Virtual Centre **technical state of the art**

Richard BEAULIEU - THALES

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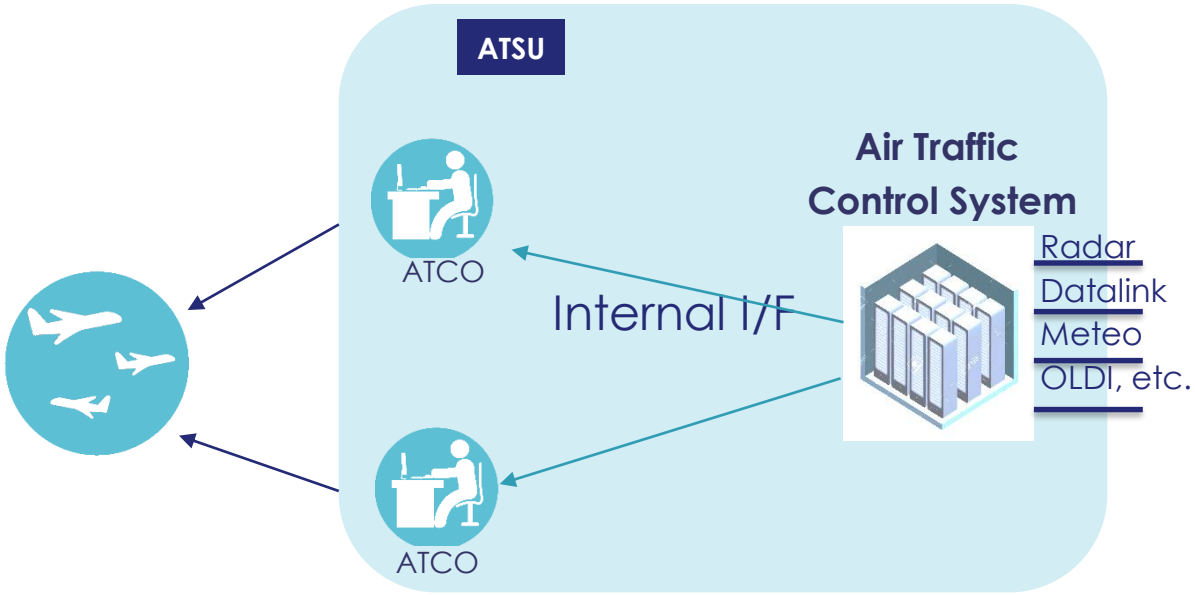
Set the scene: “Classic Architecture”



In most cases, Air Traffic Control system is provided by 1 supplier

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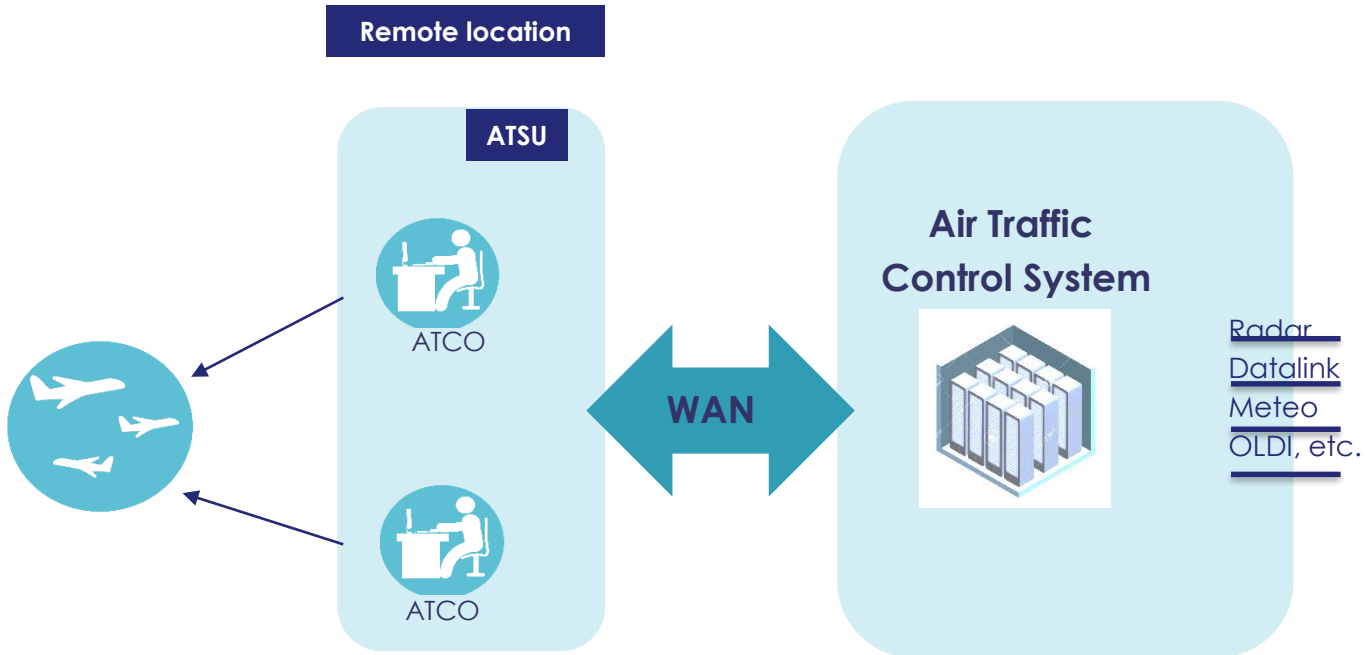
Set the scene: What is a Virtual Centre?



Creation of an interface over a WAN

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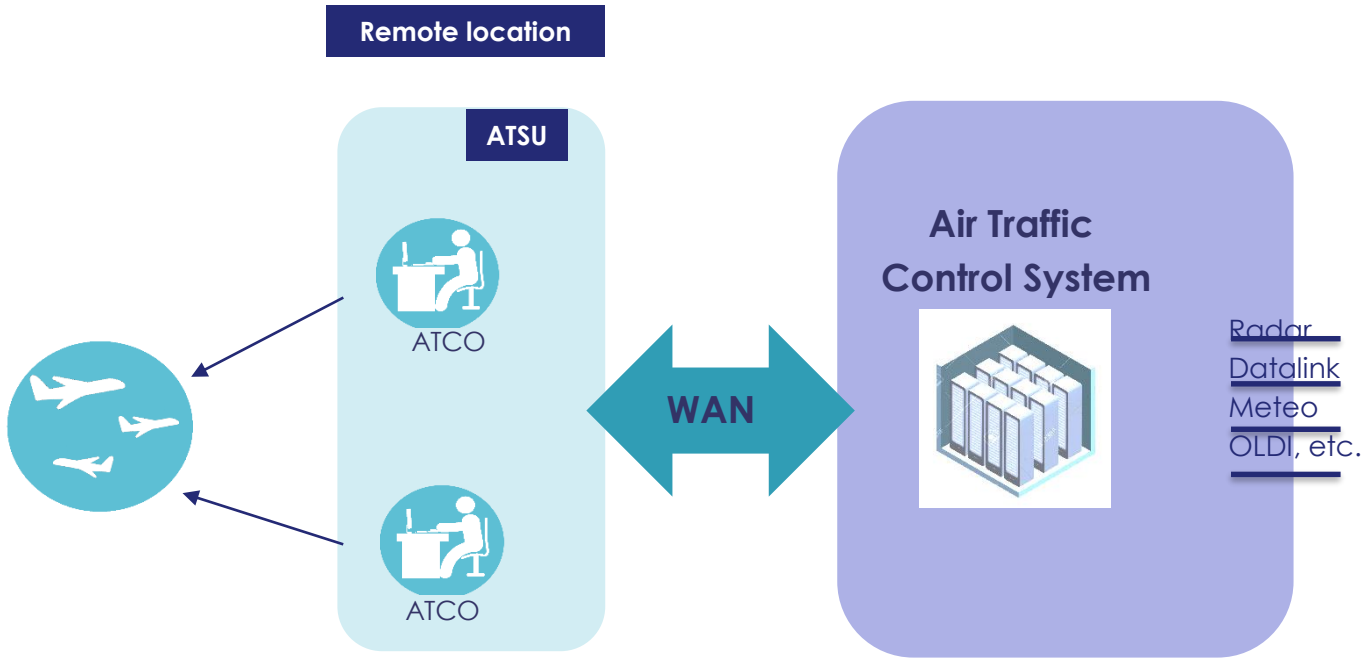

ADSP: ATM Data Service Provider as identified in the AAS, could be independent from ATSU

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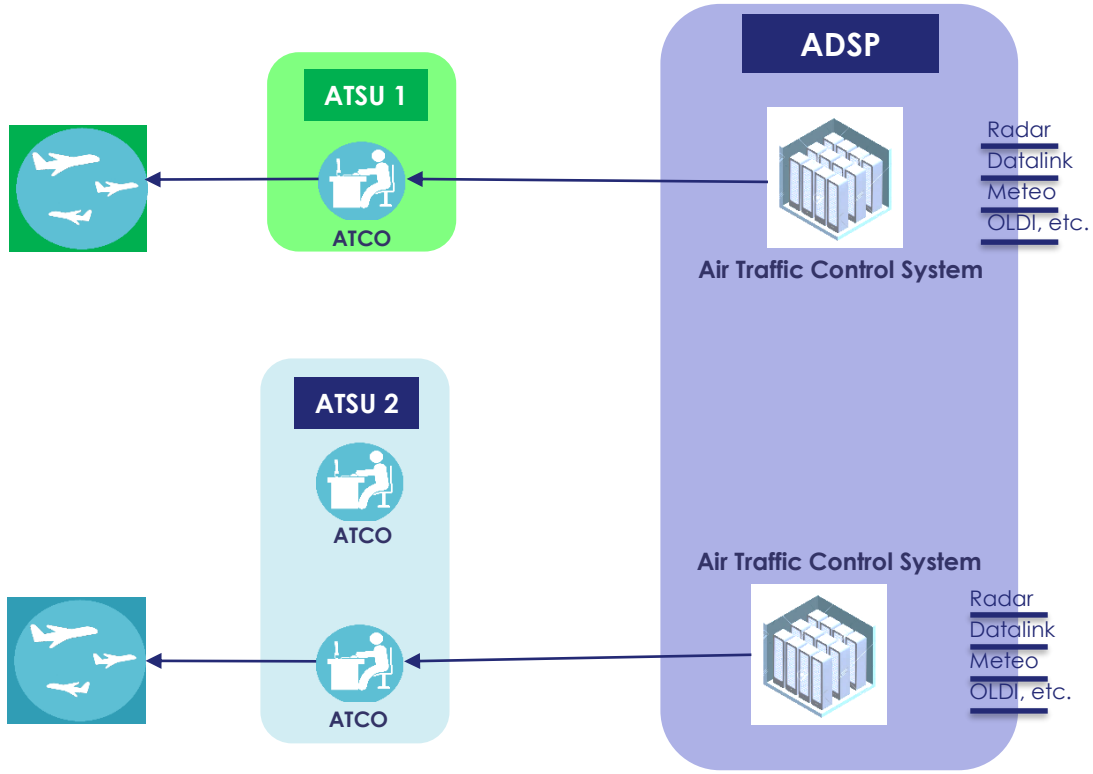
Virtual Centre: Delegation of Airspace / Contingency



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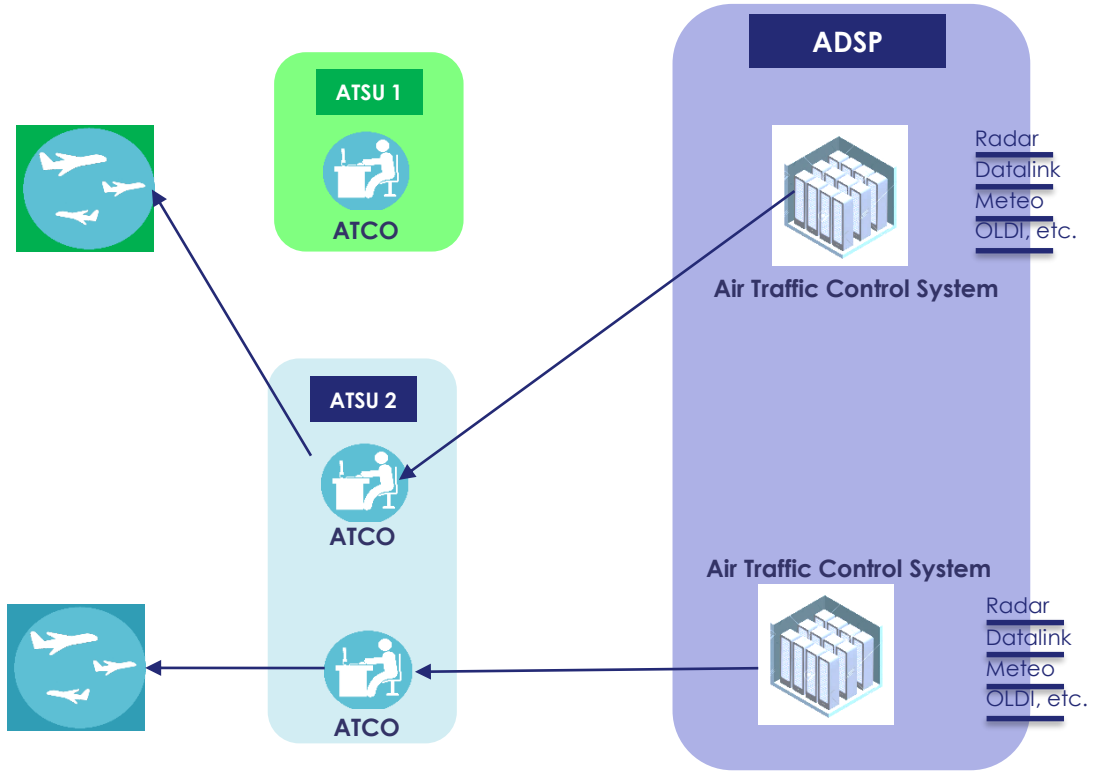
Virtual Centre: Delegation of Airspace / Contingency



Demonstrated by Thales as technically possible with legacy internal I/F

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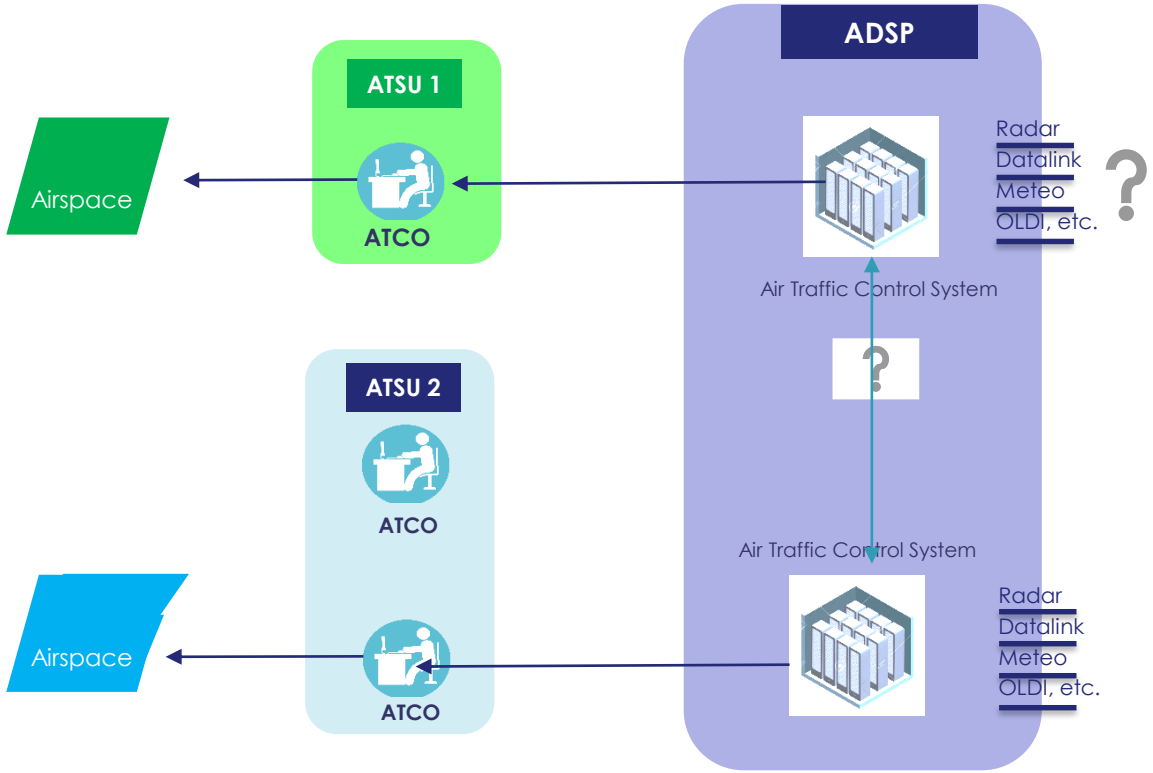
Set the scene: Cross Border issue



New interfaces between ATC systems and impacts on External I/F

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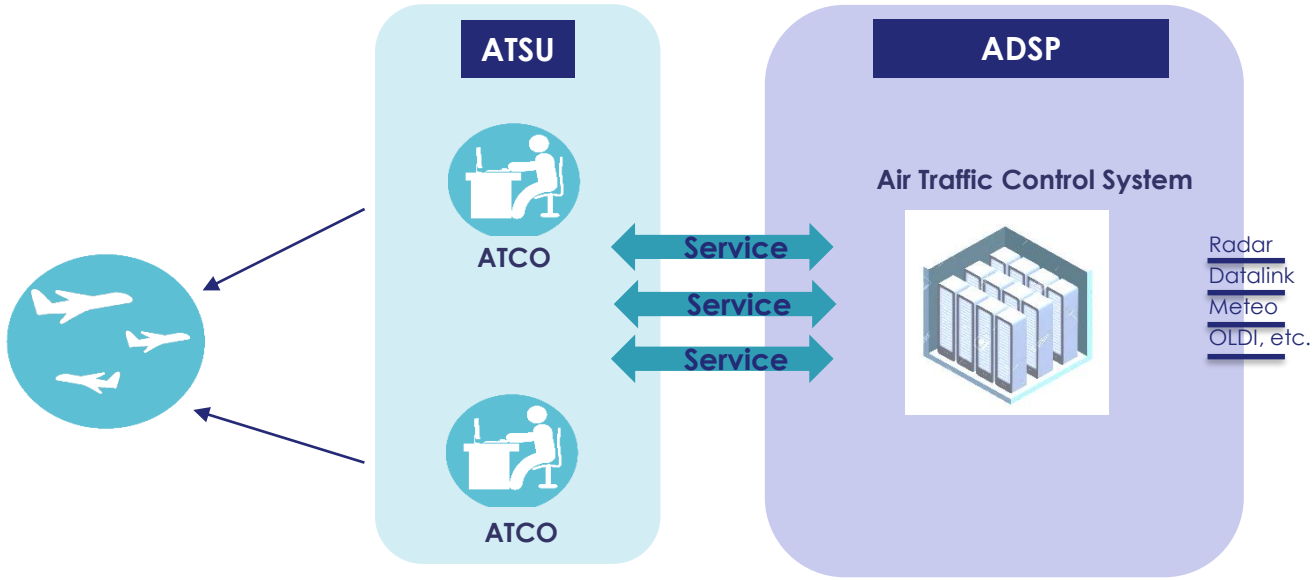
Service Orientation



Services in SESAR and launched in EUROCAE WG-122

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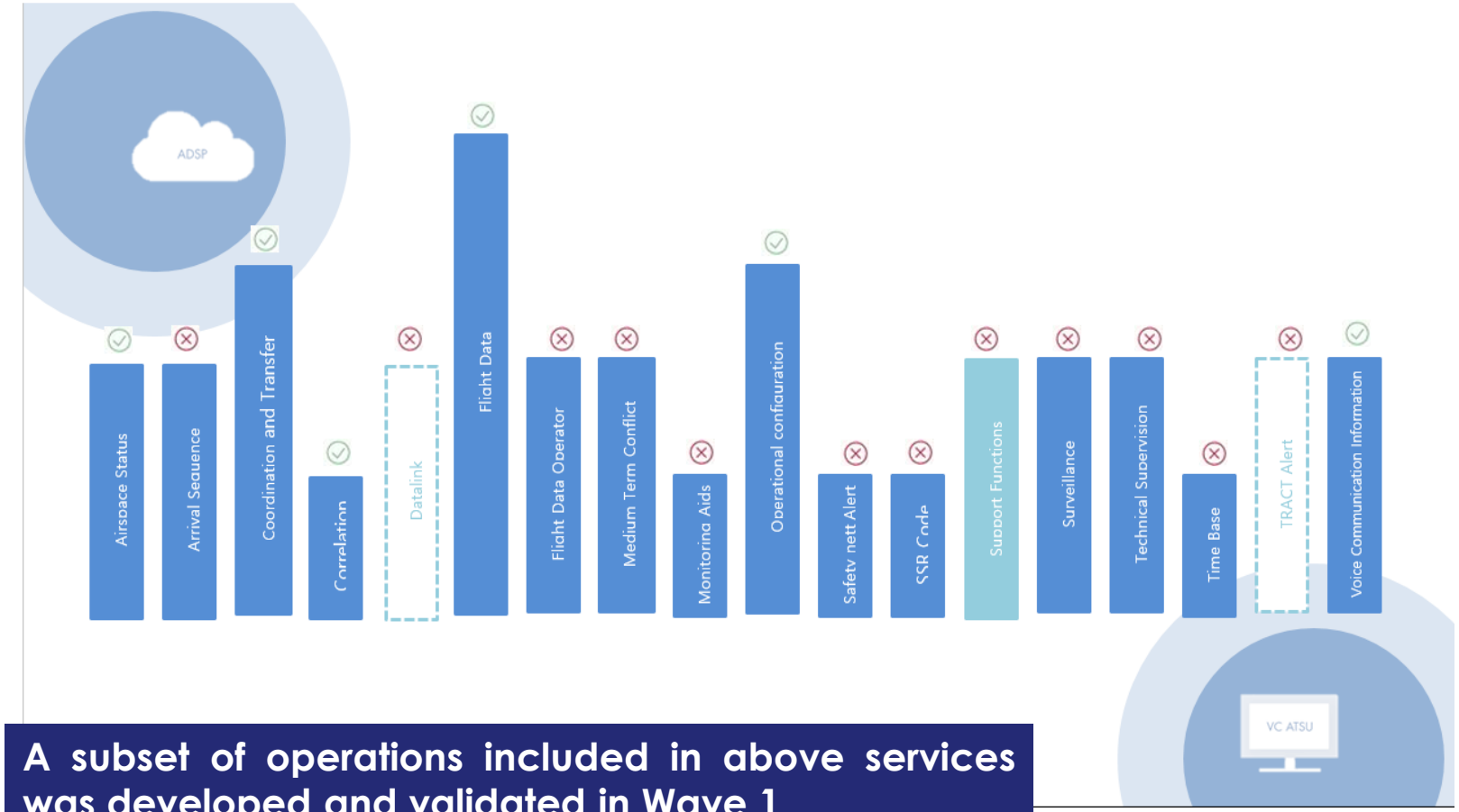
Service status @ End of Wave 1



A subset of operations included in above services was developed and validated in Wave 1.

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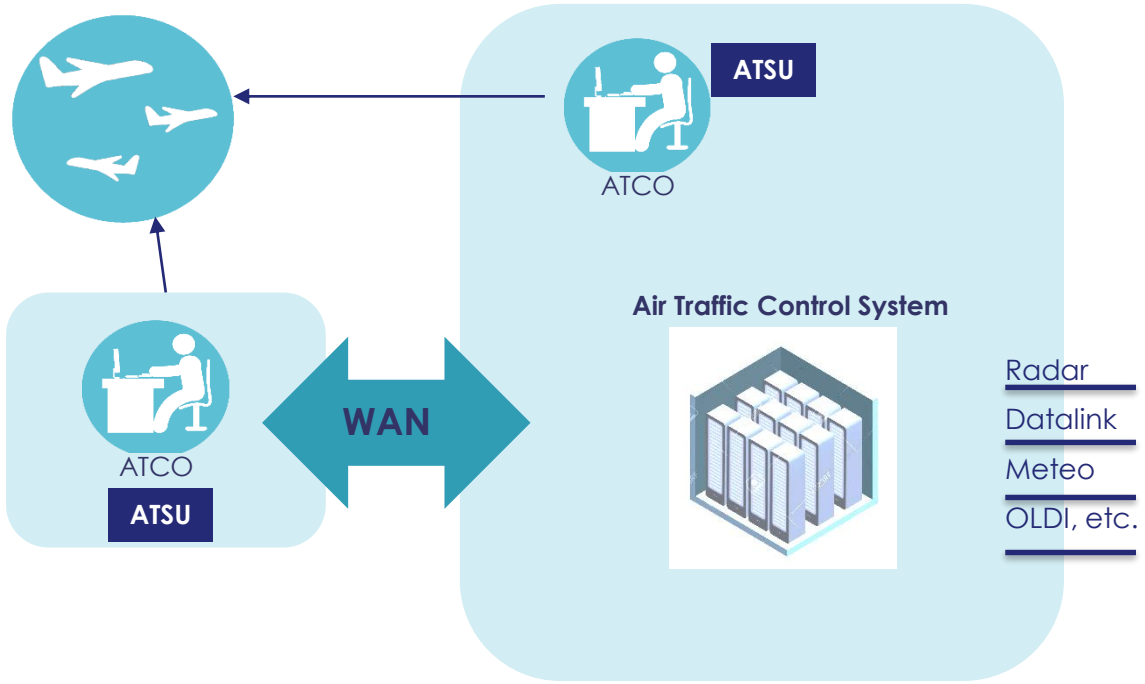
Initial implementations of Virtual Centre are already existing



Several Thales systems in operation today implement preliminary virtual centre concept

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Conclusion

- **Virtual Centre concept is a key concept of the Airspace Architecture Study (AAS)**
- **First implementations already exist with a unique supplier**
- **Next steps will be addressed both in SESAR and in EUROCAE (WG-122)**
  - Impact of new operational Uses Cases on technical interfaces (in particular Cross Border)
  - Specific architectures have to be addressed with consequences on inter ADSPs interfaces
  - Degraded modes is also a topic to be analysed, with associated CONOPS

Main challenge is to maintain Safety objectives and cybersecurity protection on the whole system (ADSP + ATSU)

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