Ecosystem session: Aerospace & Defence

Clusters strengthening ecosystems
EU’s Aerospace & Defence Ecosystem: high-tech, strategic, …..
Aerospace & Defence ecosystem

- 1.6% of EU value added
- €376 bn in turnover
- 1.5 mn employees
- 44 000 companies
ASD ecosystem: key characteristics

- Small in economic numbers
- Strategically important
- Globally competitive EU companies, with complex supply chains
- High-tech, R&D intensive
COVID-19 impact: commercial aeronautics

- Sudden and brutal collapse
  - >16,500 of +29,000 aircraft worldwide grounded
  - Airline bankruptcies
  - Air travel may not recover before 2024
  - Oblige reduction in production of aircraft to half
  - Major impact on entire ecosystem, loss of competencies, survival of EU companies, ability to manage green transition
COVID-19 impact: defence

- Reduction in defence spending in EU + reduction in export demand
- Significant impact on sales in 2020 of EU companies.
- Adverse impact on productivity, costs structure, competitiveness, innovation, technological edge, skills, private investment, and industrial performance/supply.
COVID-19 impact - Space

- 1.2 bn € reduction of revenues and 1.4 bn € reduction of backlog (2020).
- Extended effects over the next 5 years or more.
- Institutional customers (EU, ESA, national agencies) likely to maintain payment schedules despite production/delivery delays.
- Commercial and export customers (satellites): negatively impacted
Outlook – stakes: the industry views

- Competitiveness of the whole European Aerospace and Defence industry.

- Loss of engineering capacities risks to permanently endanger technological leadership.

- US and China are heavily supporting their industry (loans to airlines and industry, subsidies via space and defence budgets).

- Rapid resumption of commercial air traffic crucial for recovery not in view yet in EU.

- EU’s strategic autonomy and resilience depends on this ecosystem => at stake.
Preliminary conclusions from stakeholder inputs

- Aerospace and defence ecosystem strongly affected by the COVID crisis
- Effects are likely to last several years
- Major effects are likely still to come (loss of demand, loss of skills)
- Risk for Europe to lose technological leadership in this strategic sector
- EU and MS need to join forces to tailor a toolbox for this ecosystem that is critical for EU strategic autonomy
- Dialogue with ASD Ecosystem to continue
Thank you

Krzysztof Krystowski – President of Silesian Aviation Cluster, Poland
ABOUT THE CLUSTER

www.aerosilesia.eu

We build an ecosystem between aviation industry companies and institutions having direct and indirect impact on the development of the industry, business environment institutions, financial institutions, science and R&D institutions.

- Over 80 companies, 3 Universities, 5 R&D Centres
- Over 1 bn in sales revenues of members including over 60% export
- Almost 15 thou. employment in enterprises
CLUSTER COMPETENCIES

1. Production of gliders, light and ultra-light aircraft and UAVs
2. Manufacture of aero engine components (LPT rotor and stator blades)
3. Composite materials and structures research centers
4. Professional aviation trainings and consulting services
5. MRO services for aviation industry
6. IT Systems
Aerospace Technology Park

Establishing a Tech – Park for aviation and automotive suppliers, consists of manufacturing plants, equipment and the small airport with the 1.000 m runway for business jets.

**2006 - 2015**

Financial support value: > 40 mln PLN (9 mln EURO)

Contract no. PIOR.02.03.24-0001/17-00 within the framework of Operational Programme Innovative Economy 2007-2013
10 members of the cluster are involved in production, design and operating and training related to UAVs, including the biggest Polish producers of drones for Polish Army:

• FlyTronic
• WZL2 form PGZ Group (the biggest Polish defence group)
• Asseco – the biggest Polish IT integrator (interested in development of drone software)

We will be involved (after initial agreement) in the „piloting project” of drones usage over urban area together with Silesian Metropolitan Authority and Polish Civil Authority. Real use of drones in city area.

Our members are already involved in the biggest development project for UAVs for Polish Army, with the budget around 200m. Euro

FlyTronic has sold their mini UAV – FlyEye, not only to Polish Army, but also for export markets (including Ukraine)

Our members are realising now few RDT projects to develop new UAV’s solutions, including software, hardware etc.
EDUCATION COOPERATION

Cooperation with Silesian University of Technology – patronage and care of specializations

2nd degree studies in English part of the classes conducted in enterprises / industry

LIGHTWEIGHT STRUCTURES 2015/2016

AIRCRAFT DESIGN 2017/2018
**R&D activities** – main centers

- **Śląskie Centrum Naukowo – Technologiczne Spółka z o.o.** (Silesian Science and Technology Centre of Aviation Industry)
  - Composite structures manufacturing
  - Large-dimension machining service
  - Vibration, ageing, material or resonant fatigue tests
  - High-speed camera monitoring
  - Active thermography

- **Instytut Lotnictwa** (Institute of Aviation)
  - Composite technologies
  - Design and testing of aviation structures
  - The space technologies
  - Aero and missile engines,
  - Application of micro- and nanotechnology.

- **Laboratorium Badań Napędów Lotniczych „Polonia Aero” Sp. z o.o.** (Cold Flow Turbine Test Facility)
  - Tests of new generation aero engine turbines
  - Test of demonstrators of technologies used in aero engines
INTERNATIONAL ACTIVITY 2017-2021

• 3 contracts within Smart Growth Operational Programme 2014-2020 concerning international activation of Silesian Aviation Cluster for cluster members:
  • Participation already in over 30 Exhibitions,
  • Over 20 study visits and business missions to 20 countries (including: US, Japan, China, Canada, France, Germany, UK, Italy, Thailand, Brasil).
  • Partnership with Clusters in the world
• Silesian Aviation Cluster is in the process to join European Aviation Clusters Platform
• One of the founders of European UAS Clusters Alliance
Thank you for your attention!

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