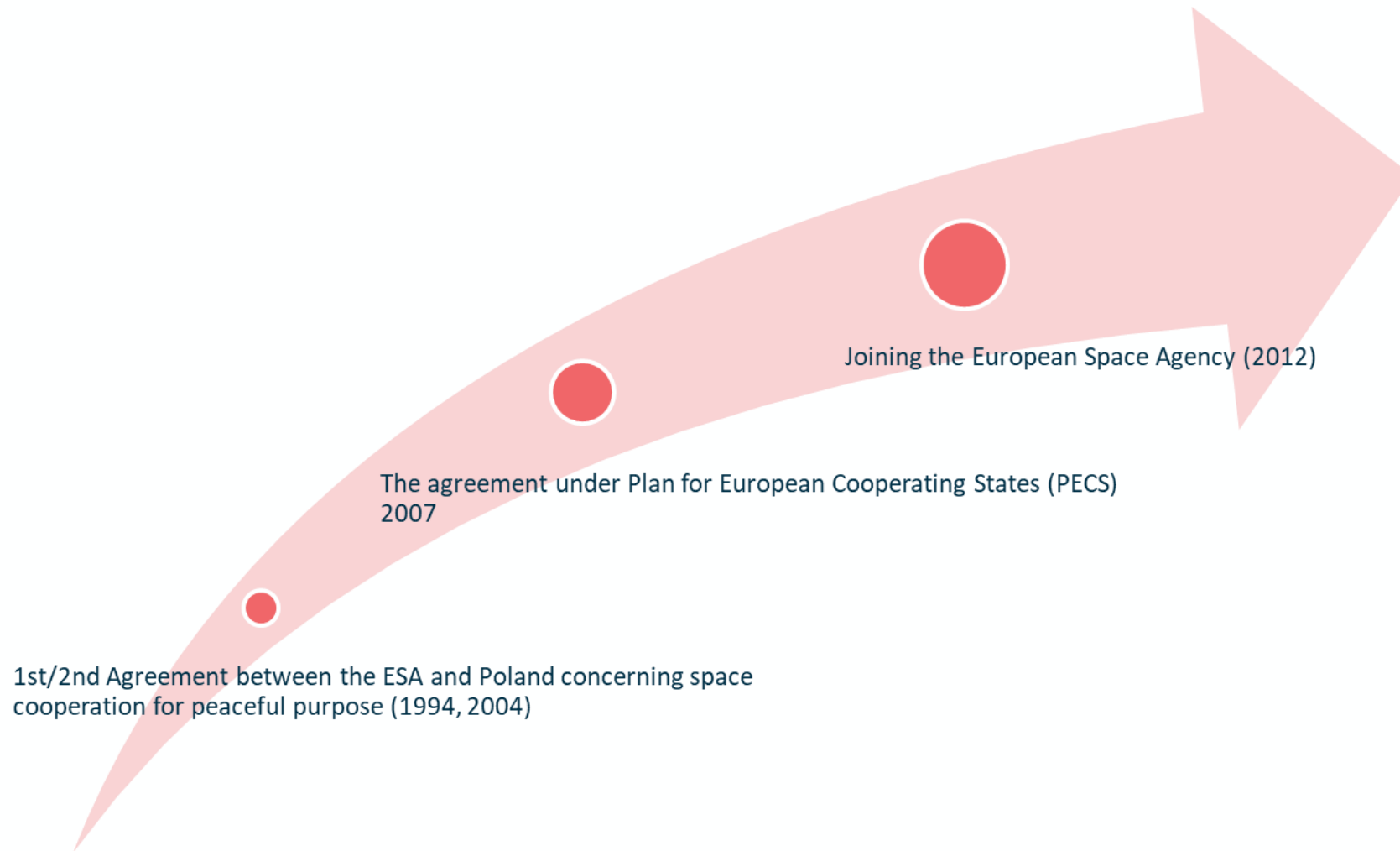


Poland's joining ESA – how the Polish space sector has changed

Eric Morel de Westgaver
Director of European, Legal and International matters

27 October 2022

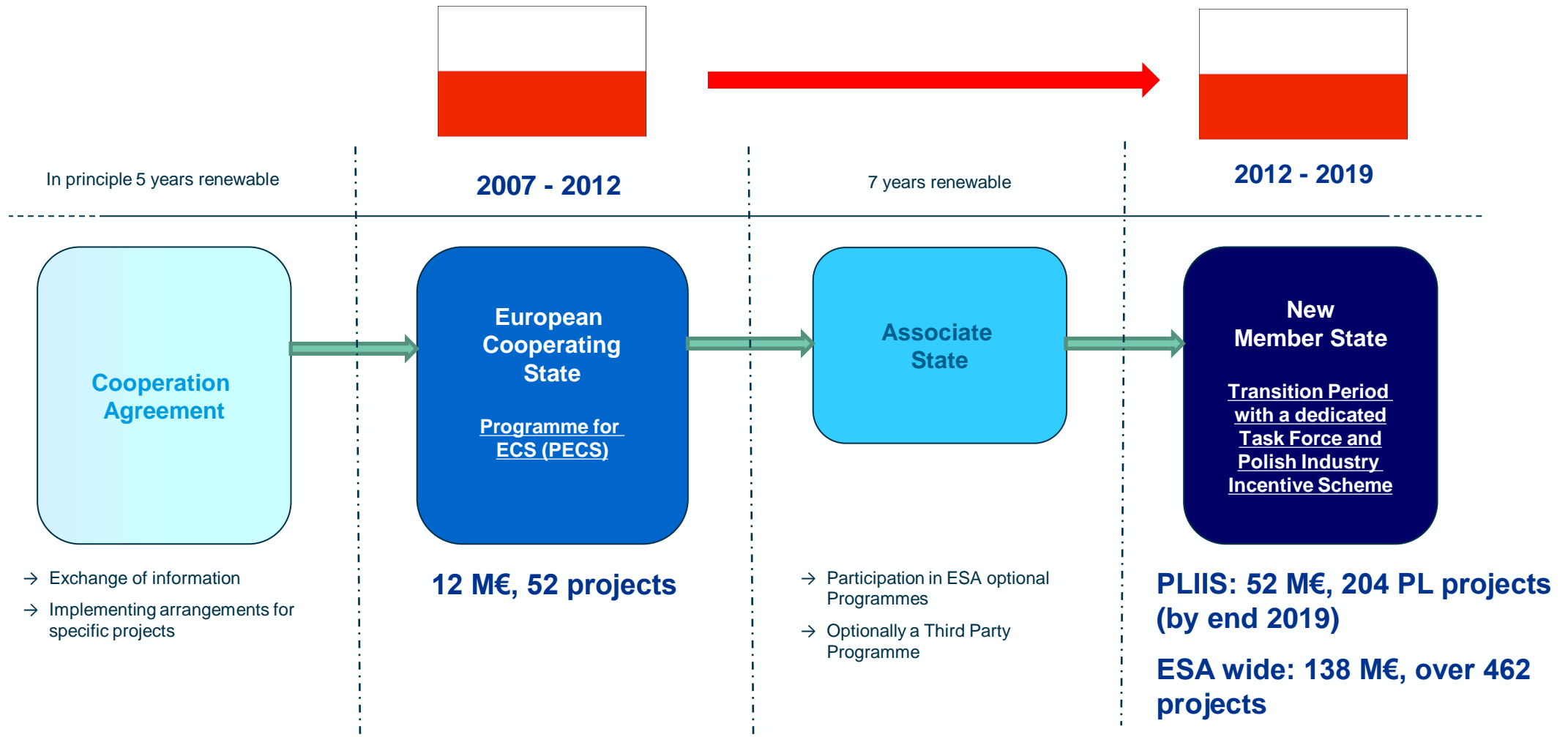
Timeline for space sector in Poland



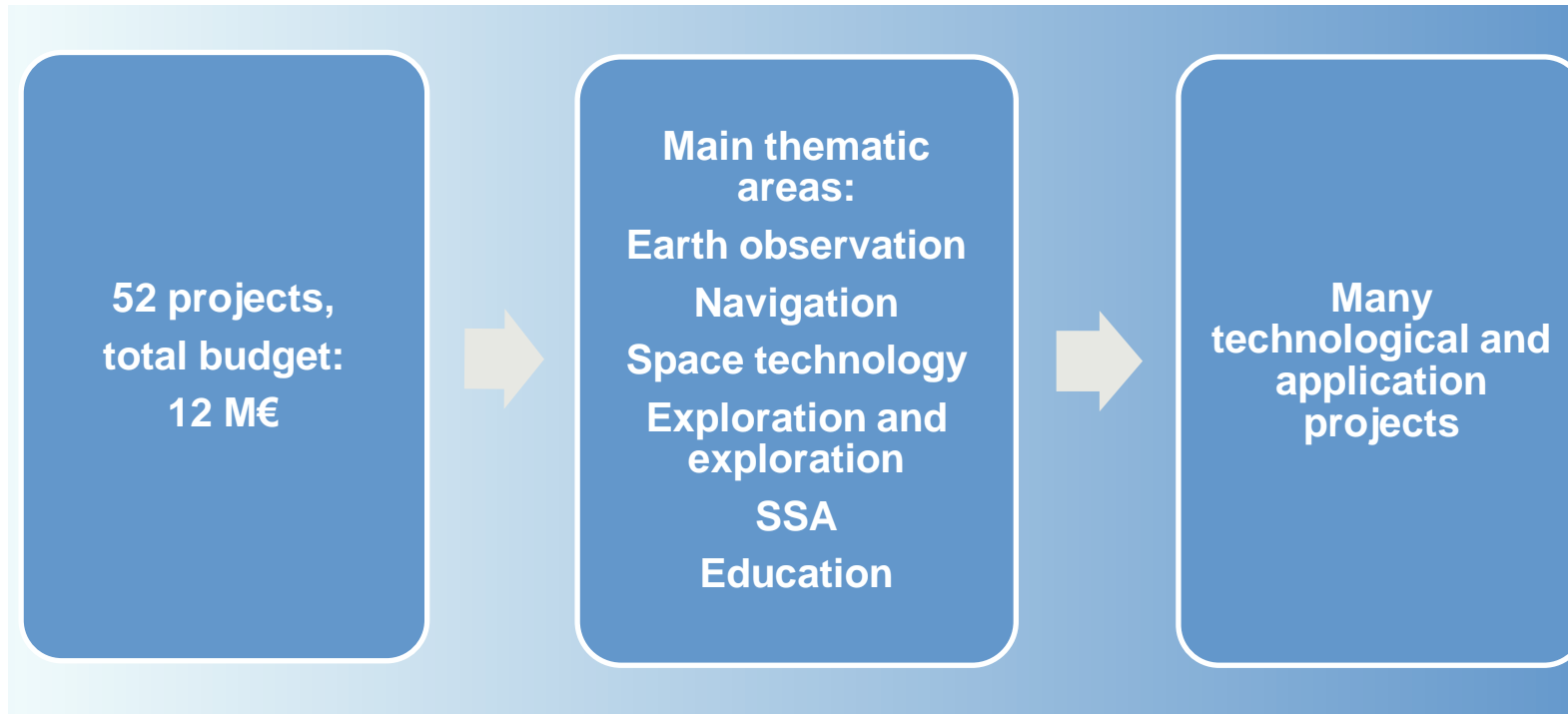
The contribution to the most of the ESA's scientific missions: ISO; SOHO; XMM; Cluster; Huygens; Mars Express; Herschel; Integral and Rosetta



From PECS to full membership in ESA



Cooperation under PECS 2007-2014



Poland's accession to the PECS program provided Polish entities with an opportunity to participate in ESA programmes and to create cooperation and gain experience in the European space market

19 November 2012 Poland the 20th ESA Member State



24 October 2013 signature of the **first contracts** with Polish contractors for ESA projects under Polish Industry Incentive Scheme (PLIIS)



Achievements of PLIIS 2012– 2019

PLIIS funding

75% in projects related to upstream equipment (including ground segment)
25% in the development of downstream applications
70% in generic technologies with potential for use in different ESA missions

Industry to Academia

Ratio increased steadily:
60% in 2012
85% in 2022

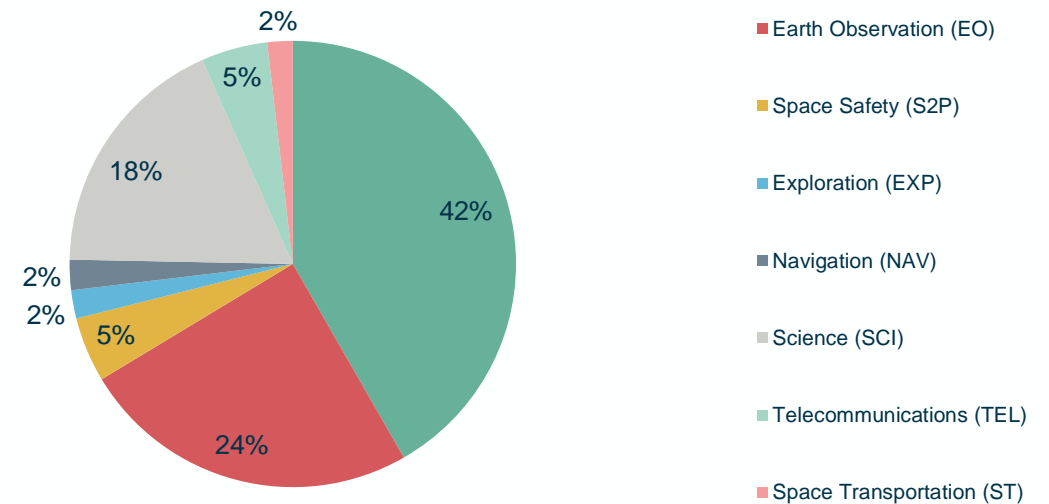
Capabilities achieved

Structures & Harnesses
Propulsion
Mechanisms, Robotics
Radio Frequency, Navigation, Electronics
Software & Downstream
Space Situational Awareness

Poland in ESA – general overview

- **PECS period: 2008-2012** (52 projects, 12M€)
- **Polish Industry Incentive Scheme (PLIIS): 2012– 2019** (204 projects, 52M€)
- **All ESA Programmes 2012-2021:**
 - >500 contracts, >200M€, involving ~200 entities
 - ~ 40% of commitments with SME
- **Poland contributions at Ministerial Council**
 - **2016:** optional programs 45M€ mandatory activities 75M€
 - **2019:** optional programs 40M€ mandatory activities 78M€

ESA Commitments per Application Domain

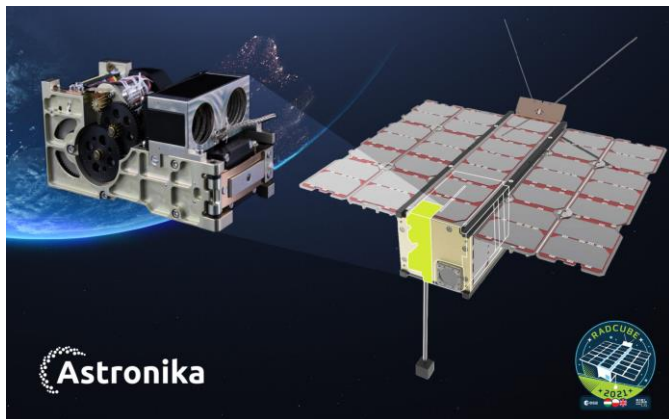


Poland – success stories



Courtesy of Silesian Science and Technology Centre of Aviation Industry

Aluminium/Carbon Composites spacecraft panels
commercial telecoms satellites, Copernicus CHIME

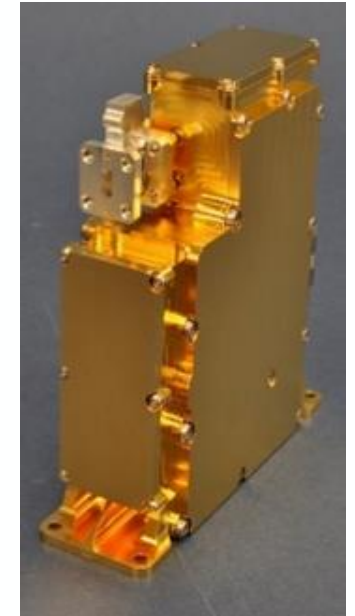


Courtesy of Astronika

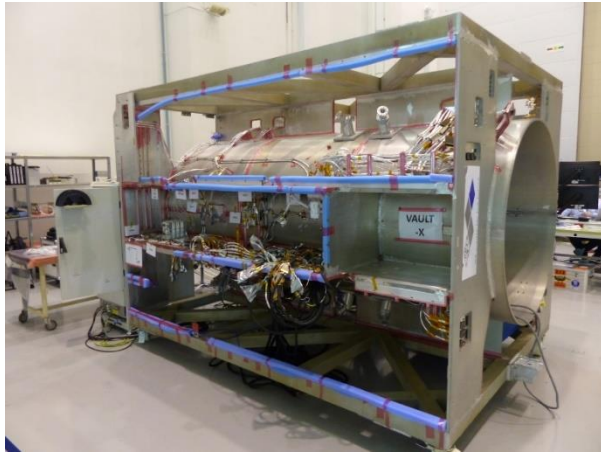
Spacecraft mechanisms

JUICE deployable booms and antennas, RADCUBE boom
Hold Down & Release Mechanism - HDRM (Proba-3, JUICE), Euclid antenna deployment and pointing, ExoMars umbilical release

Spacecraft Radio Frequency (RF) units
passive and active RF,
Work with international companies



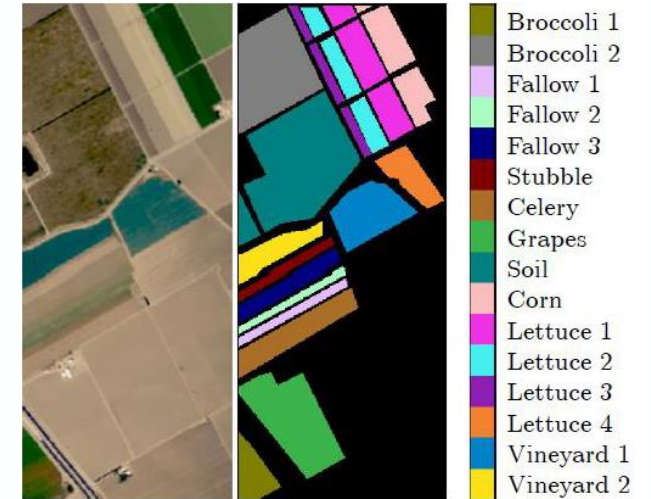
Courtesy of SpaceForest



Courtesy of ADS

Production of flight harnesses (for ADS and TAS)
commercial Telecom missions
JUICE Large Science mission
BIOMASS Earth Explorer

AI based EO images processing
Deep learning based hyperspectral images analysis



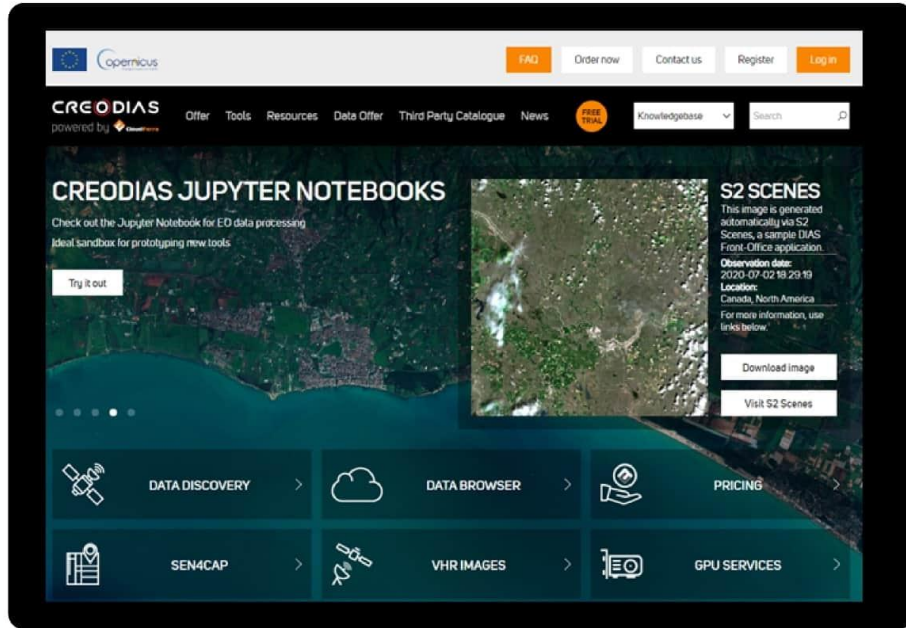
Courtesy of KPLabs



Courtesy of SATIM

Analysis of satellite radar imagery
Ships detection, ground deformation monitoring

Poland – new capabilities



Applications and **cloud-** based services in the Copernicus data platforms



AI in Φ -sat-1 mission

- Software supporting the SSA (Space Situational Awareness) sector and NEO (Near Earth Objects) observation

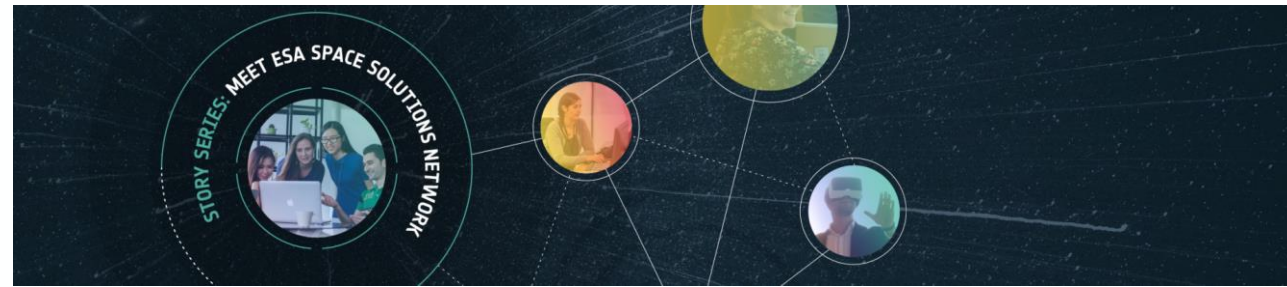
ESA footprint in Poland and Polish footprint in ESA



ESERO (European Space Education Resource Office) in Copernicus Science Centre in Warsaw



ESA Technology Brokers and Business Applications Ambassadors



ESA_Lab@ established in 2021 at Kozminski University and Gdansk University of Technology



Polish Space Sector facts and figures



- **Space Research Centre of Polish Academy of Sciences** 40 years experience in a number of unique solutions and instruments, development of human resources for the sector
- **More than 400 companies** registered in ESA Star portal with employment rate nearly 12,000 employees
- Several dozens of them exclusively focused on the space sector
- More than 2000 full-time employees working exclusively in activities related to the space sector
- **Polish Space Industry Association:** 2012- around 19 members, in 2022 - 75 members
- **Significant European investors:** GMV (ES), Thales Alenia Space (FR / IT), Sener (ES)



ESA Ministerial Conference 2022

Paris, 22-23 November

>> 1 ambition

Accelerate European society into the future through smart, growth-oriented investment:

€18.7bn proposal

>> Many benefits for Europe

Jobs, new growth markets, a greener European economy, the next generation STEM workforce, stronger leadership etc.



Grand Palais
Éphémère

