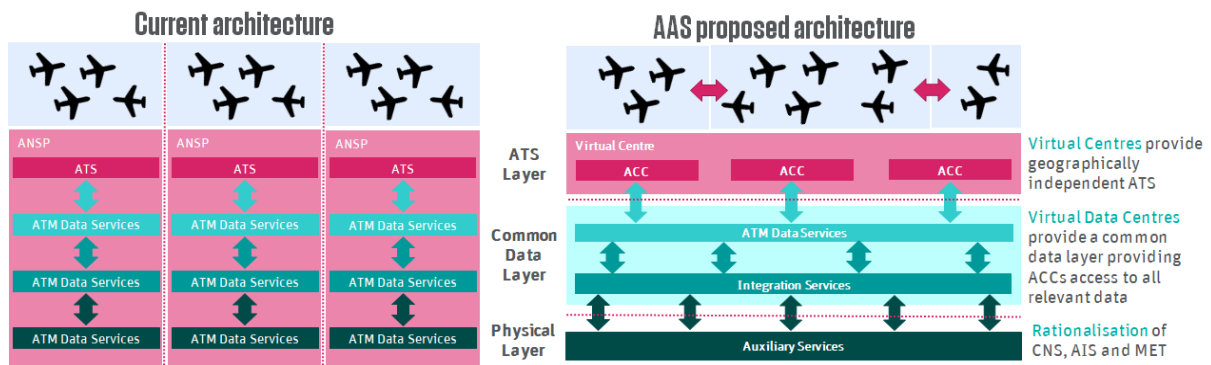


Role of Markets in AAS Deployment ('RoMiAD')

Executive summary

Objective

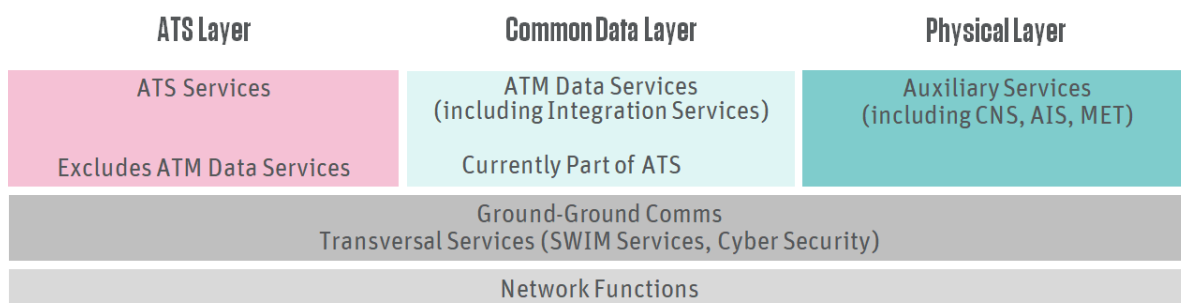
The European ATM system is in need of modernisation – in particular to increase performance, resilience and sustainability. The current system is a patchwork of national ANSPs operating vertically integrated systems. A single organisation therefore typically provides all the necessary services – from the auxiliary services to air traffic services.



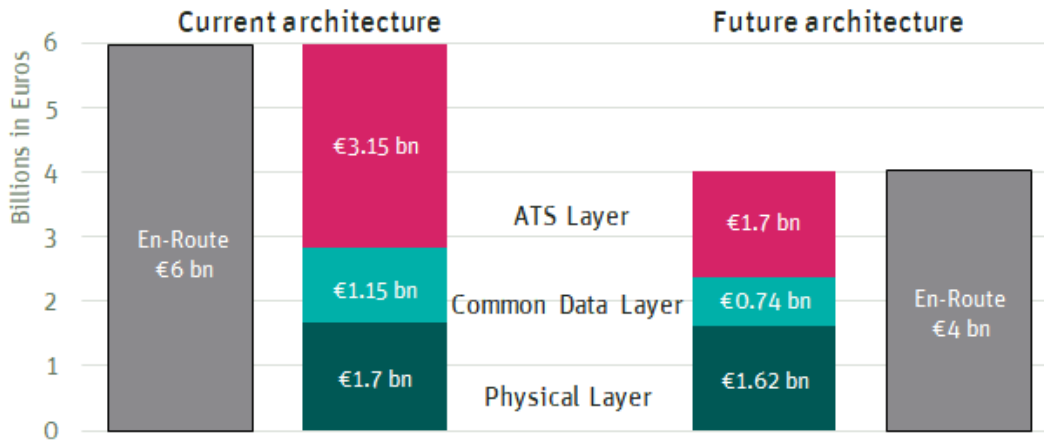
The future system proposed by the Airspace Architecture Study (AAS) breaks down the current vertically integrated systems to enable a more efficient set of services to be integrated horizontally. The architecture is based on three layers: air traffic services (ATS) layer, common data layer and physical layer. The common data layer enables real time ATM data for all flights to be accessed by all the stakeholders – network manager, ANSPs, airports and airlines – and obtained from a processing of raw data from the auxiliary services.

Market Analysis

This new architecture enables new business models to operate with several distinct markets as shown below. Project RoMiAD focussed on the evolution of the ATS, Common Data and Physical Layer for en-route ATM.



We estimated the current size of the market in these three layers and the potential cost reductions achievable through virtualisation. The benefits are significant particularly in the ATS layer.



ATS Layer: The ATS layer is the largest market and has the greatest scope for improvement with the potential to reduce the current costs of €3.15 bn by up to 60%. In order to maintain national infrastructures, it is likely that collaboration will drive best value in this layer.

Existing costs	Rational transformation of costs	Revised costs
Market size: € 3,150 m OPEX: 90% CAPEX: 10%	Reduction in costs as a result of: <ul style="list-style-type: none"> Increased ATCO productivity enabled by Operational Excellence and increased automation. The reduced capacity buffer that the dynamic capacity sharing enables. 	Market size: € 1,660 m Reduction: -50%

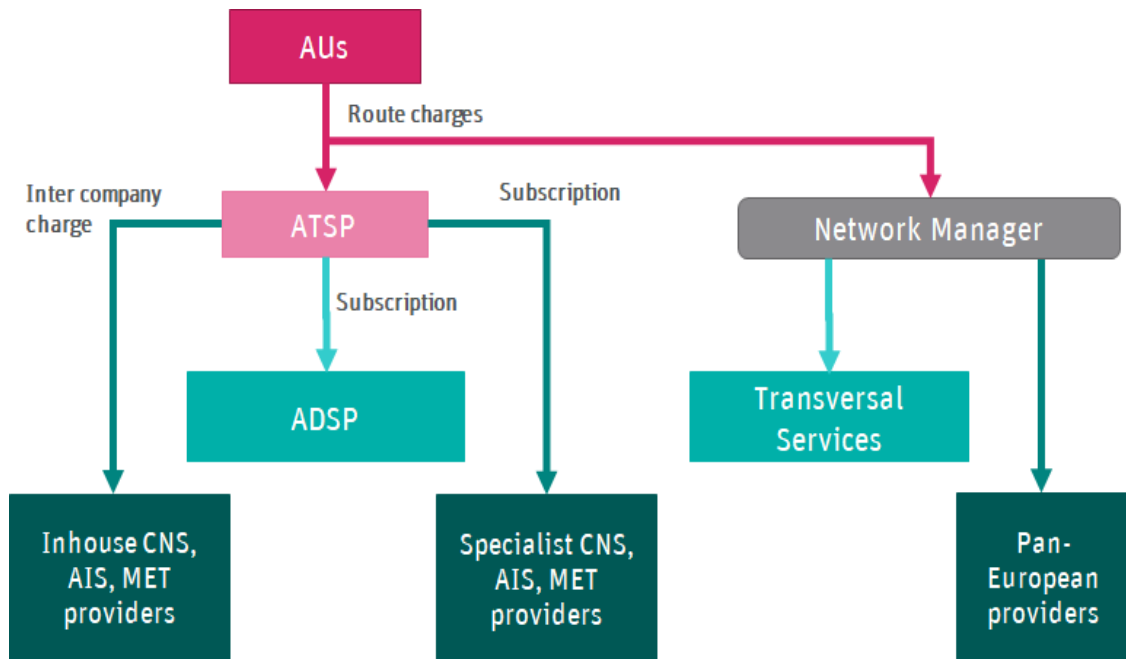
Common Data Layer: The market size is in the order of €1 bn per annum, potentially reduced by 35% if the infrastructure is sufficiently harmonised. The flexibility provided to the ATS layer has three times the benefits available from rationalisation within the Common Data Layer itself. Competition in this layer is likely to drive best value.

Existing Costs	Rational transformation of costs	Revised Costs
Market Size: € 1,150 m OPEX: 75% CAPEX: 25%	<ul style="list-style-type: none"> Initial saving from rationalisation of infrastructure and systems. Further saving from “commercialisation” of ATM data centres. 	Market size: € 740 m Reduction: -35%

Physical Layer: The physical layer is different to the other two markets due to the range of services involved in addition to the CNS considered in this report, there is also AIS and MET. We see limited benefits within in the traditional CNS markets but much high potential when considering the transition of iCNS and deployment of new technologies.

Existing costs	Rational transformation of costs	Revised costs
Market size: € 1,680 m OPEX: 65% CAPEX: 35%	<ul style="list-style-type: none"> The limited benefits in the physical layer come from CNS rationalisation for legacy issues and of doing so at a pan-EU level. Increased benefits when considering deployment of new technology. 	Market size: € 1,620 m Reduction: -3%

Incentivising the transition



Realization of these benefits as much about new business models as technology adoption. From an ATSP perspective, the level of CAPEX is significantly reduced but overall expenditure is remains high due to subscriptions.

To realize the benefits ANSPs need to adopt collaborative models and support the Network Manger where Pan-European collaboration is most advantageous.



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