

The European Space Agency and its science ambitions for Europe

Big Science Business Forum 2022
5 October 2022

Kai-Uwe Schrogl
Special Advisor for Political Affairs

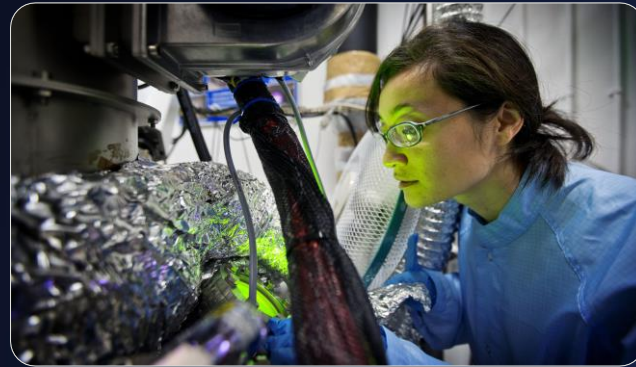
European excellence developed by ESA



Independent access to space



Technological sovereignty and independence



Taking the pulse of our planet and climate

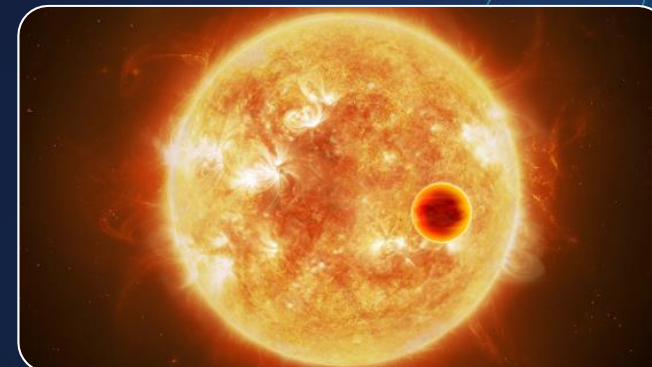


Key dual-use systems with civil and security applications

World-class STEM, inspiring millions of Europeans

Galileo PRS

Meteorology from space



James Webb Space Telescope

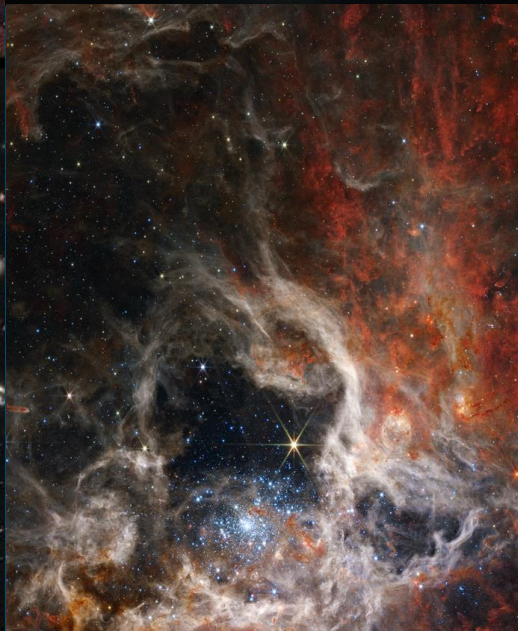
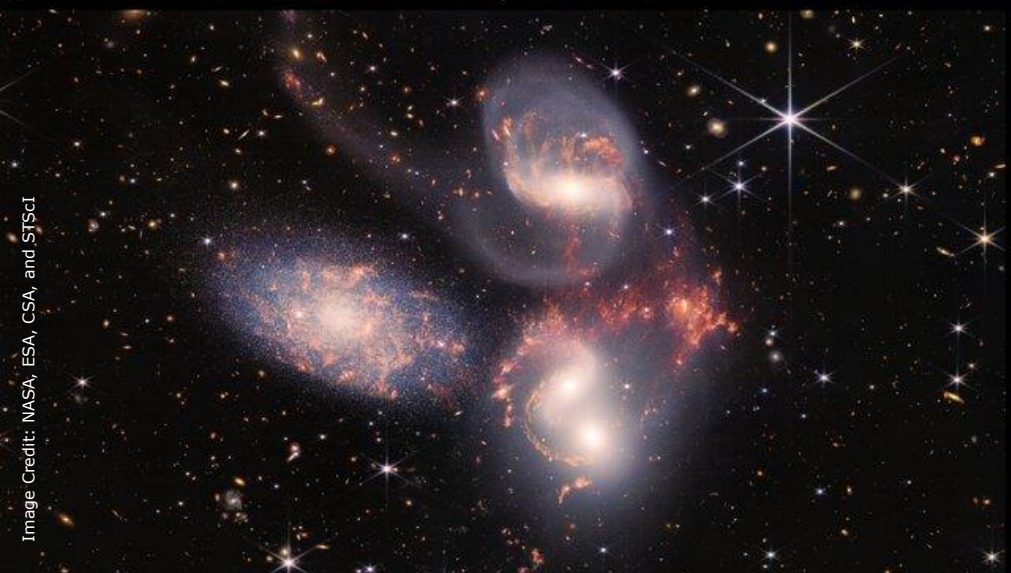


Image Credit: NASA, ESA, CSA, and STScI



→ THE EUROPEAN SPACE AGENCY

Key upcoming ESA Milestones



ESM on
Artemis I
Q3-4 2022

Launch JUICE
Q2 2023



+ ESA-NASA cooperation
on the **Lunar Gateway**
and **Mars Sample Return**

CM22 and
ESA astronaut
selection
Q4 2022

**Space
Summit**
Q4 2023



Launch HERA
Q4 2024

Launch
ClearSpace-1

Launch Euclid
Q3 2023



Galileo
2nd Gen.

2022

2023

Ariane 6
2023

2024

2025

MTG
Q4 2022



Copernicus
Sentinel-1C
Q2 2023



EarthCARE
Q1 2024



BepiColombo
arrives at
Mercury



ESA Ministerial Conference 2022

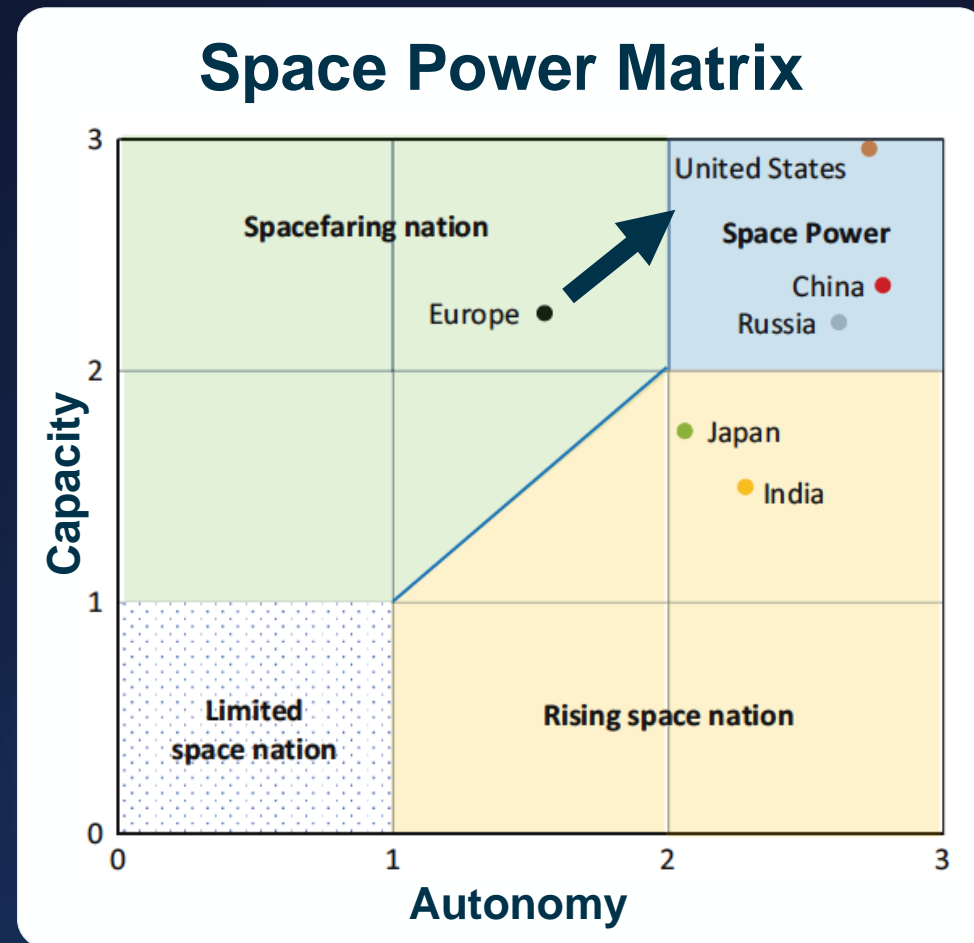
A pivot point for European space

Ambition 2035

Making Europe a space power, in the same league as the US, China and Russia, by 2035

Starting at CM22, real ramping up at CM25

Realising this ambition requires an increased investment at CM22 and an ambition at CM25 which lifts the ESA budget up to 1/3 of NASA's



Source: Aliberti M., Cappella M. and Hrozensky T., Measuring Space Power: A Theoretical and Empirical Investigation on Europe, Cham: Springer, 2019. p. 54

Vital Science missions at CM22

ATHENA

How and why does ordinary matter assemble into the structures we see today: galaxies and galaxy groups & clusters?

How do black holes grow and shape their environment?

LISA

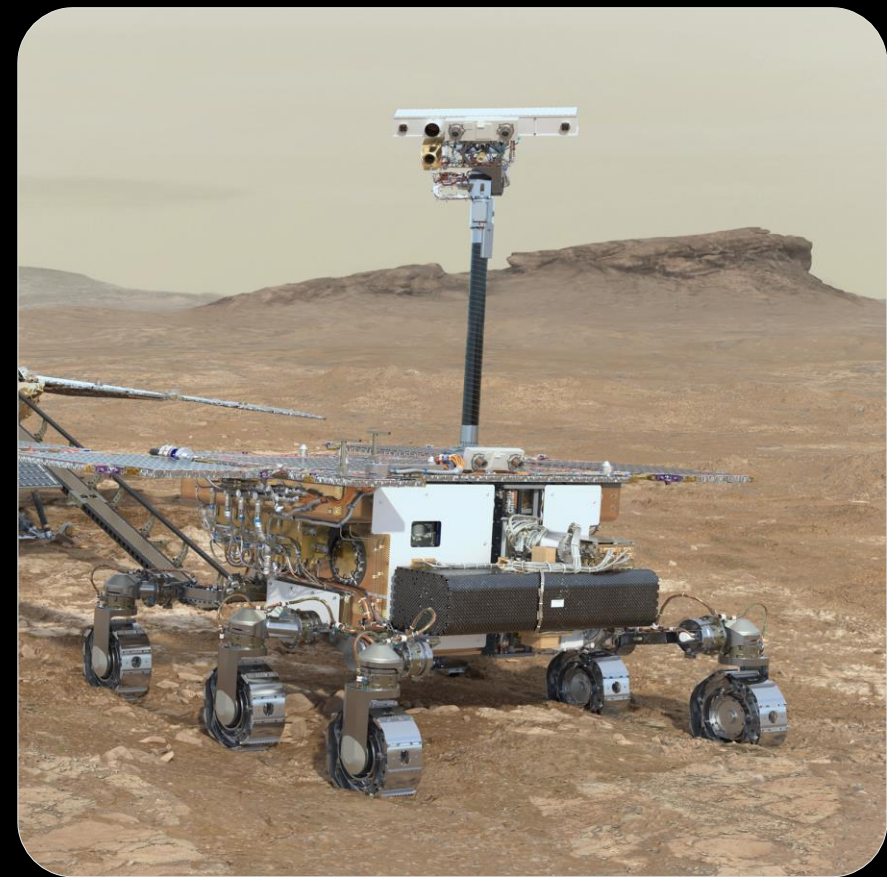
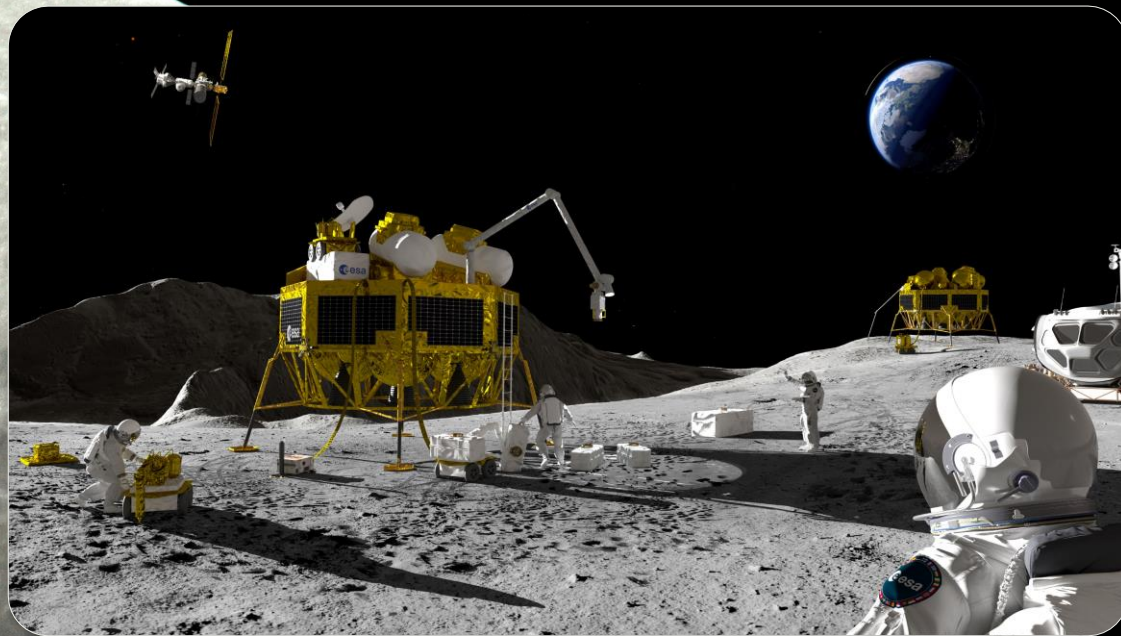
Pioneering mission looking primarily for gravitational waves coming from supermassive black hole collisions.

Key Exploration missions at CM22

Preparing the return to the Moon
and looking for past life on Mars

**ExoMars Rover
Recovery Mission**

The Argonaut on the Moon
European Large Logistics Lander



New Earth Observation missions at CM22



Earth Explorer: Harmony

Address key scientific questions related to ocean, ice & land



Aeolus-2

Continue key wind measurements for the meteorology community



TRUTHS

Improve climate science through radiation benchmarking



Make space for Europe



Thank you
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