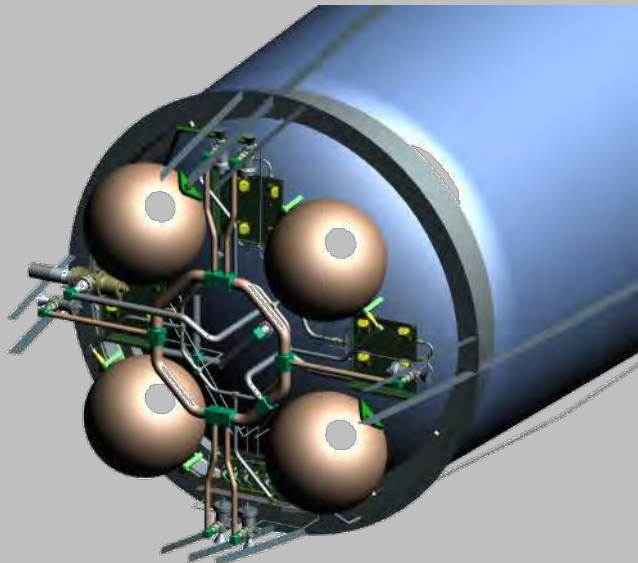
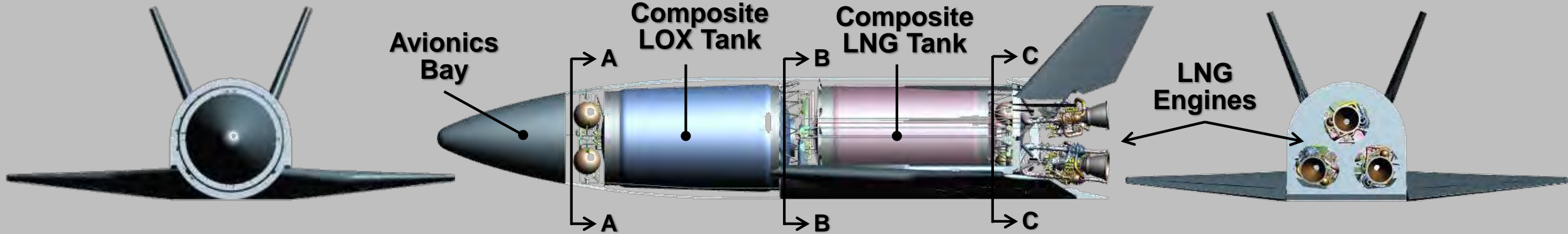
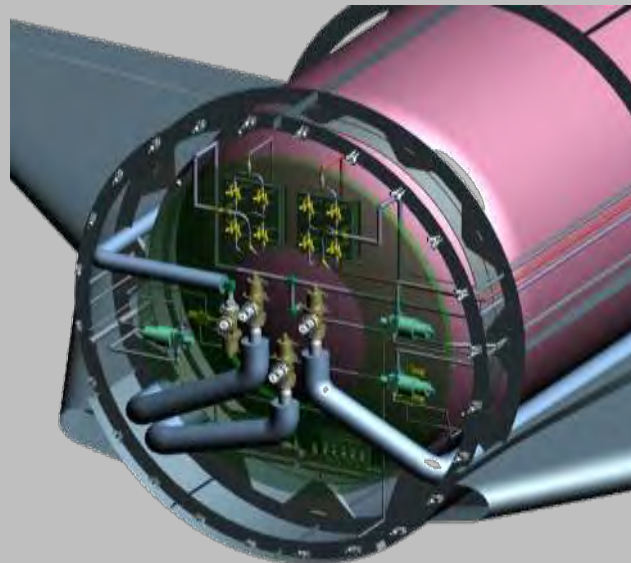


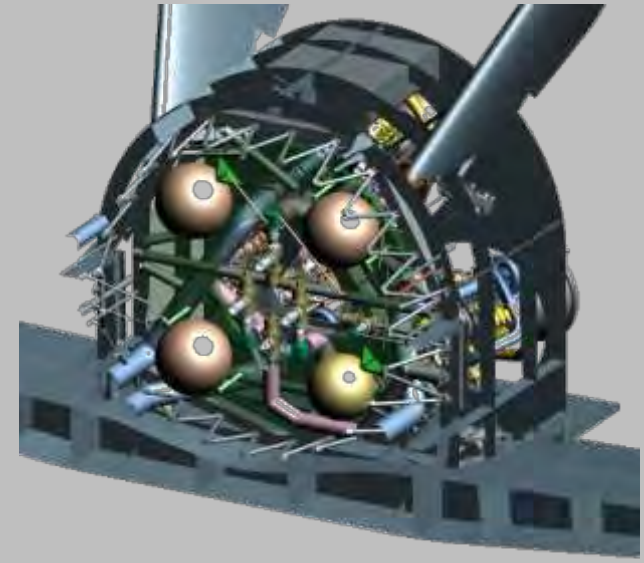
4. Engine and Propulsion System



View A-A (RCS Unit)



View B-B
(Inter-tank Propulsion System)



View C-C
(Rear Propulsion System)

5. Flight Operation

- 北海道大樹町で計画中の北海道スペースポート



Winged Test Rocket WIRES#015

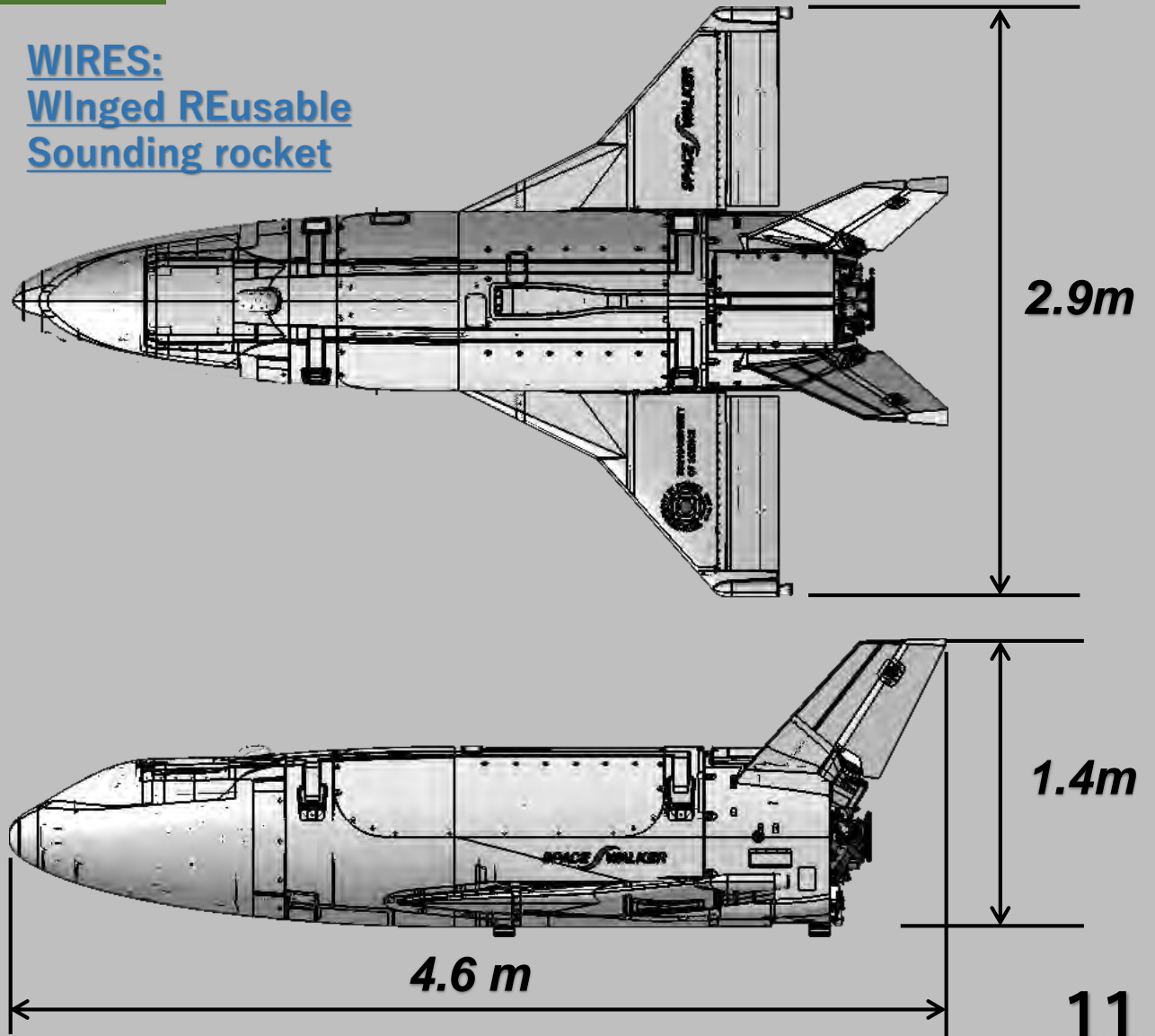
1. Specifications

Major Dimensions		
Initial Mass	1,000	[kg]
Max. Thrust	17.8	[kN]
Combustion Time	30	[s]
Max. Altitude	5.5	[km]

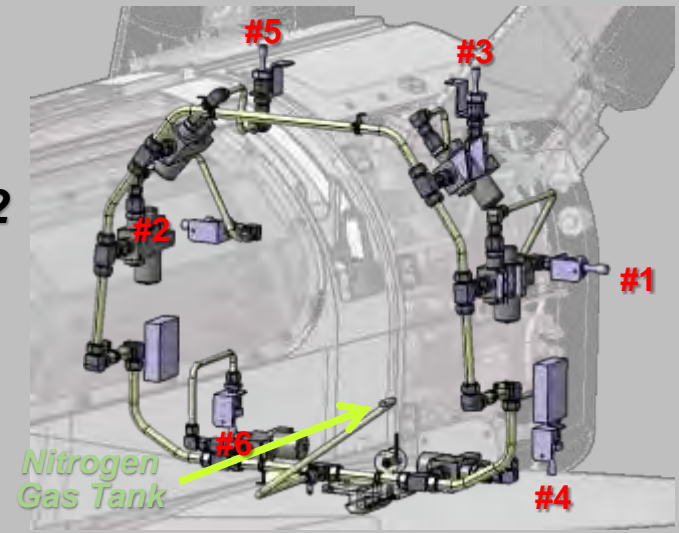
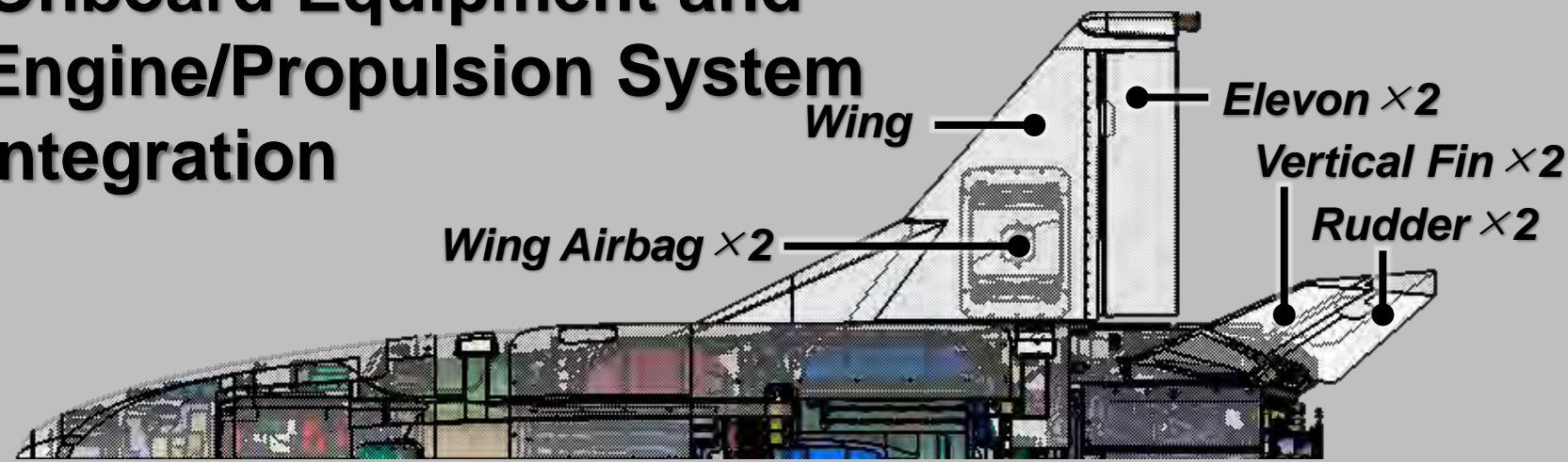
Demonstration Issues

- LOX/LNG Engine (JAXA/IHI)
- Cryogenic Composite LOX and LNG Tanks
- Non-linear Attitude Control System Using DI Theory
- Real Time Guidance System Using Genetic Algorithm

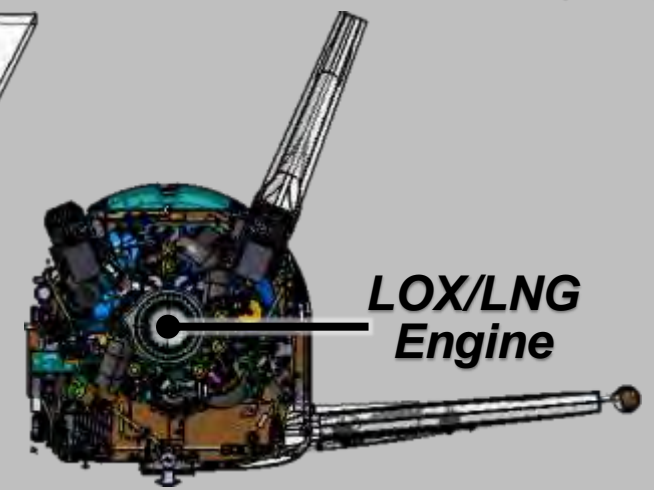
WIRES:
Winged REusable Sounding rocket



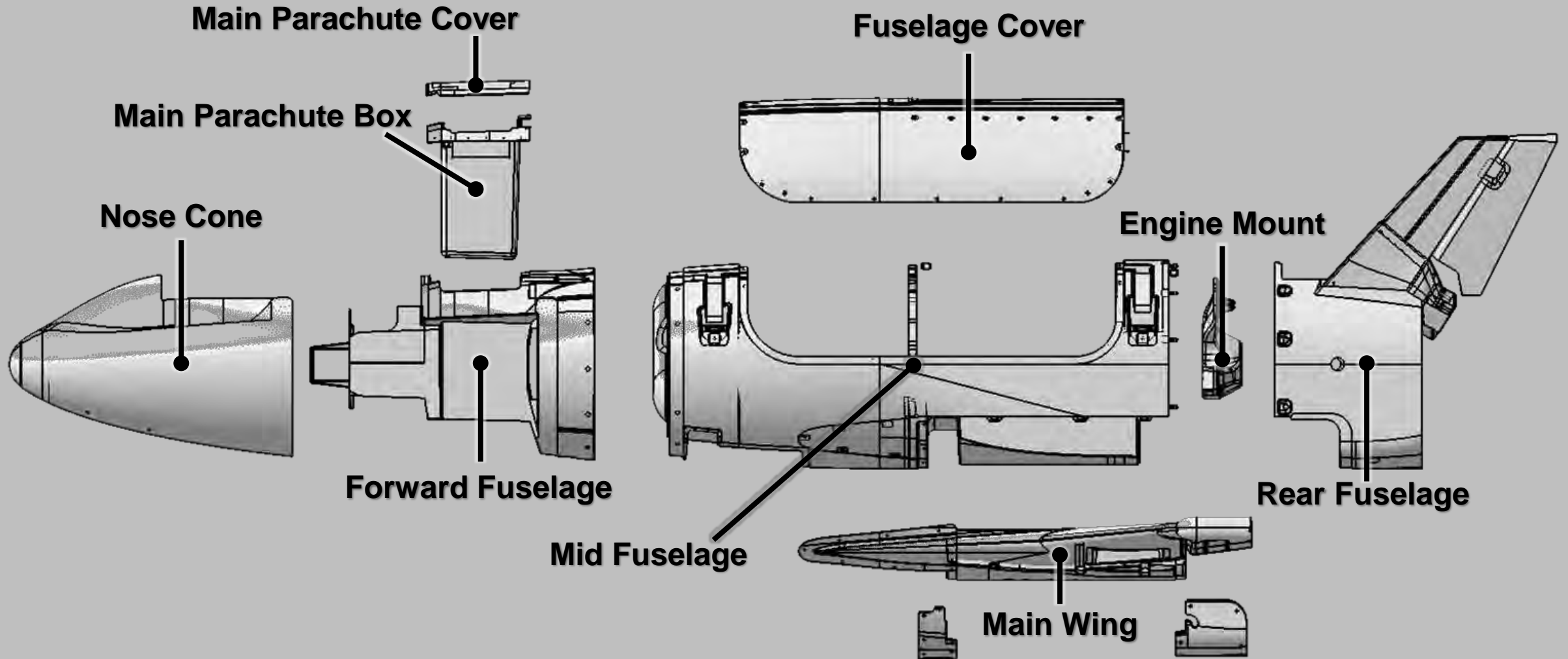
2. Onboard Equipment and Engine/Propulsion System Integration



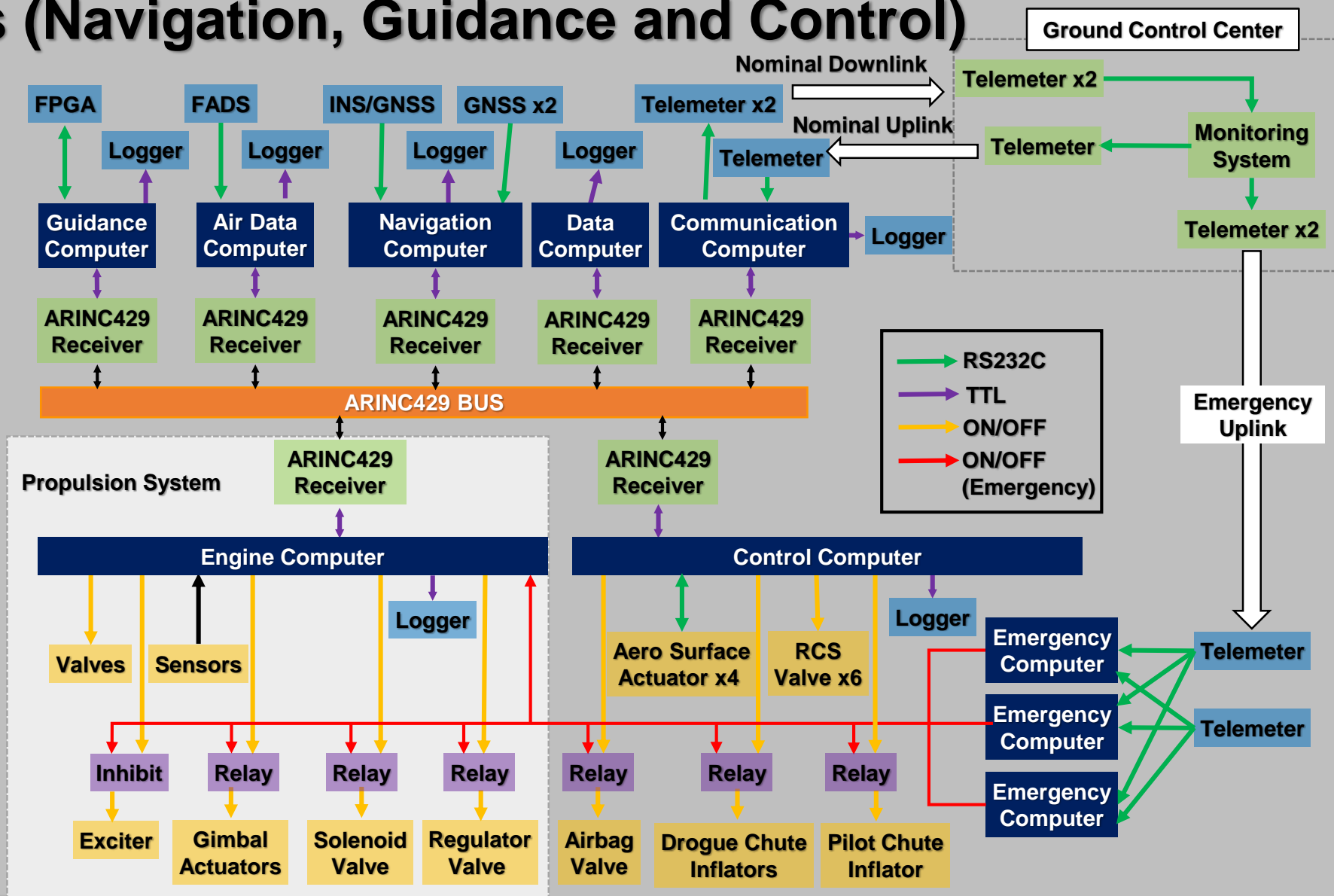
RCS Thruster(#1-#6)



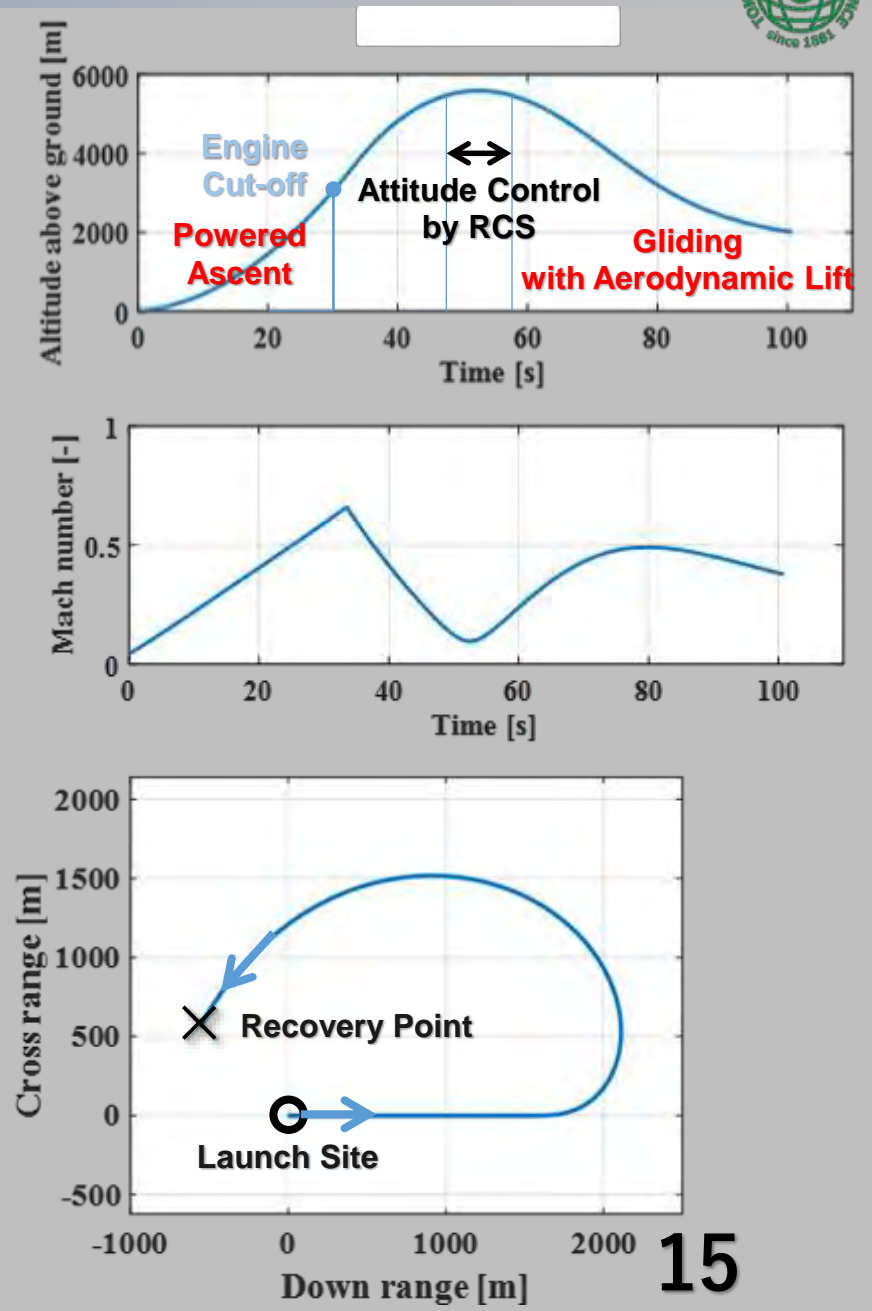
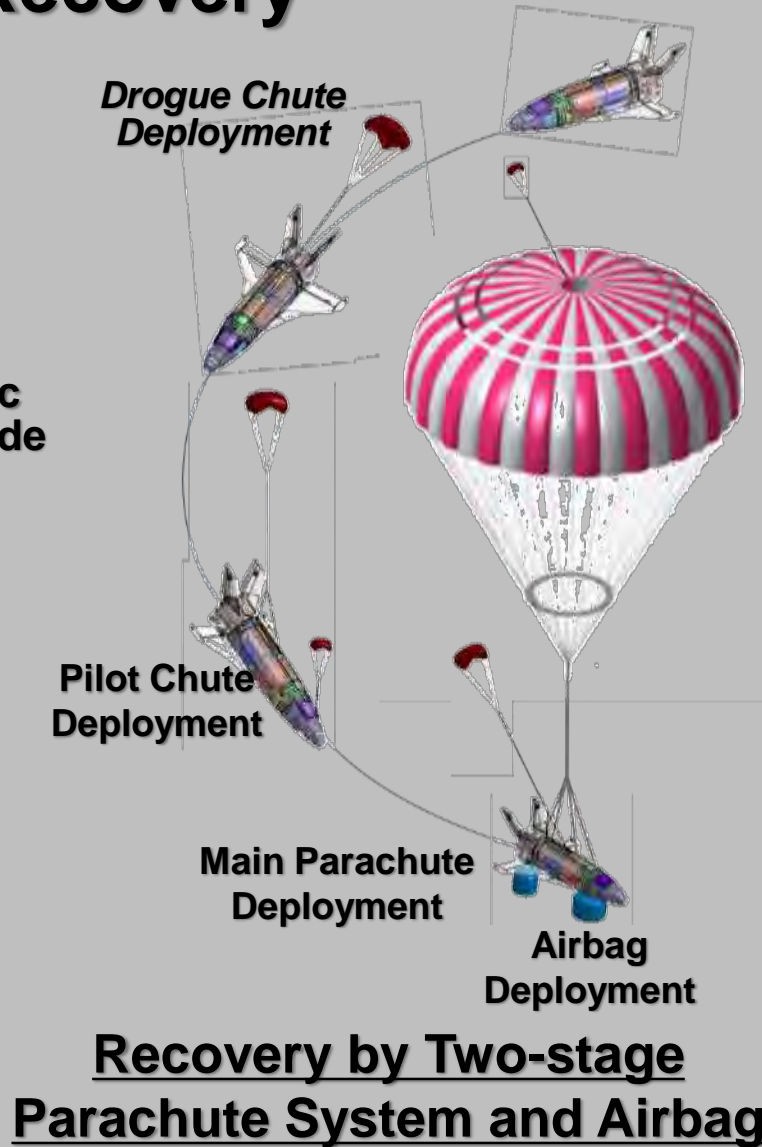
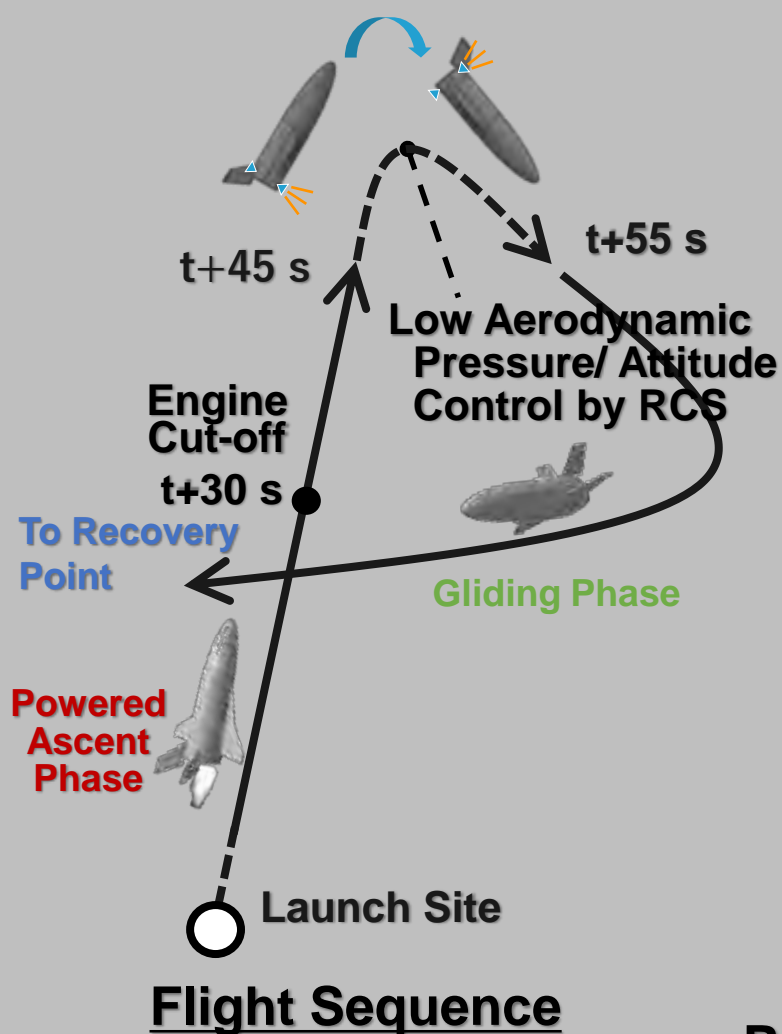
3. Composite Structure



4. Avionics (Navigation, Guidance and Control)



3. Flight Profile and Recovery



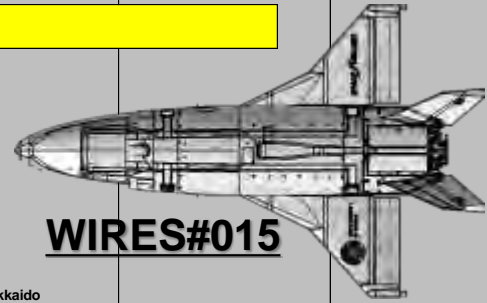
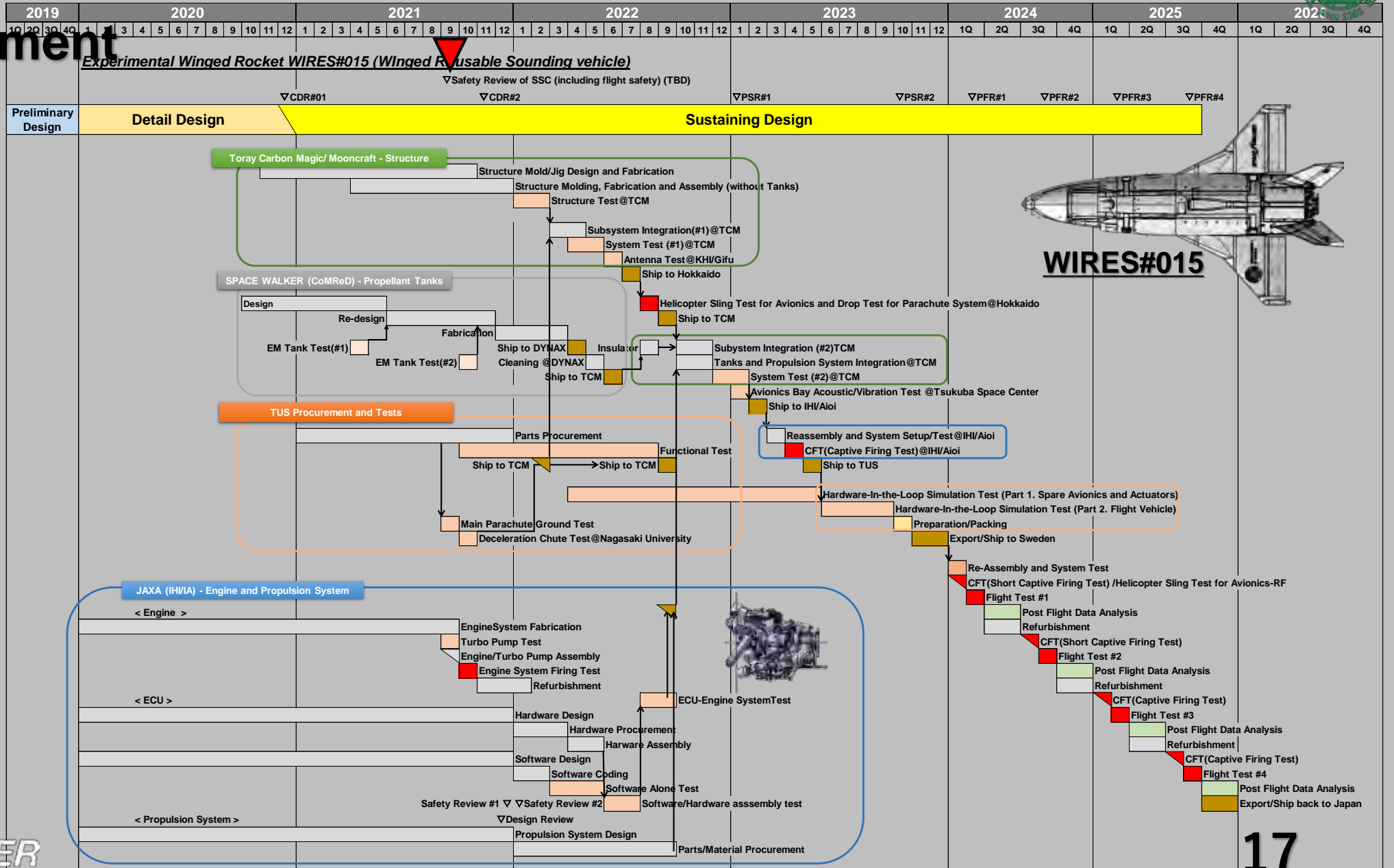


4. Flight Demonstration

Demonstration Flight will be conducted at Esrange in Sweden in collaboration with DRL (German Aerospace Center) and SSC (Swedish Space Corporation) from 2024 to 2025.



4. Development Plan



Thanks
for your attention!

- SPACE WALKER Inc.
(<https://www.space-walker.co.jp>)
- Tokyo University of Science
(<https://space-systems.me.noda.tus.ac.jp/en/>)

