



INSIDE THE FUSION REACTOR THAT COULD CHANGE THE WORLD

# Science Focus

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**A PATHOLOGICAL LIAR**

*The search for*  
**THE EDGE OF THE UNIVERSE**

**GREEN, FRIENDLY AND CLEAN:  
HOW WE COULD REIMAGINE  
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First look at the new map of the Milky Way





## EYE OPENER

# Cold call

**LONGYEARBYEN, SVALBARD**

On the Norwegian archipelago of Svalbard lies this array of telecoms domes, which are in constant communication with polar-orbiting satellites.

The Svalbard Satellite Station (SvalSat) sits on a mountaintop near Longyearbyen, one of the most northern permanent settlements in the world. Built as a joint venture between NASA and the Norwegian Space Centre, the ground station is now run by Kongsberg Satellite Services. Its northern location is ideal for communication with low-altitude satellites that orbit the poles, making contact once per revolution.

However, the climate is harsh, with the highest temperature ever recorded only 21.7°C, and daily average temperatures around -4°C. So to protect them from the rain, snow and ultra-low temperatures, the receivers are encased in 'radomes'. These weatherproof, golf ball-like structures may look opaque to us, but crucially are transparent to the microwaves and radio waves that the satellites use to communicate.

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