

# JAXA Mars landing in three steps

Feed to  
Deep space  
exploration

OTV

**Step1** ~2030

Demonstrate safe landing by  
an inflatable soft aeroshell

**Step2** mid-2030

Size up of aeroshell  
Demonstrate pin-point landing to  
the Martian surface

**Step3** late-2030/early-2040  
Mars Polar Rover

Feed from  
lunar exploration  
LEAD

thruster

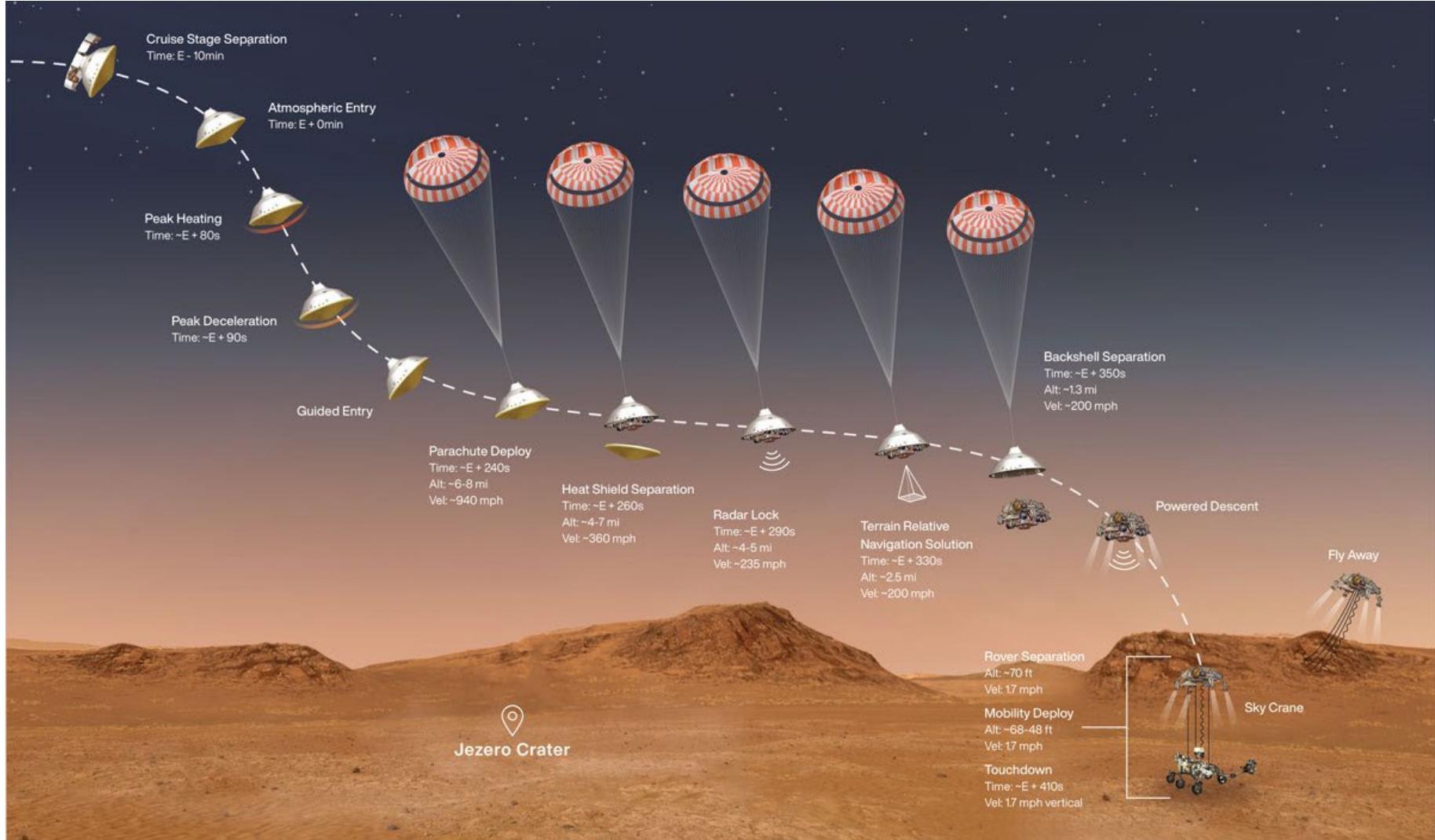
rover

How dare I think I have any chance?

**Relevance to our engineering expertise:**  
Entry capsule!



# In the Martian tenuous atmosphere, heat shield, super-sonic parachute and thruster



In the Martian tenuous atmosphere,  
~~heat shield, super sonic parachute~~ and thruster

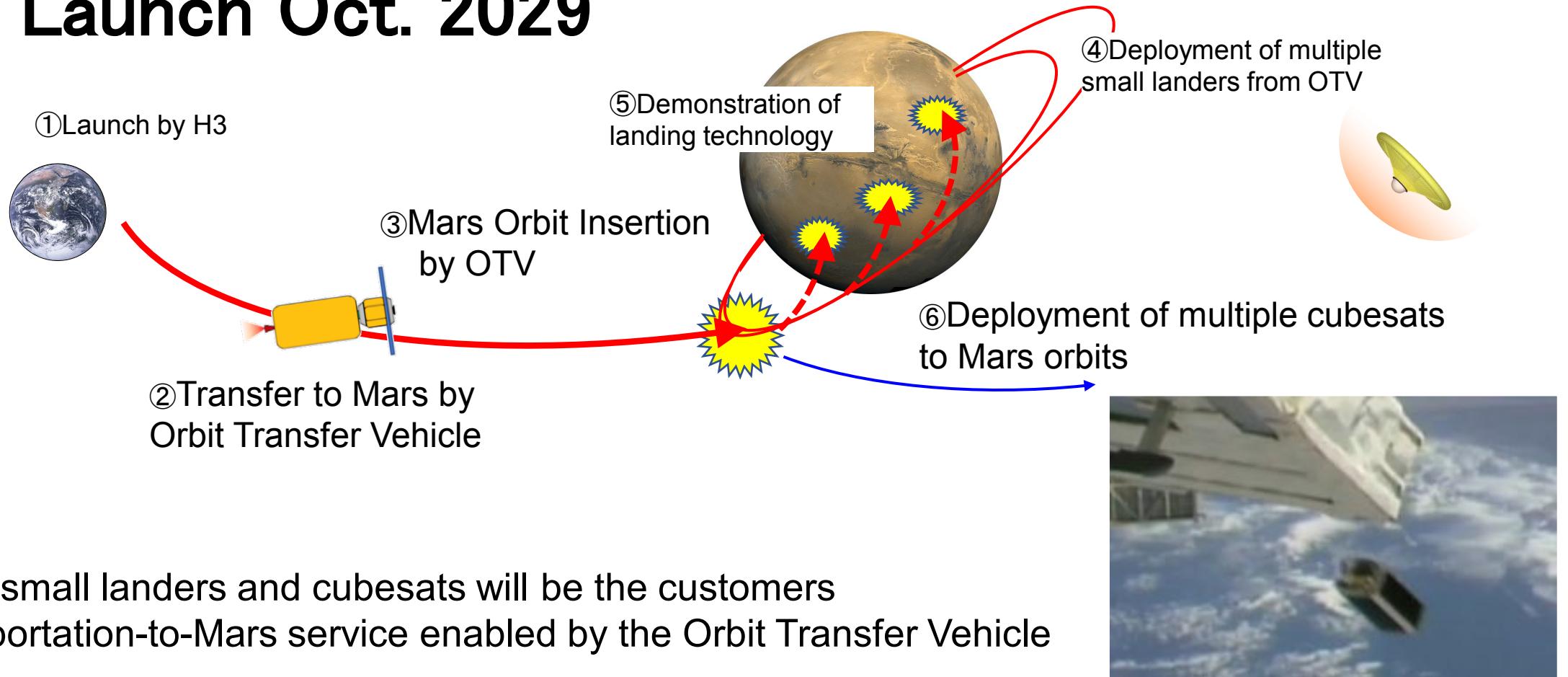


## Inflatable soft aeroshell

*Hard shell is not needed  
as long as the mass to be  
delivered is not too high.*

Limited launcher capability, limited budget,  
interest in more frequent opportunities… Yes, we are  
interested in **light-weight access** to the Mars surface.

# Step1 Launch Oct. 2029



Not merely a <small tech demo>, but I regard it as a demonstration of a new approach to Mars exploration. I would like to see support to this aspect as well.

# Take home

- Scientist-engineer teaming-up under limited launcher capability and budget: **JAXA/ISAS's way**
- Yes, we are interested in **light-weight access to the Mars surface**.
- We have ideas to formulate it in **a sharable form**
- We'll be very happy to pursue **the new way** of Mars exploration in partnership with *smaller* countries
- Frequent OK-sized missions in order to learn enough before sending human to Mars