Spaced based ADS-B
Introducing Global Air Traffic Surveillance
**ADS-B at a glance**

**Existing Technology**

**Automatic** data broadcast every second

Unexpected disruption of broadcast indicative of a critical event

**Equipment becomes mandatory** in the US, Europe and Australia over the next 6 years

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**Surveillance Data**

- **Position**
- **Identity**
- **Category**
- **Speed**
- **Altitude**

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*existing terrestrial infrastructure* in place to handle ADS-B data

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**ADS-B transponders are already installed** on over 90% of all airliners
**Satellite ADS-B**

- Takes ADS-B-technology to space
- Update interval of at least 15 seconds, data provided in near real time
- Invented by TAS-D, patented in most countries incl. US, Europe, Russia, Australia

**Key Benefits**

- Almost 100% global coverage
- Turns NRA into radar controlled airspace
- Brings surveillance to oceans and scarcely populated areas
- More efficient use of airspace to save fuel and reduce carbon emissions
- Improved safety and security through global flight tracking.

*Existing aircraft equipment is fully compatible with space-based ADS-B*

*Additional redundancy layer with integration into global ATM systems*
System Architecture designed to provide data like any other surveillance sensor for easy system integration!
**Key Advantages**

- **Primary mission focussed on ADS-B**
  Constellation designed to ATS, Airlines, ICAO standards and specifications

- **Independent**
  from technical and commercial constraints of another payload

- **Safety Layer**
  complementary to other space based global flight tracking systems

**Opportunities**

- **Secondary payload**
  space available for compatible payloads

- **Tailored**
  to customer specifications

- **Complementary**
  to other surveillance systems in already radar controlled airspace

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*Only a primary payload can guarantee* the operational safety and availability required by air navigation services!
Welcome
To Europe’s Global Surveillance Team
Team Facts

Thales Alenia Space Deutschland

SES TechCom,

DLR

Consortium formed through MoU in October, 2013

With equal rights and responsibilities

Objectives

To jointly develop
the world’s next generation surveillance system

To combine our expertise

To complement
other surveillance solutions

To enhance surveillance
and reliability worldwide

To increase flight safety
even further
Prototype of constellation payload under development, funded by TAS-D and ESA.
DLR flight test

Experimental payload already flying on ESA’s ProbaV satellite
Satellite ADS-B data gathered by ProbaV confirms feasibility!
Thank You for your attention!

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Questions?