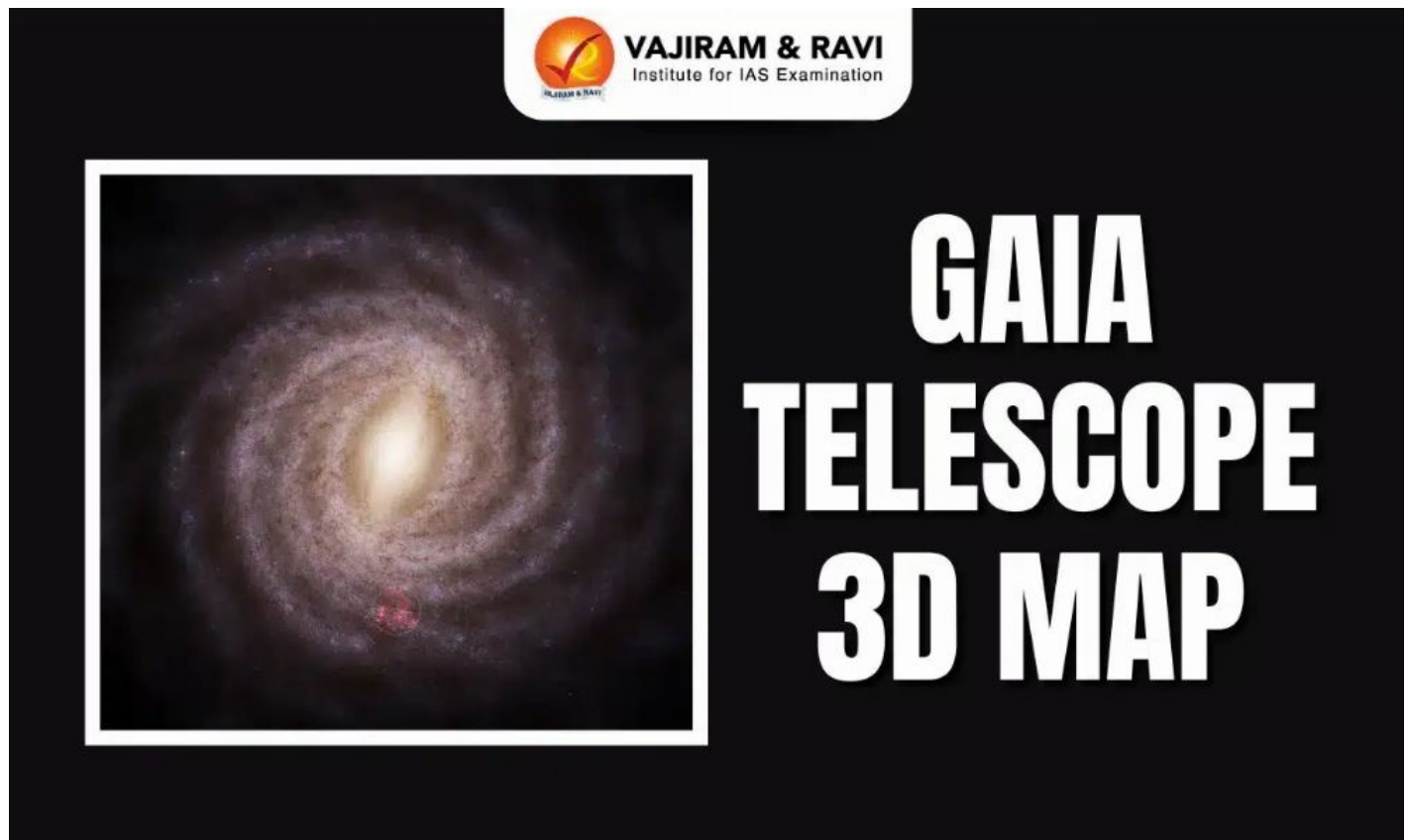


Gaia Telescope 3D Map

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Gaia Telescope 3D Map Latest News

Recently, a **new 3D map** created using data from the **Gaia Telescope** shows **stellar nurseries** (star-forming regions) within **4,000 light-years of the Sun** in all directions.

Latest Development

- This is the most detailed chart of **glowing hydrogen gas clouds**, helping scientists understand **how stars form** and the dynamics of **turbulent interstellar gas**.
- The study integrates **Gaia dust maps** with the radiation impact of **87 massive O-type stars**, which emit intense ultraviolet light capable of ionising hydrogen gas.
- The resulting simulation shows glowing hydrogen clouds, aligning closely with older hydrogen emission maps, but with **much higher precision**.

About the GAIA Mission

- **Full name:** Originally **Global Astrometric Interferometer for Astrophysics (GAIA)**, simplified to **Gaia**.

- **Launch Year:** **2013**, by the **European Space Agency (ESA)**.
- **Objective:** To create the **most precise 3D map of the Milky Way Galaxy** through **astrometry** (measurement of star positions, distances, and movements).
- **Position:** Located at **Lagrange Point 2 (L2)**, about **1.5 million km from Earth**, providing a stable and unobstructed cosmic view.

Structure and Instruments

- **Twin Telescopes:** Capture light from two directions simultaneously.
- **Digital camera:** Contains nearly **1 billion pixels**, making it the **largest camera ever flown in space**.
- **Three Main Instruments:**
 - **Astrometer** – Measures precise positions of celestial objects.
 - **Photometer** – Determines the brightness and temperature of stars.
 - **Spectrometer** – Identifies chemical composition and radial motion of stars.

Source: **SCN**

Source: <https://vajiramandravi.com/current-affairs/gaia-telescope-3d-map/>

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