



Initial description and analysis of Hayabusa2 returned sample

Extra-terrestrial Sample Curation Center (ESCuC)
ISAS, JAXA

December 8, 2020

Gas Sampling at Quick Look Facility in Woomera

Recover reentry capsule

Quick Look Facility

Securing works

Remove battery and electronics box

Cleaning

Sample gas inside container

Gas Sampling System



Cleaning & Disassembling the Container in Class 10K Clean Room at ISAS

Transfer to Japan

Arrive to ESCuC

Class 10,000
Clean
Room

Remove a heat shield

Cleaning

Set the container to
container opening jigs

Remove an outer lid, springs,
NEA, and frame for latches

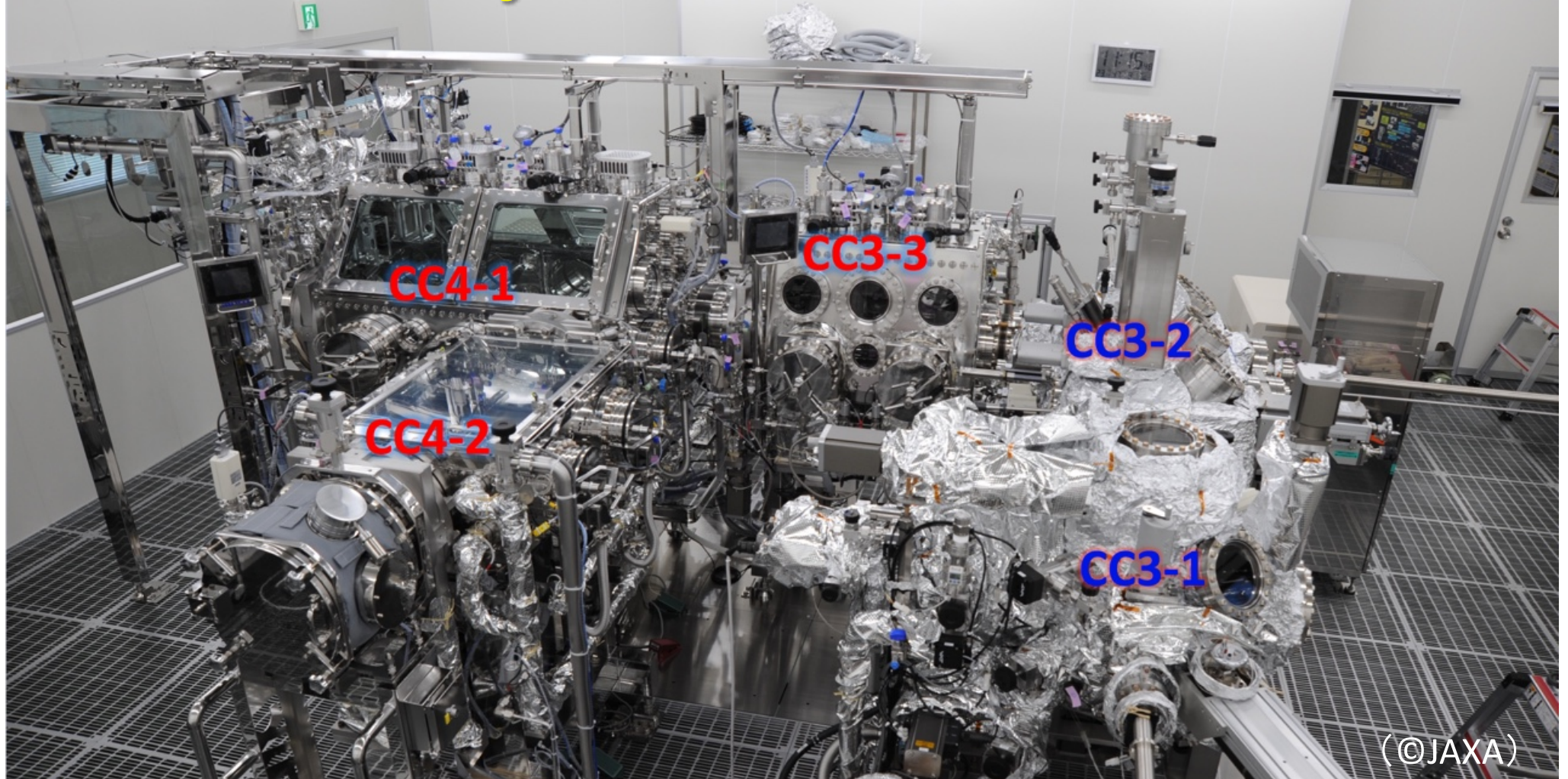
Transfer to the clean room for HY2

Disassembling HY2 Container



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Hayabusa2 clean chamber



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- CC3-1 ~ Open the sample container in vacuum**
- CC3-2 ~ Recover a part of container and samples in vacuum**
- CC3-3 ~ Exchange environment from vacuum to purified N₂**
- CC4-1 ~ Manipulate samples of <mm size**
- CC4-2 ~ Handle samples of >mm size**

Video of picking samples in CC3-1 (rehearsal)



x6 speed

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Handpicking simulant particles in vacuum

Work of Initial Description in N2 environment (CC-4)

Nitrogen Condition

Transfer catcher to CC4-1 and 4-2

Recover samples from each chamber of the catcher

Observe recovered samples with optical microscope

Weigh samples with microbalance

Analyze Vis/IR spectra of samples with FT-IR and MicrOmega

Sample storage

Sample distribution



Sample distribution Schedule (plan)

Dec. 2020

Phase1 curation for most of returned samples

Jun. 2021

Dec. 2021

Initial description for int. AO

Initial Analysis
15 wt%

Jun. 2022

Sample Allocation to Community through Int. AO

Storage 40 wt%

Int. AO
15 wt%

NASA
10 wt%

Phase 2 with overseas
5 wt%

Phase 2
10 wt%

Detail Description max 5 wt%

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✘ Allocation volume will be determined by the next HSAC.