



Encouraging a sustainable footprint in the aerospace industry

SustainableSolutionsMatch

Welcome!



SustainableSolutionsMatch

Welcome & Introduction

Who's moderating?



Rosalía Vicente
Fundación madri+d
EU Project Manager
Co-chair SG Aerospace & Defence



Simone Sparano
Unioncamere Campania
Head of European Affairs
Chair SG Aerospace & Defence



Who's organizing?



Welcome & Introduction

Let's play by the rules: smooth sailing for our session!

- **Mute Policy:** Please remain muted unless speaking to avoid background noise.
- **Q&A Time:** After each pitch, there will be time for 1 question! For the rest, we will wait until the end. Please use the chat to ask questions.
- **Session Recording:** This session will be recorded.
- **Time management:** Pitchers, please keep track of your time. We will inform you if 5 minutes have passed.
- **Technical Issues:** If you encounter issues, use the chat to notify the host.



Session Agenda

- EEN Sector Group Aerospace & Defence
- Sustainability in the field of aerospace: what are we talking about?
- Pitch Presentations:
 - Pitch 1: Aethos (Derk-Jan van Heerden)
 - Pitch 2: Invicsa (Carlos Almanza)
 - Pitch 3: Chesco (Heiko Witte)
 - Pitch 4: Space Frontier (Tommaso de Angelis)
 - Pitch 5: Nanostine (Daniel González)
 - Pitch 6: Tetmet (Tom Vroemen)
 - Pitch 7: Holy Technologies (Moritz Moeker)
 - Pitch 8: Polymertal (Guy Varon)
 - Pitch 9: Paraloon (Robin Neelen)
- Questions and answers!



EEN Sector Group Aerospace & Defence

Network of partners committed to working together to address the specific needs of their clients

It brings together EEN advisors from major European regions with significant aerospace clusters and substantial investment and development potential

SG members offer specialized services designed to enhance the competitiveness of companies, with innovation being a crucial step towards achieving sustainability



The EEN contributes to sustainability through its Aerospace Sector Group by offering services and expertise to SMEs

Advisory Services: Receive tailored advice on navigating regulatory challenges, optimizing energy efficiency, and implementing sustainable business models.

Partnering Opportunities: Access a network of potential partners to propose or find innovative technologies that align with your sustainability objectives.

B2B Events: Engage in targeted business meetings to foster collaborations and technology sharing, accelerating your path to a more sustainable future.



Why does sustainability matter in aerospace?

- **Carbon Emissions & Fuel Dependency** – Aviation contributes **2-3% of global CO₂ emissions**; transition to SAFs, hydrogen & electrification is slow.
- **Aircraft Recycling & Circular Economy Limitations** – Many materials (esp.composites) are **difficult to recycle** (better material recovery systems).
- **Manufacturing & Material** – Balancing **lightweight, durable, and eco-friendly** materials while reducing carbon footprint in production.
- **Space Sustainability & Debris Management** – Growing **space debris** threatens future missions; demand for responsible space operations and cleanup technologies.



Key technologies for a greener future?



Pitch Presentations

Time to meet the innovators!

Pitch 1
Aethos
Derk-Jan van Heerden



How to improve recycling of aircraft materials?

Aethos

Derk-Jan van Heerden
Founder & Board Member

AETHOS



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Aviation is awesome

All business are different, but aviation is unique and perfect!

Aircraft are getting more fuel efficient

Aviation is very good in reuse and creative for repurposing

What is done with the remaining materials?



Aircraft material recycling is not easy

Aircraft fly long → certain materials are no longer acceptable

Quantity is very low → recycling requires enough

Weight of aircraft is important → recyclability is less important

Unique materials are used → results in downcycling, incineration or landfilling

Result:

- No profit model, most steps will bring additional costs*
- Legislation will demand lower waste, more recycling*
- Aircraft can fly away (lower environmental demand outside EU)*



The bridge

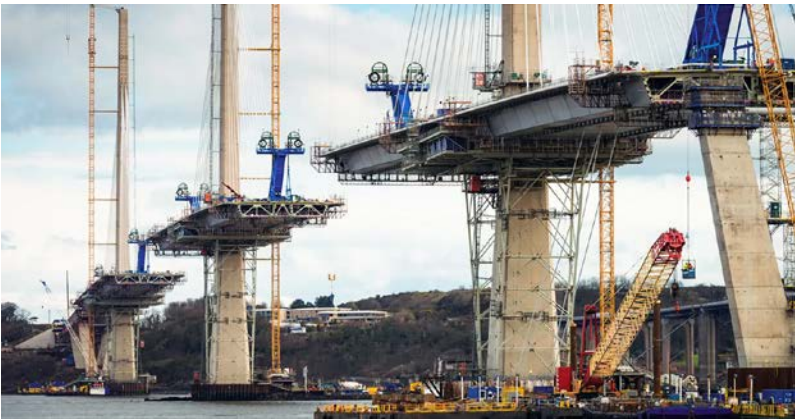
Aethos is building a bridge between the aviation, recycling and aviation world

First funding (donations) have been received

Friends group is now 25

First 2 projects are now finished (batteries, first measurement)

Multiple projects are getting shape



Become a friend

- *Everyone is welcome, focus is building a team practically focused.*
- *Only solution that might be successful needs to be financial positive (?) or neutral.*
- *By sharing what is not possible, will hopefully push aircraft owners.*
- *Less money for the aircraft, but more environmental optimal*

Can you be a friend?

Can Aethos help you to help the aviation world?



#EENCanHelp

Book a meeting with: Aethos

Derk-Jan van Heerden

Found & Board Member

www.aethos.aero

dj@aethos.aero / +31 6 41 252 898



een.ec.europa.eu

AETHOS



Pitch Presentations

Time to meet the innovators!

Pitch 2
Invicsa
Carlos Almanza



PARATECH+ bringing space home safely

INVICSA AIRTECH

CARLOS ALMANZA TURRADO
CO-FOUNDER & CSO



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How is space payload
recovered from space?



How is space payload
recovered from space?





In Year 2023,

400.000 M€
technology launched

3000
uncontrolled re-entries

How to bring
them back
safely?



The solution

- AI-Guided System
- 🎯 High Precision Landing
- ⚙️ Cost Efficient
- 🌱 No emissions



The market in 2030

Market Size

1.000.000 M€

Launches/Year

> 3000

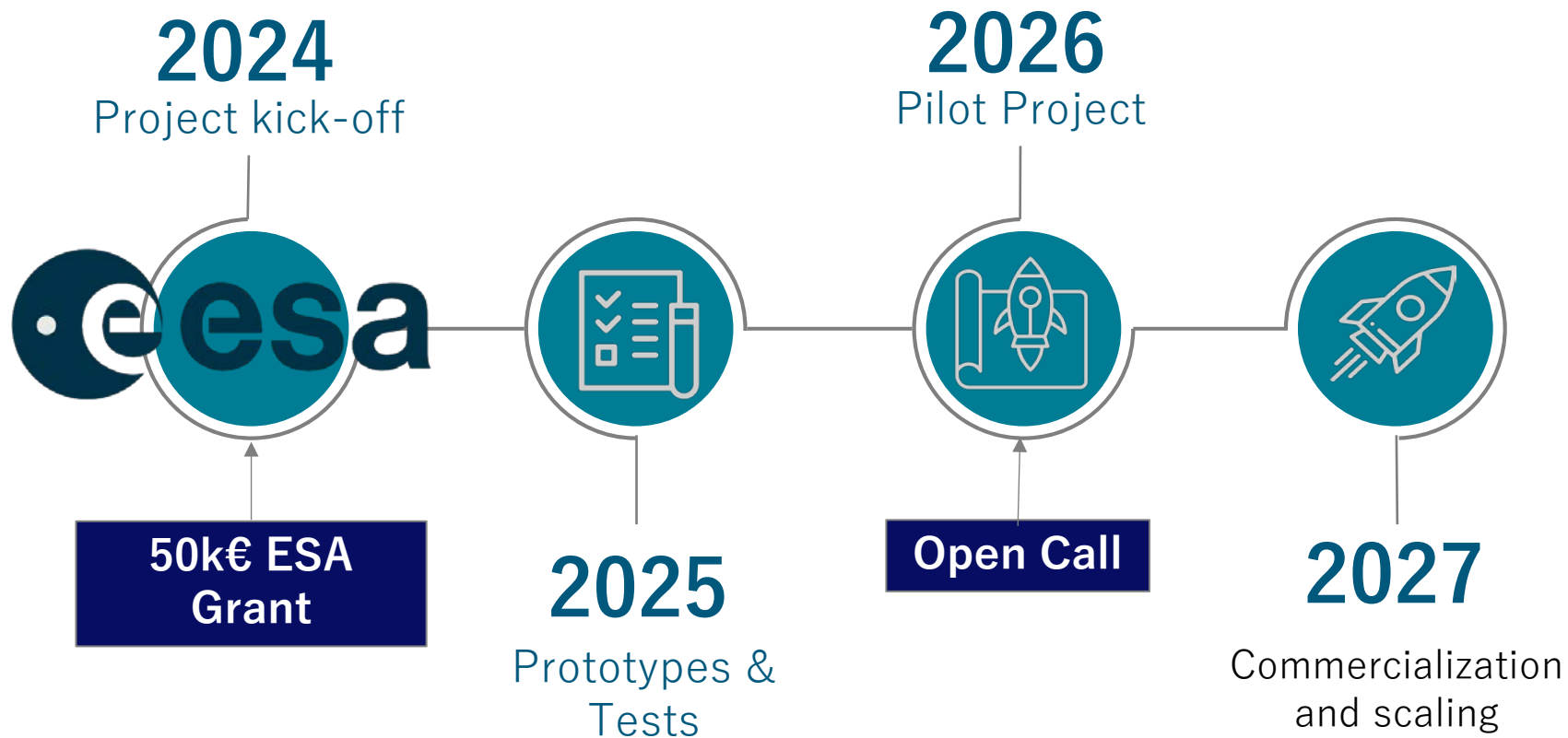
Active Satellites

+300%

*Medium & Large Space Launches



The Roadmap



#EENCanHelp

Book a meeting with: Invicsa Airtech

Carlos Almanza Turrado

Co-Founder and CSO

Invicsa Airtech SL

c.almanza@invicsa-airtech.com



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Pitch Presentations

Time to meet the innovators!

Pitch 3
Chesco
Heiko Witte



Innovative (hybrid-) electric propulsion systems



CHESCO GmbH / Center for hybrid electric systems Cottbus

Heiko Witte
Managing Director



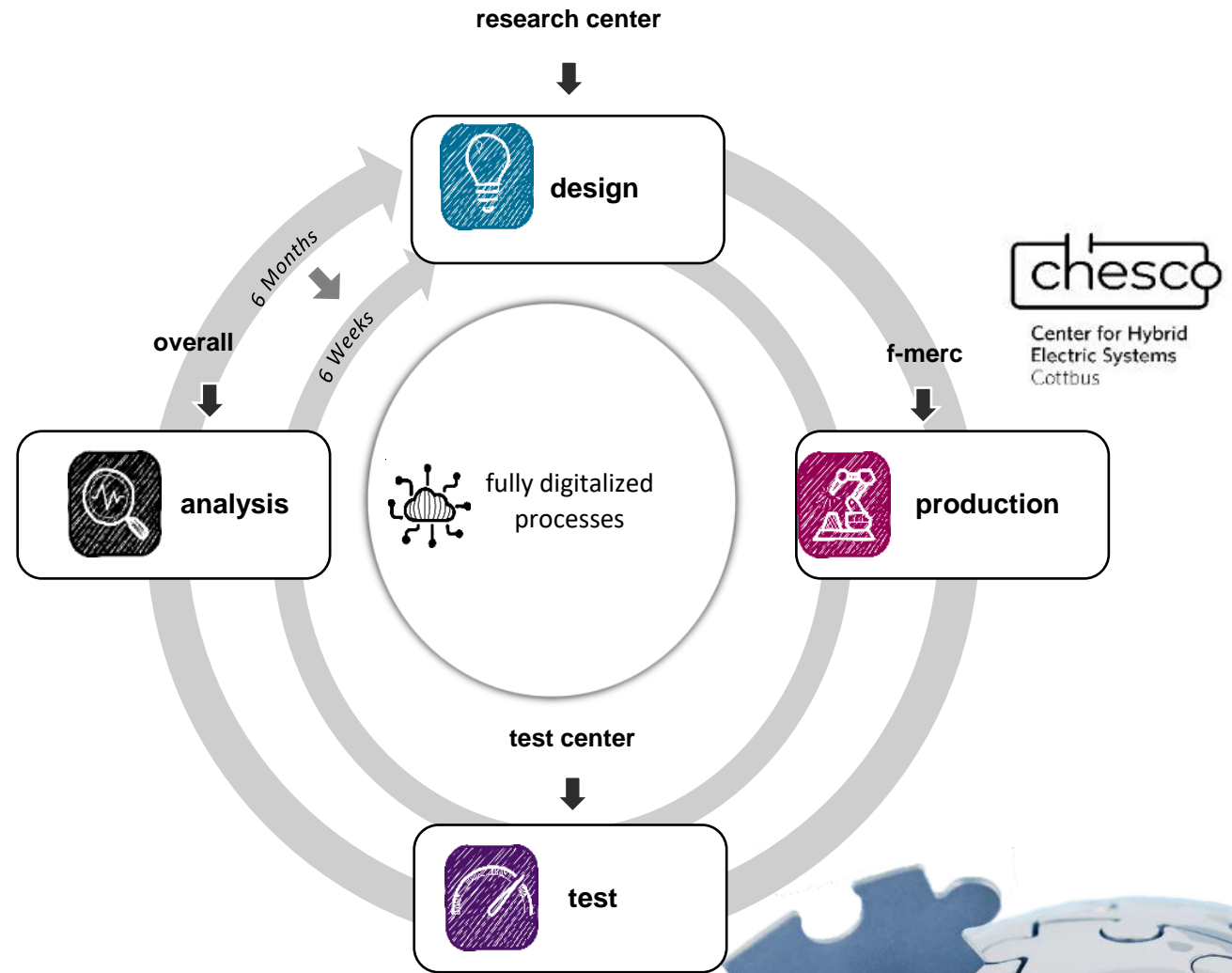
SustainableSolutionsMatch

Introduce your sustainable solution

What is chesco – A research center with unique capabilities in test, manufacturing, digital integration for aviation

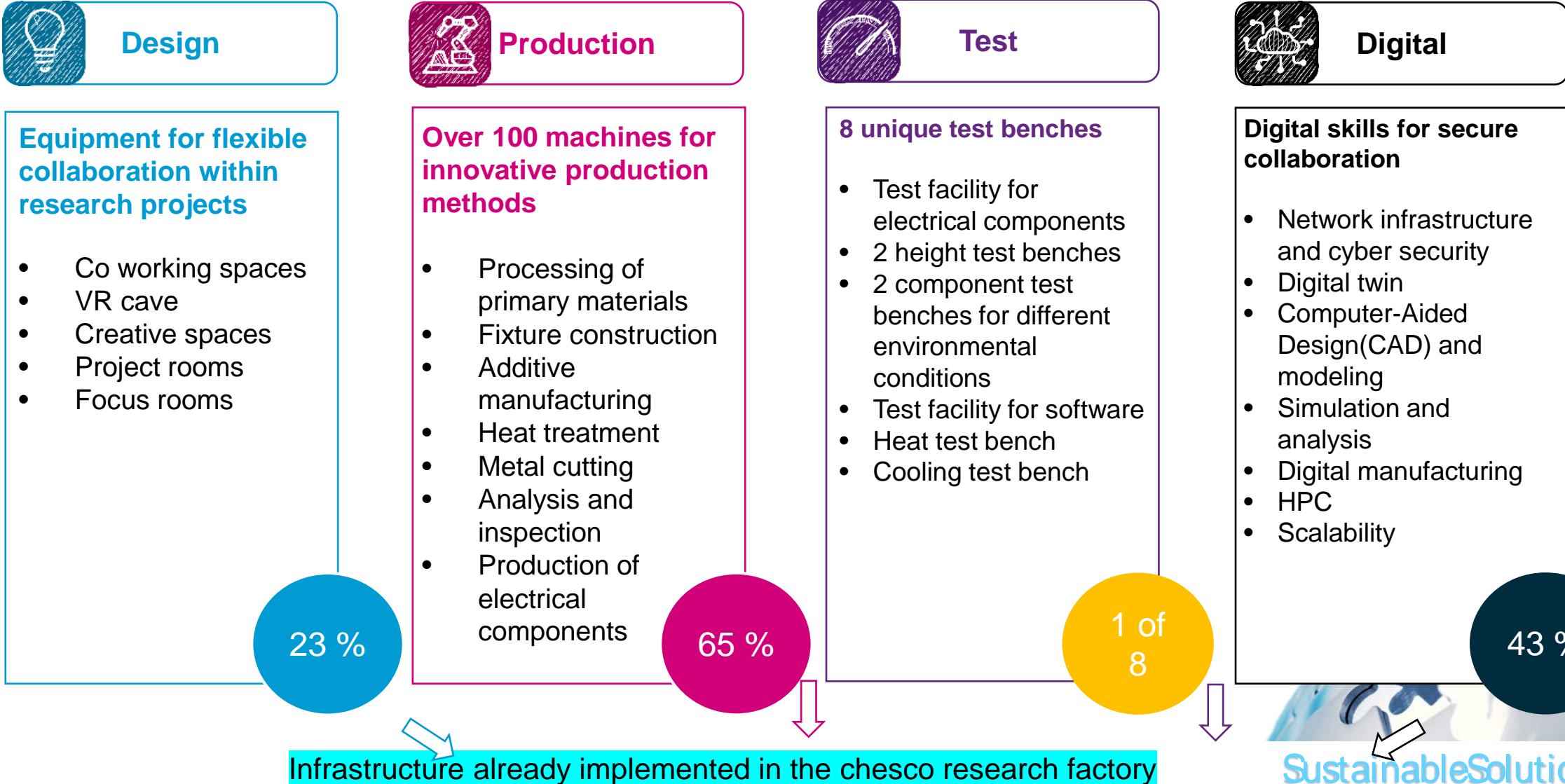
What do we do – Design, Prototype manufacturing, component and system tests

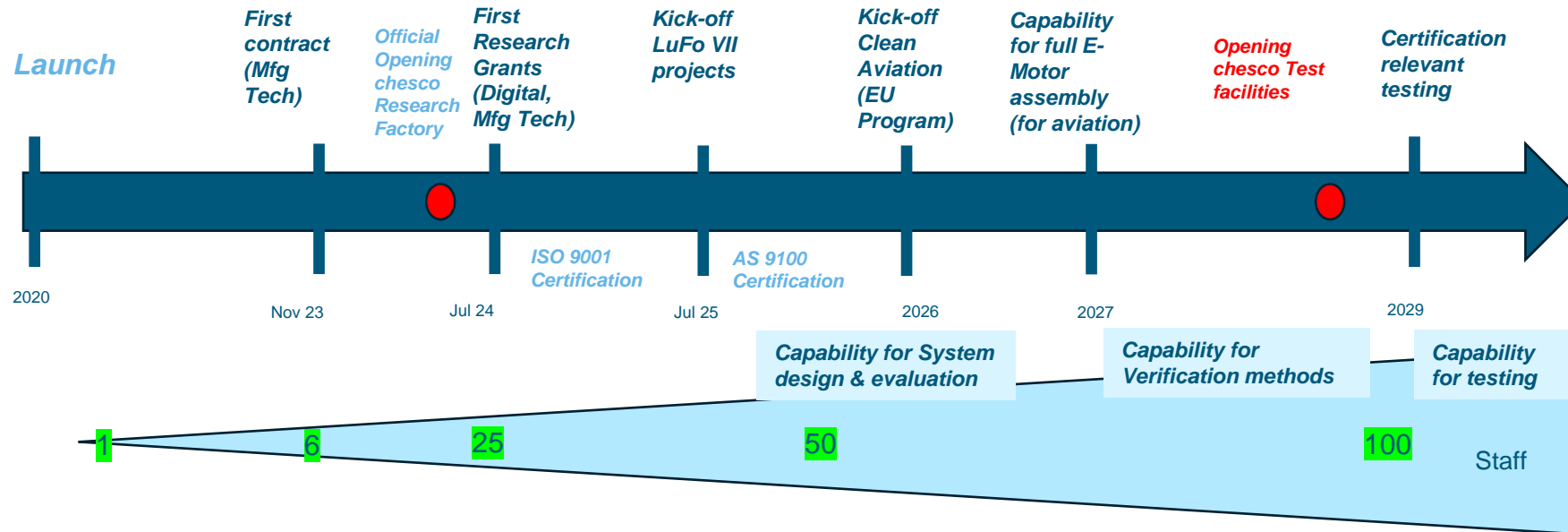
What problems do we fix: Long iteration cycles in aviation – bringing new products quicker to the market through Agility in methods, design and make and through intelligent verification and test



Center for Hybrid Electric Systems Cottbus

CHESCO - Infrastructure





- Describe your solutions differential value and sustainable impact

Accelerated timeline for introduction of novel technologies into service

Reduce carbon impact of aviation through accelerated introduction of hybrid-electric propulsion technologies

Prove technology through demonstrators, on technology platforms and in the AAM and related markets

Scale technology up to regional!



Market/Target audience – Who can apply your solution?

Target partner companies are aviation companies i.e. in the regional, AAM, but also large sector

Businesses seeking innovative solutions

Businesses seeking to embed digital technologies and to enlarge their digital ecosystem of technology solutions

Partners in need of prototype solutions



Sustainable and circular innovation needs good networks along the whole value chain. What kind of cooperation partners would you like to connect to beyond finding new customers?

Partners focusing on Sustainable Mobility

We Make Green Mobility Happen



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Book a meeting with: CHESCO GmbH

Heiko Witte

Managing Director

CHESCO GmbH

Email: heiko.witte@chesco.de



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Pitch Presentations

Time to meet the innovators!

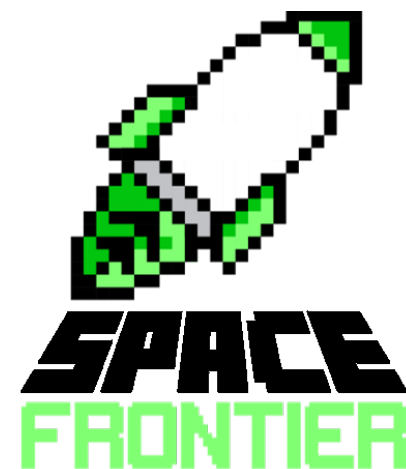
Pitch 4
Space Frontier
Tommaso de Angelis



Advanced 3D-Printed Green Fuels for Aerospace

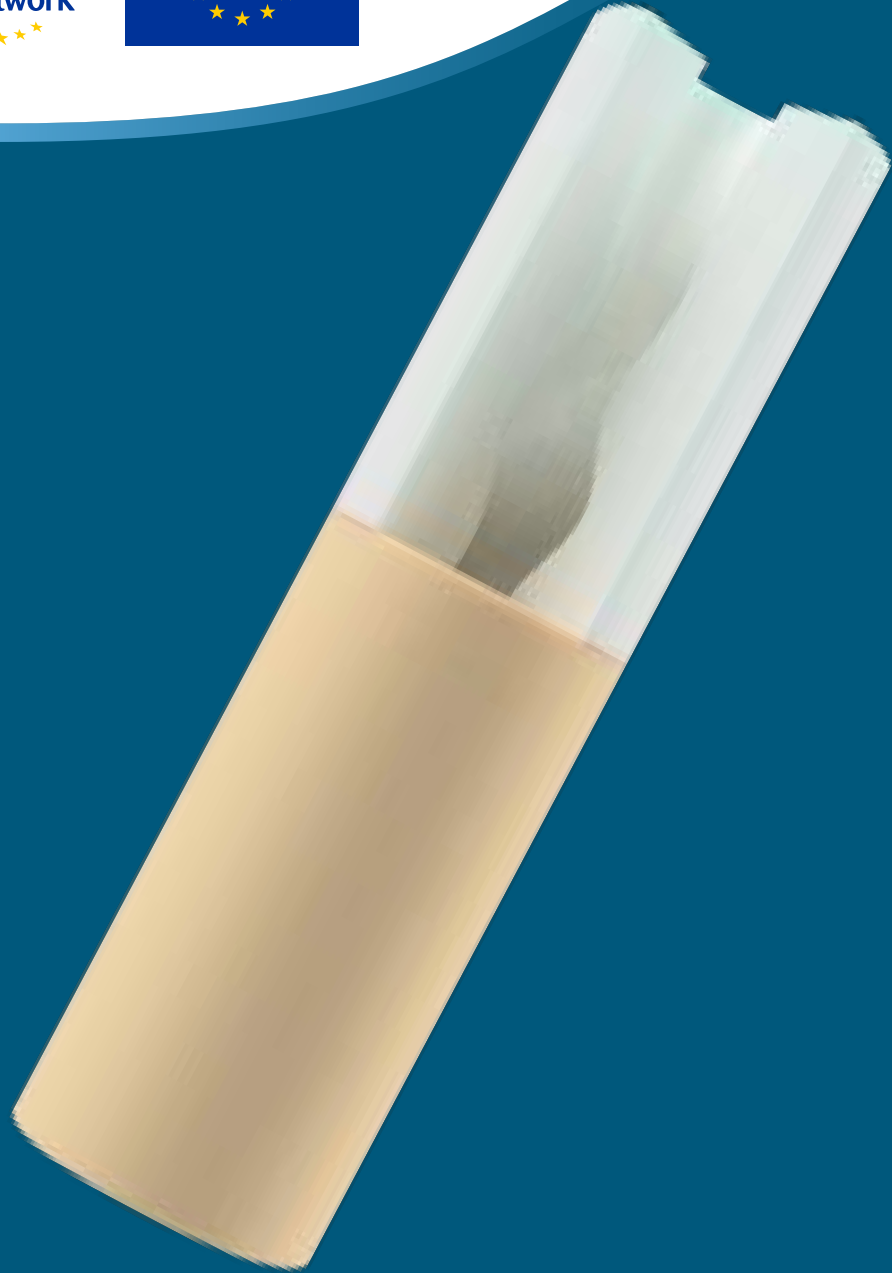
Space Frontier

Tommaso De Angelis
CEO

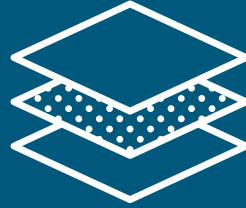


SustainableSolutionsMatch

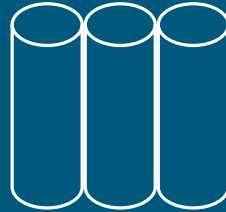




Complex
Geometry



Multi Layering



High
Replicability



New PLA
Molecules



Environmentally
Friendly



SustainableSolutions

Tech Applications:

ACCESS TO SPACE



PROPULSION FOR IN - ORBIT SERVICES & SATELLITES



DEFENCE SYSTEMS



Potential Clients

Launchers



HyImpulse



EILMOUR SPACE



Space Propulsion

EXOLAUNCH



The
Exploration
Company



Defence



Cooperation Partners

3D Printing
Companies



Satellite
Manufacturers



Hybrid and Solid
Propulsion
Companies



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Book a meeting with: Space Frontier

Tommaso De Angelis

CEO

Space Frontier

tommaso.deangelis@spacefrontier.eu

+39 3385943428



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Pitch Presentations

Time to meet the innovators!

Pitch 5
Nanostine
Daniel González



Ultrapure Nanoparticles: Revolutionizing Surface Coatings in Aerospace Technology



Nanostine

Daniel González Muñoz
CEO



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Introduction



Satellites



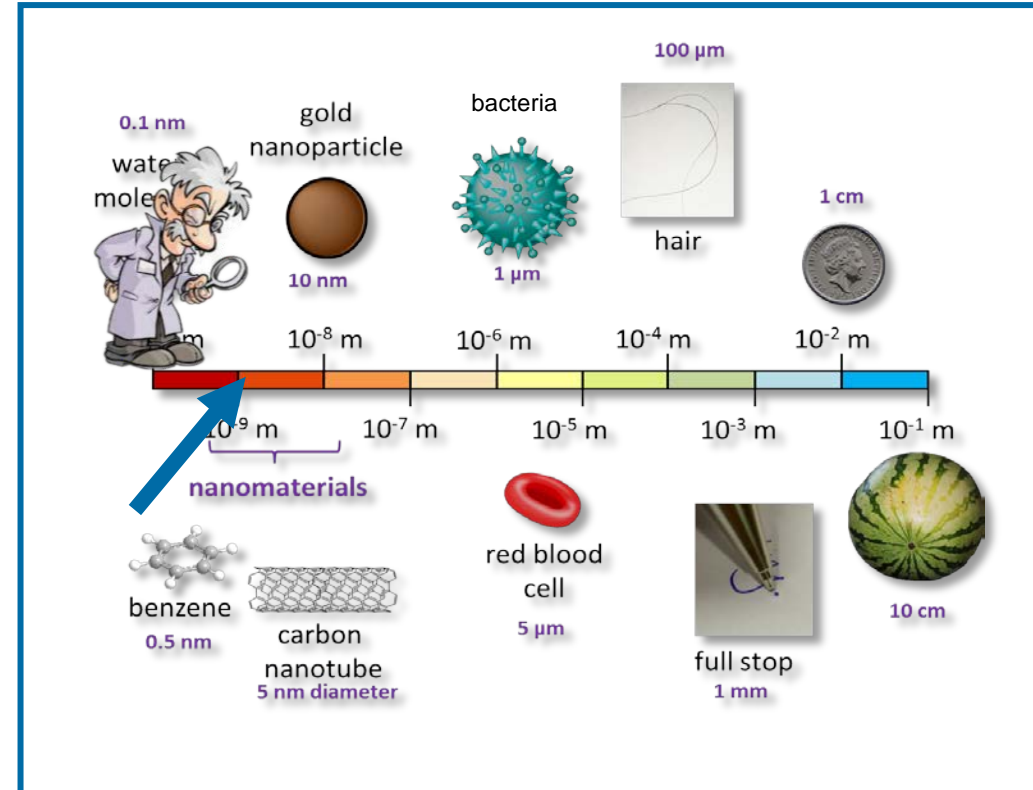
Lenses



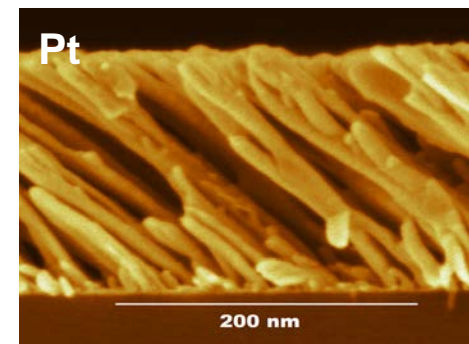
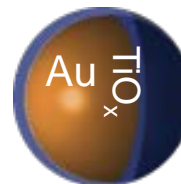
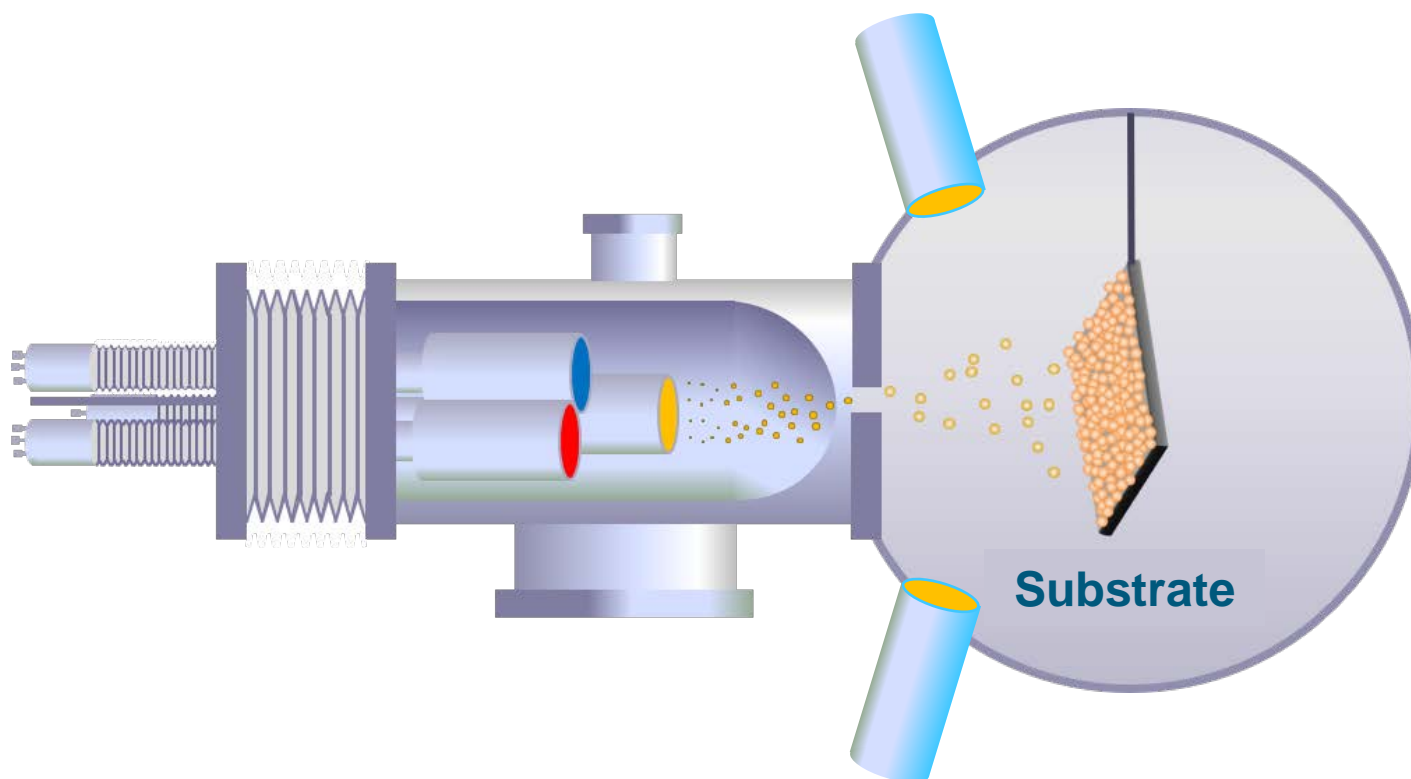
Sensors



Electrodes



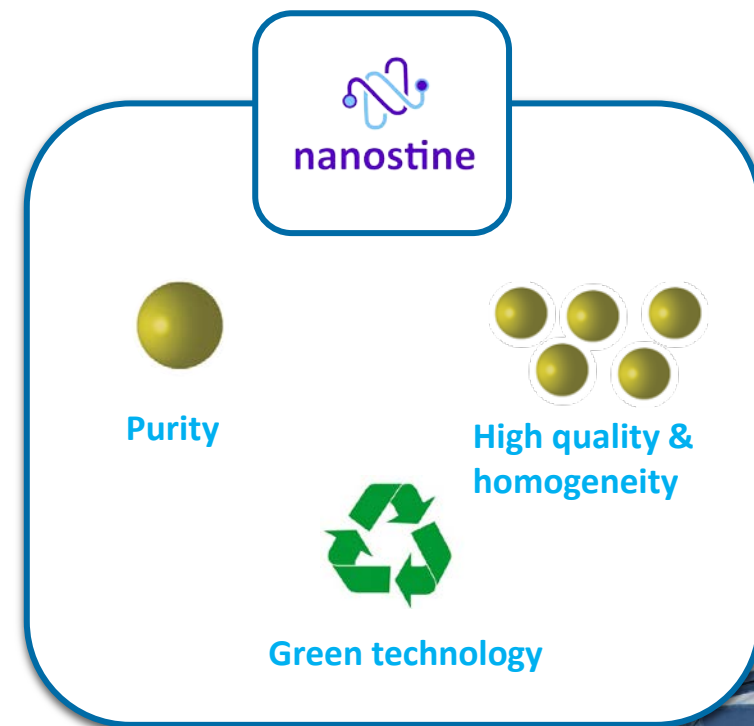
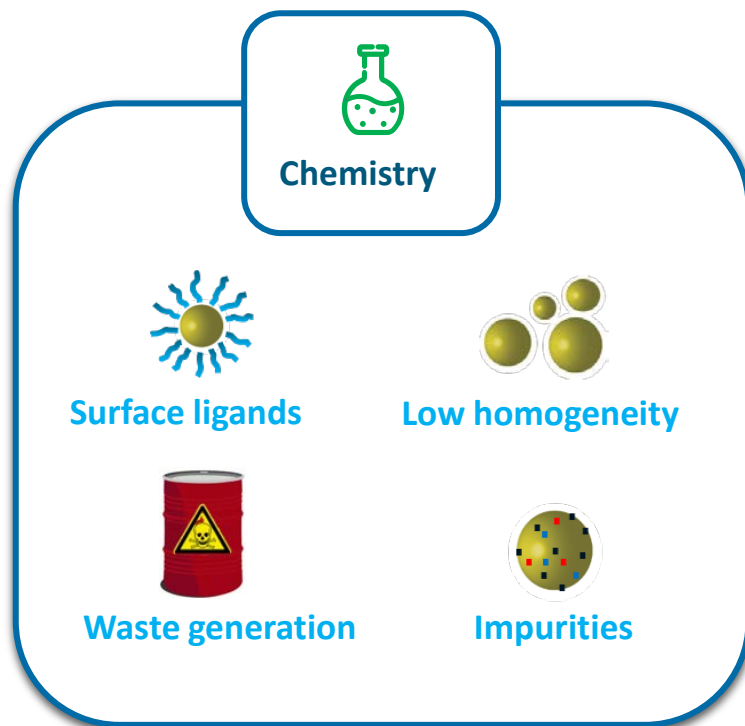
Technological Innovation



Nanostine has an industrial nanoparticle source (MICS), unique in the world, for the production of nanostructures by Ultra High Vacuum (UHV) sputtering.



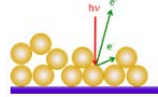
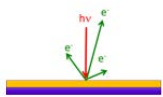
Differential value and sustainable impact



Applications



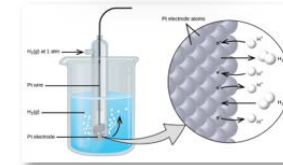
Coating of RF devices for satellites.
Mitigating the multipactor effect



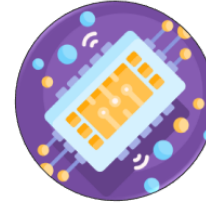
Coating of lenses with hydrophobic,
self-cleaning, or antimicrobial
properties



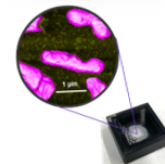
Coating of electrodes for batteries,
fuel cells or capacitors



Sensor coatings to enhance sensitivity



Coating of biosensors for improved
detection of micro-organisms



Network

- **Companies** to develop R&D projects in the aerospace sector.
- **R&D centers and universities** to co-develop new technologies and validate innovations.
- **Manufacturers and OEMs** (Original Equipment Manufacturers) to integrate our solutions into final products.
- **Investors** and sustainable innovation funds to scale our technology and expand our impact.

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Book a meeting with: Nanostine

Daniel González Muñoz

CEO

Nanostine

daniel.gonzalez@nanostine.com +34 677610707



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Pitch Presentations

Time to meet the innovators!

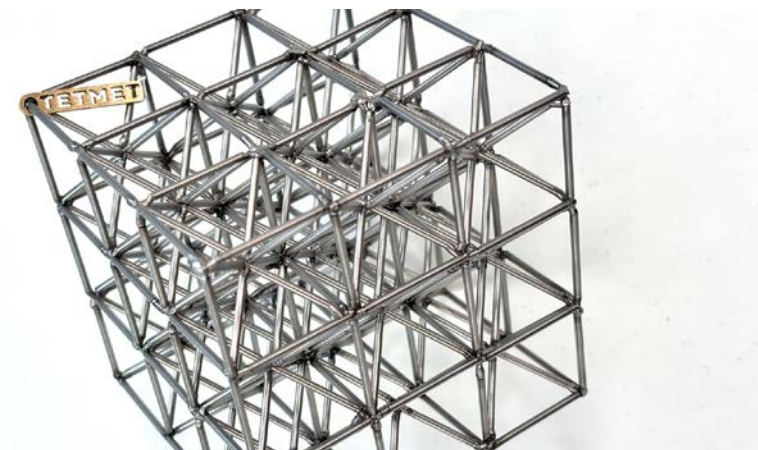
Pitch 6
Tetmet
Tom Vroemen



Adaptive Spatial Lattice Manufacturing

TETMET

Tom Vroemen
Founder



SustainableSolutionsMatch

Lattice structures = most efficient way to structure materials

topology optimization



ALTAIR
Tricentis
nTopology

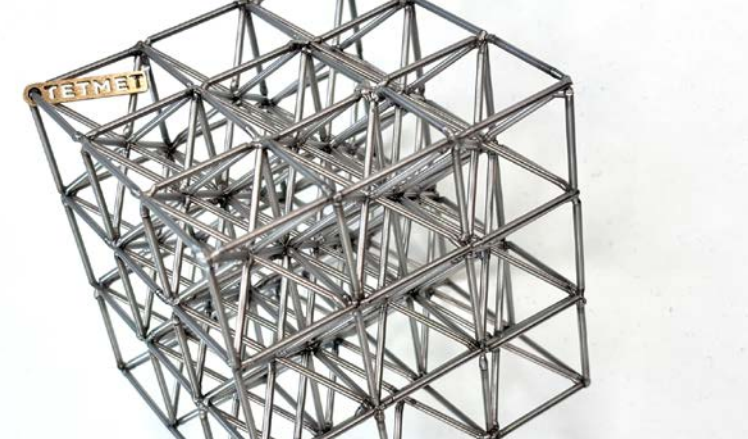
(software) 17.25% ▲ CAGR

lattice wire-arc 3D printing



AML3D
MX3D

(software + hardware) 18.21% ▲ CAGR

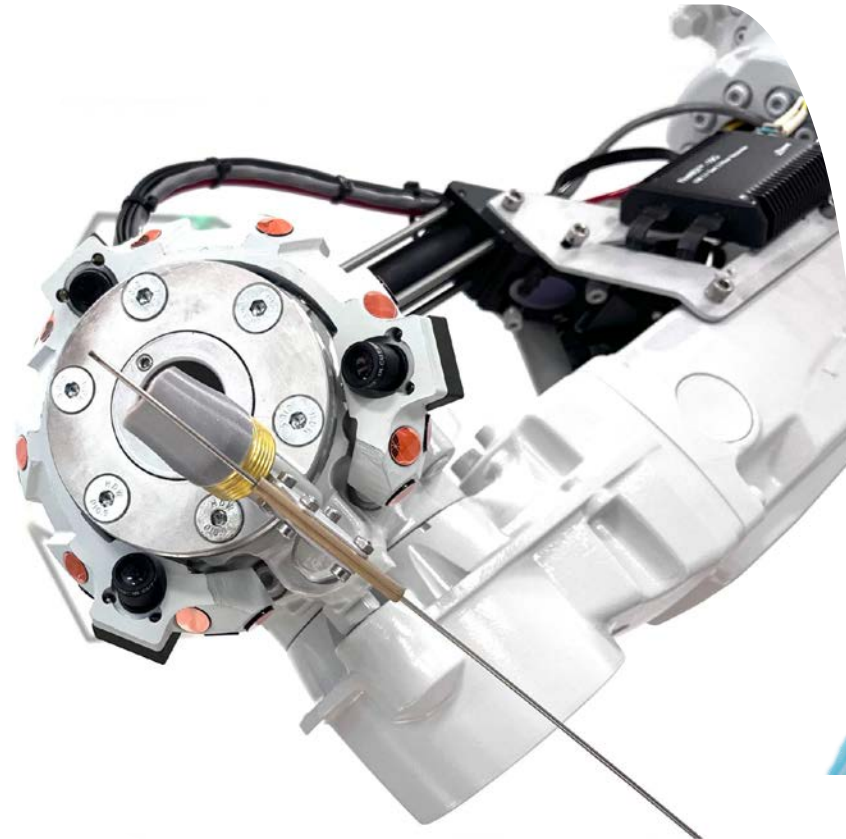
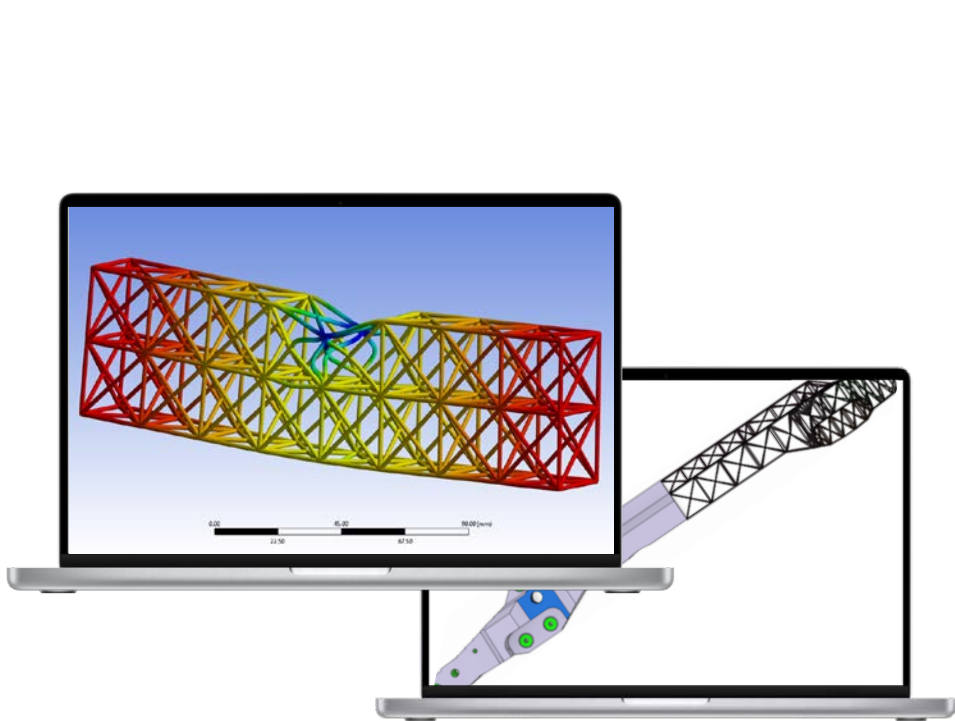


TETMET
(software + licensing)

Adaptive
Spatial
Lattice
Manufacturing
Patented



We offer the full operating system for industrial manufacturers to work with them efficiently



We use substantially less resources and make vehicle parts 80% lighter!



USING 75%(!) **LESS MATERIAL**
AND 98%(!) **LESS ENERGY**
THAN CURRENT METHODS



claim verified by
TECHNISCHE
UNIVERSITÄT
DARMSTADT



We have POCs with in auto, aviation, defense, space, semicon and energy

Lithography machine parts:

- Components accelerating at 40G
- ▲Strength, ▼Mass = ▲Speed, ▼Energy

Nuclear waste container lid:

- 75% less mass = less nuclear waste
- crash absorption properties

Decarbonising Defense Vehicles:

- [Redacted]
- [Redacted]



AIRBUS

ASML



ARQUUS



GENERAL ATOMICS



SAFRAN

PERI

STELLANTIS

Passenger seat legs:

- 72% less mass
- 100's of KGs per aeroplane

Launcher payload adapter:

- 73% less mass = extra payload
- Vibrations damping = lighter satellites

Stabiliser bar with tunable stiffness:

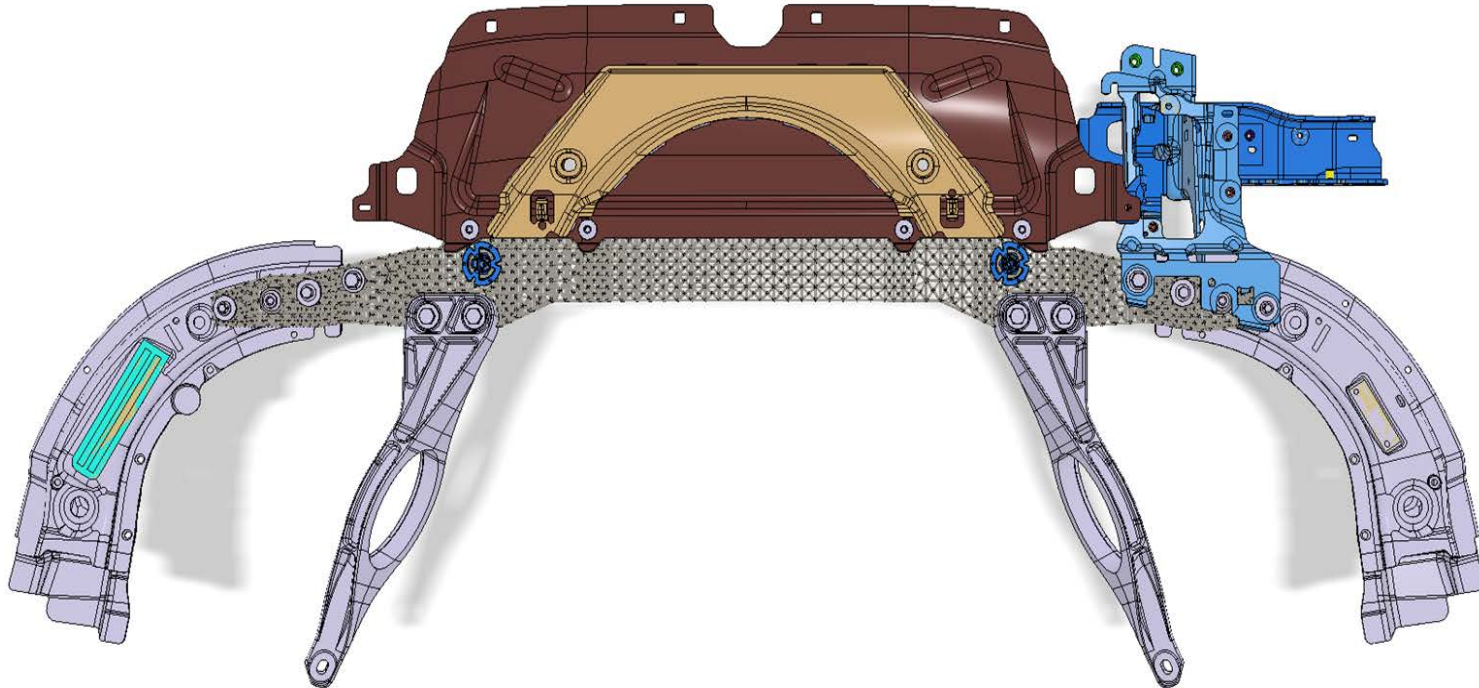
- 71% less mass
- improved handling

Structural car beam:

- 70% less mass
- thermal tuning properties



**We seek large scale manufacturers in
automotive / aviation / space / defense / energy
And start design & sample POCs to prove 80% better S/W**



elp

Book a meeting with TETMET

Tom Vroemen

<https://tetmet.com/calltvr>

tvr@tetmet.com



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Pitch Presentations

Time to meet the innovators!

Pitch 7
Holy Technologies
Moritz Moeker



The future of integrated composite manufacturing.



Holy Technologies

Moritz Möker

Head of Growth



We enable enhanced components
with revolutionary efficiency.

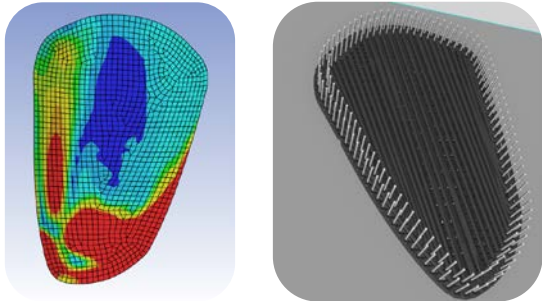
Already today, our technology makes composite components up to:

- ✓ **50% cheaper**
- ✓ **30% lighter**
- ✓ **100% recyclable**



holysynergy

Development



Serial Production



Recycling



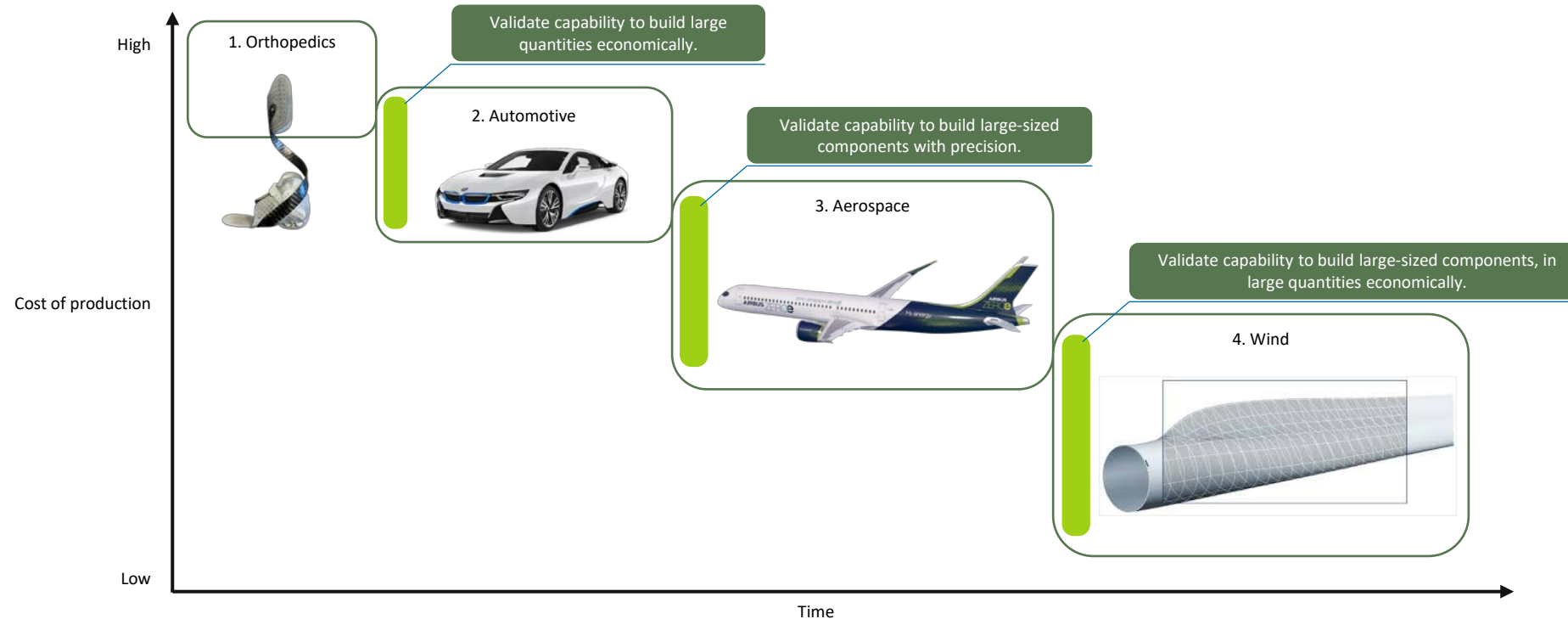
holysynergy
Software Infrastructure

Our 4 impact levers set us apart from the default.

1. **Material efficiency:** Up to 30% less material usage per component.
 2. **Scrap efficiency:** No scrap material vs. up to 30% scrap of total material usage.
-
3. **Energy efficiency:** Lower energy usage due to lower temperature and duration of recycling.
 4. **Circularity:** Proper recycling instead of massive downcycling or landfilling.



As we decrease the cost per unit with smart automation, we unlock additional larger markets.



We look for partners to help us bring our circular composites into the air.



BOSSE ROTHE
Founder & CEO

Previously founded recycling software company Cleanhub, scaling it to 1M€ ARR.

1st hire at AI start-up Fashwell, acquired by Apple.



MORITZ REINERS
Founder & CTO

Previously 10 years at Airbus' composite center, CTC, as Project leader & Assistant to CEO.

Worked on industrializing novel carbon fiber production lines.



#EENCanHelp

Book a meeting with: Holy Technologies

Moritz Moeker

Head of Growth

Holy Technologies

moritz.moeker@holy-technologies.com



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Pitch Presentations

Time to meet the innovators!

Pitch 8
Polymertal
Guy Varon



Polymertal

Lightweight and Sustainable
Alternative to Metallic Products

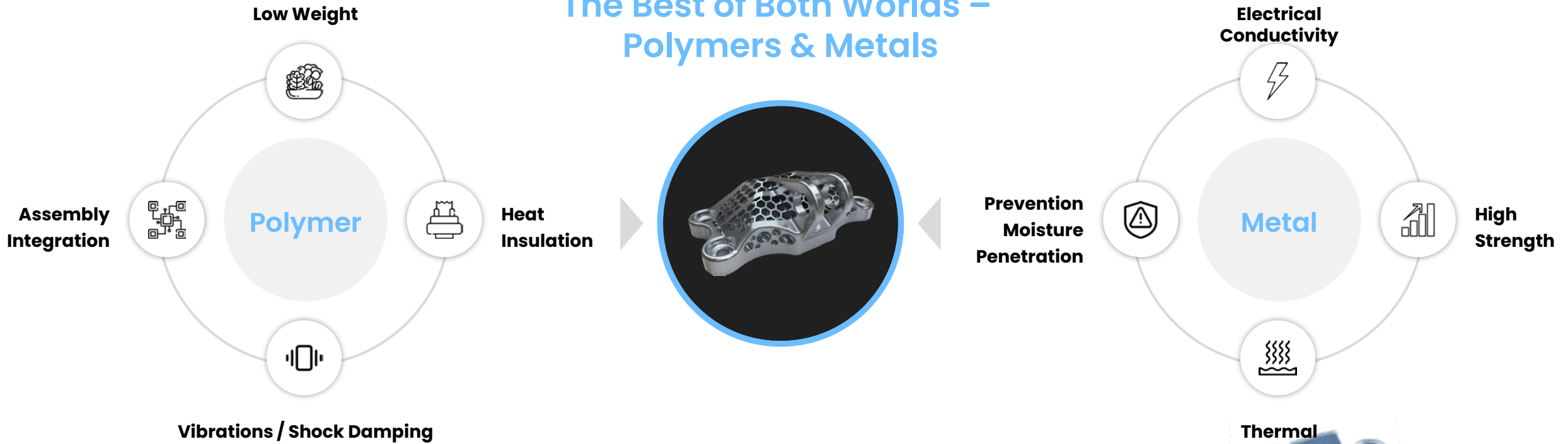
Polymertal

Guy Varon
VP of Business Development



SustainableSolutionsMatch

The Best of Both Worlds – Polymers & Metals

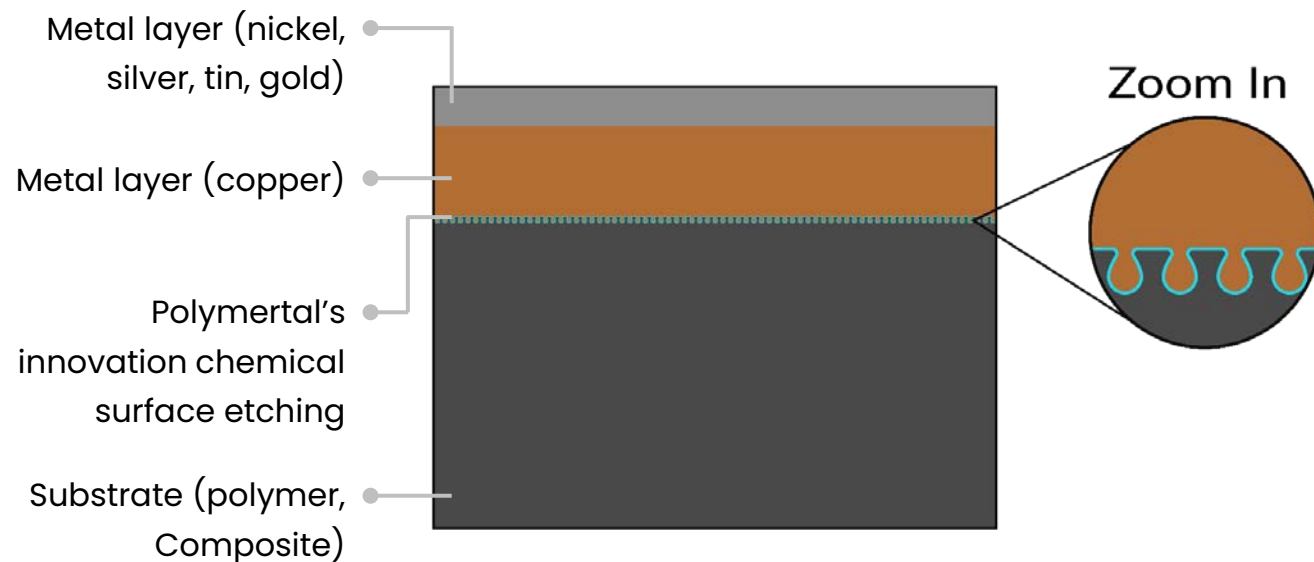


Polymertal's Solution



Technology

Direct Metallization Plating



No
Primers
No Glue

Features



Create Nano pores on the surface of the polymeric part



Pure Chemical process



Excellent Adhesion between the Metal and the Polymer



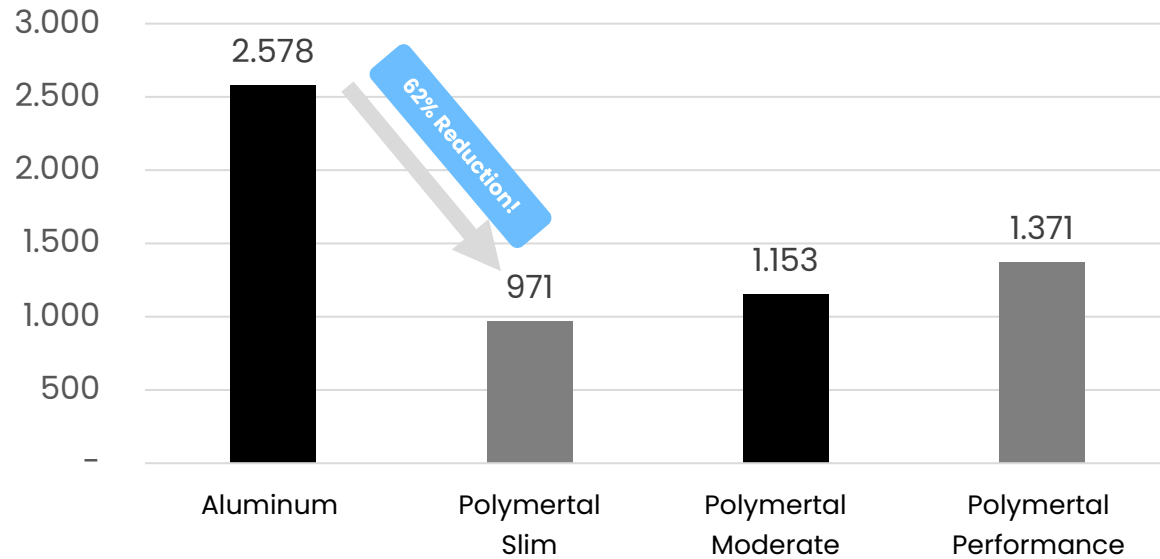
100 types of Polymers and several types of Ceramic

Sustainability Impact

Polymertal Is Committed To A
Decarbonization Initiative



CO₂ Product Footprint [g CO₂ eq]



Market

Oil Tank



Complex Geometry, Low
Weight, Sustainable

EMI Shielding Solutions



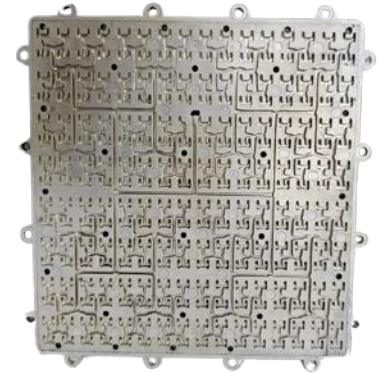
Sustainable, Lightweight, Cost
Reduction

Wave guides for 5G & Radars



Plating internal surfaces, high
frequency

Aerospace & Satellite Communication



Lightweight, Cost Reduction, High
Frequency

SCHAEFFLER

Continental
The Future in Motion

LOCKHEED MARTIN

ThalesAlenia
Space
a Thales / Leonardo company



SustainableSolutionsMatch

What Do We Offer?

- Co-development of components that bring a huge decarbonization opportunity for metal replacement materials.
- Fast turnaround of solutions with intended for serial production opportunities in the Aerospace, Automotive and Semiconductors industries.

What Are We Seeking?

- Customers that are interested in sustainable, lightweight solutions while keeping their price competitiveness.
- Investments and collaborations with strategic companies that are operating within the field of Polymetal (Automotive, Aerospace, Communication devices)



#EENCanHelp

Book a meeting with: Polymertal

Guy Varon

VP of Business Development

Polymertal

Guy.varon@polymertal.com



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Polymertal



Pitch Presentations

Time to meet the innovators!

Pitch 9
Paraloon
Robin Nelen



ParaLoon

lightweight, inflatable concentrating solar power system
for space and earth applications

ParaLoon B.V.

European deep tech start-up
Essen, Belgium



SustainableSolutionsMatch

The ParaLoon system - solar energy for space and earth

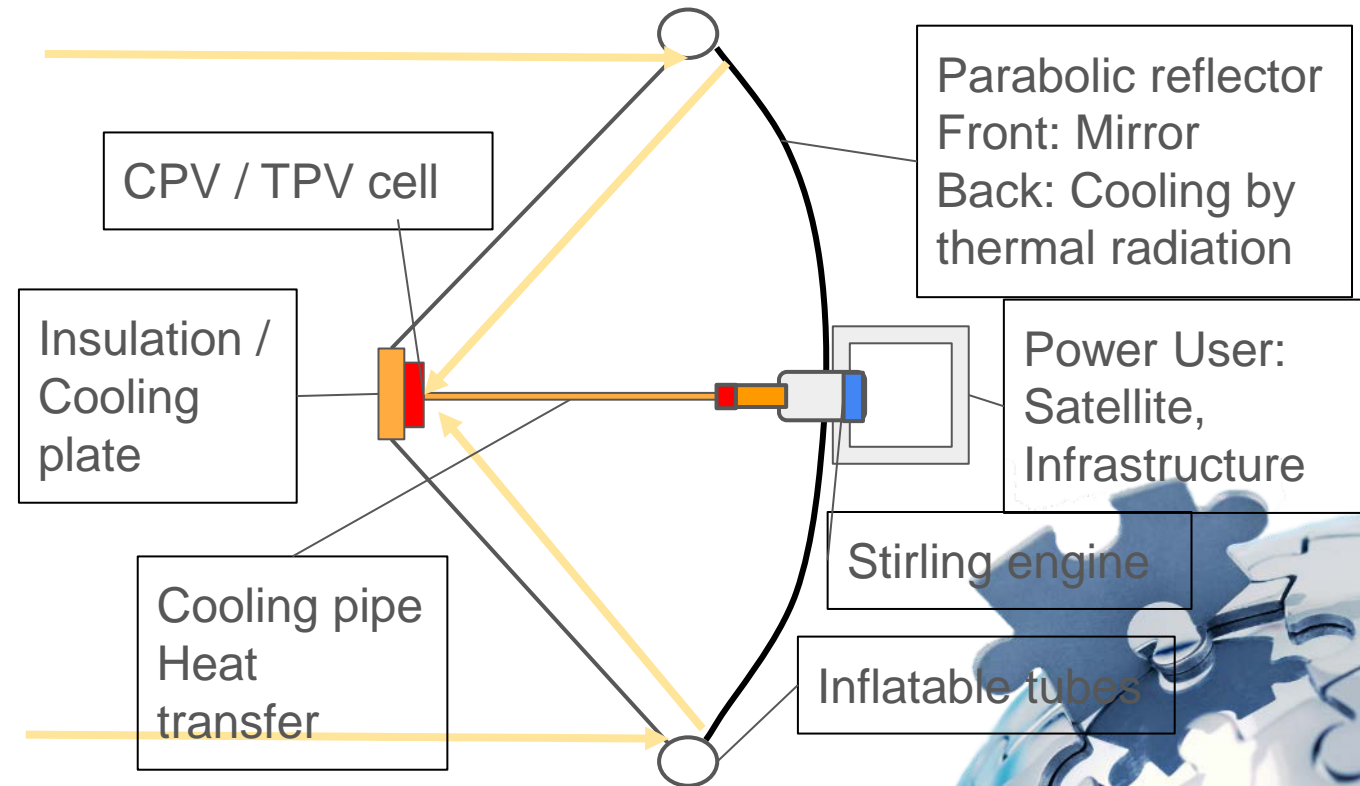
*Can you introduce your sustainable solution and briefly describe how it works?
How adaptable is it to different contexts or industries?*

- **Concentrating Solar Power** system for space and earth applications
- **Parabolic inflatable reflector structure** (parabolic balloon - “ParaLoon”)
- **Lightweight**, inflatable, polymeric system
- **Highly efficient Concentrator-PV (CPV)** technology: collection of **light & heat**
- **Electromagnetic beaming** of energy to any location (long term goal)



The technology - Concentrated photovoltaics (CPV)

In case the prior slide was sufficient to explain your solution, please just remove this page



Differential value and sustainable impact

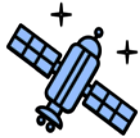
What makes your solution different and what measurable sustainable impact does it create?

- Higher efficiency by conversion of light and heat
- Easily deployable by gas inflation or unfolding
- Rigidization after deployment
- More energy per area of solar panel
- Small bounding box at launch
- Lighter system without mechanical structure
- Reduced cost of solar power

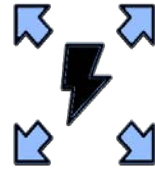


Market / Target audience / Potential Customers

Who would benefit most from this solution?



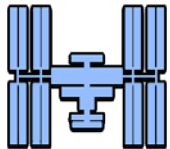
Space
Satellites



Energy
Providers



Defense



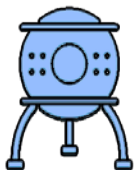
Space
Stations



Energy
Users



Rescue
Teams



Space
Habitats



Energy
Prosumers



Emergency



Looking to connect to

Suppliers:

- inflatable systems
- PV cells for conversion of light & heat

Funding / investments for prototypes & product development:

- Consortial partners (from industry and/or research)
- Funding programs (national, EU)
- Business Angels, VC investors

Partners:

- from energy sector
- from space sector



elp

Book a meeting with: ParaLoon

Robin Nelen

0032 4 74 84 25 06

robin@paraloon.space

<https://www.paraloon.space>



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.eu



Closing Remarks

A big thank you to all pitchers and attendees! We appreciate your participation today.

If you'd like to connect with any of the pitching companies, please use the matchmaking tool to **book a meeting!**

Next available at
09:00 - 09:30 CET
Monday 10 February 2025

FEB
10
in 1 mo

+ Request meeting

Need support? **Enterprise Europe Network is here to help!**

Reach out to your local Network partner:

<https://een.ec.europa.eu/local-contact-points>



Questions?



#EENCanHelp

Thank you!

Rosalía Vicente & Simone Sparano

rosalia.vicente@madrimasd.org

simone.sparano@cam.camoom.it



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