EnVision mission to Venus

June 12, 2021

In news- The European Space Agency (ESA) has selected EnVision as its next orbiter that will visit Venus in the 2030s.

About the mission-

- EnVision is an **ESA led mission with contributions from NASA.**
- The earliest launch opportunity for EnVision is 2031, followed by 2032 and 2033.
- Once launched on an **Ariane 6 rocket,** the spacecraft will **take about 15 months to reach Venus** and will take 16 more months to achieve orbit circularisation.
- The spacecraft will carry a range of instruments to study the planet's atmosphere and surface, **monitor trace gases in the atmosphere and analyse its surface composition.**
- NASA has provided **VenSAR (Synthetic Aperture Radar)**, that will help to image and map the surface as well as **Deep Space Network support.**
- The radio science experiment is led by institutes in France and Germany.
- The new mission will follow another ESA-led mission to Venus called **'Venus Express' (2005-2014)**.
- At the core of the mission is the question of how Earth and Venus evolved so differently from each other considering that they are roughly of the same size and composition.

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- It was **launched in November 2005**, arrived at Venus in April 2006 and began continuously sending back science data from its polar orbit around Venus.

- It was equipped with seven scientific instruments, with the main objective of **long term observation of the Venusian atmosphere.**

- It focussed on atmospheric research and pointed to volcanic hotspots on the planet’s surface.

- The observation over such long periods of time had never been done in previous missions to Venus, and was key to a better understanding of the atmospheric dynamics.

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