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Humanity escapes the solar system: Voyager 1 signals that it has reached the edge of interstellar space - 11 billion miles away

By [Eddie Wrenn](#)

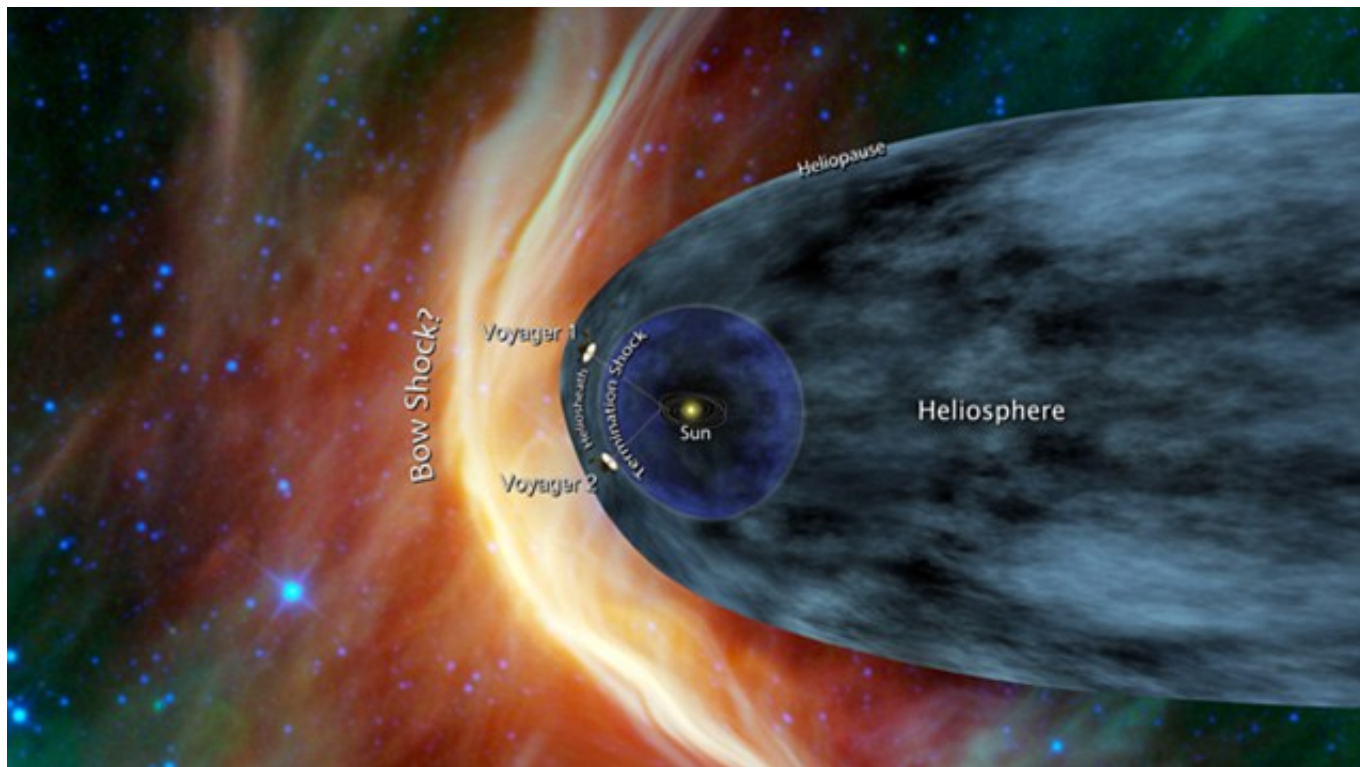
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With absolutely no attempt at hyperbole at all, it is fair to say that this is one of - if not the - biggest achievement of the human race.

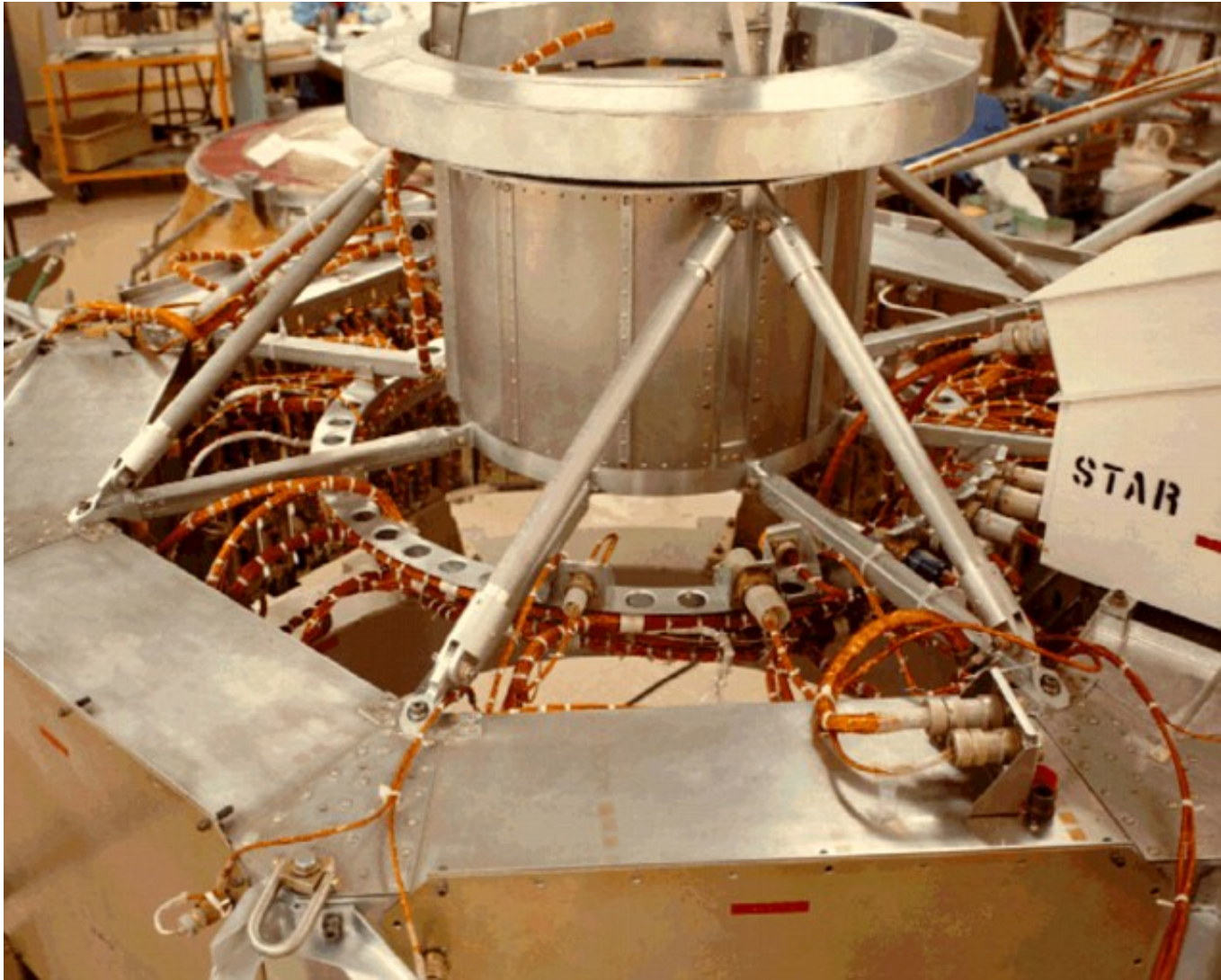
For, as we speak, an object conceived in the human mind, and built by our tools, and launched from our planet, is sailing out of the further depths of our solar system - and will be the first object made by man to sail out into interstellar space.

The Voyager 1, built by Nasa and launched in 1977 has spent the last 35 years steadily increasing its distance from Earth, and is now now 17,970,000,000km - or 11,100,000,000miles - away, travelling at 10km a second.

Indications over the last week implies that Voyager 1 is now leaving the heliosphere - the last vestige of this solar system.



The probe is still detecting 'spikes' in the intensity of cosmic ray electrons - which lead scientists to think it's still within the 'heliosheath', the very outer edge of our solar system.



The Voyager probe has been travelling towards the outer reaches of the solar system since 1977 - it has enough batteries to last until 2020, scientists estimate

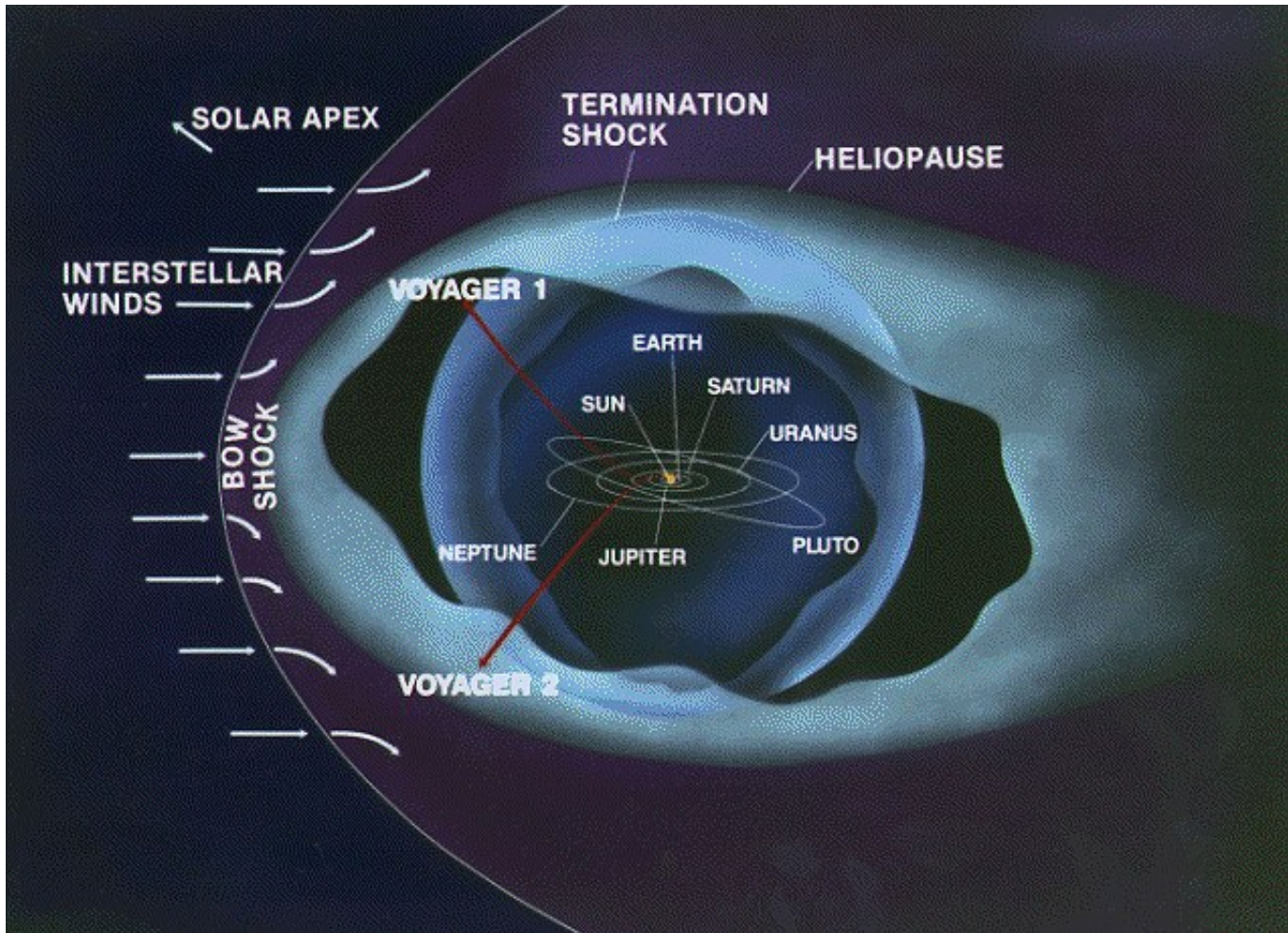
The Atlantic reports that the Voyager 1 - which is still managing to communicate with Earth with radio waves that reach us 16 hours later - is beginning to experience a bit of heat.

It is detecting more energetic particles around it, implying it is at the very edge of the heliosheath, which is like a bubble around the solar system, protecting us from the cosmic winds of deep space.

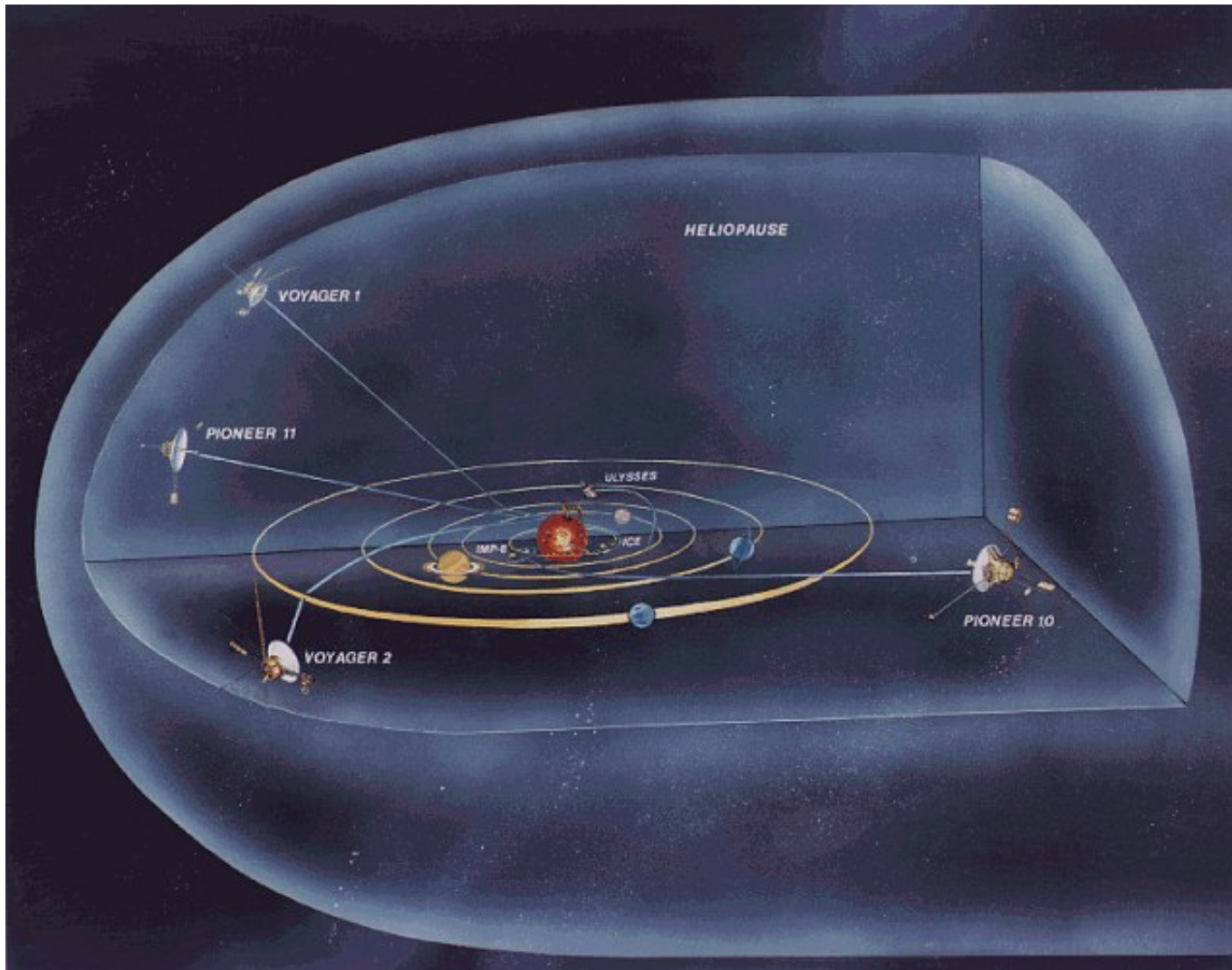
The Voyager entered the heliosphere in 2004

According to The Atlantic, certain cosmic rays have a hard time entering the heliosphere, but as of last month, the sum of these slower particles increased by about 10 per cent.

This does not necessarily mean we have crossed over - but it means we are getting close.



For the past year, Voyager 1 used its instruments to explore the new region. It appeared to be the cosmic doldrums where solar winds streaming out from the sun at 1 million mph have dramatically eased



Voyager is now detecting the first traces of 'interstellar winds' - the signs it is finally reaching the edges of solar system

Voyager scientist Edward Stone told The Atlantic: 'This is the first time any spacecraft has been there.'

'We're looking at our data every day - we listen to these spacecraft every day, for a few hours every day - to keep track of what's going on. ... It's very exciting from a scientific point of view, when you're seeing something that nobody's seen before.'

'Since nothing's ever been there before, we don't know what it will look like, which makes it a little hard to recognize "it" at all.'

'That's the exciting thing.'

It will be hard to define when Voyager has left. It will not be a clean break - the molecules will thin out less, and there will be no wall or set boundary.

What will the Voyager find out there? Probably close to an absolute vacuum, save for a few long-range comets which still orbit the sun.

Scientists expect to see several telltale signs when Voyager 1 finally crosses the boundary including a change in the magnetic field direction and the type of wind.

Interstellar wind is slower, colder and denser than solar wind.



Voyager 1 and its twin, Voyager 2, were launched in 1977 to tour the outer planets including Jupiter, Saturn, Uranus and Neptune

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CMC, Google for 'Pale Blue Dot' to see the famous photo Voyager 1 took 20 years ago, when the Earth was still just visible to it. It was programmed to look back for a while, and that photo shows the whole Earth as a tiny dot in the vastness of space.

- David Wright, Essex, 15/6/2012 03:15

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One of the greatest achievements in the history of the Human Race. Why has there being no reports on televised news?

- mooncheese, Ludlow, 15/6/2012 00:46

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to boldly go where no probe has gone before.

- Jason Chapman, Abergavenny, 15/6/2012 00:03

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Just, amazing. Like someone else said, that it was built on the technology available 35 years ago just makes it more incredible. Once we master (100? 200 years away?) something capable of travelling at speeds our bodies just couldn't cope with now, just think what it would be like, as in 1969, the whole world would be gathered around their TVs/virtual 3d machines to watch pictures beamed back

- I would do anything for love, But I won't do THAT, 14/6/2012 23:47

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To infinity and beyond!

- Luke. M, Cambridge, 14/6/2012 23:39

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Great news. But we need to developed better propulsion systems so it does not take us 35 years next time.- David Knowles, Chigwell, 14/6/2012 17:42 - Unfortunately not while we are debt ridden, swamped with free-loaders and sending billions to Europe, India etc.

- Jack C, Berks UK, 14/6/2012 22:27

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A very detailed and thorough article.

- jim ni, Belfast. ni, 14/6/2012 21:57

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Amazing technology, well done Nasa

- Knowledge Lover, London, 14/6/2012 21:48

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It'll be back.....as V'ger !!! Captain Kirk.....we need you !

- Charles, London, 14/6/2012 21:00

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I don't understand how it has the power left to still transmit pictures and data back? And how does it send everything? Broadband or 4G? Haha

- Mr B, Dubai, 14/6/2012 20:40

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