

# ***Could Air Traffic Management learn from other industries?***

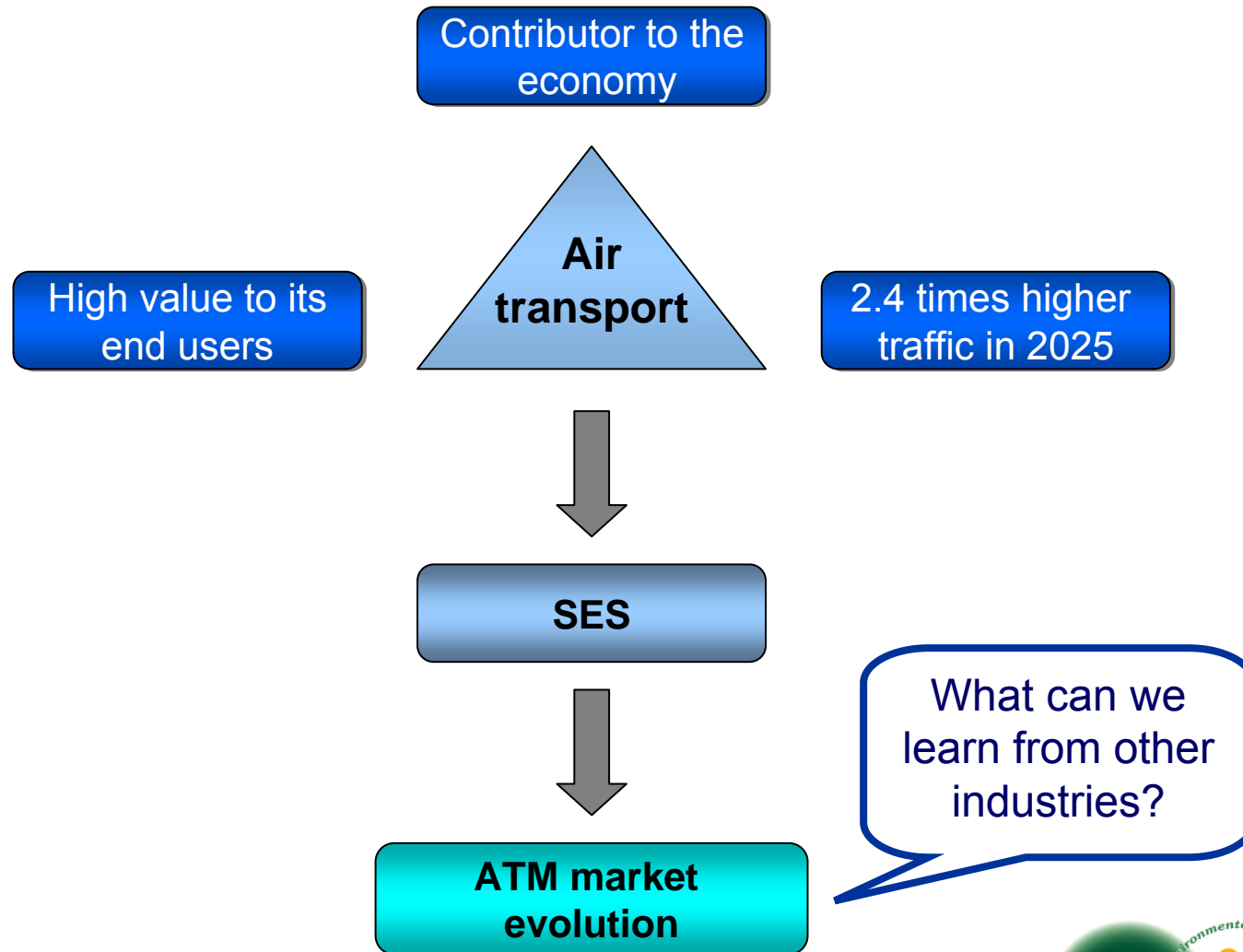
***Gökçe Benderli***

German Aviation Research Society  
London, 10<sup>th</sup> of November 2006

- Introduction
- SES and SESAR
- Air transport value chain
- ATM sub markets
- Comparison of ATM with selected network industries
- Possible ATM market structure evolution
- Conclusions

- ENV-ISA specialises in environmental and economics consultancy, management and research services for air transport.
- A team with complementary skills and experience in aeronautics, acoustics, meteorology, economics and environment
- We have on-going projects with the following clients: EUROCONTROL, European Commission, AEA, JADC (Japan Aircraft Development Corporation)

# Introduction



# SES and SESAR (1/2)

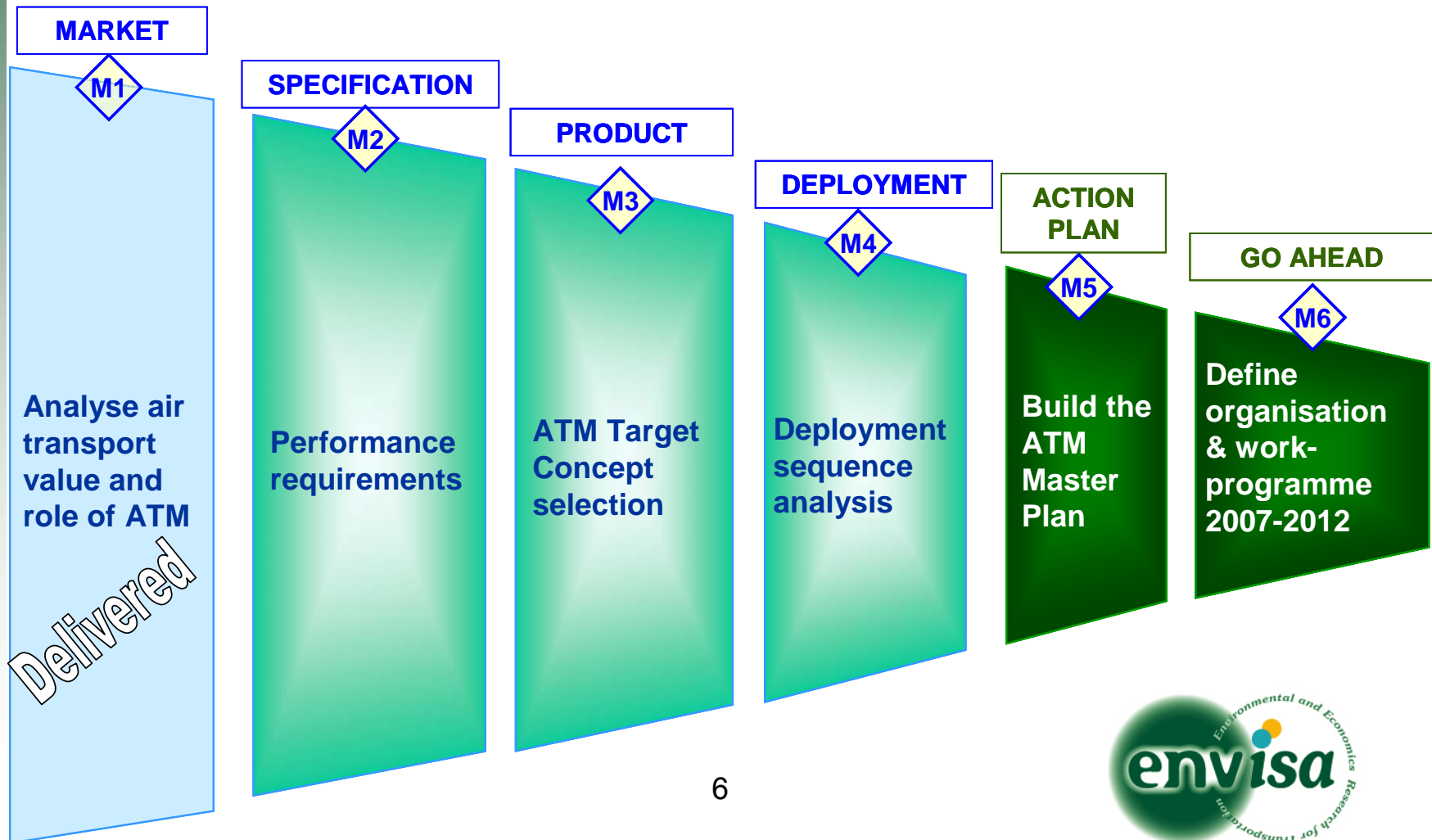


- The Single European Sky initiative was launched in 2004 by the EC that introduces regulatory principles with a view
  - to restructure the airspace according to traffic flows rather than national boundaries,
  - to create additional capacity, and more generally to,
  - to improve the overall efficiency of the ATM system.
- SESAR has been started March 2006.
  - The “ATM Research” program of the SES is initiated by the industry and continued with a consortium including airspace users, air navigation service providers, manufacturers, airport operators, and military.
  - SESAR combines technological, regulatory and economic aspects of ATM.



# SES and SESAR (2/2)

## SESAR

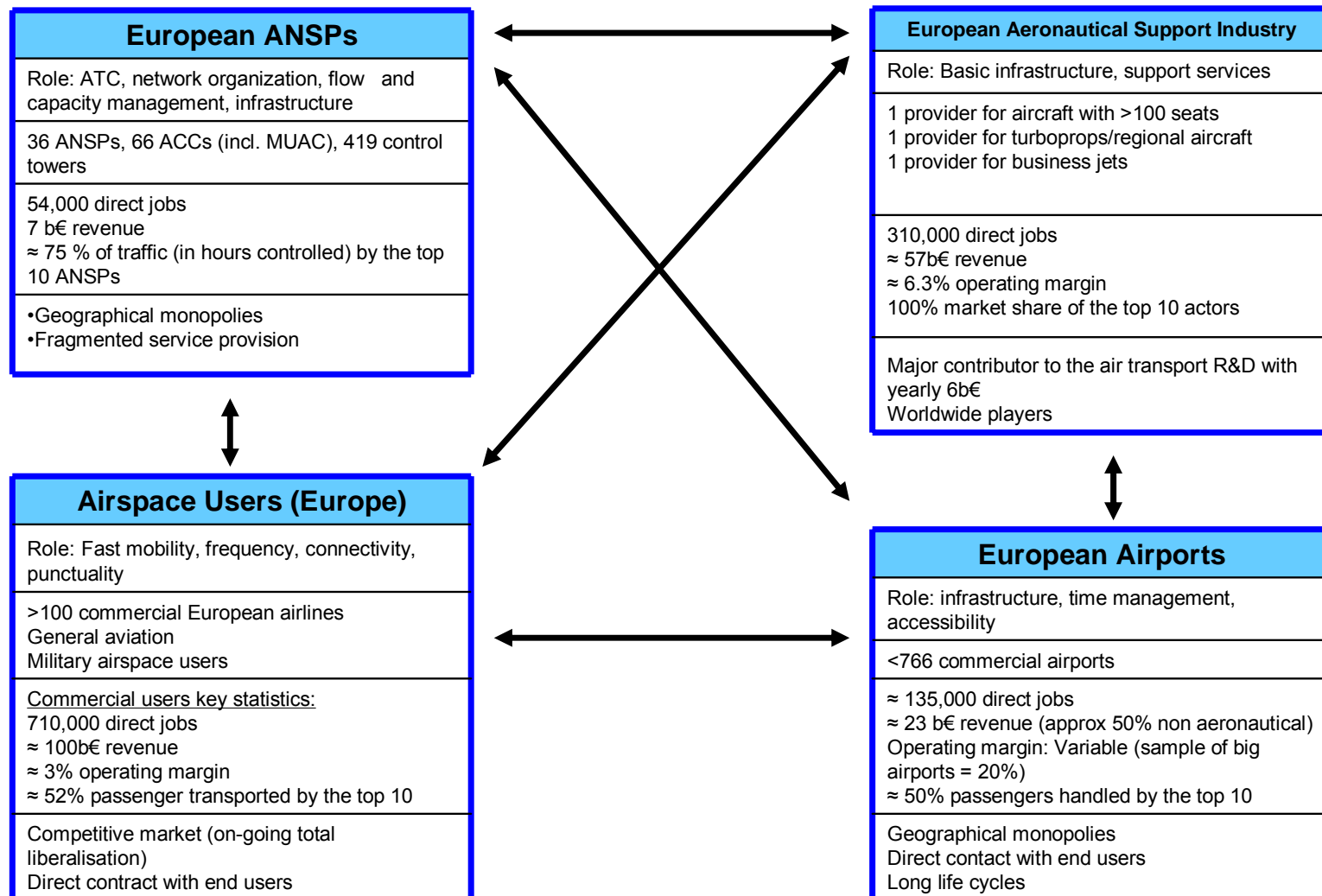


# Air transport value chain (1/3)



The Air Transport value chain in 2004: 650 m Pax, 10.7 m tonnes cargo, 9.2 m IFR

**Value drivers for final users:** Mobility, security, punctuality, connectivity, accessibility, frequency, price, safety



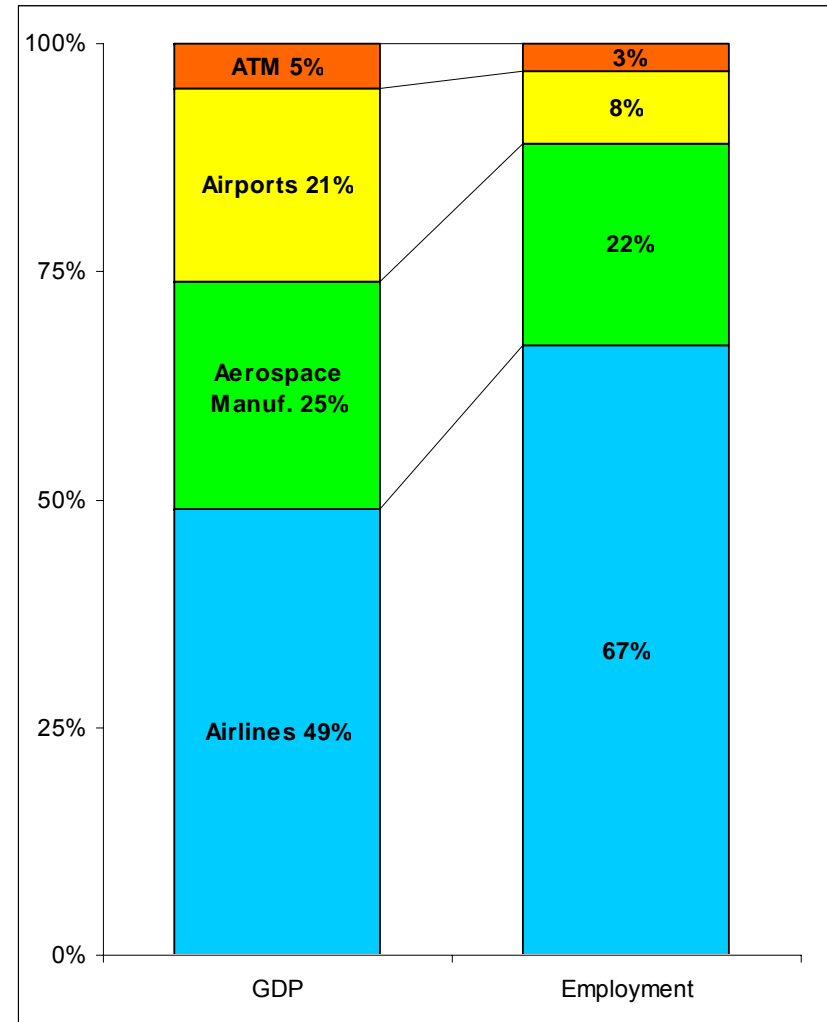
# Air transport value chain (2/3)

In 2004:

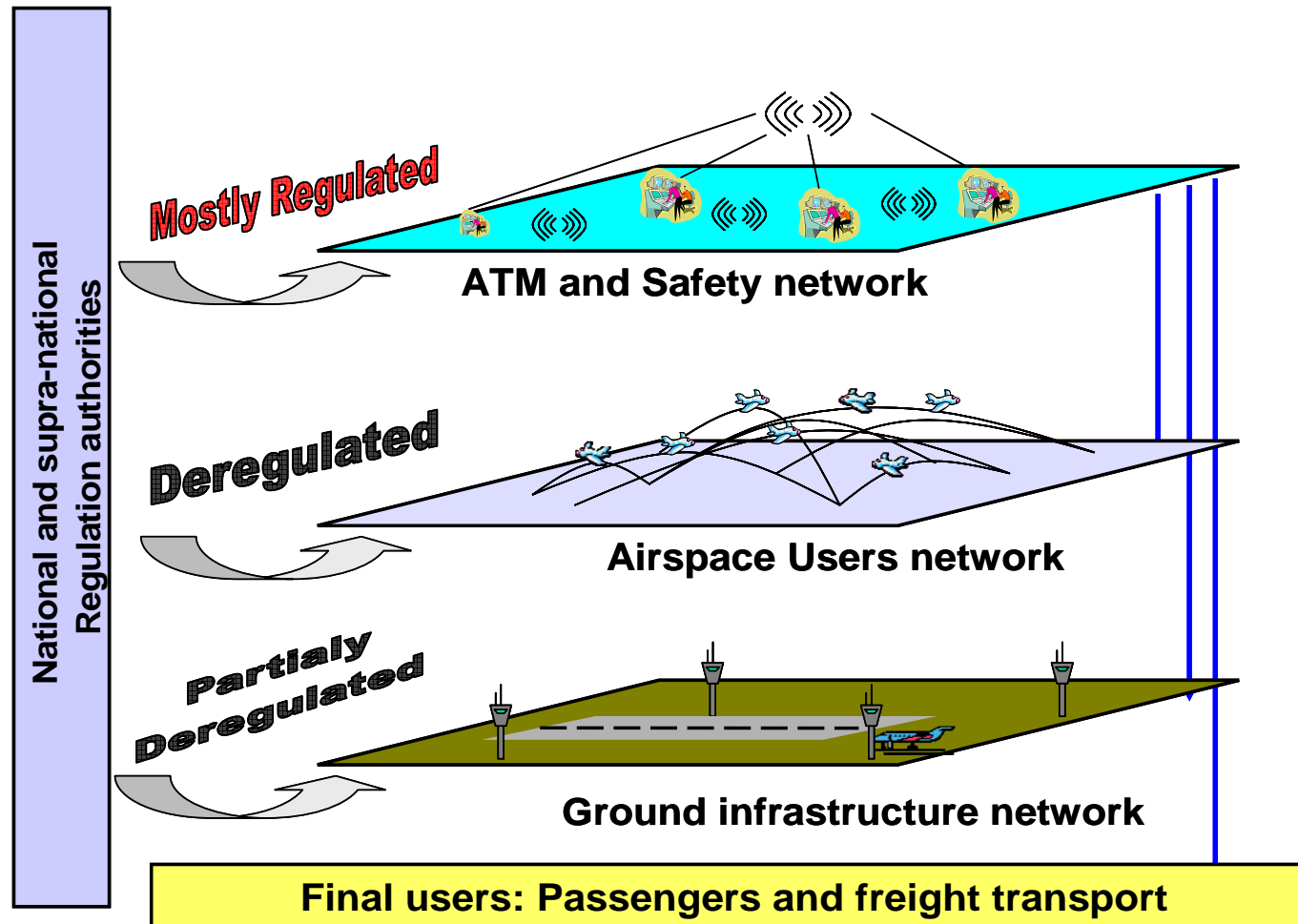
- **220 b€ of added value**
- **4 million jobs**

in the European economy, taking into account direct, indirect and induced effects.

Additional value and job were supported by aviation, through its catalytic effects, enabling other industries to exist, to grow and to perform more efficiently.



# Air transport value chain (3/3)



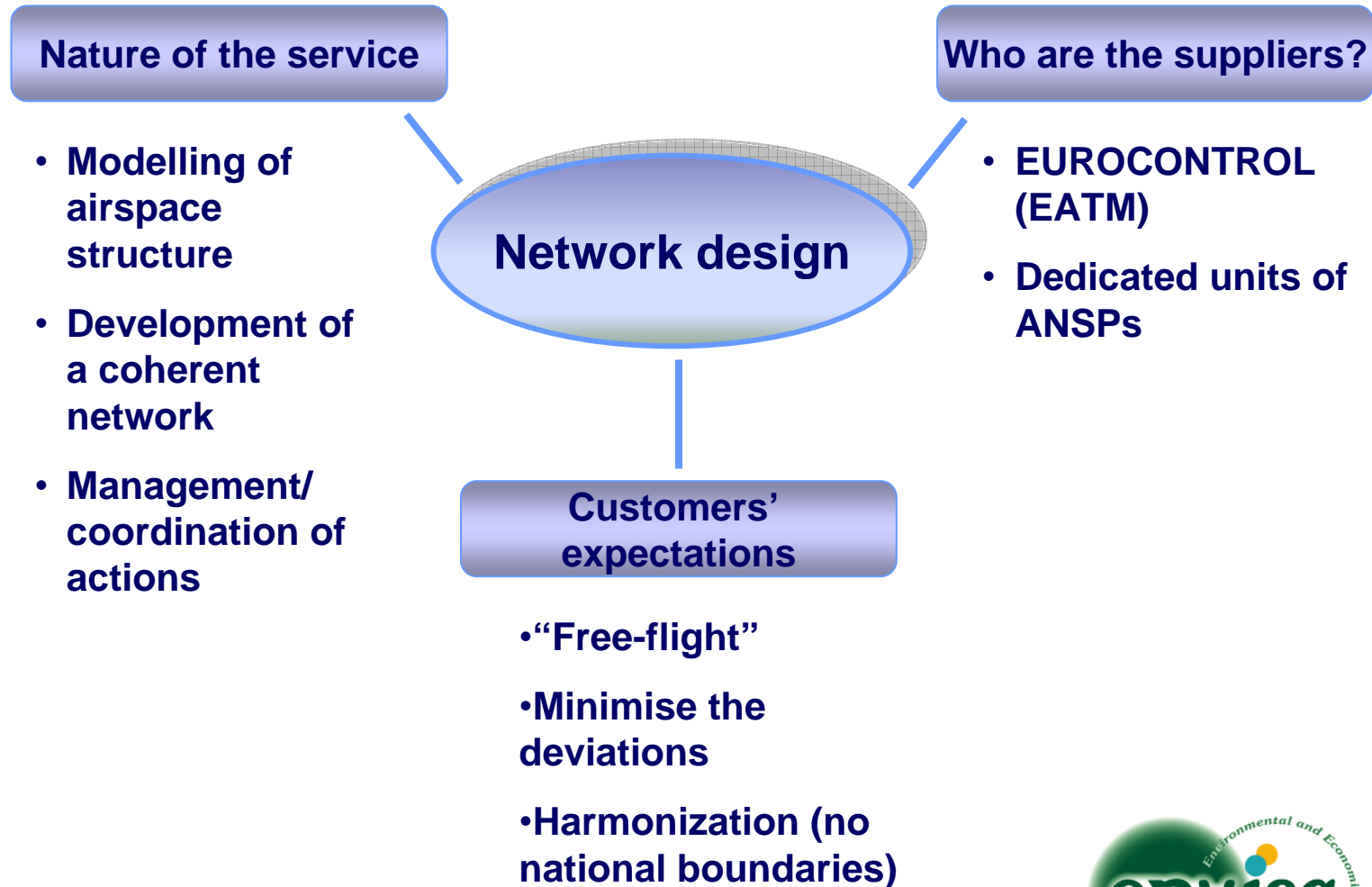
# ATM sub markets (1/6)



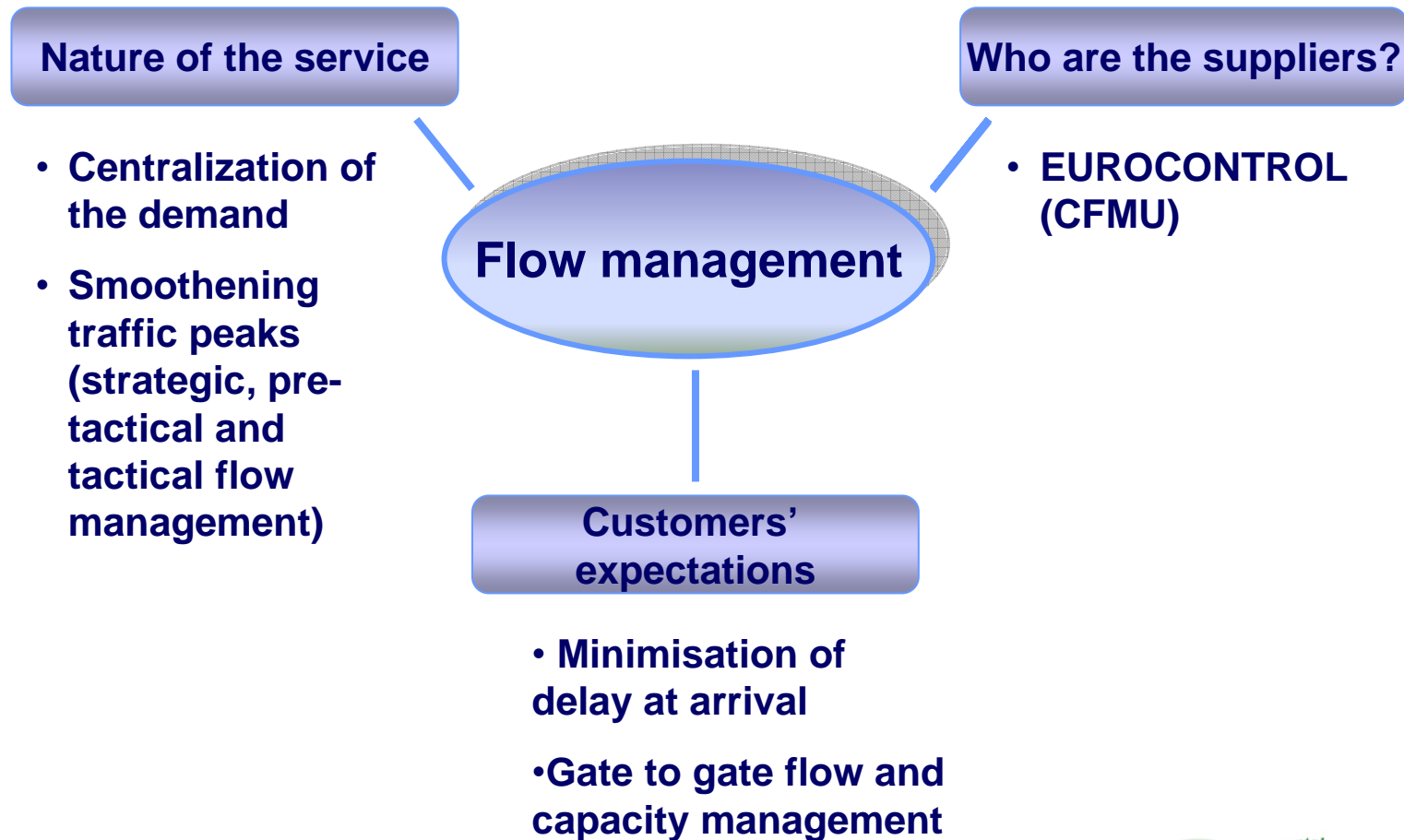
Suppliers	Basic ATM Services (ATM inputs needed for airspace users)	Intermediate Services	Demand
<p><b>ANSPs</b> (1 per State)</p> <p><b>Airports</b> (several per State)</p> <p><b>Eurocontrol</b> (CFMU, CRCO, EATMP, MUAC, CEATS, IANS)</p> <hr/> <p><b>Industry</b> (Infrastructure &amp; systems, Thales, BAE Systems, Lockheed Martin, etc.)</p>	<p><b>Airspace Organisation &amp; Management Services</b></p> <ul style="list-style-type: none"> <li>• Airspace management</li> <li>• Route network development</li> <li>• Airspace modelling</li> </ul> <p><b>ATFM Services</b></p> <p><b>Air Navigation Services</b></p> <ul style="list-style-type: none"> <li>• ATC Services                             <ul style="list-style-type: none"> <li>• En-Route</li> <li>• Terminal</li> <li>• Airport</li> </ul> </li> <li>• Advisory Services</li> <li>• Infrastructure Services</li> <li>• Other Services</li> </ul>	<p><b>En-route Charges Management</b></p> <ul style="list-style-type: none"> <li>• Calculation</li> <li>• Billing</li> <li>• Collection</li> <li>• Distribution</li> <li>• Advisory services</li> </ul>	<p><b>“Traditional Airlines”</b></p> <p><b>Low Cost Carriers</b></p> <p><b>Charters</b></p> <p><b>Freight</b></p> <p><b>Military users</b></p> <p><b>General Aviation</b></p>



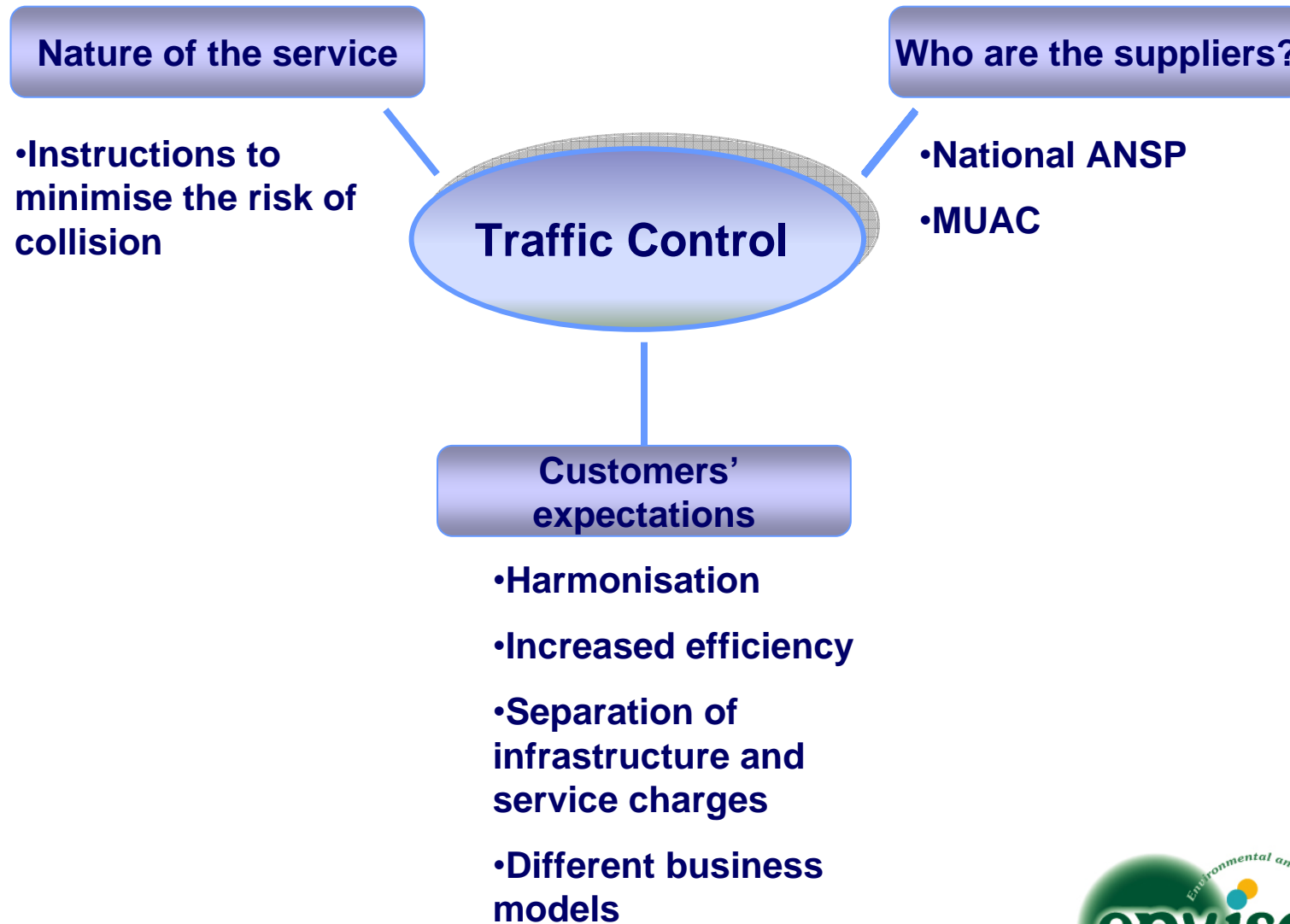
# ATM sub markets (2/6)



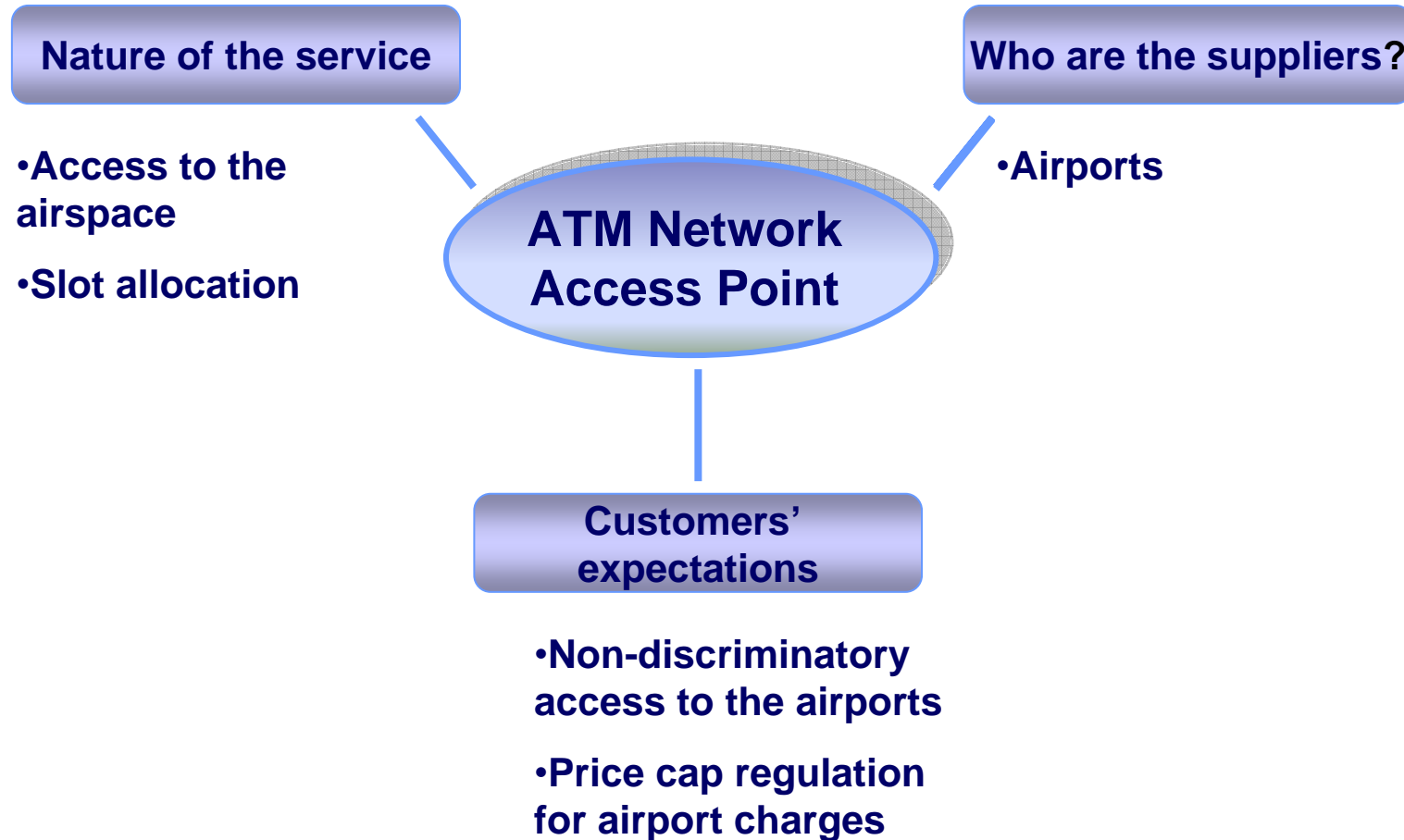
# ATM sub markets (3/6)



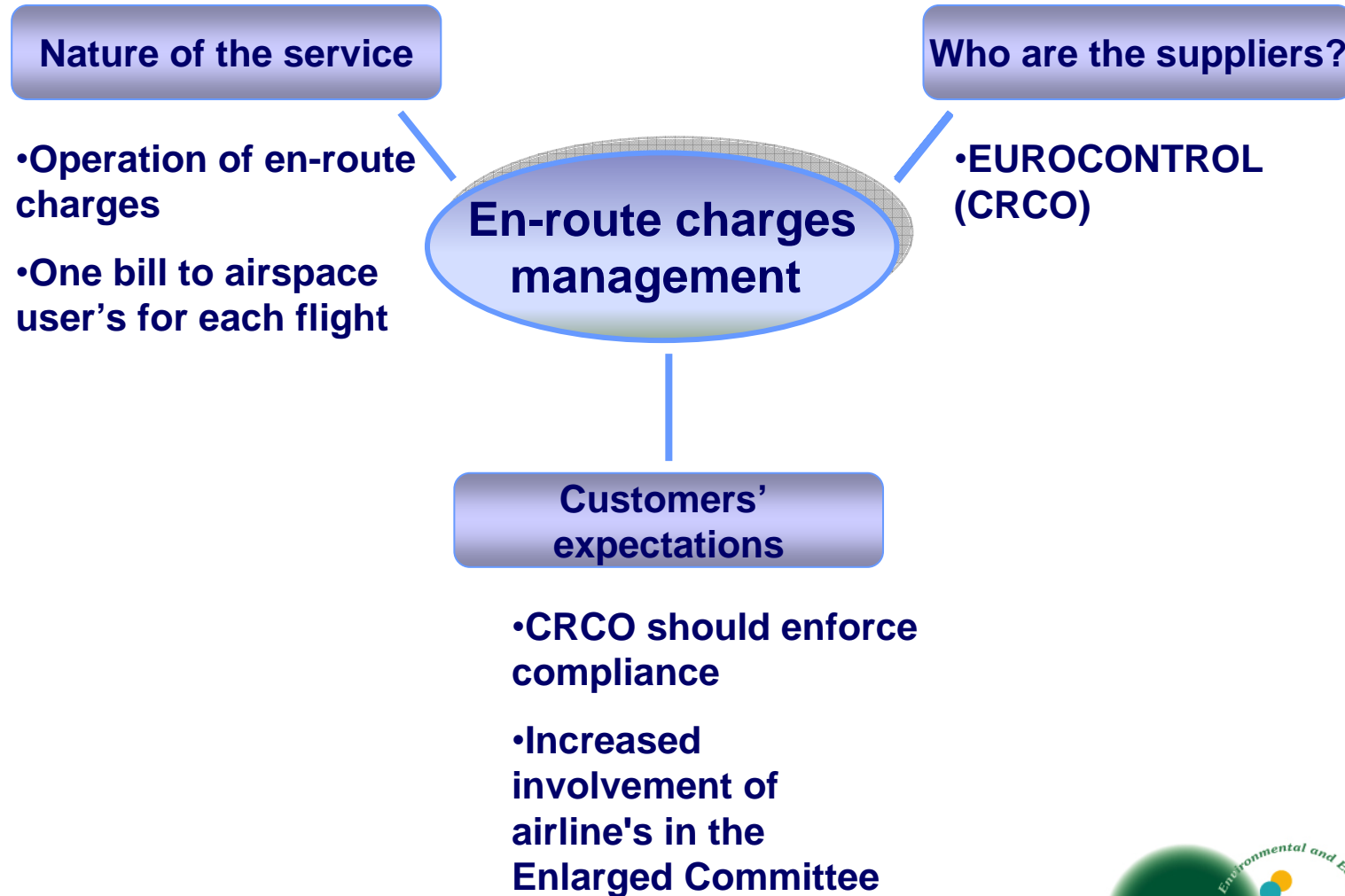
# ATM sub markets (4/6)



# ATM sub markets (5/6)

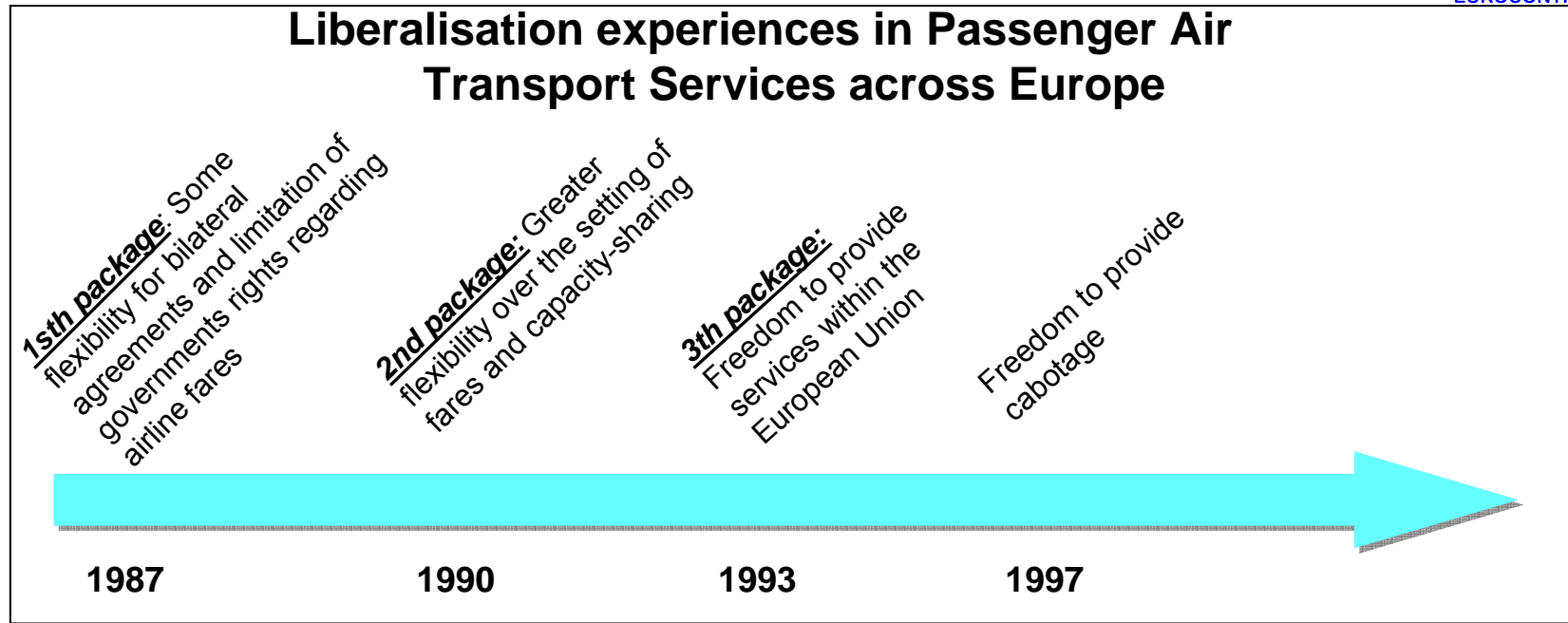


# ATM sub markets (6/6)





# Selected network industries- Passenger Air Transport

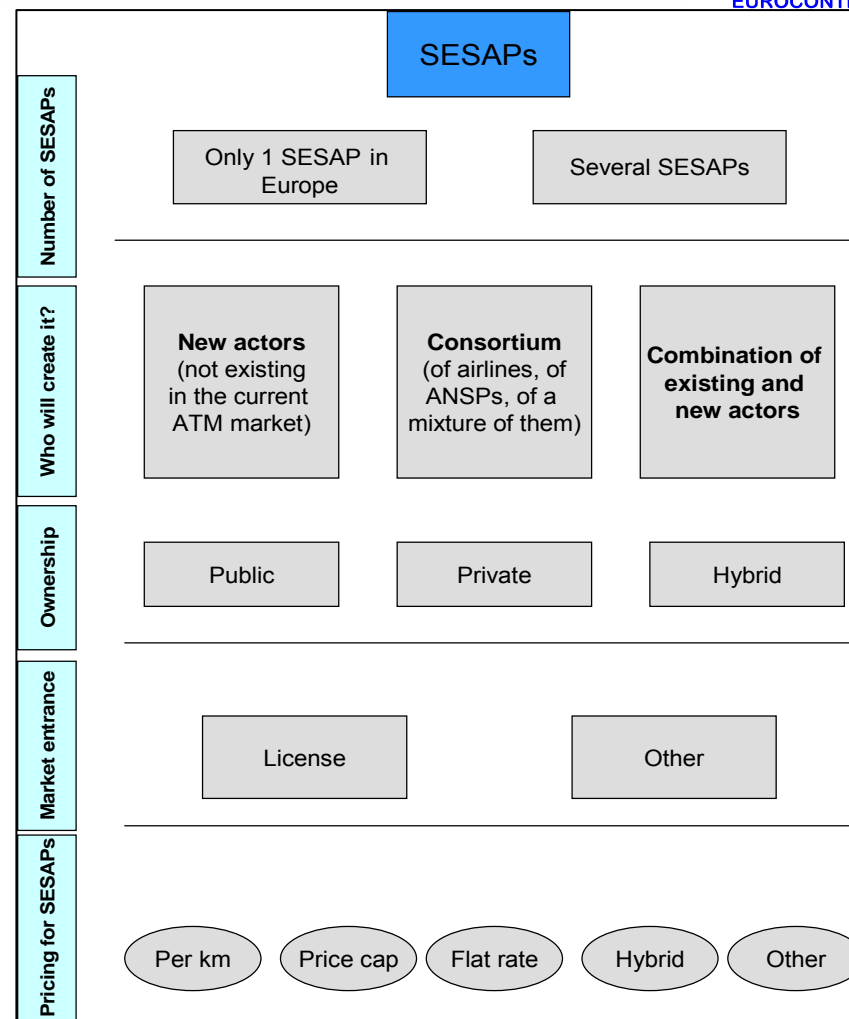


- New ticket pricing strategies including widespread use of yield management (lower fares)
- The fast growth of route expansion (hub-spoke and point-to-point flights)
- A process of mergers and takeovers within the industry
- Introduction of the innovative services like interlining, code sharing and e-ticketing
- Airline alliances

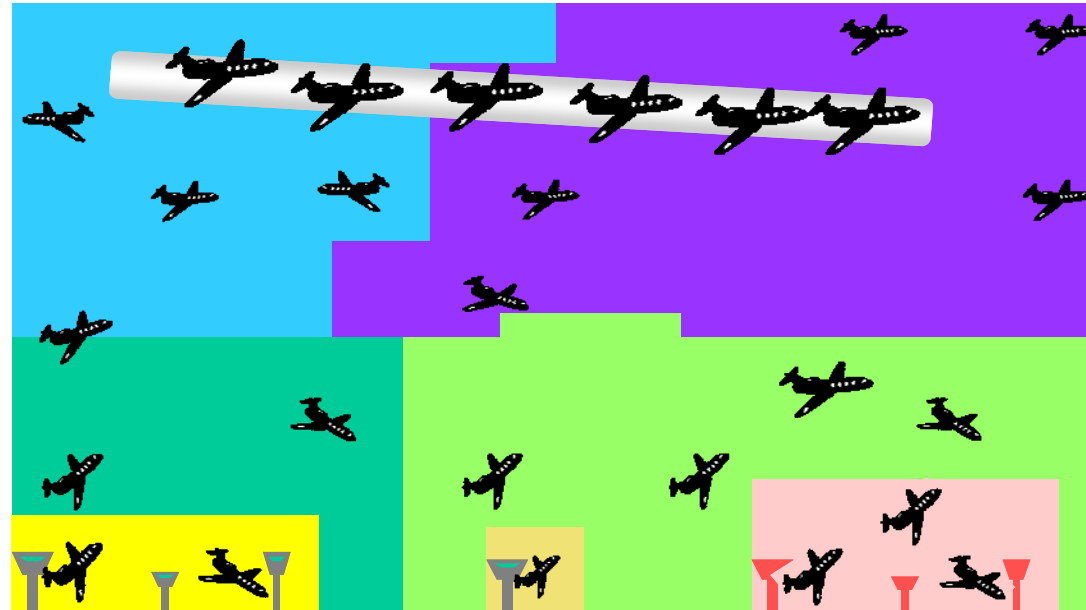
# Possible ATM Market Structure - A third party



- Intermediate body between airspace users and ANSP for network capacity
- It is the equivalent of “travel agencies”
- Increased negotiation power of airspace user’s
- New “business models” for ANSP



# Possible ATM Market Structure - Backbones



- Backbones (highways in the sky) according to traffic patterns
- It is the equivalent of “Internet backbones”
- Increased efficiency of airspace use
- New “business models” for ANSP

## SESAR vision for future ATM



- Intensive collaboration both at strategic and tactical levels
  - Airspace users, airports, and air navigation service providers need to collaborate from the earliest planning phase to flight execution phase.
- A performance management framework will guide the operations of all actors in the air transport value chain.
- The ATM organisation needs to be **restructured** and **de-fragmented** to adopt the most efficient operating mode at each service level.



# Conclusions



- There are discrepancies between ATM services and airspace users' requirements.
- Positive results of deregulation in the analysed network industries.
- The proposed scenarios for the future ATM market evolution aim at enhancing the capacity and improving the efficiency of the whole air transport market
- Safety aspect of the ATM industry makes a comparison with other network industries difficult.
  - Still, it is possible to adopt the *business models* in the Internet industry and in the passenger air transport at least partially.



**END**