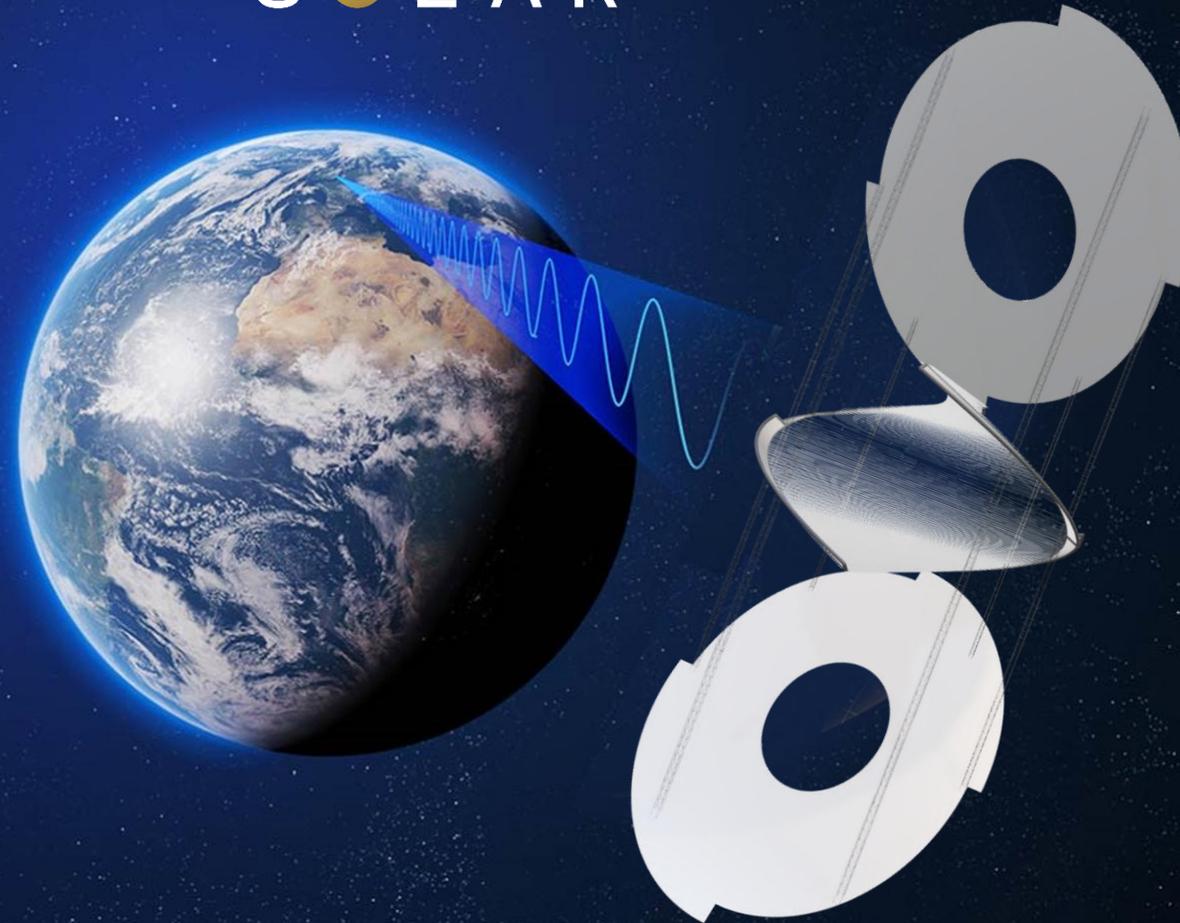


KEYNOTE SPEAKER
David Homfray



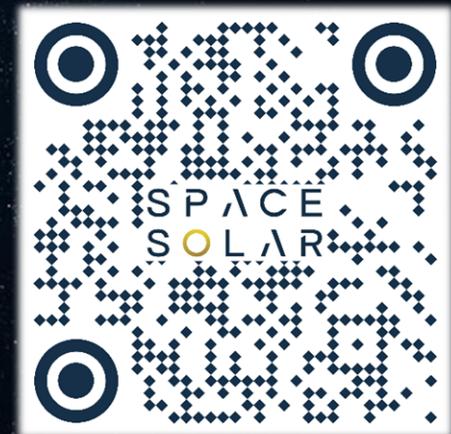
SPACE
SOLAR

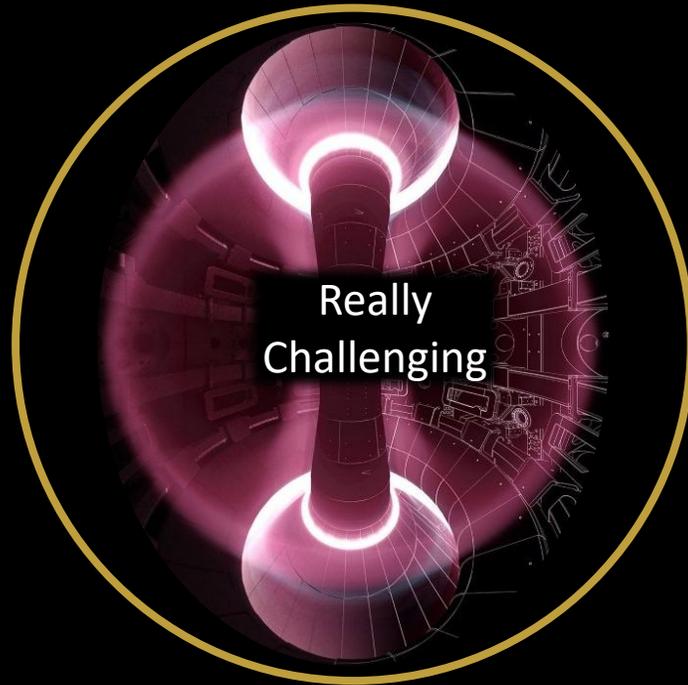
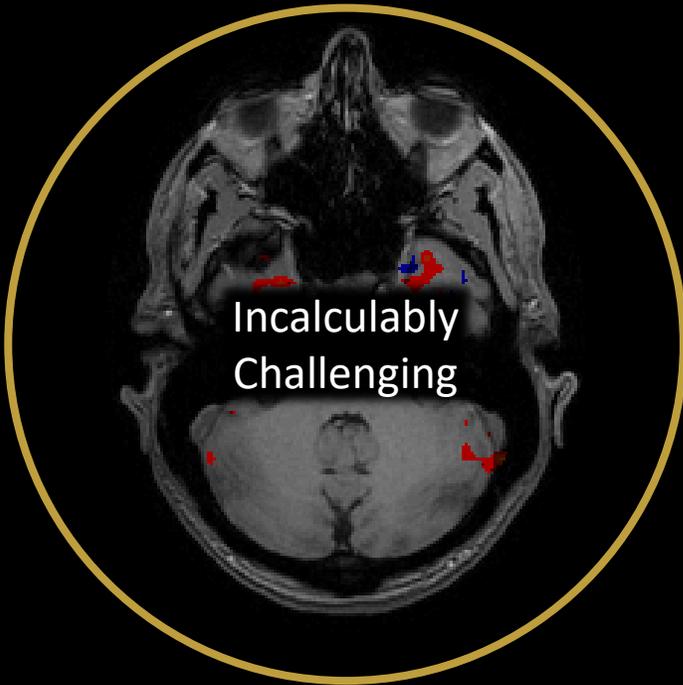
SPACE
SOLAR



STC Innovation and Growth Conference
Space-Based Solar Power for Net Zero

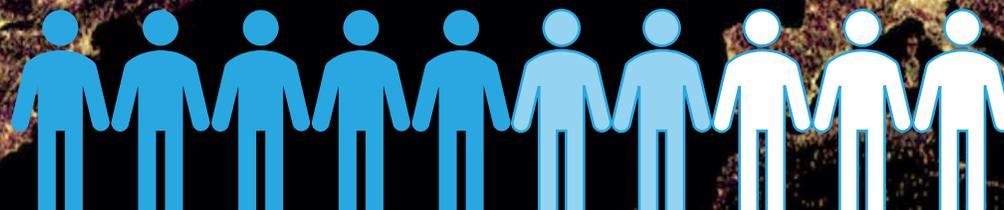
David A. Homfray FInstP



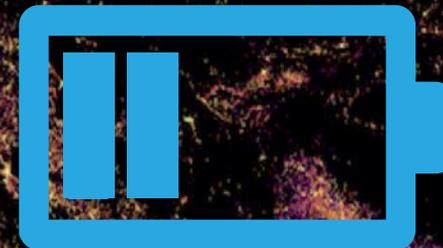


Net Zero – It's all about time

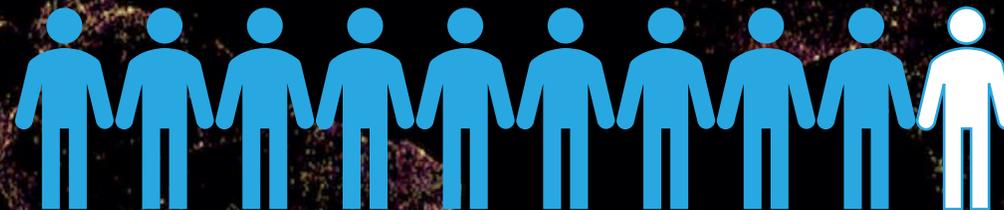
2018



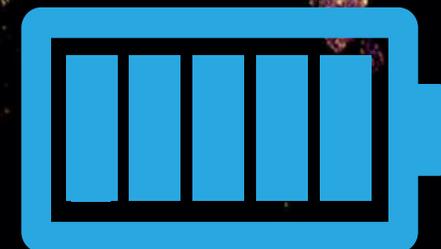
20 Billion MWhr
(only 20% is considered low carbon)



2050



50 Billion MWhr



8955 days left till 2050
5M MWh/day

One energy generation method to rule them all?



1/week



100km²/day

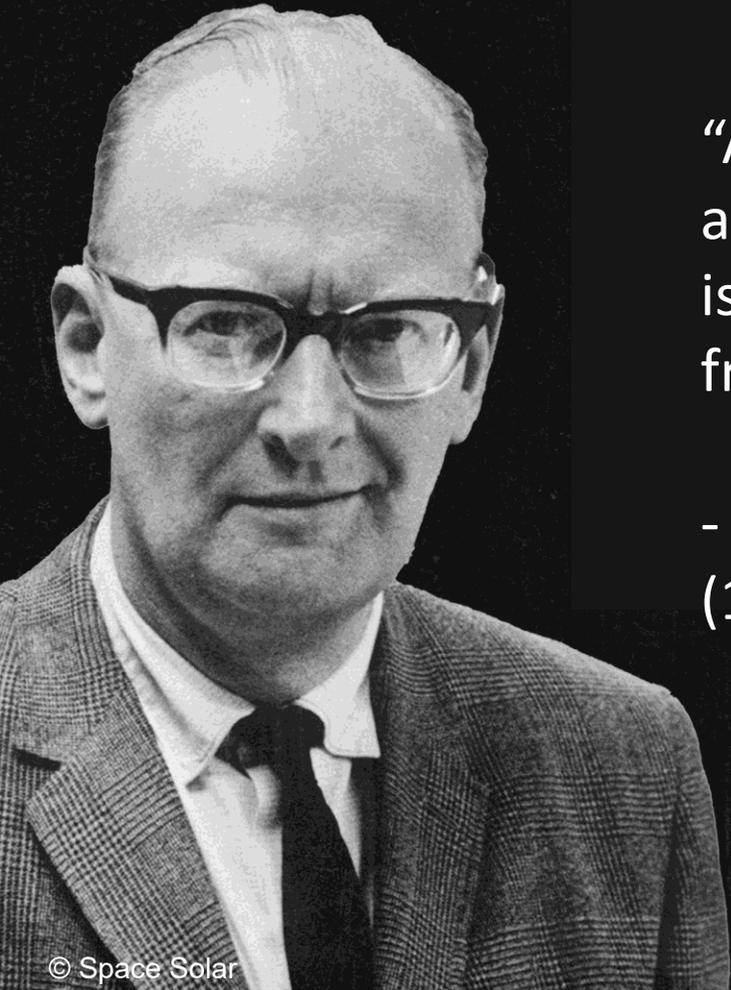


250/day

No Silver Bullet – We need to do it all – We need to do it now



It will never work.....



“Any sufficiently advanced technology is indistinguishable from magic.”

- Sir Arthur C. Clarke
(1917-2008)

“We do these things not because they are easy, but because they are hard.”

- John F. Kennedy
(1917-1963)

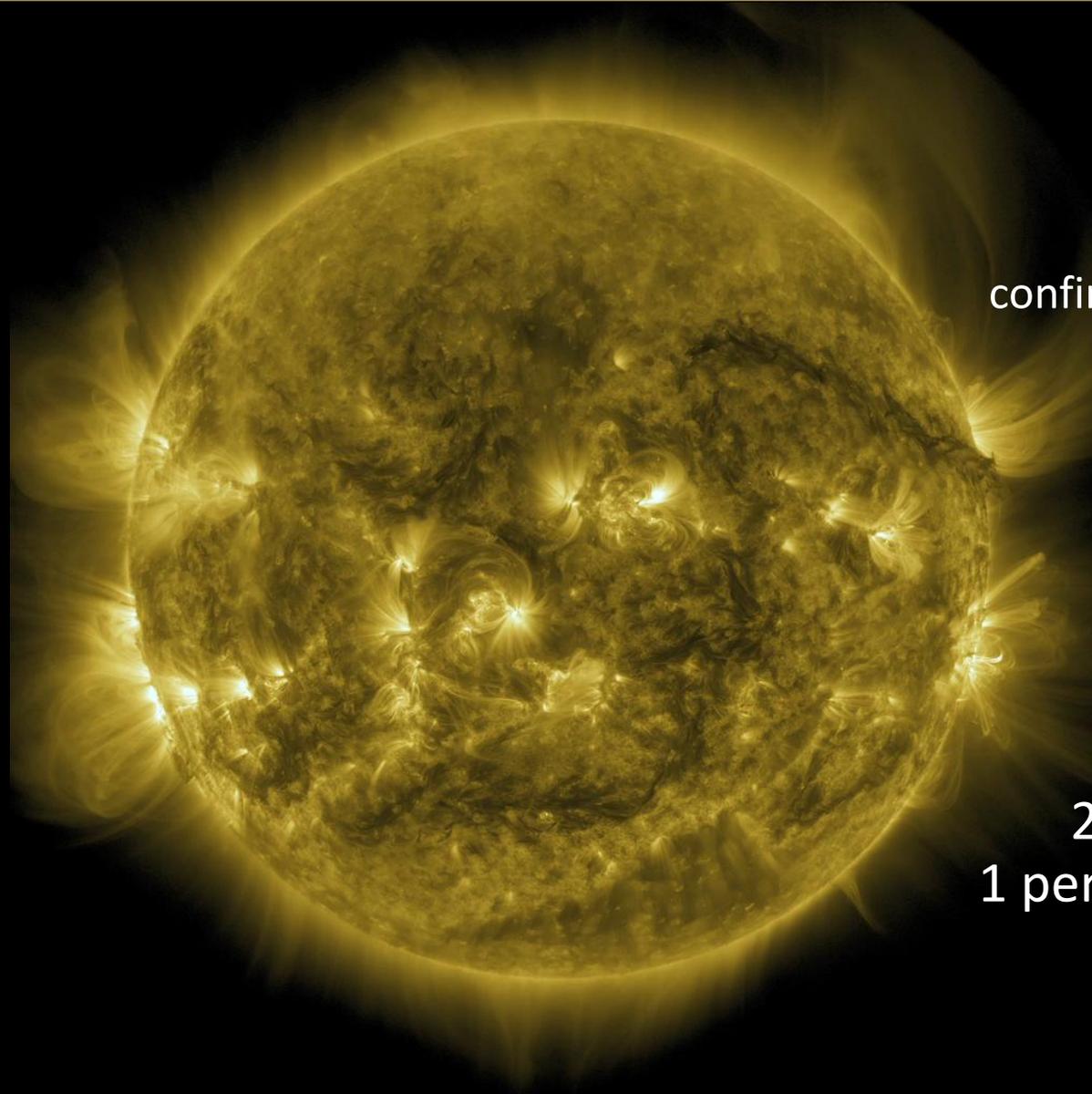


Our first fusion reactor

Mass
 2×10^{30} kg

Temperature
10,000,000 °C

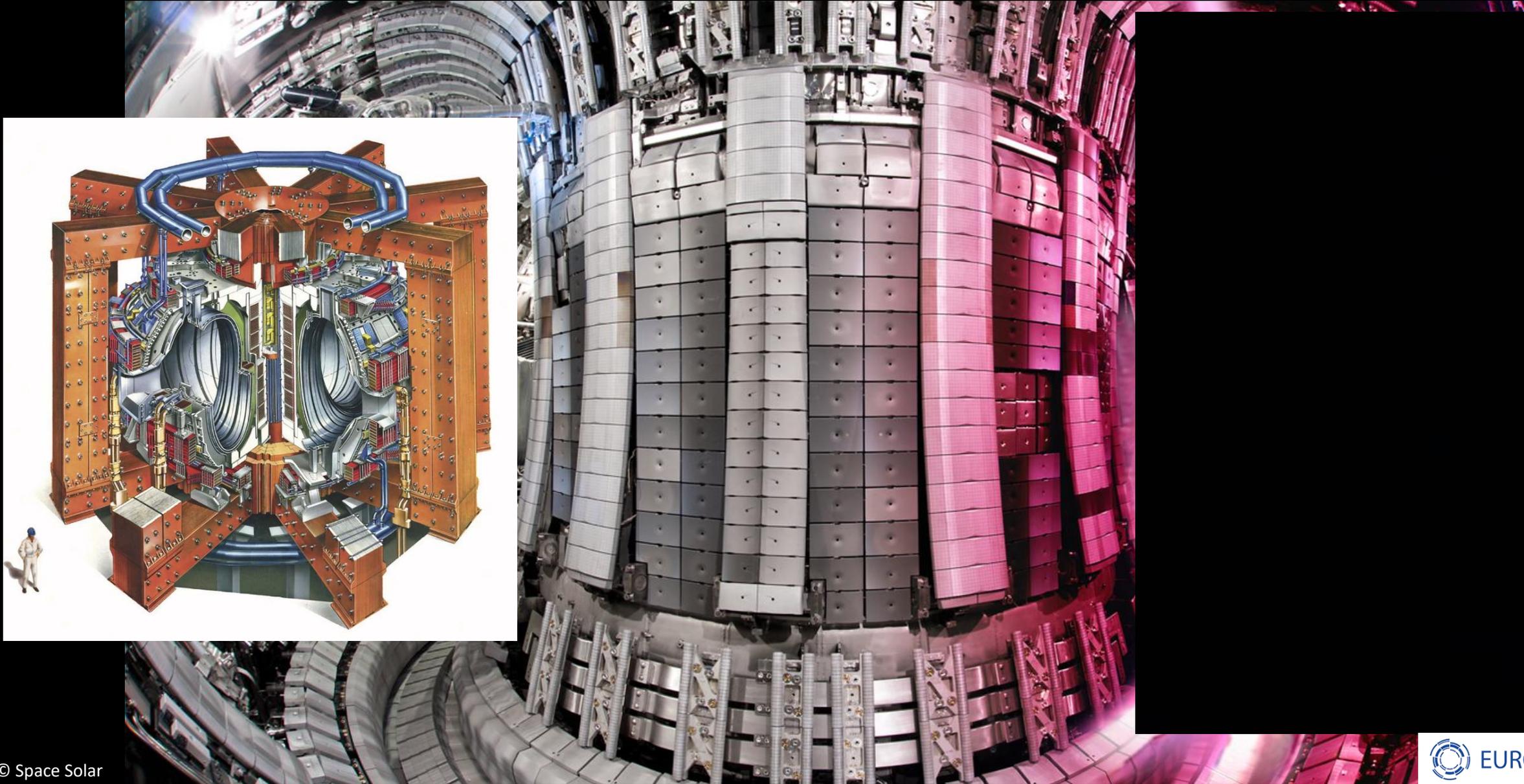
Energy
1 watt/m³



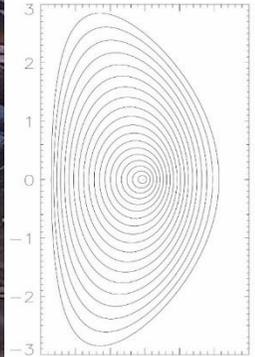
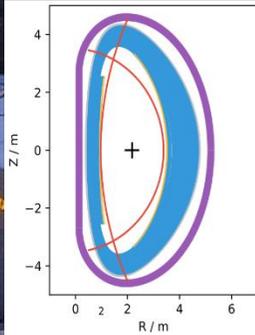
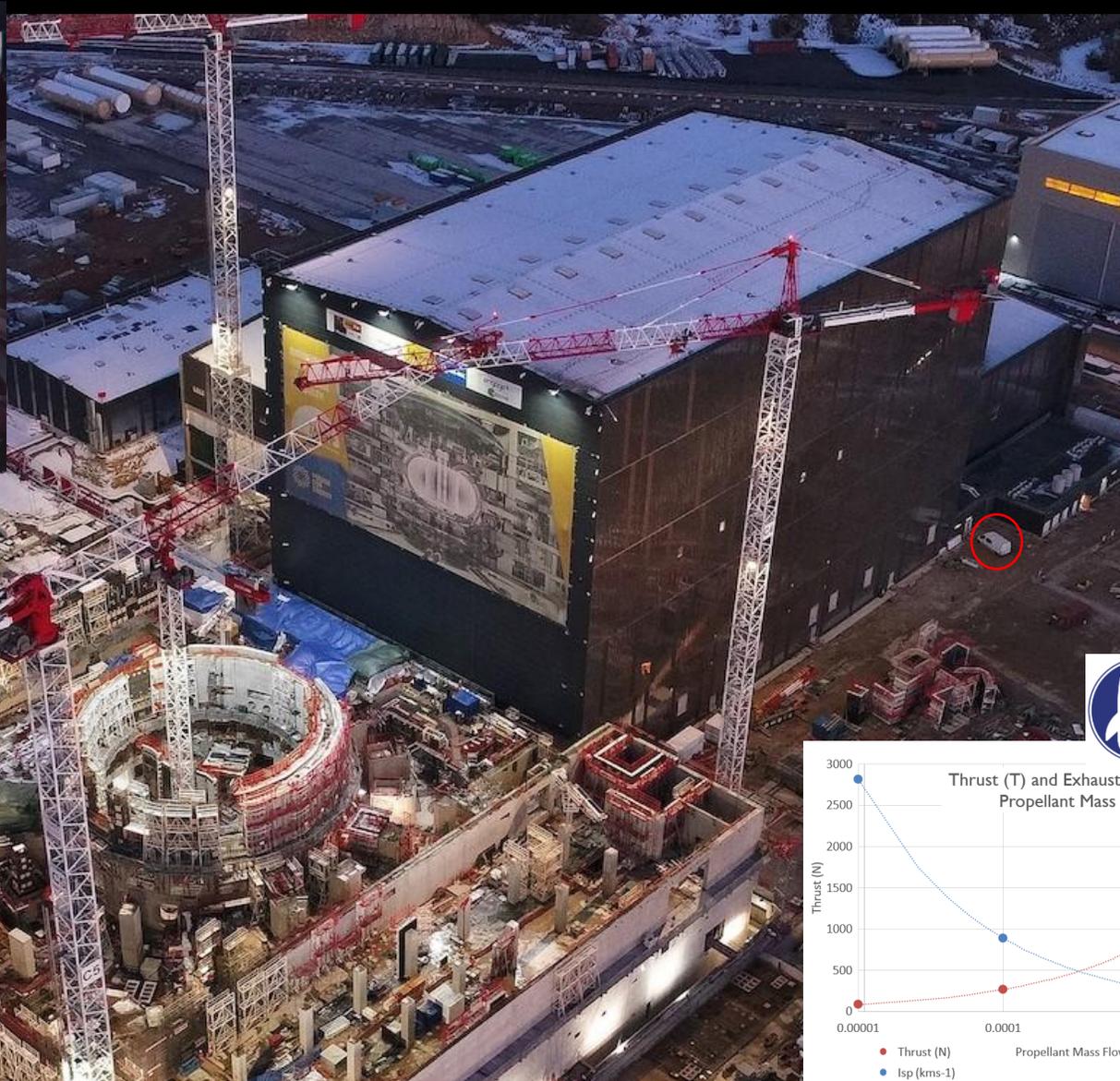
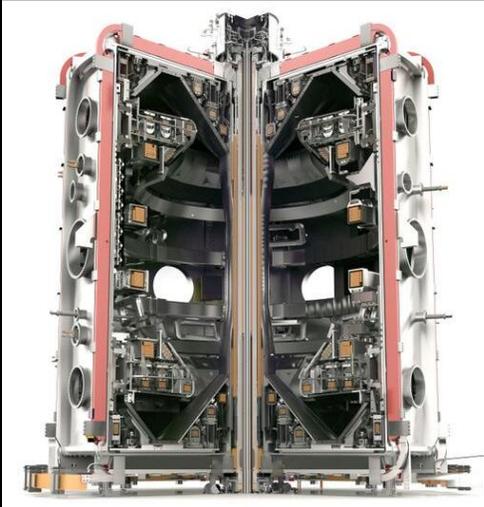
Triple product
confinement, density, temperature

1 bathtub of water
2 two laptop batteries
1 person's energy for 60 years

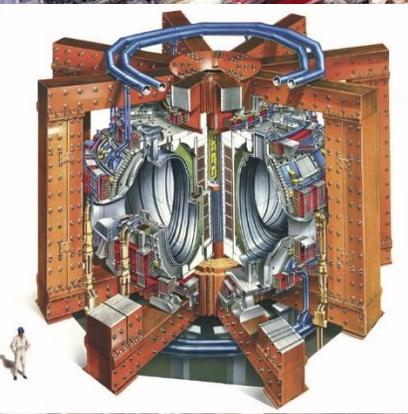
The Joint European Torus (JET)



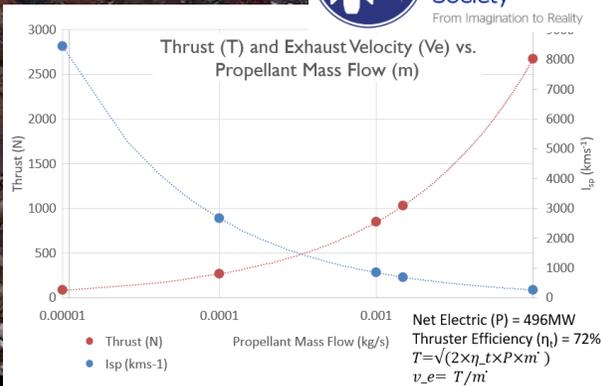
Many stars in a bottle



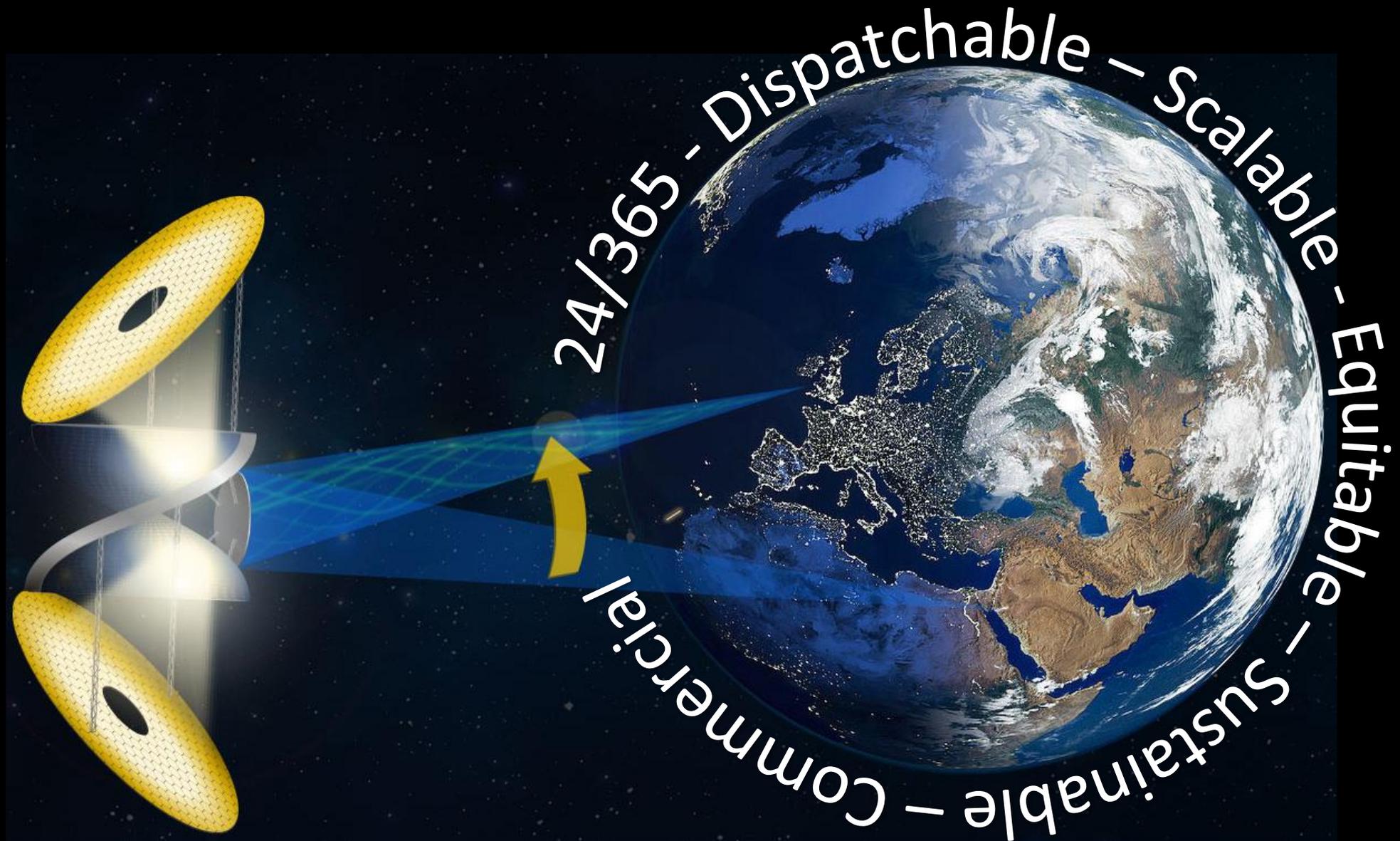

UK Atomic
Energy
Authority

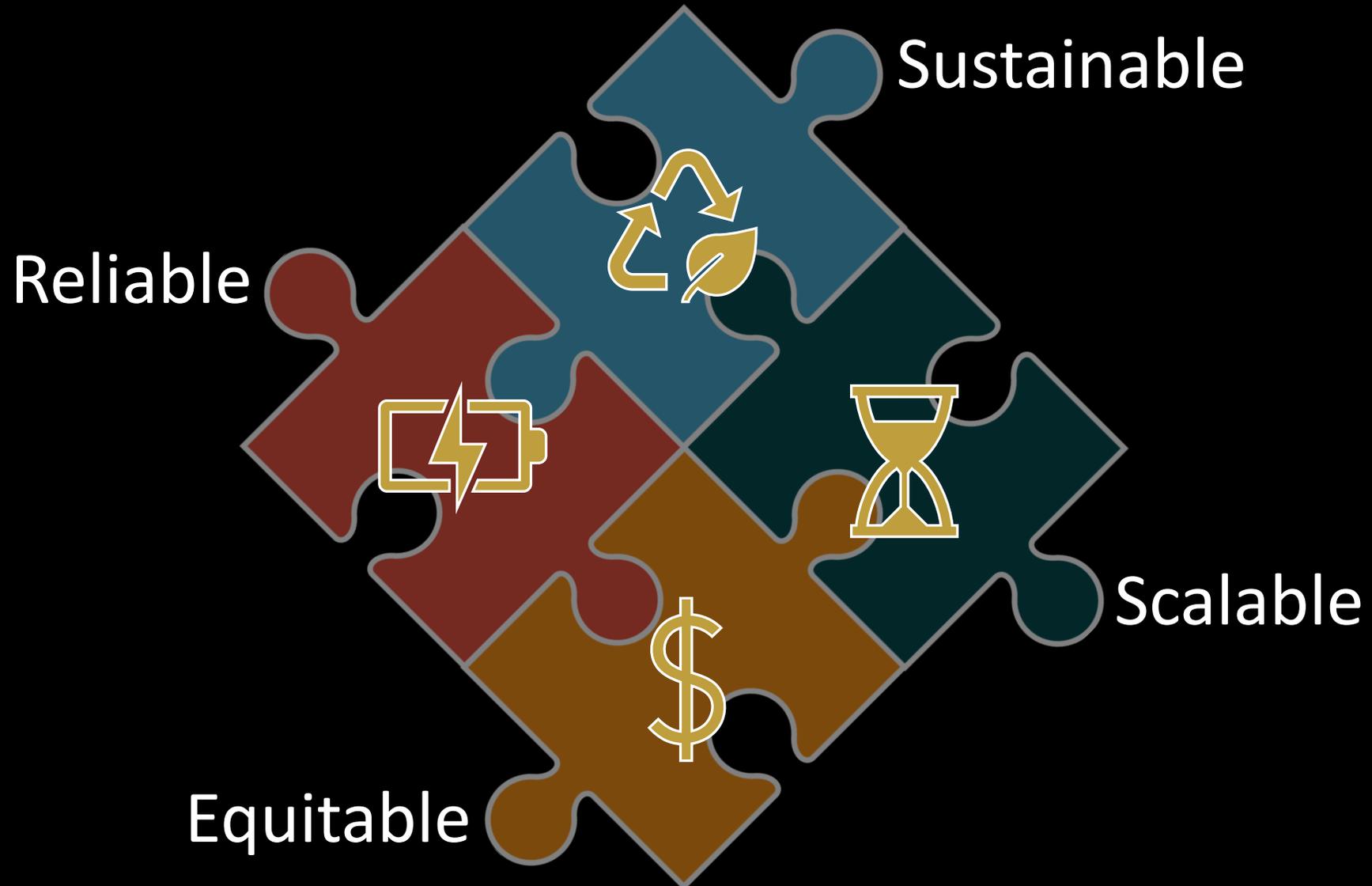


 British
Interplanetary
Society



Why Space-Based Solar Power





Economically and technically viable



Astounding Science fiction
1941
Isaac Asimov



NASA technical
feasibility 1977



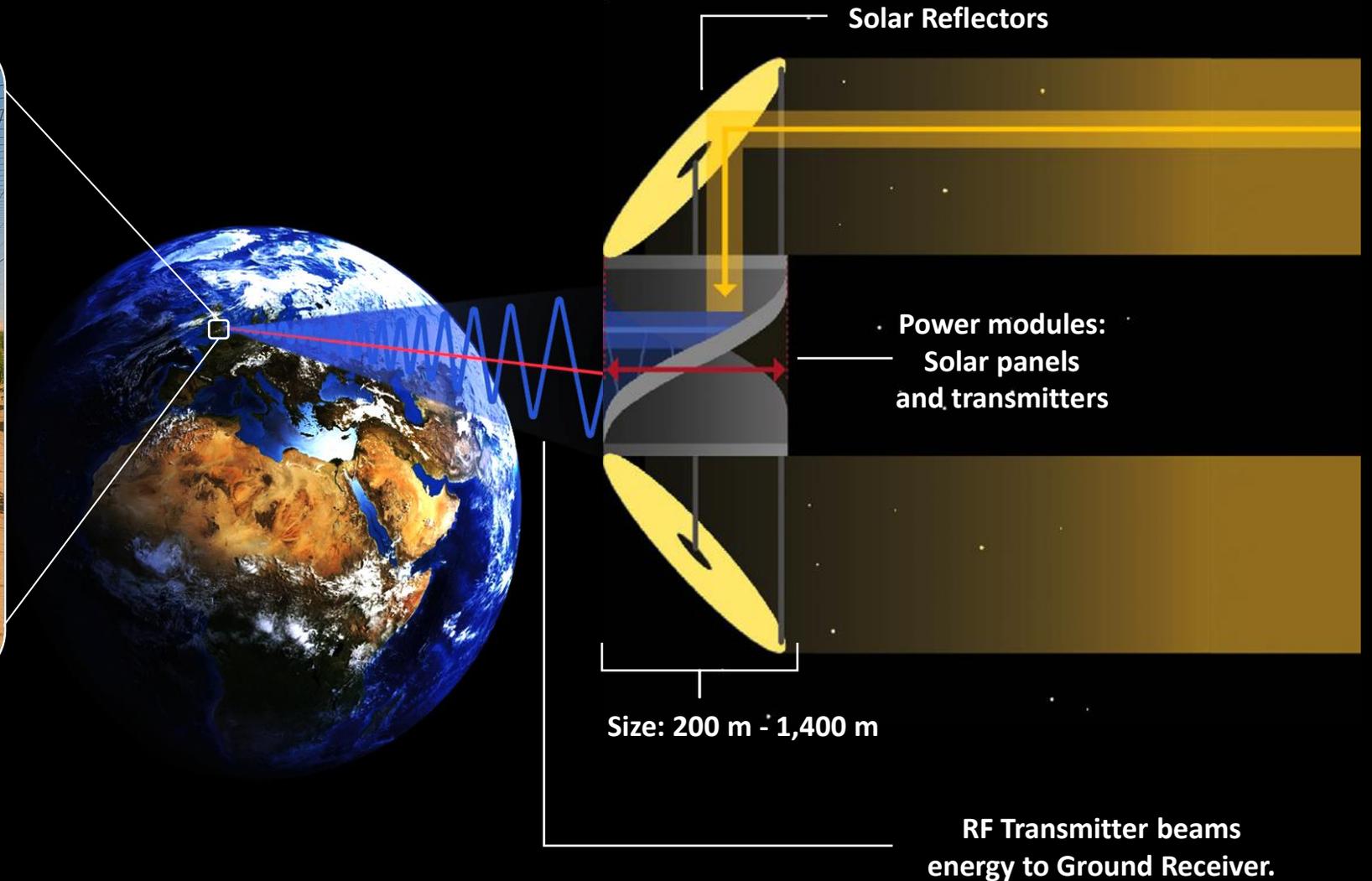
UK Gov economic
feasibility 2021
ESA economic
feasibility 2023



Ground Receiver



Space Segment



2026

2028

2028

2030

2035

HAWK

OSPREYbuilder

OSPREYwpt

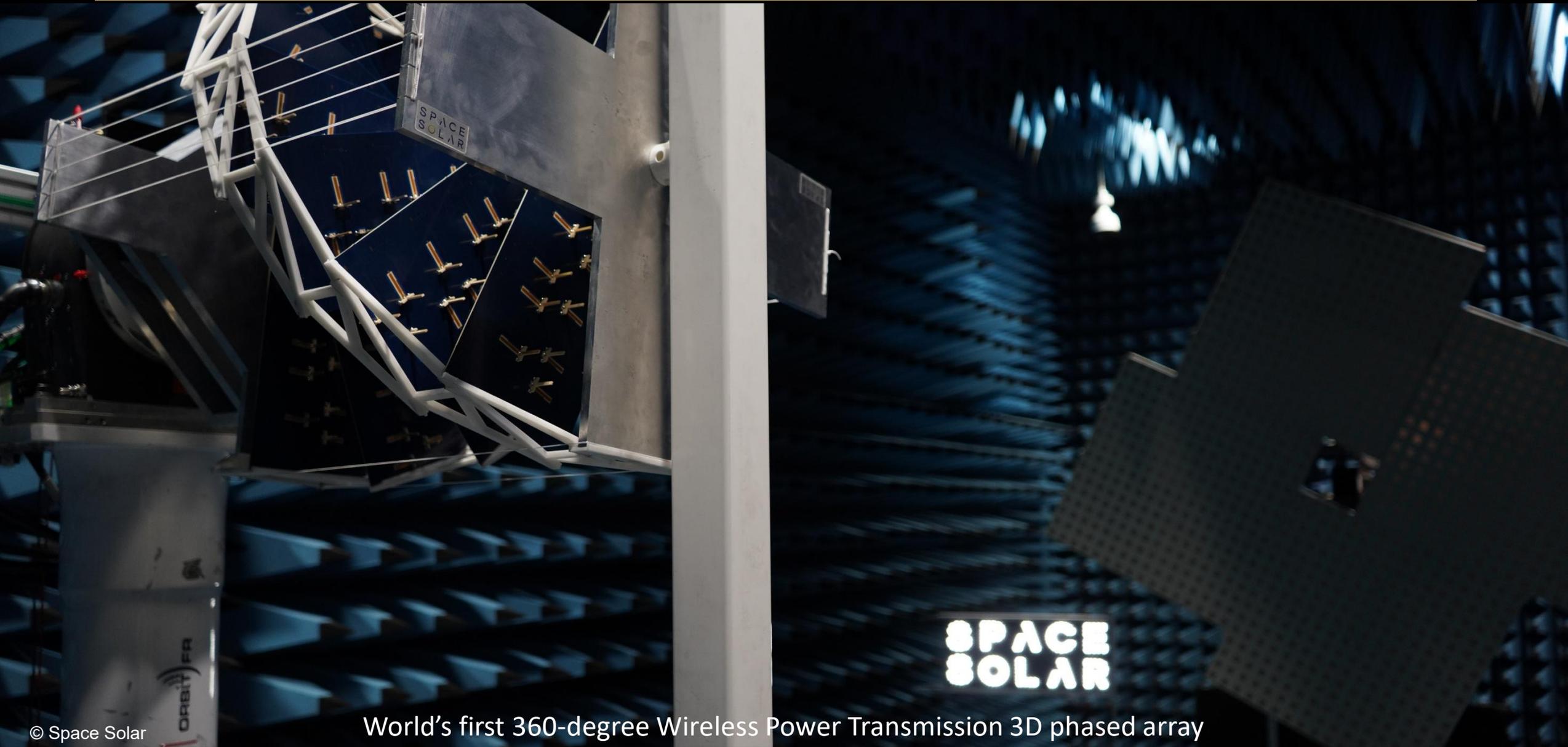
MERLIN

EAGLE

Mature Concept

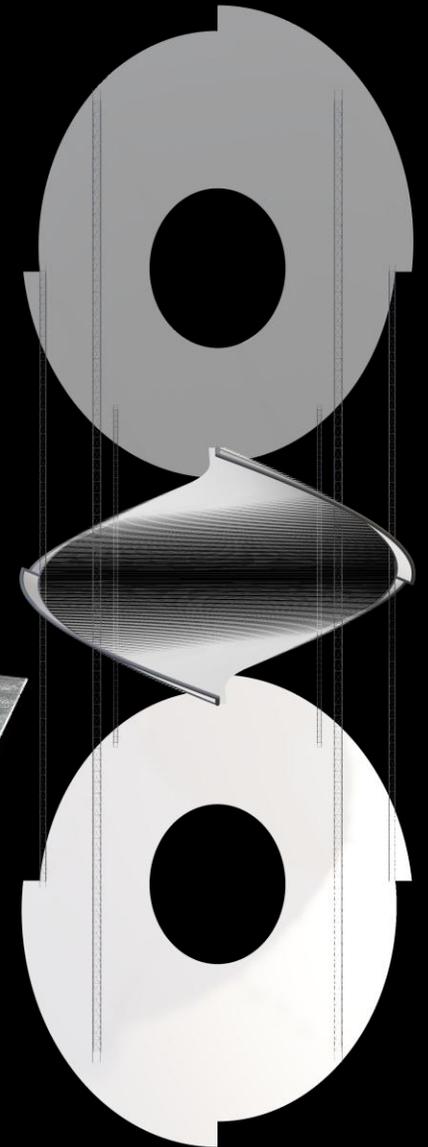
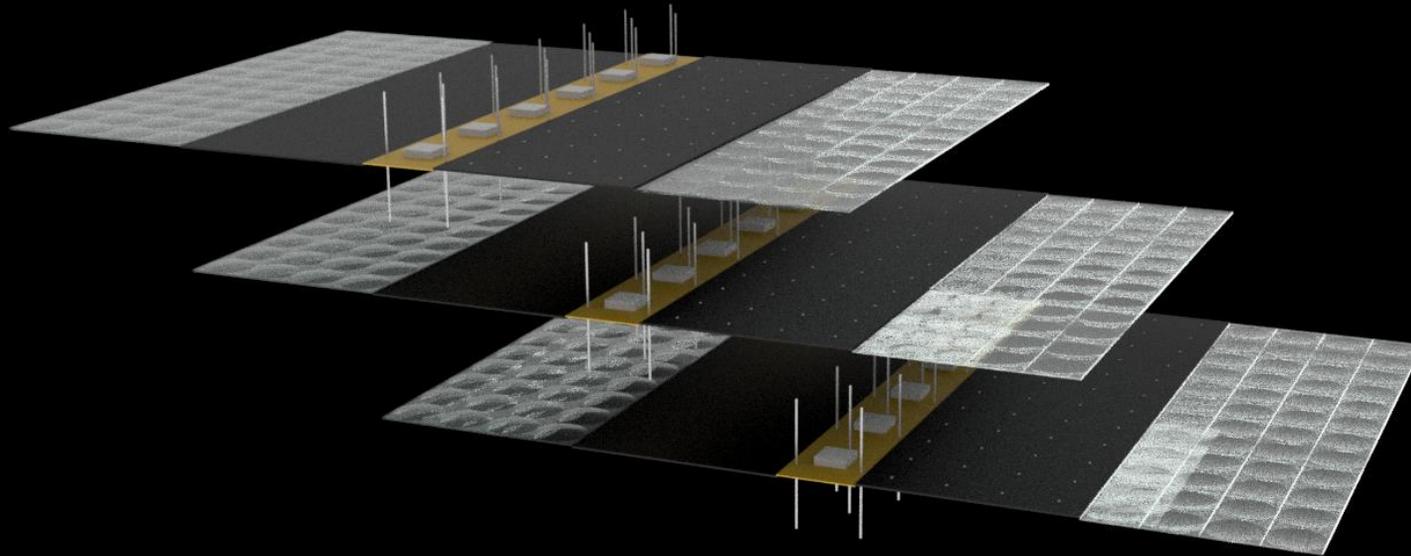
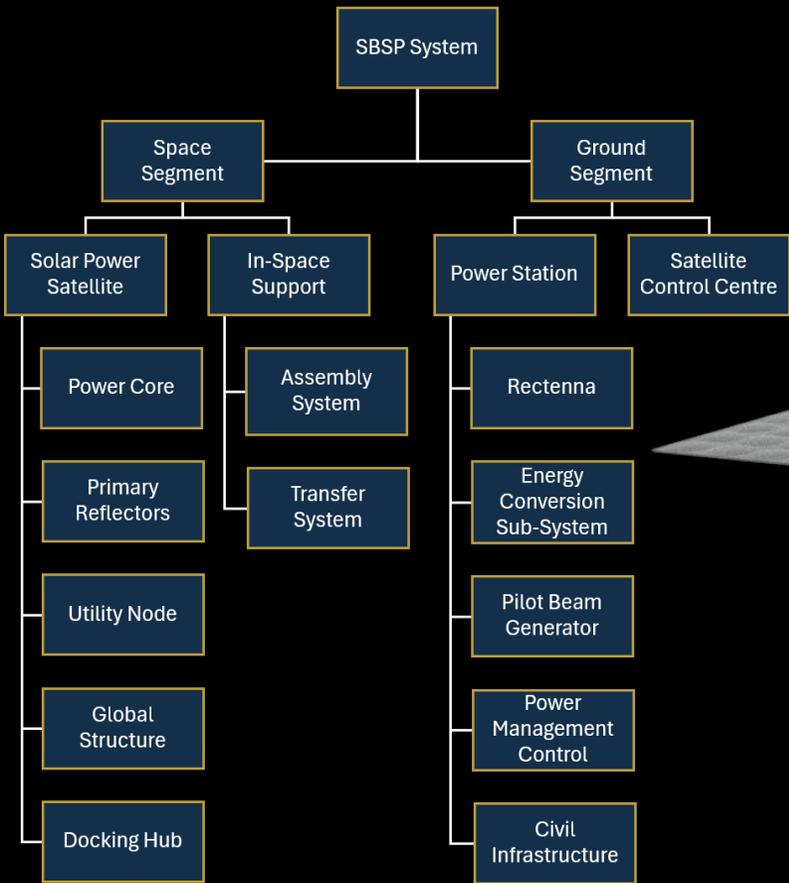
Mature Technology

Mature Delivery

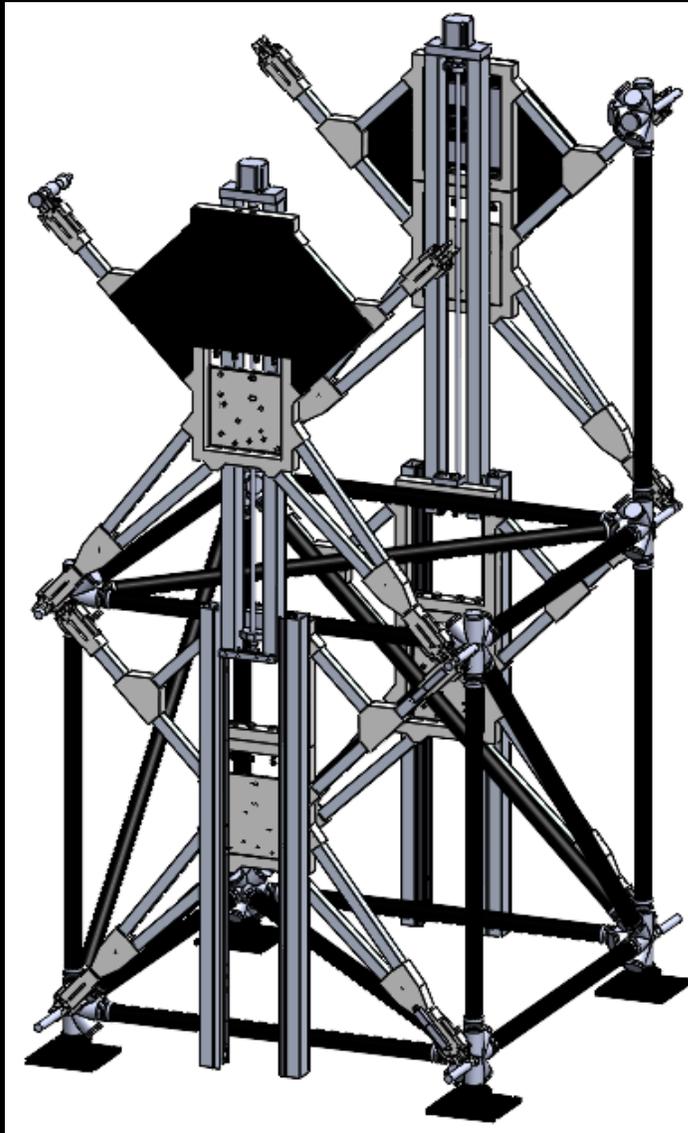


SPACE
SOLAR

World's first 360-degree Wireless Power Transmission 3D phased array



World's first Space-Based Solar Power complete system design



World's first Space-Based Solar Power assembly system

Thank you

OUR MISSION

- Build the biggest structure our species has ever built
- In-Space
- With Robots
- In 10 years
- Save the world
- Go to the pub

