

The logo features a stylized white 'M' icon on the left, followed by the text 'MarvelFusion' in a white, sans-serif font. The background is a dark blue space with glowing blue lines and white dots.

MarvelFusion

Energy for Humanity

About Marvel Fusion

6 years underway and well-positioned

2019

Founded in Munich

>€120M

Private funding secured

>€160M

Public-private partnerships secured

>70

Employees with >20 nationalities

Closed >€63M
Series B in Oct. 24

Shareholders



Research Hubs & Grants

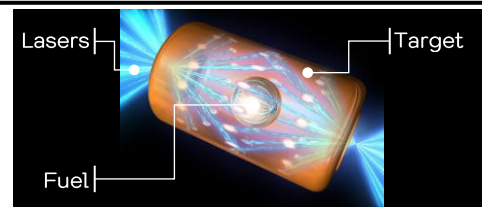


Technology Partnerships

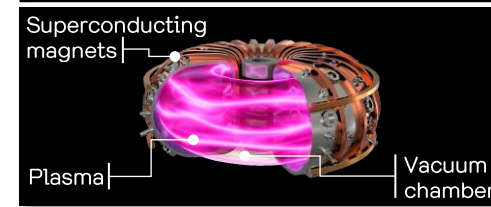


Pursuing inertial fusion energy leveraging ultrashort-pulsed lasers and nanofabricated targets

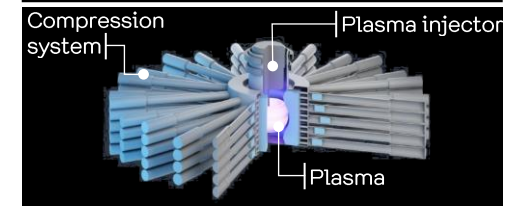
Inertial Fusion Energy



Magnetic Fusion Energy



Magneto-Inertial Fusion



Companies



Approaches

- Direct Drive Nano Accelerator

- Indirect Drive
- Direct Drive Fast Ignition

- Tokamak
- Stellarator

- Magnetized Target Fusion
- Field Reversed Configuration

Confinement

Ultrashort-pulsed lasers (fs)

Short-pulsed lasers (ps-ns)

Superconducting magnets

e.g. **Pistons**

Fuel

Solid, non-cryogenic fuels

DT

DT

DT, DHe3

Diode-pumped Laser Systems

>10% wall-plug efficiency, compact and 10 Hz repetition rate



Nanostructured Accelerators

High coupling efficiency of laser energy,
ultra-fast energy deposition, no instabilities

Solid, Non-Cryogenic Fuel

Solid at room temperature, no cryogenic
cooling technology required

MF and CSU have launched a \$150M public-private partnership to build an advanced laser fusion facility



March 2024

Signing Public Private Partnership

Contract signed to build a **ground-breaking laser facility** that will push boundaries of fusion energy research and develop a fusion research hub



October 2024

Breaking Ground Ceremony

Launching the **civil works** for the Advanced Technology Lasers for Applications and Science (ATLAS) at CSU's campus in Fort Collins



October 2026

Commissioning

Facility opens new pathways for critical research on laser-target interaction and forms **foundation for power plant development**

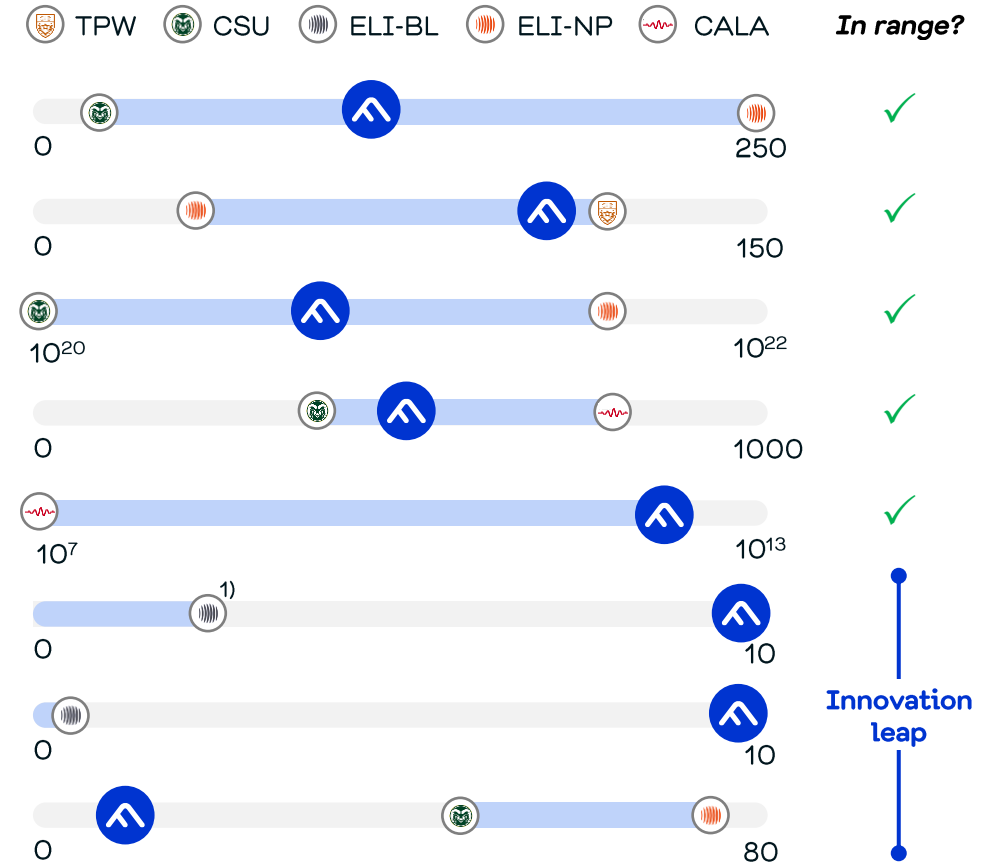
Marvel Fusion is developing advanced short-pulse laser system with key innovations in terms of size, efficiency, and repetition rate

Prototype Laser System (~2m x 10m x 1.8m)



Energy	>100 J
Pulse duration	<100 fs
Peak intensity	>10 ²⁰ W/cm ²
Wavelength	~530 nm
Contrast	<10 ¹²
Rep. rate	>10 Hz
WP Efficiency	>10%
System length	10 m

Comparison with existing facilities





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