

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

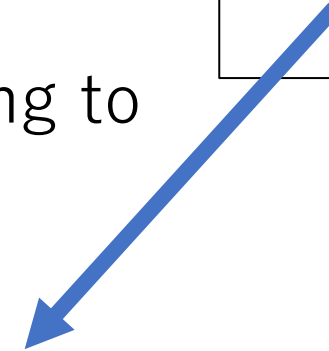
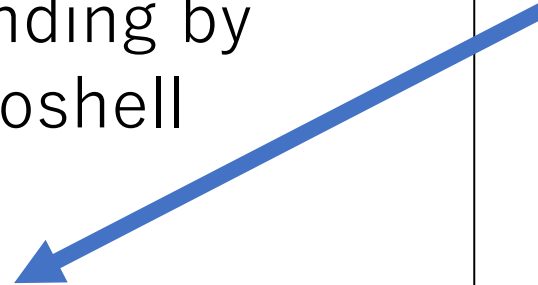
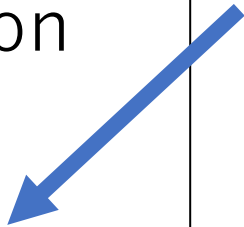
Step3 late-2030/early-2040

Mars Polar Rover

Feed from
lunar exploration
LEAD

thruster

rover



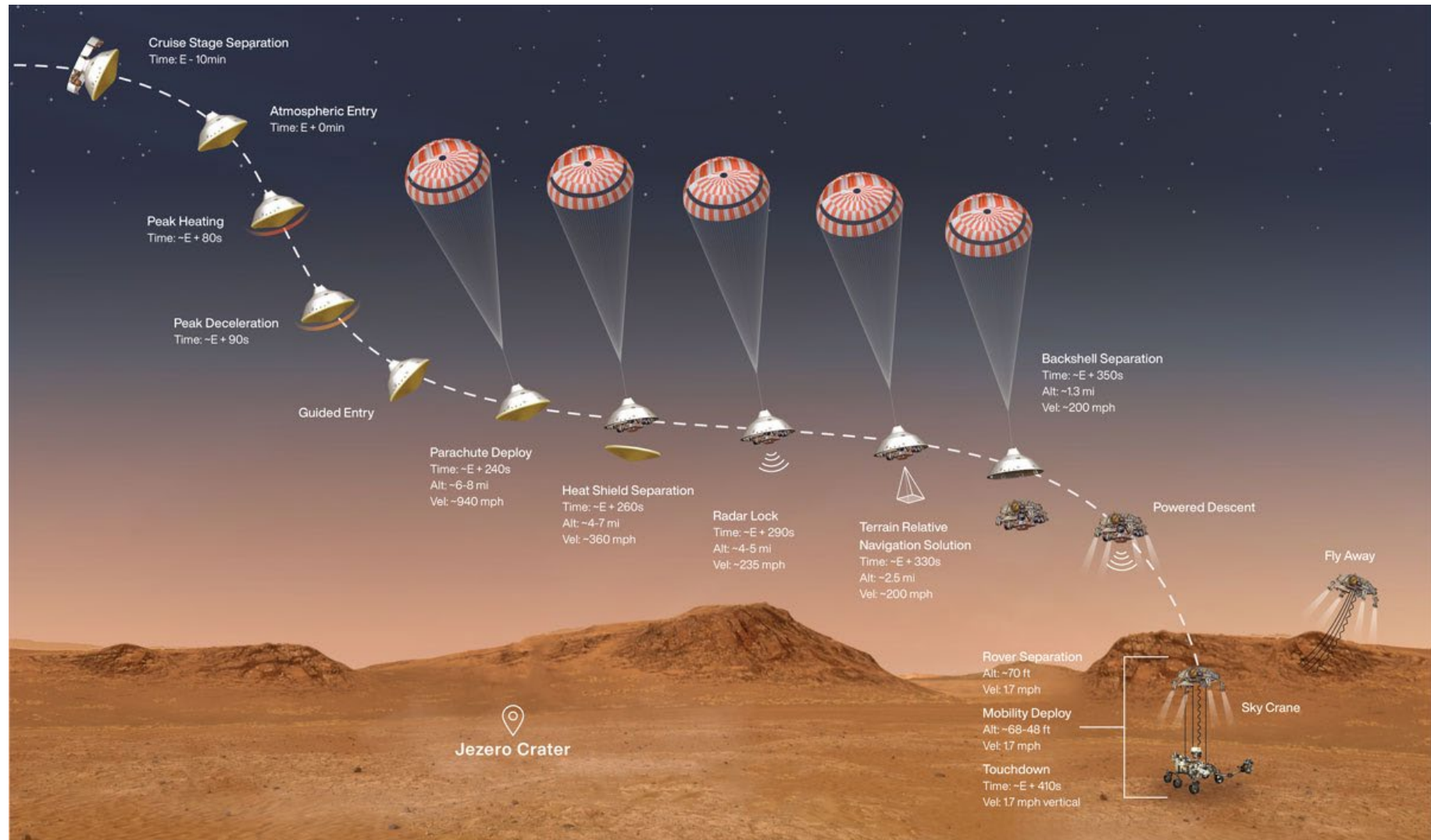
How dare I think I have any chance?

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

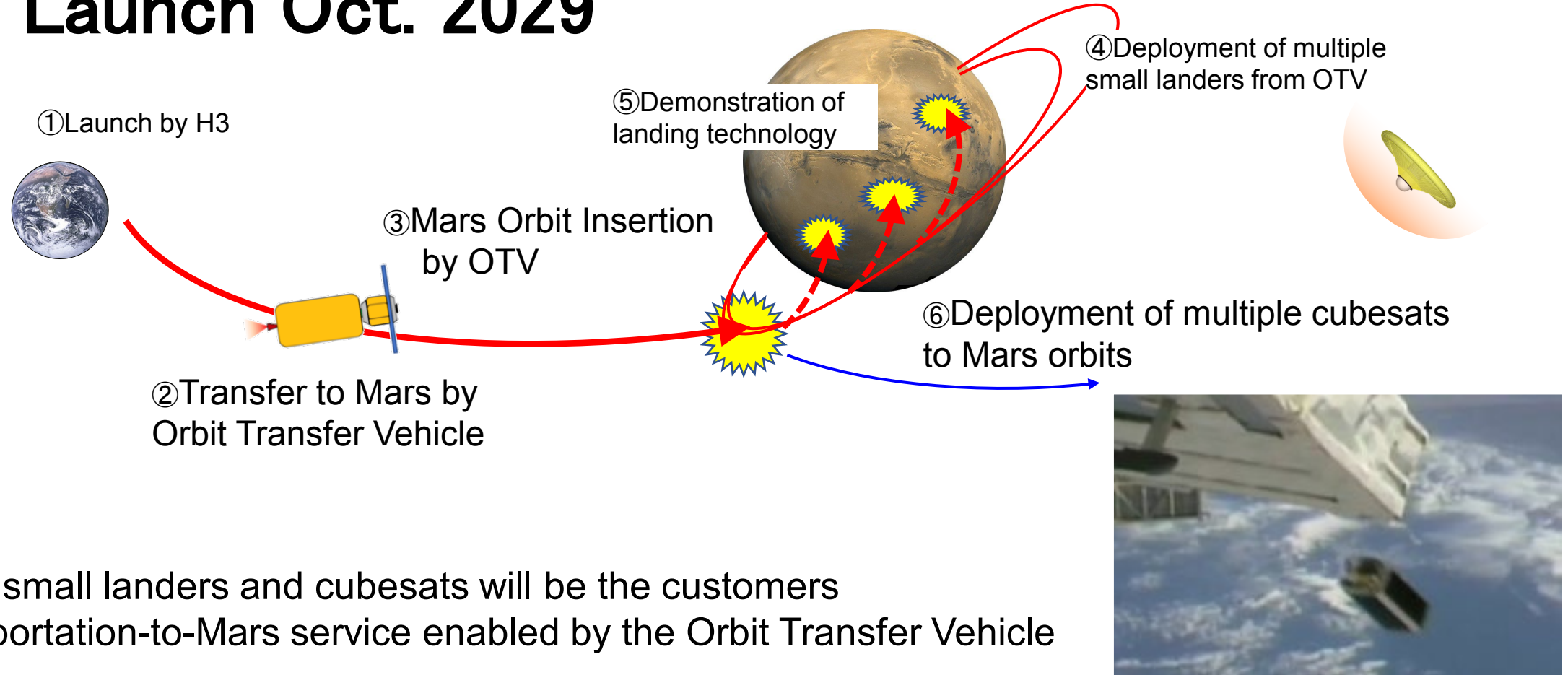


Inflatable soft aeroshell

*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



Multiple small landers and cubesats will be the customers to transportation-to-Mars service enabled by the Orbit Transfer Vehicle

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