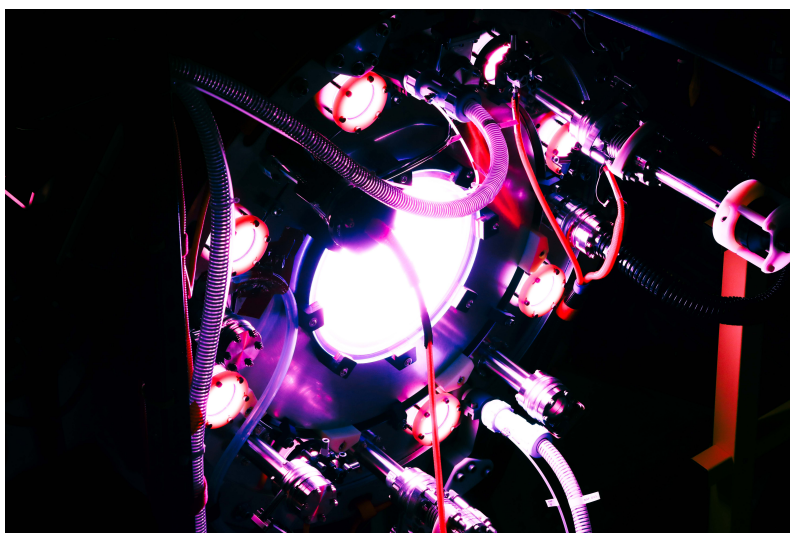
Who we are

Helion is building the world's first fusion power plant to deliver clean, reliable, and abundant energy. Our engineering-first focus on efficient design and fast iteration allows us to bring fusion energy to the grid far sooner than previously thought possible. No longer decades away, Helion is making low cost, reliable, clean electricity from fusion a reality today.

Our technology

Helion combines the benefits of magnetic and inertial confinement fusion approaches for a highly efficient fusion solution. We utilize a pulsed system, which allows us to overcome complex physics challenges. Each pulse, powered by a fuel mixture of deuterium and helium-3, occurs in less than half a second, directly capturing electricity and exhausting the byproducts after each pulse.



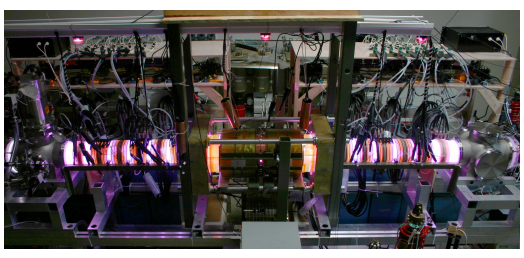


Polaris

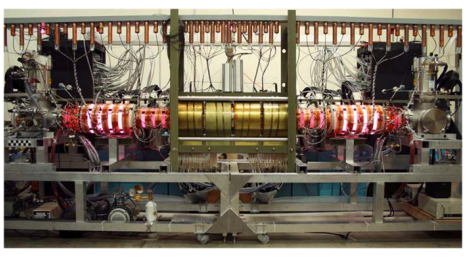
Polaris began initial operations in late 2024, aiming to be the first machine to create electricity from fusion. Polaris will operate in D-D, D-T, and D-He-3 fuel mixtures with a 50 MJ+ capacitor bank. Polaris has a peak field of 15 T+ and will recover fusion electricity by leveraging electromagnetic inductance.

Learn more about Polaris: ↗

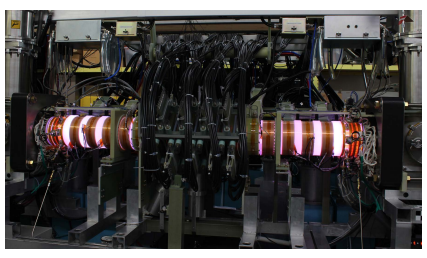
Helion has a long history of building fusion machines



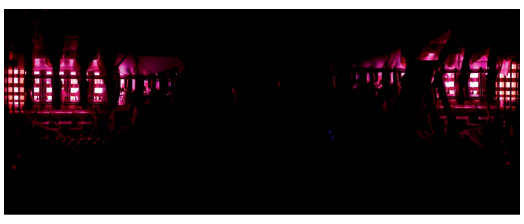
IPA, 2008
Demonstrates the fundamentals of Helion's fusion approach for the first time



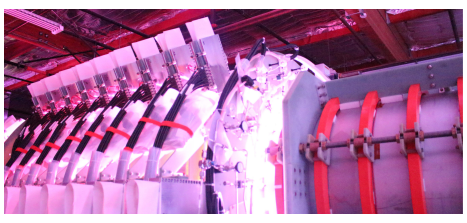
IPA-C, 2010
Compresses fusion plasmas for the first time



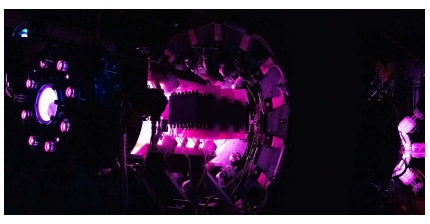
GRANDE, 2014
Achieves magnetic field compression and tests high field operation



VENTI, 2018
Produces the highest fusion output ever recorded by private fusion companies



TRENTA, 2020
Demonstrates the largest and most energetic FRC plasmas ever created



POLARIS, 2024
Designed to demonstrate electricity production from fusion

Our investors

MITHRIL

Y Combinator

CAPRICORN INVESTMENTGROUP

Sam Altman

SoftBank

Lightspeed

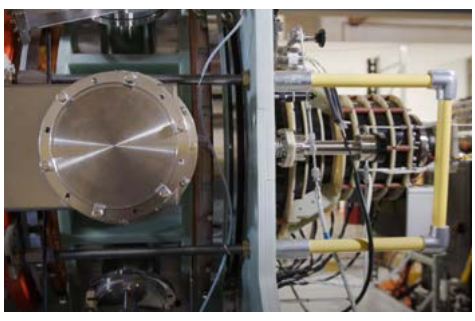
In the news



An inside look at Polaris, Helion's 7th generation fusion prototype

Helion is trying to replicate the physics that fuel the sun and stars to provide nearly limitless power

Geekwire ↗



A new way to achieve nuclear fusion: Helion

Real Engineering visits Helion at its Redmond and Everett locations.

Real Engineering ↗



Helion is on track to deliver fusion to the grid in this decade

Helion starts construction of Orion, the world's first fusion power plant

Reuters ↗