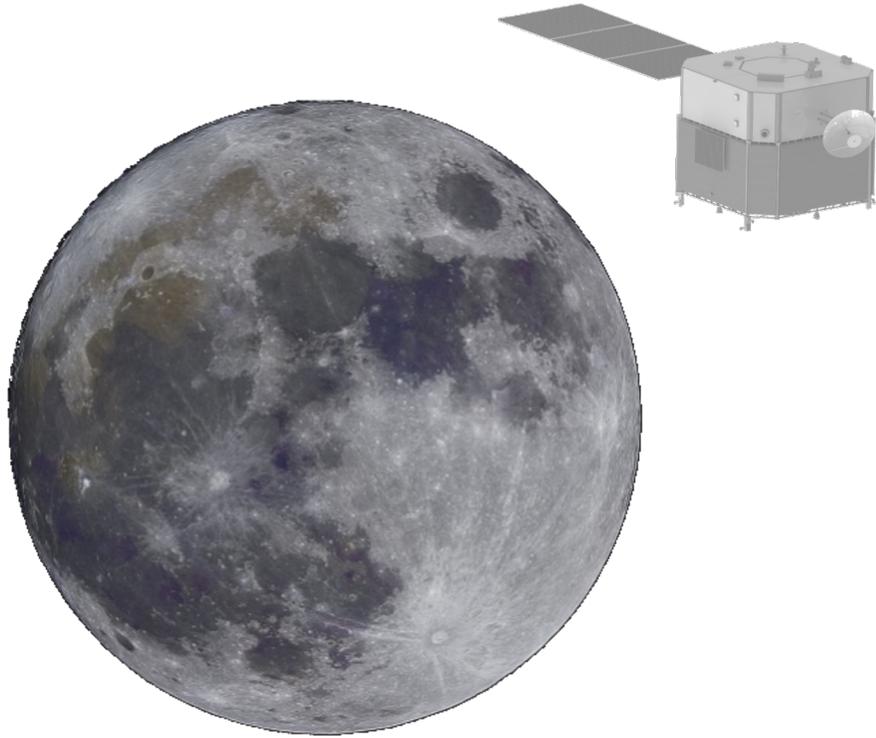


Deep Space Exploration

TÜRKİYE'S MOON RESEARCH PROGRAM



TURKISH SPACE AGENCY

**COPUOS 60th STSC SESSION
FEBRUARY 2023**

MOON RESEARCH PROGRAM ROADMAP



Turkish Space Agency prepared the National Space Program (2022-2030), after elaborations with national and international stakeholders.

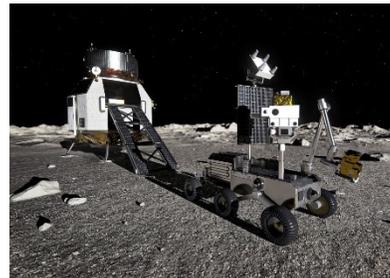
Strategy Document for the National Space Program of Türkiye (2022-2030) was published on the Official Gazette on 24 May 2022.

The first goal under the Program is the Moon Research Program.



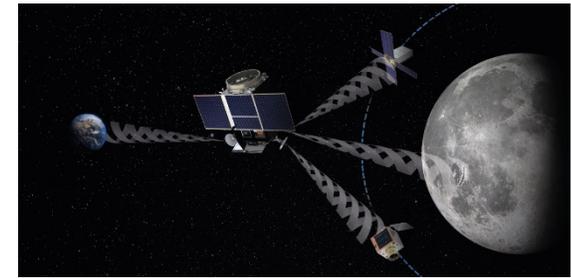
Exploration: 3 Years

Orbital
Operations



Landing: 8 Years

Surface
Exploration

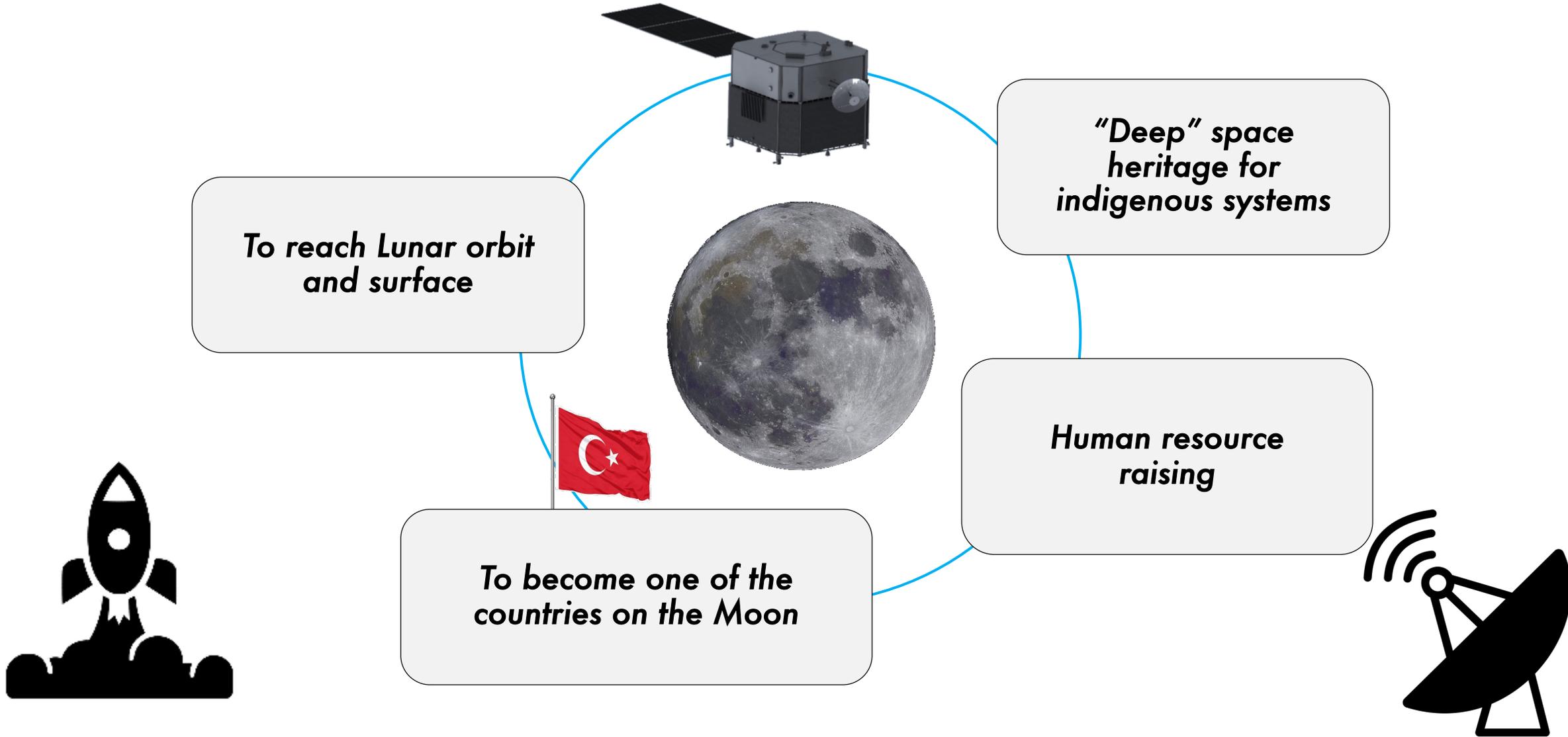


Infrastructure: 8-15 Years?

Technology



GOALS



To reach Lunar orbit and surface

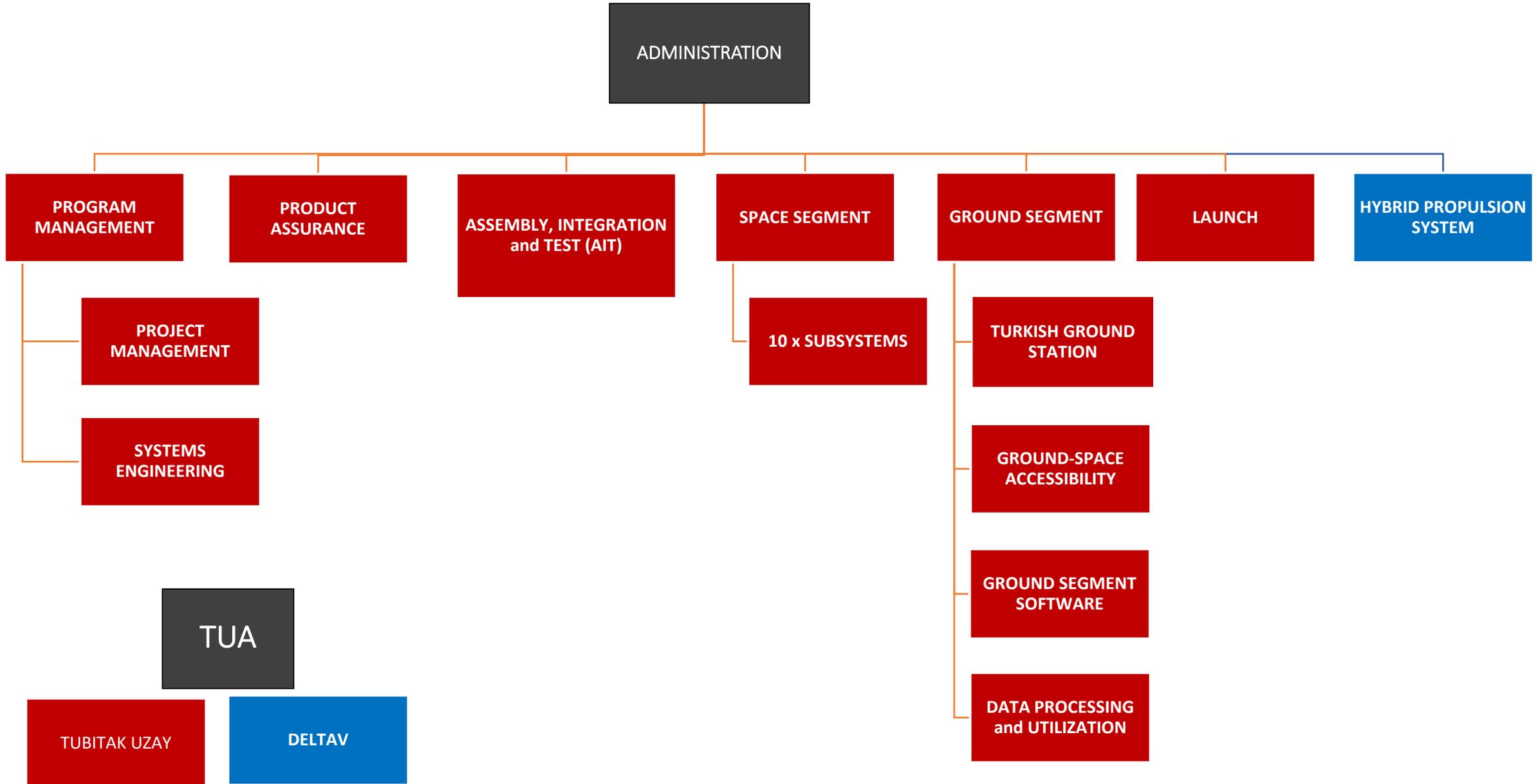
"Deep" space heritage for indigenous systems

Human resource raising

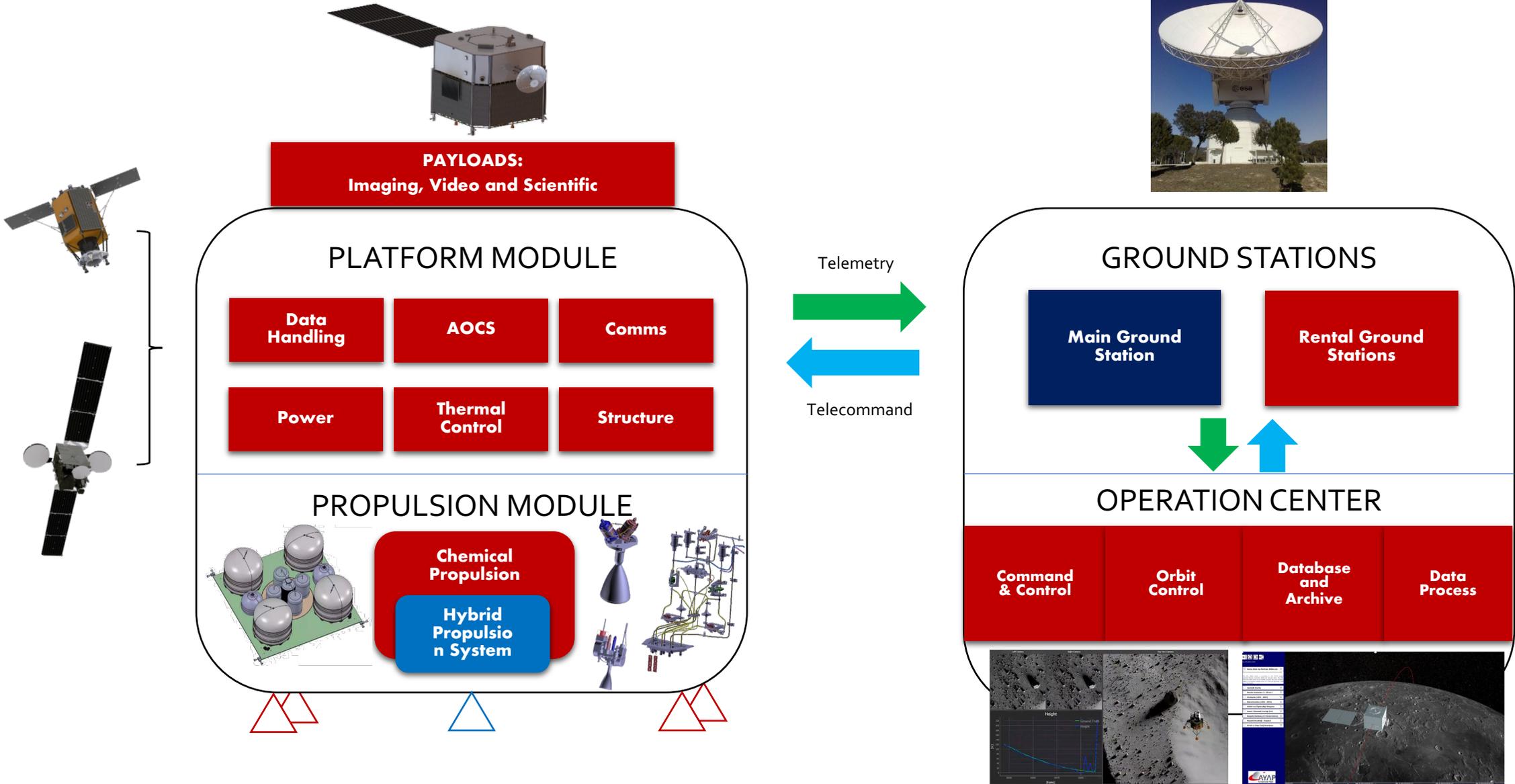
To become one of the countries on the Moon



WORK BREAKDOWN STRUCTURE



SYSTEM ARCHITECTURE



HYBRID PROPULSION SYSTEM

DeltaV - Sounding Rocket Family

A) Small Scale

- First Launch: 2018
- Motor: 60 mm N₂O/Paraffin
- Altitude: 6 km
- Mach: 0.80+ (subsonic)

B) Intermediate Scale

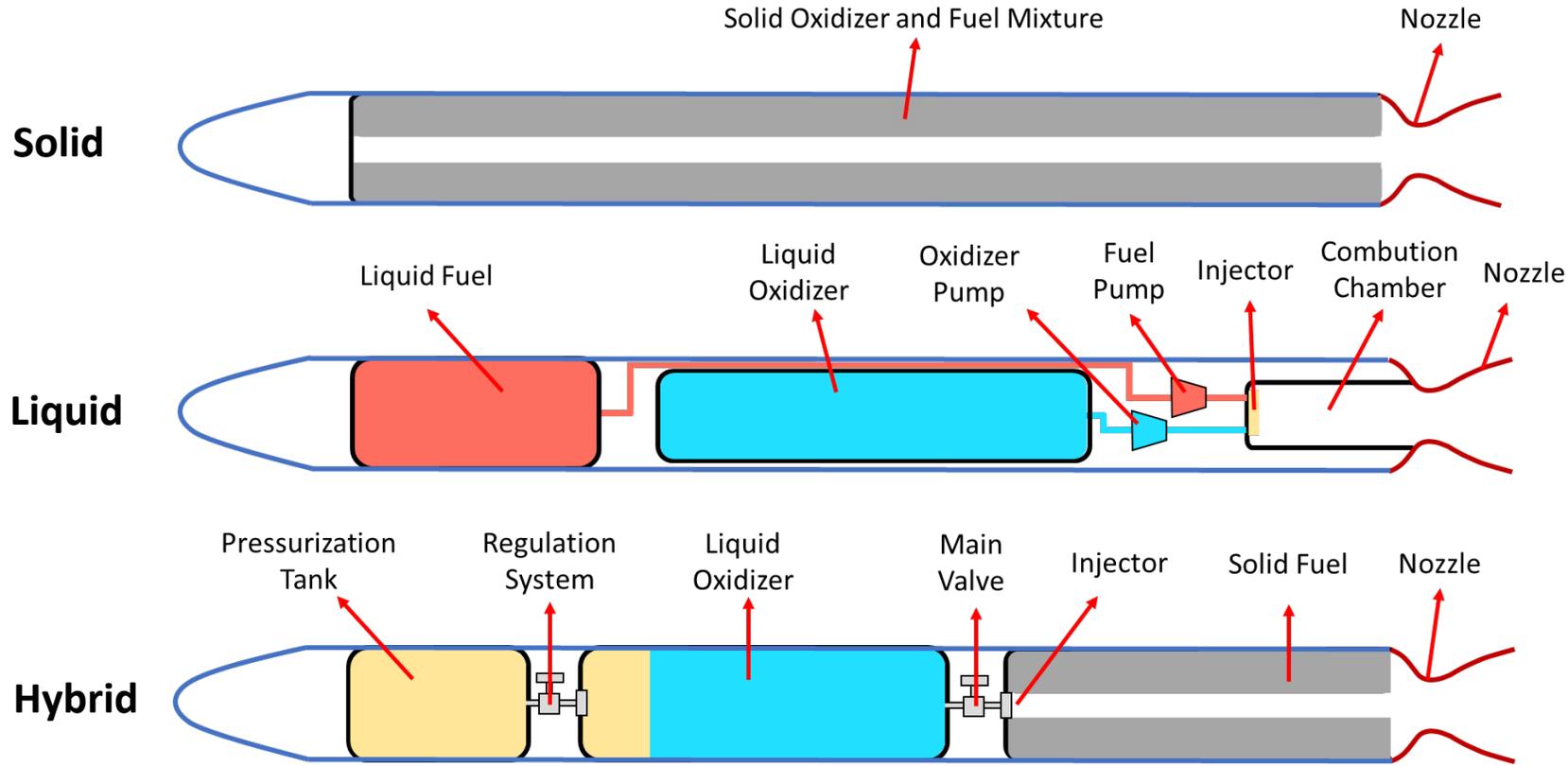
- First Launch: 2019
- Motor 280 mm LOX/Paraffin
- Altitude: 60 km
- Mach: 2-4 (supersonic)

C) Large Scale

- First Launch: 2020
- Motor: 630 mm LOX/Paraffin
- Altitude: 130-250 km
- Mach: 4-8 (hypersonic)
- Commercially viable system

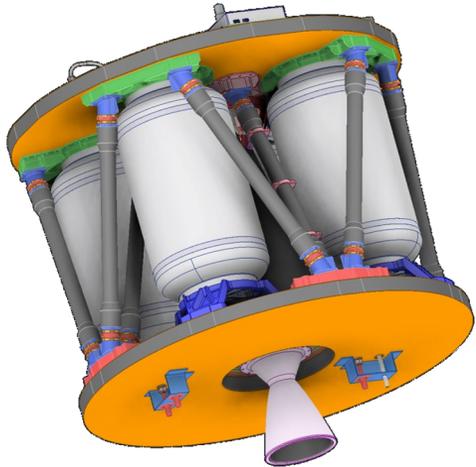


HYBRID PROPULSION SYSTEM



Fuel and Oxidizer Stored in Separate Physical Form (Solid/Liquid)

Safe and Cost-effective



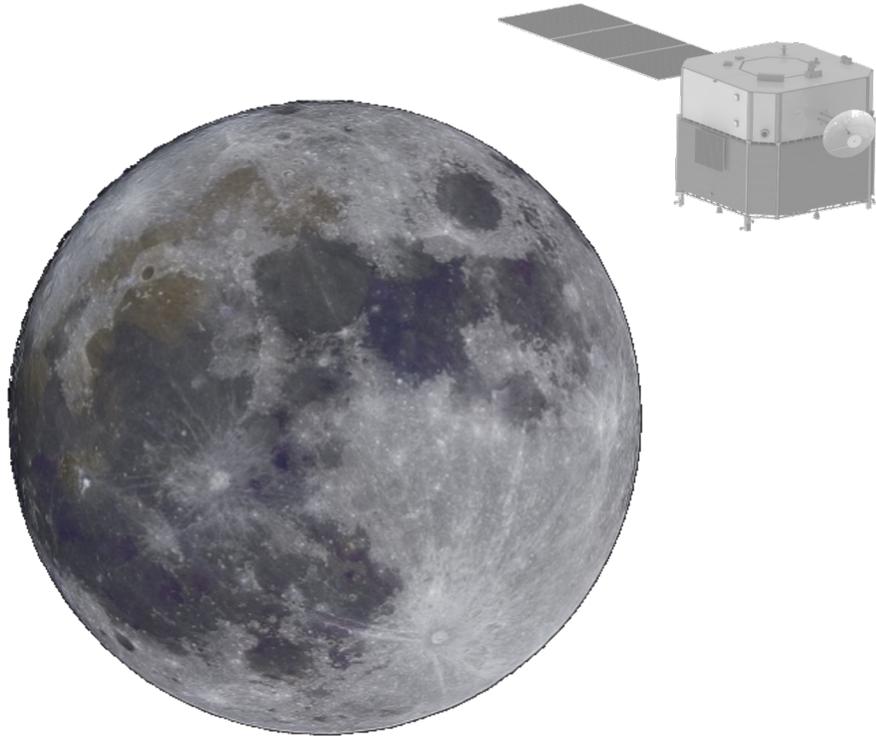
CONCLUSION

- ✓ The Project is one of the cornerstones of Turkish National Space Program.
- ✓ The Project will be carried out in line with the UN Basic Treaties on Outer Space.
- ✓ Türkiye is open to cooperation for the Lunar exploration.
- ✓ Cooperation especially in the fields of;
 - Mission planning
 - Ground station utilisation
 - Data and experience sharingare desirable.



Deep Space Exploration

TÜRKİYE'S MOON RESEARCH PROGRAM



THANK YOU.
COPUOS 60th STSC SESSION
FEBRUARY 2023

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