

ADAMANT COMPOSITES

Building an Advanced Engineering and Composites Manufacturing Powerhouse for the Aerospace and Defence Supply Chain

COMPANY

Our approach



- We **DEVELOP** critical space systems for the European independence, autonomy and competitiveness in Space.
- We **INVEST** in Equipment, Know-how creation and Human Capital for the design, engineering, manufacturing, assembly and integration of mechanical space systems and small satellites.
- We **JOIN FORCES** with reliable partners in Greece and Europe to mature our technologies and enter in new market that attract the attention of investors.



SPACE

INDUSTRIAL MATERIALS

ENERGY

Markets Served

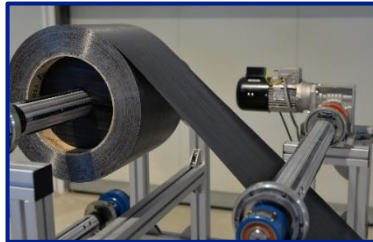
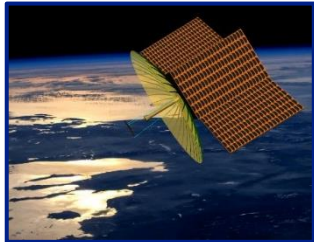
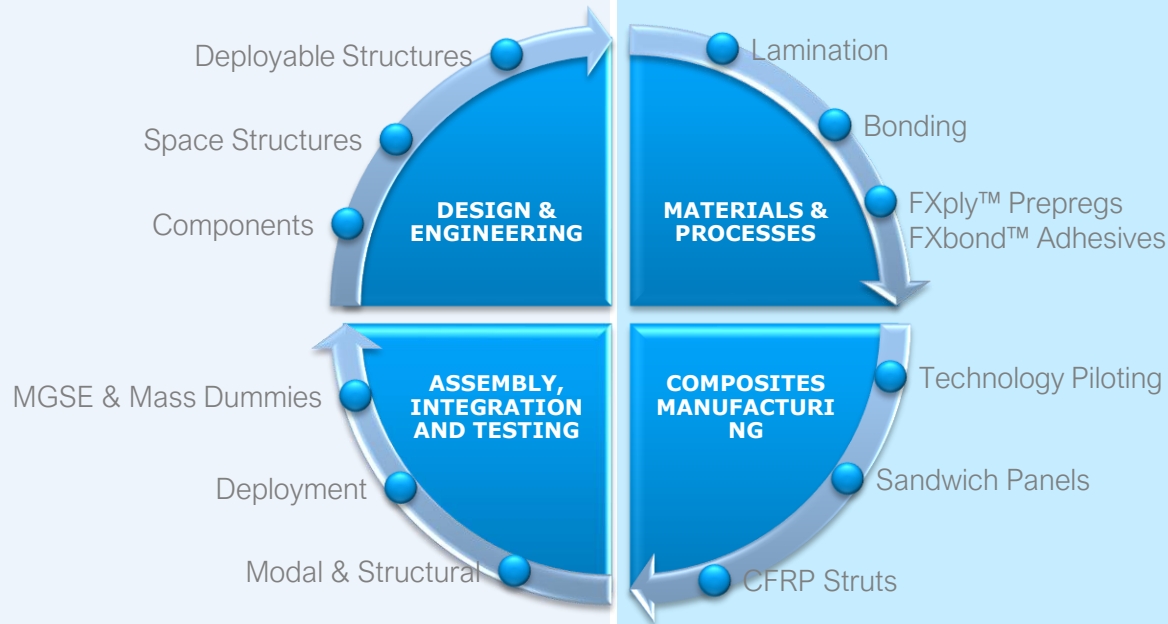
SPACE

To become a top tier supplier for Structures Hardware and Subsystem in the Space Industry.

INDUSTRIAL MATERIALS

Developing the next-generation products using

- Innovative & LIGHTWEIGHT material solutions and
- Advanced Manufacturing Processes



Key facts - Snapshot

Business



Founded in 2012



Main facility in Patras,
Satellite Offices in Athens



16 Employees.
Average age: 34.0 yrs.



1100m² industrial facility



Certified under EN ISO 9001:2015



Growth: >25% CAGR

Customers and Partners



Brief Timeline

○ 2012-2013

- Foundation of Adamant Composites Ltd.
- 1st ESA R&D Activity on nano-enabled composites



○ 2014

- LAGARD: Flagship Project on Large Deployable Structures
- 1st works on Additive Manufacturing



○ 2015

- EU-H2020-PLATFORM: 1st PILOT Project on nano-enabled materials
- Contract on Graphene Technology



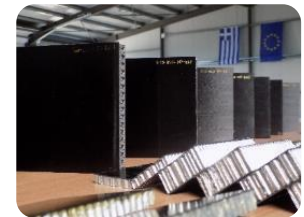
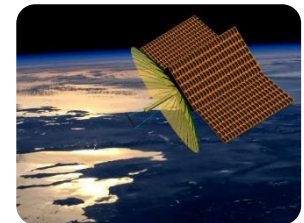
○ 2016 - 2017

- Move to Industrial Facility
- Composites: Installation of Autoclave
- 2 ESA Mission Contracts on MOSE



○ 2018 – 2020

- Qualification of Struts and Sandwich Panels
- Pilot Line for nano-enabled preregs
- LSI Industrial Audits
- Deployable Antenna Contract





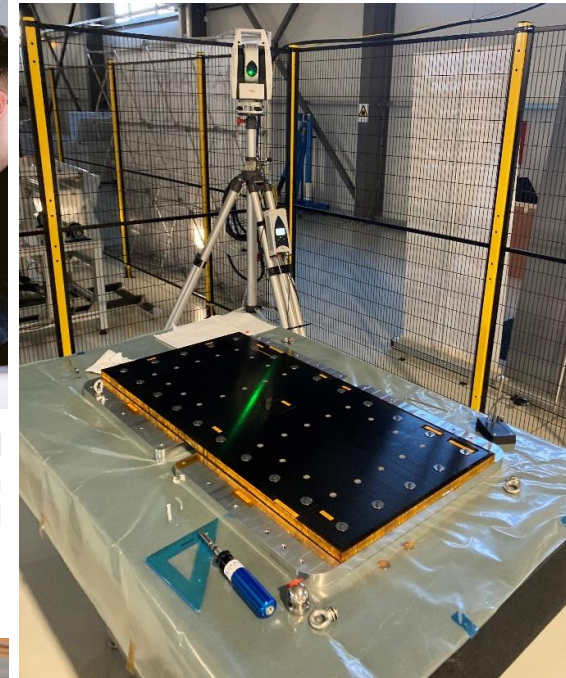
Operational Production Facilities with:

- ✓ Office space – 150m² for engineering and production teams
- ✓ Hall 1 – 800m² for Industrial Materials
- ✓ Hall 2 – 300m² for Assembly, Integration & Testing

ACTIVITIES

What we do?

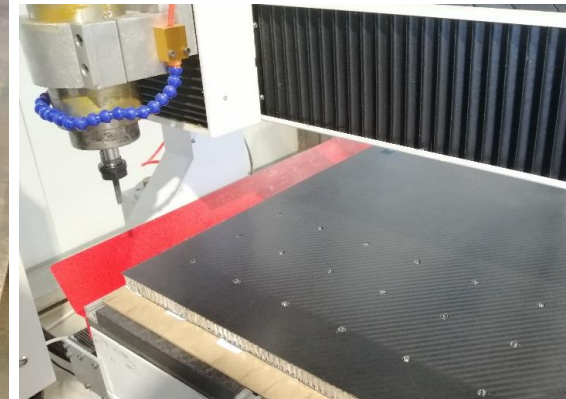
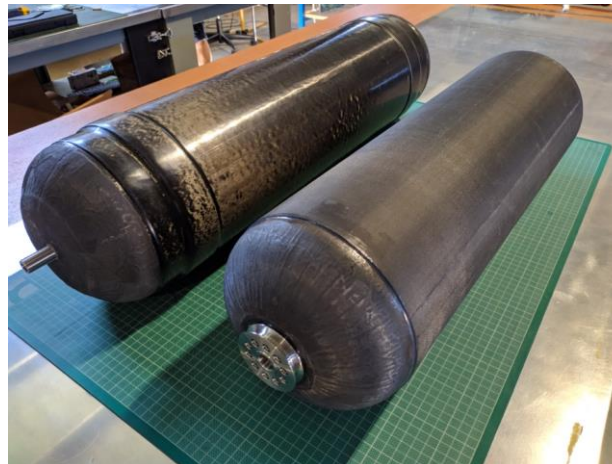
Raw Sandwich Panel



Struts

Integrated
Sandwich
Panel

CFRP Tanks

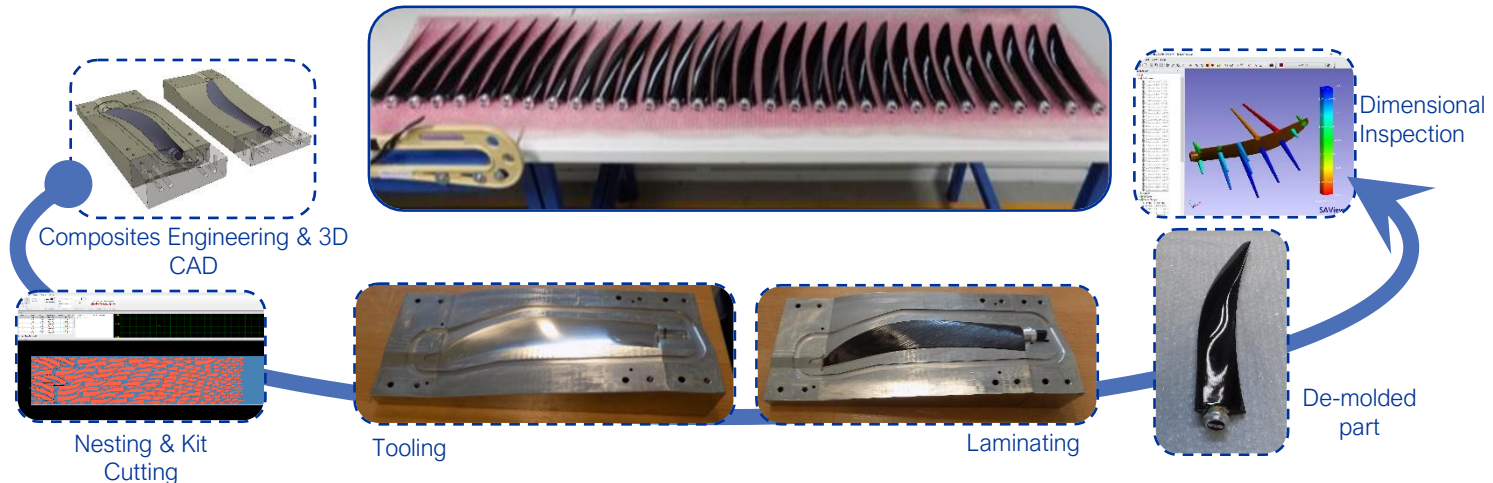


Complex Composite parts

Composites Blades



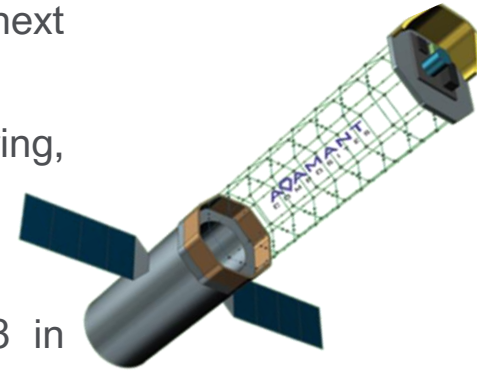
One-Stop-Shop Small Series Composites Production



Large Stable Deployable Truss for Science Missions



- Innovative technology (unique in Europe) for application in the next generation observation ESA telescopes.
- Development of Infrastructure, Know-how, and Talent for the engineering, manufacturing and assembly of deployable systems in Greece.
- High deployment accuracy: 50um at 4m.
- Full scale qualification testing (12m length, 4m diameter) within 2023 in Greece and the Netherlands (ESA/ESTEC).

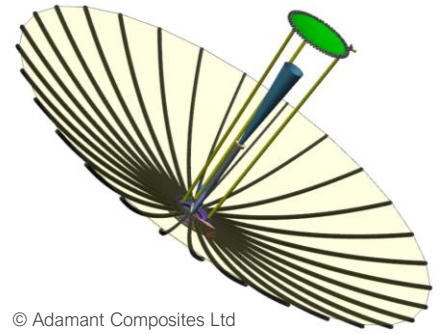


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Deployable Reflector Antenna for Small Satellites



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- Putting Greece in the Global map of Deployable Structure Technologies.
- Critical technology for the European non-dependence in Space.
- Application in telecommunications and science/exploration missions.
- Activities include: Design, Engineering, Prototyping, Manufacturing, Assembly, Integration and Testing of Engineering Qualification Model in 2023.
- Greek consortium lead by Adamant Composites with NCSR Demokritos, University of Patras and SITAEL Hellas as subcontractors.



SpaceWatch.Global @SpaceWatchGL · 2 Ιουλ 2020

Kicked off amidst the COVID-19 crisis and the consequent financial uncertainty, @ESA has entrusted the Greek consortium led by Adamant Composites to develop a deployable structure that can work as an antenna for small satellites

[#DELHILA](#) [#Satellite](#) [#ESA](#) [spacewatch.global/2020/06/greek-...](#)



Image credit: ESA

INNOVATION

*We hold a unique technology portfolio for tailored composites
“FX-family of products”*

Turning conventional products to functional through proprietary established, up-scaled and running in-house pilot production lines and processes.

Properties of polymer-based composites that can be tailored:

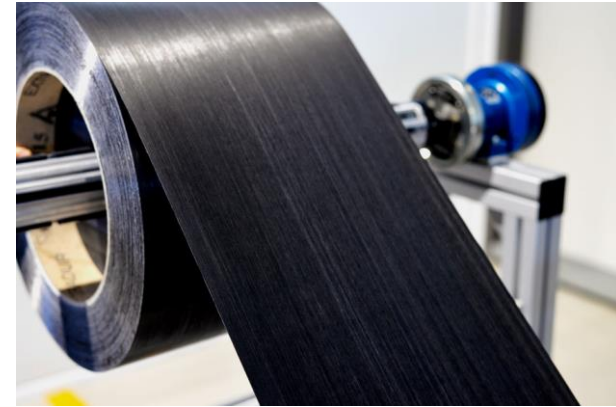
- ✓ Electrical conductivity
- ✓ Fracture toughness
- ✓ Thermal conductivity

Benefit:

- ✓ Seamless integration in composites application
- ✓ Minimized impact to already established production lines
- ✓ Speed & Cost for integration of new functionality

Existing production lines for offered products:

- ✓ **FXply™ prepregs**: suitable for epoxy, cyanate ester
- ✓ **FXbond™ adhesives**: suitable for paste, liquid or film forms, epoxy or silicone.



FXply™ nano-enabled prepregs for improved CFRP structures



FXbond™ nano-enabled Adhesives

Nano-enabled prepreg

FXply™ prepreg line

- Continuous Fibre Reinforcement
- Epoxy, cyanate ester, ...
- Roll-to-Roll production line
- Delivers prepreg form

Challenge check:

- ✓ Industrial Production Volumes
- ✓ Compatibility with existing production technologies
- ✓ Material selection is industry ready and upscale-able
- ✓ Applied to qualified products
- ✓ Integrated Quality Inspection



*Thank you for your
attention!*

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