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The SEAPLANE Project
Sustainable and Efficient Air Transport - Platform for Linked Analysis
of the North Sea Air Transport Environment

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Annex 5

Description of a management tool on airport slot allocation for flight connections to peripheral regions

The purpose of this annex is the provision of an objective measurement to evaluate the necessity of guaranteed slot allocation for the establishment or continuation of services to peripheral regional airports at national and international network airports.

This focus is based on the requirement to ensure cohesion, which is one of the European Commissions key policies for regional economic and social development. The concept covers many issues but is one that is most likely to be addressed through the application of appropriate transport policy.

The accessibility of a region, facilitated by different transport modes, is an important factor of production. Comparisons of economic performance across the European Union confirm that the most prosperous regions are those that are very well connected and served by all transport modes. Regions are increasingly competing for investments and employment, those which are less attractive will loose population as well as the associated economic activity and social cohesion. It is for this reason that promoting activities to develop peripheral regions and promote cohesion in a sustainable way are a key policy objectives .

This annex concentrates on two main issues related to the question what air transport can contribute to increase the success of the cohesion policy of the European Commission. The first one concerns the evaluation of the situation in a peripheral region and the second one concerns the way of implementing the required actions.

The overall framework can be summarised as follows:

1. Question: How to measure the necessity to take action for a peripheral region?
2. Answer: Develop a system of objective indicators, which would be included in European transport policy and permits allows a clear ranking in case of scarce resources (i.e. runway slots).
3. Proposed action: Seek the adaptation of the existing slot allocation rules to recognise the needs of peripheral regions, but favouring a market mechanism rather than subsidy.

The system of indicators:

Before a system can be set up the characteristics of the indicators have to be defined to avoid any misunderstandings.

1. First the indicators have to be quantifiable, based on established calculations in transport research, and be reproducible.
2. The base of calculation has to consider the appropriate European transport policy such as the Trans-European-Network and the indicators must be able to be based on data available from the European Transport Policy Information System.
3. Finally the generation procedure for the indicators has to be readily accessible to interested parties.
4. The system itself should allow for inclusion of a subjective element to reflect national and Europe wide policy needs based on the objective measured indicators. The latter can be reached by applying weights

assigned to the different indicators which would be allowed to be varied nationally within well defined boundaries interval which reflects the overall European scope.

The requirement to take action from a transport perspective can be based on the following indicators, which are taken from projects funded by the European Commission.

Accessibility of a region: Time used to reach all NUTS 3 regions in the European Union.

Scale:	territory of the European Union
Variations:	modes (air, rail, road, land based modes, fastest mode)
Socio-economy:	scaled by population or GDP / GDP per capita / age / employment
Type:	measured values or as index of the average / best / worst

Accessibility of transport services: Impedance in minutes or kilometre to access transport

Scale:	radius around a region
Variations:	measure by available number of airports, flight frequency, schedule, destinations, countries, airlines and alliances, services to network airports
Economy:	specifics concerning sectors of economy like tourism
Type:	measured or relative values to the average / best / worst

Based on the examples of the indicators identified it is possible to build up a cube of information to describe the regional situation in context of air transport. Relating the indicators to the average values observed across the European Union allows a first indication to qualify a region as peripheral. Although it is a political decision to set the boundaries of qualification (e.g. boundary is lower than a quarter, a third or below average, a specific value describing the difference from the average) which could be done by the European Commission or nationally by each member state. Important to note here is the availability of objective measures which allow for clustering and ranking beside some subjective policy element.

In order to describe the objective and subjective elements in the system of indicators, the following example illustrates the interaction by a simple formula.

Qualification Q of the region by a weighted set of indicators:
Q per region = (Weight 1 * Indicator 1) + … + (Weight N * Indicator N)

The system of policy weights can be made very transparent if one considers the indicators as a cube where each cell is filled by the measured value of the indicator and one weighting factor defined by the policy makers on national or European level.

The cube illustrated reflects just an example to make transparent the structure of the system. Of course beside GDP and employment one can add GDP per capita, age and other socio-economic factors. The same holds for the availability part which can be enriched by components reflecting the type of economic activity like tourism.

Copy cube of WP6 APRON (restricted example)
APRON: Aviation Policy information Resources based on Observatory Network, EU 5th Framework Programme Project

Variation	by GDP		by population	
Indicator	weight	value	weight	value
Accessibility of the region by				
Air transport				
Land based transport				
Fastest mode				

Available number of Flights	within 150 km		within 120 minutes	
	weight	value	weight	value
Destinations				
Airlines				

Total of the region = sum of column + sum of column
Index of the total = total of the region / sum of the totals by the region

In relation to the accessibility indicator for the fastest land based modes the indicator will be established and updated annually in relation to the Trans-European-Network. The result will be that the accessibility indicators would incorporate European transport policy.

Having defined a set of indicators as well as the ability to reflect political degrees of freedom on national and European level this needs to be translated into how the policy of cohesion can be supported by air transport. The established world-wide system of slot allocation can only be changed after a long negotiation process. Proposals are currently being examined by the EU following a study by NERA into changes to the slot allocation system. These will take some time to be introduced. It is considered advisable to seek an extension or variation of the existing IATA slot allocation, as was achieved in the past with the introduction of the rule allowing for 50% of new slots to be allocated to new entrant airlines with the aim to allow for more competition.

Allowing for the precedent that 50% of the new slots are already assigned to new entrant companies, the proposal is for this principal to be adapted such that such additional slots should be first allocated to airlines for the development or retention of services to peripheral regions Here such services should be prioritised which do not need to be subsidised.

It has already been an established policy of airlines at heavily slot constrained airports that as they need slots for route or network development, slots are transferred from regional routes which although profitable operations, are less profitable than the next best use of the slots.

For this reason airlines are reluctant to see any change to the slot allocation rules which will reduce the flexibility with which they can utilise these assets.

Under the proposals from NERA, in the study prepared for the EU, slots at congested airports would be allocated on the basis of the highest economic efficiency. The priority would go to maximising passenger throughput per slot which would favour slot use for operations on the densest routes by the largest aircraft at the expense of services by regional airlines to peripheral areas. This problem is acknowledged by NERA as a direct consequence of their market based proposal.

The only long term solution to the problem of slot allocation is the development of additional runaway capacity at the major EU network airports. However until such time as this is achieved (realistically 10 years or more in the worst cases), the European Union must plan ahead to solve the problem of guaranteed slot availability

for services from peripheral regions. The proposals in this annex can go some way to resolving the problem and allowing the EU to establish a common framework to interrelate the different policies in a stronger way to develop the Community as a whole.