The Path to Commercial Fusion Energy

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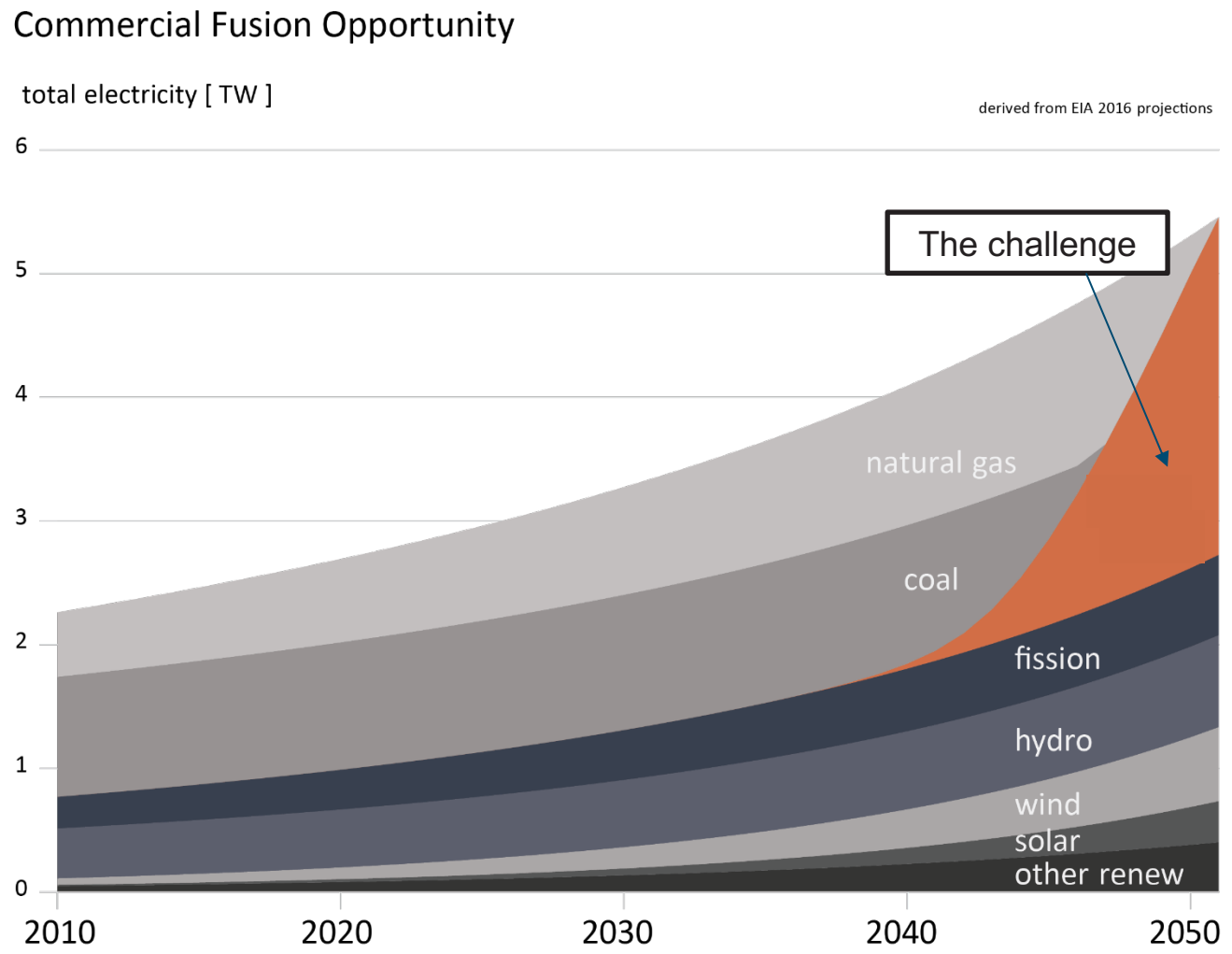
About CFS

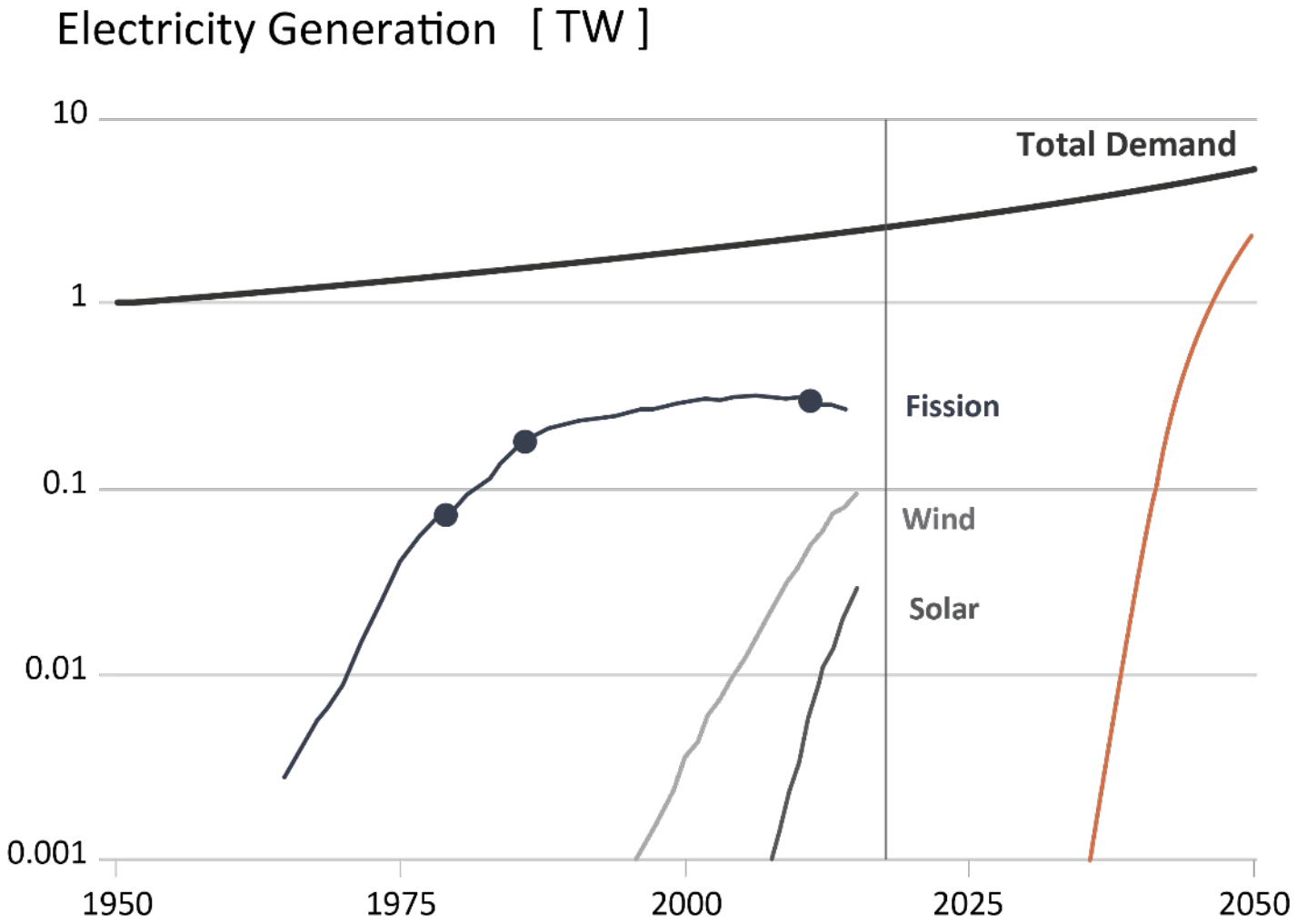
- CFS Founded in 2018, spun out of MIT with the goal of commercializing fusion energy to combat climate change
- Raised more than $2 billion from a diverse group of investors focused on innovative technologies to decarbonize. Investors include Tiger Global Management, Bill Gates, Coatue, DFJ Growth, Emerson Collective, Google, JIMCO Technology Fund, John Doerr, Marc Benioff's TIME Ventures, Breakthrough Energy Ventures, The Engine, Eni, Equinor Ventures, Khosla Ventures, and Temasek.
- Collaborating closely with MIT PSFC
- Built a high caliber, diverse team from SpaceX, Tesla, Boeing Company, Blue Origin, GE, Google, Amazon, Virgin Galactic, other tough tech leaders
- Now >250 employees

The world needs a new clean energy technology

- Need the largest industrial transformation in history, at an unprecedented rate



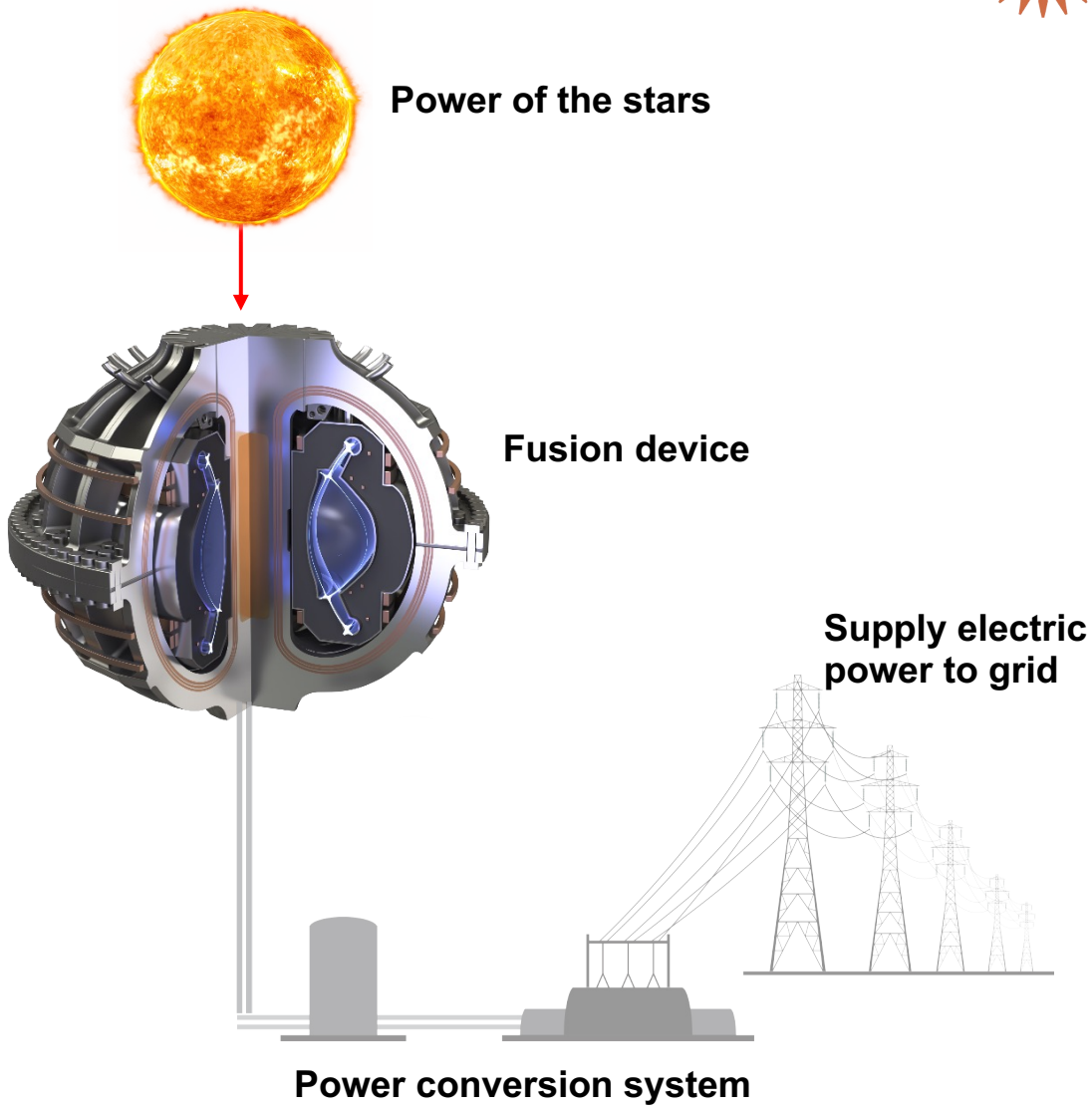
What would it take for such an energy source?



- Zero emissions
- Arriving ASAP
- Quickly replicable
- Power dense
- No barriers to massive scale
  - Manufacturable
  - Low land use
  - Few material inputs
  - Existing supply chains
  - Existing procurement channels
  - Re-use existing infrastructure

Why fusion is disruptive

- Zero emissions, power-dense, dispatchable
- Inherently safe – no meltdown, no long-lived nuclear waste, no proliferation
- Economically competitive
- Scalable: build anywhere; inexhaustible fuel supply; leverage existing infrastructure, supply chains



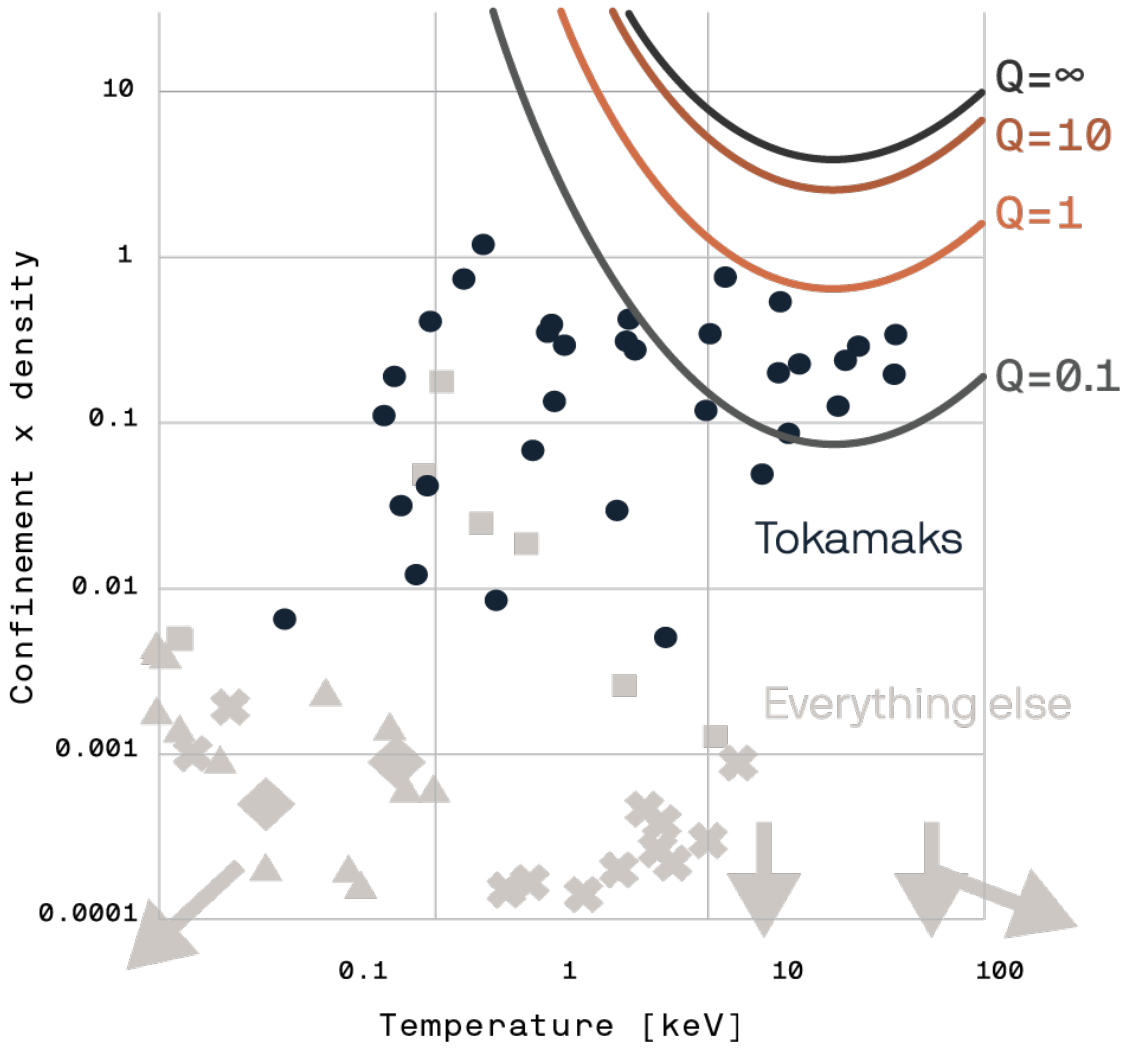
Fusion is key to sustainable energy

- Fusion is a dispatchable source of high-quality heat
- Repower existing power plants
- Fusion can power sustainable energy, even beyond electricity
- Address other sustainable energy: Hydrogen / Desalination / Industrial process heat /“Green” fossil fuel / District heating / Direct air capture of CO2

We are surprisingly close

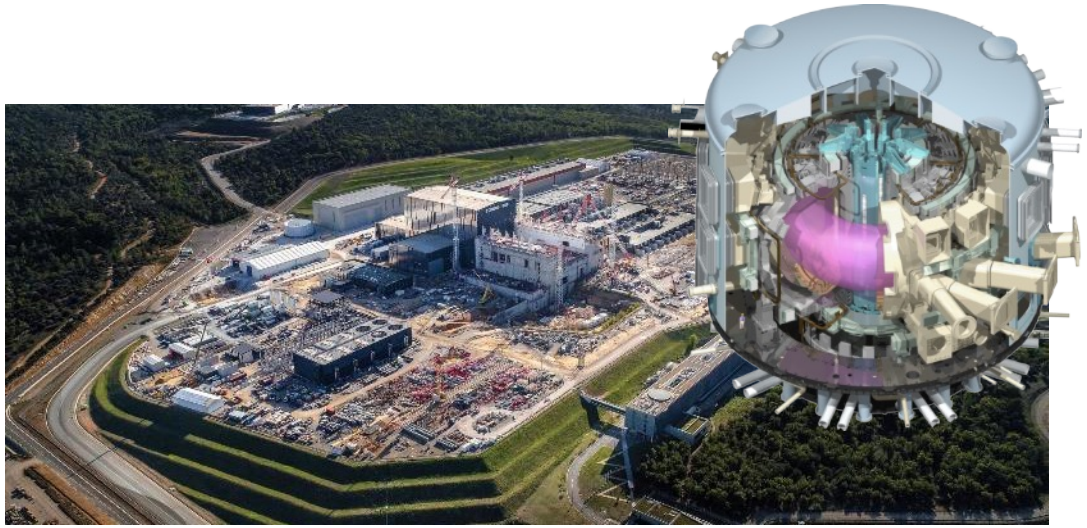
- Scientists have been been working on fusion for more than half a century.
- On the cusp of a key milestone — net gain energy — more energy out than in (Q>1).
- Machines called “tokamaks” are closest.

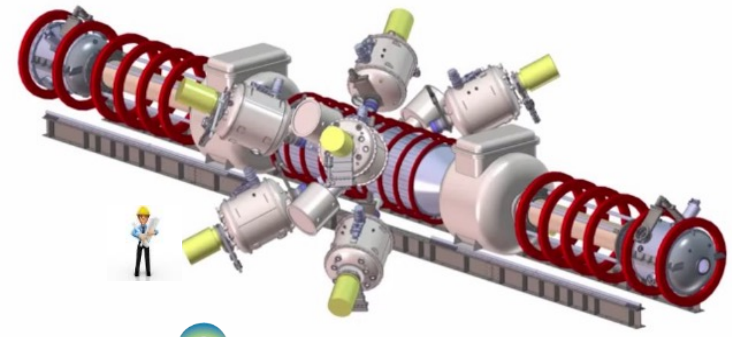
$$Q = \frac{\text{Fusion power out}}{\text{Heating power in}}$$



Fusion Energy Landscape

- 35 global startups with the goal of commercializing fusion
  - Goal of developing fast, less costly, commercial systems
- Growing quickly with more than $4 billion in private investment
- Governments also investing in fusion energy technology
  - China, UK, US, ITER





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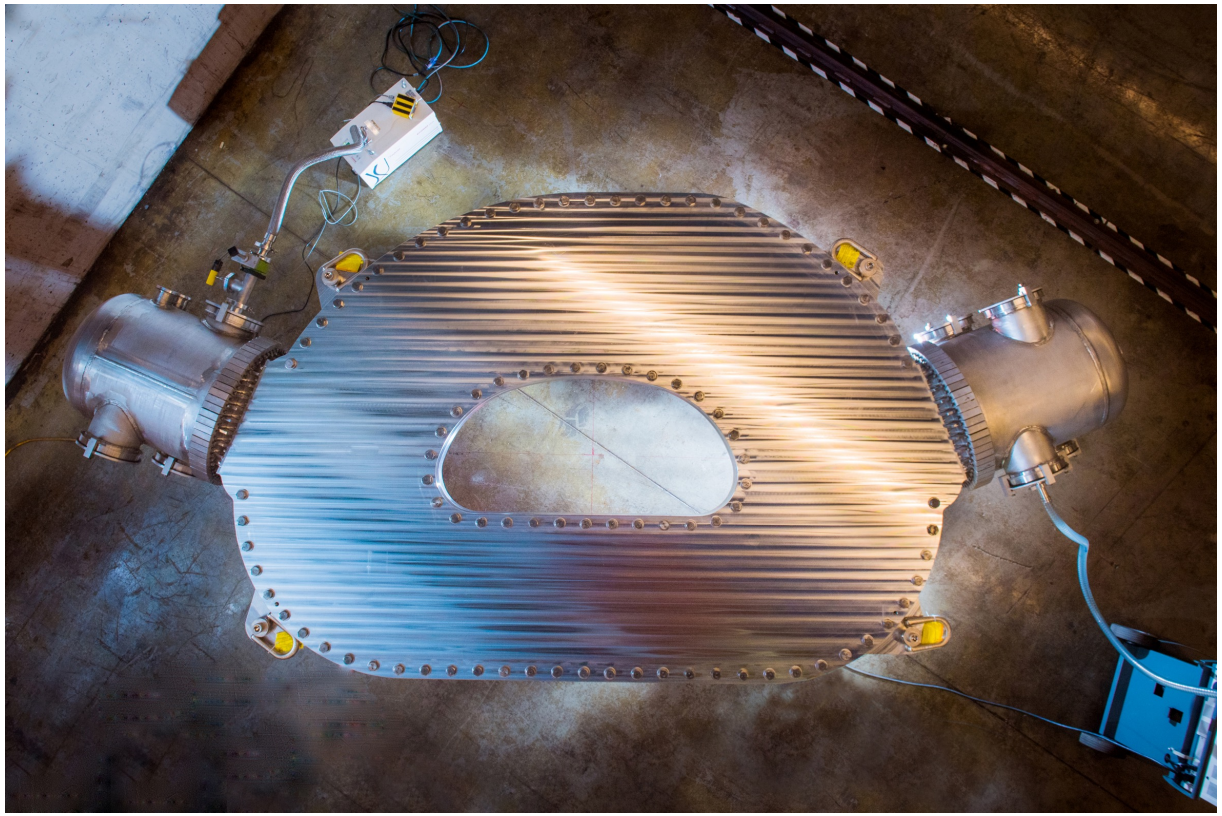
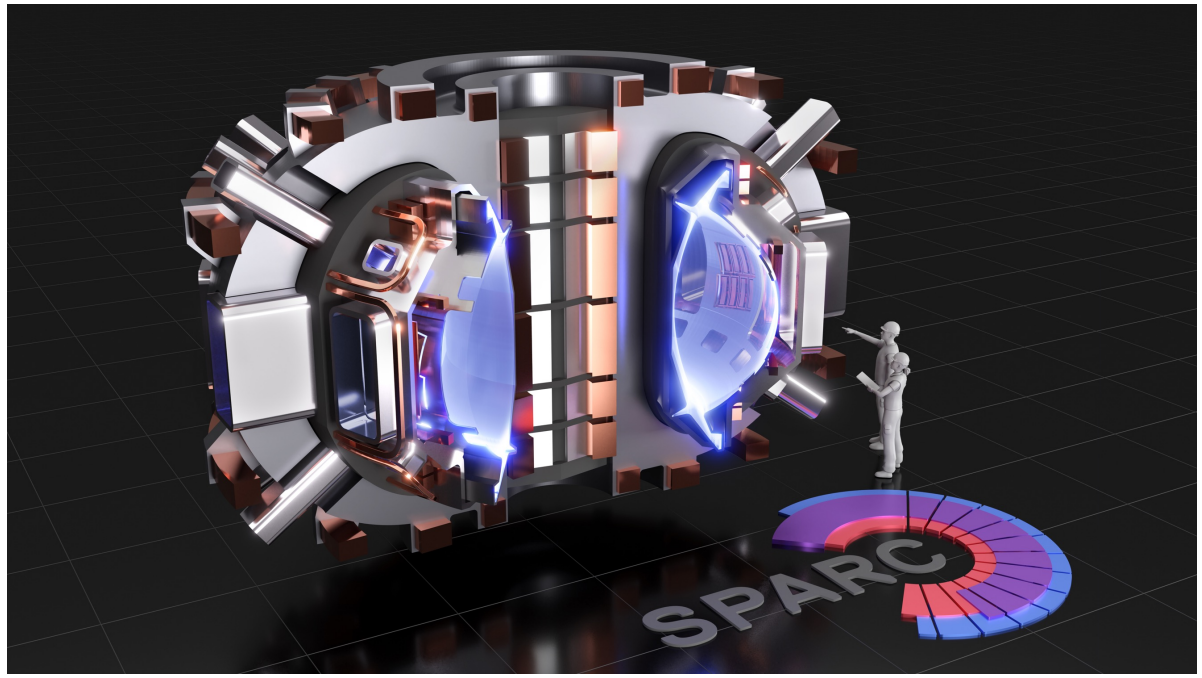
HTS Magnets: Game-Changing Technology

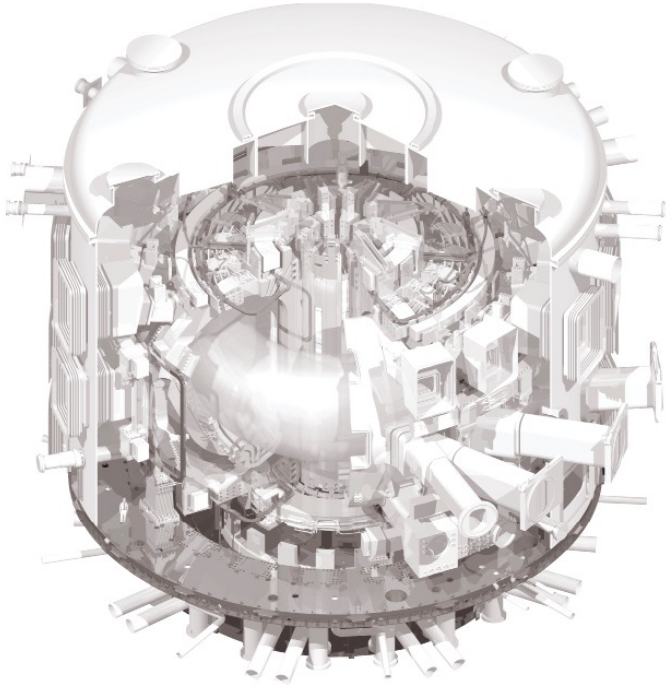
- New high-temperature superconducting magnets unlock CFS's path to commercial fusion energy



SPARC: Commercially-Relevant Net Energy

- New HTS magnets will enable stronger magnetic fields
- Fusion systems that can be built faster, less expensive, and with high confidence they will work





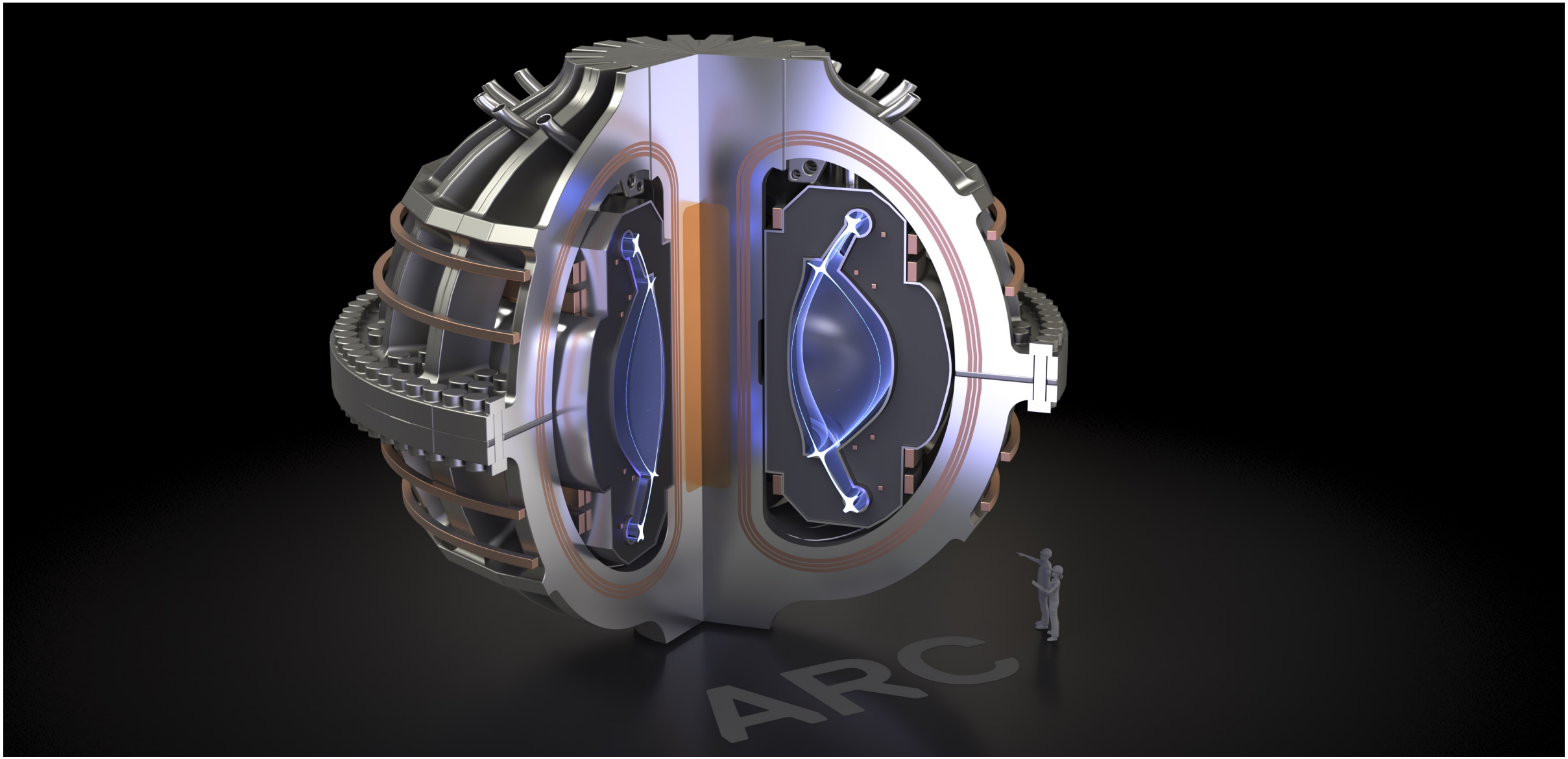
ITER: old magnets

SPARC:
new magnets

CFS Fusion Campus Construction Underway

- 47-acre site located at Devens, MA includes CFS headquarters, magnet manufacturing, and SPARC building

ARC: World's First Fusion Power Plant



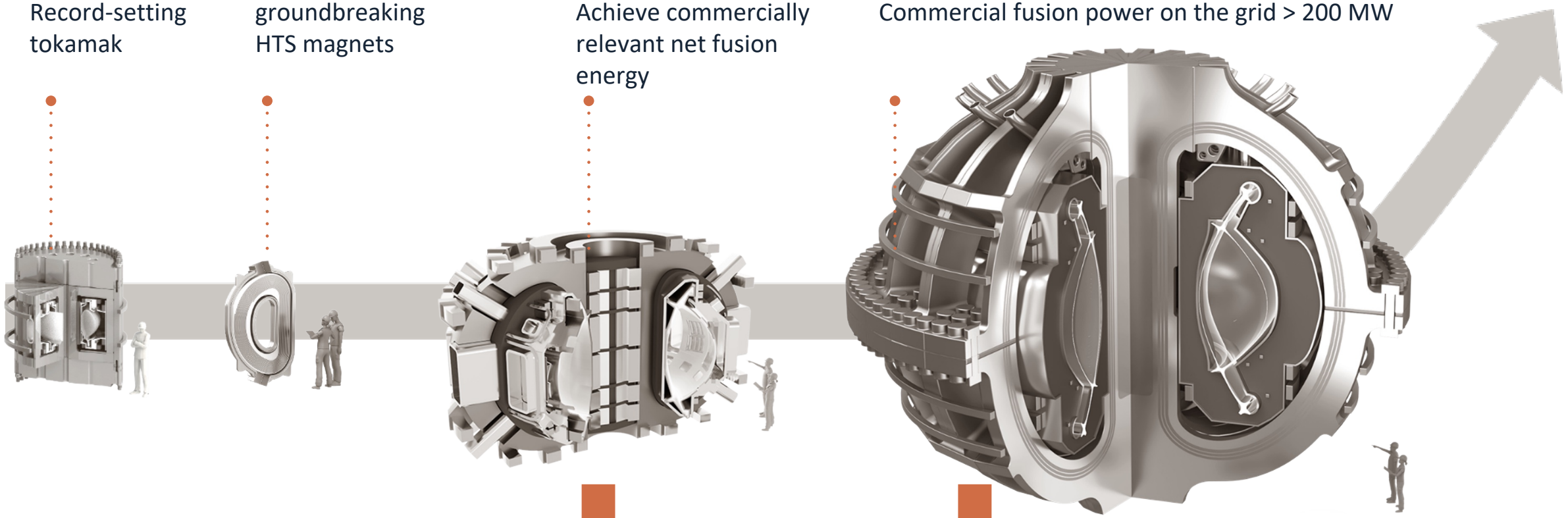
The fastest path to commercial fusion energy

Completed
Alcator C-Mod
Record-setting tokamak

Completed
Demonstrate groundbreaking HTS magnets

2025
Launch SPARC
Achieve commercially relevant net fusion energy

Early 2030s
ARC deployed
Commercial fusion power on the grid > 200 MW



SPARC: Proof of concept

ARC: Carbon-free scalable commercial power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