The overall goal of the COMPAIR project was to study various institutional and market design options for introducing competition for en-route services. Our results suggest that introducing some form of competitive elements would:

- Increase ANSPs efficiency
- Lower charges
- Increase technology uptake
- Decrease fragmentation (for some options)

In order to assess their potential contribution to the European Single European Sky objectives. The project had the following goals:

- Propose a set of new institutional market designs for the introduction of competition in the European ATM sector;
- Define a framework allowing a comprehensive assessment of the impact of different institutional market designs;
- Develop a variety of economic and network simulation models allowing the assessment of the proposed approaches;
- Assess the feasibility and acceptability of proposed institutional changes for various market actors;
- Propose a vision for the implementation of the most desirable institutional structures.

To achieve the overall objectives, the project focused on four potential ways to introduce competitive elements in the ATM sector:

**OPTION 1 – PERFORMANCE REGULATION WITH VARIATIONS IN OWNERSHIP AND GOVERNANCE MODELS**

There is a significant variation in ANSP governance approaches and also in consultation processes by ANSPs of ATM stakeholders before making strategic decisions. The composition of an ANSP governance board may be designed to reflect the presence of specific skills or different opinions among ATM stakeholders.

The project highlighted that there is a significant difference among the efficiency of European Air Navigation Service Providers. So, in theory there is room for significant improvement. Having more impact of various stakeholders on the ANSPs, could mean a drive for a more efficient operation.
OPTION 2 – UNBUNDLING

The provision of Air Traffic Management can be subdivided in the following components:

1. Network management: currently EUROCONTROL is in charge and is supported by national ANSPs
2. En-route air traffic service (ATS) provision
3. Terminal air traffic service (ATS) provision (incl. approach and tower control)

The unbundling of ATM services should probably start with the separation of terminal air traffic services. As a second step, a number of en-route air traffic services can also be unbundled. These are mainly ATM support services, not the core ATC activities. Further outsourcing of ATM activities could involve more specialised ATM activities with closer links to the core air traffic control service.

The project analysed the effects of unbundling of the terminal control in some Member States (mostly regional airports) and the analysis shows that efficiency increases such as cost reductions of 40% have been demonstrated in particular cases. However, without a change in ownership form or the strengthening of the price cap approach, there is little interest in cost efficiency hence little interest in unbundling from the viewpoint of ANSPs.
OPTION 3 – TENDER OF LICENSES FOR EN-ROUTE AIR TRAFFIC SERVICES

Option 3 concerns the tendering of a license to operate core en-route air traffic services, namely the provision of air traffic control, in a specific geographical area and for a certain period. This tendering process can over time lead to consolidation among European ANSPs and to a less fragmented European airspace and improves technology uptake.

This option may also lead to lower charges than today, in part due to the economies of scale achieved through defragmentation and in part due to the bidding process that creates a competitive environment. The competitive environment tends to eliminate excessive wages and excessive support personnel.

OPTION 4 – FLIGHT CENTRIC, SECTOR-LESS OPERATIONS

This option may also increase the scope of competition in the ATM sector, with ATM providers competing on a per-flight basis or per-airline, rather than per geographical zone. The Sector-less scenario also acts in COMPAIR as a representative of the effects of technology changes on the institutional structures.

The results of the simulation suggest that, since the dominant ANSPs tend to increase their market share in each auctioning process, the maximum market share permitted is a necessary measure in order to avoid the emergence of a monopolistic ANSP serving the entire European market.

Option 4 would mean a fundamental change in the way air traffic control is done today and it requires a further technology development, so COMPAIR considers this approach as a long-term way to boost competition.
The following table summarizes the options analysed

<table>
<thead>
<tr>
<th>Responsibility for air traffic safety</th>
<th>Provision of ATM services towards airlines</th>
<th>Property rights for ATM services</th>
<th>Form of competition (focus COMPAIR)</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Governance</td>
<td>National</td>
<td>Several providers, one for each charging zone</td>
<td>National – ANSPs</td>
<td>None</td>
</tr>
<tr>
<td>2 Unbundling</td>
<td>National</td>
<td>Several providers for support services, one for each charging zone</td>
<td>National – ANSPs</td>
<td>Competition in the market possible for support services</td>
</tr>
<tr>
<td>3 Tendering</td>
<td>National</td>
<td>Several providers, one for each charging zone</td>
<td>National – government bodies</td>
<td>Competition for the market</td>
</tr>
<tr>
<td>4 Sector less operations</td>
<td>EU</td>
<td>Single ATM provider for a single trajectory</td>
<td>Transferred to EU level</td>
<td>Competition in the market</td>
</tr>
</tbody>
</table>

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