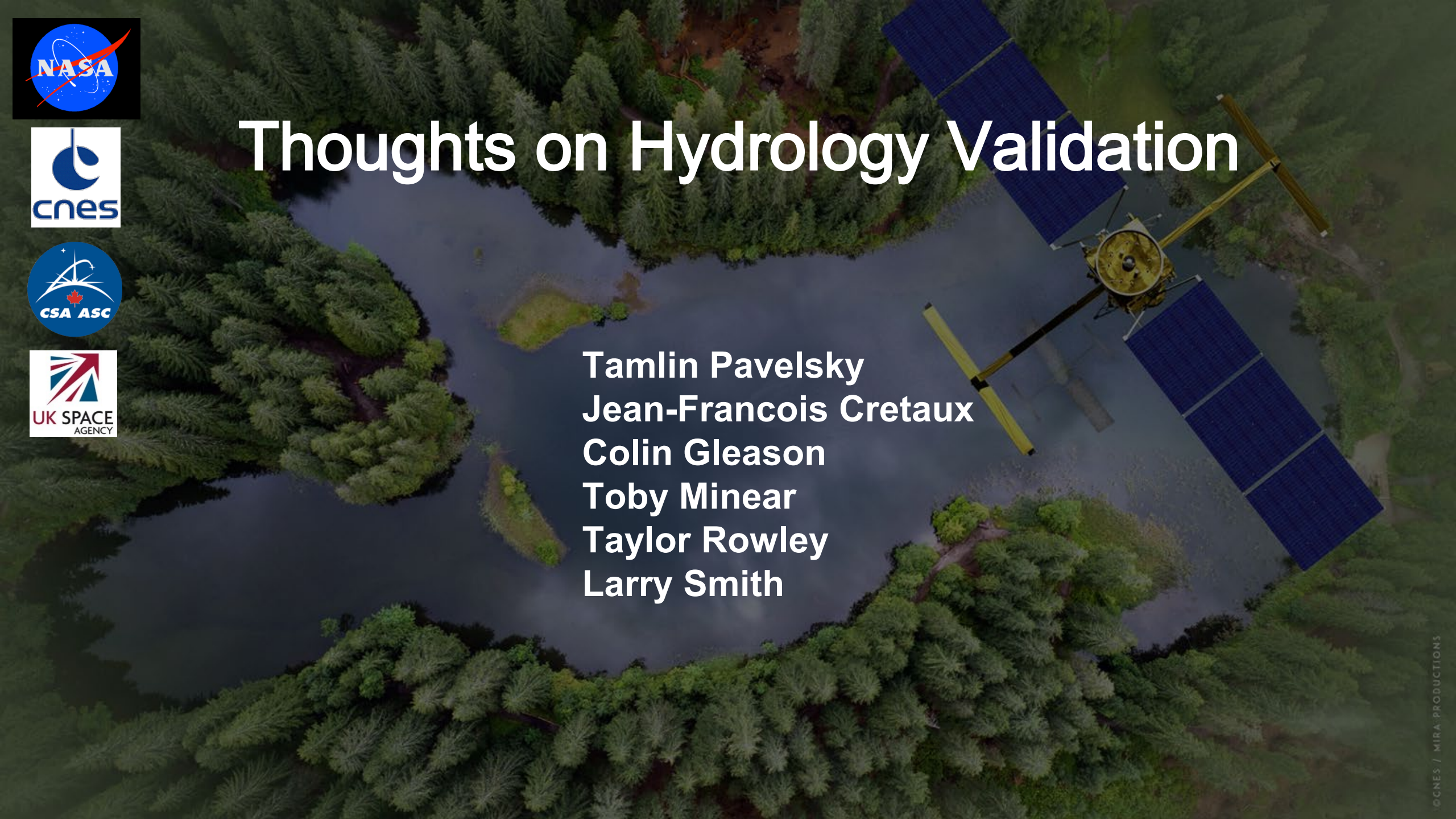
NASA
cnes
CSA ASC
UK SPACE AGENCY
Thoughts on Hydrology Validation
Tamlin Pavelsky
Jean-Francois Cretaux
Colin Gleason
Toby Minear
Taylor Rowley
Larry Smith
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Mission Validation vs. Science Validation

- Focused on Formal Science Requirements
- Mission Funded
- Performed by official teams
- Uses predefined, consistent protocols
- Focus of Validation Meeting
- Tightly defined

- Focused on Scientific Priorities
- Funded through many sources
- Performed by all those interested in SWOT capabilities
- Uses a wide range of protocols
- Focus of long-term science needs
- Many SWOT products

MV+SV=V

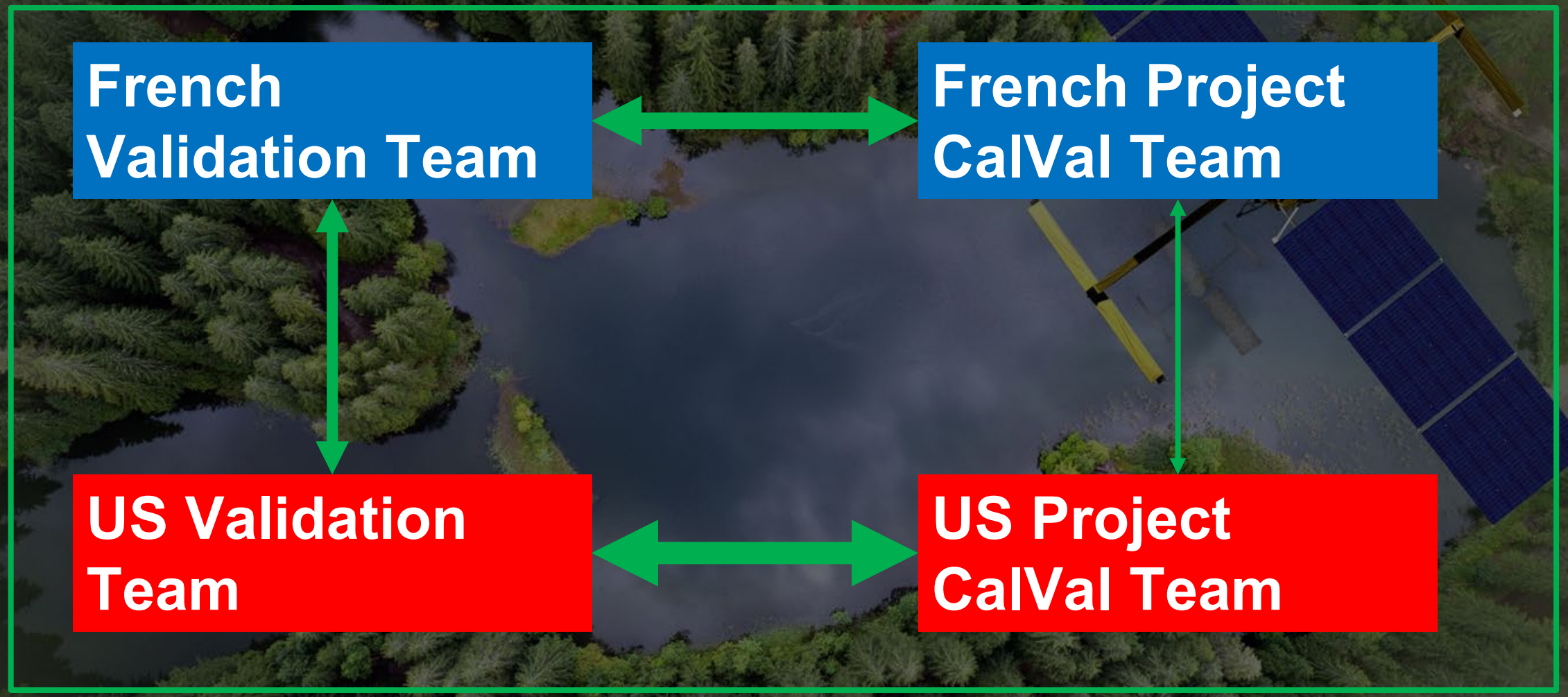
What we have achieved to date (US)

- Thorough plan for in situ data collection for mission validation during fast sampling and first three months of nominal orbit that covers a wide range of SWOT cases
- Hiring of technicians to perform mission validation data collection
- Coordination of mission validation responsibilities between cal/val team and JPL project
- Development & testing of viable validation methods for key SWOT observables with specific requirements in the Science Requirements Document.
- Purchased of almost all needed equipment

What we have achieved to date (France)

- Thorough plan for in situ data collection for mission validation during fast sampling and first three months of nominal orbit that covers a wide range of SWOT cases
- Coordination of mission validation responsibilities between cal/val team and CNES project
- Development & testing of viable validation methods for key SWOT observables with specific requirements in the Science Requirements Document.
- Purchased of almost all needed equipment
- Set-up pre-validation campaigns (Issykkul, Maroni, Madagascar, Amazon basin, French rivers)

Overall Organization of Mission Validation



Line thickness represents our* level of understanding

Key Organizational Questions

- Who will perform validation work focused on existing in situ data, satellite data, etc? How will hydrologists be included?
- How do the U.S./French project cal/val teams coordinate? Should that affect how the U.S./French validation teams coordinate?
- How will we coordinate/communicate among all four key groups in mission CalVal?
- How will the science team communicate science validation results to the calval team?

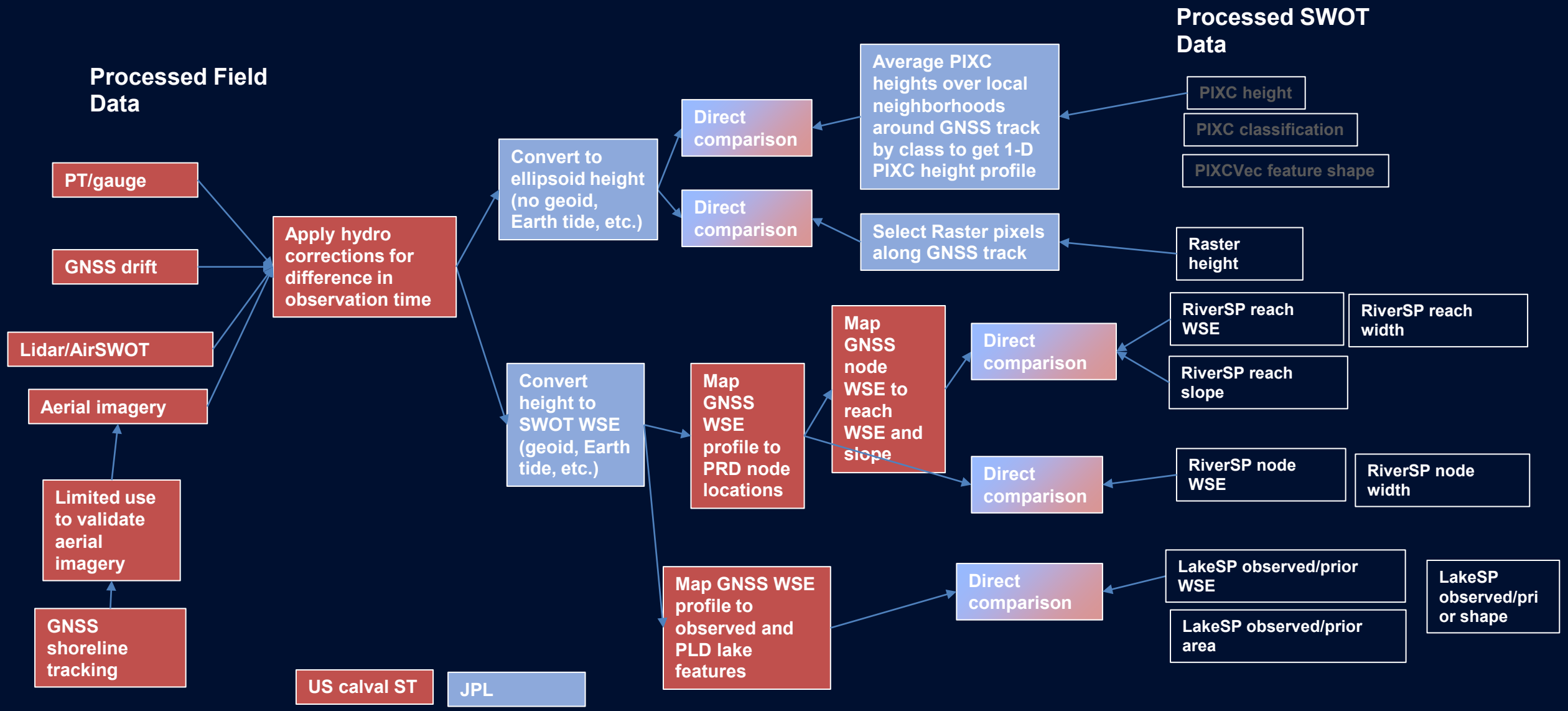
Science Validation

- We want to encourage lots of people to be involved in science validation; this should be an open community effort.
  - The best science calval comes when you validate what you care most about
- Science validation data collection can start when the fast sampling phase starts; actual validation will begin when data are released.
- We will publish our protocols
- The oceanographers have the Adopt a Crossover program, which is an organized way of doing science validation.
  - Do we need an equivalent program in hydrology? If so, how do we get started?

Backup Slides

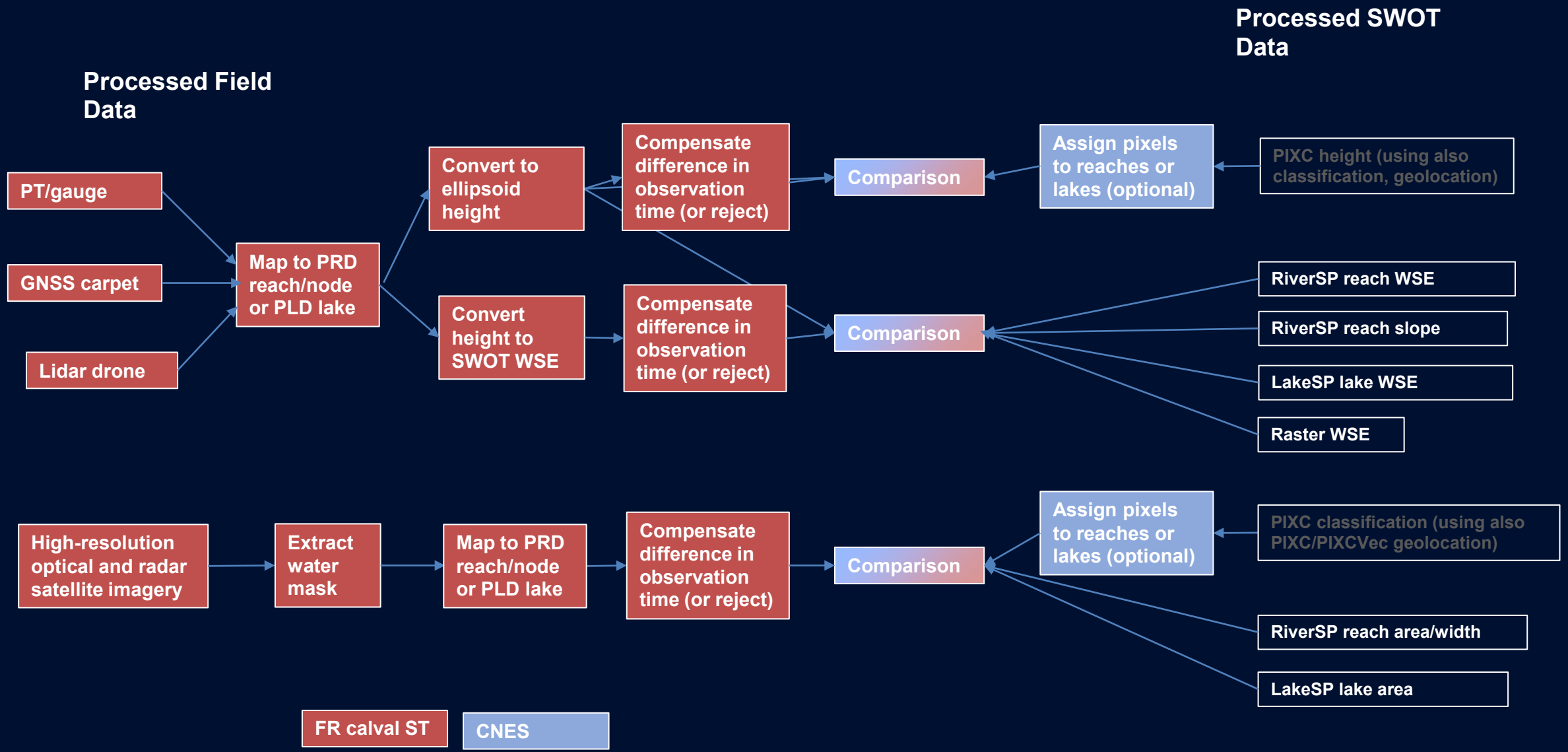
HOW

NASA validation workflow

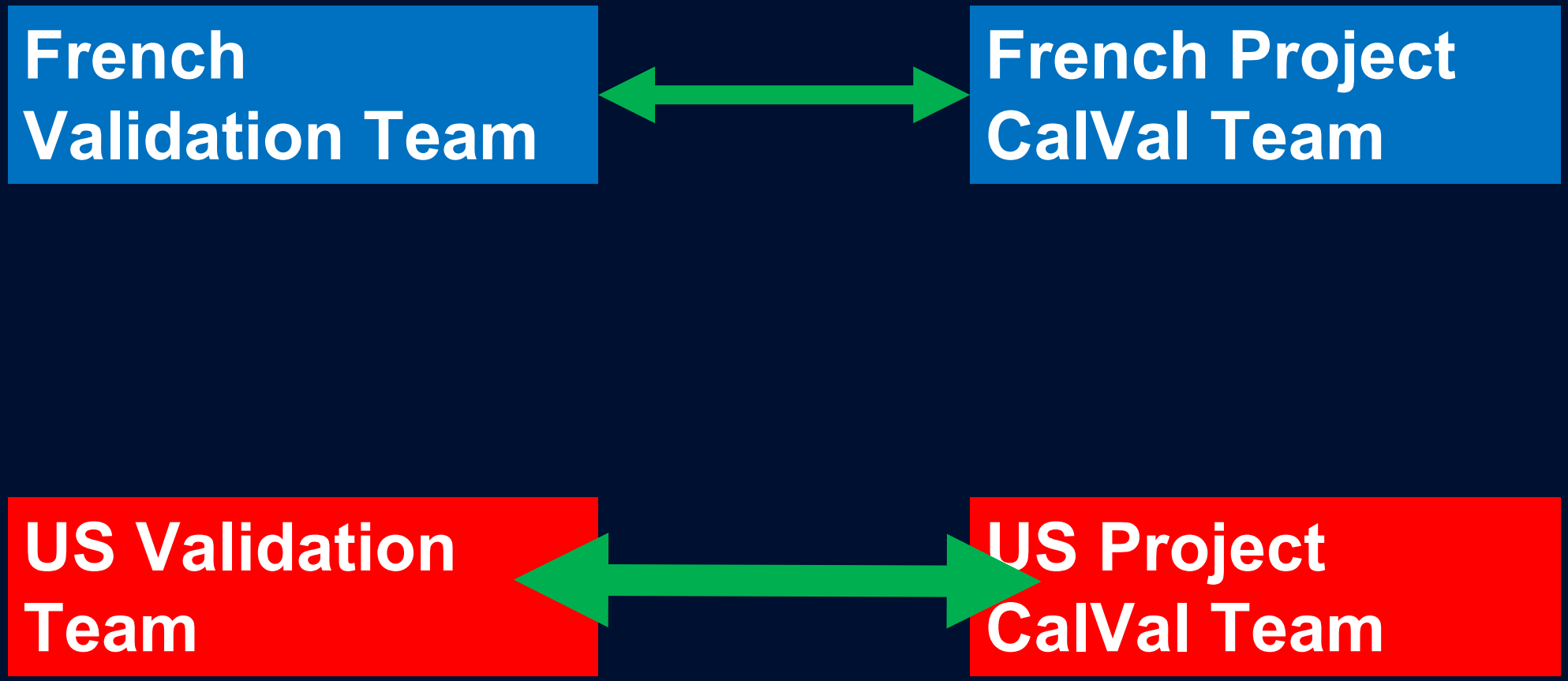


HOW

CNES validation workflow



Overall Organization of Mission Validation



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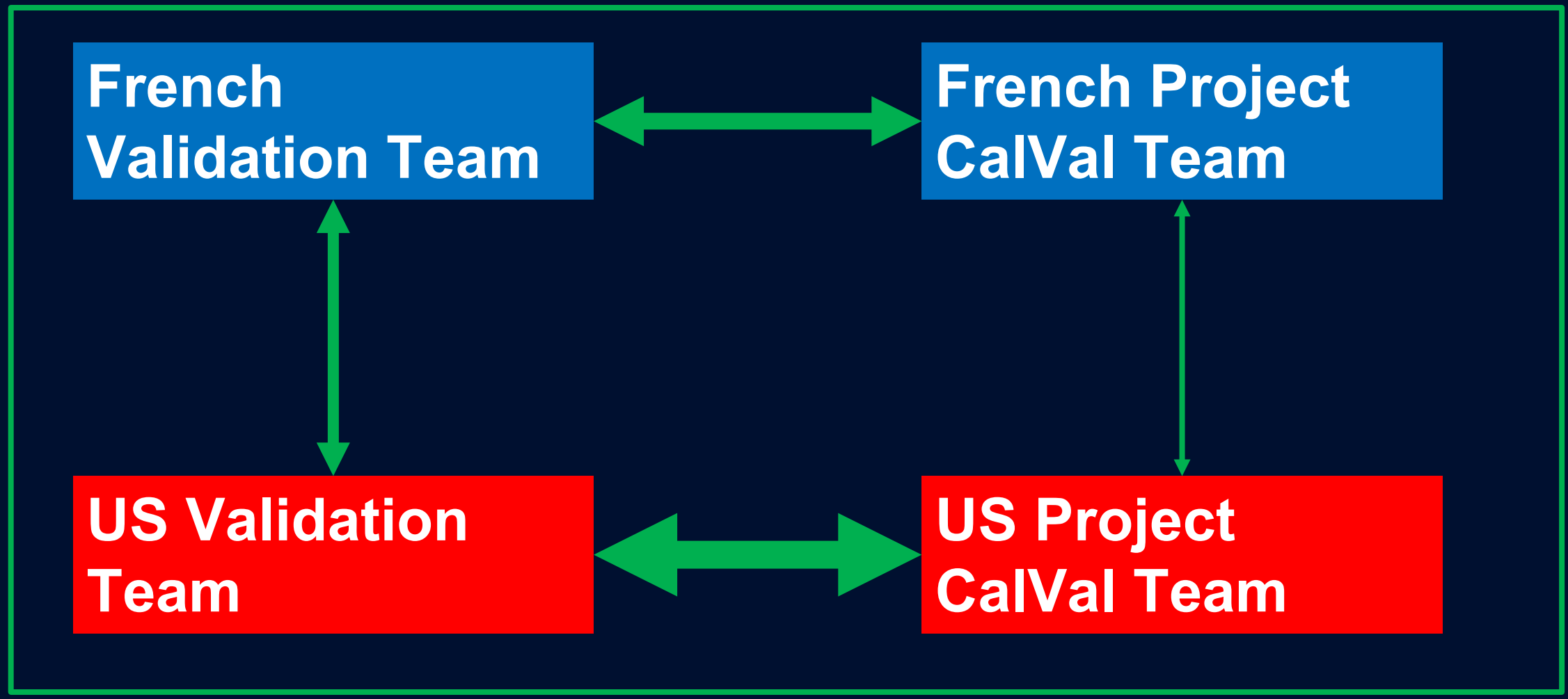
Overall Organization of Mission Validation



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