

# International Cooperation VEXAG Focus Group

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# Topics

- Membership
- Vision
- Why Venus?
- Challenges

# International Collaboration Topical Analysis Group Membership

## Lead:

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# Vision

- An international collaboration for the scientific exploration of Venus comprised of
  - Established planetary explorers – Europe, Japan, Russia and the U.S.
  - Emerging planetary explorers – China, India.
  - Aspiring planetary explorers – Latin America, other parts of Asia

# Why Venus?

- Accessibility to Ground Based and suborbital observations
- Ease of Spacecraft Access
- Proximity to Earth
- Rich Scientific Opportunities
- Technical Challenges

# Challenges

- Budgetary Constraints
- Competition from other international initiatives
- Mission selection process at NASA and ESA
- Political Constraints

## Collaboration Strategy

- We advocate a dual track approach with two forms of collaboration
  - On a set of related missions
  - On single large missions

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## VEXAG International Collaboration TAG

# Collaboration on a set of related missions

- Advocate for an international Venus exploration program focused on comparative climatology
- Continue active international scientific exchange on Venus
- Assure interoperability of future Venus missions by implementing agreements on telecommunications standards for relay communications patterned on those for Mars
- Encourage the adoption of payload elements furnished internationally

## Collaboration on a single large mission

- This approach can be the most productive approach scientifically:
- However, based on past experience it will be challenging to:
  - Formulate a concept that satisfies the scientific and technological ambitions and capabilities of the participating nations
  - Develop an implementation approach that is consistent with the competitive mission acquisition strategies that prevail in at least two of the potential
  - Construct a design that is robust to changes in the commitments of the partners including potential withdrawals because of budget constraints

# Next Steps

- Agency Participation in the COSPAR International Venus Exploration Working Group (IVEWG)
- Initiate a Comparative Climatology Case Study under the aegis of the International Academy of Astronautics (IAA)
- Establish Interoperability of relay communications for future Venus missions
- Strengthen efforts to engage the broader science community and the public