



Outsourcing data services: The business case for change

Monday 14 December 2020

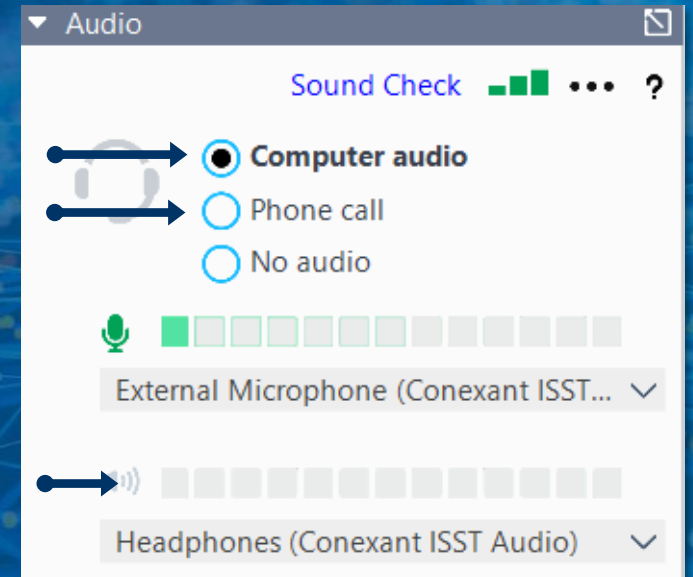
14:00 CET



Before we start

Audio Check

- Please make sure that you have a stable internet connection.
- Ensure the sound is working well.
- If it is not working correct, please dial in via your phone using the phone number in your confirmation e-mail.



Before we start

Any questions

Submit your technical or content related questions in **Slido**:

Simply join the website:

www.slido.com



Then enter the event passcode: **ADSP**

We will do our best to answer all your questions at the end of each session. You can submit questions at any time.

Moderators



Alex Bristol

Alex Bristol, Chief Executive Office, skyguide, and CANSO Champion for ATM Data Service Providers (ADSP)



Ben Stanley

Director, Helios (an Egis company)



Guillaume Ramonet

Coflight Programme Director,
DSNA



Jarosław Niewiński

Head of Innovations, PANSA



Maurizio Romano

SESAR 2020 WP lead
(Delegation of Services), ENAV



Maja Marciniak

Senior Consultant, Helios (an
Egis company)



Michiel van Dorst

CEO, LVNL

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ANSP perspectives on why and how you make the case for outsourcing data services

Speaker



Guillaume Ramonet

Coflight Programme Director, DSNA

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Coflight Cloud services



Outsourcing Data Services

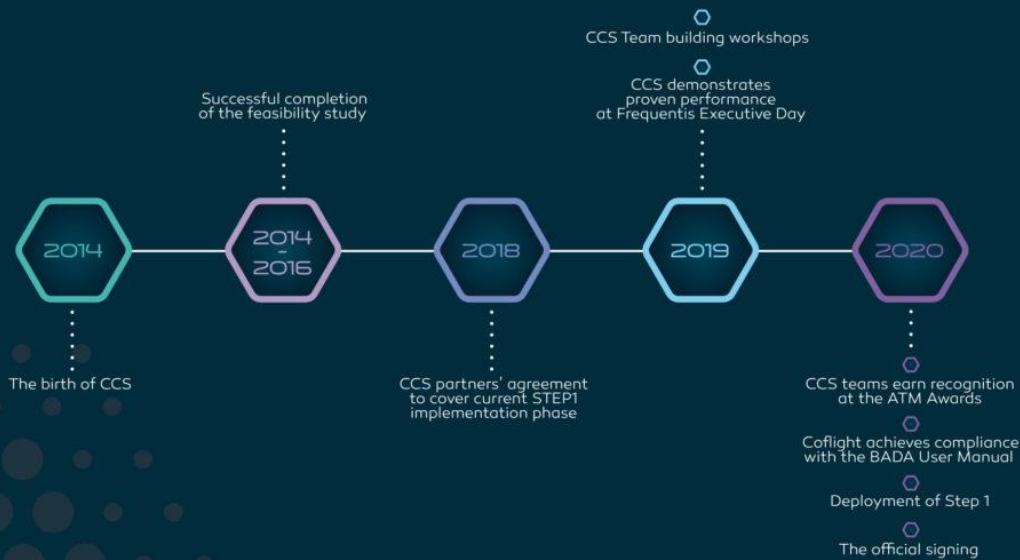
AGENDA / WELCOME



- 1 What is CCS?
- 2 Legal
- 3 Safety
- 4 Environment
- 5 CyberSecurity
- 6 Social
- 7 Technology/modularity
- 8 Cost and Revenue

What is CCS ?

MAJOR STEPS OF THE CCS PROJECT



- CCS is an industrial remote flight data processing (FDP) services based on Coflight 4D trajectory system.
- CCS is SWIM compliant and aligned with the SESAR specifications
- CCS is operated by DSNA and ENAV for skyguide
- The project has already delivered its first service contract with skyguide for integration purpose and will be fully operational by 2025



- Need to involve states at early stage to tackle sovereignty → inter-state agreement is not mandatory but ease the legal ground for ADSP
- Military views need to be also embarked at early stage
- Data governance/management framework is a must have



- FABEC with their NSA framework is an enabler to secure a common framework for safety studies
- Safety regulation has been thought with systems in mind not services → adaptations is needed
- Easier for ANSP to provide service based on their ANSP certification



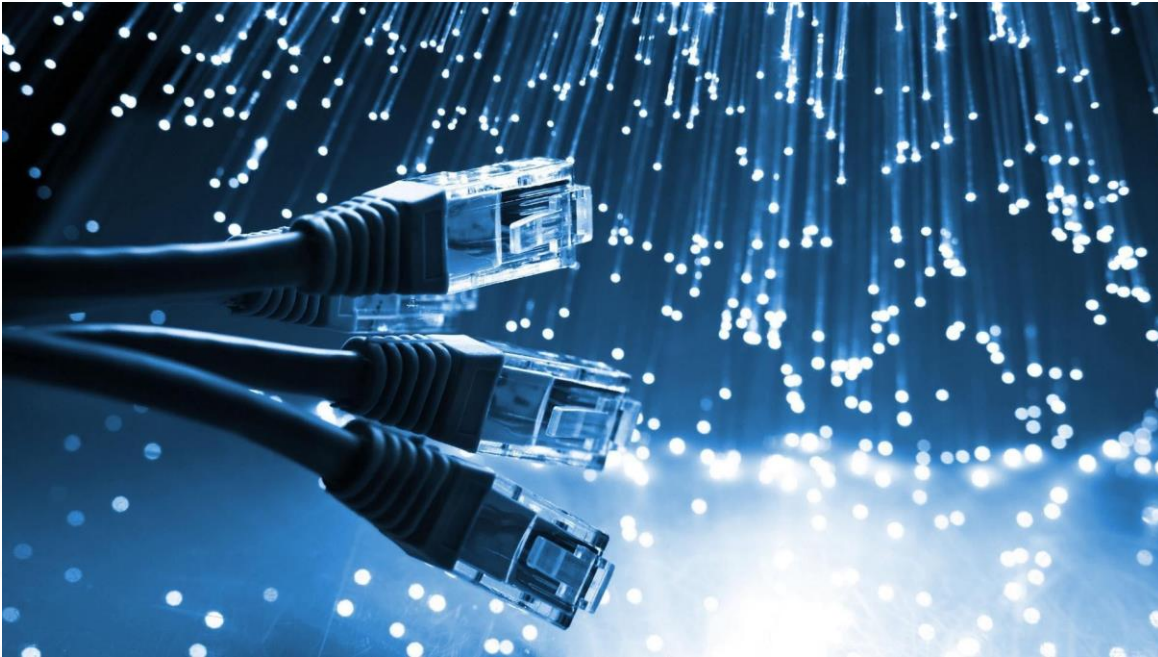
- Use of the latest hardware more environmental friendly
- Reduction of data centres across Europe
- Usage based on volume of traffic (reduction of Energy)
- Need to implement FINOPS to move to IT sobriety



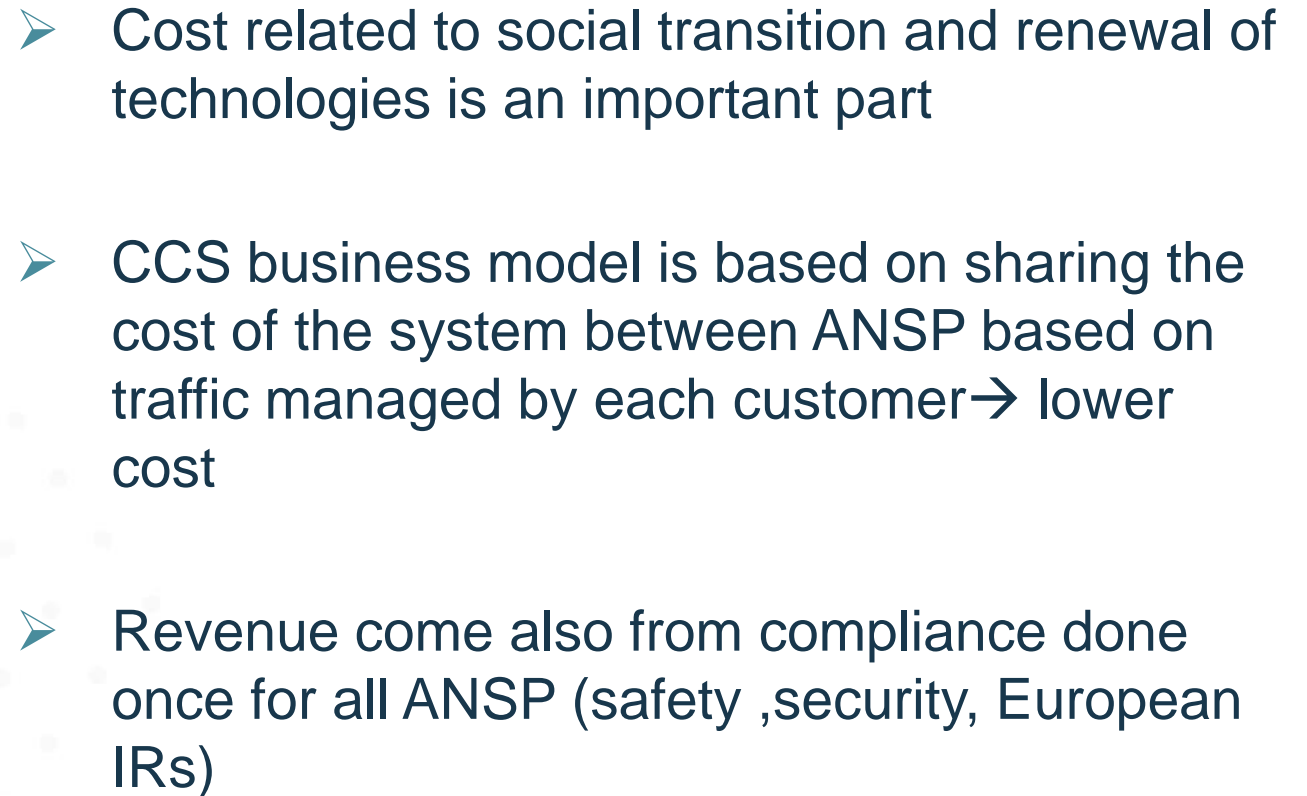
- Need of redundancy to tackle cyber attack
- Choice of several European countries (France and Italy) for datacenters
- Need of Security operational center to monitor Service level
- Challenges around
 - Common framework (iso 9001 is good starting point)
 - Sharing of datas among national security agencies



- ADSP is based on Outsourcing and concentration of datacenters
- Need of knowledge of those who will be outsourced
- Organisation need to be reviewed to manage SLA instead of systems
- Training of technical people to master new technologies



- Challenge to select latest technology to leverage the ADSP versus European SWIM standards (10 years old)
- Challenge about how to split the granularity of ATM systems (full ATM system versus FDP components)
- Micro services technology should be mastered in ATM



A REMOTE FLIGHT DATA PROCESSING SYSTEM INNOVATING AIR TRAFFIC MANAGEMENT



COFLIGHT
CLOUD SERVICES





Outsourcing data services: The business case for change



Speaker



Maurizio Romano

SESAR 2020 WP lead
(Delegation of Services), ENAV

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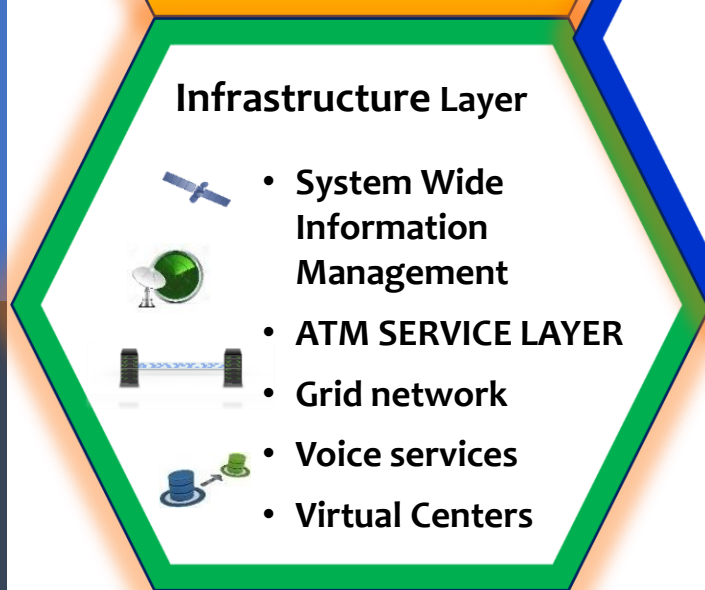
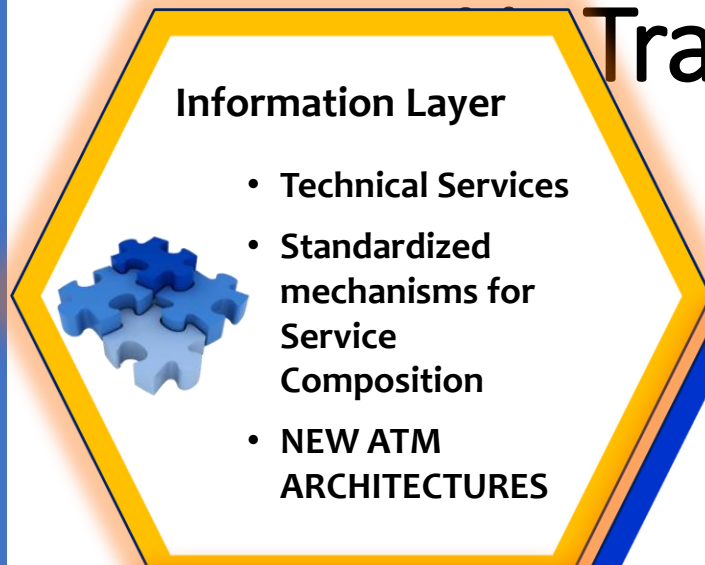
ENAV GROUP

Outsourcing data services
The business case for change

Maurizio Romano Research Activities, Techno Sky /ENAV
SESAR 2020 W2 PJ10.WP3 Delegation among ATSUs



PJ10.W2 Solution 93 Delegation of Traffic Services

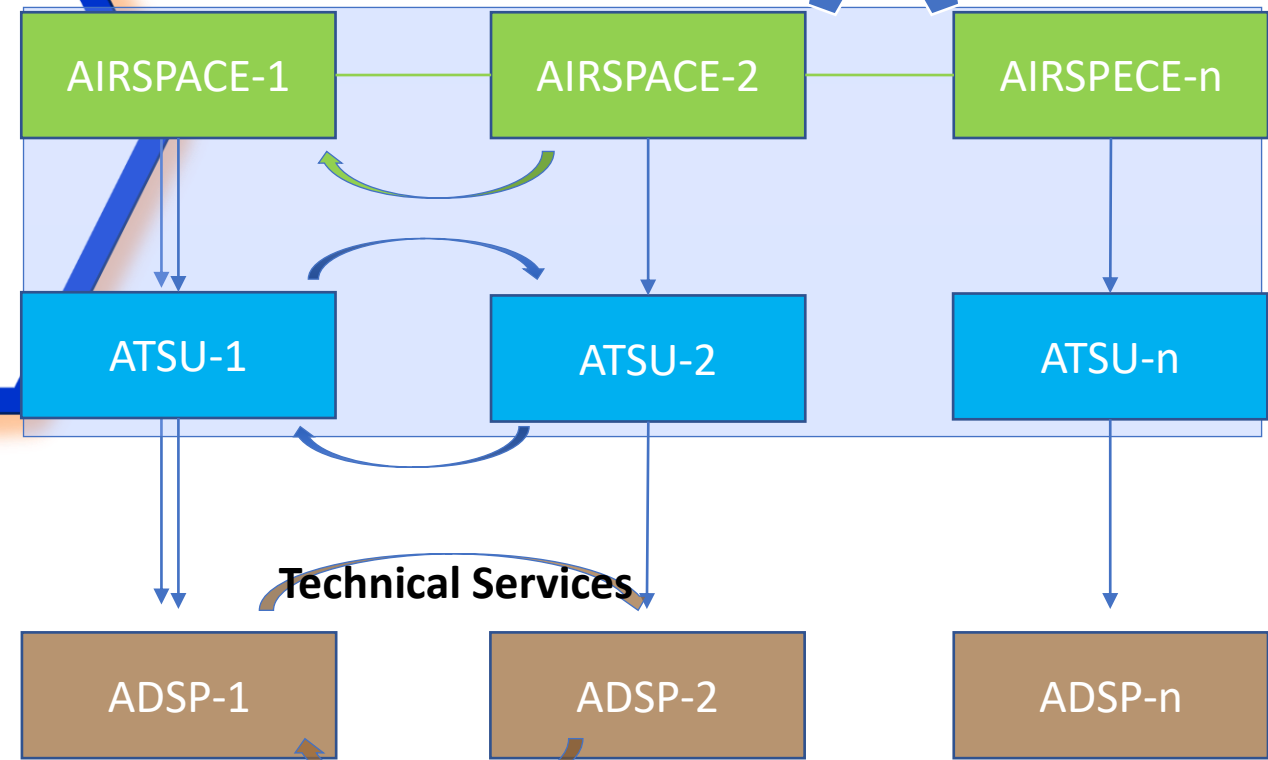
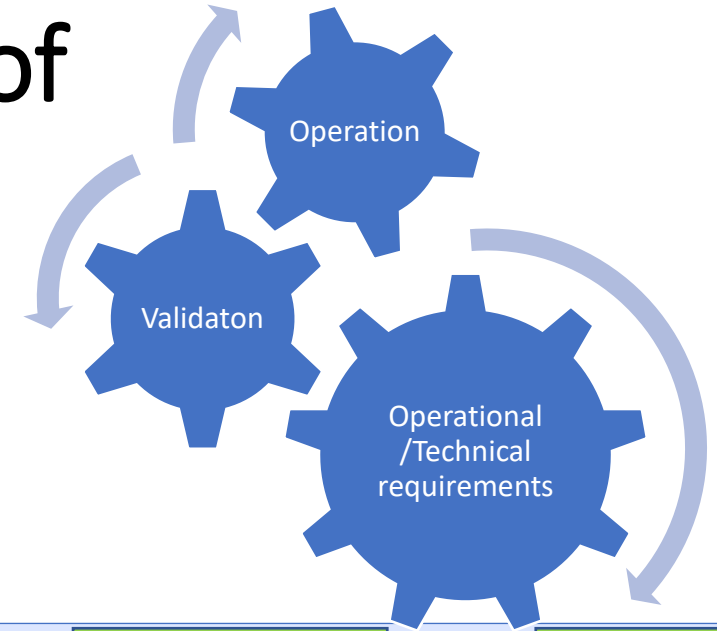


Delegation of Airspace

Uses Cases

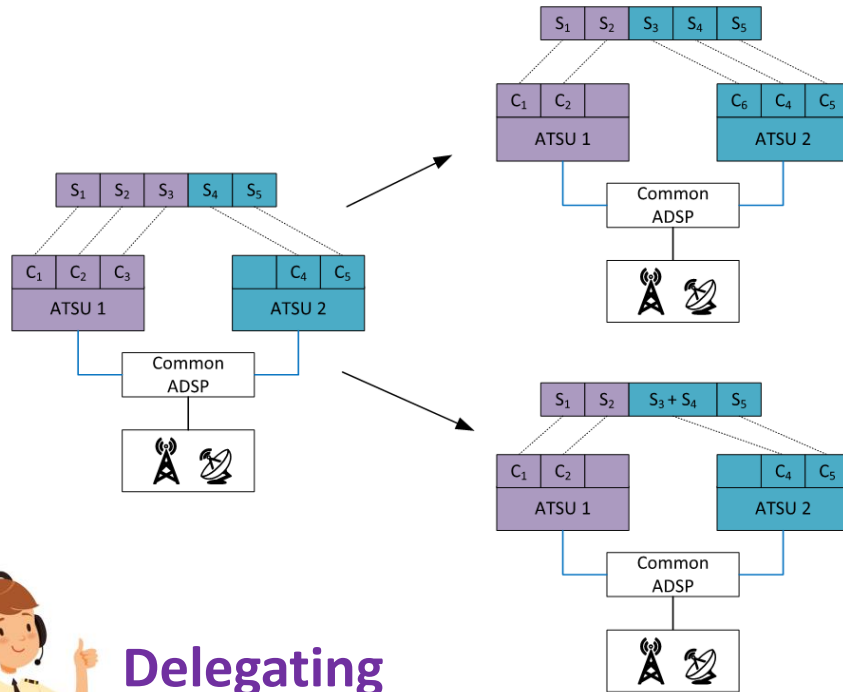
- Operational Needs
- Process
- Role Responsibility
- Working Methods

PJ.W2
PROSA



Operational Scenario and Business Cases

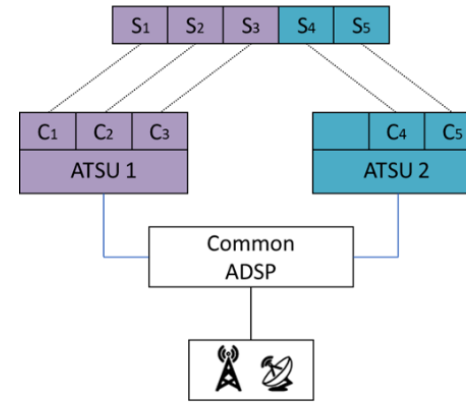
Before



Delegating Supervisor

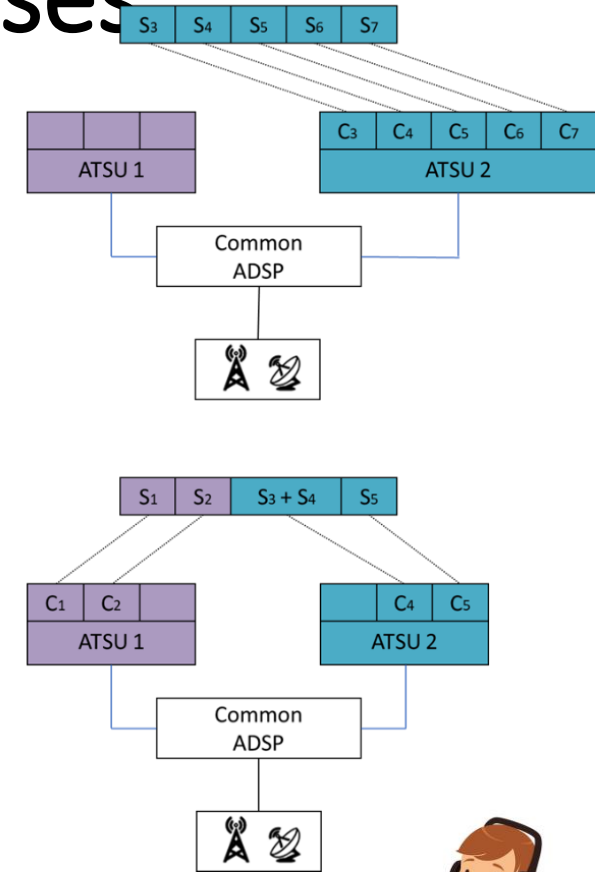
Delegating ATCOs

After



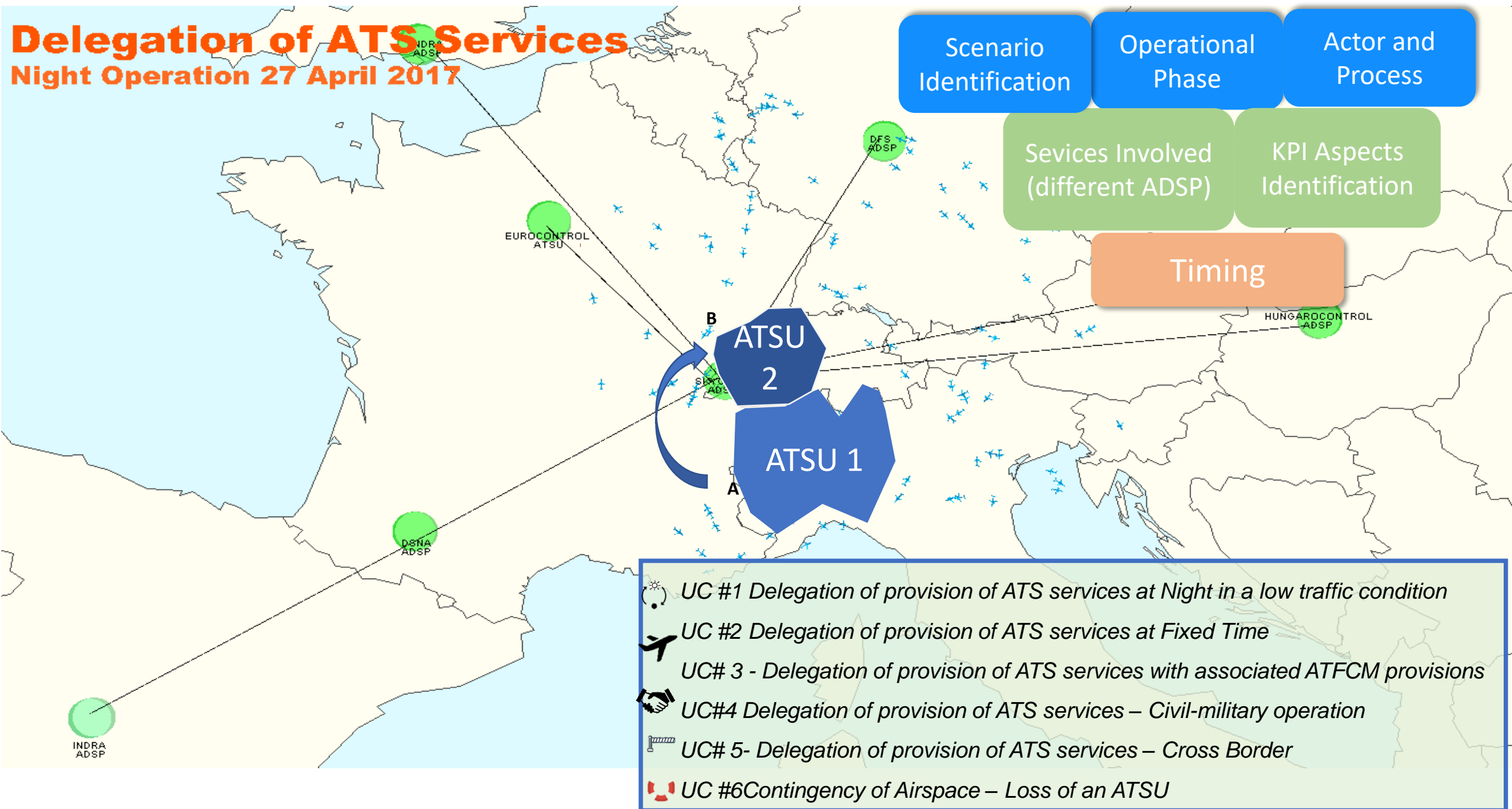
Receiving Supervisor

Receiving ATCOs



Delegation of ATS Services

Night Operation 27 April 2017

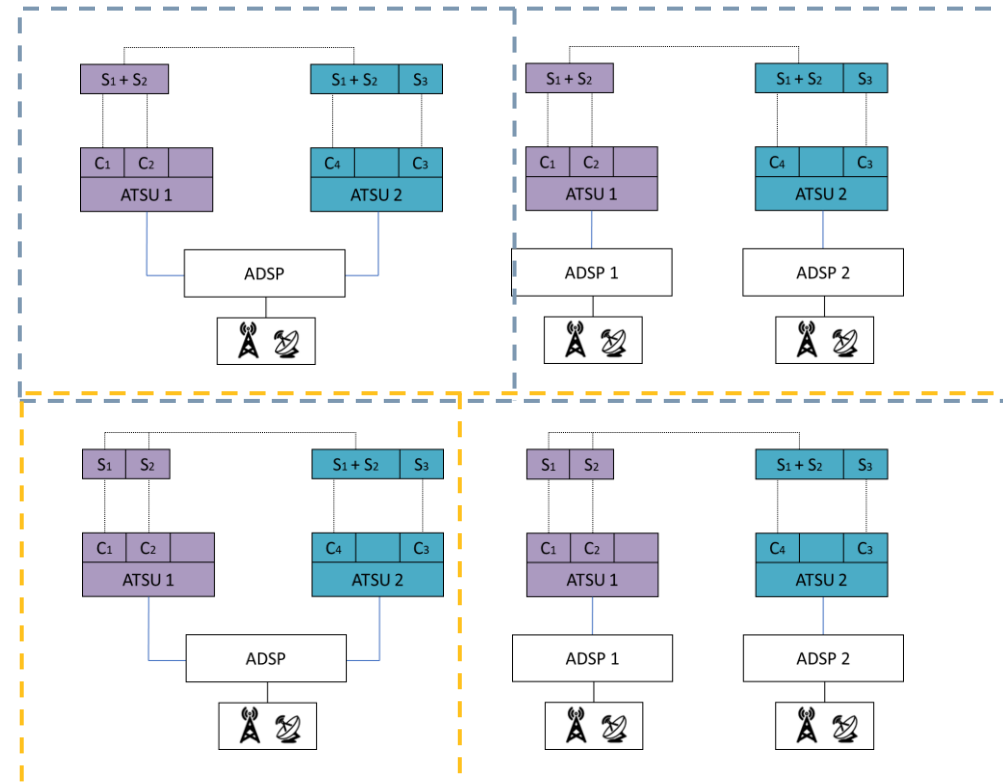


Operational Scenario and Business Cases

The delegation will be tested in case

ATSU 1 consolidate the Delegated sectors

ATSU 2 consolidate the Delegated sectors



Reference Scenario

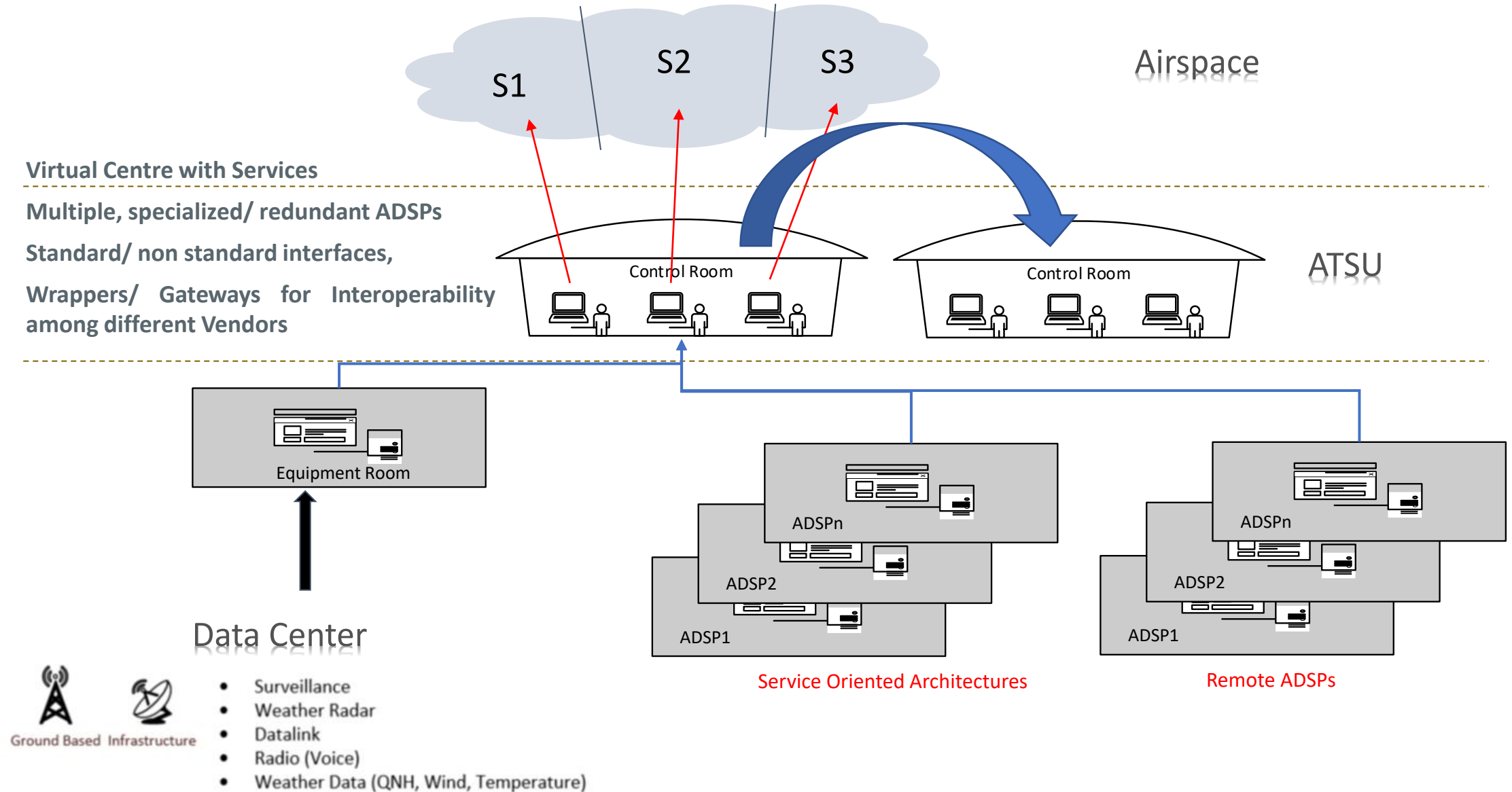
There is no delegation, so there is no way to pass the control of a sector from one ATSU to another, and each ATSU is responsible for the provision of the ATM services in its sectors

Solution Scenario

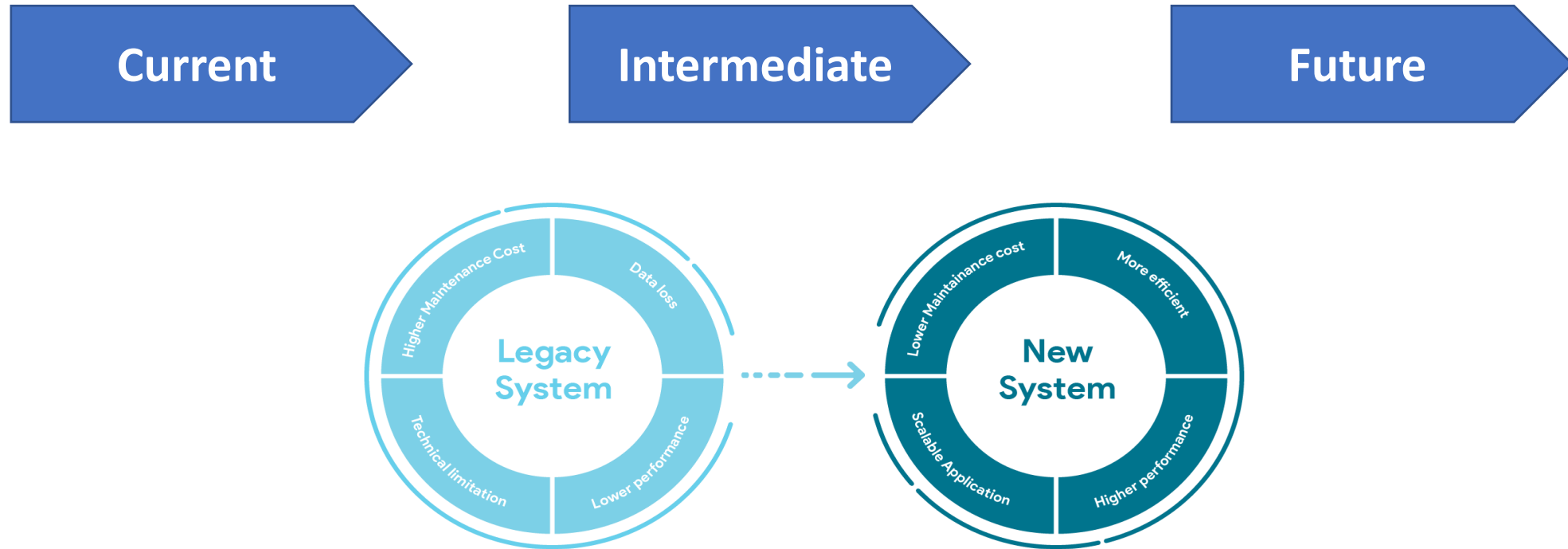
The delegation will be performed between adjacent sectors at night-time guarantying the service even in case of Contingency. The solution scenario **comprise two architecture possibilities: single or multiple ADSPs**, with more benefits for the latter but expected different costs (integration, among others).

Virtual Centre Implementation «The Business Case»

- Virtual Centre with Services
- Multiple, specialized/ redundant ADSPs
- Standard/ non standard interfaces,
- Wrappers/ Gateways for Interoperability among different Vendors



System implementation



- Actual as-is implementation scenario
(not fully networked Legacy Systems, closed standard, not wrapped-for-interoperability VC Systems)
- Intermediate implementation scenarios
network of mixed Legacy systems/ proprietary interfaces/services VC systems (wrapped for interoperability?)/ full open standards VC systems
- Future to-be scenario
network of open standards, fully interoperable VC systems

Costs / Benefits

- **Training**

All training and staff costs related to the implementation of the new ATM procedures

- **Procedure**

All administrative Costs related to new procedures, regulations and process necessary to put in place the implementation



- **Technology**

All Technological costs related to allow the application of the Delegation

- **License**

All costs related to the provision of the delegated sector/s license

Benefits



- ATCO productivity
- Technological Costs
- ATC Capacity
- Operational Efficiency
- Predictability
- Flexibility/Resiliency



Moreover, the Delegation could be used when an undefined event does not allow to ATSU_1 to continue providing his service and it is forced to delegate its sector/s



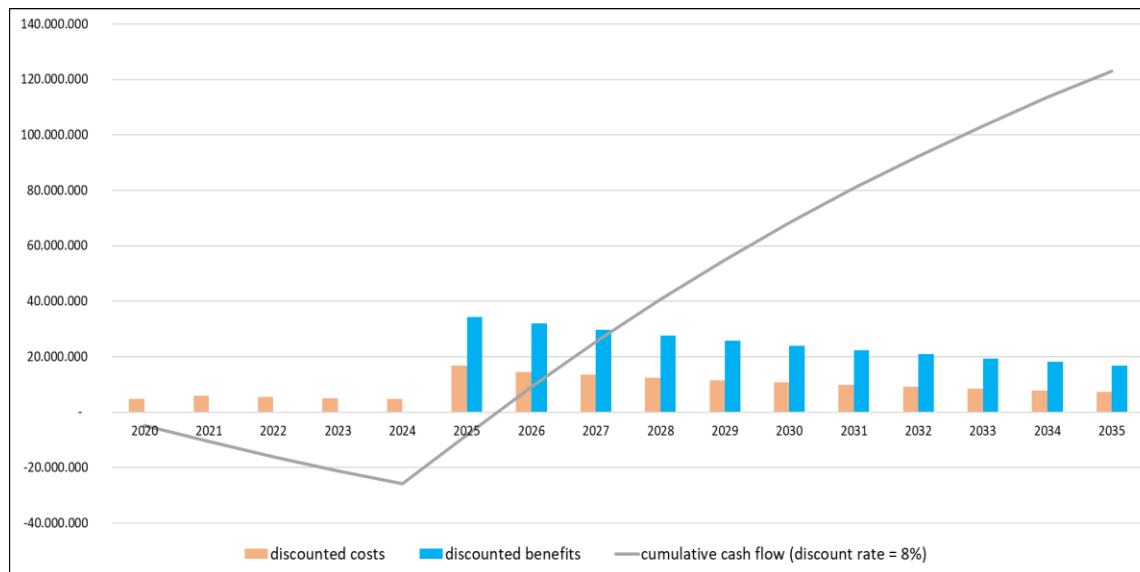
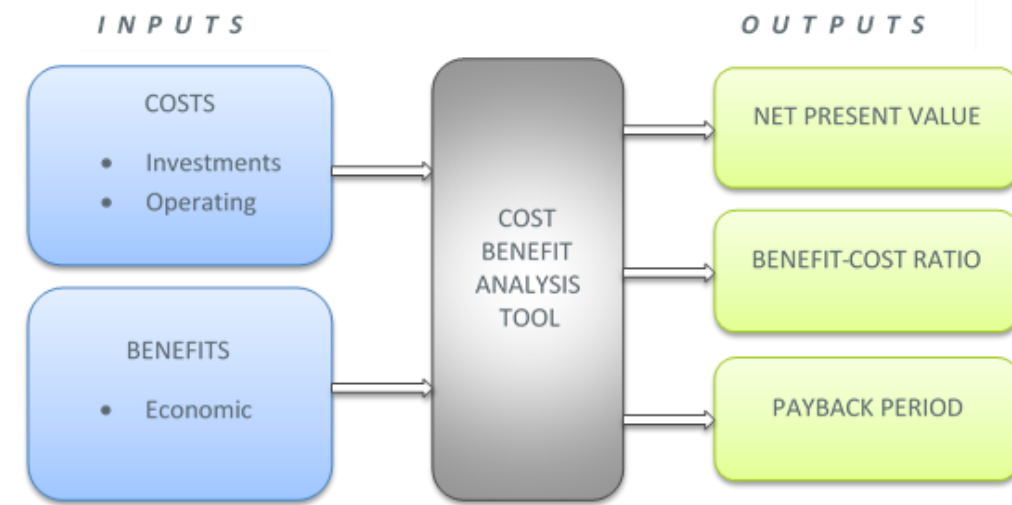
To exploit the provision of ATM services, detailed State agreement must be defined between delegating and receiving ATSUs

Operational Scenario and Business Cases

The assessment of the Benefits is part of the Solution Validation.

Economic values will be monetized based on the Performance Assessment results and extrapolated at ECAC Level.

Qualitative benefits should also be evaluated and included, correlated with the associated analysis, into the CBA Final Deliverable Report.



Costs and Benefits are identified from each impacted Stakeholder's group perspective



List Of benefits «Delegation of ATS»

- Expenditure on long-term investments based on new, future-proof, interoperable reference architectures and technologies;
- new operational features (es, delegation, contingency, real-time or almost-real time ATFCU regulations application, overall network performance increase)
- option to externalize/outsource ADSP provisioning;
- rationalization of infrastructure
- dynamic, elastic, optimized (on-demand) geographically distributed staff allocation
- resiliency to systems outages and partial/complete loss of local service provisioning capability (business continuity keeping agreed QOS); ex., flooding, planned/unplanned ATCOs strikes
- seamless operations/service provisioning and level of performances.
- reduced human interactions (safety)

- ***Technology Heterogeneity***
- ***Resilience***
- ***Scalability***
- ***Ease of deployment***
- ***Composability***
- ***Replaceability***
- ***Extensibility***

BENEFITS



List of Partners



This presentation is part of a project that has received funding from the SESAR Joint Undertaking under grant agreement No. 874464 under European Union's Horizon 2020 research and innovation programme.



THANKS FOR YOUR ATTENTION

CORPORATE PRESENTATION



Outsourcing data services: The business case for change



Speaker



Jarosław Niewiński

Head of Innovations, PANSA

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POLISH AIR NAVIGATION SERVICES AGENCY



POLSKA AGENCJA ŻEGLUGI POWIETRZNEJ
POLISH AIR NAVIGATION SERVICES AGENCY

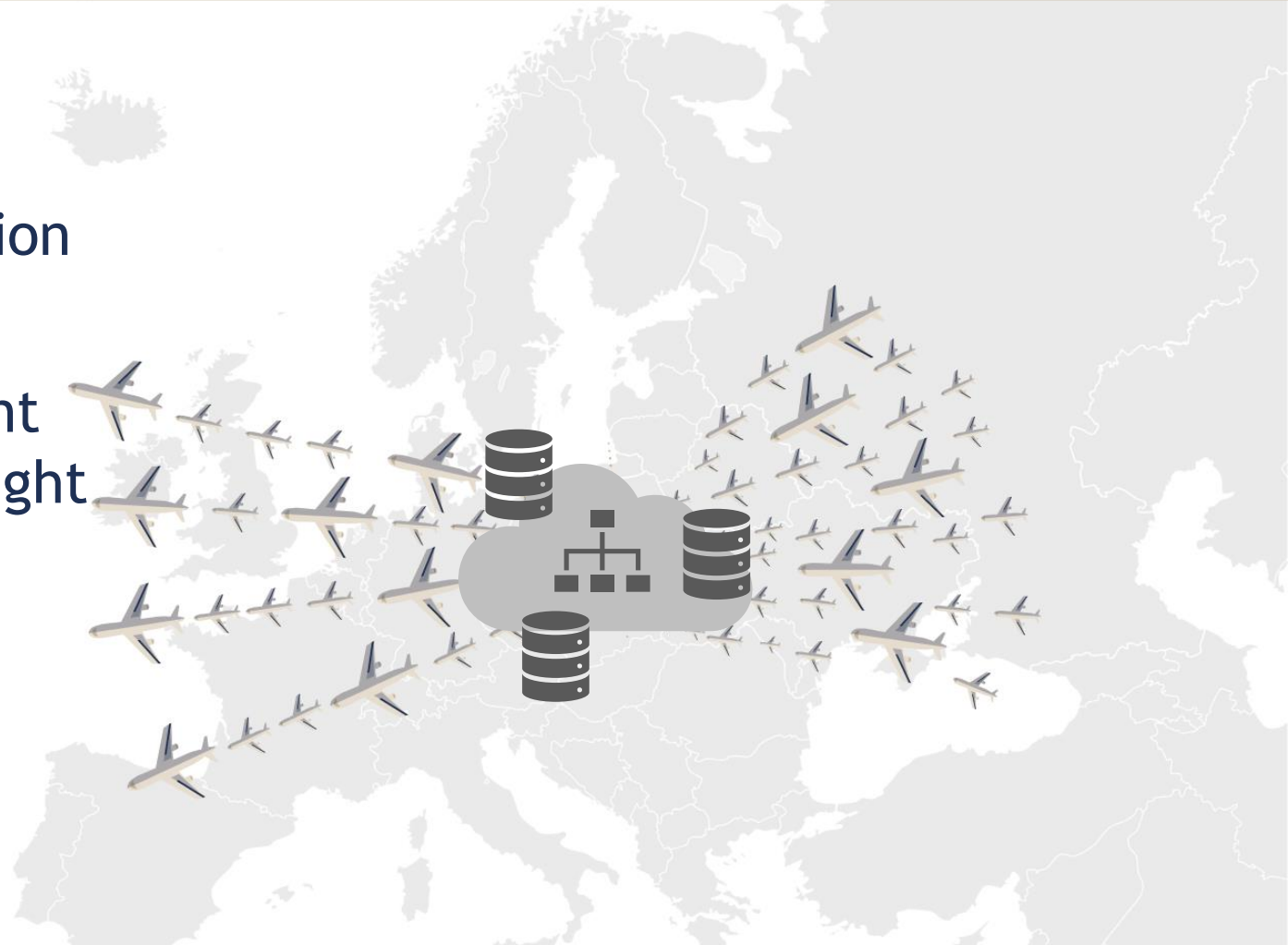


SAFETY IN THE AIR.
IT IS OUR MISSION
AND DUTY

AIRPORT

AVIATION'S FIRST FRONTIER

- Usual flight data expanded by different service-related information
- Airport & Tower are tripling amount of data processed for individual flight
- Relevancy, security and quality is essential in future NM functions



AIRPORT & TOWER DATA

A KEY FOR GROWTH

1

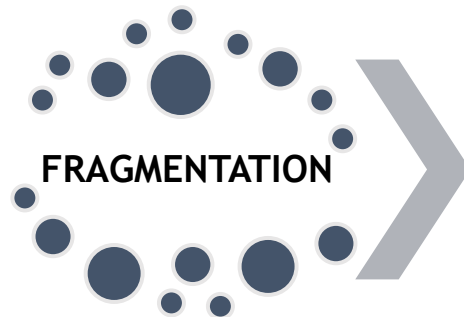
SERVICES

Data enable integration of „drone revolution” that goes beyond current ATS

AIRSPACE

Controlled and uncontrolled airspace data around airports for improved dynamicity

2



DATA
INTEGRATION



4

SAFETY

Ensuring and maintaining air traffic safety through cybersecurity

PERFORMANCE

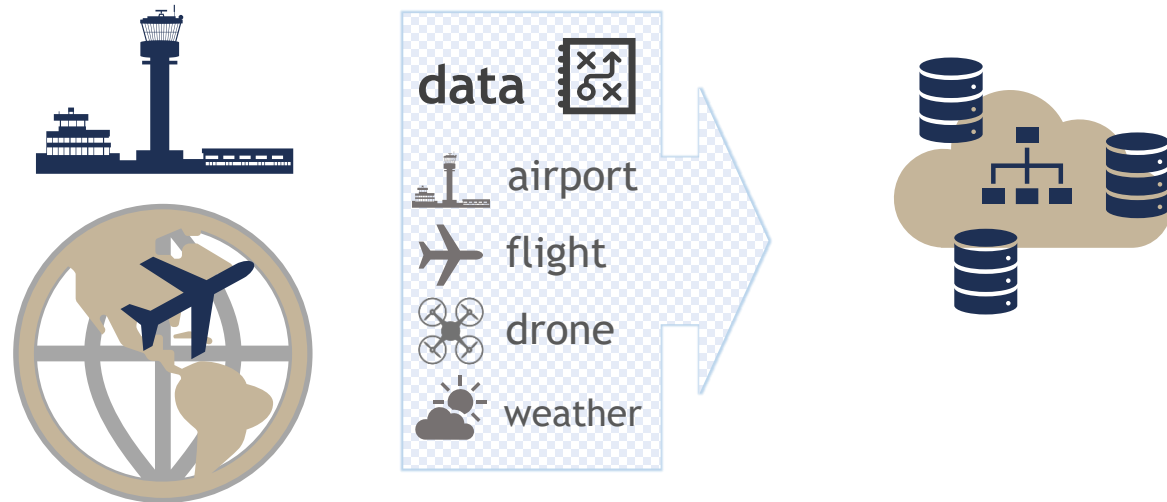
Airport- and tower-related data must consider all airports to achieve performance

3

AIRPORT & TOWER DATA

LOCAL & NETWORK

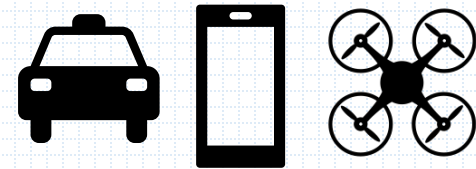
- Data will drive changes in market segments (*also non-aviation*)
- Foundation of future dynamic traffic management



B2B & B2C



public services



civil &
military



smart
city

AIRPORT & TOWER DATA

ARE WE READY?

OWNERSHIP

Current approach: *who acquires that owns.*
Needs structured approach at ICAO / EC level

Persistent and consistent data delivery shall be considered crucial for setting safe data market

SAFETY

1 2

Data is as expensive as you value them.
Anti-trust considerations must be given

VALUE

4 3

SECURITY

A common approach to cybersecurity shall aim at reduction of vulnerability to attacks



THANK YOU!



Outsourcing data services: The business case for change






Questions and Answers

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What are the main drivers for you as an ANSP to outsource data services? Select two

 Start presenting to display the poll results on this slide.



Audience Q&A Session

 Start presenting to display the audience questions on this slide.

Mapping the move towards ATM Data Service Providers (ADSP)

Speaker



Maja Marciniak

Senior Consultant, Helios

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BUILDING BLOCKS ESSENTIAL FOR CREATING ADSPS

—
Maja Marciniak

WHAT HAVE WE LEARNT SO FAR?



1

There are drivers

There are strong reasons to believe that ATM Data service provision can bring benefits and many stakeholders believe that ADSPs will be the future



2

Change is possible

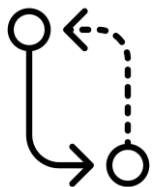
From a technical point of view change is possible – and is not limited to en-route ATS



3

Challenges remain

However there are a number of challenges and issues which have to be overcome to make ADSPs a reality

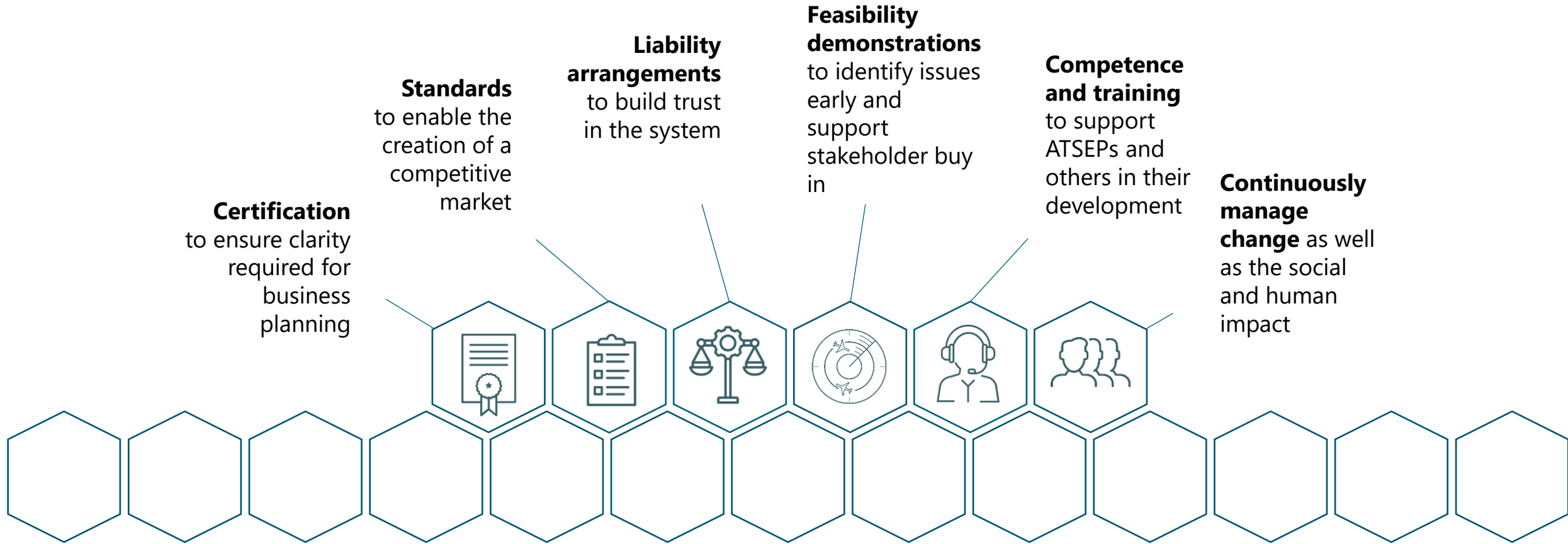


4

Early action can create benefits

Not everything is within the direct control of existing air navigation service providers... but certain things are. Early action can be undertaken by those wanting to be first movers.

WHICH LEADS US TO... THE BUILDING BLOCKS



Ultimately change must be underpinned by strong leadership

THANK YOU

Maja Marciniak – Senior Consultant

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Speaker



Michiel van Dorst

CEO, LVNL

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WEBINAR: Outsourcing data services – the business case for change

Session 2 Mapping the move towards ATM Data Service Providers (ADSP)

“From where we sit – challenges and opportunities”

Michiel van Dorst, CEO LVNL

December 14, 2020



From where we sit – challenges and opportunities

We are on an evolutionary trajectory

The evolution of demand:

1. The airport evolution (big hubs in small airspaces, require extended areas of influence)
2. The airline evolution (from price competition to value added service competition, require logistics innovations)

The evolution of supply:

1. The ANSP evolution (from government directorate to private entity, but still a “jack-of-all-trades”)
2. The service evolution (conventional growth accommodation through staff expansion)
3. The system evolution (from custom built- to consortium specified systems)

From where we sit – challenges and opportunities

The threat of stagnation

1. **The law of diminishing returns** (the end of the S-curve of the operational concept: bigger investments for smaller returns)
2. **The difficulty to cut operational costs** (the conventional methods to increase capacity have served their purpose in the past but fall short for the future)
3. **The rise of network delays** (previous European delay spikes required stepping up to the plate: Foundation of the Network Manager, the implementation of RVSM, the separation reduction on the NAT system)

From where we sit – challenges and opportunities

Largescale projects

1. **European Airspace Redesign** (airspace boundaries are still largely following national boundaries)
2. **Center Consolidation** (has been a succes at a national level but proves difficult across national boundaries)
3. **Civil-Military Collaboration/Integration** (is making significant progress, but military airspace requirements increase)
4. **Centrally-planned European system innovation** (has brought local successes, but has not brought the *paradigm shift* in ATM)

From where we sit – challenges and opportunities

Outsourcing: letting go of something you are good at

1. Stable transitions of safety critical systems
2. Systems that are tailored for high performance
3. Autonomous and skilled support organisation

Hospital specialization and cost efficiency: benefits of trimming product lines



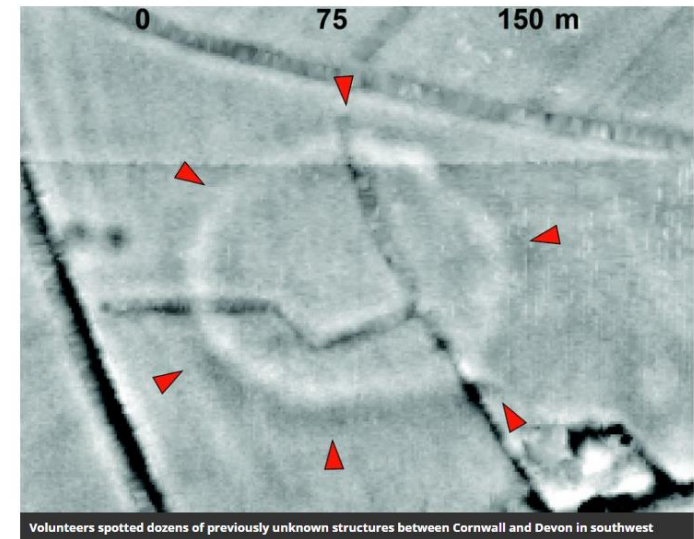
From where we sit – challenges and opportunities

Outsourcing: taking on something new

1. Data driven innovation (Finding new opportunities through collaboration)
2. Focus shift (Outsourcing means more focus on product specification and product acceptance)
3. Management of datasharing is key (between ANSPs, and with stakeholders)

Amateur Archaeologists Studying Aerial Maps of the U.K. Spot Dozens of Hidden Historical Structures

The finds include prehistoric and Roman settlements, roads, burial mounds, farms, and quarries



From where we sit – challenges and opportunities

Opportunities

1. The LEGO system (ATM functionality that is adaptable to user requirements through modularity)
2. An alternative road to interoperability (the Thales/Indra duopoly in FDP systems has not brought us full system interoperability)
3. Innovation substance and pace (unleashing the volume, experience, know-how and creativity of external partners in the innovation process)
4. Cost (which could be lower)

From where we sit – challenges and opportunities

Challenges

From *Hiring of support* to *Handing over to a system monopoly*.

1. Network optimisation vs local ambitions
2. National security and defence requirements
3. Entanglements (in relation to market dynamics, & political processes)
4. Responsibilities (that cannot be outsourced)
5. Maintaining the close cooperation between users (controllers) and engineers in the development process

Top 20 airports of Europe (2019)	
1	London Heathrow Airport
2	Paris Charles de Gaulle Airport
3	Amsterdam Airport Schiphol
4	Frankfurt am Main Airport
5	Madrid–Barajas Airport
6	Barcelona–El Prat Airport
7	Istanbul Airport
8	Moscow International Airport
9	Munich Airport
10	Gatwick Airport
11	Rome Fiumicino Airport
12	Dublin Airport
13	Orly Airport
14	Vienna International Airport
15	Zurich Airport
16	Lisbon Airport
17	Copenhagen Airport
18	Palma de Mallorca Airport
19	Manchester Airport
20	Malpensa Airport



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Questions and Answers

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What is the main question outstanding for you as you consider becoming an ADSP?

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Audience Q&A Session

 Start presenting to display the audience questions on this slide.



Thank you

