

Capability Development and Regional Cooperation

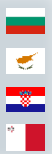
By Stephen Airey, presented by Gertrud Talvik

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- A photograph of a rocket launch. A bright, orange-yellow plume of fire and white smoke trails diagonally upwards from the launch site at the bottom towards the top left of the frame. The sky is a clear, deep blue, with some wispy white clouds near the horizon. The launch site itself is visible as a dark silhouette at the bottom, with some structures and a large cloud of smoke and fire at the base of the rocket's path.

National Capability Development Schemes Run by ESA

Plan for European Cooperating States (PECS)

- Bulgaria (2016-2027)
- Cyprus (2017-2027)
- Croatia (2023-2028)
- Malta (2024 onwards)



- No direct access to ESA tenders

► PECS – Call for Proposals

Associate Member (AM)

- Slovenia (2016-2024)
- Latvia (2020-2027)
- Lithuania (2021-2028)
- Slovakia (2022-2029)



- Participation in ESA optional programmes via competitive tenders

► AM RPA: Requesting Party Agreement - National preparatory programme

New Member State (NMS)

- Estonia (2015-2024)



- Participation in ESA mandatory and optional programmes

► Industry Incentive Scheme (IIS): Open Call and top-down Roadmaps

Member State (MS)

- Czech Republic
- Hungary
- Luxembourg
- Poland
- Estonia



► MS RPA: Requesting Party Agreement

What is needed to do this?

-
- A stack of several brown cardboard boxes of various sizes, some with shipping labels and symbols. The boxes are arranged in a pile, with some standing upright and others partially obscured. Some boxes have standard shipping symbols like 'fragile' (a glass) and 'this side up' (an arrow). One box has a white label with text and a barcode. The background is plain white.

What is needed to do this?

-

- ▶ Know your competitors and their products
- ▶ Unlike space, the space market is not infinite.
- ▶ You are competing with longstanding established countries/companies in Europe and with those outside of Europe – need to work together in smart manner to have sufficient market
- ▶ Do not compete with other companies in the region / smaller countries – look to complement and support. Needed to ensure sufficient market and build depth of experience and knowledge needed for bigger/ more complex missions.
- ▶ Even where there is direct overlap – cooperating can enable to take on larger projects and orders.
- ▶ We have funds to help you assess the customers, competitors and the market potential.



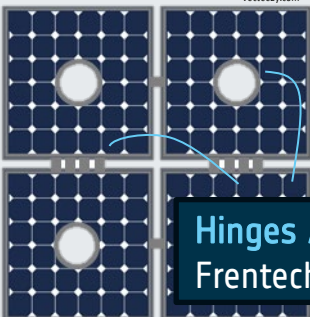
Examples of potential Synergies

Power systems



Solar Cells
None

! Opportunity?



Hinges / HDRM
Frentech

Note: Companies are illustrative examples only and not exhaustive

Flexible Solar Arrays
5M



Rigid Solar Arrays
None

! Opportunity




Flexible developed, traditional still to be developed...

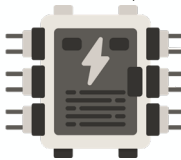


Batteries
Stellar Exploration
Pipistrel


Needs qualification...



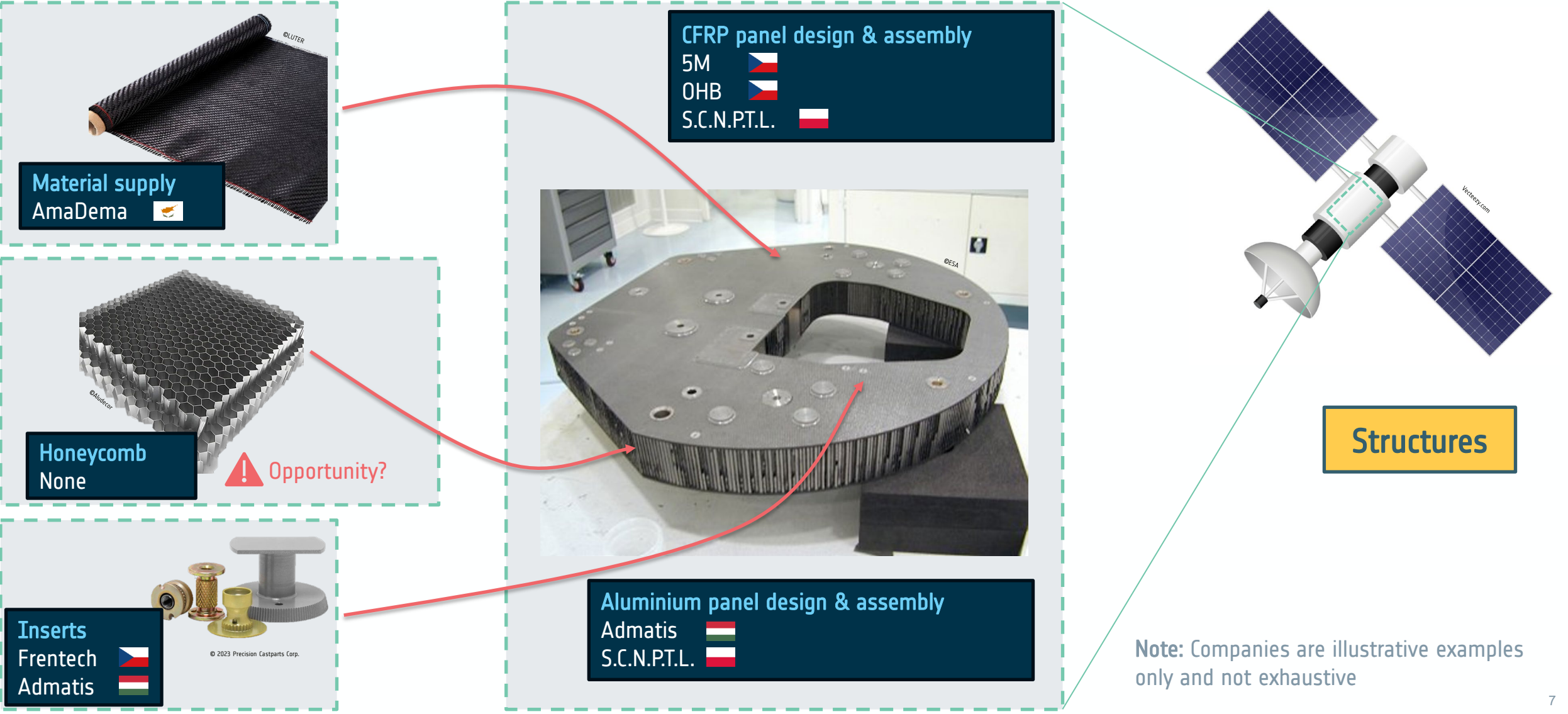
PCDUs
C3S

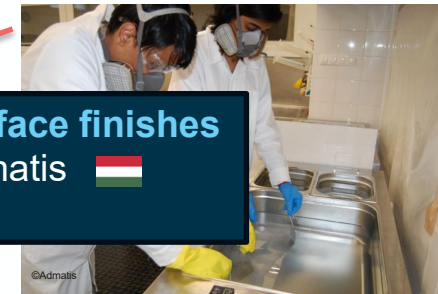


DC-DC
C3S



Fuel Cells
PowerUp





Examples of Potential Synergies 4

Data handling system

Note: Companies are illustrative examples only and not exhaustive

Payload Computer/ Mass Memory
Skylabs
KP Labs
BD Sensors



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OBC
Skylabs
Esc Aerospace



© ESA

On-board software
Huld
Thales
AROBS
GMV

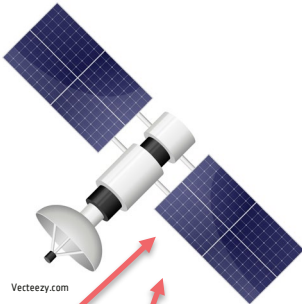


wechselbalg / Fotolia.com

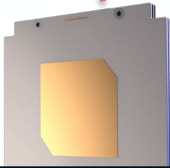
Wiring Harness
Sonovision



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EEE Parts
RD Alpha



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Analogue rad hard

PCBs
Intectiv

In assessment



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PCB Assembly
BD Sensors
Gelectronics
Creotech



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ASIC/ FPGA
Bitlake Technologies
Beyond Semiconductor



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Full high reliability/redundancy still needed

Antennas (X & S Band)
Endurosat
WiRan

SDR / Modem
Endurosat
Skylabs
Paradigma



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- Czech republic will develop the AMBIC and QUVIK IOD national satellites and are open to international cooperation and provision of international CFI equipment.
- This is a great opportunity to build these supply chains.
- RPA with ESA: kick off phase B2 est. 2024 and launch est. 2028.



- Procurement, development, launch, in-orbit commissioning of Earth Observation LEO space segment
- Procurement and development of the ground segment infrastructure
- Complement to the existing Copernicus infrastructure and will be designed so as to be able to contribute to, benefit from and cooperate with other similar EO initiatives
- At least 4 satellites: optical and SAR
- Implementation through RPA with ESA: project to start 2024, launch 2027

- **MS STD RPA:** Estonia, Hungary, Poland
- **AM RPA:** Latvia, Lithuania, Slovakia, Slovenia
- **PECS:** Bulgaria, Croatia, Cyprus, Malta

- Call for Proposals (i.e. YOU decide on the topic and objective)
- Led by entity from that country
- International sub-contractors encouraged for up to 20% of the contract value
- Strong preference to proposals that include an end customer and have solid business case

>>> They are a great way to build your international network – customers – supply chain and to ensure your products and services are developed to real customer needs.

Upcoming calls

[illegible]

Submission deadlines	
Hungary RPA	15 Dec 2023
Czech RPA	5 Feb 2024 / 29 Apr 2024 / 30 Sep 2024
Estonia RPA	29 Mar 2024
Poland RPA	Mid-April 2024 (to be announced)

Submission deadlines	
Lithuania RPA	11 Dec 2023
Slovakia RPA	9 Feb 2024
Slovenia RPA	Q3 2024 (to be announced)
Latvia RPA	Q4 2024 (to be announced)

There are multiple ways ESA can help to find **PARTNERS**, **SUPPLIERS** and **CUSTOMERS**:

► CDOs and ICS

- Each country has an ESA Country Desk Officer (see next slide) who can help find and put you in touch with potential entities. Some countries also have an Industrial Coordinator who can also help (see in 2 slides...)

► Industry days

- Typically held every 2-3 years in each country
- Next one: 20/21 March in Croatia for all PECS countries (Cyprus, Malta, Croatia, Bulgaria). Also open to those looking for partners or suppliers there.

► Space weeks

- A number of countries hold a regular annual space week (e.g. Czech, Slovakia, Latvia...). It is good to attend not only those of your own country. Many of these also have a Space Directory.

► Conferences

- ESA PECS/AM/NMS Conferences (e.g. May 2023 – next one May 2025)
- ESA speciality conferences (see <https://atpi.eventsair.com/esamed/list-of-events>)

Events Schedule

SK, Bratislava	13-14 Dec 2023	Slovakia RPA Call Industry Briefing
EE, Tallinn	15 Jan 2024	Estonia RPA Call Industry Briefing
HR, Dubrovnik	20-21 Mar 2024	PECS Industry Days
ES, Madrid	6-8 May 2024	PECS, Associate, New Member States Tertiary Education conference

- Dedicated point of contact for questions on industries in a particular country or on up-coming calls

Country	Scheme	CDO	Email
Estonia	MS STD RPA	Stephen Airey	Stephen.Airey@esa.int
Poland	MS STD RPA	Stephane Combes	Stephane.Combes@esa.int
Hungary	MS STD RPA	Gertrud Talvik	Gertrud.Talvik@esa.int
Romania	None	Stephane Combes	Stephane.Combes@esa.int
Czech	3rd Party	Stephane Combes	Stephane.Combes@esa.int
Luxembourg	3rd Party	Alain Hilgers	Alain.Hilgers@esa.int
Latvia	AM RPA	Karol Brzostowski	Karol.Brzostowski@ext.esa.int
Lithuania	AM RPA	Michele Iapaolo	Michele.Iapaolo@ext.esa.int
Slovenia	AM RPA	Karol Brzostowski	Karol.Brzostowski@ext.esa.int
Slovakia	AM RPA	Ines Castelao	Ines.Castelao@ext.esa.int
Cyprus	PECS	Jennifer Ngo	Jennifer.Ngo-Anh@esa.int
Malta	PECS	Jennifer Ngo	Jennifer.Ngo-Anh@esa.int
Croatia	PECS	Karol Brzostowski	Karol.Brzostowski@ext.esa.int
Bulgaria	PECS	Michele Iapaolo	Michele.Iapaolo@ext.esa.int

- ▶ A number of countries have an Industrial Coordinator (IC)
- ▶ An IC is a National Citizen, living in the country working in cooperation with the CDO. They:
 - Help with information dissemination (e.g. up-coming calls, trainings, events, conferences, news, opportunities...)
 - Help with company visits and audit preparation and organisation
 - Can help with independent advice on proposals for PECS/RPA if you wish
 - Can help with networking (e.g. finding suppliers, customers)

Country	Scheme	Industrial Coordinator	Email
Estonia	MS STD RPA	Tõnis Eerme	tonis.eerme@techandspace.ee
Lithuania	AM RPA	Jonas Antanavičius	jonas@visionary.lt
Latvia	AM RPA	Davids Stebelis	davids.stebelis@msc-space.eu
Romania	None	Iulia Jivanescu	iulia@betelgeusespace.com
Bulgaria	PECS	Sylvia Djoneva	djoneva@ratio.bg