



Company presentation

WHO WE ARE



Astradyne is a space-tech company specialized in advanced photovoltaic systems for space



Founded 2021

12 employees, based in Bari

Multidisciplinary team

Space systems, energy and advanced manufacturing

Active contracts

Commercial and institutional customers

Flight proven

Solar-Z in orbit since October 2026

KEY INNOVATIONS

Proprietary materials stack-up and deployment mechanisms → high specific power and reliability, at competitive cost

THE SHIFT

Spacecraft are moving to higher power

Multiple applications are pushing platforms from hundreds of watts towards tens of kilowatts.

TODAY · SUB-kW PLATFORMS

TOMORROW · TENS OF kW

Telecommunications

Higher throughput per satellite

EO & SAR

Radar and on-board processing

Defence

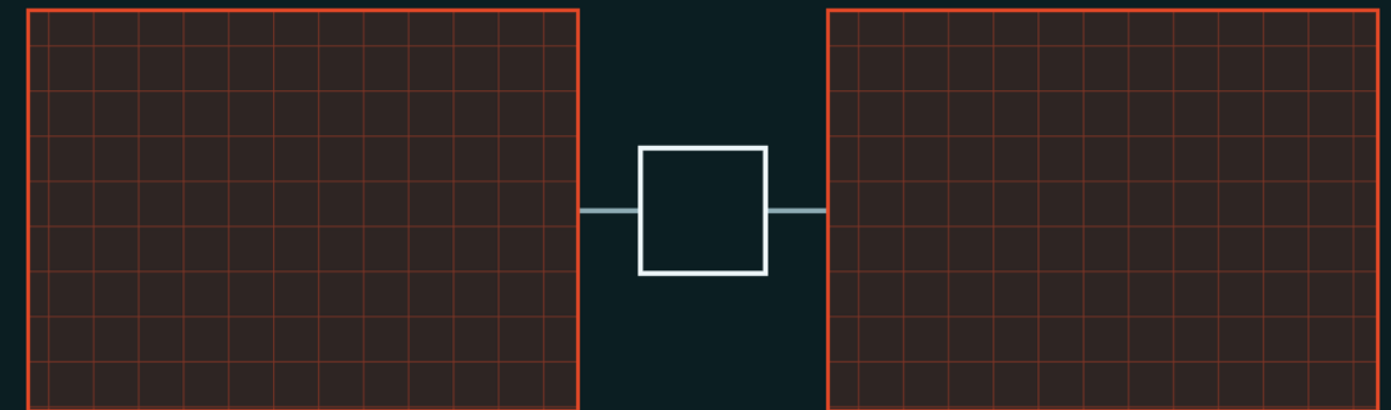
Persistent sensing and resilience

On-board computing

AI inference at the source



<1 kW · a few m² of solar array

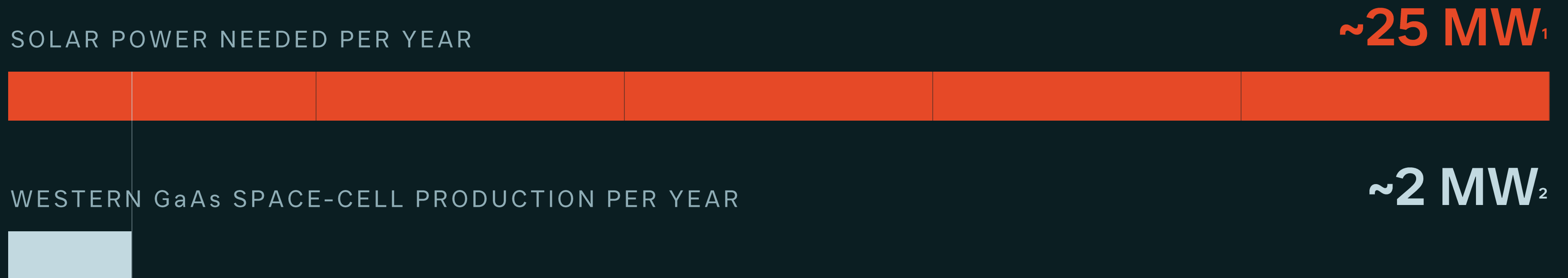


10 kW+ · tens of m² of solar array

THE PROBLEM

Today's solar technology cannot satisfy that demand

Space-grade supply was built for hundreds of satellites a year. The filings call for thousands.



AND TRADITIONAL RIGID SPACE ARRAYS ARE

Heavy

>3.5 kg per m². Every kilogram is lost payload.

Bulky

Large stowed volume, limited foldable surface area.

Expensive

Built one by one. >500 eur per watt.

Slow to procure

Constrained supply chain. 12–24 months to procure.

1 · Filed deployment schedules at ~2 kW avg. per satellite. Includes commercial LEO constellations; excludes in-house vertically integrated supply and space-based solar power.

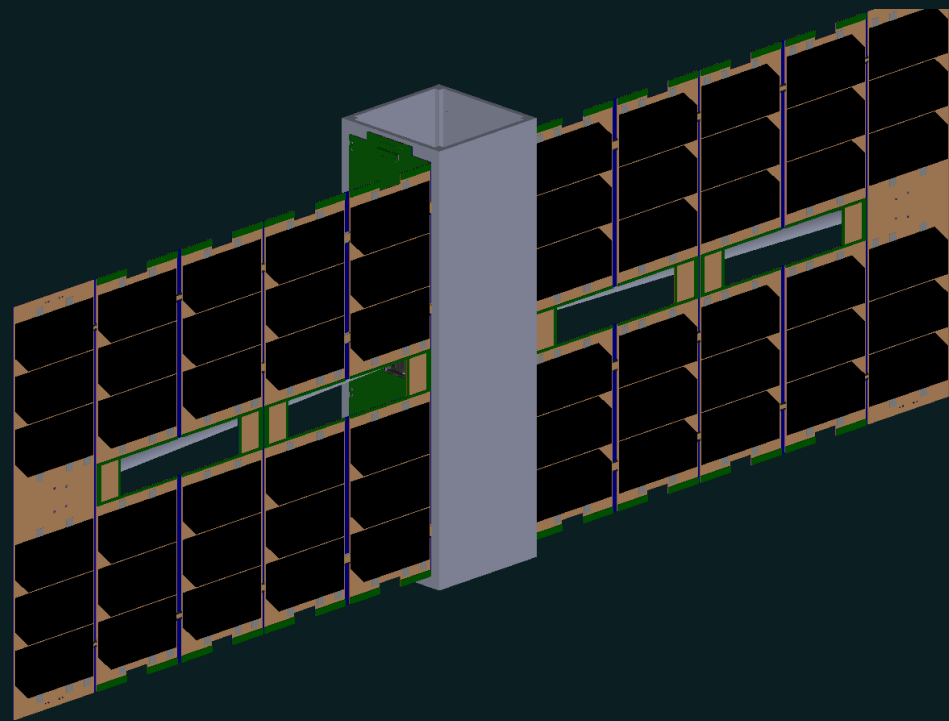
2 · Western annual triple-junction GaAs space-cell output. Shield Capital / SpaceNews, 2025.



WHAT WE DO

Two product families, one know-how

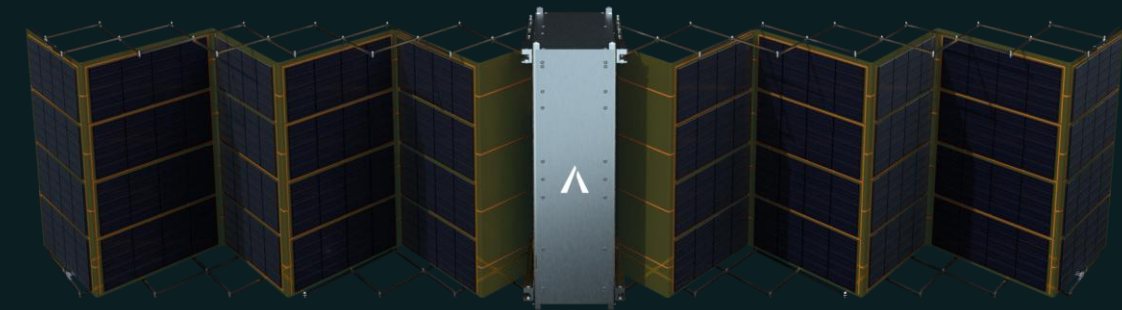
Proprietary materials stack-up and deployment mechanisms, across two product lines.



TRL 9 · IN ORBIT SINCE OCT 2026

Solar-Z

High-efficiency arrays for small satellites · III-V GaAs cells, compact passive deployment



TRL 7 · IOD 2027

Solar-X

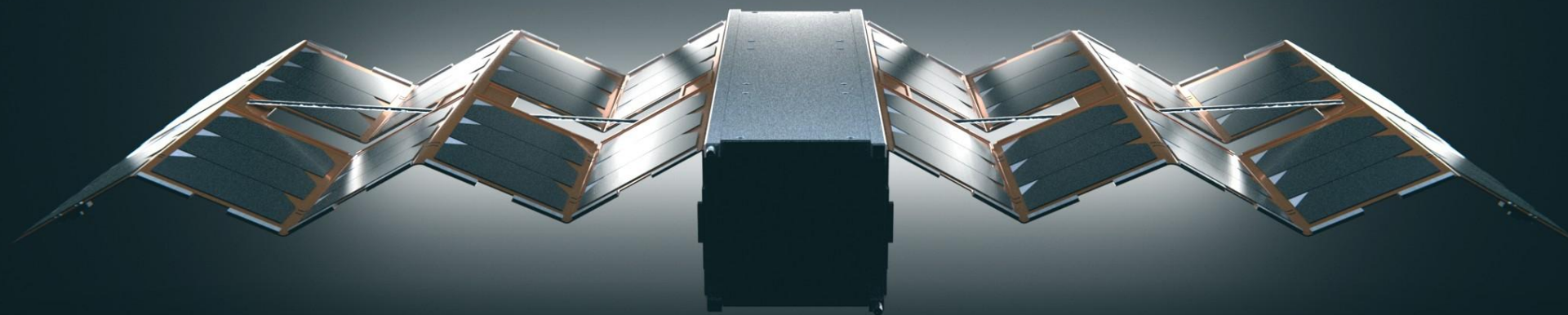
Industrial-scale arrays · commercial silicon cells and terrestrial-PV processes, engineered for space

OUR FLIGHT HERITAGE



Solar-Z: high-efficiency deployable solar power

Space-heritage III-V cells on thin, flexible panels, with passive deployment.



SOLAR-Z AT A GLANCE:

~29% efficiency

III-V triple-junction cells · best-in-class

97% retention

after $1\text{E}14$ 1 MeV e^-/cm^2 electron dose

Low tech risk

space-heritage cells

TRL 9

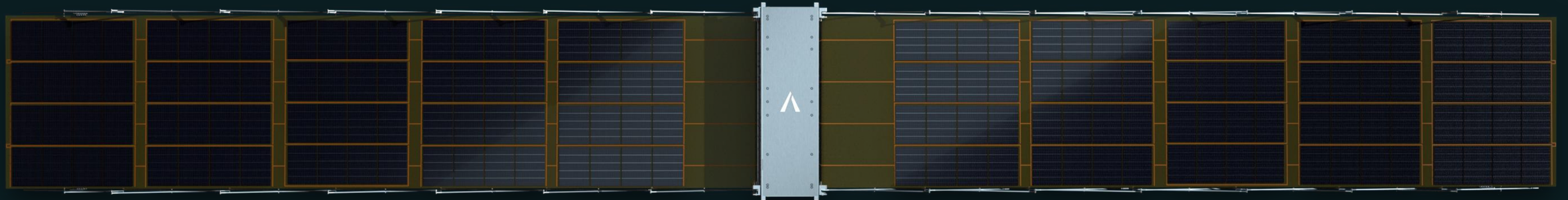
flight proven · in orbit since Oct 2026



OUR SOLUTION

Solar-X: lightweight, deployable solar power

Industrial materials and processes, engineered for space.



COMPARED TO TRADITIONAL SPACE-GRADE SOLAR ARRAYS:

50% lower mass

1.8 kg/m² vs >3.5 kg/m² for rigid arrays

20× more compact

deployed area per stowed volume · >30 kW/m³

90% lower cost

per watt · COTS materials and components

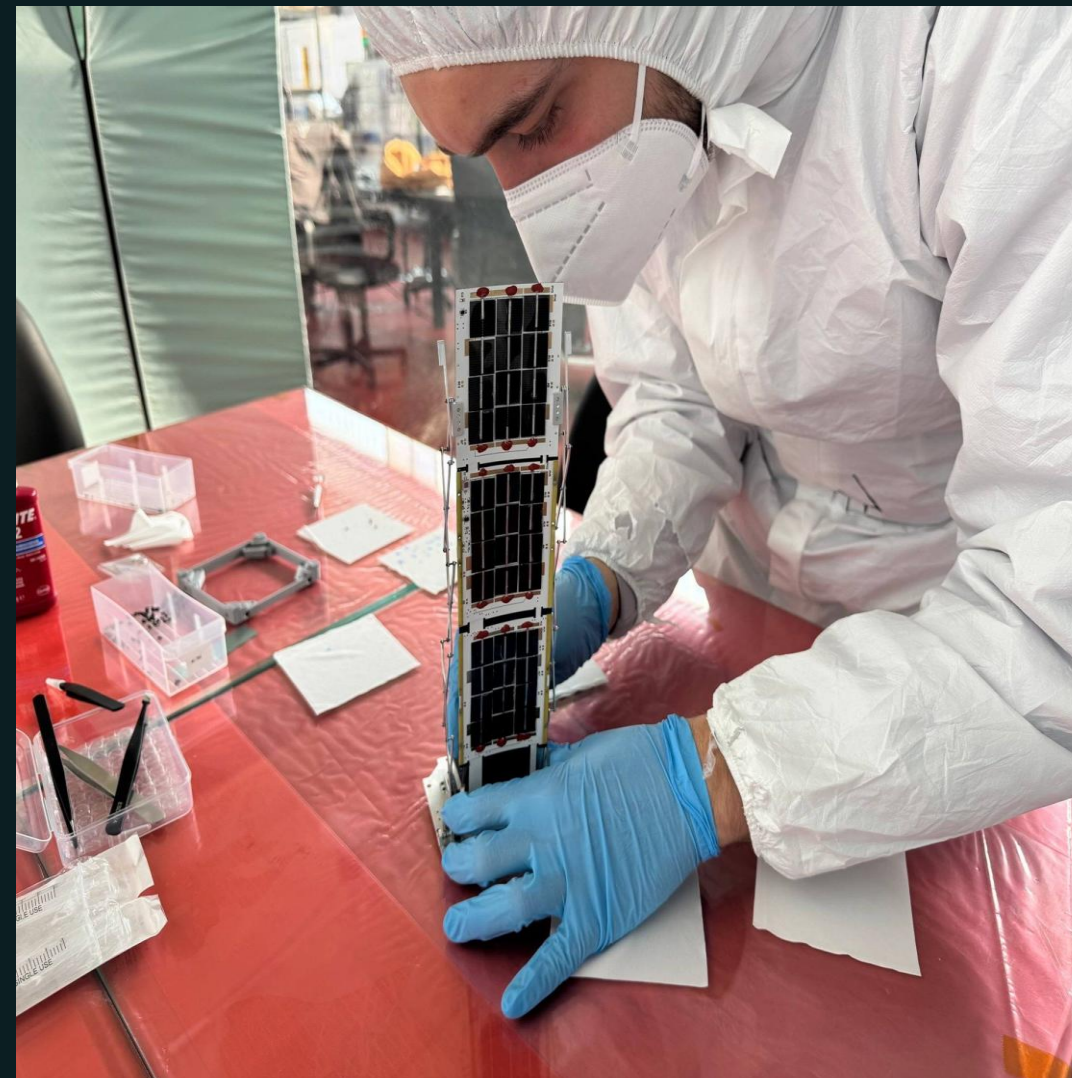
> 5MW / year

modular design, repeatable production

MANUFACTURING

We build everything in-house

Two product lines under one roof in Bari — from production to quality control.



Production



Assembly



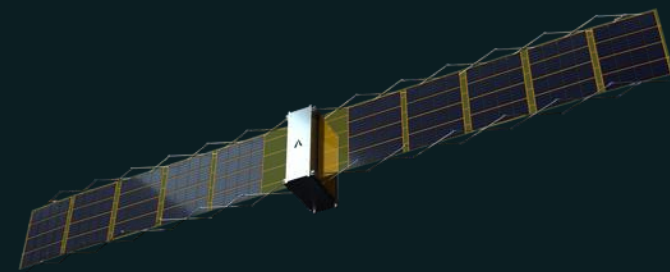
Quality control



LONG TERM

Power and thermal for the next generation of spacecraft

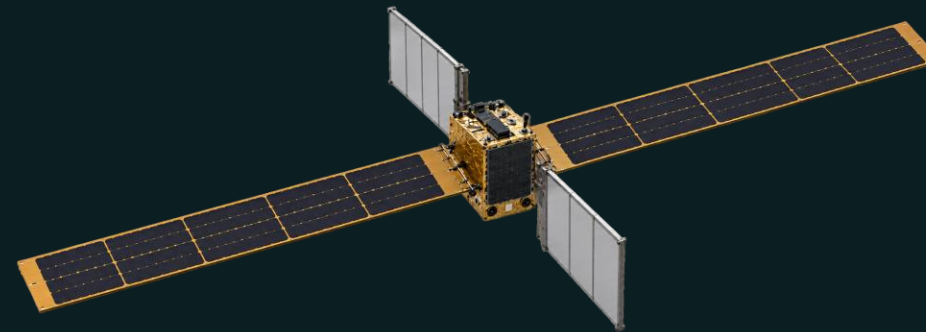
More power on board means more heat to reject. Both require large, lightweight surfaces.



2027

Flight demonstrator

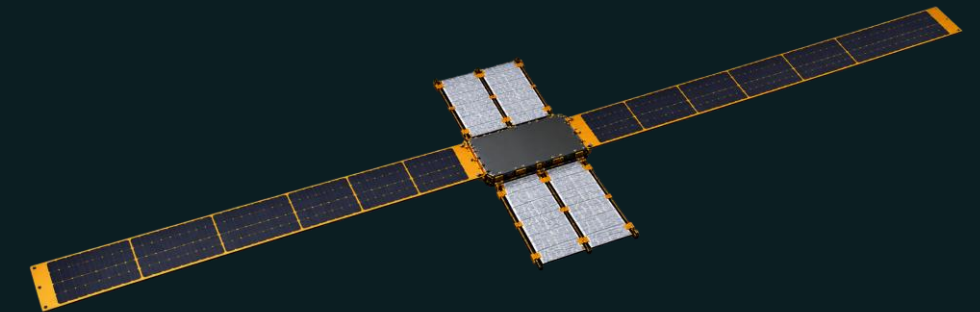
Integrated power + thermal, small scale



2028-29 · TARGET

10 kW class

~47 m² solar array · ~25 m² radiator



2030+ · TARGET

100 kW class

~470 m² solar array · ~250 m² radiator

A high-resolution image of the Astradyne Solar-Z satellite in orbit. The satellite features a central black rectangular body with two long, thin solar panel arrays extending horizontally. Below the main body, a white, textured rectangular panel is visible. The background shows the Earth's surface with blue oceans and white clouds, and the thin blue line of the atmosphere at the horizon.

The power to do more. In space.

SOLAR-Z IN ORBIT · OCTOBER 2026 · POWER + THERMAL DEMONSTRATOR 2027

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