Spacelis

SPACELIS Space Technologies

DIANA DUAL-USE INNOVATOR

Team

Team Size: 3

Dr. Guler Kocak – Founder and CEO

Almina Dokur – Physicist and Innovation Specialist
Dr. Filiz Kurtcebe – Project Management Advisor

Long Term Vision and Goals

SPACELIS aims to become a global leader in next-generation flexible solar technologies, transforming sustainable energy solutions for space exploration, defense applications, and environmental sustainability.

3-5 Year Success Vision:
• **Technological Development:** Develop and deploy ultra-lightweight, foldable, and rollable solar panels tailored for extreme environments such as Cube-sats, Lunar and Mars missions and defense systems.

• **Market Position:** Capture a significant share in the aerospace and defense renewable energy markets by partnering with leading space agencies (e.g., NASA, ESA) and defense organizations.

• **Concrete Milestones:** Complete and commercialize the origami-inspired foldable and rollable solar panel design.

• Achieve TRL 7-9 (system prototype demonstration in space environments).

• Establish SPACELIS as a NATO-certified supplier for space and defense-grade renewable energy systems.

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Stage

| Concept | Technology | Prototype | Testing/Trial | Commercial |

Support Needed for the Next 12 Months

Milestones & Required Support:

1. Finalize Prototype Design (Foldable and Rollable Panel)

•**Milestone:** Create a digital and validated prototype ready for testing.
•**Support Needed:** Funding for space-grade solar cell development, access to a fabrication facility for scalable printed cells, AI-based 3D modeling tools, simulation software, and mechanical and electrical engineering expertise.

2. Secure Key Partnerships
•**Milestone:** Collaborate with at least two leading space or defense organizations (e.g., Airbus, Axiom, Thales, Tübitak Uzay, NATO DIANA, Plan-S) for joint development and pilot testing.
•**Support Needed:** Networking opportunities, introductions to industry leaders, and a platform to showcase technology.

3. Raise Initial Investment
•**Milestone:** Secure pre-seed/seed funding of $1M to support R&D and TRL advancements in a year. Secure $4M for the launch readiness of space-grade solar panels in 2-3 years.
•**Support Needed:** Investor connections, pitch refinement, and strategic guidance for funding applications.

Target Market & Ideal Customer

Expand into the $5B + space power systems market, leveraging NATO and private-sector partnerships, and establish IP-protected solar technologies for high-demand applications in harsh environments.

Target Customer, Market Size, Challenges, and Solution Fit:
•Target Customers: Space , defense organizations, satellite manufacturers, and energy and environmental agencies.
•**Market Size:** Space solar power market is projected to grow to $10B by 2030; defense renewable energy market is valued at $2B+.
•**Challenges:** High production costs, technical validation in extreme environments, and stringent compliance standards.
•**Solution Fit:** SPACELIS offers ultra-lightweight, modular, and scalable solar panels with advanced materials, ensuring reduced mission costs and higher energy efficiency in challenging conditions.

Fundraising Status

| Pre Incorporated | Bootstrap |
| Pre-Seed | Seed |

Revenue Status

| Pre Revenue | Early Revenue |

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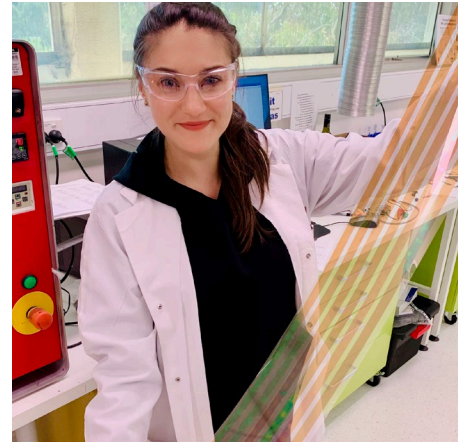
SPACELIS Space Technologies

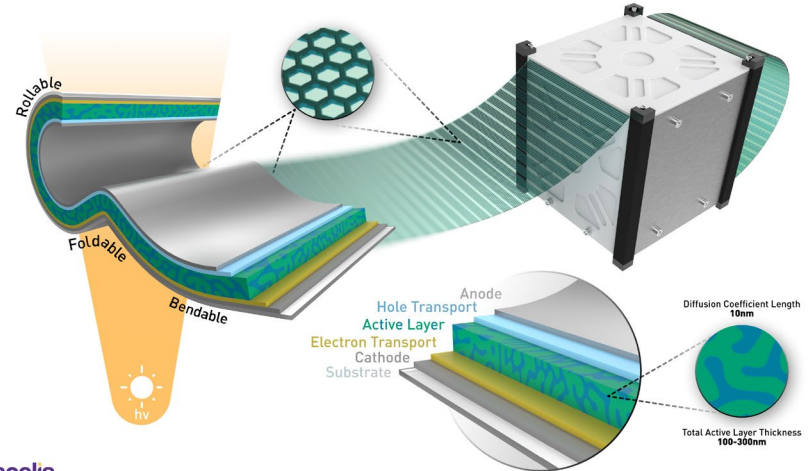*DeepTech Driving Innovation in Solar & Space Industry*

Dual-Use Solution for Space and Clean Energy Industries:

Thin-Film, Flexible Ultra-Lightweight Solar Panels

SPACELIS's differentiators include:

- <u>WEIGHT:</u> Up to 50% lighter weight.

- <u>COST:</u>40% reduction in manufacturing and launch costs.

- <u>FLEXIBILITY:</u> Highly flexible and deployable design for compact storage.

- <u>DURABILITY:</u> Enhanced durability in extreme environments.

Rollable
Foldable
Bendable

hv

Anode
Hole Transport
Active Layer
Electron Transport
Cathode
Substrate

Diffusion Coefficient Length
10nm

Total Active Layer Thickness
100-300nm

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DeepTech Driving Innovation in Solar & Space Industry

Driven Thin Film Solar Technology for Space Applications

AI-Powered Manufacturing Enhancements 🏭

📍 Efficiency:
•Predictive maintenance for minimal downtime
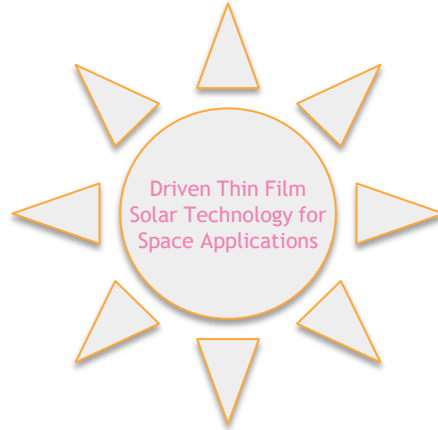•AI-driven material selection and design

📍 Sustainability:
•AI-powered recycling strategies
•Energy-efficient production optimization
•Cleantech-driven AI recycling strategies

📍 Cost-Effectiveness:
•Smart supply chain management
•AI defect detection reducing material waste

📍 AI-Advanced Material Selection & Design
• AI-powered predictive analytics to optimize energy consumption

Customer-Centric AI Feedback Integration 📊

📍 Market Adaptation & Commercialization:
•AI-driven industry feedback analysis
•Real-time feedback loops for continuous improvement
•Integrating wearable solar technology and smart sensors for real-time AI-powered feedback

AI-Optimized Product Performance & Reliability ⚙️

📍 Automation & AI Agents:
•AI agents managing production and deployment
•Human-in-the-loop AI for user-centric design

📍 Future electronics & deep tech integration
• Enhancing AI-driven reliability
• Greentech-powered efficiency

AI Agent Coordination & Human-Centered AI 🤖

📍 Durability & Stability:
•AI-enhanced thin film adhesion
•Predictive analytics for stability in space environments

📍 MAS Security, Risk Management & Product Safety:
• MAS distributes data processing, reducing risks and ensuring accurate outcomes

📍 Customer-Centric AI:
•AI tools improving B2B and end-user experience

End User 🧑‍🚀