# Deep Space Exploration Mission with CubeSats

7th UNISEC Global

Group discussion / Group 3

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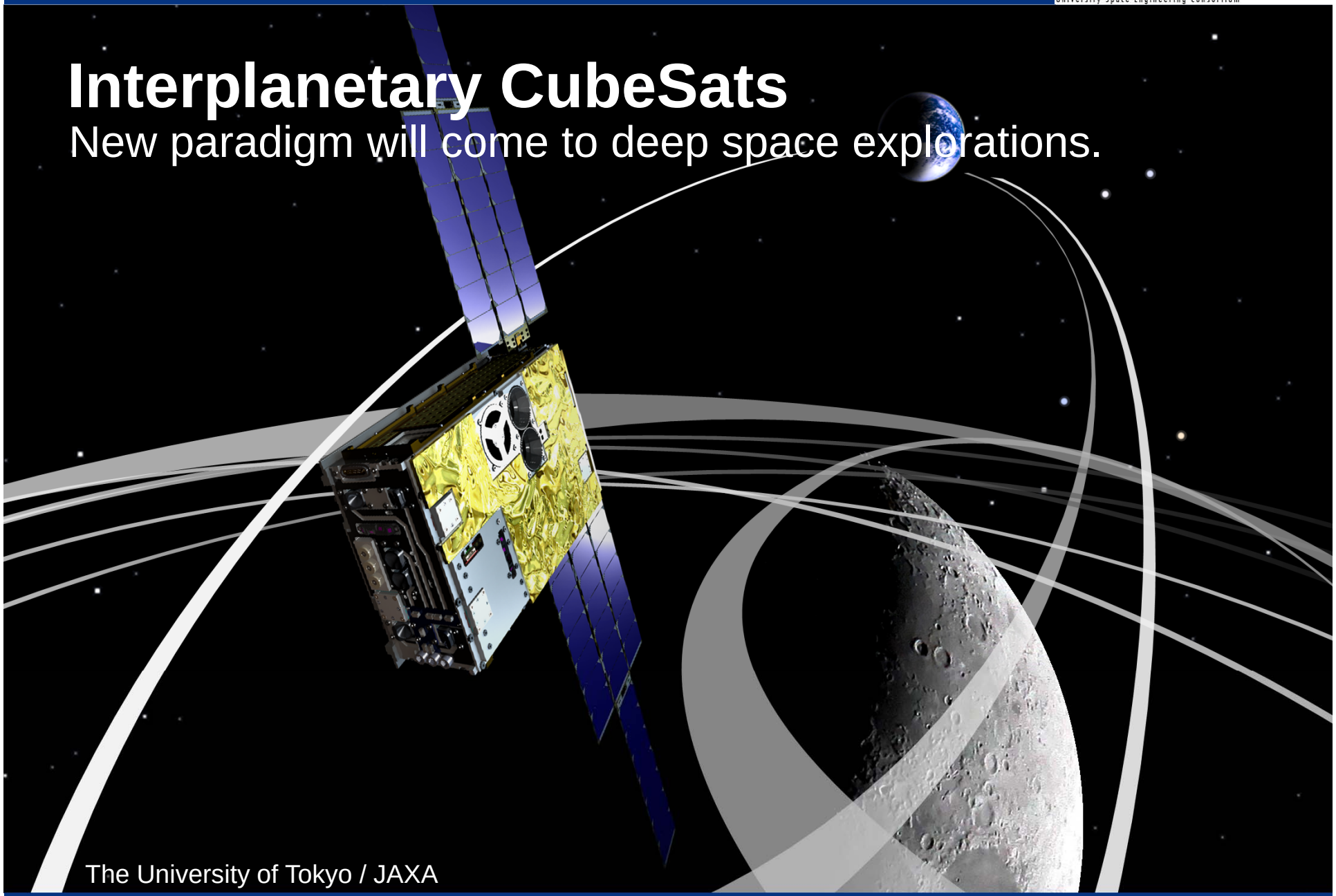
# Interplanetary CubeSats

New paradigm will come to deep space explorations.



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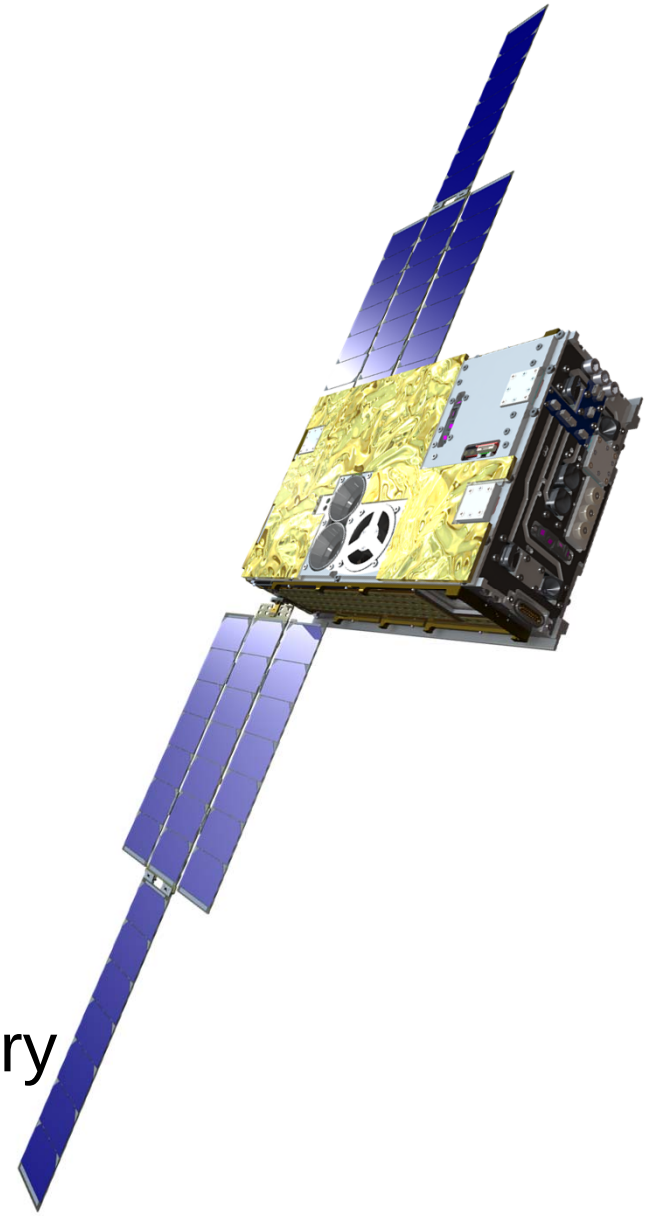
# Interplanetary CubeSats

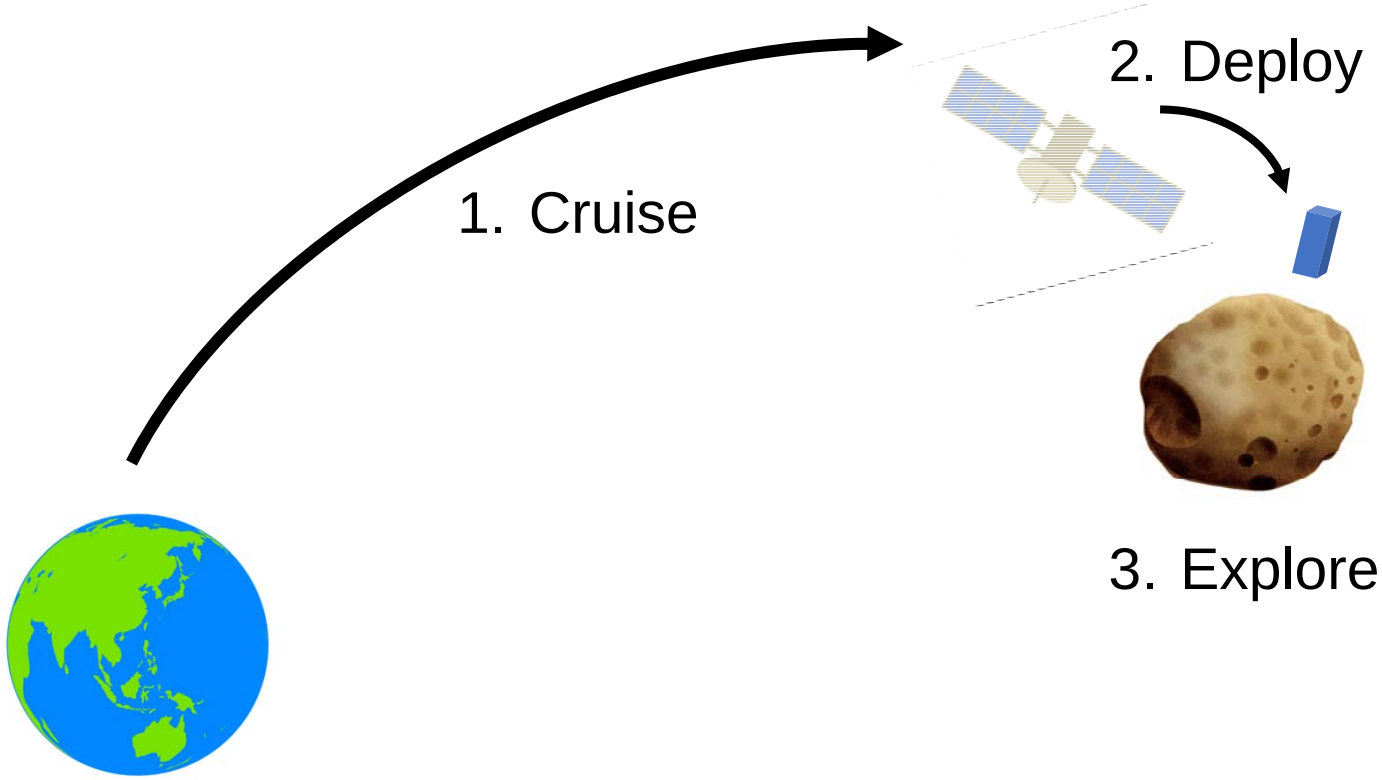
- Advantages
  - Low cost
  - Short development cycle
  - Piggyback opportunity

New mission architectures based on distributed systems using interplanetary CubeSats



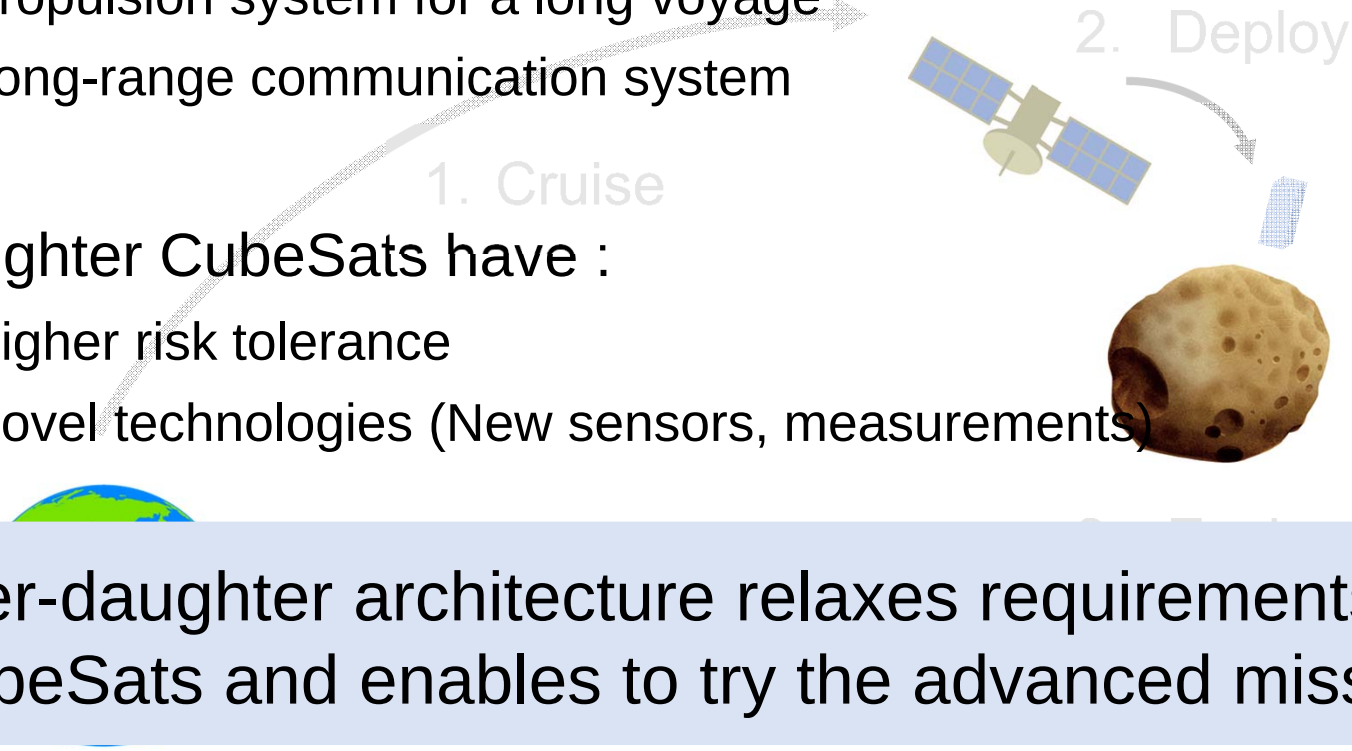
# New architecture using interplanetary CubeSats

- Mother-daughter architecture



# New architecture using interplanetary CubeSats

- Mother-daughter architecture
  - A mother spacecraft provides :
    - Propulsion system for a long voyage
    - Long-range communication system
  - Daughter CubeSats have :
    - Higher risk tolerance
    - Novel technologies (New sensors, measurements)




Mother-daughter architecture relaxes requirements for the CubeSats and enables to try the advanced missions.

# Main topics

- What can unique deep-space missions be performed by daughter CubeSats?
- (If necessary,) What techniques should be demonstrated in LEO before the above missions?