

# Venus Express Status Presentation to the SSWG Vienna 27 April 2005

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# Outline

- Project status
- Science Management Plan (SMP) summary
- Funding for instrument operations and data analysis

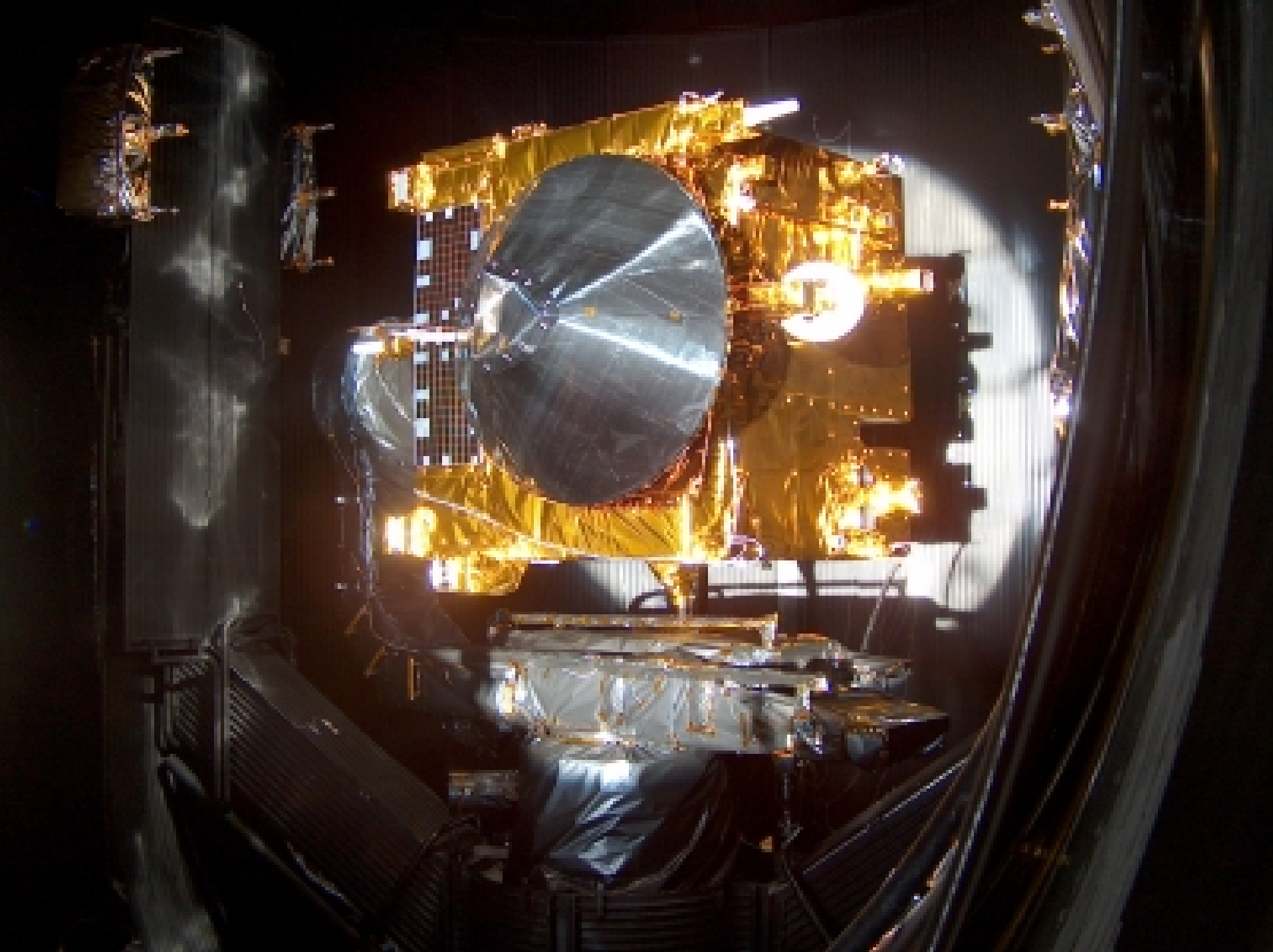
# Scientific Payload

- ASPERA (MEX)
- MAG (New)
- PFS (MEX)
- SPICAV/SOIR (MEX/New)
- VERA (Rosetta,mod.)
- VMC (New)
- VIRTIS (Rosetta)

# Spacecraft Final testing

- All environmental testing and final functional tests take place at Intespace, Toulouse
- Vibration tests successfully concluded
- Thermal testing in an upgraded solar simulator (2600W/m<sup>2</sup>) finished. Preliminary analysis shows that the spacecraft behaves as expected.
- This week the s/c will be operated remotely from ESOC. Similar tests will be performed from Baikonur before launch.
- EMC test is scheduled for mid May.





# Remaining critical activities

- Replacement of Spicav with Spicav/SOIR, (instrument to be delivered end May)
- Replacement of VMC with upgraded flight spare (instrument ready for delivery)
- Replacement of repaired Inertial Measurement Units
- Decision and possible replacement of SSMM and PDU

# Launcher and Ground segment

- **Launcher: Nominal progress**
  - Launch window 26 Oct 2005-25 Nov 2005
  - Launch mass confirmed 1270 kg
  - First flight with upgraded Fregat stage imminent (Galaxy)
  - Preliminary Cosmodrome Readiness Review concluded 15 April 2005
- **Ground segment: Nominal progress**
  - Cebreros Main antenna dish mounted
  - Delivery of the station is planned for Sept 2005
- **Mission and Science Operations**
  - Nominal progress





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# Remaining Major Milestones

- Flight Acceptance Review (FAR) 1 July
- Spacecraft shipment to Baikonur 4 August
- Start of launch campaign 8 August
- Flight Readiness Review 21 August (Baikonur)
- Launch 26 October 2005

# Science Management Plan

- In the spirit of re-use of Mars Express, the MEX SMP has been applied until now
- A new dedicated SMP has been produced, based on the MEX SMP and adapted as described hereafter

# Mission Overview

- Paragraphs on Science objectives, payload (incl. appendix) and mission scenario updated to reflect the Venus case
- Paragraphs on P/L AO and selection procedure deleted since Venus Express P/L was approved with its payload as an integral part

# Programme Participation

- The paragraph on Further Scientific participation addresses Interdisciplinary Scientists (IDS's) and Supporting Investigators. The role for IDS's is similar to for Mars Express, while the role for the Supporting Investigators (corresponding to the Recognized Collaborating Laboratories) has been slightly redefined to better suit the needs for Venus Express
- The paragraph on Potential International Collaboration has been modified to reflect the present activities within NASA.

# Management

- A paragraph addressing the Mission manager was added

# Operations and Scientific Data

- Paragraph on Data Rights modified to account for and refer to the new document 'Rules on Information, Data and Intellectual Property', ESA/C/CLV/Rules5(final), as adopted by ESA council 19 Dec 2001
- The period of exclusive right to the data for the PI:s ('proprietary period') has been set to 6 months. (Like for Mars Express)
- The paragraph on Communications and Public relations is more or less unchanged but in view of the changes in the science communication office it is uncertain if the foreseen activities can be actually carried out

# Announcement of Opportunity

- An AO for Interdisciplinary Scientists (IDS) and Supporting Investigators is under preparation.
- Specific topics for IDS:s include,
  - Atmospheric composition and chemistry
  - Atmospheric structure
  - Atmospheric dynamics
  - Plasma environment and escape processes
  - Surface properties



# Announcement of Opportunity

- Specific topics for Supporting Investigators (cf. MEX RCL:s) include,
  - Investigations of spectral lines at high T and high p
  - Investigations of chemical and photochemical reactions applicable to Venus atmosphere
  - Investigations of surface materials and surface-atmosphere interactions at Venus conditions
  - Theory and modelling of physical and chemical processes
  - Preparing for data analysis and data dissemination
  - Ground based telescopic observation and related support

# Potential NASA involvement

- Limited funding has been allocated by NASA to support, in the first instance, up to seven scientists at a Col level of the existing experiments.
- Preliminary discussions have taken place for provision of DSN support to enhance the Radio Science Experiment
- A preliminary agreement has been reached for provision of DSN support for mission critical phases, mainly around the VOI

# Payload funding post launch

- Several teams, notably in Germany and Italy are facing difficulties since their funding does not cover the post launch phase
- If this cannot be solved in short term the following risks elements can be identified
  - Instrument and science operations during flight is at risk
  - A potential reduction of the science output from the mission
  - Provision of the data for the archive is uncertain

# Venus Express SWT Resolution

The Venus Express Science Working Team, at its meeting 11-13 October, 2004,

noting the successful delivery of the scientific payload and its subsequent integration into the spacecraft for a scheduled launch in October 2005,

recognizing the need for adequate support for the launch to completion phase of the nominal mission (2005-2007), covering instrument operations, timely data analysis and the provision of processed data for inclusion in the ESA Planetary Science Archive,

noting the lack of available resources in most of the contributing institutes for these activities,

wishes to draw the attention of ESA and its advisory bodies to this problem and asks for advice and recommendations leading to its resolution.

For the Venus Express Science Working Team,  
Graz, 13 October, 2004

Håkan Svedhem  
Project Scientist

# Conclusion

- Venus Express is firmly on track, schedule for launch the first day of the launch window, 26 October 2005
- As soon as the SMP is approved the AO for IDS and supporting scientists shall be issued
- The funding situation for payload operation, data processing and archiving preparation needs serious attention
- The weak situation for science communication may negatively affect the public awareness of the mission

# Venus Express



\*\*\*\*\*Launch 26 October 2005\*\*\*\*\*