

European Observatory on Airport Capacity & Quality

Final Report of TASK FORCE

'Learning from national, regional and local strategies on airport capacity'

Airport capacity in the EU: a strategic perspective

May 2015

1. Executive Summary

This Report from a Task Force of the European Observatory on airport capacity and quality is about airport capacity in the EU from a strategic perspective. It builds on previous work in the Observatory and on important work done by Eurocontrol in its “Challenges of Growth” series.

The Task Force was asked to develop learning from national, regional and local strategies on airport capacity and, in order to do so, the Task Force drew on the experience of its members drawn from many of the key aviation stakeholders, as well as taking evidence from Member States, airports and airline representatives. It also looked at global comparators through presentations and desk research.

The result is a Report which, after setting out the context in which EU airports operate and the capacity issues they face, gives illustrative examples of practice on National Infrastructure or Airport Plans, airport specific Master Plans, land use planning and stakeholder engagement practices. In relation to airport impacts, the Report briefly reviews compensation schemes, environmental considerations, operational and other forms of regulation as well as mitigation methods and options.

Finally, after setting out key current EU measures in this area, the Report makes recommendations for further action. It notes that the planning and provision of airport capacity is the prime responsibility of Member States and their regional or local authorities. Given the policy of subsidiarity and the intensely local environmental impacts that airports can impose, this seems likely to remain the case for the foreseeable future. Nonetheless, in addition to the current activities and policies of the EU, many of which are briefly described in this Report, the work, discussions and debates of the Task Force have enabled the elaboration of the list below which sets out new actions related to airport capacity planning and provision that could usefully be undertaken by the Union. These recommendations will have to be refined and further developed through the normal processes of engagement and consultation within the Union, with particular attention paid to the necessary balances between subsidiarity and European action; and between the significant economic benefits of aviation growth and the deleterious environmental impacts engendered by airport activities.

Concretely, the group clearly identified the need to include airports more fully within an overall European Aviation network. This would imply expanding the Aviation Network concept to embrace all aspects of airport and airline operations as well as the underpinning air traffic management system. With regard to airports and building on the SES Network Manager, it would seem to be necessary to include top-down elements, such as the role of the Network Manager in identifying existing and emerging airport-capacity hotspots impacting the network. Specific actions under this heading include the following:

- Member States should be requested to ensure that long term airport planning frameworks are developed in each Member State which take into account the needs of the aviation sector by retaining agility and flexibility in the system in order to cope with market changes. In particular, long term airport planning should take into account developments in the airline market, as forecast for example by key airframe manufacturers, such as Boeing and Airbus.

- Member States should also be requested to ensure that Master Plans are drawn up for key airports, and for each Member State.
- At EU level, set up a reporting mechanism for airport capacity so as to develop a full pan-European picture of the issues at stake. Carry out an assessment of current international and industry best practice approaches to master planning, then, recommend the use of common best practice approaches to master planning. Ensure that Master Plan best practice guidance promotes compliance with relevant EU legislation and addresses the issues of realistic traffic, economic and financial estimates; full spatial impact information covering at least safeguarded areas, noise and land for future expansion; inter-modality; mitigation; effective engagement and transparency with all stakeholders. This would help secure acceptance of such plans.
- Set up a central repository of such Master Plans in the Network Manager. Amend the Network Manager concept and Terms of Reference to ensure these take a holistic approach to aviation. Task the Network Manager with assessing key national and airport plans periodically against forecast needs, identifying bottlenecks and challenging Member States to fill or otherwise manage identified capacity shortfalls.
- Airports should further integrate the air and land side airport operations so as to help embed airports in the Aviation Network.

At the same time, airports, airlines and Member States should be usefully encouraged to make best use of existing infrastructure including optimising the use of primary airports through incentivising the delivery of best in class operational performance and the maximum use of secondary or regional airports where appropriate. Authorities should look for opportunities to spread the benefits of competition into all links in the aviation value chain so as to generate economic and social benefits.

Whilst the European Union is not the appropriate body to harmonise Member States' laws on land-use planning, the group agreed that there is room for the Commission to undertake certain actions in the recognition that airport planning and provision has a considerable impact on the effectiveness of the European Aviation Network. Initiatives in this area should consist of the following:

- Undertake research to identify and then publish guidance on best practice for national and local airport planning.
- Recommend the inclusion of spatial impact information contained in airport plans into overall spatial planning documents in order to allow for both territorial and airport development.

Lastly, there are several accompanying measures that the Commission could usefully undertake to ensure that airport capacity shortages can be tackled more effectively by EU action:

- Target any available EU funding at bottlenecks, as well as on securing the connectivity of poorly connected and peripheral regions. Among other sources, this should include using the European Fund for Strategic Investments for these purposes.
- Consider the creation of an airport capacity champion whose task would be to advocate consideration for airport capacity issues in the context of the overall Aviation Network.

- Undertake research into the impact of charges, levies and taxes linked to aviation on competitiveness, connectivity, financial viability and other matters.

2. Introduction

1. This report is about airport capacity in the EU from a strategic perspective. It is intended to further the discussion among all stakeholders on the barriers to creating additional airport capacity in those EU regions where it is required. It is also intended to foster a debate about how the EU, national and regional governments can best help by drawing up and implementing appropriate strategies. This is of importance to airports of all sizes in order that they may maximise their economic and social contribution to the regions they serve and Europe as a whole.
2. A Community Observatory on airport capacity was first set up by the Commission, as part of its 2007 Action Plan on airports¹. This plan emerged at a time of very strong growth in air travel and highlighted the issue of future airport capacity shortages. The risk of future airport capacity shortages was subsequently identified in Eurocontrol's 'Challenges of Growth 2008' study².
3. The Observatory was intended to oversee the development of a common methodology for airport capacity assessment as a first step towards a more coordinated approach to airport capacity planning. As a result, a checklist of functional requirements to be taken into account for any airport capacity assessment methodology was elaborated. Despite that, the Commission did not proceed with a legislative proposal to harmonise practice in the Member States in this field as it was not clear that such a proposal would have helped to overcome the barriers to airport capacity expansion. In addition, the sharp slowdown in traffic from 2008 appeared to remove the urgency from this debate, at least in the short term.
4. Building further on its long experience in forecasting and modelling air traffic growth, Eurocontrol published its latest 'Challenges of Growth 2013' (CG13) study³ in 2013. This confirmed and reiterated the capacity challenge identified in previous studies. In the most-likely (capacity constrained) scenario, there will be 50% more flights in 2035 than in 2012. Nearly two million flights will not be accommodated (12% of total demand for travel) because of reduced airport expansion plans. That is equivalent to an estimated 120 million passengers unable to make their return flights (in total, 240 million passengers per annum (mppa)). At the same time, by 2035, more than 20 airports will be running at or close to capacity, compared to just three in 2012 causing difficulties for managing the network (so called 'hotspot airports').
5. On this basis, in early 2014 the European Commission decided to relaunch the Community Observatory on airport capacity – but re-named the European Observatory on airport capacity and quality, so as to better focus on where Europe could add value to national

¹ COM(2006)819

² *Challenges of Growth 2008, Summary Report*, EUROCONTROL, November 2008

³ www.eurocontrol.int/articles/challenges-growth

efforts on airport capacity and quality. A new mandate was drawn up based on the Commission's 2011 Communication accompanying the Airport package⁴ and Eurocontrol's 'Challenges of Growth 2013' study, which had drawn attention to and quantified, respectively, the problem of capacity shortages at major EU airports.

6. Three priority tasks were identified for action in 2014-2015:

- Learning from national, regional and local strategies on airport capacity;
- Assessing any gaps in understanding the sources of airport delays in Europe; and
- Quantifying the economic impact of unaccommodated demand due to airport capacity constraints and exploring the environmental variables influencing airport capacity.

7. Regarding the first task, the aim has been for the Observatory to concentrate on core strategic issues: the airport capacity crunch in Europe viewed from a national perspective; the airport capacity issues in other world regions; and the impact of the environmental dimension of aviation activities on airport capacity expansion.

8. This report sets out findings drawn from the Task Force set up to work on this first task (hereinafter 'the Task Force'). It contains information collected during six working group meetings held between June 2014 and March 2015. These meetings gathered representatives from Member States, European organisations from the aviation sector as well as associations representing the views of regional and local authorities with an international airport in the vicinity, and European citizens at large⁵. The Task Force took evidence from a number of Member States⁶ and individual airports⁷ by means of presentations and discussions. It also collected the views of airlines' associations and listened to the experiences of Norway and the US. In addition, information on airport expansion plans among the EU's key international competitors in aviation was collected from publicly available information and sources.

9. Finally, in order to cover the largest possible number of national experiences, the Task Force issued a questionnaire to all EU Member States on aspects such as the existence of national, regional and local plans on airport capacity, land use planning as well as processes to secure quality and implementation. A total of seventeen responses were received⁸.

4 COM(2011)823

5 Reference to the members of the Task Force in annex 1

6 Austria, Denmark, Germany, Ireland, Italy, Poland, the Netherlands and the UK

7 Copenhagen, Munich, Vienna, Rome and Warsaw airports

8 Austria, Belgium, Czech Republic, Denmark, Germany, Finland, France, Ireland, Italy, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain and the United Kingdom

3. Main capacity issues facing EU airports

10. Deregulation of aviation in the EU 25 years ago, and expansion of the aviation market as the EU itself expanded were together key factors in boosting the growth of aviation in the Union. But the EU and its aviation market are becoming more mature; looking ahead we see, for example, slower economic growth rates, slower population growth (or even population decline), increased competition from other modes (rail, motorways), and fewer unserved air market opportunities. As a result, the most-likely scenario from CG13 (scenario C: regulated growth) forecasts only moderate growth in the EU to 2035; only 1.6% average annual growth in flights 2012-2035⁹, derived from an unconstrained demand growth of 2%/year.
11. Specifically for the EU27, that difference between demand and forecasted flights amounts to 1.4M flights being unaccommodated¹⁰. As Figure 1 illustrates, all EU28 States see some of the demand for flights not accommodated, either at national airports, or at the other end of the flight, or both – highlighting how network effects mean lack of capacity in one location affects everyone.
12. The most-likely forecast scenario is of course only one of many possible futures. Three other scenarios were explored in CG13: two with lower growth and less unaccommodated demand, one with more growth and more than double the unaccommodated demand. All that said, overall in Europe, the continuing economic weakness means that EU27 growth is currently running just below the most-likely scenario; traffic is expected to be 1 year *behind* the forecast by 2020. Locally, the differences can be much larger, mostly due to re-routing as a response to airspace closures in Ukraine, Libya, Syria and elsewhere, but the most-likely scenario in 2013 does indeed still appear to be the most likely.
13. This accords with Airbus¹¹ estimates that 30 airports in Europe may surpass their current capacity by 2020.

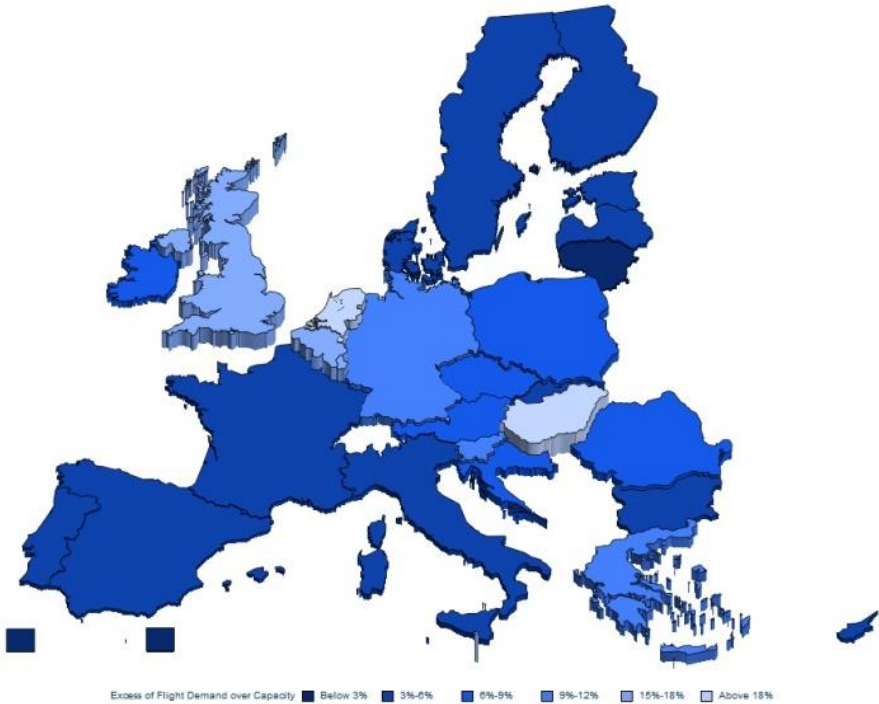
9 This figure is for EU27, the EU28 not being available at the time. Challenges of Growth Task4: European Air Traffic in 2035, EUROCONTROL, June 2013, page 57.

10 The headline figure of nearly 2M in the introduction is, as in CG13, for a broader geographical Europe.

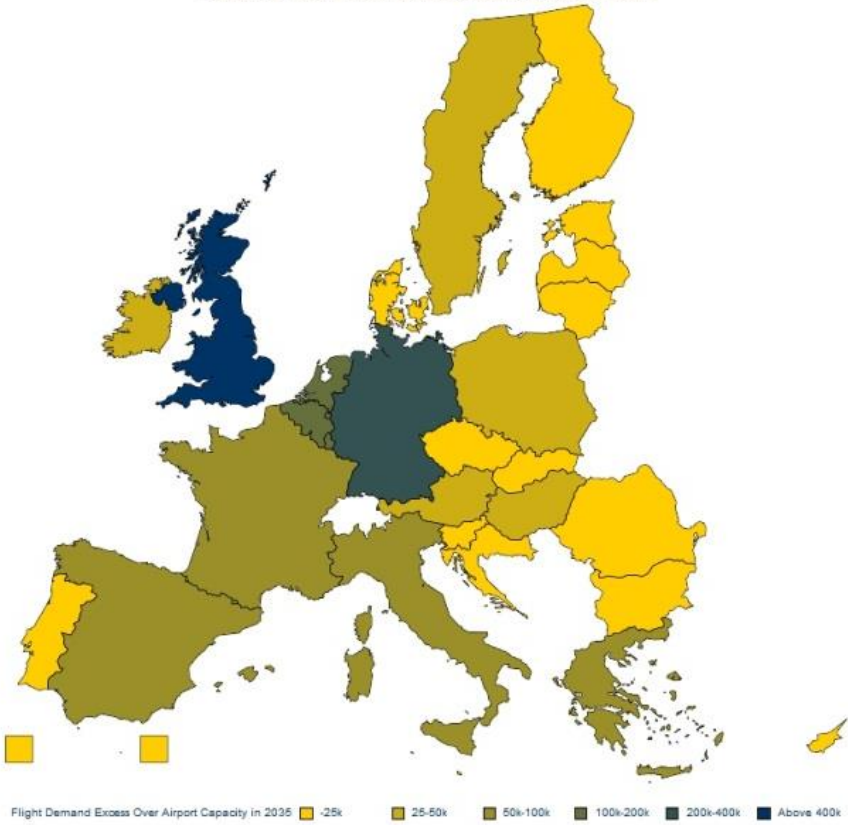
11 Global Market Forecast 2014-2033, Airbus, 2014, page 41.

Figure 1. Unaccommodated demand (alternatives? - % and flights)

Impact of lack of airport capacity on number of flights.
 Challenges of Growth 2013. Scenario C: Regulated Growth (Most-Likely Scenario)

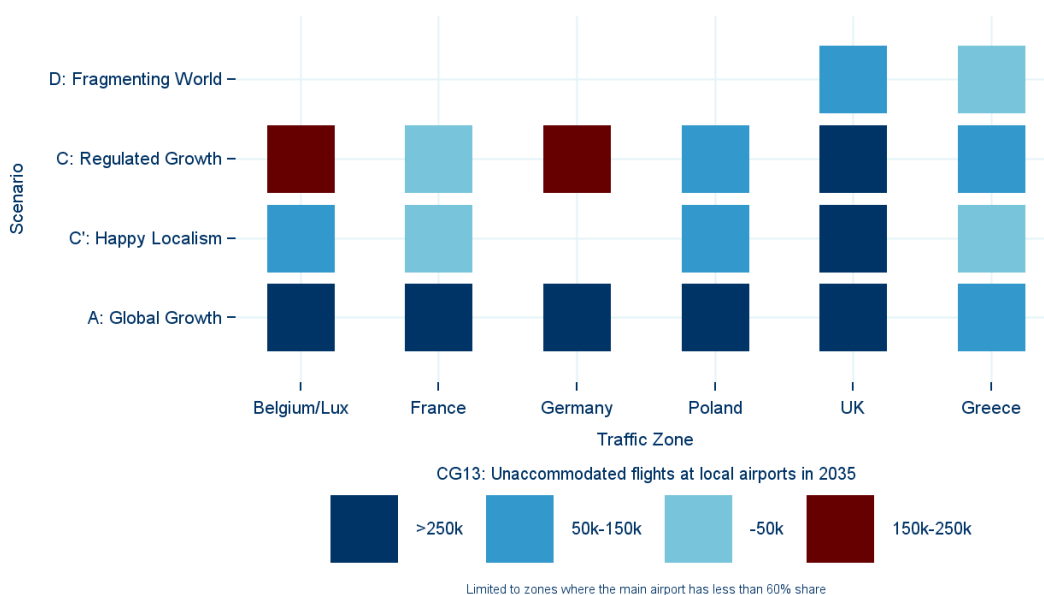


Unaccommodated demand in 2035
 Challenges of Growth 2013: (Most-Likely) Scenario C: Regulated Growth



14. Given the confidentiality conditions on the airport capacity plans available to Eurocontrol, to drill down further, Eurocontrol limits its study to zones (for example, Belgium and Luxembourg are grouped into a single zone) where the main airport is not dominant, i.e. has a share of less than 60% of flights. The scale of the capacity challenge for these six zones is shown in Figure 2, with the UK having the most unaccommodated demand in all four forecast scenarios.

Figure 2. Unaccommodated demand at local airports (2035 Scenario C)



15. It should be stressed that the capacity conclusions of the CG13 study were based on plans provided by airports. These plans were significantly curtailed compared to those provided for the previous study; just 17% increase in capacity by 2035 was reported by airports, compared to 38% by 2030 in the study 5 years earlier. Of course, this reflects the deep economic downturn in the intervening period, but it also shows the growing resistance to transport infrastructure projects throughout Europe due to aviation's environmental impact.

16. In particular, noise with its immediate and tangible effect on local communities was identified in CG13 to remain a key constraint in a moderate growth scenario. As Eurocontrol put it in its study, 'despite improvements in technology which will decrease the actual noise impact per flight, growth in air traffic may lead to an increase in populations affected by aircraft noise. This may trigger more stringent regulatory measures, such as more restrictive noise abatement operational procedures and airport operational noise quotas and curfews, a further challenge to constrained capacity'. Of course, this can be mitigated by other measures and initiatives. In particular, a better inclusion of airport future development plans into overall spatial planning documents allowing for both territorial and airport development can certainly influence the extent of

future population exposure to aircraft noise, and should therefore deserve greater attention by relevant authorities.

17. The highlighted difficulties in implementing capacity plans explain well the volatility of such plans – and hence the need to keep tracking them. This also serves as a reminder that CG13 is a snapshot of the situation, the best available at the time of publication; and that this will change, indeed it is *desirable* that it does change, as the industry adapts to the changing business environment and responds to initiatives such as CG13.
18. Given the choice between being open about their plans and keeping them confidential, all but a few airports insisted on confidentiality. The business drivers for this may be understandable, but the performance of major airports affects the entire network (see Figure 1), and confidentiality severely restricts the ability to have evidence-based discussions of broad policy and strategy issues.
19. Also noteworthy is the point that there is little homogeneity in the processes leading up to the capacity plans reported to CG13. Master plans may not exist, or may be hard to find, or may have different content from one airport to another. Given all this, it is likely that more standardisation here, and a central repository or index of master plans of major airports, would significantly improve the quality of future analysis and discussion.
20. What are the implications of this work? Starting from the assumption that air travel gives rise to benefits in the form of GDP growth, employment and productivity, it is clear that the Challenges of Growth predictions that a large number of flights will be unaccommodated implies that at least some of the benefits that would have been present will in fact be foregone as a result of the failure to provide sufficient runways and terminals at airports to service those flights. This analysis is confirmed by other studies that have built on or complemented the analysis in CG13 and provide an assessment of the impact of a lack of capacity at EU airports in the future.
21. Indeed, another Task Force of the Observatory has been looking at precisely this issue¹². It has presented two methodologies for assessing the impact, based on detailed work carried out by ACI Europe on the one hand, and IATA on the other. According to Oxford Economics' methodology, aviation will support 818,000 fewer jobs, and there will be 485,000 fewer jobs supported in the tourism sector. Aviation's contribution to GDP will be lower by €52 billion, with a corresponding reduction in the tourism sector's contribution of €24 billion. An alternative estimate by InterVISTAS of EUROCONTROL's 'Regulated Growth' scenario projects a loss of 434,000 potential direct, indirect and induced jobs, which is associated with a loss of €28.2 billion in GDP per annum. Of course, the environmental impact of the sector may also be reduced in these scenarios.
22. From their different perspectives, ERA and ACI¹³ also look at the cost in terms of connectivity: loss of connectivity between European regions and major hubs (implying lost links to both major cities and onward connections); and loss of direct connectivity from

12 Task force on 'Economic impact of unaccommodated demand and environmental variables influencing airport capacity'

13 Insert references

major European hubs to major long-haul destinations. From the opposite perspective, OECD/ITF¹⁴ have published a study of the same effect, on the consumer benefits of expansion at Heathrow or Gatwick, ranging from £0.3Bn to £3.9Bn¹⁵ depending on the airport and growth scenario.

23. Despite these facts, when they are ranked by size, it is clear that there is a very long 'tail' of very small airports in Europe, many of which struggle to attract traffic. Over 1,000 airports had commercial IFR departures in the EU28 in 2014, but of these airports, more than half - 574 - had less than one commercial IFR departure per week; and 90% of the traffic served just 15% of airports.
24. Indeed, this mixed situation in Europe with many airports in the EU - mainly regional - struggling to attract traffic - and therefore making economic and financial losses was addressed in a special report by the European Court of Auditors last year¹⁶. The report focused on 20 EU-funded airport infrastructures in five EU Member States in the 2000-2006 and 2007-2013 cohesion programming periods, representing circa 5% of European passenger traffic in 2013. While caution must be used when referring to conclusions drawn from a particularly limited sample, the report concluded that too many airports (often in close proximity to each other) had been funded and that in many cases the infrastructure provided was either not needed or had been oversized. The Court also observed that the provision of EU-funding had not proved to be cost-effective and that in general, the investments did not lead to expected results, in the same was as traffic, economic and financial forecasts had turned out to be overoptimistic. In relation to planning, the Court found that, of the five audited Member States, only one had a long-term strategic vision in place at the time the investments were made.
25. In its reply to the Court, the Commission, while accepting that in the mentioned periods support from cohesion policy for airport infrastructure did not in certain cases represent an effective use of EU funds, also added that lessons had been learned from this experience.
26. As a result, today only projects aimed at improving the environmental performance or safety features of airport infrastructure can receive funding from cohesion policy sources. On top of that, priority is given in particular to airports belonging to the core TEN-T network. As far as strategic planning is concerned, the new framework requires the existence of transport plans at national or regional level setting out a comprehensive strategy per sector as a specific ex ante conditionality. In the same spirit, the new guidelines on how Member States can support airports and airlines in line with EU State

14 Insert references

15 Impacts of Expanding Airport Capacity on Competition and Connectivity: The case of Gatwick and Heathrow, OECD/ITF December 2014.

16 Special Report No 21/2014 'EU-funded airport infrastructures: poor value for money'
<http://www.eca.europa.eu/en/Pages/DocItem.aspx?did=30441>

aid rules aim to promote the sound use of public resources and avoid proliferation of unprofitable and underused airports.

27. Nonetheless, as noted by the Commission, regional airports may support connectivity or broader communication purposes for a region or a local community that the public authorities may wish to maintain for public policy purposes that extend beyond purely commercial considerations¹⁷.
28. Having said this, the Commission has accepted the recommendations of the Court meaning it has accepted to concentrate future resources on airports for which investment needs have been properly assessed and demonstrated; it has also welcomed recommendation by the Court to the Member States on the need to have coherent regional, national and - where appropriate - supranational airport planning processes in place as a means to avoid uncoordinated investments in future.
29. All in all, this debate would seem to confirm the idea that Europe suffers from a problem of misplaced capacity i.e. a mismatch between where capacity is available and where demand is present. Where capacity is in short supply, it should be noted that capacity shortages at large and hub airports not only restrict opportunities for travel to/from those nodes but can have also knock-on effects on the entire network in terms of punctuality and resilience. This means that capacity constraints at major airports impact not only those airports and the traffic between them, but also impact more generally on the connectivity and resilience of airports of all sizes throughout the network. For this reason, local capacity constraints are a cause of concern at supra-national and EU level.
30. At the same time, while it is well recognized that small and regional airports deliver positive economic and other benefits for the communities they serve, it is also the case that spare capacity at these airports has been and continues to represent a market opportunity and therefore a possible means of tackling capacity imbalances in the network overall. For example, in 'Challenges of Growth 2013', Eurocontrol modelled the tendency of some air carriers to grow their business where capacity is available (local alternatives). The result was a 21% reduction in unaccommodated demand in the most-likely scenario. Having said this, a more recent trend sees LCCs seeking to move into primary airports so as to secure access to more lucrative business opportunities. All things considered it would seem that there remains a risk of exacerbated capacity shortages at these main network nodes.
31. Europe has seen new airlines and new airline business models enter the aviation market, notably from the low cost sector – and especially airlines that have focussed on providing

¹⁷ Beyond that, the Commission has also drawn attention to the points that the current economic crisis has had a significant impact on air transport in the five audited Member States and that airport infrastructures are a long term investment, so that therefore their utilization rate should be verified over the lifetime of the investment. The Commission has also contested the criteria chosen by the Court to define the catchment area of an airport.

point-to-point services. The impacts of these and other industry trends could have profound effects on EU airports. As the UK Davies Commission on London airport capacity put it in its interim report, “Some argue that airline alliances, and the hub and spoke networks that they operate, will remain central to the way the industry works. Others maintain that a wider range of airports will start to operate some form of hub, even where they lack a major network carrier, by enabling passengers to “self-connect” or by hosting new partnerships between low-cost carriers and other airlines. A third view is that new aircraft with longer ranges will make more long-haul destinations viable as point-to-point routes, resulting in a decline in the importance of hubs”.

32. These futures need not, in fact, be alternatives – the reality may be some amalgam of them all. But this uncertainty needs to be factored into airport planning at all levels. The low-cost model itself has gone from inception to short-haul prominence within 25 years, so in planning for a future 20-25 years hence, airports need to be nimble, flexible and to allow for the evolution of current business models and the arrival of new ones.

4. International context and best practice

33. Airports in the European Union are also impacted by the apparently unstoppable growth of huge hub airport direct competitors in the Middle East and Turkey that reflect strategic decisions by those countries to grow their aviation sectors as a key element of their economic development. Apart from the significant resources which these countries are putting into aviation (in principle, not constrained by State aid rules), they also benefit from a geographical position that enables them to tap into the rapid economic growth of *in primis* Asia which is in any event pulling the centre of the world economy – and the airline industry that services it – inexorably to the East.
34. Last year, Istanbul Ataturk Airport's traffic grew by 10.6% to 56.9 million passengers per annum (mppa) making it the fourth busiest European airport, ahead of Amsterdam (+4.6%, 55 mppa) and just behind Frankfurt (+2.6%, 59.6 mppa). Booming demand there and at Istanbul's secondary Sabiha Gokcen airport -- where last year traffic grew by an impressive 25.4% to 23.5 mppa -- has led Turkey to award construction contracts for an all-new six-runway airport to be built on a greenfield site 35 km north of Istanbul -- referred to as 'Istanbul Grand'. This “mega hub” will be able to handle ultimately as many as 150 mppa. Phase 1 is scheduled to be completed end 2017.
35. In any event, Istanbul Ataturk and Sabiha Gokcen airports both plan capacity increases through respectively a new terminal to enable the airport to handle an additional 10 mppa by 2021, and a second runway at Sabiha Gokcen to support large aircraft including A380s. This raises the prospect of a brand new primary hub airport joining two others - an existing one with a secondary hub airport in Asian Istanbul. That said, Istanbul Ataturk is set to be closed in 2021 and fully replaced by the new airport. There seems to be some doubt about these developments since, although construction work – started last year – continues, the

Turkish Courts have suspended the new airport's environmental approvals; and protests over the potential damage of the new airport to the environment continue unabated.

36. The pressure faced by the EU's airports from the fast-expanding Gulf hubs is well demonstrated by the expansion plans in place for these airports. Dubai International Airport -- which in 2014 overtook Heathrow to become the world's busiest airport for international traffic -- has current landside projects to increase capacity from 69 to 90 mppa by 2020. Around 15 km from Dubai International, the next phase of Al Maktoum International Airport's expansion is set to enable the airport to handle 120 mppa with an option to grow this ultimately to 240 mppa. Less than 150 km from Dubai, Abu Dhabi International Airport has also ongoing landside projects to increase capacity from 20 to 40 mppa while improvements at Qatar's Doha Hamad International Airport should allow the airport to increase capacity from 30 to 53 mppa and ultimately to 65 mppa. That would result in three mega hubs within a limited area, so that airspace issues could yet impose limits on Gulf expansion.
37. While Istanbul and Dubai compete for the title of world's largest airport, China unsurprisingly leads the field in national airport construction with a total of 56 airports currently undergoing expansion – despite the fact that Chinese airports do not operate profitably. Construction of Beijing's new second airport at Daxing is now under way. This will enable the airport to handle 72 mppa by 2025.
38. Russia is another country where airport infrastructure is receiving funding, especially at Moscow. According to Russian legislation, private companies can operate airports (and invest in terminal infrastructure) but the airfield freehold continues to belong to the government, which can invest in its renovation. All in all, the Russian government is set to invest RUB350 billion (\$5.7 billion) in the country's airport infrastructure in the period 2015-2020.
39. Looking at countries with economies more similar to those in Europe, in Australia, all attention is focused on Sydney's new airport, which will be built in stages according to demand. In the US, the FAA has just re-assessed the country's airport capacity needs for 2020 and 2030¹⁸. By 2020, the FAA forecasts that there will be 6 congested airports in the US; and that this number will double by 2030. All of these predicted congested airports play a significant role in the US network, reflecting ongoing trends towards airline consolidation, with rationalisation of US hubs and concentration of traffic growth. Also, the 12 predicted congested airports by 2030 comprise 9 airports set to be constrained even after all planned NextGen air traffic management initiatives and runway improvements are implemented; and 3 airports set to be constrained to a lesser extent thanks to new or extended runways (Philadelphia, Chicago O'Hare and Fort Lauderdale airports), reflecting

18 3rd edition of FAA's Future Airport Capacity Task (FACT) report, published in January 2015 and available here http://www.faa.gov/airports/planning_capacity/

the FAA's belief in the continued importance of runway improvements to meet future demand¹⁹.

40. However, the FAA also recognizes that, at certain airports, runway improvement is not a feasible option. Moreover, NextGen – which has matured substantially since 2007 and has now been taken fully into account – is set to reduce growth in average network delays by about 26%. For the FAA, while capacity benefits from NextGen are not as significant as those from runway improvements, NextGen is applicable to all airports and often, especially at congested airports, NextGen improvements are needed to maximize the capacity benefits of a new runway.
41. Concretely, the feasibility of adding new runways to congested New York City (NYC) area airports (Newark, JFK and La Guardia) will be further assessed; the same goes for Atlanta where a new runway opened in 2006; two runway extensions are planned at Philadelphia by 2020 with a new runway also needed to further enhance capacity; assessments for additional runways are being made also at Charlotte Douglas, Huston and Phoenix airports while a secondary airport for Las Vegas remains an option; like NYC area airports, San Francisco cannot be easily expanded given its physical constraints and regional planning will continue. Finally, the FAA is of the opinion that High Speed Train and bus modes should provide additional options along with short-haul air travel in densely populated mega regions along its coastlines.
42. All in all, this work and report demonstrate that through its role as a Federal Agency for the US Government and as the operator of the US aviation system, the FAA is able to centralise information and play a leading role in airport planning (and funding). It also means that the FAA has developed a strategic understanding of future US airport capacity needs and can work with the airports, airport users and local communities to address all types of capacity enhancement needs (air traffic management, landside and airside infrastructure) and seek solutions for each airport.

5. Work carried out

43. Against this extensive background, the Task Force heard evidence (as described above) in an effort to identify current best practice in airport strategic planning, both inside the European Union and beyond. This was supplemented by desk research. From all this work, it is clear that practice on airport strategic planning varies according to local legal frameworks and circumstances on such matters as land use planning, infrastructure development and economic regulation regimes, as well as existing patterns of airport development and local custom.

¹⁹ Over the last 15 years, a total of 18 new runways and seven extended runways at 21 busy hub airports have been added across the country.

44. The following material is not meant to set out an exhaustive catalogue but rather illustrative examples of good, innovative and effective practice that could usefully be adopted more widely. Finally, we also make a set of recommendations for further action.

5.1 National Infrastructure Plans

45. Although the Task Force was informed of a number of countries maintaining National Infrastructure Plans, it was not always clear to what extent aviation was a major integral part of such a plan. Rather, the evidence we saw suggests that airports are assessed mainly in isolation from other infrastructure provision. This, taken together with the increasing role of private sector ownership and market forces in aviation and airports in particular seems to lead to many Member States playing a secondary role on airport planning matters.

46. The Netherlands has a National Policy Strategy for Infrastructure and Spatial Planning integrating land-use planning and transport planning. Investments for new infrastructure are planned and regulated through the yearly evolving multi-year Programme for Infrastructure and Transport (MIRT).

47. Austria and Portugal are reported to have respectively a Transport Master Plan and a Strategic Plan of Transport and Infrastructure 2014-2020 addressing aviation and airports. Czech Republic has also a Transport Policy 2014-2020 strategic document but there is no available information on the level of analysis conducted for aviation and airports. In Germany, airports are part of the Federal Transport Infrastructure Plan but only insofar as their intermodal connections are concerned. Spain's Strategic Plan of Infrastructure and Transport 2012-2024 provides a general framework for airport policy (essentially, there should be no new infrastructure; instead, the focus should be on the improvement of existing airports); the level of investment at airports of national interest is set out in a document prepared by the Ministry, approved by the Council of Ministers and called *Documento de Regulación Aeroportuaria (DORA*, the first edition of which is currently under development). Romania – where up to now strategies on airport capacity were developed at regional level – will soon adopt a General Transport Master Plan listing all strategic airport development plans. European funding will be allocated only to projects included in the Master Plan. Norway's major decisions on airport capacity are included in the National Transport Plan (next edition 2018-2029 to be adopted in 2017).

5.2 National airport policy/legal framework

48. The Task Force heard descriptions from Member States and airports of national airport policies and the legal frameworks underpinning them. Interesting examples from these presentations are set out below.

49. Austria, Italy, Portugal and the Netherlands already have national airport plans and strategies in place. Austria's Aviation Road Map 2020 was adopted in 2011 and comprises

a detailed catalogue of goals, sub-goals and measures embedding aviation in the overall transport system. A review is expected in 2015. Italy's National Airport Plan was finally adopted early 2015 following a long period of preparatory work that started in 2010. It provides a general framework for all major investments at airports which have a strategic role to play in the country's air transport system (11) or are of national interest (23). Other commercial airports (around five) are considered to be within the competence of regional administrations. The Plan is based on a multimodal approach and defines the works to be carried out at each airport to enhance capacity or improve connection with the rail and or the road system. In Portugal, ANA's Strategic Plan 2013-2017 (the first one following ANA's privatization and the new concession agreement covering the period 2013-2022) was subject to a large consultation process before being submitted to the grantor of the concession (the government) for approval. It provides a general framework for all major investments at ANA 10 operated airports and is reviewed every five years to take account of changes in the economy.

50. With the White Paper on Dutch Aviation, the Netherlands is a good example of a country that appears to value aviation and seeks to embrace it. Adopted in 2009 and updated in 2011, this document provides a robust long-term strategic view towards a competitive and sustainable aviation sector in support of national economic ambitions. The Netherlands' strategic approach to aviation is reflected also in the method the government has chosen to implement the goals and objectives of the White paper i.e. consultation platforms named Alders tables which are goal-oriented structures bringing together all main stakeholders: the national and local governments, the sector and the inhabitants, with the national government acting more than in the past as a collaborative partner. The forerunner to this process – the Schiphol Alders Table - has produced a long-term agreement on the future of Schiphol Airport and these consultation platforms have in the meantime been formalised as permanent fora by legislation.
51. Finland's New Strategy for Aviation was adopted in February 2015 and Ireland's National Aviation Policy will be adopted shortly. The former assessed Finnish current airport network to see whether accessibility and other transport policy objectives can be met with a smaller number of airports and a higher traffic concentration. The conclusion was that the network principle is the only reasonable way to manage airports efficiently without any significant Government subsidies in a sparsely populated country with small air traffic volumes. Finavia Ltd. will continue to maintain 23 airports in accordance with the network principle as long as there is (market-based, not PSO-subsidised) scheduled air traffic between network airports. The latter will focus on how to increase connectivity in and out of a country which is heavily reliant upon air links (80% of all movements are carried out by air) and which, just like the Netherlands, considers aviation as a key economic driver. A network capacity review is expected in 2018.
52. In Spain, a law was passed in 2014 establishing a new legal framework for airport policy to prepare for the partial privatisation of Aena Aeropuertos which was completed in February 2015. The law provides for a new regulatory tool called *Documento de Regulación*

Aeroportuaria (DORA). This document, which is currently under preparation for the period from 2016, will set the level of investment for a period of five years at the 47 airports of "national interest" operated by Aena Aeropuertos.

53. In the UK, a major process of rethinking has started following a long series of largely fruitless attempts to address the problem of airport capacity in the South East of the country. In 2012, the Government tasked an Airports Commission with taking a fresh and independent look at the UK's future airport capacity needs, in an almost entirely privatised airport environment. A final report is expected by summer 2015 – and will then be subject to a Government decision.
54. In France and Poland, the State is responsible for adopting planning guidelines. Unlike in Poland, in France these guidelines cannot be found in a single strategic document, however, they are intended for the medium, long-term development of each airport of national or international interest (a total of 22 airports) – with the others being the competence of regional or local administrations - and have to be respected by the airport operators. In Denmark, a report describing the challenges for Danish Aviation in the period 2015-2025 was subject to a political debate in the Parliament. Beyond that, the Danish Transport Authority regularly oversees capacity at the main airport of the country by undertaking once a year an assessment of the airport's ability to meet future traffic volume.
55. Belgium, Czech Republic and Romania have currently no national plan or strategy in place. In Belgium, the Federal government has no plan or strategy for the main airport of the country – which is privately owned and subject to the competence of three distinct authorities: the Brussels Region, the Flemish government and the Federal government, adding complexity and resulting in potentially conflicting regulation. Similarly, the Flemish and Walloon governments have no plan or strategy for the airports falling under their responsibility. Romania – where up to now strategies on airport capacity were developed at regional level – will soon adopt a General Transport Master Plan including all strategic airport development plans.
56. In Malta, a 10-year Airport Zone Master Plan is planned for adoption with the aim of streamlining future land use and processes. This will then translate into a national airport plan. In Germany, only political strategies at federal or Lander level apply for the time being, however, the Federal government is working on a new, legally binding federal air transport concept which should reinforce its role in the designing of the airport network, with the aim of avoiding uncoordinated investments in the future.
57. This review of current and planned practice suggests a number of key observations:
 - Generally speaking, national airport specific plans seem to be in place – or will shortly be adopted - for most Member States.

- Conversely, for a small number of Member States, there are currently no plans of this kind in place. At least two of these Member States (Germany and the UK) face, according to 'Challenges of Growth 2013', significant unaccommodated demand in future; Belgium may find demand out-stripping capacity at some airports after 2020.
- This could have significant implications for those countries and for the European aviation network as a whole.
- It is hard to see a coherent overall approach to catering for aviation growth in the EU. Indeed, different countries take very different approaches. Some adopt a type of top-down planning, for example Italy and France, where the State appears to take the key investment decisions. In the case of France, the Task Force was informed of a strategic reflection initiated by the National Assembly in collaboration with local authorities and associations on the future of Paris Orly Airport and more generally, of the entire airport system of Paris and its region, but this work was abandoned shortly after. In Italy, the National Airport Plan was adopted after a long preparatory work at technical level; the Plan takes into account the airports of national interest as defined by the Ministry of Infrastructure and Transport following a consultation of the 'State-Regions Conference' body. Having said this, its final version is expected to be adopted after a Strategic Environmental Assessment procedure has taken place.
- In other countries, for example the Netherlands and Ireland, the Government's approach is more strategic and collaborative; others again like Denmark attempt a more stakeholder-oriented approach. In yet others, inherent difficulties in securing permission for development have led to years of indecision – this is the case notably in the UK, although their creation of an Airports Commission suggests an attempt to find a way out of the impasse. Germany has the ambition to move towards a more centralized and coordinated approach to airport expansion, however, no clear indication as to when and how this ambition might materialise was heard by the Task Force.
- Also, there are clearly some Member States where airport capacity is not an issue (at least for the time being), for example, Poland seems to have adequate capacity throughout its territory.
- Given that airport development is a long term planning matter with long lead times, this disjointed and piecemeal approach to airport capacity planning does not seem well designed to deliver an optimum outcome for the EU or its citizens.

5.3 Airport-specific Plans and Master Plans

58. Generally speaking, in countries where there is a plan or strategy that specifically addresses airports, airport master plans have to respect those plans or strategies. In France, master plans of airports under State responsibility have to comply with the guidelines issued by the State in view of their development. In Ireland, in the context of its overall airport Master Plan, Dublin Airport's Capital Investment Plan is developed and reviewed as part of the 5-year regulatory regime for airport charges. Moreover, in Ireland,

the objective of any capacity planning is to get a balanced across-the-board similar peak hour capacity for all processors in the chain; additionally, capacity planning must aim to deliver capacity increases just in time, synchronised with demand. Similarly, in Denmark, any capacity planning must remain in line with demand, stay (just) ahead of it and be a combination of physical and other elements (systems, processes and human factor). For Denmark, significant capacity gains can be achieved through optimising the use of existing airport facilities.

59. In Italy, master plans of airports under State responsibility have to be in line with the National Airport Plan and be approved by the government body in charge of civil aviation (ENAC), which also monitors their implementation. Moreover, at larger airports, master plans are the basis for overall documents called 'contratti di programma' which are binding on the airport operator as to the investments to be carried out, and which include the first 4-year regulatory regime for airport charges. Emphasis is put on physical capacity. In Spain, master plans of airports of national interest are also subject to the Transport Minister's approval and the level of investment for each of these airports is set for a period of 5 years in the Documento de Regulación Aeroportuaria (DORA).
60. In the Netherlands, airport master plans are subject to an assessment by the Ministry, and their implementation is monitored (the next monitoring exercise is due to take place in 2017). In Poland, airport master plans are established in agreement with the local governments since land development plans must be issued by local governments.
61. In all the material put to us, the claim was made that existing Master Planning exercises are undertaken on the basis of known international standards and best practice often delivered with the help of expert consultancy support. A number of particular approaches were also brought to our attention:
 - In the UK, master plans of most airports are recommended to address 'core' areas such as forecasts, infrastructure proposals, safeguarding and land/property take, impact on people and the natural environment, proposals to minimise and mitigate impacts. Also, master plans should be updated at least once every five years and the five-year periods should coincide where possible and appropriate with the periods covered by Noise Action Plans and airport surface access strategies in order to help in streamlining the planning and engagement processes.
 - In France, the State provides a centralized service for demand forecast and cost-benefit analysis.
 - In Ireland, methodologies for forecasting and cost-benefit analysis in implementing airports' master plans have to be fully compliant with Central Government Guidelines of the Appraisal and Management for Capital Expenditure Proposals in the Public Sector. Ministerial approval may be required for investments, depending on the nature of the proposed development and related borrowings.
 - In the Netherlands, airports' Environmental Impact Assessments are checked by an Independent Committee on Environmental Impact Assessment.

- Copenhagen Airport Master plan is based on international standards/ best practices, extensive research on market trends as well as benchmarking with other airports.

62. From this review, the following observations can be made:

- In the majority of cases, airports claim to have Master Plans in place
- This is certainly the case for all of the EU's major airports
- The Task Force saw repeated presentations that asserted that Master Plans take account of recognised international standards and best practice (the ICAO Airport Planning Manual and IATA Airport Development Manual were specifically mentioned)
- But it is not in fact clear that this approach has resulted in common or consistent practice across all Member States perhaps in part due to the different industry and Governmental structures involved
- This suggests that there may be room for improvement of the quality and comparability of Master Plans (standardisation / harmonization) through recommending the use of common best practice approaches to master planning.
- In addition, some process of verification as to the quality of these Plans, perhaps at Network level, should be introduced with the overall objective of improving acceptance of those plans.

Annex 2 sets out existing major plans in the EU.

5.4 Land use planning and airports

63. It is clear that permitted use of land around an airport can have a major impact on the ability of that airport to operate. Permission for the construction or use of noise-sensitive buildings near airports in particular can generate significant environmental concerns and is a clear candidate for legislation and or regulation. This exists in some countries – for example, in the Netherlands, land use around airports is strictly regulated. Although there is huge developmental pressure, especially for dwelling purposes, no new construction work is permitted within the noise contours of airports. Also in the Netherlands, land-use planning is integrated with transport planning in the National Policy Strategy for Infrastructure and Spatial Planning. This means that investments are planned and regulated through the yearly evolving multi-year Programme for Infrastructure and Transport (MIRT).

64. Similarly, we heard that a robust approach to land use planning in Denmark means that Copenhagen airport, although relatively near to the city, essentially has no noise complaints or issues to manage. In this country, when national interests are present in an area and the local or municipal construction plans are in contradiction with these interests, the government can veto the proposed plan preventing final adoption until an agreement is found. Furthermore, the Minister of Environment can issue national planning directives. This was done for Copenhagen Airport to prevent construction of new residential areas in the most affected areas in the vicinity of the airport. Expansion of Copenhagen airport will

probably require a modification of current restricted areas and regulation starting with a decision of the Parliament aiming to change the Act of Expansion of Copenhagen Airport.

65. Planning rules in Ireland are also quite extensive and involve mandatory public consultation at the design stage, public hearings and appeal procedures. Airport master plans are linked to local area master plans and ongoing dialogue between airport authorities and local authorities is necessary to ensure alignment of plans in the long-term.
66. Planning rules in Italy are implemented by the CAA in accordance with the national regulatory regime and relevant ICAO Regulations, and are based on two approaches: safety of flight operations and protection of surrounding areas. At airports with high traffic volumes, additional requirements apply such as the Third Party Individual Risk Analysis, which is conducted by the CAA and whose conclusions are taken into account by local planning. In Slovakia, the State defines 'protection zones' for the airports and by doing so, ultimate limits of airport expansion. Agreed airport protection zones become part of local/regional land use plans.
67. In Norway, local governments are responsible for land use planning but the government can put restrictions on land use preventing development which could limit airport expansion (the land is locked until a decision is taken) and also decide to go for a national land use plan in case of major infrastructure projects.
68. These examples demonstrate the benefits of having effective land use planning regimes in place so as to facilitate the delivery of the long-term investment and growth of the airport. They also demonstrate the benefits of better including airport planning into wider spatial planning allowing for both territorial and airport development. Having said this, spatial planning cannot be limited to the authorisation / interdiction of dwelling and other measures such as mitigation, noise insulation, information programmes and mediation can also allow for a better management of the noise exposure.

5.5 Local authorities / communities and industry engagement

69. The Task Force heard from a number of Member States and airport operators about their efforts to engage with neighbouring communities and users so as to secure a common understanding about how the airport should develop and be operated. A particularly well developed approach of this type is to be found in the Netherlands where, in order to find an optimal balance between the interests of the aviation sector and of those who live around airports, the Government has set up consultation platforms named Alders-tables. The stakeholders at these "tables" are government (State, provinces and municipalities), the aviation sector (airport, airlines, ATC) and inhabitants (different inhabitants' groups).
70. In the particular case of Amsterdam Schiphol Airport, the Alders Table has resulted in the following long-term agreement:

- Schiphol airport can grow to a maximum of 510,000 movements per year until 2020 with a maximum of 32,000 flights during night time. Accommodation of 70,000 movements at Eindhoven and Lelystad.
- Schiphol will specialise in hub operation and other "mainport" connections. The other airports will specialise in accommodating business aviation, low-cost carriers or charter/leisure carriers.
- €30m has been set aside so as to improve the quality of life in the area around the airport.
- Measures to improve flight operations with care for the surrounding area, like changing routes and implementing Continuous Descent Approach (CDA).
- After 2020, movements of Schiphol can grow within noise limits based on equality principle and 50/50 agreement.
- Equality principle: the inhabitants will have less or equal noise disturbance than the level of disturbance in 2003.
- 50/50 agreement: 50% of growth based on equality can be used for further movement development; the other 50% will come to the benefit of the environment.

The Dutch Parliament has approved this result and is taking action to enshrine this agreement in law.

71. In Austria, several consultation platforms have been put in place over the last years notably a 'Regional Coordination' and a 'Mediated Process'. The latter operated from 2001 to 2005, gathered a significantly high number of stakeholders (50) and produced a mediation agreement on a possible 3rd runway at Vienna Airport. Since 2005, a permanent Dialogue Forum is operational.
72. Prague airport has put in place a "GOOD NEIGHBOUR" Programme enhancing civil society development in regards to educational, cultural and other public sectors. Frankfurt airport has put in place a mediated process for over 15 months leading to a package of recommended measures (4th runway, noise abatement measures and ban on flights during some hours of the night). Finally, the UK's Airports Commission has made significant efforts to secure public engagement and transparency.
73. These examples demonstrate that where there has been extensive and effective engagement between all relevant parties including especially representatives of neighbouring communities, it is possible to secure acceptance for airport expansion plans which balance the need for growth and economic development with realistic environmental protections and proper consideration for human health and wellbeing.
74. This balance is of course easier to strike in communities seeking economic growth or regeneration or where population densities are lower, but should also be the aim in prosperous communities with dense levels of population.

5.6 Compensation schemes; environmental considerations; operational, economic and social regulation

75. Many airports have schemes in place to offer compensation to those impacted by the airport's operation. This often takes the form of payment for sound insulation of domestic properties or sensitive public buildings such as schools or hospitals. In some countries, planning permission comes with conditions that require developers to fund local schemes or make contributions to local authorities for them to spend so as to benefit local communities. But we also heard of schemes where the airport voluntarily makes such payments; and of one scheme where an airport operator is proposing to pay the local property tax for homeowners impacted by the construction of a new runway.
76. Work undertaken in Task Force 1 makes clear that a wide range of measures are available so as to reduce the impact of airport operations on neighbouring communities but that these can also have significant implications for the efficiency of those operations. These include caps on the number of movements permitted (all movements or only night movements); noise quota systems; noise preferential routes and preferential runway usage; night-time curfews; and mandated operational procedures designed to reduce impacts on neighbouring communities.
77. The proper implementation of schemes of this type has been shown to be beneficial for securing acceptance for airport development in ways which are analogous to the benefits of stakeholder engagement described above.

5.7 Mitigation methods/options

78. As an alternative to providing new capacity at an airport facing constraints, another option is to take action so as to mitigate the problem. Indeed, in 'Challenges of Growth 2013', Eurocontrol examined seven ways to mitigate the effects of airport constraints and two combinations of these individual methods, based on what the industry has already done when capacity is short. It made an assessment of their possible and likely contributing to resolving the constraints and concluded that although the best combination of them reduces unaccommodated demand by 42% in 2035, 'new infrastructure will inevitably need to be part of the bridge over the airport capacity gap'. Against this background, the Task Force has sought to collect evidence of Member States or airports that have put such strategies in place.
79. In the Netherlands, traffic growth at Amsterdam Schiphol is limited in terms of total aircraft movements by the agreement with local communities. Therefore it is likely that within the next 10 years constraints at that airport even outside the peak periods will become more apparent. The Dutch Government has identified the development of Lelystad Airport east of Amsterdam as a 'relief' airport for Schiphol, focussing in the first instance on leisure traffic.
80. A small number of airports have introduced pricing mechanisms so as to influence demand. Rome Fiumicino has introduced different landing/take-off charges at peak and

off-peak periods of the day with a view to incentivising the use of the runway at quieter periods of the day. Other airports have introduced charging regimes which discourage the use of smaller aircraft so as to maximise passenger throughput and another interesting example is that, in order to suit its highly seasonal traffic profile, London Gatwick has modulated its landing charge differently according to the season, so that airlines pay less to use the airport in the winter IATA season than they do during the summer months.

6 Scope for EU action

81. As this report has already described, European aviation faces significant competitive challenge from airports and airlines based outside of the EU; it also faces a series of regulatory restrictions and requirements imposed by regional, national and EU legislation. Nonetheless, as things stand, airport capacity planning and associated issues are the province of local, regional and national governments. And yet, as this report has shown, capacity shortages in one place can severely impact on other parts of the European network or indeed on the operation of the network as a whole. That is why the European Union has already taken some steps to address related issues which are described below. Nonetheless, the Task Force believes that there is room for further action on the specific issue of airport capacity planning. The Task Force's recommendations are set out in paragraph 6.2.

6.1 Existing EU measures

82. The EU is already active in a number of areas which impact on airport capacity. On the environmental side, the EU has issued Directives on Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA). The SEA Directive was adopted in 2001 to require public plans and programmes which set the framework for future development consent of projects (like national airport plans) to undergo an environmental assessment before they are adopted; it does not provide detailed specifications about issues such as the scope of the environmental report or the procedure to be followed for the consultation. The EIA Directive - applicable to projects likely to have significant effects on the environment like airport master plans - have been revised recently to pay greater attention to challenges that have emerged since the original rules came into force in 1985, meaning more attention to areas like resource efficiency, climate change and disaster prevention. These Directives have led to the evaluation of instruments which were often treated merely as 'internal' documents excluded from public debate.

83. Directive 2002/49 was adopted to provide a common approach with regard to the harmful effects due to exposure to environmental noise. Actions required included noise mapping, information to the public and adoption of action plans by the Member States. Regarding noise mapping and action plans, the Directive imposes the use of specific noise indicators. In this connection, noise events during a day period of 12h are weighted 100%; those during an evening period of 4h 300%; and those during a night period of 8h 1000%. For aviation, the noise mitigating actions of the Member States should be also based on the

ICAO 'Balanced Approach on noise mitigation', which combines noise standards, land-use, operational measures and operating restrictions.

84. The recently adopted Regulation 598/2014 contains updated provisions on the process to be followed for the introduction of noise-related operating restrictions at airports. In particular, article 6 of the Regulation requires that the noise situation at airports is assessed regularly and that in case of new operating restrictions, the local residents and authorities are consulted. This consultation may take the form of a mediation process to be organised in a timely and substantive manner, ensuring openness and transparency as regards data and computation methodologies.
85. On the financing side, the EU has financed airport improvements under its policies to support regional development in Europe. These have included the Cohesion Fund, the European Regional Development Fund as well as funding for Trans-European Networks (TEN-T). TEN-T funding is now more focussed on improving intermodal links at airports rather than improving airport infrastructure itself.
86. The EU is also competent in the area of air traffic management and changes to the way airspace is managed can often impact directly on capacity issues, for example by generating new capacity through improvements to aircraft approaches. It is expected that SESAR will deliver airport capacity benefits in the same way as NextGen is forecast by the FAA to help meet US capacity shortfalls. The pace at which this will happen will be decided as new technologies and procedures are rolled out as part of the deployment of this programme by the SES Deployment Manager.
87. The EU is also competent with regard to the air transport market and this has implications on airports too. For example the allocation of slots at the busiest airports is done on the basis of EU regulation in order to ensure that access to the market is available on a transparent and non-discriminatory basis. How airport slots are allocated to and used by airlines can also clearly have a bearing on effective capacity in the network.
88. As regards making effective use of available capacity, the current policy of the EU (and a number of Member States) of liberalising external aviation relations on the basis of fair competition is intended to allow more airports to develop external direct services to the benefit of their local economy.

6.2 Recommendations for further action

89. However, when it comes to the planning and provision of airports, Member States and their regional or local authorities retain the prime responsibility. Given the policy of subsidiarity and the intensely local environmental impacts that airports can impose, this seems likely to remain the case for the foreseeable future. Nonetheless, in addition to the current activities and policies of the EU, many of which are briefly described in this report, the work, discussions and debates of the Task Force have enabled the elaboration of the

list below which sets out new actions related to airport capacity planning and provision that could usefully be undertaken by the Union. These recommendations will have to be refined and further developed through the normal processes of engagement and consultation within the Union, with particular attention paid to the necessary balances between subsidiarity and European action; and between the significant economic benefits of aviation growth and the deleterious environmental impacts engendered by airport activities.

90. Concretely, the group clearly identified the need to include airports more fully within an overall European Aviation network. This would imply expanding the Aviation Network concept to embrace all aspects of airport and airline operations as well as the underpinning air traffic management system. With regard to airports and building on the SES Network Manager, it would seem to be necessary to include top-down elements, such as the role of the Network Manager in identifying existing and emerging airport-capacity hotspots impacting the network. Specific actions under this heading include the following:

- Member States should be requested to ensure that long term airport planning frameworks are developed in each Member State which take into account the needs of the aviation sector by retaining agility and flexibility in the system in order to cope with market changes. In particular, long term airport planning should take into account developments in the airline market, as forecast for example by key airframe manufacturers, such as Boeing and Airbus.
- Member States should also be requested to ensure that Master Plans are drawn up for key airports, and for each Member State.
- At EU level, set up a reporting mechanism for airport capacity so as to develop a full pan-European picture of the issues at stake. Carry out an assessment of current international and industry best practice approaches to master planning, then, recommend the use of common best practice approaches to master planning. Ensure that Master Plan best practice guidance promotes compliance with relevant EU legislation and addresses the issues of realistic traffic, economic and financial estimates; full spatial impact information covering at least safeguarded areas, noise and land for future expansion; inter-modality; mitigation; effective engagement and transparency with all stakeholders. This would help secure acceptance of such plans.
- Set up a central repository of such Master Plans in the Network Manager. Amend the Network Manager concept and Terms of Reference to ensure these take a holistic approach to aviation. Task the Network Manager with assessing key national and airport plans periodically against forecast needs, identifying bottlenecks and challenging Member States to fill or otherwise manage identified capacity shortfalls.
- Airports should further integrate the air and land side airport operations so as to help embed airports in the Aviation Network.

91. At the same time, airports, airlines and Member States should be usefully encouraged to make best use of existing infrastructure including optimising the use of primary airports

through incentivising the delivery of best in class operational performance and the maximum use of secondary or regional airports where appropriate. Authorities should look for opportunities to spread the benefits of competition into all links in the aviation value chain so as to generate economic and social benefits.

92. Whilst the European Union is not the appropriate body to harmonise Member States' laws on land-use planning, the group agreed that there is room for the Commission to undertake certain actions in the recognition that airport planning and provision has a considerable impact on the effectiveness of the European Aviation Network. Initiatives in this area should consist of the following:

- Undertake research to identify and then publish guidance on best practice for national and local airport planning.
- Recommend the inclusion of spatial impact information contained in airport plans into overall spatial planning documents in order to allow for both territorial and airport development.

93. Lastly, there are several accompanying measures that the Commission could usefully undertake to ensure that airport capacity shortages can be tackled more effectively by EU action:

- Target any available EU funding at bottlenecks, as well as on securing the connectivity of poorly connected and peripheral regions. Among other sources, this should include using the European Fund for Strategic Investments for these purposes.
- Consider the creation of an airport capacity champion whose task would be to advocate consideration for airport capacity issues in the context of the overall Aviation Network.
- Undertake research into the impact of charges, levies and taxes linked to aviation on competitiveness, connectivity, financial viability and other matters.

94. The Task Force believes that a programme of action along these lines would do much to improve the capacity shortfalls predicted at EU airports.

Annex 1

Composition of the Task Force

Chair: David McMillan

Secretariat: European Commission, Dg MOVE

ACI-Europe - Airport Council International (Europe)
AEA – Association of European Airlines
ARC – Airport Regions Conference
BMVI – German Federal Ministry of Transport and Digital Infrastructure
BMVIT - Austrian Ministry for Transport, Innovation and technology
DGAC - Direction Générale de l'Aviation Civile - France
DFS - Deutsche Flugsicherung on behalf of CANSO - Civil Air Navigation Services Organisation
DTTAS – Irish Department of Transport, Tourism and Sport
ENAC - Ente Nazionale Aviazione Civile - Italian Civil Aviation Authority
EUROCONTROL - European Organisation for the Safety of Air Navigation
Federale Overheidsdienst Mobiliteit en Vervoer - Service public fédéral Mobilité et Transports - Belgium
Fomento – Spanish Ministry of Public Works and Transport
IATA – International Air Transport Association
INAC - Instituto Nacional De Aviação Civil – Portuguese Civil Aviation Authority
Ministerie van Infrastructuur en Milieu – Dutch Ministry of Infrastructure and the Environment
MZV - Ministry of Foreign Affairs of the Slovak Republic & University of Zilina
SESAR Joint Undertaking - Single European Sky ATM Research
Trafikstyrelsen - Danish Transport Authority
UECNA – Union Européenne contre les Nuisances des Avions
ULC - Urząd Lotnictwa Cywilnego - Polish Civil Aviation Authority

External contributors to the Task Force's work:

Airports Commission – UK Government
AVINOR - Norwegian Ministry of Transport and Communications
EBAA – European Business Aviation Association
ERAA - European Regions Airline Association
FAA – US Federal Aviation Administration

Annex 2

EU Airport Master Plans

All in all, there are currently several plans for airport development in the EU.

New build airports

Berlin Brandenburg Airport: conceived with the aim of bringing together all of the German capital's air traffic at a single airport, construction work - started in 2006-7 despite a formal decision to build the new airport dating back to 1995-6 - has suffered serious delays. Initially scheduled to open in late 2011, replacing the existing Schoenefeld and Tegel airports in Berlin, the new airport is now expected to open in the second half of 2017.

New Nantes Airport: plans for a new airport to replace existing Nantes Atlantique Airport but also to serve as an international gateway to Western France, have met strong opposition due to environmental concerns. Formal decision to build the new airport dates back to 2008.

Improvements at existing airports

Apart from the already fully congested areas of London and South East England, for which the UK Airports Commission has recommended one additional runway by 2030 and probably another in the 2040s – the competing options being Heathrow and Gatwick airports, the other EU largest projects are at Munich and Rome Fiumicino airports:

- **Munich Airport:** plans for a 3rd runway in place since 2005 halted by a negative vote at the referendum organised by the City of Munich in 2012. Since then, a Bavarian Court has backed the projected improvement. The City of Munich counts among the three shareholders of the airport.
- **Rome Fiumicino Airport:** completion of Fiumicino South by 2021-2023 combined with expansion at Fiumicino North starting 2021-2022, which would include a fourth and a fifth runway as well as a new terminal; traffic at existing Rome Ciampino airport will be reduced as of 2021 for environmental reasons.

Other major plans are:

Frankfurt Airport: studies showing airport's current terminal capacity of 64 mppa being exceeded by 2021, a new facility will be built on the south side of Frankfurt Airport to increase overall capacity and maintain Frankfurt Airport's position as an international hub. Construction will commence in 2015 in two building phases. The new terminal is expected to become operational in 2022.

Copenhagen Airport: plans to expand CPH to handle 40 million ppa (no fixed date – expansion in line with demand DK proposals)

Schiphol Airport: between now and 2020, new capacity is set to be created at regional airports of Lelystad (now only general aviation) and Eindhoven (military base); after 2020, Schiphol will be allowed to grow in line with a 50/50 approach less noise/more aircrafts.

Vienna airport: plans for a 3rd runway in place since 2007 (start of construction work the earliest 2018, start of operations the earliest 2025/2026)

Helsinki Airport: FINAVIA has plans to allow HEL to handle 20 mppa by 2020

Frankfurt Airport: permission for modular construction of a 3rd terminal issued in 2014 (first phase to be completed no later than 2021)

Lyon Airport: expansion of Terminal 1

Dublin Airport Capital Investment Programme 2015-2019 to handle 26 million ppa by 2020 + re-consideration of a 2nd runway but self-funding possible only with traffic of 25 million ppa

Prague Airport: new parallel runway allowing for independent operations expected to be operational by 2025