

BSGN
Business in Space Growth Network

Advanced Materials and Manufacturing Accelerator



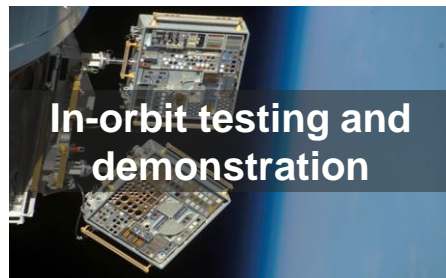
Advancing capabilities and commercial applications of in-orbit manufacturing and microgravity R&D to address known and novel challenges in frontier applications

50
technology
development
proposals in
Phase-1

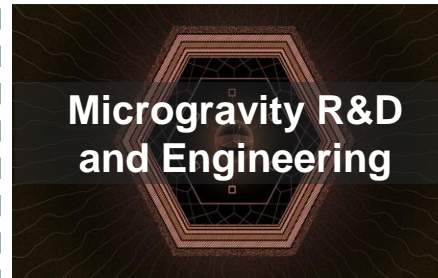
26- European

24- UK

Four diverse yet interrelating segments of interest



- Testing and qualification of new materials, components, subsystems –“space heritage”



- Cutting edge microgravity R&D on speciality chemicals and novel materials and processing technologies
- E.g. Space-grade semiconductors



- Multipurpose in-orbit R&D and production facilities
 - Furnaces, combustion reactors, 3D printers, thin film deposition facilities and etc



- Manufacturing of large structures for enabling new in-orbit infrastructures
- Innovative utilization of ISM in enabling new or enhancement of existing applications

Potential for major value creation

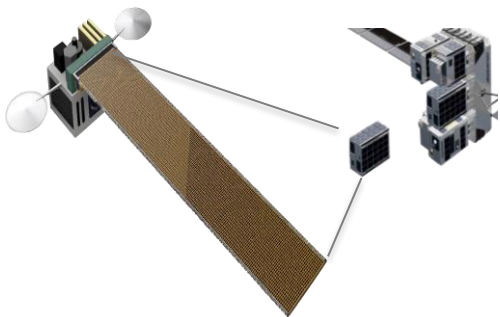
The comemrcial opportunities for In-space R&D and production will evolve rapidly with the expansion of the supply chain in the coming years



The accelerator has partnered with DCUBED and Photocentric to de-risk, develop and facilitate in-orbit demonstration of high potential technologies aimed at expanding in-orbit manufacturing applications



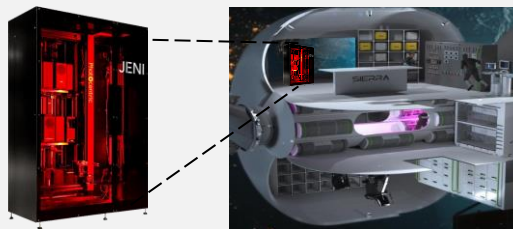
Utilizing in-space manufacturing in productization of compact high-powered solar arrays



Photocentric

- A reputable 3D printing specialist
- Pioneers of the world's first LCD 3D Printers
- Over 30 active R&D engineers
- Strategic partnerships with BASF and HENKEL
- Serves broad range of applications and industries, from pharma to industrial machinery and consumer markets

CosmicMaker



- ✓ An **autonomous** and **hybrid** facility, combining **multi-material** fabrication and post-processing functionalities
- ✓ First on-demand **fabricator** of **silicon carbide parts** in space, enabling parts with critical properties
- ✓ Developed over 4 phases

Dual-Purpose facility designed for stations

In-Space Production

- Enables on-demand fabrication of space-grade parts for repair, maintenance, and upgrades aboard space stations



In-Space R&D as a Service

- Serves as an end-to-end R&D platform for industrial and research users to drive innovations in ceramic composites and Silicon Carbide-based solutions for high performance applications



DCUBED Fast Facts

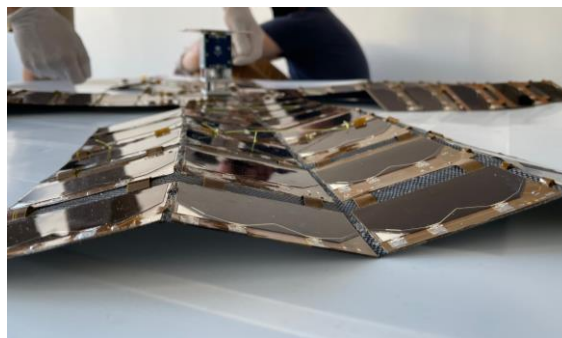
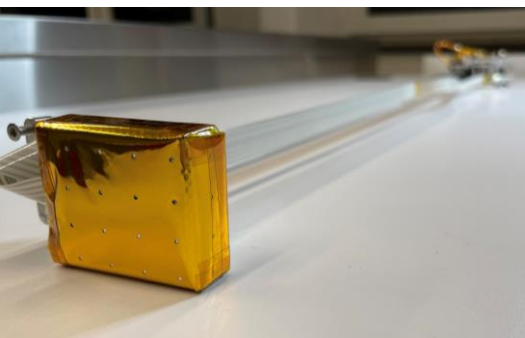


GLOBAL HQ
FOUNDED
TEAM

Munich, Germany
2019
30+ and counting

FLIGHT HERITAGE
CUSTOMERS

19 products in space
In 18 countries across 4 continents



DCUBED Advantages



Our **ease of use** DNA equals time savings



Resettable, hundreds of times, within seconds



Proprietary materials and designs



Available **off the shelf**, no minimums



Space-proven products



Suitable for **any space environment**



No export control

Step by step to our vision:

DO BIG
THINGS
IN SPACE



STEP
BY STEP

1

REINVENT EXISTING SOLUTIONS

Already
flying and
sold in the
hundreds

2

DISRUPT THE INDUSTRY

Research
done, time
to bring it
to SPACE

OUR
PRODUCTS

RELEASE ACTUATORS:

Easy to use and in stock



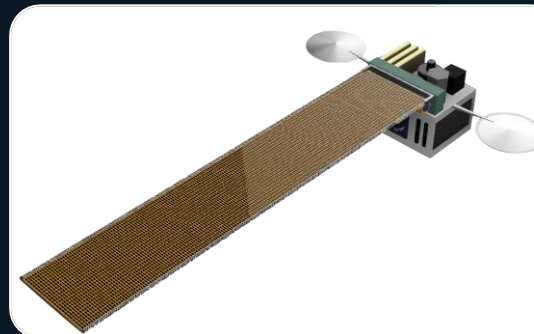
HOLD-DOWN AND
RELEASE TO SURVIVE
THE LAUNCH

DCUBED already:

- Showed it can develop mission critical space hardware
- Demonstrated product-market fit
- Proved market demand exceeded expectations

IN-SPACE MANUFACTURED SOLAR ARRAYS

Supercharging the NewSpace economy



PROVIDING
KILOWATTS
OF POWER WITH IN
A TINY STOWAGE
VOLUME

DCUBED already:

- Removed the risk from flexible solar array technology
- Tested In-Space Manufacturing principle in environment
- Collected over 1.9 M€ in commercial contracts

Our In-Space Manufactured Solar Array: supercharging NewSpace satellites



DCUBED's EXISTING PRODUCTS:



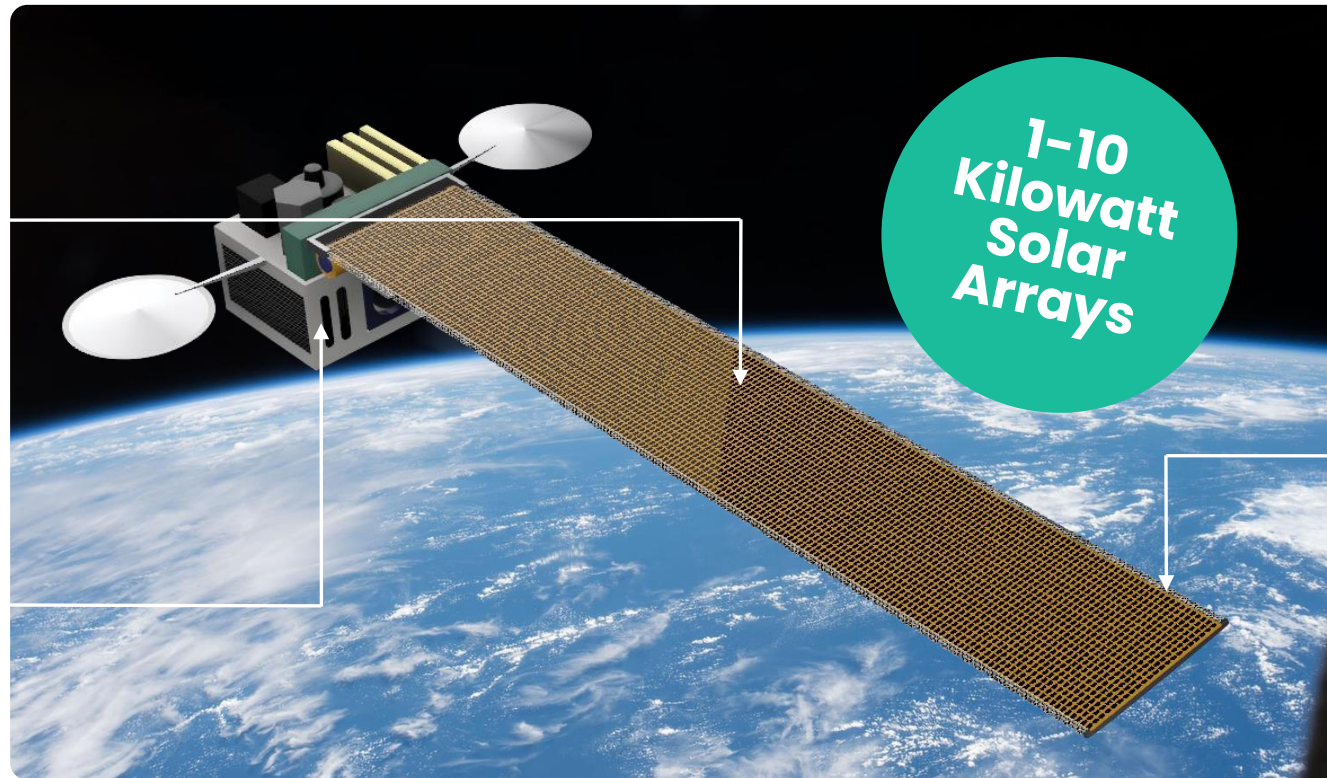
Origami
Solar
Arrays

**Proprietary deployable
technology.**



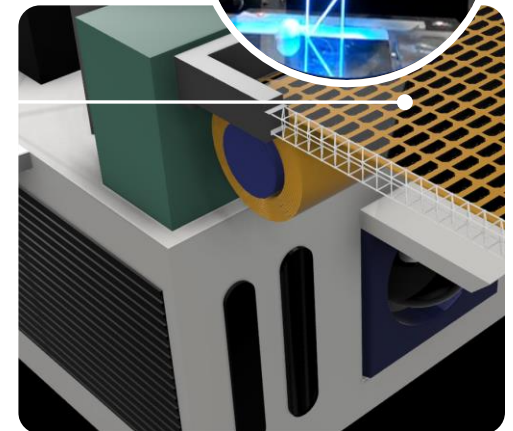
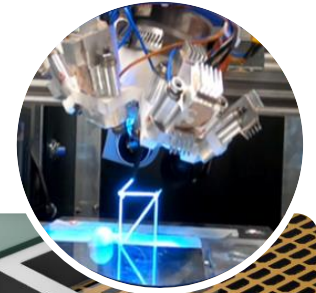
Release
Nuts & Pin
Pullers

**Patented mechanical
switches.**



THE GAME CHANGER / ENABLER:

In-Space Manufacturing (ISM)

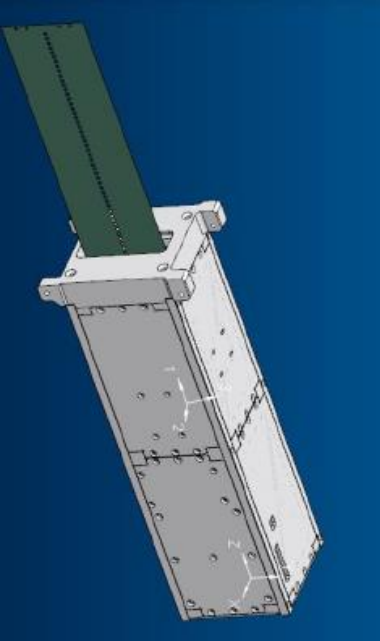


Towards our DCUBED ISM Solar Arrays: A two step approach:



STEP 1: IOD 1

ISM printing unit (demonstrating in-space manufacturing)



April 24
Skyroot Vikram
Maiden Flight

STEP 2: IOD 2

Full solar array with ISM printing unit



Q4/2024
Negotiation
Ongoing

Thank you



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