D6.3 Stakeholder Consultation on Initial Assessment

Deliverable 6.3

Vista

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Authors of the document

Name/Beneficiary	Position/Title	Date
Luis Delgado / University of Westminster	Consortium Member	28 March 2018
Gérald Gurtner / University of Westminster	Consortium Member	28 March 2018

Reviewers internal to the project

Name/Beneficiary	Position/Title	Date
Graham Tanner / University of Westminster	Consortium Member	28 March 2018

Approved for submission to the SJU By — Representatives of beneficiaries involved in the project

Name/Beneficiary	Position/Title	Date
Andrew Cook / University of Westminster	Project Leader	29 March 2018

Rejected By - Representatives of beneficiaries involved in the project

Name/Beneficiary	Position/Title	Date
N/A		

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Vista

MARKET FORCES TRADE-OFFS IMPACTING EUROPEAN ATM PERFORMANCE

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Abstract

This deliverable contains the summary of consultation activities carried out by Vista to validate and obtain feedback on the first results obtained from the model. Consultation activities have been conducted in different forums (workshop/conferences) and with a dedicated consultation to targeted experts and stakeholders.

The deliverable contains the main findings from these consultation activities and the next steps to finalise the development of Vista's model and the production of the final results considering the feedback obtained.

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Executive summary

This deliverable summarises the activities carried out as part of the second consultation of Vista aiming to obtain feedback on the initial results of the model. Vista's team has had the opportunity of sharing the initial results and modelling questions in the PJ19 workshop in Madrid. In that forum, questions were asked to help validate the modelling decisions. Moreover, a targeted consultation has been sent to 19 experts obtaining seven responses. These are helping us to prioritise the factors and scenarios to model and to obtain feedback on the initial results and the modelling approach.

The main findings of the consultation are that there is interest in the community for the results produced by Vista's model. The first results of the model are of the order of magnitude of expected values. All background scenarios are considered relevant but 2050 should be prioritised. Some of the assumptions of the model should be re-assessed considering the outcome of the consultation, such as the target of 0.5 minutes of delay per flight for ANSPs, and the unique unit charging rate per FAB.

The outcome of this consultation will be complemented with the collaboration between Vista's partners and in particular with further feedback from Icelandair, SWISS and Norwegian, EUROCONTROL and Belgocontrol, in order to ensure the adequate modelling of airline-, airport- and ANSP-related factors.

1 Introduction

1.1 Objectives of Vista and previous deliverables

Vista examines the effects of conflicting market forces on European performance in ATM, through the evaluation of impact metrics on four key stakeholders, and the environment. The project comprises a systematic impact trade-off analysis using classical and complexity metrics, encompassing both fully monetised and quasi-cost impact measures. To achieve these objectives, Vista models the current, 2035 and 2050 timeframes based on various factors and their potential evolution. These factors influence the choices of the actors in the ATM system: prices of commodities and services, regulations from national and supranational entities, and new technologies are all part of a complex socio-economic system that results in evolving business models, passenger choices, etc.

Some of these factors, foreground factors, will be analysed in detail in order to understand their impact on the system's metrics. The others, background factors, will be grouped giving them predefined possible values to generate future background scenarios onto which to test the foreground factors. This approach allows us to model possible future evolution of the system while understanding the impact of individual parameters.

'Deliverable 4.1 Initial framework definition' defined the framework and modelling approach of the Vista project. The characteristics of the four stakeholders and environment considered in Vista with the metrics identified for each one of them were also presented in that deliverable. 'Deliverable 2.1 Supporting data for business and regulatory scenarios' identified the regulatory and business factors considered in Vista and their possible evolutions. 'Deliverable 3.1 Business and regulatory scenarios report' classified those factors between foreground and background, grouped the background factors to generate the possible scenarios considered in Vista and presented a preliminary identification of which part of the model impacted by the individual factors. After these first activities were carried out, a consultation with experts was performed to help us identifying which scenarios and factors should be prioritised during the model development. The results of that consultation were presented in 'Deliverable 6.2 Stakeholder Consultation on Business and Regulatory Scenarios'. The consultation was complemented with a workshop carried out in Vienna in October 2017 (10 attendees). That workshop helped the team to identify the most relevant factors and scenarios along with some indications on the modelling approach. Details on the implementation of the model, its calibration and preliminary results are reported in 'Deliverable 5.1 Initial assessment report'.

Different parts of Vista and Vista's model and results have been presented in different international events and audiences from which feedback has been obtained to improve the model and the results. In total, more than 700 members of the scientific community, almost 200 industry members and 20 policy makers have been exposed to Vista's activities. This has been achieved by presenting Vista's work in different conferences (such as 6th/7th SESAR Innovation Days, AGIFORS 57th Annual

Symposium 2017) and workshops (such as the Vista consultation workshop 2017, the COCTA workshop in 2017 or the PJ19 workshop 2018).

1.2 Overview of this deliverable

In order to obtain further feedback for the final phase of implementation of the model and results generated, further dissemination and consultation activities have been conducted. This deliverable presents the feedback obtained from those activities and how it will be used to finalise the model development and the final results generation and analysis. The deliverable is organised as follows:

- A summary of feedback activities carried out and of experts and stakeholders approached for this consultation.
- The feedback obtained is presented with an overview of how it will be used in Vista.
- Next steps and look ahead on the Vista development.
- An annex with questions submitted to stakeholders/experts.

2 Stakeholders and experts

Details of the model and the first results obtained have been presented at a workshop organised by PJ19.04 in Madrid on the 6th March 2018. A total of around 25 experts attended this workshop including task leaders of PJ19 and other researchers. The audience was diverse covering different ATM views such as those of aircraft manufacturing, ANSPs, ATC, safety or performance monitoring. Vista's team used the opportunity to present the preliminary results and gather significant and useful feedback on the model (see Annex I for a description of the questions presented to the audience).

We have also consulted with DLR regarding the CO_2 and NO_x modelling, and future timeframe assumptions associated with emissions and the prices (taxes) thereof. The scope is climate impact only, not local air quality. Since unpublished material has been shared by DLR, we cannot disclose the results here, but they will be suitably incorporated into the final Vista model and described in a manner mutually agreed with DLR for publication.

Besides the above mentioned activities, Vista has targeted 19 experts and stakeholders covering ANSPs, airports, airlines, academia and research institutions. Some of these experts attended the Vienna workshop organised in October 2017. The questions have been filtered considering their expertise to maximise the response rate and quality of the feedback obtained. Finally, the consultation has been shared and distributed among the PJ19 team to increase their awareness of Vista and obtain feedback that will help to align the final steps of the project with further industrial research interest.

The identities of the experts remain anonymous in this deliverable. The list of experts to which the questionnaire was submitted and the responses obtained have been disclosed to the Project Officer.

3 Consultation responses and considerations for Vista

3.1 PJ19 workshop feedback

The following feedback was obtained from the presentation of Vista at the PJ19 workshop in Madrid that will be useful for the final development of the project.

- With respect to the ANSP capacity and its evolution it was stated that the relationship between ATCOs and traffic that they can control is not linear. Hence, we should be careful when assessing the requirements of ATCO cost derived from demand. More capacity can be obtained with new technology but not necessarily with different number of ATCOs. Other costs such as training or systems could be considered even if for Vista's timeframe they could also be neglected.

- Currently the target of 0.5 min/flight due to ATFM is set at an ANSP level, it was agreed that other indicators such as predictability might be more important in the future. However, it is difficult to define as these goals are set at a political level.

- Flight time and predictability should be included on the flight plan preference model by the airlines. The impact of en-route airspace charges is limited to specific regions where it has a significant role.

- It is not clear how airspace en-route charges could be managed once FABs are introduced, different delegates have different views: it should be the same rate across Europe as the service is the same, they will probably keep at national level rates or the grouping of ANSPs for rates might be different than operationally joining small ANSPs from an airspace rate point of view but not from a service perspective. Competition could be included between ANSPs by allowing them to use more revenues on paying better staff for example.

- The impact of freight on the overall revenue/cost picture was pointed out as a relevant one as currently freight flow is growing faster than passenger flows. Also, there was a consensus that high fuel scenarios should consider more radical values such as 8 times the current cost. In the future the impact of noise could also be considered.

3.2 Consultation feedback

Besides the feedback obtained from PJ19, a consultation has been sent to 19 experts and stakeholders covering ANSPs, airports, airlines, academia and research institutions. The questions, as explained before, have been targeted to the expertise of the audience and can be found in Annex I. The

questionnaire was sent on the 14th of March 2018 and a reminder on the 23rd of March 2018. A total of seven responses have been collected.

3.2.1 Metrics

The following prioritisation of metrics has been obtained from the consultation (see Table 1).

Table 1. Prioritisation of metrics per stakeholder

Stakeholder	Metric
Passenger	**Cost of ticket**
	Frequency of flights
	Travel time (D2D)
	Travel time (G2G)
	Missed connections
	Other (please indicate)
Airlines	**Profitability (yields)**
	Resilience (cost of delay)
	Market share
	Punctuality (G2G)
	Other (please indicate)
ANSPs	**En-route unit rate**
	Delay (ATFM)
	Revenues
	Other (please indicate)
Airports	**Delay**
	Connectivity
	Profitability
	Other (please indicate):
	Costs
	Revenues

Stakeholder	Metric
Environment	**CO_2**
	NO_x
	Other (please indicate):
	Noise
Note: factors in bold mentioned by experts and ordered by frequency.	

For the environment metrics it has been suggested that the emissions (CO_2 and NO_x) could be combined into a single metric and that besides absolute values, normalised values might be interesting to consider (e.g., kg CO_2/pax NM).

The experts agree that providing information on how metrics change through the different layers (strategic, pre-tactical and tactical) is a useful feature as it affect the interactions between stakeholders, in particular ATFM delay.

3.2.2 Foreground factors

The following prioritisation of foreground factors has been suggested by the experts (note: factors in bold mentioned by experts and ordered by frequency):

- **Emission schemes**
- **Airport slots**
- **Passenger provision schemes**
- **Regional airport development**
- Traffic Synchronisation
- Smart, integrated ticketing
- Airport access
- Operation of air services
- Societal travel characteristics changes
- Integrated turnaround/hub operations control
- Demand capacity balancing en-route

3.2.3 Background scenarios

The following prioritisation of background scenarios has been suggested by the experts (note: scenarios in bold mentioned by experts and ordered by frequency):

- **L50: 2050 slow economic growth and slow technology development (SESAR trajectory-based operations performances)**

- **H50: 2050 fast economic growth and fast technology development (SESAR performance-based operations performances)**
- **Current (SEP2014)**
- **L35: 2035 slow economic growth and slow technology development (SESAR time-based operations performances)**
- **M35: 2035 fast economic growth and slow technology development (SESAR time-based operations performances)**
- **H35: 2035 fast economic growth and fast technology development (SESAR trajectory-based operations performances)**
- **M50: 2050 fast economic growth and slow technology development (SESAR trajectory-based operations performances)**

As shown, there all the background scenarios are relevant but particularly the 2050 and those showing the effect of a shortfall in technological development.

3.2.4 Airlines modelling

The airlines that have answered our consultation have indicated that:

- Dispatch is looking for minimum cost and routes with shortest flight times. In most cases this is the same routing.
- The flight plan generator used by airlines considers the different routes options with their associated airspace cost simultaneously as the performance costs of the flight plane (i.e., fuel and maintenance costs which are linked to flight time).
- Routing is usually selected 12 hours before departure time for short haul. Adjustments can be made until approximately 1 hour before EOBT to deal with tactical uncertainties. For some flights changes might be done in last minute (e.g., long haul flights where fuel might be a critical parameter).
- The airlines confirm that the preliminary results obtained by the model present a fuel cost rather high for FSC and that airport charges seem a bit too high for LCCs but in the right order of magnitude (the numbers presented were averaged over all types of airlines).
- Costs are internalised by the airline but fuel surcharge might be used to raise awareness to passenger of its high cost.
- Tactical waiting for passengers in connections is decided centrally based on staff expertise.

3.2.5 ANSP

- There is an agreement between the different experts that a common unit rate at a FAB level is something that will not be achieved in the near future. This is not the optimal from an economic point of view and previous analysis carried out to suggest such an approach have been rejected in the past by the ANSPs.

- Capacity relates to the number of flights that can be managed, while efficiency, currently relates to horizontal efficiency (i.e., route inefficiency having an impact on environment). Efficiency could also be measured as costs against some output measure (e.g., number of movements).
- Increment in capacity generally leads to less delay, but it is not always the case as if demand is low the impact will be small or negligible and, it is worth noticing that in some cases capacity cannot be increased unless new technological changes are implemented. It is important to consider the delay in the airspace but also the delay for flights with more than 15 minutes of delay as this is what is used by airlines to consider a flight as delayed. Also, increment in capacity could be overcome with increment in demand leading to similar or even higher delay.
- High delay in a given ANSP will lead to airspace users selecting other routes and hence impacting ANSPs' revenues.
- As efficiency is defined as shortest route (GCD), there is not a direct relationship between efficiency and cost for airspace users (effect of wind, en-route airspace charges, etc.). From an economic point of view, we can define economic efficiency which might lead to increments in efficiency with same delay with lower costs.
- The economic target in the Performance Scheme is the cost-efficiency target, not the ATCO efficiency. It is measured in terms of unit costs (ANS costs per service unit). Therefore, all else equal, a reduction in costs automatically translates into a cost-efficiency improvement.
- The experts refer us to COMPAIR D3.2 results which estimate production and cost functions with results implying that given current technology there are still some capacity/efficiency gains to be made and that there is a large variation in efficiency between ANSPs. The differentiation between ANSPs is important as the ATCO efficiency varies across them (e.g., use of flexible rostering in MUAC vs. more constrained system in France).
- There are three levers to increase capacity for ANSPs: the throughput, the demand balancing, the sector opening times. At ANSP level there are four combinable options to increase capacity: an ANSP can increase the productivity of its ATCOs, it can increase its number of ATCOs, it can buy new technology enhancing the ATM system and it can optimise its airspace. Note that mechanisms such as flexible rostering or virtual control centres could be used in these respects.
- It is agreed among the experts that the target of delay of 0.5 minutes/flight for the ANSPs is not realistic. All ANSPs are confronted with the poor quality of traffic forecasting. These targets are imposed top-down and not based on what is achievable (bottom-up). The 0.5 min/flight has not been reached in 2015, 2016 or 2017 (see Figure 1).

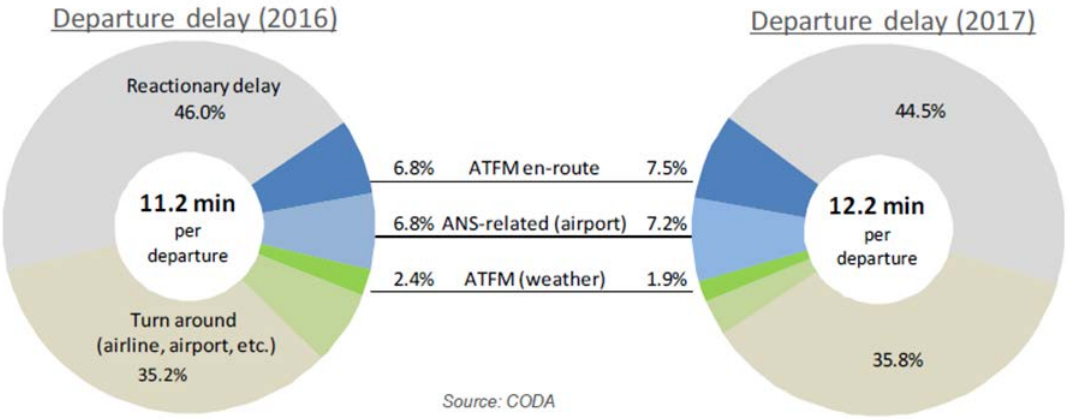

Figure 1. Worsening punctuality in 2017

Source: EUROCONTROL PRC (2018). Performance Review Report 2017 (draft)

2017 reflects the fourth consecutive year in which punctuality has fallen in Europe, also with a further increase in en-route ATFM delays (47% increase 2017 re. 2014) and an average en-route ATFM of delay 0.88 mins/flight. Capacity/staffing issues remain by far the main driver of this shortfall.

3.2.6 Airport

- The best report to use as a reference for supporting the statement that only a small set of airports would be able to expand their capacity is the 'Challenges of Growth 2018' study which will be publicly released in June 2018.
- The economic model generates on average an equal delay for departure and arrival flights, it has been confirmed that this assumption is reasonable.
- The economic model also assumes that the operating cost for the airport is a linear function of its capacity, this assumption sounds reasonable even if there are resources needed what are independent of demand.
- The experts confirm that as a simple rule where arrivals have priority over departures could be used for economic and safety reasons.

3.2.7 Other feedback

During informal discussions, the Vista team also received other valuable feedback, and referred again to further literature sources. One such is a white paper from the Performance Review Body, in which a detailed cost structure for Ryanair is included, per passengers (see Figure 2). This will help us fine-tuning the model for LCCs.

	Fiscal Year Ended March 31, 2015	Fiscal Year Ended March 31, 2014	% Change
	€	€	
Fuel and oil	22.00	24.65	(10.8%)
Airport and handling charges	7.87	7.56	4.1%
Route charges	6.05	6.39	(5.3%)
Staff costs	5.55	5.68	(2.3%)
Depreciation	4.17	4.31	(3.2%)
Marketing, distribution and other	2.58	2.36	9.3%
Maintenance, materials and repairs	1.49	1.42	4.9%
Aircraft rentals	1.21	1.24	(2.4%)
Total operating expenses	50.92	53.61	(5.0%)

Ryanair give the following methodology to cost calculation. The table sets forth the amounts in euro cent of, and percentage changes in, Ryanair's operating expenses (on a per-passenger basis) for the fiscal years ended March 31, 2015 and March 31, 2014 under IFRS. These data are calculated by dividing the relevant expense amount (as shown in the consolidated financial statements) by the number of booked passengers in the relevant year as shown in the table of "Selected Operating and Other Data" in Item 3 and rounding to the nearest euro cent; the percentage change is calculated on the basis of the relevant figures before rounding.

Figure 2. Ryanair operating expenses for 2014 and 2015

The team was also made aware of a report by DG MOVE looking at the potential unit rates and elasticities of ANSPs beyond 2020. It will be used to further tune the ANSP agent.

3.3 Items for considerations in the prioritisation for Vista

The outcome of the consultation will feed the final stages of Vista development. The information relating to the different stakeholders (airlines, airports, ANSPs) will help us to modify their implementation in the model to achieve a more realistic definition. The team will consider these items more specifically:

- Change the target delay and/or degrading traffic forecast for ANSPs.
- Consider COMPAIR results to compute efficiencies.
- Change the cost of function of ANSPs. In particular, cap the capacity w.r.t to number of ATCOs.
- Compute more specifically cost structures for FSC and LCC.
- Compute the NO_x and CO_2 in a single indicator (with respect to their greenhouse influence).
- Test different scenarios for future ANSP organisation.
- Include predictability in airline cost function, strategically and pre-tactically.

The foreground factors have been prioritised based on the consultation and this will be considered when implementing them. All background scenarios are relevant but 2050 should be prioritised.

4 Next steps and look ahead

Vista has already provided a highly extensive literature review on factors that are affecting and will continue to affect the ATM system in the current, 2035 and 2050 timeframes. A model architecture has been described and its implementation with extensive preliminary results developed, with helpful and timely feedback from the SJU.

Vista has already benefited from several feedback activities: a consultation reported in D6.2, a workshop with experts in the field, presentation and participation in workshops with PJ19 and other conferences such as the SESAR Innovation Days. Moreover, partners in the project represent the views and interest of different stakeholders (airlines, airports and ANSPs).

The consultation presented in this deliverable is the final one that will allow us to prioritise the final scenarios and factors to model. It also provides input into the modelling activities to enhance some of the assumptions in the model and improve the calibration and validation. The feedback obtained will:

- in a wider context, help us to prioritise the:
    - metrics to be implemented for the different stakeholders in the model;
    - foreground factors;
    - background scenarios;
    - scenarios as a combination of foreground factors and background scenarios;
- help us to validate and enhance the models of the different Vista's layers, including:
    - for the strategic layer:
        - providing support for the modelling of expected delay at ANSPs and on efficiency improvements;
        - validating the airlines economic results and airports modelling assumptions;
    - for the pre-tactical layer:
        - providing support for the modelling of the flight plan generator by including other parameters in the flight plan preferences;
        - selecting how airspace en-route charges are computed when FABs are implemented;

- for the tactical layer:
  - providing insight on tactical decisions made by airlines such as wait-for-passengers' rules or tactical flight plan modifications;
  - validating the tactical delay generation at airport for arrival and departure.

The next steps comprise finalising the development of the model, its final calibration and validation, the execution of the scenarios and the analysis of the results. The outcome of these activities will be reported in D5.2 (Final Assessment Report).

NB. Not all the experts have replied to our questionnaire at the moment of the definition of this deliverable. If further replies arrive, they will be considered to enhance the model for D5.2, on which effort the team is now exclusively focusing. Also, Vista's partners will continue to collaborate to validate the results obtained, representing the relevant stakeholders cited above.

5 Annex - Questions

5.1 PJ19 workshop feedback

The following questions were asked during the PJ19 6th March 2018 workshop. Beside these questions, general feedback on the model and the results was also gathered.

Q1. Is an increase in ANSP capacity equivalent to an increase in efficiency (number of ATCOs per km controlled)?

Q2. How realistic is it to assume an en-route ATFM delay target of 0.5 min/flight is maintained in the far term (2035+)?

Q3. Are there any other parameters that determine the choice of flight plan, i.e. in addition to cost of fuel and cost of airspace charges?

Q4. Is using the average unit rate of the ANSPs in a FAB the best estimate of the future FAB unit rates?

Q5. Are we underestimating AU sensitivity to CRCO charges?

5.2 Questions send to experts and stakeholders

The questions have been filtered per expert/stakeholder to maximise the quality of their responses. This means that only the questions of selected categories have been send to individual people. The different categories and the questions are as follow:

5.2.1 High level future usage

Q1. Which (further) capabilities should Vista develop to be used within your domain (i.e. that would be useful to you)?

5.2.2 Prioritisation metrics

Q1. Vista is able to capture many different metrics per stakeholder. From the following table, please select two metrics per stakeholder that you would be interested to see evaluated and included in trade-off analyses:

Table 2. Metrics per stakeholder

Stakeholder	Metric
Passenger	Cost of ticket
	Frequency of flights
	Travel time (D2D)
	Travel time (G2G)
	Missed connections
	Other (please indicate)
Airlines	Punctuality (G2G)
	Resilience (cost of delay)
	Profitability (yields)
	Market share
	Other (please indicate)
ANSPs	Delay (ATFM)
	En-route unit rate
	Revenues
	Other (please indicate)
Airports	Connectivity
	Delay
	Profitability
	Other (please indicate)
Environment	CO_2
	NO_x
	Other (please indicate)

Q2. One of the characteristics of Vista is that it is able to produce metrics for the different stakeholders not only for a given timeframe scenario but also across layers (e.g., same or complimentary metric for the strategic, pre-tactical and tactical layer). Which metrics would be of particular interest to analyse with this approach?

5.2.3 Prioritisation scenarios

Q1. As you are aware, Vista creates scenarios by combining background scenarios with foreground individual factors. Currently Vista incorporates the following foreground factors:

- Strategic layer
    - Fuel price
- Pre-tactical layer
    - Airspace en-route charges
    - Fuel price
- Tactical layer
    - 4D trajectory operations
    - Advanced passenger management tools
    - Fuel price

Other possible foreground factors that we are considering include:

- Traffic Synchronisation
- Smart, integrated ticketing
- Passenger provision schemes
- Emission schemes
- Airport slots
- Regional airport development
- Airport access
- Operation of air services
- Societal travel characteristics changes
- Integrated turnaround/hub operations control
- Demand capacity balancing en-route

Could you please select the two factors that you consider most interesting from the list of foreground factors?

Q2. The following background scenarios are identified in Vista:

- Current (SEP2014)
- L35: 2035 slow economic growth and slow technology development (SESAR time-based operations performances)

- M35: 2035 fast economic growth and slow technology development (SESAR time-based operations performances)
- H35: 2035 fast economic growth and fast technology development (SESAR trajectory-based operations performances)
- L50: 2050 slow economic growth and slow technology development (SESAR trajectory-based operations performances)
- M50: 2050 fast economic growth and slow technology development (SESAR trajectory-based operations performances)
- H50: 2050 fast economic growth and fast technology development (SESAR performance-based operations performances)

Could you please indicate which 3 background scenarios are the most interesting from your point of view?

5.2.4 Airlines

The following questions cover aspects in the modelling and the results affecting airlines:

- Currently fuel and airspace en-route costs are used to select which flight plan to select. How should we incorporate other factors such as buffer times? Are high-level rules used besides purely monetised parameters?
- What is the importance of airspace en-route charges on the route preference? Would you say it counts for 10% of the decision? 30%? 50%?
- With respect to the flight plan selection (including route selection), how much is done tactically (minutes/few hours before the flight), how much pre-tactically (day before, hours before the flight)?
- Does the breakdown of the costs in output of the model seem roughly correct (please see Figure 14 on page 50 and Figure 50 on page 98 of the attached document)? Please bear in mind that the pie charts represent an average over all the airlines. How close do you think your particular airline is to these charts?
- Do you know to what extent you internalise costs (i.e. not passing them on to the passenger) and revenues, in particular when fuel prices increase?
- Would an outbound flight wait for delayed passengers arriving late from a previous flight? Are there any general rules that apply for these cases?

5.2.5 ANSP

These questions target ANSP modelling:

- In the context of FABs, should a unit rate be used for the whole FAB, or should the ANSP retain (some) autonomy in 2035 (say)?
- In the SES Performance Scheme, there are targets for airspace capacity and ATCO efficiency. From your point of view, what is the difference between an increase in capacity and an increase in efficiency? What are their respective effects on delay? On costs?
- How close are the ANSPs to maximum capacity based on current technology? On current ATCO efficiency (and working practices)?
- In the model, ANSPs are very good at forecasting traffic and thus always end up right on their target delay, 0.5 minutes/flight (value taken from the SES Performance Scheme). To what extent is this realistic? Are there (other) reasons why the ANSPs are not on target?

5.2.6 Airport

The following questions are aimed at improving the airport models:

- It has been suggested during the workshop that only a small set of airports should be able to expand their capacity. Can we use any rule of thumb for that, or database, or reference report?
- In the economic model we consider that the airport is mainly defined through the delay it generates, given a certain level of traffic (see page 18 and 19). In particular, it generates on average an equal delay for departure and arrival flights. How realistic is this assumption?
- In the economic model we also considered that the operating cost for the airport is a linear function of its capacity (used in a broad sense, i.e. the capacity to sustain a given level of traffic while maintaining its delay under a given value). We could not find any good reference for this (see the discussion on page 19). Do you have any evidence for or against such a law? Intuitively, how far from reality does it seem to you?
- For mixed-mode operations, how is the priority set between departures and arrivals? Is there a general rule followed by ATCOs? Does A-CDM impact this, and if so, how?

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