SME4SPACE

THE EUROPEAN PANEL OF SPACE SME ASSOCIATIONS

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What is SME4SPACE

- **An Association of Associations (registered in Belgium)**
- **Representing 13 Countries so far**
- **More than 650 SMEs**
- **MoU with ESA**
- **Providing feedback to/from SMEs**
- **Participating in EU/ESA projects**

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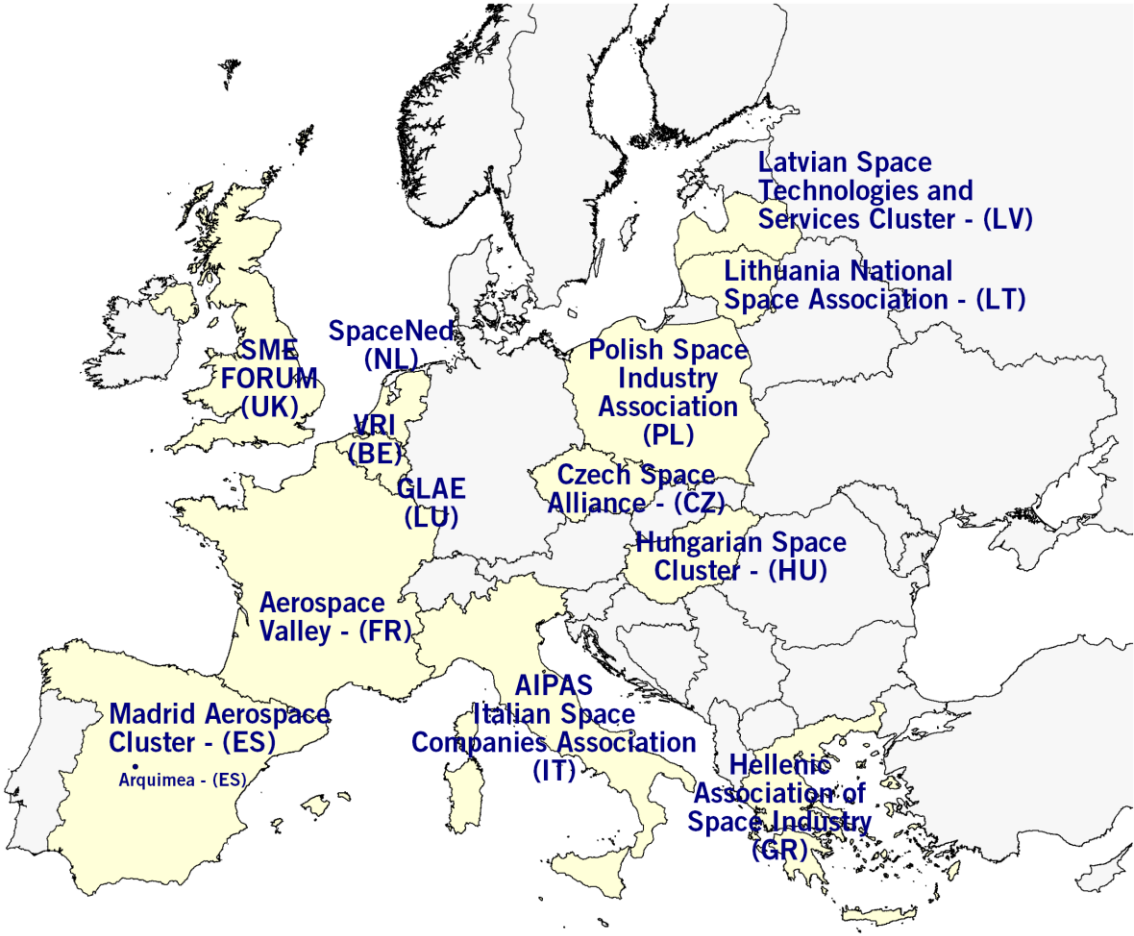
- Aerospace Valley - FR
- AIPAS – IT
- Arquimea – ES
- Czech Space Alliance - CZ
- GLAE – LU
- Hellenic Ass. of Space Industry – G
- Hungarian Space Cluster – HU
- Latvian Space Cluster - LV
- Lithuania National Space Associatio
- Madrid Aerospace Cluster - ES
- Polish Space Industry Association -
- SME Forum – UK
- SpaceNed – NL
- VRI – BE



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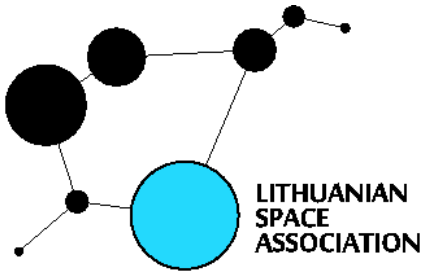

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SMEs as Providers of Critical Technologies

ASSETS

- Source of economic development
- Innovative, though not an exclusivity: COMPLEMENTARITY
- Developments “on the edge”/ less risk averse
- Flexibility
- New blood: newcomers will be SMEs even if they get bigger, very big
- Source for TT and spin-off creation

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SMEs and Critical Technology

First participation of SME4SPACE

(Almost) unique exercise at European level

Our role is not yet fully structured but we brought in some specific contributions

- **22 positive respondents**
- **Direct proposals for added contributions**
- **Next stages?**

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SME and Technology Development

Different types of SMEs

- **“Space” SME with a legacy in the industry**
- **Non space technology driven (spin-off) company**
- **“General” SME with experience in other industries**

CT exercise aimed at 1st group

Also second?

Not the service oriented SMEs

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Role of SME's Critical Technology JTF

- Open attitude of the Agency; SME's are present in the exercise
- Very resource-intensive for SMEs: Pro-active, let's go and look for them
- Support/internal consolidation required
- Critical technologies and non-dependence offer specific opportunities
  - Component level
  - ITAR alternatives

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Comments on new actions added in the list

European Space SMEs have shown attention and interest to the new actions added in the last version of the document. Some SME4SPACE Members have highlighted specific capabilities and have given some suggestions:

- **N28 – Non Dependence of materials and processes.** There are companies that have developed qualified cromated layers for space applications (TRL9) and that have a progress on field of alternative surface treatment technologies since 2012. Actually some of them have a PECS project for space qualification of protective Cr3 layers for various Al alloys.

- **N35 – High pressure very light tank for space applications.** Some companies show interest to develop high pressure light tanks starting from TRL1 level.

- **N42 - New data compression systems for space instrumentation.** Modern sensors are able to collect more and more data. And today the answer to high level acquisition capacity of modern sensors is simply binning. One reason is the incapacity to store, the other the incapacity to transmit. New compression's techniques are needed.

- **N46 – Metal Matrix Composites.** There are companies that have competence in metal matrix composite field (TRL2) and are ready to make further progress.

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SME interests and capabilities in Non-Dependence Technologies

Critical Space Technologies for European Strategic Non-Dependence	Rank
U1 - Space qualification of low shock Non-Explosive Actuators (NEA)	Very High
U2 - Advanced thermal control systems (two phases heat-pipes)	Very High
U5 - Alternative to Hydrazine in Europe	Very High
U11 - ASICS for Mixed Signal Processing	Very High
U12 - High Capacity FPGAs	Very High
U13 - Passive components	Very High
U14 - Active discrete components	Very High
U16 - Space qualified GaN components and demonstrators	Very High
U19 - High speed DAC-ADC based on European Technology	Very High
U20 - Very high performance microprocessors	Very High
U24 - Low cost, solid and liquid green propellant formulations	Very High

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SME interests and capabilities in Non-Dependence Technologies

Critical Space Technologies for European Strategic Non-Dependence	Rank
U3 - Propellant flow and distribution components for chemical propulsion	High
U4 - Advanced materials and material technology for combustion chambers, especially the pressure regulators	High
U6 - Fiber optic Gyro (FOG) based inertial measurement unit (IMU)	High
U10 - Core processors for DSP computers	High
U15 - Photonics components	High
U17 - High density (up to 1000 pins and beyond) assemblies on PCB	High
U18 - Enhanced performance and space qualified detectors	High
U21 - Very high speed serial interfaces	High
U22 - ASICS: Deep Sub-Micron (DSM)	High
U23 - Development of Large Deployable structures for Antennas	High
U25 - ASIC: Availability of IP Cores	High

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SME interests and capabilities in Non-Dependence Technologies

Critical Space Technologies for European Strategic Non-Dependence	Rank
U26 - Space qualified carbon fibre and pre-impregnated material sources for satellite subsystems	High
N28 - Non dependence of materials and processes	High
N32 - Rad hard transceiver components for the implementation of high speed-high capacity on board Ethernet communications	High
N42 - New data compression systems for space instrumentations	High
N35 - High pressure very light tank for space applications	Medium
N46 - Metal Matrix Components	Medium

Comment: production capacity was offered for technology U16

* Rank is defined on the basis of the number of times an item is indicated as interesting by a company: Low/None: between 0% and 4%; Medium: between 5% and 9%; High: between 10% and 15%; Very High: > 15% and the priority assigned from 10 (maximum) to 1 (minimum).

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Thank You for your attention!