

SUMMARY OF MARS SAMPLE RETURN (MSR) SCIENCE PLANNING GROUP 2: PLANNING FOR THE ARRIVAL AND ANALYSIS OF MSR SAMPLES AT EARTH

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MSR Science Planning Group

MSR Science Planning Group (MSPG2)

Science Management Plan

Initiation

Terms of Reference signed by ESA and NASA in April, 2020

Statement of Task

1. Provide inputs for an MSR Science Management Plan
2. Identify technical issues related to potential scientific usefulness of the samples
3. Develop high level requirements for a Sample Receiving Facility (SRF) to be used for cost estimation and budgeting
4. List key decision points related to the returned samples and represent them on a master timeline

Formation

- Members competitively selected through joint NASA-ESA process
- International team comprised of appointed Coordination team plus 25 members representing 11 countries
 - 12 from Europe, 11 from the United States, one from Canada, one from Japan

The Challenge

- Agreements and funding for engineering elements of MSR have been established, but management, oversight, planning, and resources for scientific elements remain undefined

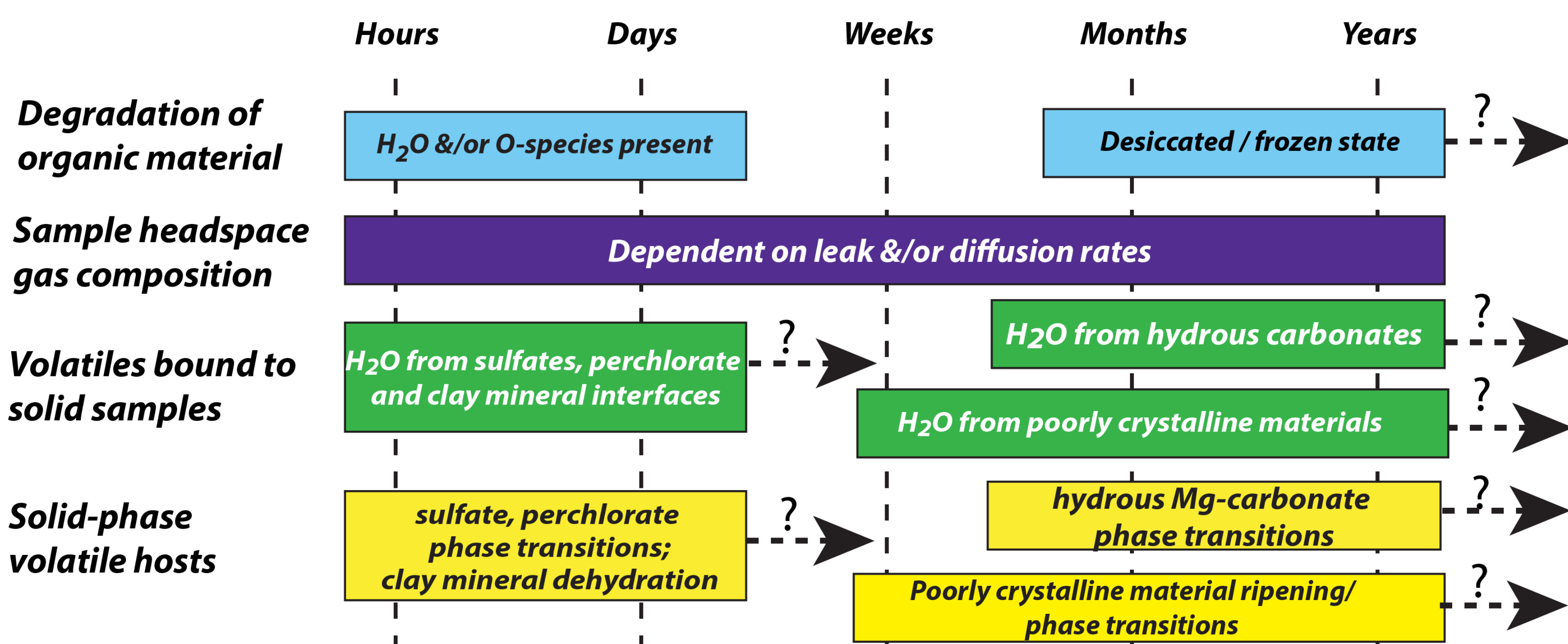
Findings & Proposed Solutions

- Science functionalities required to carry out MSR include:
 - Science leadership, science investigations, and involvement of the broader science community
- These functionalities are outside the scope of existing scientific bodies/activities
 - Some scientific functions covered by M2020, but most are not yet assigned
- New science bodies are needed for functionalities not yet assigned
 - Requires the establishment of an overarching MSR science management structure that should be initiated as soon as possible

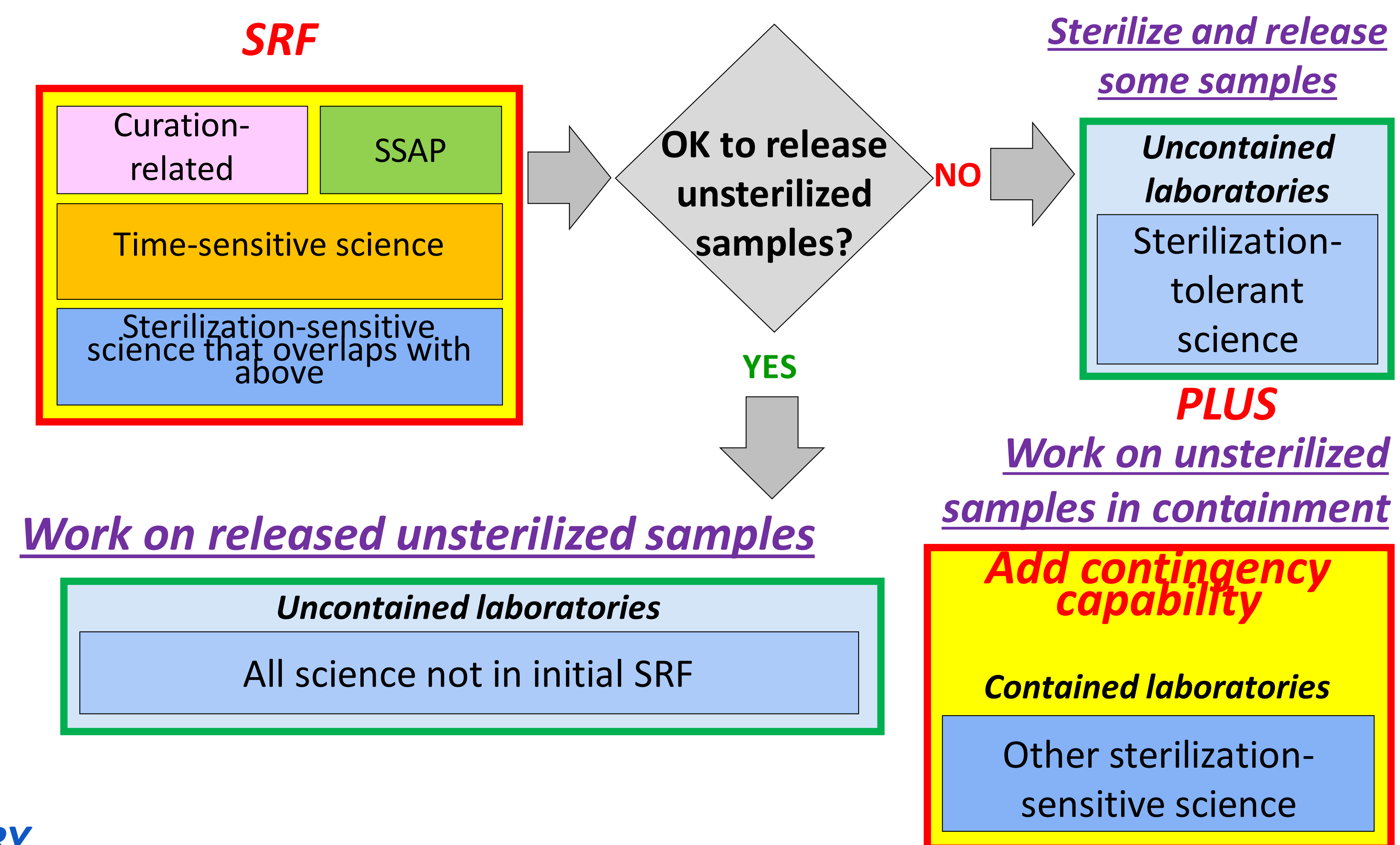
Finding #1: A joint NASA/ESA MSR Science Program, along with the necessary funding and human resources, is required to accomplish the overall scientific objectives of MSR.

SRF and Sample Investigation Planning

Time-Sensitive Science



Uncontained Analysis: A Key Strategy



Not Shown (but very important)

Sample Safety Assess., Curation

SRF Concept of Operations

