



National Aeronautics and
Space Administration

EXPLORE MARS

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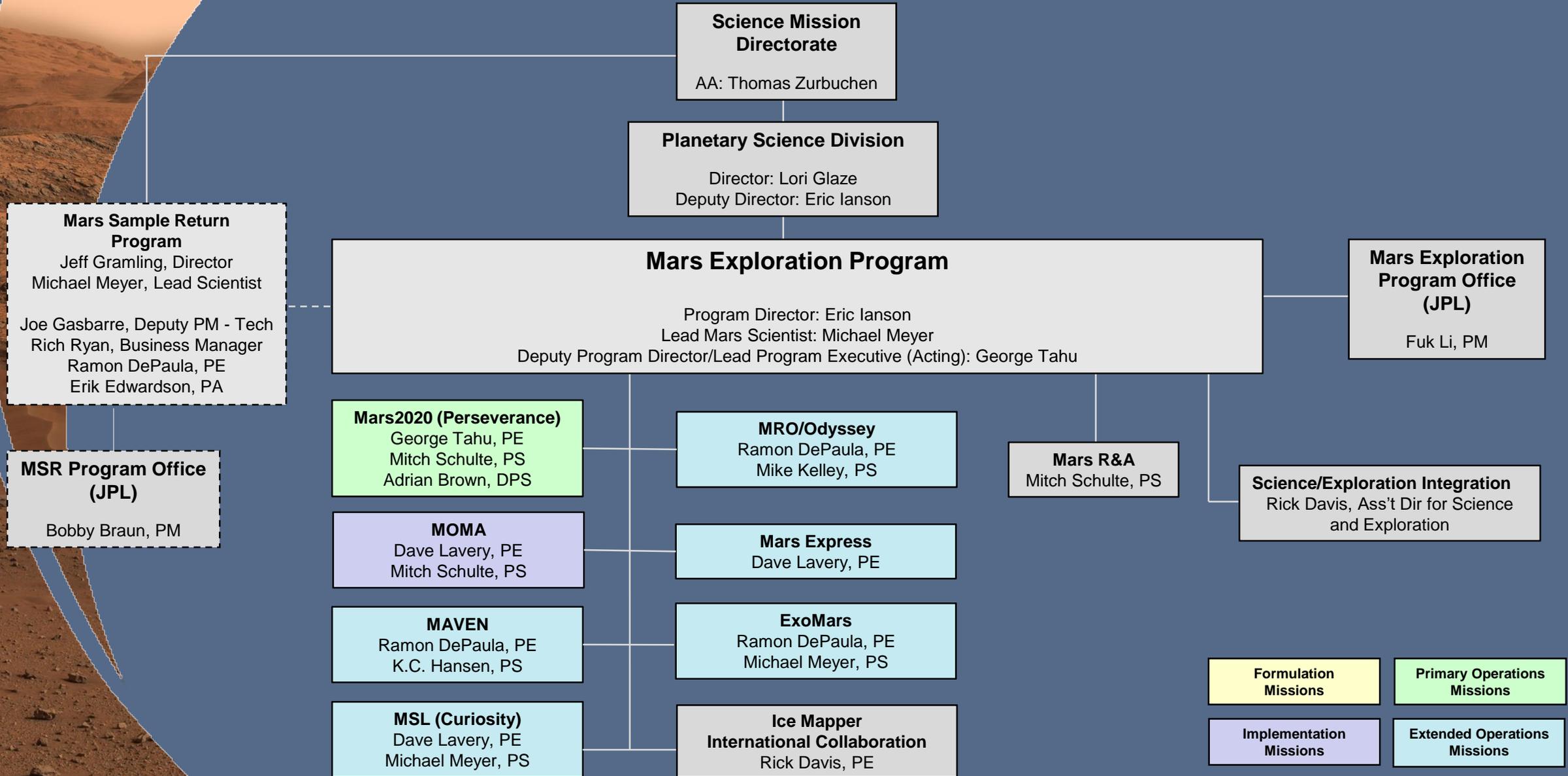
Recent News (1 of 2)

- Jim Watzin has departed the Mars Exploration Program (MEP) and PSD for a position supporting NASA's Associate Administrator for Strategy and Plans (Tom Cremins) on efforts associated with human exploration of Mars
- Eric Ianson named Director of the MEP in addition to his existing role as Deputy Director of PSD
- Michael Meyer serves as Lead Scientist for MEP and Mars Sample Return (MSR)
 - Provides the science bridge between the programs
 - Ensure coordination of M2020 caching with MSR
 - Preparing science recommendations for facility and management of returned samples with MEP
- George Tahu appointed Acting Deputy Director / Lead Program Executive for MEP

Recent News (2 of 2)

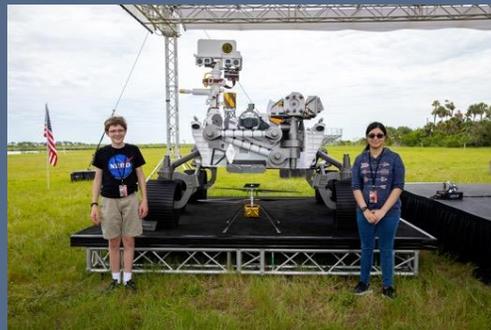
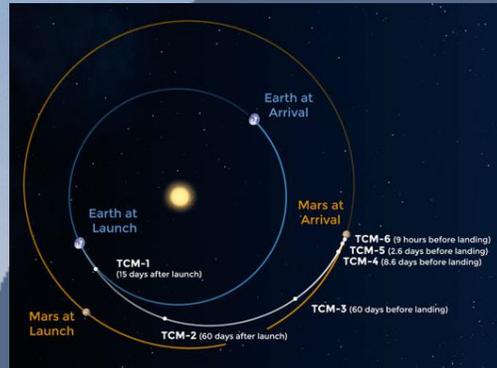
- Mars 2020 Successfully Launched on July 30, 2020
 - Arrival at Mars: February 18, 2021
- Mars Sample Return has been established as a new program
 - Jeff Gramling named as the Program Director; reports directly to SMD Associate Administrator Thomas Zurbuchen
 - Close coordination remains with PSD and MEP
 - MSR Independent Review Board convened
 - Mission Concept Review successfully conducted October 9-13
 - Key Decision Point A planned for December 2020
- Mars Ice Mapper
 - International partnership statement of intent expected to be finalized soon
 - Pre-Acquisition Strategy Meeting planned before the end of 2020
 - Will present an overview including science opportunities at next MEPAG meeting

SMD Mars Exploration Organization

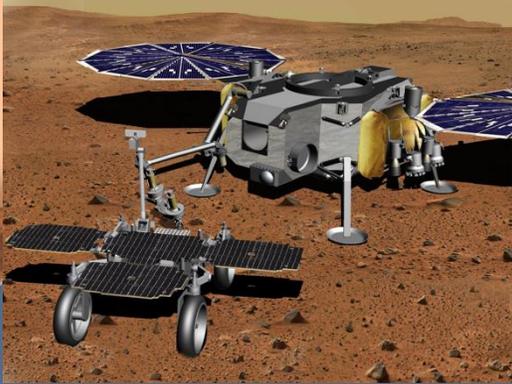


Mars 2020 / Perseverance

- Successfully Launched on July 30, 2020!
 - Spacecraft is healthy and in cruise to Mars
 - Landing at Jezero Crater on February 18, 2021
 - First leg of the Mars Sample Return campaign
- *Ingenuity* Mars Helicopter (technology demo) will attempt up to five powered, controlled flights
- Virtual launch experience highly successful; some metrics as of July 31:
 - 7.1M social media engagements over launch week
 - 5.3M views of launch across all platforms
 - 66.2k virtual launch guests



Mars Sample Return



- Mars Sample Return MOU approved by ESA Council and jointly signed by NASA/ESA October 5
- A separate, dedicated MSR program office will be established at JPL
 - Will report to MSR Program Director at HQ
 - Will be the system-level 'project' organization for MSR
- Mars 2020 Phase E operations remain under the Mars Exploration Program, reporting to the Mars Program Director
- MSR continues to work towards two launches in 2026 (NASA lander + ESA orbiter) and is on track to enter Phase A this Fall
- MSR Program will end with the initial containment of the samples (and Earth Return Vehicle) at the Earth landing site

Mars Ice Mapper

- NASA Moon to Mars (M2M) studies and MEPAG Science Goals (2020) identify near-surface ice as a critical element of the human exploration of Mars
 - Accessible ground ice as a resource, rich in science potential and as an (human) exploration destination driver
- Planning for human exploration in the mid-2030s requires advance knowledge (i.e., in the 2020s) about the location, character, and extent of accessible ice
- An emerging multilateral partnership (NASA, JAXA, CSA, & ASI) is assessing the feasibility of the mission (for launch as early as 2026) and studying next-gen communications needs to provide redundancy for Mars Sample Return and a critical infrastructure for future Mars missions
 - Leveraging prior NASA/CSA collaboration studies to jump start planning
 - Both NASA and CSA have received funding for planning and preparation
- While this mission is exploration driven, there are significant opportunities for science, which will be outlined at the next MEPAG

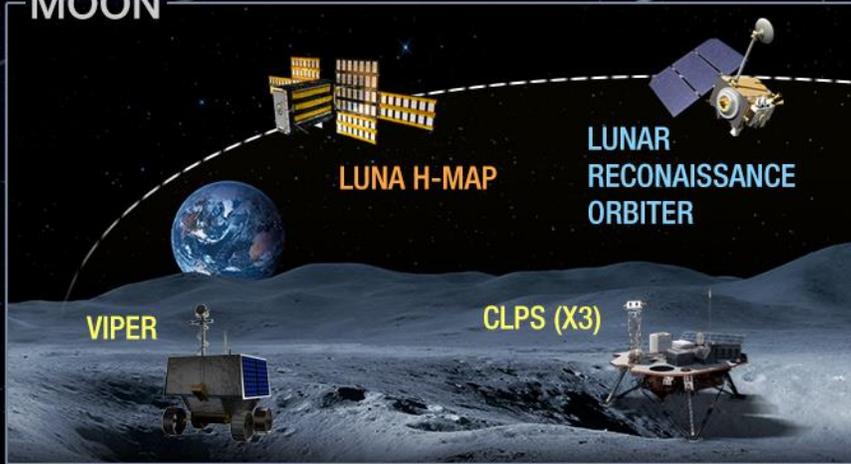
Other Updates

- 2019 Senior Review outcome letters expected to go out before the end of October
- MEGANE instrument approved to enter Phase C in May 2020 for flight on MMX
- ExoMars 2020 ESA launch delayed to 2022
 - NASA MOMA-MS contribution delivered and integrated into ESA rover
- Ongoing NASA missions are healthy, productive, and funded through FY21
 - Odyssey: Providing most of the relay support for InSight
 - MRO: Developing “Bent Pipe Communications” for Mars 2020 landing
 - MSL: Conducting full mission operations heading up Mt. Sharp
 - MAVEN: Beginning 7th year in orbit; exciting science ahead during solar cycle 25
 - ExoMars/TGO (ESA): Providing ~50% of NASA’s relay data from Mars ground assets (Curiosity and InSight)
 - InSight: HP³ mole now beneath the surface; burrowing efforts to resume
- Integration of Mars activities (HEOMD, SMD) across the Agency
 - NASA has established a Federated Board to better integrate Lunar and Mars activities
 - Significant studies are underway to better understand Moon-Mars exploration synergies and to guide future work and collaboration.

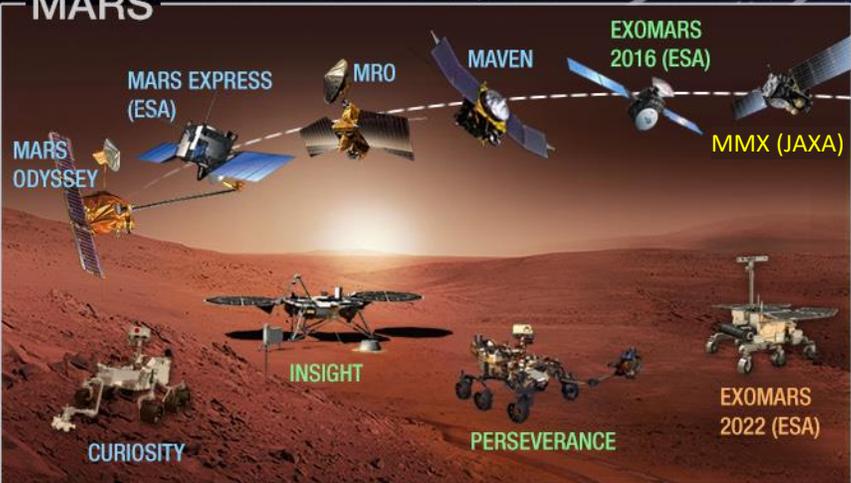
Priorities for Mars Exploration Program

- Maintain NASA's position as a world leader in Mars exploration
 - Champion the interests of the Mars science community
 - Ensure continued successful operation of existing orbiters, landers, and rovers on Mars
 - Support and cultivate existing and future international partnerships
 - Promote future mission opportunities for Mars science
- Close coordination with the Mars Sample Return program and Planetary Science Division
- Implement priorities established through the 2022 Planetary Science Decadal Survey
- Maintain fiscal discipline to deliver a healthy Program within available resources
 - Support existing efforts
 - Enable future capabilities

MOON



MARS



NEW HORIZONS

JANUS

OSIRIS-REx

DART

Q-PACE

BEPICOLOMBO (ESA)

NEOWISE

LUCY

PSYCHE

EUROPA CLIPPER

JUICE (ESA)

JUNO

DRAGONFLY

- FORMULATION ●
- IMPLEMENTATION ●
- PRIMARY OPS ●
- EXTENDED OPS ●

PLANETARY FLEET