse effects, and then assessing whether other groups of subsidy measures (namely, equity infusion, infrastructure, and R&TD measures) "complement and supplement" the effects of LA/MSF that resulted in serious prejudice.[362] The Appellate Body also upheld the original panel's findings that equity infusion and infrastructure measures complemented and supplemented the effects of launch aid, but it found that the panel had made insufficient findings to support its conclusion that R&TD measures had a similar contributory effect:

> Without specific findings that technology or production processes funded by R&TD subsidies contributed to Airbus' ability to launch and bring to the market particular models of LCA, the Panel did not have a sufficient basis to conclude that those subsidies "complemented and supplemented" the "product effect" of LA/MSF.[363]

248. Notably, the Appellate Body's findings were confined to the original panel's failure to make "specific findings." Below, the United States provides evidence and argumentation concerning the effects of R&TD subsidies to Airbus that meet the "complement and supplement" standard articulated by the Appellate Body.

1. The R&TD subsidies are designed to support research into technologies relevant to Airbus' current and future LCA.

249. The current scale and ambition of EU R&TD subsidies to Airbus result from a decades-long effort designed to accelerate the company's technology development and thereby take sales and market share from the U.S. LCA industry. The R&TD subsidies do so by transferring costs and risks of long-term, high-risk R&D from Airbus to the granting authorities, thereby enabling Airbus to overcome the large disincentives to undertaking such research.

250. As long ago as 1991, in its report on the 2nd Framework Program, the European Commission observed that, with respect to measures that could enhance aeronautics competitiveness, R&TD support holds a special place: "it is through programmes of knowledge acquisition or generation, *i.e*. research and technology validation, that firms are able to compete

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[361] Original Panel Report, para. 7.1959.

[362] *See* Original Appellate Report, paras. 1285, 1390.

[363] Original Appellate Report, para. 1407.

successfully in the long term."[364] The Commission noted that a primary rationale for R&TD support is to accelerate the ability to bring technology to market: "it is important that the research effort is of sufficient scale so as *to reduce the time taken for the development of new products*…There is, therefore, a good case for developing a substantial publicly funded research and technology validation programme in Europe . . . ."[365]

251. Among the roles envisioned for European R&TD support was to "support research and technology validation in areas of high risk, both technological and financial, and high cost." [366] Recognizing that "minimizing uncertainty and risk" was essential to stimulating aeronautics technology innovation, the Commission found that "in order that companies feel able to integrate EC research activities in their forward planning, it is essential that the Commission give a strong indication of its commitment to continuing support over a period which is substantially longer than 2 years {*i.e.*, the duration of the existing pilot aeronautics programs}."[367] The Commission found that, in most cases, its R&TD subsidies were "additional" in that they made a difference in terms of what "would have gone ahead anyway, with or without external funding."[368]

252. Since it made those statements, the European Commission's ambitions for R&TD subsidies have been realized to a large extent, its assessment of the manifold effects of such subsidies have been proved correct, and the EU continues to offer R&TD subsidies that change the behavior of recipients:

- An EU study of the Framework Programs' effectiveness in the area of transport concluded that "FP's effectively and strongly increased the competitiveness of the European industry by complementing national and private research; FP's supported the more risky research and led to quicker availability of new technologies in the market with a primary focus on large aircraft."[369]
- The same study quoted an industry participant's observation that, "{f}or example the ***A350 has taken advantage when suddenly the wing and fuselage had to be***

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[364] *Evaluation of Specific Activities relating to AERONAUTICS: Final Report (BRITE/EURAM – Area 5 – 1990/91)*, European Commission, (Exhibit USA-56) at 8.

[365] *Evaluation of Specific Activities relating to AERONAUTICS: Final Report (BRITE/EURAM – Area 5 – 1990/91)*, European Commission, (Exhibit USA-56) at 9.

[366] *Evaluation of Specific Activities relating to AERONAUTICS: Final Report (BRITE/EURAM – Area 5 – 1990/91)*, European Commission, (Exhibit USA-56) at 10.

[367] *Evaluation of Specific Activities relating to AERONAUTICS: Final Report (BRITE/EURAM – Area 5 – 1990/91)*, European Commission, (Exhibit USA-56) at 13.

[368] *Evaluation of Specific Activities relating to AERONAUTICS: Final Report (BRITE/EURAM – Area 5 – 1990/91)*, European Commission, (Exhibit USA-56) at 28-29.

[369] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO, (April 2010) (Exhibit USA-32) at 18.

changed from AL alloys to CFRP, that the EC project TANGO and ALCAS had already delivered a lot of basic results to reduce the risk." [370]

- EU 7th Framework Program "funds projects that are too complex and risky to be funded without public support, although . . . these projects are related to the core business of the companies."[371]
- According to the EU, Clean Sky 2 will "be the key European instrument *to overcome market failure* and guarantee a sustainable advancement of aviation"[372] and "secure the future international competitiveness of the European aviation industry."[373]
- "Clean Sky is expected to have a major impact in terms of 'additionality' at the Community level. European Aeronautics Industry will invest an additional € 800 million in R&D for reducing aviation environmental impact. A large scale long term EU programme delivering demonstrators (*i.e*. high technology readiness level) will influence the magnitude of private R&D investments in product development programmes."[374]
- The German Ministry of Economy's 2016 *Aviation Strategy* emphasized the ongoing role of the four Airbus states in supporting Airbus: "In civil aviation, Airbus now stands on an equal footing with Boeing. This was achieved by the considerable joint efforts on the part of the four 'Airbus states' *to stimulate the necessary research and development activities*."[375]

253. In recent years, European government officials have affirmed that a principal goal of subsidies to Airbus, including R&TD subsidies in particular, is to enable Airbus to compete against the U.S. LCA industry:

- The United Kingdom, in describing the Multi-Discipline Optimised Wing (MDOW) project under Next Generation Composite Wing (NGCW) program,

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[370] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO, (April 2010) (Exhibit USA-32) at 18 (emphasis added).

[371] *Interim Evaluation of EU FP7 Transport Research Notably within Theme 7 of the Cooperation Programme 'Transport (Including Aeronautics)'*, technopolis group (Feb. 28, 2011) (Exhibit USA-57).

[372] *Going beyond Clean Sky*, Clean Sky website (Exhibit USA-58) (emphasis added).

[373] *Clean Sky 2: developing new generations of greener aircraft*, European Commission (2014) (Exhibit USA-59).

[374] *Analysis of the Effects of a Joint Technology Initiative (JTI) in the Area of Aeronautics and Air Transport: Summary of Impact Assessment*, European Commission (June 13, 2007) (Exhibit USA-60) at p. vi.

[375] *The Aviation Strategy of the Federal German Government*, Germany Federal Ministry of Economy and Energy (2016) (Exhibit USA-61) at 8.

> stated that "{c}arbon fibre composites, in place of aluminium alloy, are the future but it {sic} will require major investment to *respond to the threat from Boeing*…."[376]As stated in its authorizing regulation, one of the three priorities for the EU's EUR 80 billion Horizon 2020 program is "fostering industrial leadership to support business"[377]

- The EU states, with regard to the ongoing Clean Sky 2 Joint Technology Initiative (funded under Horizon 2020), that, "{t}he technological improvements instilled through by Clean Sky 2 will underpin innovative advances in the next generations of aircraft in time to meet the next market window to replace the current fleet" and help "{w}in global leadership for European aeronautics with a competitive supply chain."[378] Furthermore, Clean Sky 2 will "secure the future international competitiveness of the European aviation industry."[379]

254. The competitive orientation of the subsidized R&TD activity results in large part from the prominent role that Airbus plays in determining the subject matter of large programs and particular projects. At the EU 6th Framework Program level, for instance, the aeronautics "research agenda was to a high degree set by the European industry, using its European technology platform for aeronautics (ACARE) as a focus. This had the effect of focusing, or at least including, FP effort on the interests of strong, existing EU industry."[380] In that program,

> Aeronautics projects identified ways to improve aircraft, aero-engine and other subsystem performance as well as exploring production and repair techniques unique to the aerospace industries. Industry was heavily involved, reflecting the importance of the FP to the EU cluster around EADS, which is the only serious international competitor to the American aircraft manufacturer Boeing.[381]

Airbus CEO Thomas Enders was Chair of ACARE – the European advisory council that lays out the strategic vision for EU support to the aviation industry – when it designed and issued its Strategic Research and Innovation Agenda in 2012. In that document, Mr. Enders stated that

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[376] *Multi-discipline Optimised Wing (MDOW),* UK Research and Innovation website (Exhibit USA-63).

[377] *Regulation (EU) No 1291/2013 of the European Parliament and of The Council of 11 December 2013*, (Exhibit USA-62) para. 11.

[378] *Going beyond Clean Sky*, Clean Sky website (Exhibit USA-58) (emphasis added).

[379] *Clean Sky 2: developing new generations of greener aircraft*, European Commission (2014) (Exhibit USA-59).

[380] *Evaluation of the Sixth Framework Programmes for Research and Technological Development 2002-2006*, Expert Group Report (Feb. 2009) (Exhibit USA-64) at 28.

[381] *Evaluation of the Sixth Framework Programmes for Research and Technological Development 2002-2006*, Expert Group Report (Feb. 2009) (Exhibit USA-64) at 42.

"{r}esearch and innovation are key to maintaining Europe's capacities and competitiveness and it is time to align efforts towards the new long-term vision for this sector."[382]

255. Befitting their orientation towards enhancing Airbus's competitiveness, the R&TD subsidies operate across the research and technology development spectrum. For instance, in the area of composite aerostructures, the R&TD subsidies have funded early-stage work to explore basic concepts and approaches (*e.g.*, the 2nd Framework Program's "Damage Tolerance and Fatigue Design Methodology for Primary Composite Structures" project) to pre-competitive R&TD with near-term applications (*e.g.*, the Composite Centre Wing Box element of the 5th Framework Program's "Technology Application to the Near-term Business Goals and Objectives" (TANGO) project, which was shortly thereafter adapted to the A380).

2. The R&TD subsidies have enabled key technology developments for Airbus LCA.

256. Given Airbus's central role in designing them, it is no surprise that the subsidized R&TD programs have enabled the development of technologies applied to recent Airbus LCA programs such as the A380, A350 XWB, A320neo, and A330 neo, and continue to foster breakthrough technologies designed to give Airbus a competitive advantage in developing new LCA in the near- to medium-term. Below, the United States focuses on two of the R&TD subsidies' most important contributions to Airbus LCA technology and, by extension, to the competitiveness of these aircraft in the marketplace: (a) aircraft design and aerodynamics; and (b) composite materials used in large aerostructures (*e.g.*, fuselage and wing) on the A380 and A350 XWB.

a. Aircraft design and aerodynamics

257. For decades, EU subsidies have enabled Airbus to develop and enhance knowledge, tools, and processes for designing LCA. A key area for this support has been the development, validation and optimization of computational fluid dynamics ("CFD") codes and other tools used in computerized design and modeling of LCA and their substructures (*e.g.*, wings, nacelles, and tail assemblies) to determine and optimize the designs' aerodynamic efficiency and load-bearing properties. A sampling of these subsidized programs shows that this support has continued for decades through the present:

Authority	Program/date	Project name
EU	2nd Framework	ELFIN -- Investigation of Laminar Flow Technology[383]
EU	2nd Framework	EUROVAL -- Validation of CFD Codes[384]
EU	2nd Framework	GEMINI -- Airframe/Propulsion Integration[385]

[382] *Strategic Research & Innovation Agenda: Volume 1*, Advisory Council for Aviation Research and Innovation in Europe (Sept. 2012) (Exhibit USA-65) at 11.

[383] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.1 – 2nd Framework Programme.

[384] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.1 – 2nd Framework Programme.

[385] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.1 – 2nd Framework Programme.

EU	3rd Framework	ECARP -- European Comuptational Aerodynamics Research Project[386]
EU	4th Framework	HYLDA -- Hybrid Laminar Flow Demonstration on Aircraft[387]
EU	4th Framework	ENIFAIR -- Engine integration on Future Transport Aircraft[388]
EU	4th Framework	DMU-MM -- Digital Mock-up Modelling Methodologies and Tools for Product Conception and Downstream Processes[389]
EU	5th Framework	ALTTA -- Application of Hybrid Laminar Flow Technology on Transport Aircraft[390]
EU	5th Framework	M-DAW Modelling and Design of Advanced Wing tip devices[391]
EU	5th Framework	KATnet -- Key Aerodynamic Technologies for Aircraft Performance Improvement[392]
EU	6th Framework	REMFI -- Rear Fuselage and Empennage Flow Investigation[393]
EU	6th Framework	TELFONA -- Testing for Laminar Flow on New Aircraft[394]
EU	6th Framework	Non-Deterministic Simulation for CFD-based Design Methodologies[395]
EU	6th Framework	Key Aerodynamic Technologies to Meet the Vision 2020 Challenges[396]
EU	7th Framework	Design, Simulation and Flight Reynolds-Number Testing for Advanced High-Lift Solutions[397]
EU	7th Framework	Aerodynamic Load Estimation at Extremes of the Flight Envelope[398]
EU	7th Framework	Advanced dynamic validations using integrated simulation and experimentation[399]
EU	8th Framework/Horizon 2020 - Clean Sky 2	Large Passenger Aircraft: Integrated Flow Control Applied to Large Civil Aircraft: Advanced HLFC Fin Aerodynamic Design Work[400]

[386] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.2 – 3rd Framework Programme.

[387] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.3 – 4th Framework Programme.

[388] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.3 – 4th Framework Programme.

[389] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.3 – 4th Framework Programme.

[390] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[391] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[392] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[393] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.5 – 6th Framework Programme.

[394] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.5 – 6th Framework Programme.

[395] *See* NODESIM-CFD Project, CORDIS website (Exhibit USA-66).

[396] *See* KATnet II Project, CORDIS website (Exhibit USA-67).

[397] *See* DESIREH Project, CORDIS website (Exhibit USA-68).

[398] *See* ALEF Project, CORDIS website (Exhibit USA-69).

[399] *See* ADVISE Project, CORDIS website (Exhibit USA-70)

[400] *See Clean Sky 2 Joint Undertaking: Work Plan 2014-2015* (July 2014) (Exhibit USA-71) at 180.

France	2012	Etude de concepts et d'impact d'installation sur avion de moteurs de très grands diamètres[401]
Germany	Joint research program: MEGADESIGN, LuFo III (2003-07)	Specification and validation of CFD simulation and optimisation methodologies for aircraft aerodynamics (FKZ: 20A0302G)[402]
UK TSB	2014	The Enhanced Fidelity Transonic Wing (EFT)[403]
UK TSB	2014	Advanced Laminar Flow Enabling Technologies – ALFET[404]

258. By providing Airbus with valuable knowledge in terms of how to maximize the efficiency of the design process and the aircraft designs themselves, these subsidized programs enabled the development of all-new LCA (*e.g.*, the A380 and A350 XWB) and variants of existing models. As to the latter, some of these programs helped Airbus to develop and validate fuel-saving "sharklet" wingtip devices on the A320ceo and A320neo (for example, through the 5th Framework M-DAW project), and to integrate new engines on the A320neo and A330neo (for example, the 4th Framework ENIFAIR project). In many cases, the technology effects of different R&TD programs will interweave. For instance, an Airbus presentation on development of wingtip devices under M-DAW observes that CFD validation – an Airbus capability developed with EU subsidies – "proved valuable in the development of a new {wingtip} concept."[405] Notably, Airbus's most recent enhanced products – *i.e.*, the A330neo and A380plus – feature more efficient wingtip designs, as described above.[406]

259. The subsidy programs also decreased the cost, risk, and duration of new and derivative Airbus LCA programs by making design processes more efficient. Indeed, under the EU's *New Perspectives in Aeronautics* "Key Action," one objective was a 20 percent reduction in development time, which among other things improves the net present value of a given LCA project (and therefore the likelihood of launch) by reducing the interval between up-front development expenditures and cash flows from aircraft sales.[407]

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[401] *See "Transparency system" for state aid granted to R&D&I projects over €3 million and not falling under the duty for individual notification,"* EU State Aid Register (2012) (Exhibit USA-72).

[402] *See Project MEGADESIGN: Objectives*, DLR Institute of Aerodynamics and Flow Technology website (Exhibit USA-73).

[403] *See The Enhanced Fidelity Transonic Wing (EFT)*, UK Research and Innovation website (Exhibit USA-74).

[404] *See Advanced Laminar Flow Enabling Technologies – ALFET*, UK Research and Innovation website (Exhibit USA-75).

[405] *The Modelling and Design of Advanced Wing tip devices*, Alan Mann, Airbus presentation (2006) (Exhibit USA-76) at 7.

[406] *See Airbus Presents the A380plus*, Press Release, Airbus (June 18, 2017) (Exhibit USA-77) ("large winglets and other wing refinements that allow for up to 4% fuel burn savings"); *A330-800*, Airbus website (Exhibit USA-78).

[407] *New Perspectives in Aeronautics*, TRIMIS website (Exhibit USA-79).

b. Composite materials in large aerostructures

260. Composite materials offer significant advantages in terms of weight (and thus fuel burn) savings and corrosion resistance, and have been used in LCA for decades.[408] However, adapting composite materials to large structures like fuselages and wings posed significant challenges, both in terms of technical feasibility and in terms of production systems that could manufacture composite structures at acceptable costs. It was precisely in these areas where the European R&TD subsidies were directed. They contributed greatly to the knowledge, experience, and confidence that have enabled Airbus to apply carbon fiber reinforced plastic ("CFRP") composite materials in large wing and fuselage structures, which have been essential to Airbus's design and development of, *inter alia*, the A380 and the A350 XWB. These contributions arose through dozens of programs since the late 1980s, such as the following:

Authority	**Program/date**	**Project name**
EU	2nd Framework	Development of Improved Damage Tolerant Carbon-Fibre Matrix Composites[409]
EU	2nd Framework	Damage Tolerance and Fatigue Design Methodology for Primary Composite Structures[410]
EU	3rd Framework	Composite Fuselage - Electrically Powered Integrated Control (SMART) Actuators (EPICA)[411]
EU	3rd Framework	BRE2-0227 -- Simulation of Resin Transfer Moulding Process for Efficient Design and Manufacture of Composite Components[412]
EU	4th Framework	APRICOS - Advanced Primary Composites Structures[413]
EU	4th Framework	EDAVCOS - Efficient Design and Verification of Composite Structures[414]
EU	5th Framework	TANGO - Technology Application to the Near Term Business Goals and Objectives of the Aerospace Industry[415]
EU	5th Framework	AWIATOR - Aircraft Wing Advanced Technology Operations[416]
EU	5th Framework	FUBACOMP - Full-Barrel Composite Fuselage[417]

[408] *See Composites in Airbus: A Long Story of Innovations and Experiences*, Guy Hellard, Airbus presentation (Exhibit USA-80) pp. 4-5, 7.

[409] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.1 – 2nd Framework Programme.

[410] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.1 – 2nd Framework Programme.

[411] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.2 – 3rd Framework Programme.

[412] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.2 – 3rd Framework Programme.

[413] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.3 – 4th Framework Programme.

[414] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.3 – 4th Framework Programme.

[415] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[416] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

[417] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.4 – 5th Framework Programme.

EU	6th Framework	ALCAS - Advanced Low Cost Aircraft Structures[418]
EU	7th Framework	MAAXIMUS - More Affordable Aircraft through eXtended, Intergrated and Mature nUmerical Sizing[419]
EU	7th Framework	ALASCA - Advanced Lattice Structures for Composite Airframes[420]
EU	7th Framework	SARISTU - Smart Intelligent Aircraft Structures[421]
EU	7th Framework	BOPACS - Boltless assembling Of Primary Aerospace Composite Structures[422]
EU	8th Framework/Horizon 2020	EFFICOMP - Efficient Composite Parts Manufacturing[423]
Germany	LuFo III	CORUBA - - Composite construction methods for fuselage bulkhead applications (COBRA) & Engineering of multi functional integral structures for an advanced next-generation aircraft fuselage made of fiber composite materials (EMIR)[424]
Germany	LuFo III	VALID - Validation of multifunctional light weight construction concepts for advanced fuselage structures made of fiber composite materials[425]
France	MATETPRO	MATETPRO: MANSART - Research on materials and design used in sandwich-type composite structures[426]
France		DEFI Composites: Research program on development of high performance composite materials[427]
Spain		Cenit TARGET project - research and development of intelligent and environmentally sustainable technologies for the next generation of structures made from composite materials with the aim of lowering the energy consumption of the manufacturing process[428]
UK TSB		Composites Programme (2010)[429]

[418] *See* Original Panel Report, Section VII.E.10 Annexes, Annex I.5 – 6th Framework Programme.

[419] *See* MAAXIMUS Project, CORDIS website (Exhibit USA-34).

[420] *See* ALASCA Project, CORDIS website (Exhibit USA-81).

[421] *See* SARISTU Project, CORDIS website (Exhibit USA-82).

[422] *See* BOPACS Project, CORDIS website (Exhibit USA-83).

[423] *See* EFFICOMP Project, CORDIS website (Exhibit USA-36).

[424] LUFO III - CORUBA Project, Förderkatalog website (Exhibit USA-84).

[425] LUFO III - VALID Project, Förderkatalog website (Exhibit USA-85).

[426] *See Présentation des projets finances au titre de l'édition 2008 du Programme "Matériaux Fonctionnels et Procédés Innovants",* Agence Nationale de la Recherche (2008) (Exhibit USA-86) at 24.

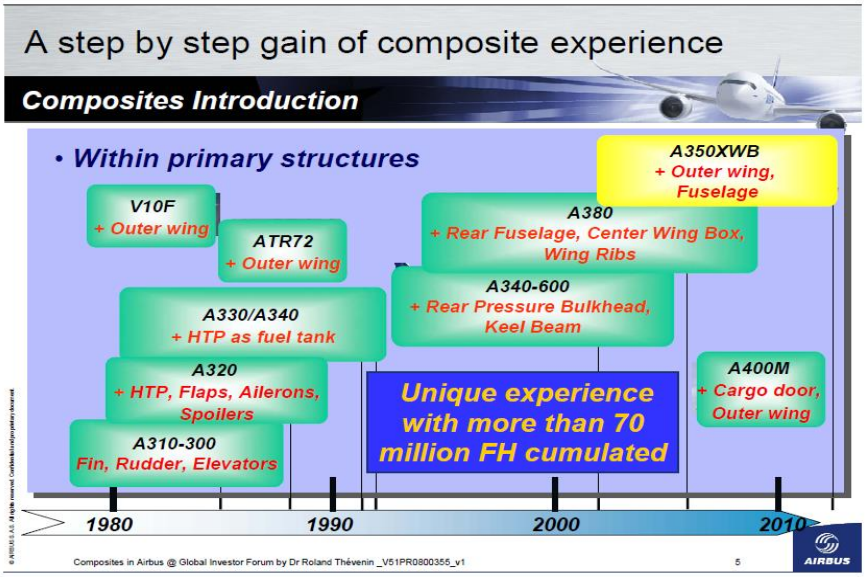
[427] *See "Transparency system" for state aid granted to R&D&I projects over €3 million and not falling under the duty for individual notification,"* EU State Aid Register (2012) (Exhibit USA-72).

[428] *See TARGET ("Intelligent technologies and environmentally sustainable to generate composite structures"),* IMDEA (Exhibit USA-87).

[429] *I-Composites Programme,* UK Research and Innovation website (Exhibit USA-88).

UK TSB		Next Generation Composite Wing: Multi Discipline Optimised Wing (MDOW)[430]

261. Particularly notable are the following EU Framework Program projects: APRICOS (4th FP), TANGO (5th FP), and ALCAS (6th FP). These and other programs have enabled Airbus to achieve its "step-by-step" progression in composites experience, whereby each new aircraft program incorporates the developments of prior programs while using composites in ever more ambitious applications, including A380 wing structures and the "outer wing" and "fuselage" of the A350 XWB:[431]

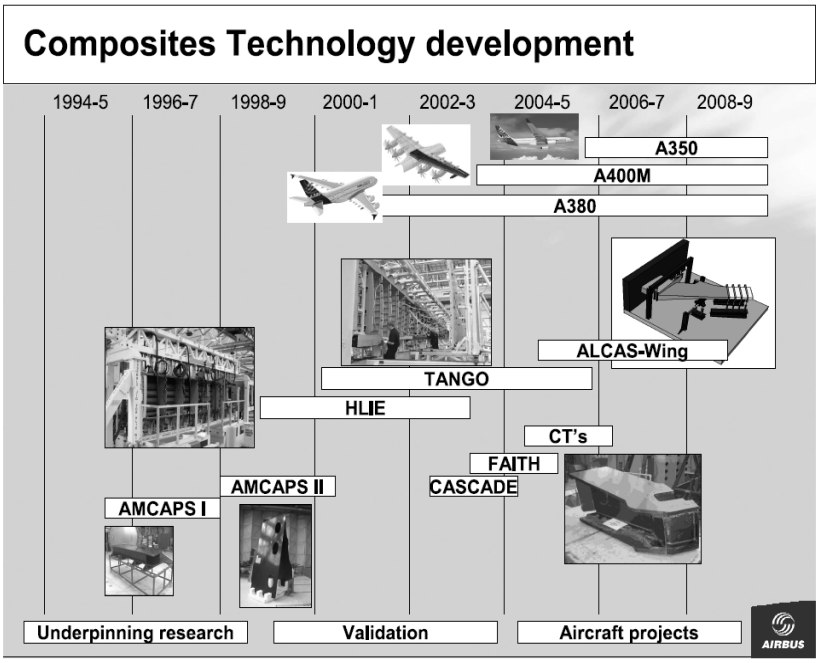


262. Airbus observes that programs such as TANGO and ALCAS have assisted it each step of the way, here in the context of composite wing technology:[432]

[430] *See Multi-discipline Optimised Wing (MDOW)*, UK Research and Innovation website (Exhibit USA-63).

[431] *Composites in Airbus: A Long Story of Innovations and Experiences*, Guy Hellard, Airbus presentation (Exhibit USA-80) at 4.

[432] *Airbus Future Composite Wing*, Airbus presentation (Oct. 2007) (Exhibit USA-89) at 19.



263. In terms of a composite fuselage, the first graphic above shows that the A380 was the first Airbus LCA with a composite rear (unpressurized) fuselage, followed by the more ambitious use of composite materials for the entire fuselage on the A350 XWB, which included solving the challenges of using composites in a large, pressurized structure, and creating openings for windows and doors. The foundations for these achievements was laid by subsidized R&TD programs, as recounted below.

264. The Fourth Framework APRICOS (Advanced Primary Composite Structures) program represented a major initial step in Airbus's development of composites technology for large aerostructures. A report on the program states that "{t}he aim of the industry is to have the technology for composite fuselages available for the next generation of large civil transports."[433] Indeed, the European Commission's description conceives of the APRICOS project in terms of helping Airbus's market share:

> An important challenge is being set by world-wide competition in the development of new low cost and mass airframes. ***In order to maintain the European share of this market****, and in consequence preserve the jobs throughout the industry and supply infrastructure, European industrials must*

[433] *APRICOS: Advanced Primary Composite Structures*, Miguel Morell, Nouvelle Revue d'Aeronauticque et d'Astronautique (1998), p. 72 (Exhibit USA-90). *See also APRICOS – Advanced Primary Composite Structures: Synthesis Report,* S. Barre (May 2000) (Exhibit USA-91) at 15-16 ("APRICOS has been an encouraging first step along the R&D path required to achieve composite fuselage in service and the partners wish{} to continue the research on composite fuselage and will request support from the EC for new projects… Aerospatiale {Matra Airbus} will use their results for the forthcoming future large aircraft programme").

> *retain their capacity for innovation through the development of new low cost composite technology*.
>
> * * * * *
>
> *The primary objective of the APRICOS programme has therefore been defined as the demonstration of a 30% life cycle cost saving over conventional metal aircraft*.
>
> * * * * *
>
> The APRICOS project will be based on a generic composite fuselage. Using new concepts and technologies, pre-development work is proposed: a fuselage panel will be produced after evaluation of materials and technologies.
>
> * * * * *
>
> The APRICOS programme represents a first step along the R & D path required to achieve products in service. *By providing initial confidence for the concept of a large composite fuselage it will contribute significantly to the longer term industrial targets*.[434]

265. As ACARE proclaims in one of its "success stories," the APRICOS program's lessons (and those from TANGO, discussed below) were applied to the rear fuselage of the A380.[435]

266. APRICOS also laid the foundation for the A350 XWB's composite fuselage. A 2000 report authored by Aerospatiale (a program participant that was later integrated into Airbus) observed that APRICOS enabled Airbus to gain technological readiness and confidence that economic cost targets could be achieved:

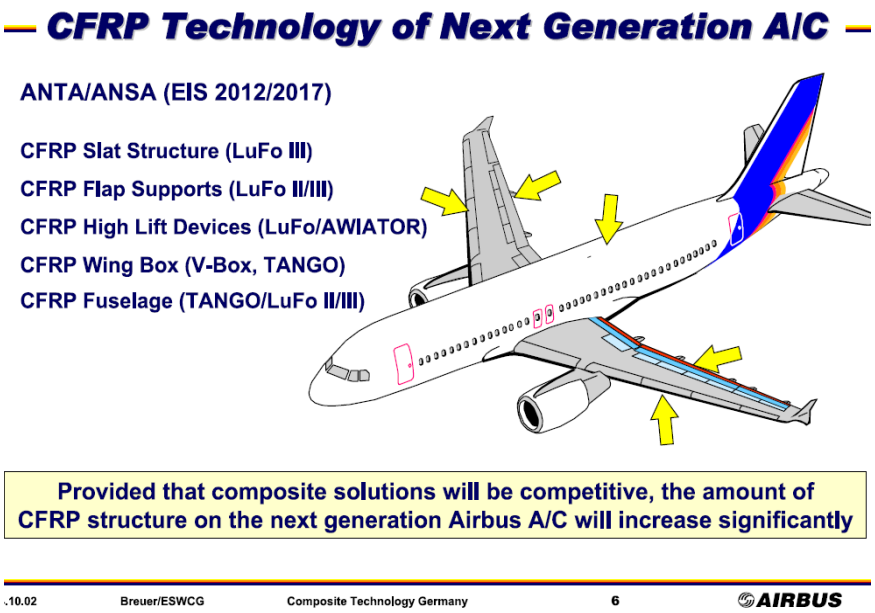
> Using . . . technologies developed at subcomponent level, scale up has been demonstrated for the generic panel manufacturing. Assembly of such a structure was achieved under industrial conditions. Technology readiness has been gained during this project. From the cost analysis performed all along the project, it was concluded that a composite fuselage can be feasible. The very ambitious goal of a 30 % lower {life-cycle cost ("LCC")} than today's metallic fuselage structures has not been achieved in the completed analysis work, but the target cost has been

[434] APRICOS Project, CORDIS website (Exhibit USA-92) (emphasis added).

[435] *Aeronautics and Air Transport Research: Success stories and benefits beyond aviation*, ACARE (Exhibit USA-93) at 17.

approached. In some partner studies, the estimated LCC reduction has been in the 15% range, which is very encouraging indeed. [436]

267. Subsequent research programs built on the work of APRICOS, most notably TANGO and ALCAS. Part of the EU's Fifth Framework Program, the TANGO project (Technology application to the near term business goals and objectives of the aerospace industry) sought to achieve "significant improvements in airframe structural efficiency" through "large-scale validation on new design, manufacturing and test technologies by the key European airframe manufacturers and their supply chain." [437] The project involved the development and testing of several test structures: "a composite wing box and metal to composite joint, a composite joint, a composite centre wing box, a composite fuselage section and an advanced metallic fuselage section."[438] In 2002, an Airbus official noted the contributions that TANGO and other European R&TD programs (such as Germany's LuFo projects) were making to its ability to apply composites in various structural components of Airbus' next generation LCA, including in the wing box and fuselage, which would be first realized on the A380 and A350 XWB, respectively:[439]



[436] *APRICOS – Advanced Primary Composite Structures: Synthesis Report*, S. Barre (May 2000) (Exhibit USA-91) at 4.

[437] TANGO Project, CORDIS website (Exhibit USA-27).

[438] TANGO Project, CORDIS website (Exhibit USA-27).

[439] *Composite Technology at Airbus Germany: Past, Present, Future*, Ulf P. Breuer, Composite Technology Germany, Airbus Bremen (Oct. 24, 2002) (Exhibit USA-94) at 6.

268. In its description of the project, the European Commission was confident that TANGO would yield competitive effects:

> There is no doubt that the technologies validated in TANGO will find their way into future European products, and enhance the competitiveness of European manufacturers of large aircraft. . . .[440]

269. The Commission was correct. TANGO did, in fact, help Airbus to develop composite wing box and other structures for use in reducing the weight of the A380's huge wing. According to Airbus:

> TANGO has generated a number of innovations and some of the most noteworthy have been applied to the A380. As well as the composite centre wing-box, some fuselage shells in the forward and aft sections of the aircraft have been manufactured in GLARE®, a low-weight material produced in alternate layers of aluminium and glass fibre. . . . Assembly of a composite lateral wing-box has already been completed. This represents a significant step to lighter wings for Airbus aircraft, with current results indicating weight efficiencies of up to 25 per cent.[441] The TANGO program also "directly supported the development of production methods for . . . the A380."[442]

270. In the EU Sixth Framework, ALCAS "continue{d} the work of previously successful FP research efforts (eg TANGO) and ensure{d} that the next generation of products significantly reduces the direct operating costs of the operators."[443] As the European Commission described the project:

> The objective is to reduce the operating costs of relevant European aerospace products by 15%, through the cost effective application of carbon fibre composites to aircraft primary structure, taking into account systems integration. The project will seek to reduce aircraft operating costs by realizing the weight saving potential of composite materials, by reducing the manufacturing costs of composite components, and by reducing maintenance costs. This project will include new design concepts and methods that exploit the full potential of these

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[440] *The Competitive and Sustainable Growth Programme, 1998-2002 Project Synopses: New Perspectives in Aeronautics*, European Commission (Exhibit USA-95) at 303.

[441] *TANGO*, Airbus website (June 13, 2005) (Exhibit USA-96) (emphasis added).

[442] *The Impact of EU Framework Programmes in the UK*, Technologies Ltd. (July 2004) (Exhibit USA-28 (USA-655-OP)) at 58 ("The TANGO project directly supported the development of production methods for the composite center wing box of the A380 and the design of the planned composite fuselage replacement for the A320.").

[443] *Aeronautics and Air Transport Research: Success stories and benefits beyond aviation*, ACARE (Exhibit USA-93) at 7.

> materials, as well as novel manufacturing and assembly processes. The project will integrate and validate mature and new composite technologies through the design, manufacture and test of appropriate wing and fuselage assemblies that represent both airliner and business jet products. . . . The Airliner Fuselage platform addresses key fuselage challenges and complex design features, including large cut-outs and large damages in curved panels, keel beam and landing gear load introduction, tyre impact damage, post-buckling and elementary crash analysis. . . . A Project Management and Training platform will integrate the technical activities and ensure a coordinated approach to generic tasks such as knowledge capture, dissemination and exploitation.[444]

271. ALCAS generated valuable knowledge and experience that was applied to the A350 XWB program:

- According to Airbus supplier GKN, "ALCAS, which resulted in a full-scale partial wing and some representative spars, itself built on the earlier FP5 Technology Application to the Near term business Goals and Objectives (TANGO) programme, which helped pave the way for more integrated airframe structures to be built in reinforced plastic materials. ALCAS supported development of technology underpinning the design and build of the complex composite spar for the A350."[445] GKN also states that the ALCAS forming tool for composite wing spars is "very similar to A350 geometry."[446]
- "MTM44-1 Out-of-Autoclave (OoA) prepregs are being used by GE Aviation to manufacture the outer and mid-section fixed trailing edge panels for the Airbus A350 XWB wing. . . .The first milestone for MTM®44-1, Umeco's toughened, structural, OoA prepreg resin system was in 2008 when the first sub-scale wing box demonstrator was produced for the collaborative research programme 'ALCAS' (Advanced Low Cost Aircraft Structures). The successful use of MTM®44-1 on the wing box demonstrator further validated the capability of this next-generation OoA material. This was achieved as part of an Airbus and Dassault Aviation led programme aimed at validating the designs and technologies for lower cost aircraft structures. Airbus and Umeco underpinned the qualification of MTM®44-1 by signing a framework contract which provided

[444] ALCAS Project, CORDIS website (Exhibit USA-31).

[445] *Wing worker for the world*, GKN, REINFORCEDplastics (May/June 2010) (Exhibit USA-97), at 28.

[446] *Airbus urged to rethink composite material choice for A350 XWB*, Niall O'Keefe, FlightGlobal (Oct. 28, 2008) (Exhibit USA-98).

commercial and technical stability to Airbus sub-contractors adopting this new technology."[447]

- According to engineers from DLR, Germany's national research institute, regarding ALCAS and follow-on research projects focused on composite door surround structures, "{s}ome of the ideas generated within ALCAS and the followup projects might make their way into the newly developed Airbus A350-1000 as long as they can pass the Technology Readiness Level (TRL) reviews."[448]

272. Indeed, the combined effects of the subsidized R&TD in the area of composites, particularly TANGO and ALCAS, were critical enablers of Airbus's launch of the A350 XWB, as an EU study found:

> Until recently, composite materials were used only for secondary structures. Thanks to the EU projects TANGO and ALCAS, Airbus became confident that composite materials can be used for primary structures as well leading to substantial weight savings and thus fuel and emission savings. The integrated projects TANGO and ALCAS validated and integrated knowledge about composite materials and structures gained in several smaller EU and national projects. The results of these projects made Airbus confident enough to design the fuselage of the new A-350 in composite material structures.[449]

273. Going forward, EU R&TD subsidies have continued to support Airbus's development of composites technologies for future aircraft, such as the successor to its single-aisle A320 family. For instance, the 7th Framework Program project MAAXIMUS (More Affordable Aircraft through eXtended, Intergrated and Mature nUmerical Sizing) provided EUR 40 million to fund research into composite solutions for aircraft offering "lighter structures with less maintenance,"[450] including composite components for a single-aisle aircraft.[451]

274. Similarly, the UK has been providing millions of pounds to Airbus for the Next Generation Composite Wing ("NGCW") program since 2008, a program which is designed "to

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[447] *Umeco's MTM®44-autoclave prepregs used by GE Aviation on the Airbus A350 XWB*, JEC Composites website (Mar. 19, 2012) (Exhibit USA-99).

[448] *Design, Development and Manufacturing of the ALCAS CFRP Door Surround Structure*, M. Kleineberg, T. Ströhleim, R. Kaps, 28th International Congress of the Aeronautical Sciences (Exhibit USA-33), at 11.

[449] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO (April 2010) (Exhibit USA-32) at 21.

[450] *Aeronautics and Air Transport Research: 7th Framework Programme 2007-2013, Project Synopses – Volume 1, Calls 2007 & 2008*, European Commission (Exhibit USA-35). at 152.

[451] *Technologies for the Aircraft of Tomorrow*, Take Off FACC Customer Magazine (Exhibit USA-100) at 10.

respond to the threat from Boeing."[452] The public description of the NGCW program describes how such R&TD grants will benefit Airbus's next single-aisle program:

> The drive for the NGCW programme also comes from the need to meet the window of opportunity for the next generation new short range aircraft (NSR) which will replace the Boeing 737 and Airbus A320, from around 2014. Single aisle dominates the deliveries to airlines and it is predicted that over 15,000 aircraft will be ordered to 2025. The new single aisle market is therefore critical to Airbus and one to which it must respond with technologically competitive products and processes.[453]

275. These and dozens of other programs, such as those listed above, enable Airbus to develop cutting-edge composites technologies that it would not otherwise have.

3. The R&TD subsidies complement and supplement the product effects of existing LA/MSF.

276. The R&TD subsidies have contributed significantly to enabling the launch and market presence of Airbus LCA, including the A380 and A350 XWB. These subsidies lower the cost to Airbus of performing R&TD necessary to compete as it has in the LCA industry. In addition, they have product effects that complement and supplement those of LA/MSF, by enhancing technological readiness to launch, improving a new program's business case, and lowering the costs Airbus must incur to bring aircraft to market. On their own, the R&TD subsidies accelerate the market entry of new and derivative Airbus LCA through the aforementioned additive effects of generating learning that Airbus would not otherwise enjoy.[454] Below, we discuss the relevant evidence with respect to the A380, A350 XWB, A320neo, and A330neo, as well as to Airbus future aircraft including the planned all-new replacement for the A320 family.

a. A380

277. According to ACARE, a number of subsidized R&TD programs "have been applied to the launch of the Airbus A380 aircraft. . . demonstrating that both EU and National research programmes are *necessary* in an integrated complex system requiring participation of entire

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[452] *Next Generation Composite Wing (NGCW) – phase 1*, UK Research and Innovation website (Exhibit USA-101).

[453] *Next Generation Composite Wing (NGCW) – phase 1*, UK Research and Innovation website (Exhibit USA-101).

[454] *See, e.g., Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO, (April 2010) (Exhibit USA-32) at 18; *Interim Evaluation of EU FP7 Transport Research Notably within Theme 7 of the Cooperation Programme 'Transport (Including Aeronautics)'*, technopolis group (Feb. 28, 2011) (Exhibit USA-57); *Going beyond Clean Sky*, Clean Sky website (Exhibit USA-58).

supply chains."[455] ACARE depicted these relationships in the following graphic, showing contributions by numerous programs in several technology areas:

278. As for Airbus, it admitted that the EU 5th Framework TANGO project played a significant role in enabling technologies for the A380:

> *TANGO has generated a number of innovations and some of the most noteworthy have been applied to the A380.* As well as the composite centre wing-box, some fuselage shells in the forward and aft sections of the aircraft have been manufactured in GLARE®, a low-weight material produced in alternate layers of aluminium and glass fibre. . . . Assembly of a composite lateral wing-box has already been completed. This represents a significant step to lighter wings for Airbus aircraft, with current results indicating weight efficiencies of up to 25 per cent.[456]

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[455] *Aeronautics and Air Transport Research: Success stories and benefits beyond aviation,* ACARE (Exhibit USA-93) at 17 (emphasis added).

[456] *TANGO,* Airbus website (June 13, 2005) (Exhibit USA-96) (emphasis added).

The TANGO program also "directly supported the development of production methods for . . . the A380."[457]

279. The A380 program also benefitted from R&TD programs subsidized by the EU, including subnational authorities of the relevant member States. Germany, for instance, provided grants to Airbus and consortium partners under the LuFo scheme for the Innovative solutions for high lift devices and systems (IHK – HYSIS) project, which ran from August 1, 2003 to June 30, 2008 and was part of the broader EU IHK project.[458]

280. The HISYS project aimed at developing new methods of constructing structural components at the wings' front and flap-supports, one important aspect being the introduction of fiber-reinforced composite materials for the construction of these particular parts for the A380,[459] which bears the potential to accelerate the processes of take-off and landing, save weight and fuel, and reduce noise. In addition, Saxony's Ministry of Science and the Fine Arts (SMWK) and the European Fund for Regional Development (EFRE) helped Airbus to develop weight- and cost-saving laser welding used in the A380 production process,[460] and Hamburg grants supported "the development, integration, and testing of the cabin systems of the Airbus A380 as part of the CASIV (Cabin System Integration and Verification testing) project."[461]

281. In sum, the effects of the R&TD subsidies are a genuine cause of Airbus's ability to offer and deliver the A380, and these effects therefore supplement and complement the effects of existing LA/MSF subsidies.

b. A350 XWB

282. The A350 XWB is Airbus's first LCA with a predominantly composite (or carbon-fiber reinforced polymer, "CFRP") fuselage.[462] It also features a composite wing and advanced

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[457] *The Impact of EU Framework Programmes in the UK*, Technologies Ltd. (July 2004) (Exhibit USA-28 (USA-655-OP)) at 58 ("The TANGO project directly supported the development of production methods for the composite center wing box of the A380 and the design of the planned composite fuselage replacement for the A320.").

[458] *See Schlussbericht HISYS: Innovative Lösungen für Hochauftriebskomponenten und Systeme*, IHK – Innovative Hochauftriebs-Konfigurationen (Aug. 29, 2008) (Exhibit USA-102).

[459] *See Schlussbericht HISYS: Innovative Lösungen für Hochauftriebskomponenten und Systeme*, IHK – Innovative Hochauftriebs-Konfigurationen, pp. 9, 17-19 (Aug. 29, 2008) (Exhibit USA-102).

[460] *Laser-beam welding makes aircraft lighter*, Fraunhofer magazine (Jan. 2005) (Exhibit USA-103); *Laser beam welding of high-performance alloys*, Airbus Group, Technology Licensing website (Exhibit USA-104) ("This capability leads to reduced manufacturing costs and improved performance, while also enabling new production capabilities – such as the laser beam-welded aircraft fuselage shells utilized in the airframe of Airbus' A380 jetliner.").

[461] *Testdatenmanagementsystem von Werum im Einsatz für Tests des A380*, Werum Software & Systems, Pressemitteilung Messdatenmanagementsysteme (Exhibit USA-105 (US-483-OP)).

[462] *See* First Compliance Panel Report, paras. 6.469-6.473.

systems.[463] It has these features thanks in large part to the R&TD subsidies. Without them, the A350 XWB would not have entered the market as and when it did, and it would not have the strong market position it now has.

283. Airbus announced the A350 XWB in July 2006 and formally launched it in December of that year. Just two years earlier, in early 2004, Airbus had no serious plans to launch an all-new twin-engine widebody, given its focus on the A380 and the seemingly favorable position in the 200-400 seat market space of the A330 and the recently revamped A340 derivatives (the A340-500/600) that were just entering service.[464] The positive customer reaction to Boeing's April 2004 launch of the 787, however, prompted Airbus to offer the Original A350, a more technologically advanced, but still largely metallic, derivative of the A330, in late 2004. The Original A350 found a weak customer response, however, and in response to demands for an all-new, far more efficient aircraft, it was shelved in early 2006.[465] At the same time, orders for the four-engine A340 dried up as sharply higher fuel prices compromised its ability to compete against Boeing's twin-engine 777.

284. Ideally, Airbus would have liked to offer an all-new mid-sized LCA that could replace the A340, compete against both the 787 and the larger 777, and incorporate the most advanced composite materials and manufacturing techniques. However, moving on to the more ambitious program that became the A350 XWB should have been daunting in terms of technological feasibility, considering that prior to 2004 Airbus had no near-term plans for a new twin-engine widebody, let alone one that would have a composite fuselage and wing.[466] That Airbus could quickly shift gears and, in July 2006, announce launch orders for the predominantly composite A350 XWB is due in part to the effects of the R&TD subsidies, working in concert with existing LA/MSF subsidies.

285. As demonstrated above in Section VII.H.2.b, the R&TD subsidies funded work that played a critical role in giving Airbus the knowledge, experience, and confidence to design the A350 XWB with a composite fuselage and wing, as well as other major composite structures. In some cases, the A350 XWB incorporated the subsidy-enabled technology applied on prior models, such as the A380's composite center wingbox and lateral inner wing box.[467] There is no indication that Airbus could have gained any of this knowledge, experience, and confidence and applied it to the A350 XWB by the 2014 – 2018 period, particularly in light of the EU's failure to demonstrate that Airbus could have offered both the A380 and the A350 XWB in the 2014 – 2018 period absent existing LA/MSF.

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[463] *See* First Compliance Panel Report, paras. 6.469-6.470.

[464] *See* First Compliance Panel Report, para. 6.463.

[465] *See, e.g., Aircraft Lessor Udvar-Hazy Chides Airbus over A350,* AviationWeek (Apr. 2, 2006) (Exhibit USA-106 (US-113-FCP)).

[466] *See* First Compliance Panel Report, paras. 6.469-6.6.476.

[467] *TANGO,* Airbus website (June 13, 2005) (Exhibit USA-96).

286. The R&TD subsidies also enabled Airbus to make the next step in applying composites technology in areas unprecedented for its LCA, most notably in the pressurized fuselage. Through a series of EU Framework projects, including APRICOS, TANGO, and ALCAS, Airbus studied a four-panel composite fuselage design, including potential materials systems, production processes, and substructures integral to such a design. An EU study found that these experiences gave Airbus the confidence to launch the A350 XWB and promise customers that it could successfully deliver an aircraft with a composite fuselage:

> Until recently, composite materials were used only for secondary structures. Thanks to the EU projects TANGO and ALCAS, Airbus became confident that composite materials can be used for primary structures as well leading to substantial weight savings and thus fuel and emission savings. The integrated projects TANGO and ALCAS validated and integrated knowledge about composite materials and structures gained in several smaller EU and national projects. ***The results of these projects made Airbus confident enough to design the fuselage of the new A-350 in composite material structures***.[468]

Echoing this finding, the same study quoted an industry participant's observation that, "the A350 has taken advantage when suddenly the wing and fuselage had to be changed from AL alloys to CFRP, that the EC project TANGO and ALCAS had already delivered a lot of basic results to reduce the risk."[469]

287. Thus, when confronted with an unanticipated commercial need to offer a highly efficient aircraft that could match the efficiency of Boeing's 787 and surpass that of the 777, Airbus had the requisite knowledge, experience, and confidence at hand thanks to the R&TD subsidies, which thereby complemented the effects of existing LA/MSF. Without those subsidies, Airbus could not have launched the A380 and A350 XWB as and when it did, and the sales and market share of Boeing's 787 and 777 would be significantly higher today, as indicated by the previously adopted findings in this dispute.

288. The same is true with respect to the A350 XWB's wing, which unlike prior Airbus wings is made primarily of composite materials and has a high (upward-swooping) aspect ratio that is highly efficient from an aerodynamic perspective.[470] In terms of composites, Airbus has, as noted above, explicitly linked composites technology development on the A380 and the A350

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[468] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO (April 2010) (Exhibit USA-32) at 21(emphasis added).

[469] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO (April 2010) (Exhibit USA-32) at 18.

[470] *See* First Compliance Panel Report, para. 6.472.

XWB to experience learned on AMCAPS I, AMCAPS II, HLIE, CASCADE, FAITH, and ALCAS-Wing.[471]

289. Further, according to Airbus wing component supplier GKN, subsidized R&TD programs helped to give Airbus the knowledge and confidence to, among other things, design and manufacture the A350 XWB's complex composite wing spar.[472] GKN also states that the ALCAS forming tool for composite wing spars is "very similar to A350 geometry."[473] Among ALCAS's many other contributions to the A350 XWB was research that validated an out-of-autoclave prepreg materials system to manufacture the aircraft's outer and mid-section trailing edge wing panels.[474]

290. In addition to the innovative use of composites in the A350 XWB wing structure, the R&TD subsidies enabled Airbus to design the aircraft's high aspect ratio wing, which with its distinctive upward swoop reduces fuel burn over conventional wing shapes. As shown in Section VII.H.2.a, the R&TD subsidies for many years have funded and induced Airbus both to develop and optimize the CFD tools necessary for designing such a wing, and to develop and validate the high aspect ratio concept itself.[475]

291. As a result of the subsidies, Airbus reached a sufficient state of technological readiness to launch the A350 XWB program as and when it did, and the launch business case was made more attractive (and an affirmative launch decision more likely) by the R&TD subsidies' effects in reducing technological risk and in reducing post-launch fixed and variable costs. Without these subsidies, Airbus could only have launched the A350 XWB significantly later, if ever, after expending considerably more time, effort, and expense to develop and mature the necessary technologies on its own. Accordingly, R&TD subsidies have complemented and supplemented the effects on the A350 XWB of existing LA/MSF.

c. A320neo and A330neo

292. In December 2010, Airbus made the decision to offer A320 series aircraft with new, more advanced engines (the CFM LEAP-1A and Pratt & Whitney PW1000G) and lift-enhancing winglets (known as "sharklets" in Airbus parlance), dubbing the re-engined variants the A319neo, A320neo, and A321neo.[476] After the A320neo series made inroads at long-time

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[471] *Airbus Future Composite Wing*, Airbus presentation (Oct. 2007) (Exhibit USA-89) at 19.

[472] *Wing worker for the world*, GKN, REINFORCEDplastics (May/June 2010) (Exhibit USA-97) at 28.

[473] *Airbus urged to rethink composite material choice for A350 XWB*, Niall O'Keefe, FlightGlobal (Oct. 28, 2008) (Exhibit USA-98).

[474] *Umeco's MTM®44-autoclave prepregs used by GE Aviation on the Airbus A350 XWB*, JEC Composites website (Mar. 19, 2012) (Exhibit USA-99).

[475] *See supra*, Section VII.H.2.a.

[476] *Airbus Launches A320neo*, Australian Aviation (Dec. 1, 2010) (Exhibit USA-107).

Boeing customers such as American Airlines in mid-2011, Boeing responded by offering its own re-engined single aisle aircraft series, the 737 MAX.[477]

293. Following a similar strategy in the twin-aisle market, Airbus in July 2014 launched a re-engined and enhanced derivative of its A330, the A330neo.[478] In addition to more efficient and larger engines, the A330neo offers new sharklets with an "improv{ed} lift-to-drag ratio using A350 XWB wing philosophy," as well as new, aerodynamically optimized wing slats.[479] The launch and sales of the A330neo, and the A320neo, were enabled by the R&TD subsidies.

294. While much of the efficiency gains offered by the A320neo and A330neo come from the new engines, a particular challenge for Airbus was integrating such larger engines (as well as the new sharklets) into the legacy wings in an aerodynamically efficient manner. As shown in Section VII.H.2.a, the R&TD subsidies for many years have funded and induced Airbus to generate the knowledge, experience, and tools to (a) integrate engines on wings; (b) develop efficient "sharklet" wingtip devices; and more generally (c) apply CFD technology to design, optimize, and test the engine coupling, sharklets, and modified wings from an aerodynamic perspective. Without these subsidies and the technology they generated, Airbus could only have launched the A320neo and A330neo significantly later, after expending considerable time, effort, and expense to develop and mature the necessary technologies on its own. Consequently, the R&TD subsidies, on their own and by complementing and supplementing the effects of the LA/MSF subsidies, enable Airbus to win sales with the A320neo and A330neo at the expense of the U.S. LCA industry.

d. New Airbus single-aisle aircraft

295. Having already used R&TD subsidies to enable the launch, market presence, and pricing of current Airbus LCA, the EU is not only continuing to subsidize Airbus' technology development, it is intensifying this support so Airbus can beat Boeing to the punch with a cutting-edge replacement for existing single-aisle aircraft that, by incorporating advanced technologies, offers a step-change in efficiency and customer appeal.

296. Airbus's A320ceo and A320neo families account for the majority of the company's sales volume and revenues. While incremental improvements and a re-engining (with the neo in 2010) have extended the life of the A320, the basic A320 design dates from 1984, and the time is coming when an all-new replacement will be needed.

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[477] *Boeing Introduces 737 MAX With Launch of New Aircraft Family*, Press Release, Boeing (Aug. 30, 2011) (Exhibit USA-108).

[478] *Airbus launches the A330neo*, Press Release, Airbus (July 14, 2014) (Exhibit USA-53).

[479] *The A330neo: Powering into the future*, John Leahy, Airbus presentation (Exhibit USA-51) at 7-8.

297. It is no surprise, therefore, that developing an advanced successor to the A320 is a key priority for Airbus. It is also unsurprising that the EU has been subsidizing Airbus's R&TD efforts to accelerate and enhance the technology development process for the A320 replacement.

298. For instance, the 7th Framework Program project MAAXIMUS (More Affordable Aircraft through eXtended, Intergrated and Mature nUmerical Sizing) provided EUR 40 million to fund research into composite solutions for aircraft offering "lighter structures with less maintenance,"[480] including composite components for a single-aisle aircraft.[481]

299. Moreover, under the current Horizon 2020 program, the EU's Clean Sky 2 Joint Technology Initiative is designed to "secure the future international competitiveness of the European aeronautical industry"[482] and has "the objective of *accelerating* the development of clean air transport technologies in the EU for earliest possible application."[483] It is also structured to develop new technologies that will be ready for application on the new Airbus single-aisle aircraft:

> According to the current fleet replacement strategy, the replacement for 'single aisle' aircraft is likely to be in the 2025-2030 timeframe. The research on new fuel-saving technologies and completion of technology demonstrators should be synchronised in time with the expected new fleet replacement and the results of the research phase should be completed by 2020-2025. The timely delivery of matured technologies is essential. Due to the long and costly development cycles in aeronautics the time between two generations of aircrafts is typically 10 to 15 years and the introduction of the technologies, which are not mature for the entry into service of the new aircrafts will be postponed.[484]

300. A major focus of the Clean Sky initiative is game-changing technology. According to an EU Clean Sky official, "the two most significant Clean Sky projects under development from an engineering perspective are counter-rotating open rotors and laminar wings. 'The only real changes to aircraft configurations within the next 30 years will be in these two areas,' he

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[480] *Aeronautics and Air Transport Research: 7th Framework Programme 2007-2013, Project Synopses – Volume 1, Calls 2007 & 2008*, European Commission (Exhibit USA-35) at 152.

[481] *Technologies for the Aircraft of Tomorrow*, Take Off FACC Customer Magazine (Exhibit USA-100) at 10.

[482] *Impact Assessment Accompanying the document Proposal for a Council Regulation on the Clean Sky 2 Joint Undertaking*, European Commission (July 10, 2013) (Exhibit USA-109), para. 80.

[483] *Impact Assessment Accompanying the document Proposal for a Council Regulation on the Clean Sky 2 Joint Undertaking*, European Commission (July 10, 2013) (Exhibit USA-109), para. 93.

[484] *Impact Assessment Accompanying the document Proposal for a Council Regulation on the Clean Sky 2 Joint Undertaking*, European Commission (July 10, 2013) (Exhibit USA-109), para. 78.

says."[485] Clean Sky's subsidization of research into unconventional aircraft configurations and laminar flow technology builds on prior R&TD subsidies. For instance, Airbus received grants under the 5th and 6th Framework programs (through the VELA and NACRE projects) to research novel aircraft configurations that might offer ground-breaking efficiency over conventional tube-and-wing designs.[486] As for laminar flow, according to an EU study of Clean Sky, "{s}everal {Framework} projects were funded to study technologies for boundary layer suction (hybrid laminar flow) and active flow control. These studies demonstrated that active flow control is feasible. The studies convinced the industry that new flow control devices are possible to delay the effects of the shock wave and paved the way to investigations within FP7 Clean Sky project towards an integrated flow and load control."[487]

301. Similar efforts to accelerate technology for the next Airbus single-aisle aircraft are underway at the EU member State level. The UK has focused its recent R&TD funding on wing technology, consistent with Airbus UK's role as the primary wing producer for Airbus. This funding is targeted at developing technologies for an all-new Airbus single-aisle LCA. For instance, the Advanced Integrated Wing Optimisation ("AIWO") Project (Project No. 110114) is a EUR 12.6 million project intended to build on previous UK R&TD funding in a way that allows Airbus to commercialize the technology. The public description of the project states that "{t}he aim of 'AIWO' is to secure a robust set of innovative technologies, at the integrated wing-level, for the next all-new Airbus product."[488] Further, Airbus UK Ltd. was the lead participant in the 7.4 million pound Next Generation Composite Wing – Phase 1 program, which aimed "to develop the technologies that will enable UK Aerospace companies throughout the supply chain to gain global advantage in the huge market opportunity for the New Single Aisle aircraft."[489] As a sub-project within the NGCW program, the Multi-Discipline Optimised Wing ("MDOW") project is designed to address the situation whereby "{c}arbon fibre composites, in place of aluminium alloy, are the future but it {sic} will require major investment to *respond to the threat from Boeing*…."[490]

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[485] He also reportedly observed that "the current level of funding in Europe is high enough for the proper demonstration of new technologies and for the sector to remain competitive." *Battle for the Skies*, Ben Sampson, Professional Engineering (Nov. 2013) (Exhibit USA-110) at 66.

[486] *VELA – Very efficient large aircraft*, TRIMIS website (Exhibit USA-111); *NACRE – New Aircrafts Concepts Research*, TRIMIS website (Exhibit USA-112).

[487] *Methodology for Framework Programmes' Impact assessment in Transport: Final Report*, MEFISTO (April 2010) (Exhibit USA-32) at 21.

[488] *The Advanced Integrated Wing Optimisation (AIWO) Project*, UK Research and Innovation website (Exhibit USA-113).

[489] *Next Generation Composite Wing (NGCW) – phase 1*, UK Research and Innovation website (Exhibit USA-101).

[490] *Multi-discipline Optimised Wing (MDOW)*, UK Research and Innovation website (Exhibit USA-63) (emphasis added).

302. The public description of MDOW describes how this R&TD grant will benefit Airbus's future platforms:

> The drive for the NGCW programme also comes from the need to meet the window of opportunity for the next generation new short range aircraft (NSR) which will replace the Boeing 737 and Airbus A320, from around 2014. Single aisle dominates the deliveries to airlines and it is predicted that over 15,000 aircraft will be ordered to 2025. The new single aisle market is therefore critical to Airbus and one to which it must respond with technologically competitive products and processes.[491]

303. These EU R&TD programs are emblematic of the government subsidization of Airbus R&TD activity: geared to accelerate technology development and application in a manner tailored to meet Airbus's commercial interests, these and prior programs are structured similarly. The only notable difference is the subsidies' increased magnitude, which of course does nothing to remove the adverse effects experienced by the U.S. LCA industry.

e. Conclusion

304. Alongside existing LA/MSF, EU R&TD subsidies have played important roles in enabling Airbus to offer the LCA that it has today. R&TD subsidies are also positioning Airbus to offer advanced, all-new LCA in the future, just as the EU has shown no sign of foregoing LA/MSF subsidies for such programs. The complementary and supplementary effects of the R&TD subsidies confirm that, not only has the EU not achieved compliance, it has moved further in the opposite direction

CONCLUSION

305. For the reasons set out above, the United States respectfully requests the Panel to reject the EU's claims and find that the EU has neither withdrawn the existing LA/MSF subsidies nor taken appropriate steps to remove the adverse effects of the existing LA/MSF.

[491] *Multi-discipline Optimised Wing (MDOW),* UK Research and Innovation website (Exhibit USA-63).