

OASIS

Open Access Single entry point for scale-up of Innovative
Smart lightweight composite materials and components

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Problem



1. **Composites and lighter metals individually have insufficient properties:** do not meet all requirements for mechanical, electrical or thermal abilities
2. **Nanotechnology** cannot easily be introduced into composites and metallic supply
3. **Lack of industrial scale manufacturing** of nano-enabled products
4. **Insufficient quantities** are currently produced for the high demanding industries
5. **High cost** of intermediate nano-enabled products, especially for SMEs
6. **Tailored solution** for each application: different chemical content, production process, etc
7. **Limited accessibility** to SME producers

Problem

Introduction of nanotechnologies in metallic and polymer composites in **today's industrialized systems** as part of advanced materials and advanced manufacturing processes



Bottlenecks

Need for specialized expertise

Investments cost too high

RTOs do not offer facilities and services covering the full value chain

Development of new products may require access to finance and optimised business plan

Lack of information and guidance



Solution

Project description

OASIS is an ecosystem of **12 nanotechnology manufacturing pilot lines**, providing nanomaterials, nano-intermediates, nano-enabled products and services for development and commercialization of **lightweight multifunctional products** based on aluminium and polymer composites.



Pilot lines

Nanoscale



PL1 Functionalized Nanoparticles

SiO₂ nano-reinforced
aerogels functionalized
nanoparticles



PL2 Nanowet

Synthetic nanoparticles and
nanomaterials for nano-
reinforcements



PL3 Nanocomposites

Magnetic and flame
retardant nanoparticles and
composites



PL4 Buckypapers

Self-supporting continuous
sheets of entangled
MWCNTs "Buckypapers"



PL5 CNT Doped veils

Carbon nanotube doped
veils



PL6 R2R

Pilot line for the production
of functionalized preregs



PL7 PICTIC

Platform for large area
electronics

Intermediate scale



PL8 SIMPNANO

Aluminium alloys reinforced
with dispersed
nanoreinforcements



PL9 METCAST

Nano-enabled lightweight
injected cast parts



PL10 RTM

Polymer based composites
parts



PL11 HCIM

Nano-enabled functional
hybrid AI/composite/plastic
parts production



PL12 NanoPUL

Nano-enabled
AI/composites hybrid
products

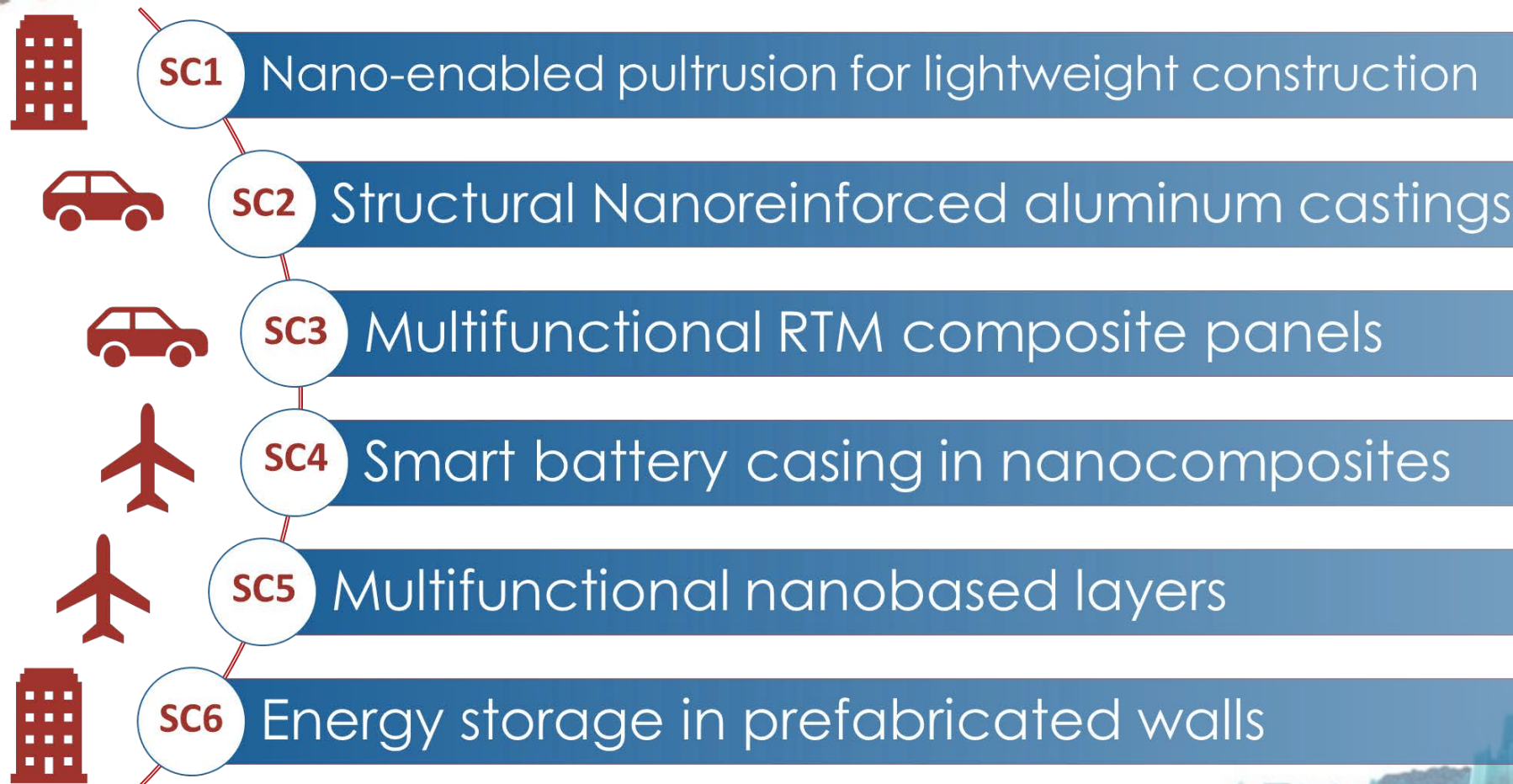
Component scale

Services

- Technical services
 - Pilot line products
 - Nano-materials
 - Nano-intermediates
 - Nano-enabled products
 - Product process engineering
 - Design, modelling and simulation
 - Design
 - Modelling and simulation
 - Testing and characterization
 - Sustainability
- Business support services



Showcases (project partners)

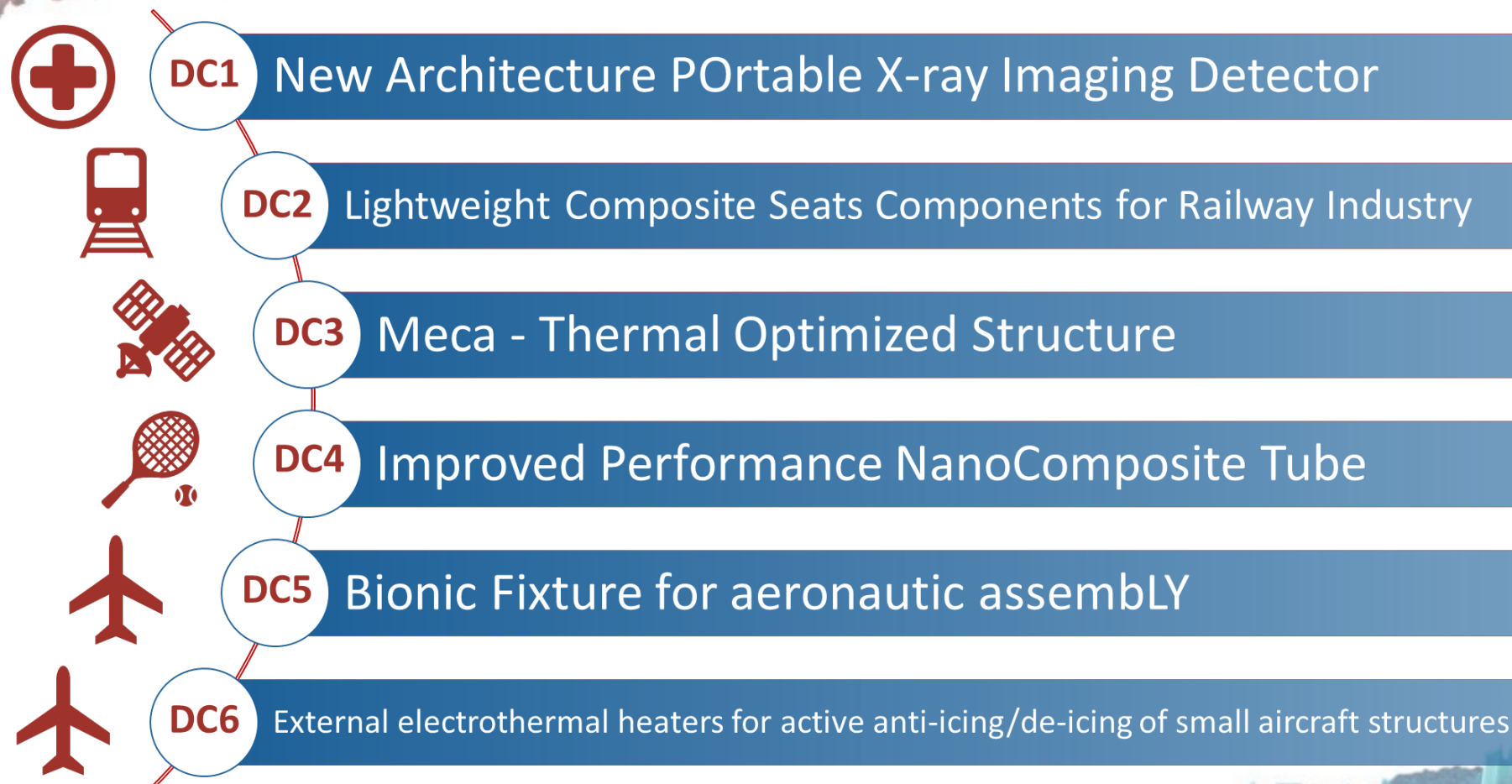


THALES

AIRBUS



Democases (open call beneficiaries)



TRIXELL

TAPS

ThalesAlenia
a Thales / Leonardo company *Space*

DECATHLON

eman ta zabal zazu
Universidad del País Vasco **Euskal Herriko Unibertsitatea**

AT-P AVIATION

Open Call

- Next (and last) cut-off date - **31st July**
- Duration of Democases will be **6 months MAX**
- Applicants get **free access** to the services (including human resources, consumables, materials and access to equipment and infrastructure)
- **All types** of organizations are eligible
- Simple application process with a **5-page proposal**



We encourage all applicants to check the technical and business feasibility of their ideas well in advance of submission.

More info...

www.project-oasis.eu

Open Call - <https://project-oasis.eu/open-call/>

Catalogue of services – https://project-oasis.eu/wp-content/uploads/OASIS_Catalogue-of-services_v5.pdf

Pilot lines - <https://project-oasis.eu/pilot-lines/>

Contact

info@project-oasis.eu (general queries)

helpdesk@project-oasis.eu (open call related queries)

Summary

- OASIS offers the possibility to use a **combination of unique pilot lines** and associated services (modelling, simulation, characterization) from all over Europe.
- This ecosystem is operated by a **Single-Entry Point** acting as the one-stop-shop.
- OASIS enables companies of any size and from a wide range of industries to introduce **innovative lightweight, smart and multifunctional products**.

Thank you!

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