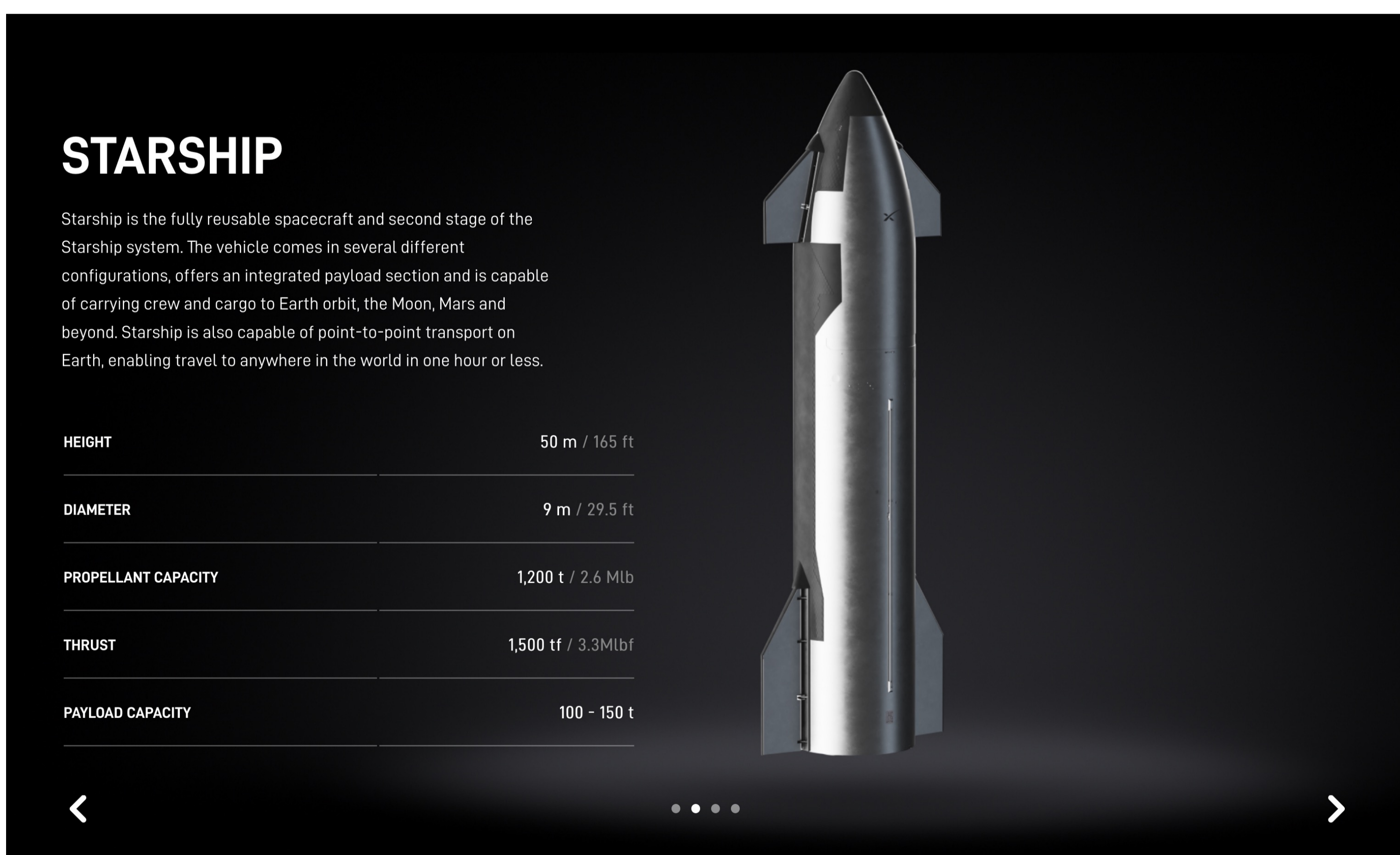
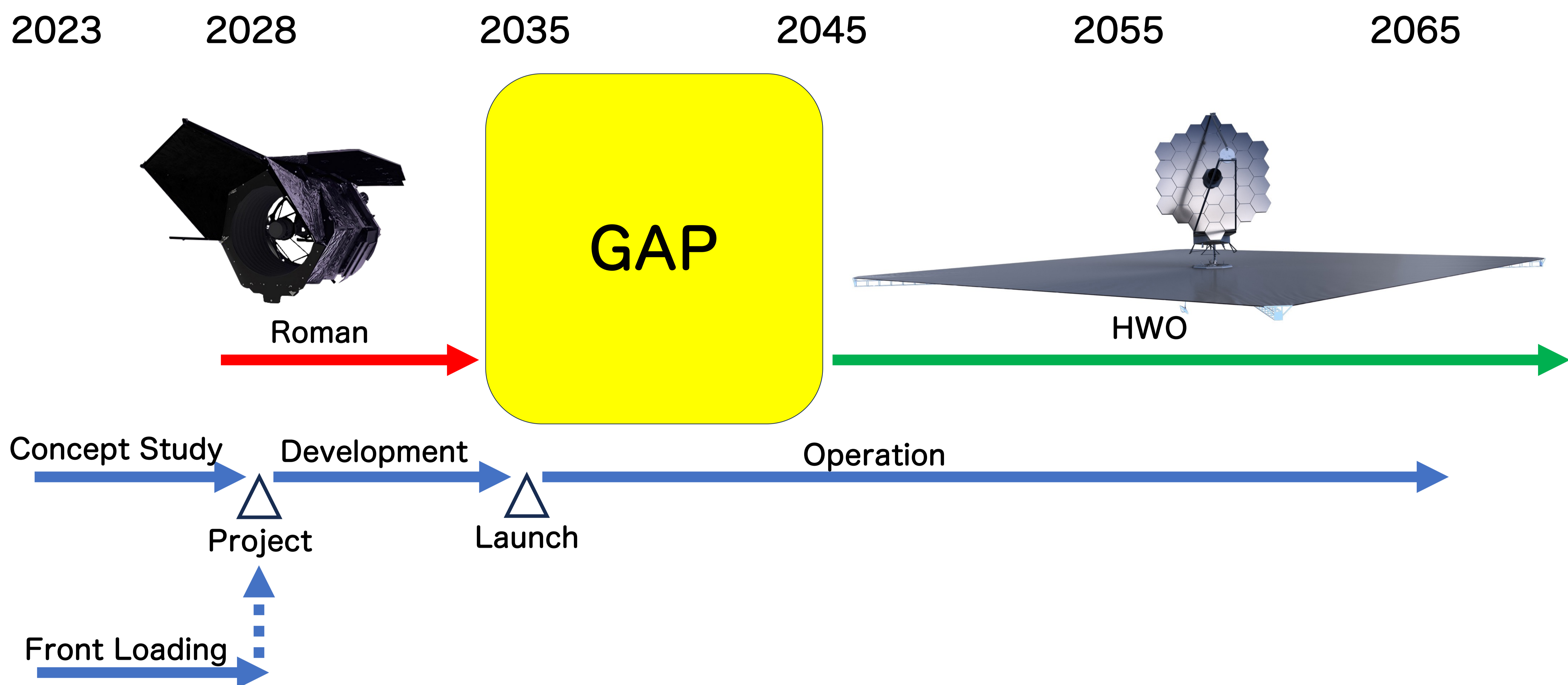


Large Space Optical Infrared Telescope

Yuichi Matsuda (NAOJ)

- It would be worth considering a large space optical infrared telescope in 2030's to fill a gap between NASA's Roman Space Telescope in 2020's and Habitable Worlds Observatory in 2040's.
- SpaceX's starship will open a new window to launch a 30t-class space telescope with an 8-9m monolithic primary mirror (\$40 million launch cost is comparable to H3).
- NAOJ would be capable of the concept study / system integration of the large observatory-type (multi-purpose, serviceable, upgradable) space telescope to start direct observations of exo-planets around nearby sun-like stars in 2030's.



The Launch Capability of Starship (SpaceX)

Primary Mirror	8-9m (Monolithic, Clearceram)
Wavelength	0.1-2.5um (similar to HST/HWO)
Instruments	Coronagraph, Camera, Spectrograph
Mass	30,000kg (L2 max.)
Orbit	MEO, GEO or S-E L2
Lifetime	15yr (30yr with service)
Launch Vehicle	Starship (assumed)

Space Telescope System Concept