

MELiSSA Conference 2022

Creating new commercial opportunities for the MELiSSA Project



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ESA Priorities for 2025



Strengthen ESA-EU relations



Boost commercialisation for a green and digital Europe



Strengthen space for safety and security



Address programme challenges



Complete the ESA transformation



protection of space assets



rapid and resilient crisis response



space for a green future

PILOT COLLABORATION



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Simulation & Modelling



Waste Management



Urine Management



Food Management



Circular Strategy & Synergies



European
Innovation
Council



Space and terrestrial challenges...



Every person on the planet uses ~ **16 kg of resources** each day.

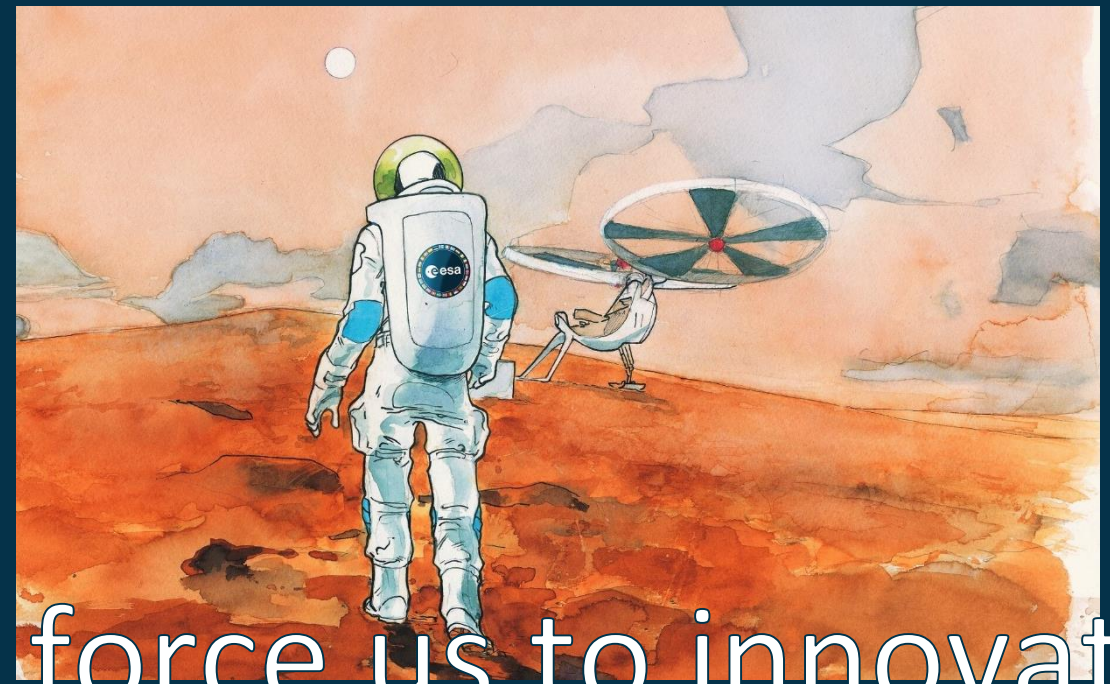
Those in western world use **up to 57kg of resources** daily.

In 2018 alone, we mined over **55 billion tons of terrestrial resources**"

Extracts from "Space is Open for Business" <https://www.robertjacobson.com/book>

Estimates for A 1000 days mission to Mars:
(5kg/d/pers, 6 crew members)

Metabolic consumables:	~ 30 000 kg
Including hygiene items: (+10kg water/pers/d)	~ 90 000 kg
With all consumables: (+3.5 Kg/pers/d)	~ 110 000 kg



...force us to innovate

ADVANCEMENTS IN SPACE



Axiom Space (2024+)
Credits: Axiom Space



Orbital Reef (2025+)
Credits: Blue Origin & Sierra Space



I-Hab / Gateway with Orion
(2026+)
Credits: ESA



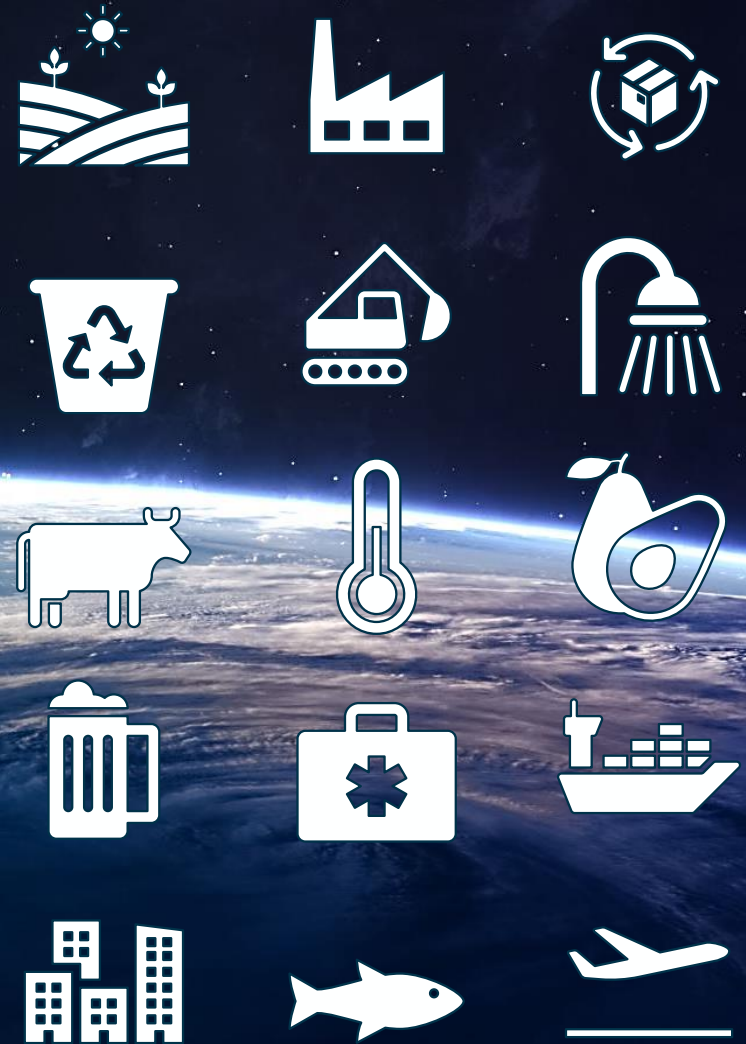
Starlab (2027+)
Credits: Nanoracks / Lockheed Martin / Voyager Space



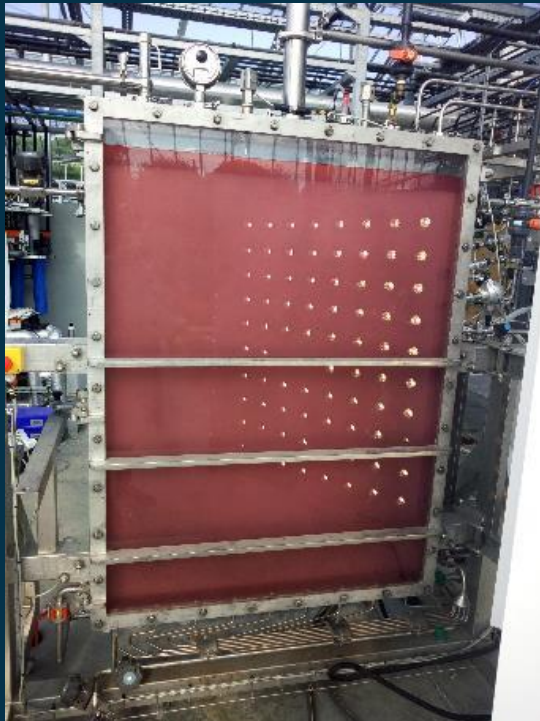
Northrop Grumman Space Station (2028+)
Credits: Northrop Grumman

TERRESTRIAL APPLICATIONS

fertilizer drought
environment urine urban development
regeneration technology recycling technology
eco system analysis cellular agriculture fish farm nutrient
water crop urban farming sensory technology
food production alternative food source life sciences
modelling water scarcity climate change system tool acceptance
pharmaceutical water treatment air quality design agrofood
analzers protein co2 removal circular economy
simulation vertical farming waste management
biofuel biodegradable packaging insect farm medicine
building architecture
toxiology



TERRESTRIAL APPLICATIONS

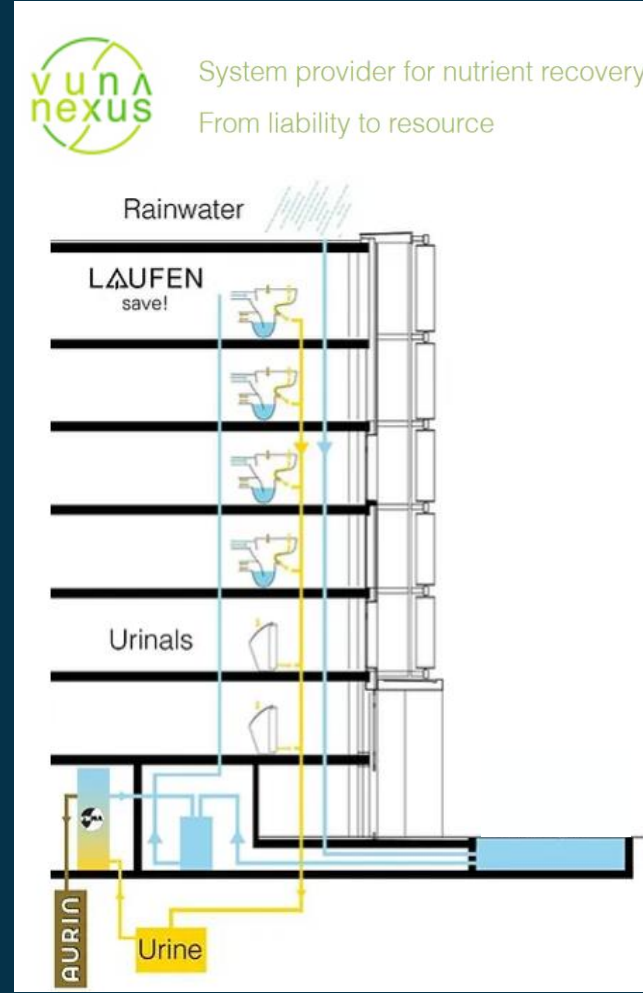


PIONEERING NUTRIENT

RECOVERY AT ESA HQ



Credits: Atelier Du Pont



Credits: Vuna & VunaNexus



A NEW PROGRAMME TO LAUNCH YOUR IDEAS



Support and establish
commercial partnerships

Facilitate technology transfer
to create benefit on Earth

Nurture a collaborative
network

Support innovative and
disruptive projects as well as
start-up creation

Explore new markets



COMMERCIALISATION GATEWAY



Easy access for newcomers
One stop shop
Raising awareness on space opportunities

commercialisation.esa.int

SME OFFICE

INDUSTRY SPACE DAYS 2022



SME INITIATIVE
SUPPORTING YOUR BUSINESS WITH ESA

SME Information and support
Helpdesk dedicated to SMEs
Training, Networking and Matchmaking

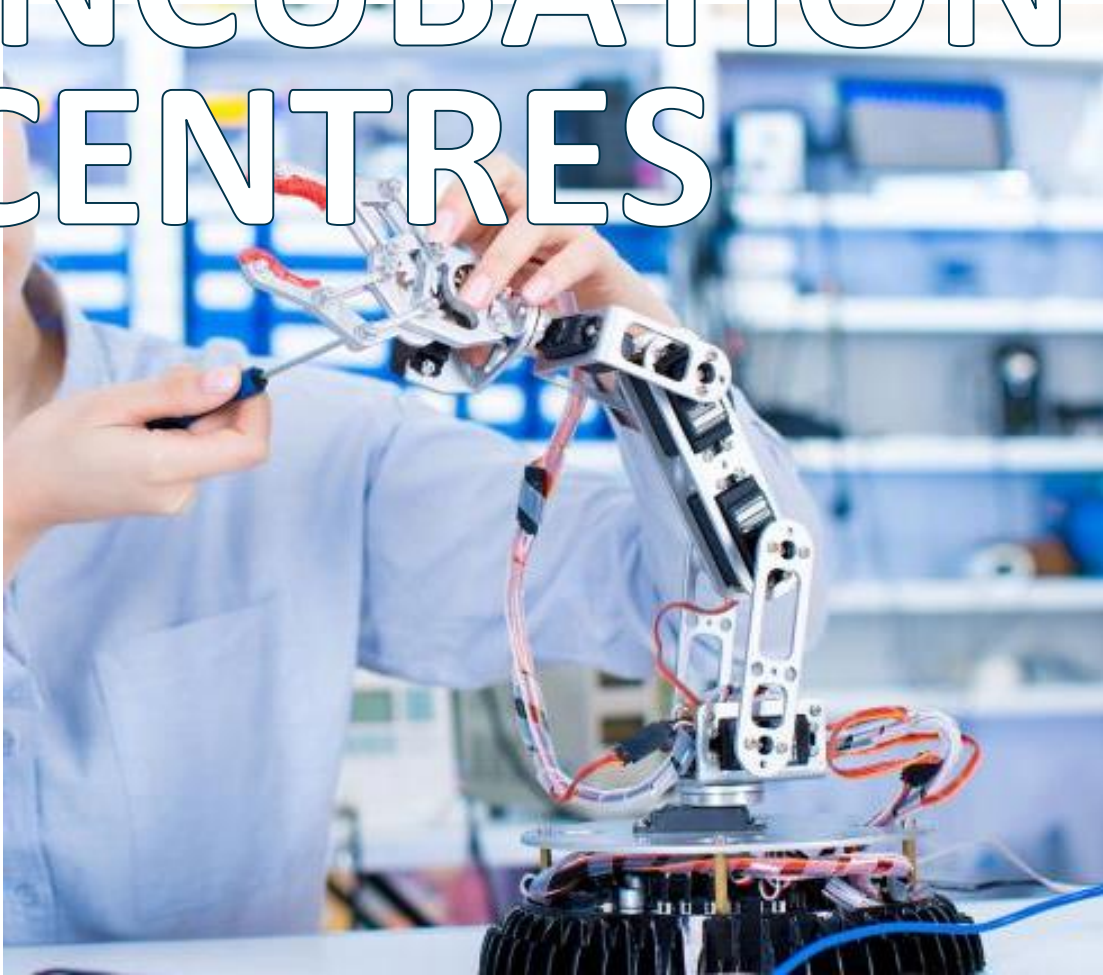


Φ-LAB NET



Accelerate the future of Space via transformative innovation
Generating commercial competitive advantage
Facilitating investment actions

BUSINESS INCUBATION CENTRES



The largest network of space incubators in Europe
Accelerating commercial growth
Supporting entrepreneurs during the maturation
Pushing scale-up and growing the community of successful space related start-ups

TECHNOLOGY TRANSFER



- Technology scouting
- Funding to spark new demonstrators
- Brokering introductions to potential clients
- Business support and coaching
- Technical feasibility and market analysis
- Guidance and support on 3rd party funding

OUR PARTNERS



Academia



Startups



Space companies



Non space companies



Institutions



Investors

SCALE UP



Fostering connections with the investor community

Element 1: INNOVATE

Boost innovation and commercialisation in the European space sector

- Foster transformative market-ready innovation by the ‘innovate and apply under-one-roof’ approach (**Φ-labNET**)
- Protection and commercialisation of industry IP (**IP For Commercialisation**)
- Transfer of technology for commercial purposes (**TT 2.0**)
- ESA Business incubation centres network 2.0 (**BICs**)
- Reduce barrier to enter ESA Programmes (**Prepare For Space**)

Element 2: INVEST

Support the development of **scale-up ventures** in new space markets

- **Business VALIDATION** : a network of business accelerators to support business plans, strategies and growth
- **Business GROWTH**: a marketplace for new space services and products e.g. IOD/IOV opportunities

ARE YOU READY TO RISE FOR A GREEN FUTURE?



Credits: Blue Origin & Sierra Space

Credits: MELiSSA Pilot Plant & MELiSSA Foundation