



DEFENCE AND SPACE

Industrial Policy Strategy and Supply Chain

Chris WARD – Space System R&D

Finnish Space Industries Days
Helsinki - April 4th, 2019

AIRBUS

WE MAKE IT
FLY



AIRBUS



AIRBUS
HELICOPTERS

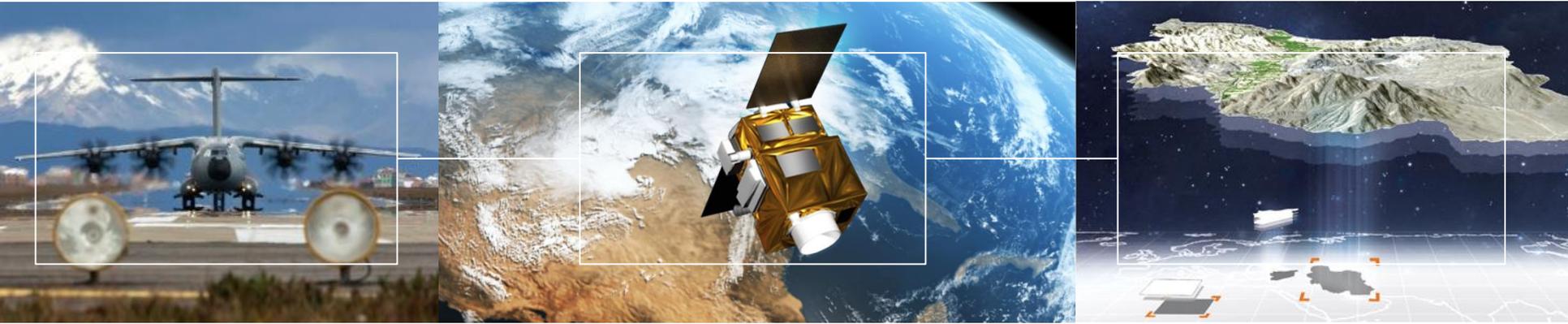


AIRBUS
DEFENCE & SPACE



AIRBUS

Airbus Defence and Space – Our Portfolio.



Military Aircraft

- A400M
- A330 Multi-Role Tanker Transport
- Special Mission Aircraft
- Combat Aircraft
- Unmanned Aerial Systems
- Full In-Service Support

Space Systems

- Telecommunication Satellites
- Earth Observation Satellites
- Navigation Satellites
- Manned Spaceflight
- Space Exploration
- Space Equipment
- New space programmes
- Launchers

Communication, Intelligence & Security (CIS)

- Earth Observation
- Satellite-based Geo-Intelligence Services
- Government Satellite Communication
- Command & Control (C5ISR) Systems
- Cybersecurity Solutions and Services
- Mission critical communication solutions



Airbus Defence and Space Footprint in Finland

Airbus is not just a European, but also a Finnish company with world-wide market access

2002

Virve secure radio communication

World's first nationwide secure TETRA network was deployed in Finland. It keep evolving and developing today and in the future.

2007

C295 tactical air transportation fleet

The largest aircraft of the Finnish Air Force, in total three units have been delivered.

2015

MST real-time air situation picture

Multi-sensor tracking system is an essential part of Finland's air defence capability.

A Finnish Company

Over **340** employees work at two locations, Helsinki and Jyväskylä

The company is one of the 30 largest R&D investors in Finland with annual investments of ca. **€30 M**.

The annual revenue of Airbus entities in Finland is ca. **€160 M** which of over 90% is export.

Part of European defence, space and security industry – together with our partners

European Defence

Airbus receives annually ca. **€80 M** worth of goods and services from Finnish companies.

Some of Airbus' partners in Finland are DA Group, Datactica, Patria, Robonic, RUAG, SSF and Tieto.

Airbus Defence and Space has **32,000** employees worldwide.

A wide-angle, high-altitude view of Earth from space, showing the curvature of the planet and the dark blue of the atmosphere. The surface is illuminated from below, with numerous bright yellow and orange lights representing cities and urban areas, particularly concentrated in the central and right portions of the frame. The overall scene is a mix of deep blues and bright yellows.

Space Systems

DEFENCE AND SPACE

AIRBUS

OUR VISION

Making Space a Universe of Possibilities for Everyone

At Airbus, our purpose is to improve life on Earth and beyond through our cutting-edge Space technologies. With every technological breakthrough we bring people closer together, we navigate new frontiers and we discover new and unexplored destinations. And we don't just take innovations to Space, our Space solutions help solve global challenges on Earth.

But we don't stop there: We envisage a future where our human economy expands beyond Earth's orbit and everyone benefits from the value of Space.

EXPLORE, DISCOVER, CONNECT. Together, we can make tomorrow more than just another day.



Space Systems – Our Activities.



Telecommunication Satellites



Earth Observation Satellites



Space Equipment



Manned Spaceflight



Space Exploration & Science



Navigation Satellites



Launchers & Deterrence



New Space ... with OneWeb

... and a complete range of
Space-based Services in our
“Communications, Intelligence and
Security (CIS)” business line.

Our Roots are in Europe, the World is Our Home

Only supplier trusted by the top **seven** commercial telecom operators Worldwide

#1 supplier of Earth Observation Systems on the international market: 16 satellites for eleven countries around the Globe

First-ever non-US supplier of a mission-critical element for a **NASA** human spaceflight mission

Figures from 06/2018

Thousands of people with more than 67 different nationalities work **at 16 sites** across seven countries...



... and numerous joint ventures, subsidiaries and sales offices around the Globe.



OneWeb Joint Venture

Largest-ever
constellation for
global internet

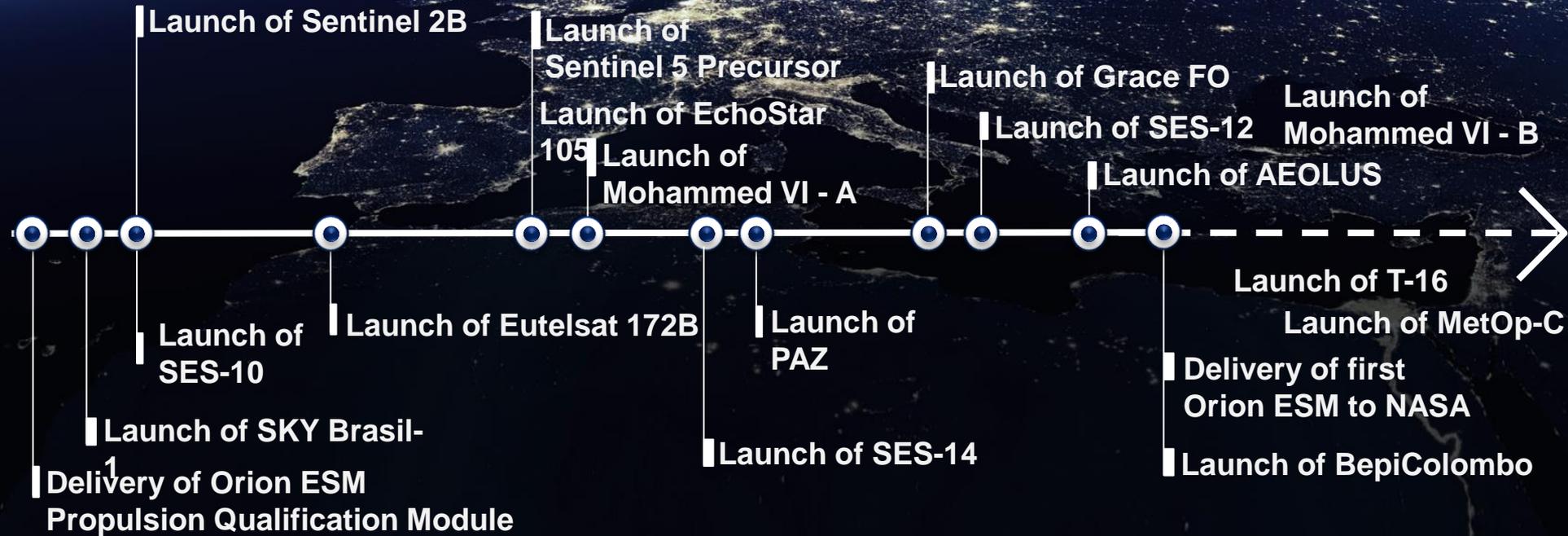
A revolution in satellite
manufacturing with production
rates of 2-3 satellites per day

Paving the way for new
constellation opportunities in LEO

We Deliver

[2017 | 2018]

STATUS 07/2018



Airbus Industrial Policy Strategy

Support of ESA Industrial policy 5 principles and their adaptation

1. European Preference
2. Cost Effectiveness
3. Industrial Competitiveness
4. Fair Return
5. Use of Competition

Develop a solid and competitive industrial basis across Europe,
supporting institutional and commercial programmes

Our objectives:

- Anticipate with Member States how its industry can be better prepared with the right technology and industrial maturity for future bids
- Favour the “Open R&D” approach with Member States and its industry, SME, and Labs that stimulate joint innovation
- Prepare future programs/missions and R&D / T activities with potential Airbus Group enlargement: start-up (via Airbus Ventures), new technology
- Reinforce Airbus industrial knowledge across Europe with a systematic participation in ESA and National Industry Space Days.



Airbus Supply Chain

Airbus @Slush

Airbus BizLab has been for years actively at Slush with its Startup Accelerator Program. The first Finnish startup is now also in the program.



SLUSH

Our supply chain and knowledge

Our Finnish Suppliers:

Airbus Space System mainly works with:

- DA Design: Scout and METOP programs
- SSF: Recovery Software Image for the ExoMars Rover
- RUAG Space: Solar Orbiter, Sentinel-2, Sentinel-6

Our Knowledge:

- Bittium
- DA-Design
- Harp Technologies
- ICEYE
- Lnafin
- Reaktor Space Lab
- RUAG Space
- RSI Solutions
- Sievi Tools
- SSF
- T&G
- Terma
- Tidorum
- VTT Technical Research Center

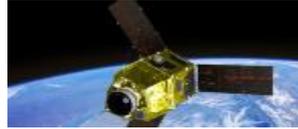
HS Foils Oy Study

"Finnish technological capacities with regard to ESA opportunities" following 2017 ESA/ESTEC meeting

Airbus knowledge

Airbus works more and more as a genuinely international company, despite the particularities of the defence market.

Airbus/Supplier joint efforts to meet Customer demand: A reliable Supply Chain



PARTNERSHIP

Partnership development and innovation with supplier

ON-TIME DELIVERY

Reach and sustain excellent performance for a reliable supply Chain (OTD)

QUALITY

Make it right the first time (OQD)

COST

Be creative and propose solutions for cost optimisation by maintaining competitiveness



How to become supplier for Airbus' space activities?

1. BTB participation
2. Please send presentation on your capabilities to us:

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Chris Ward
chris.c.ward@airbus.com

Thank you!