

NASA PI-Team Masters Forum

Staying in the Box: Managing Critical Resources

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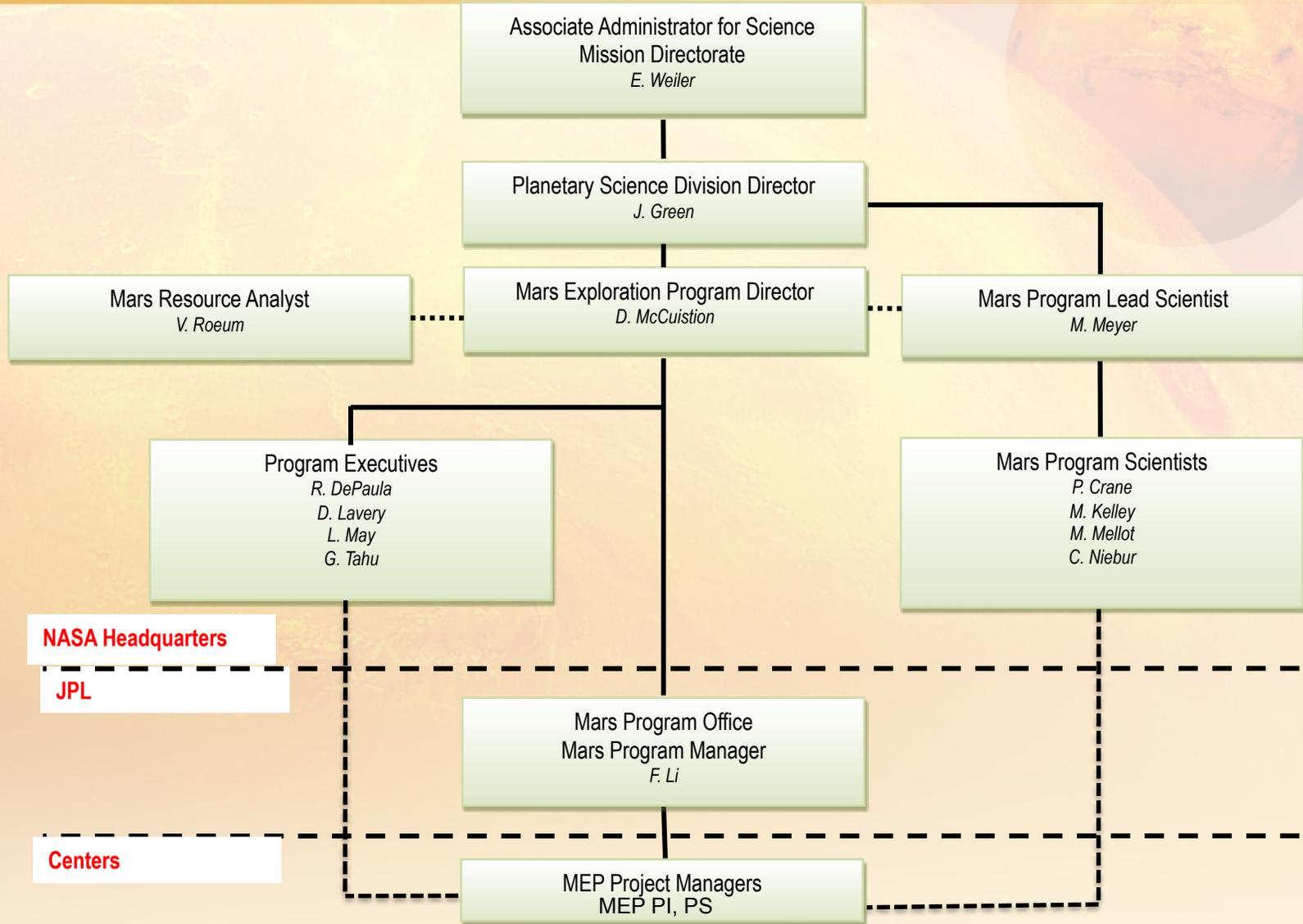
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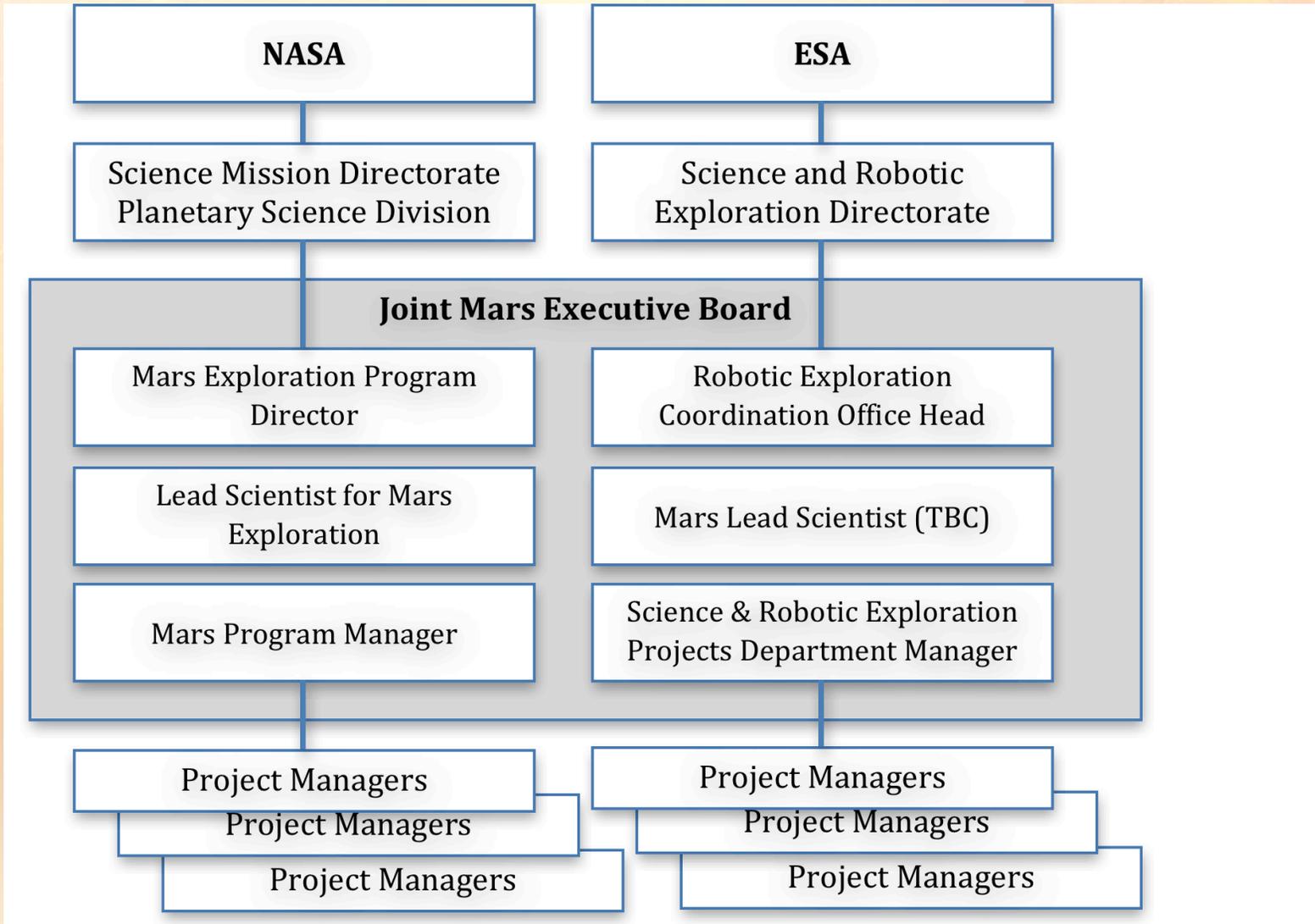
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Mars Program Office
Jet Propulsion Laboratory
California Institute of Technology

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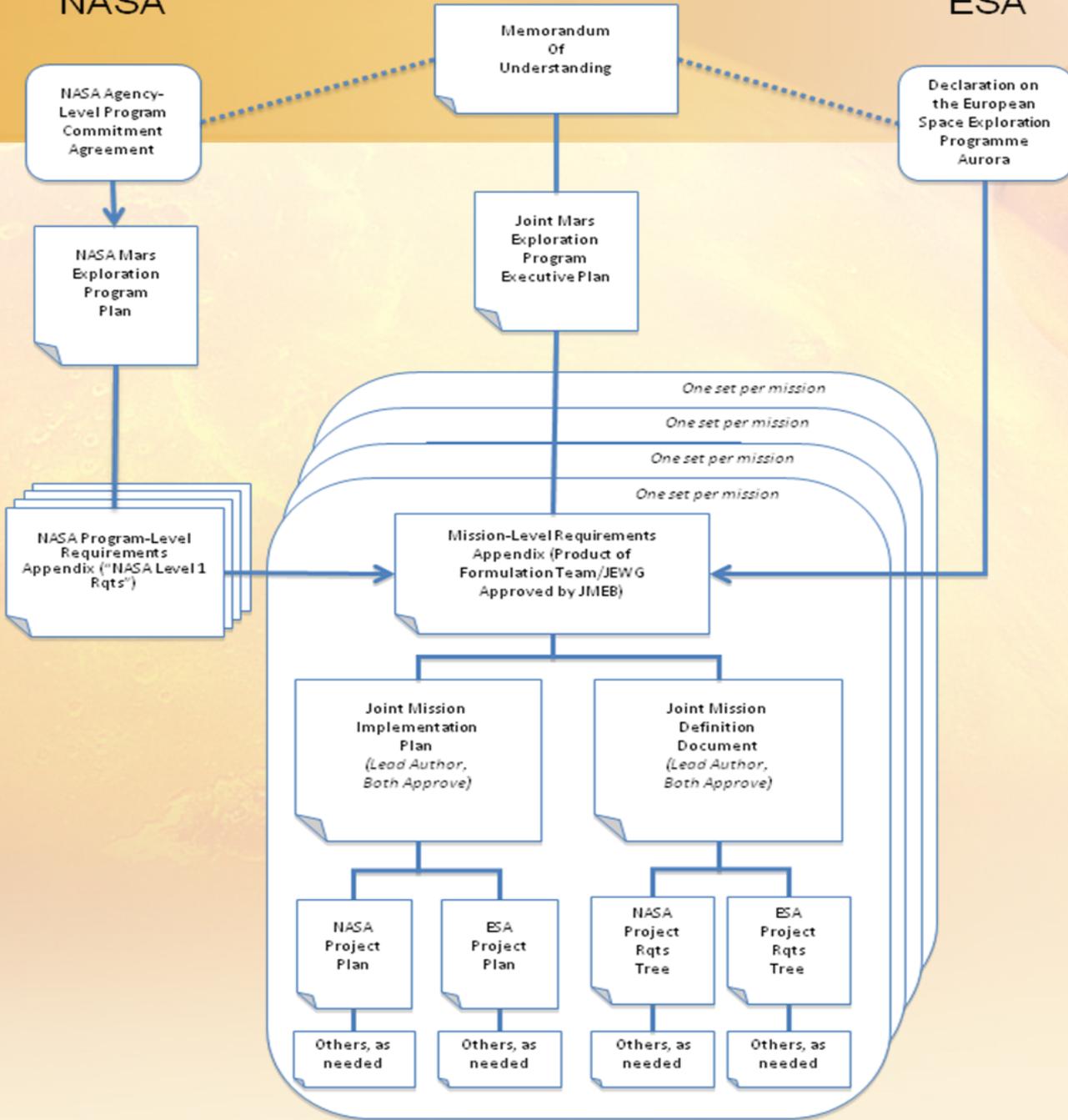






NASA

ESA



This Decade Mars Exploration

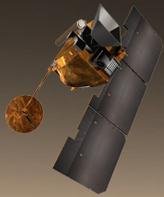
Launch Year

1996



Mars Global Surveyor
(mission completed)

2001



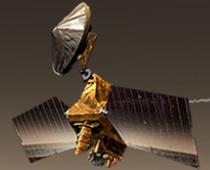
Mars Odyssey

2003



Mars Express Collaboration

2005



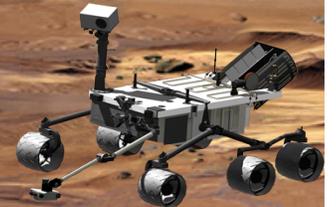
Mars Reconnaissance Orbiter

2007



Phoenix
(mission completed)

2011



Mars Science Laboratory

Mars Pathfinder
(mission completed)

MEP Rovers Spirit Opportunity





Guidelines for Managing Critical Resources

- **Know what is required, not just desired**
 - “*need, not want*”—*The Forbin Project*
 - Get consensus with external players, communicate within team
- **Remember that there will be unknowns that become known problems**
- **There will also be knowns that become problems**
 - Give special attention early on to heritage items
- **Be pro-active**
 - Use your reserves (but don't squander them)
- **Balance your portfolio of risks appropriately**



Critical Resources

- **Mass, Power, Money, Schedule**
- **Value**
 - Scientific, Technical & Programmatic Goals
- **Mission Design**
- **Risk**
 - Involved in almost all trades
 - Proactive as well as reactive management
- **Knowledge**
 - What do I know—what can I find out
 - Self/team: how do I manage when data are not in hand?
 - Heritage comes with liens—do I know what I have?
- **Time**
- **Personnel: Managing / Working with People**
 - Skill / Experience
 - Aptitude / Motivation / Attitude
 - Level of Effort/Stamina