



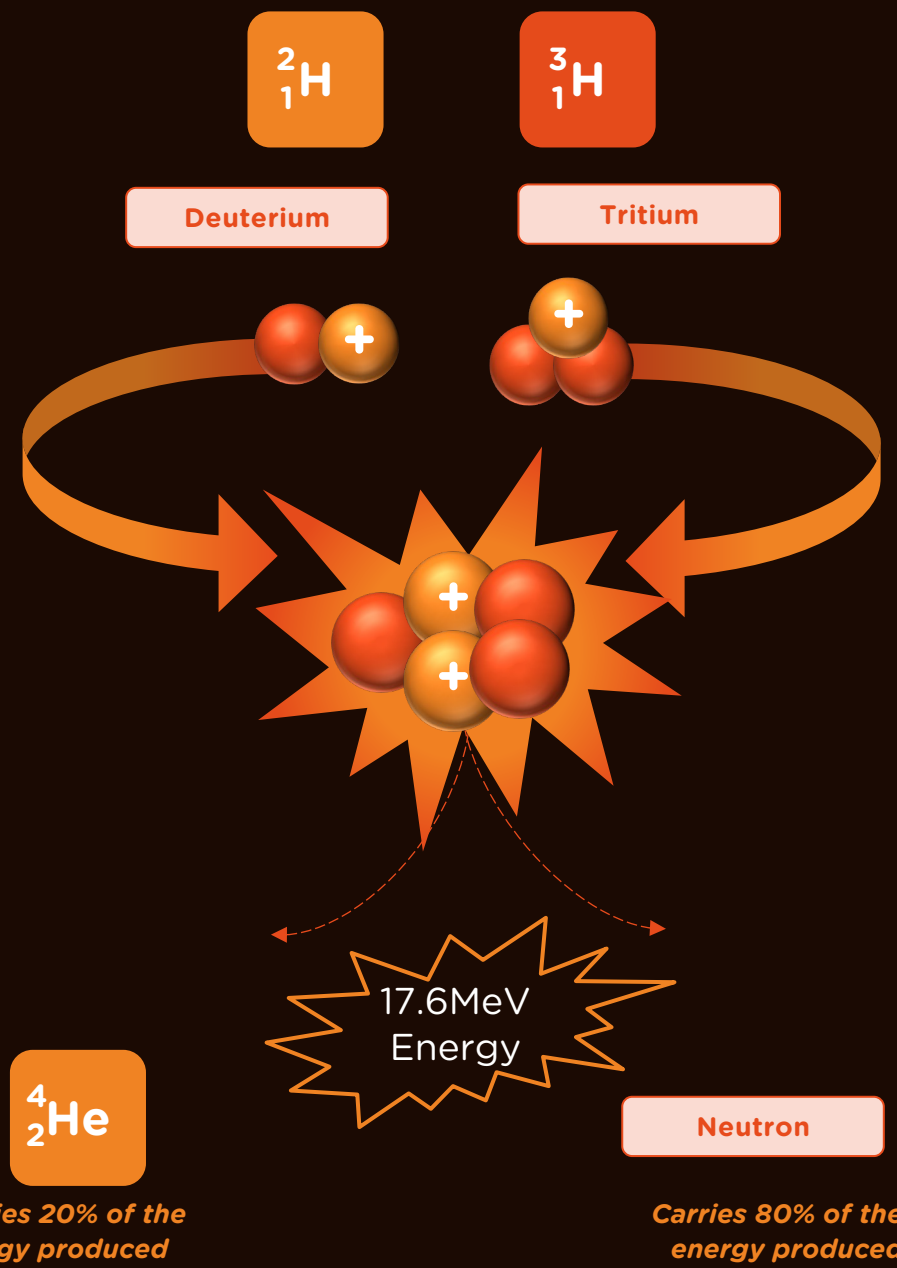
Clean, Sustainable and
Affordable Energy for all

Dr David Kingham





Fusion the original source of all energy.



Fusion Energy - One fact



One
kg fusion fuel



Ten Million
kg of coal

Fusion Energy - One fact

Practically limitless source fuel



The Global Energy Challenge - The Next 12 Years

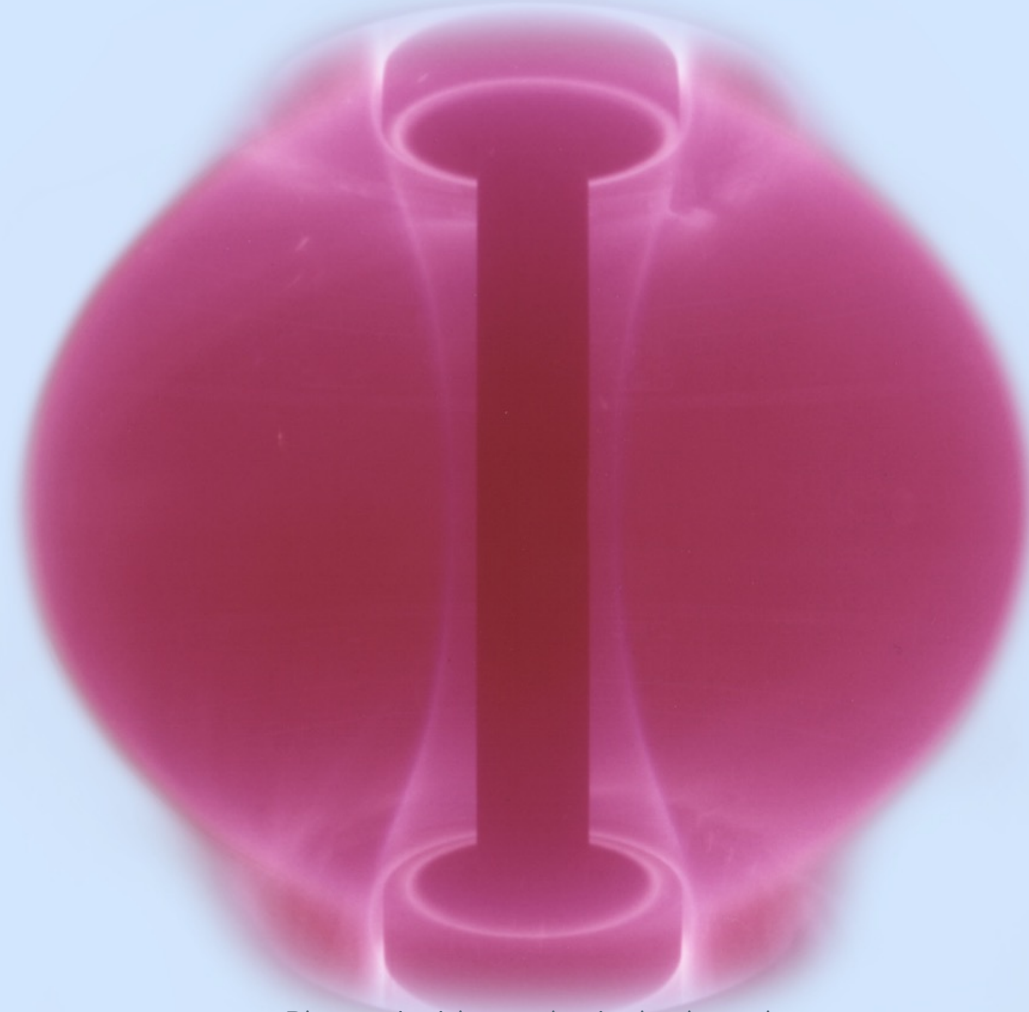
- ^ + **1.5 billion** new consumers
- ^ + **40%** energy demand
- ^ + **100%** electricity demand
- ^ **Industrial heat** requirements
- ^ Focus on **energy security**
- ∨ - **50%** fossil fuels



The solution

Only fusion can deliver clean, dispatchable energy that is efficient and widely deployable.

	Zero O ₂	Cost Competitive	Deployable	Dispatchable	Thermal Energy	Secure Energy
Fusion	✓	✓	✓	✓	✓	✓
Renewables	✓	✗	✗	✗	✗	✗
Fossil Fuels	✗	✓	✗	✓	✓	✗
Fission	✓	✗	✗	✓	✓	✗



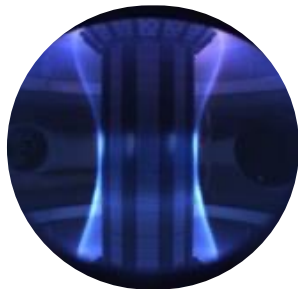
Plasma inside a spherical tokamak



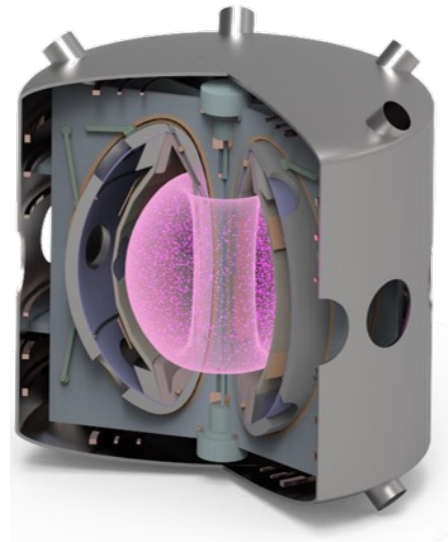
Our solution & technology advantage

Compact Spherical Tokamak

- ✓ Higher efficiency (“bootstrap” current)
- ✓ Improved confinement
- ✓ Improved plasma stability

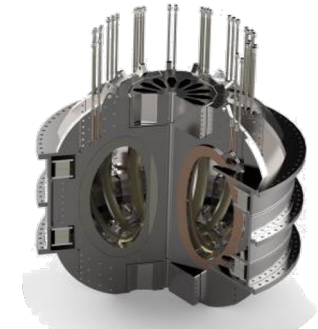


Enabled by our unique technology

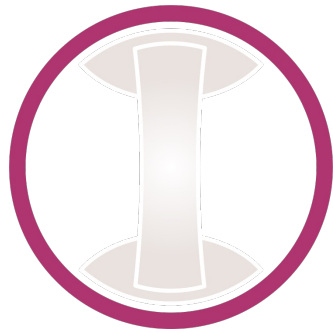


High Temperature Superconducting (HTS) magnets

- ✓ Strong magnetic field allows compact design
- ✓ Higher temperature means lower OpEx
- ✓ Improves performance and cost-effectiveness of tokamaks



Our Technology Advantage



+



=



Spherical Tokamak

HTS Magnets

Efficient Fusion

Smaller, cheaper, more efficient

30% lower levelized cost of energy*

* Versus conventional tokamak



About Tokamak Energy

250 people

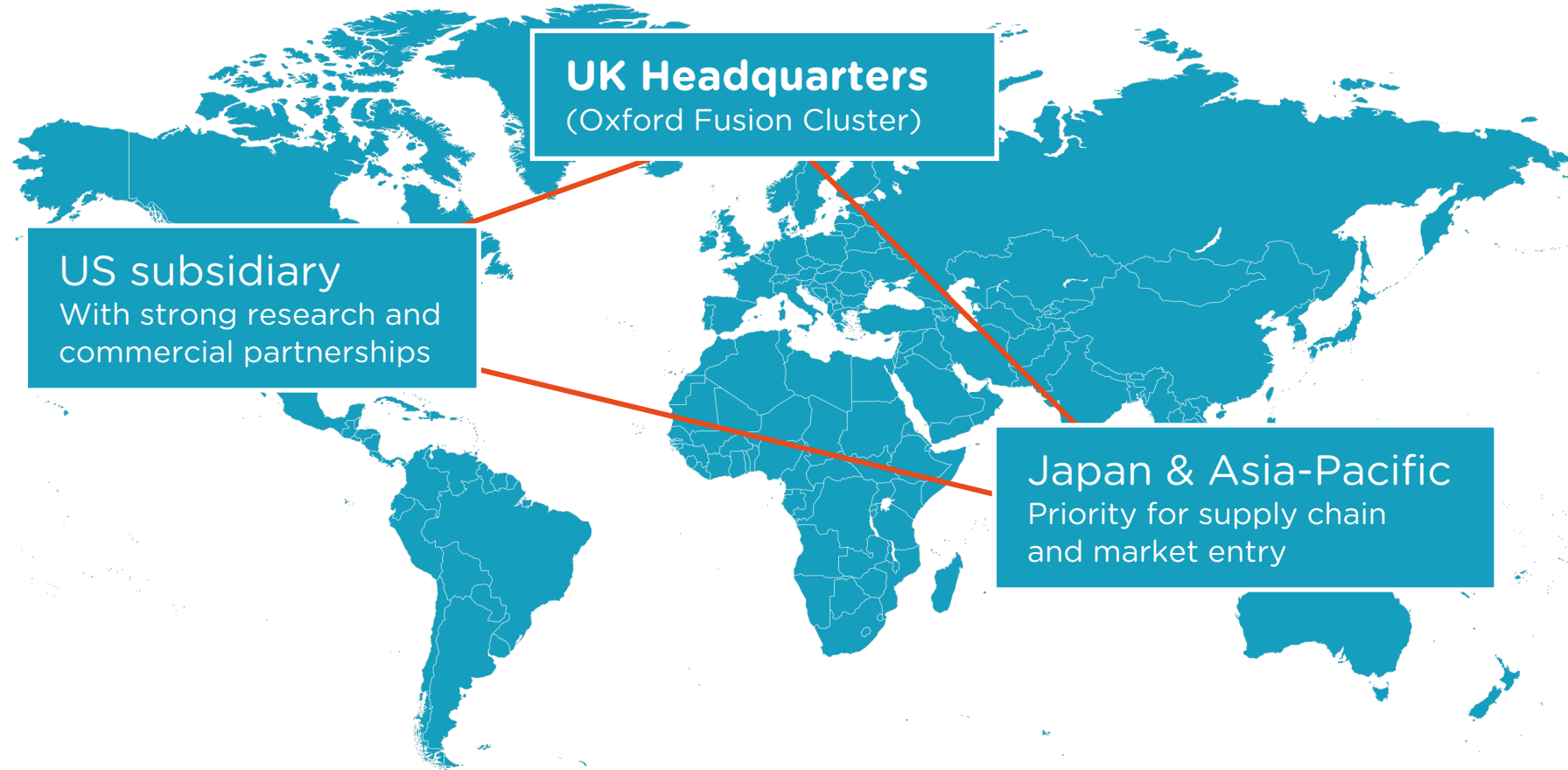
- World-class scientists, engineers and commercial specialists
- 60 PhD, 75 MSc

\$250M raised to date

- Financial backing from private capital and government grants

Collaboration

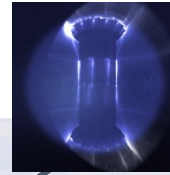
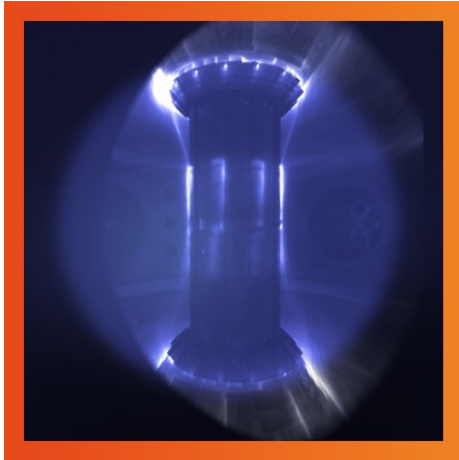
- Governments
- National laboratories
- Strategic partners



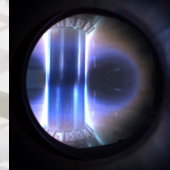
Strategic partnerships worldwide



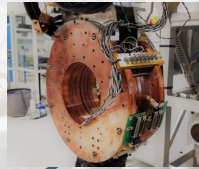
The Leading Global Fusion Company



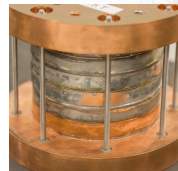
2022
Highest plasma 'triple product' of any private fusion company



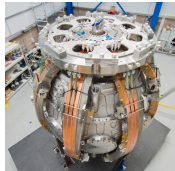
2022
First private fusion company to achieve 100M°C plasma ion temperature in a tokamak



2021
Robust, scalable, quench-protected HTS magnet precisely validating our simulations



2020
World-record 24 Tesla field at 20 K with patented HTS magnet technology

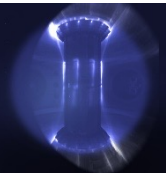


2017
Designed, built and operate the world's highest-magnetic field spherical tokamak (ST40)



2015
First HTS tokamak sustained pulse for >24 hours (ST25 HTS)

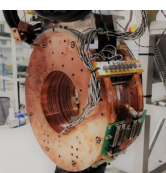
IP Generation and Protection



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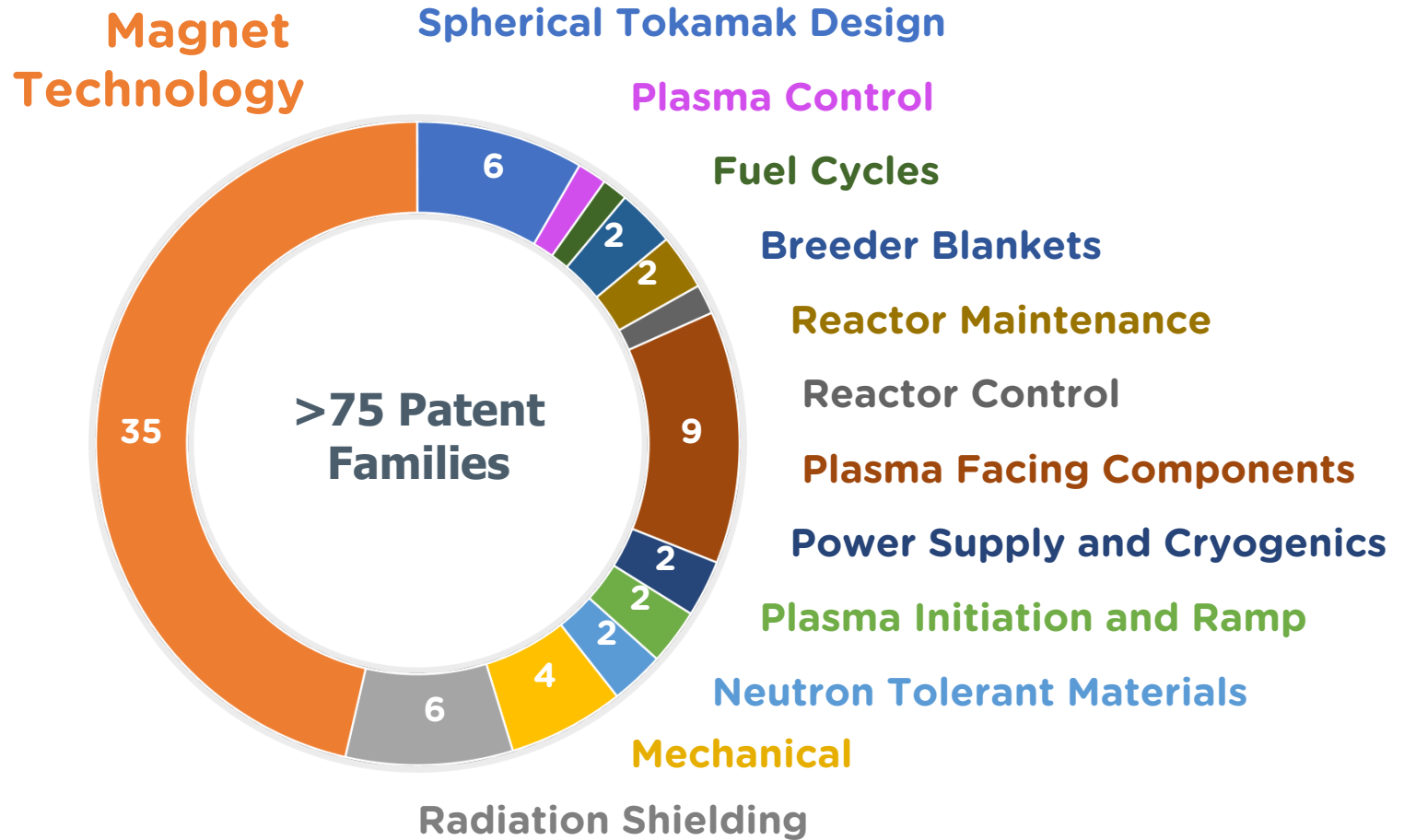
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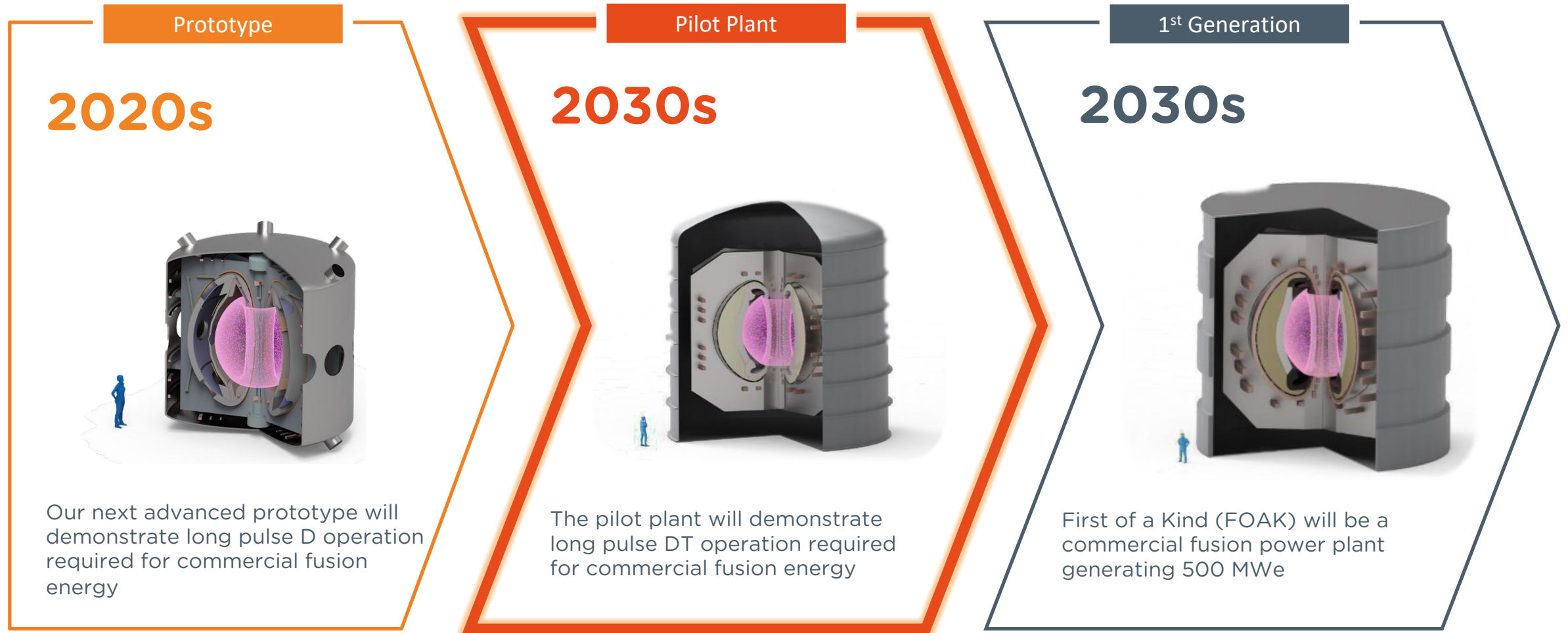


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First HTS tokamak sustained pulse for >24 hours (ST25 HTS).



Our path to commercial fusion

We are focussed on bringing a fusion pilot plant to market in the early 2030s



AND chosen to be part of U.S. Government's decadal fusion vision

U.S. DOE Milestone-Based Fusion Development Program

DOE Milestone Program

- Public/private collaboration
- \$46M initial U.S. Govt. funding

Tokamak Energy
INC.

- Work begins on phase 1 in Q4 2023
- Key partnerships with U.S. National Labs

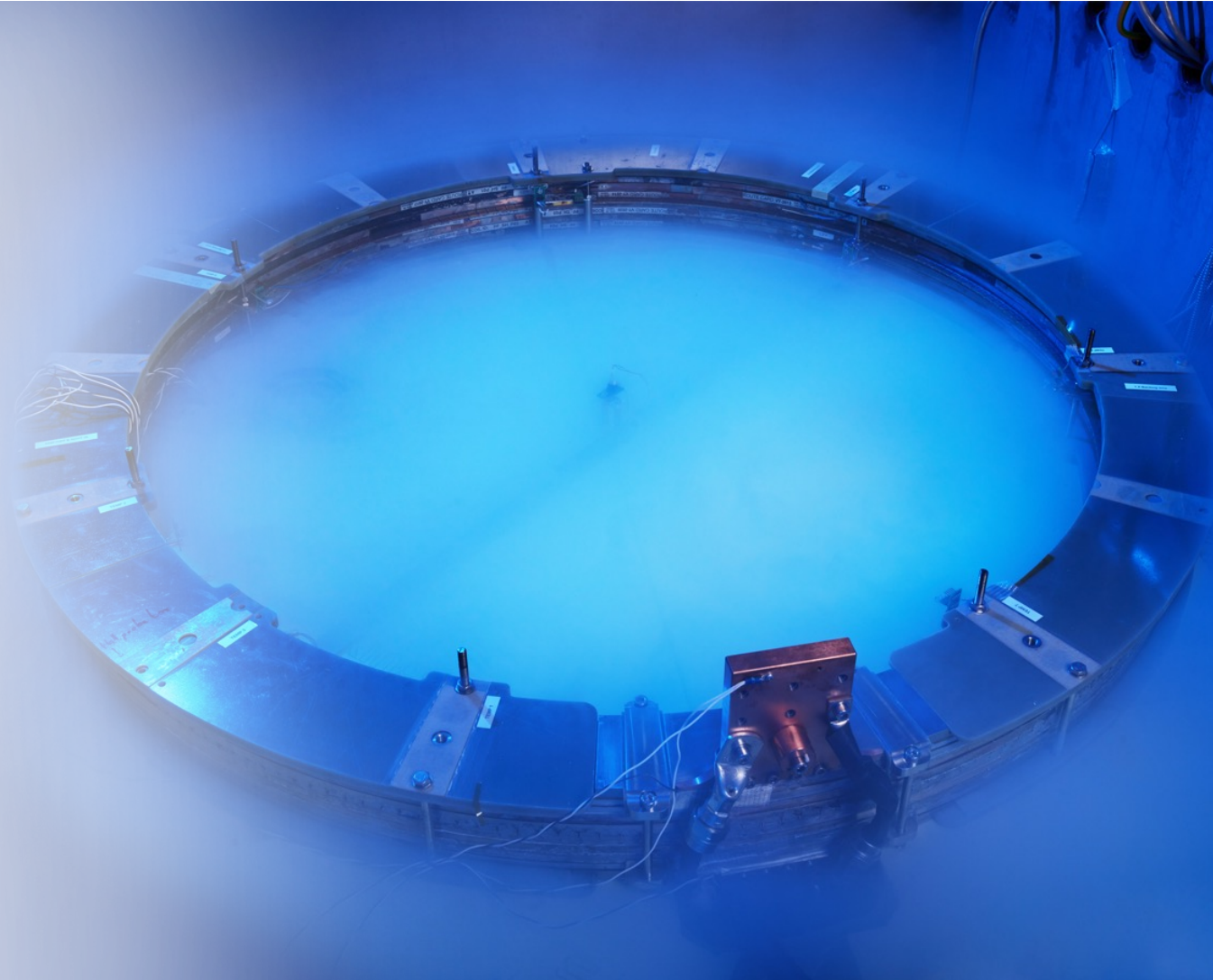


Magnets Business Unit



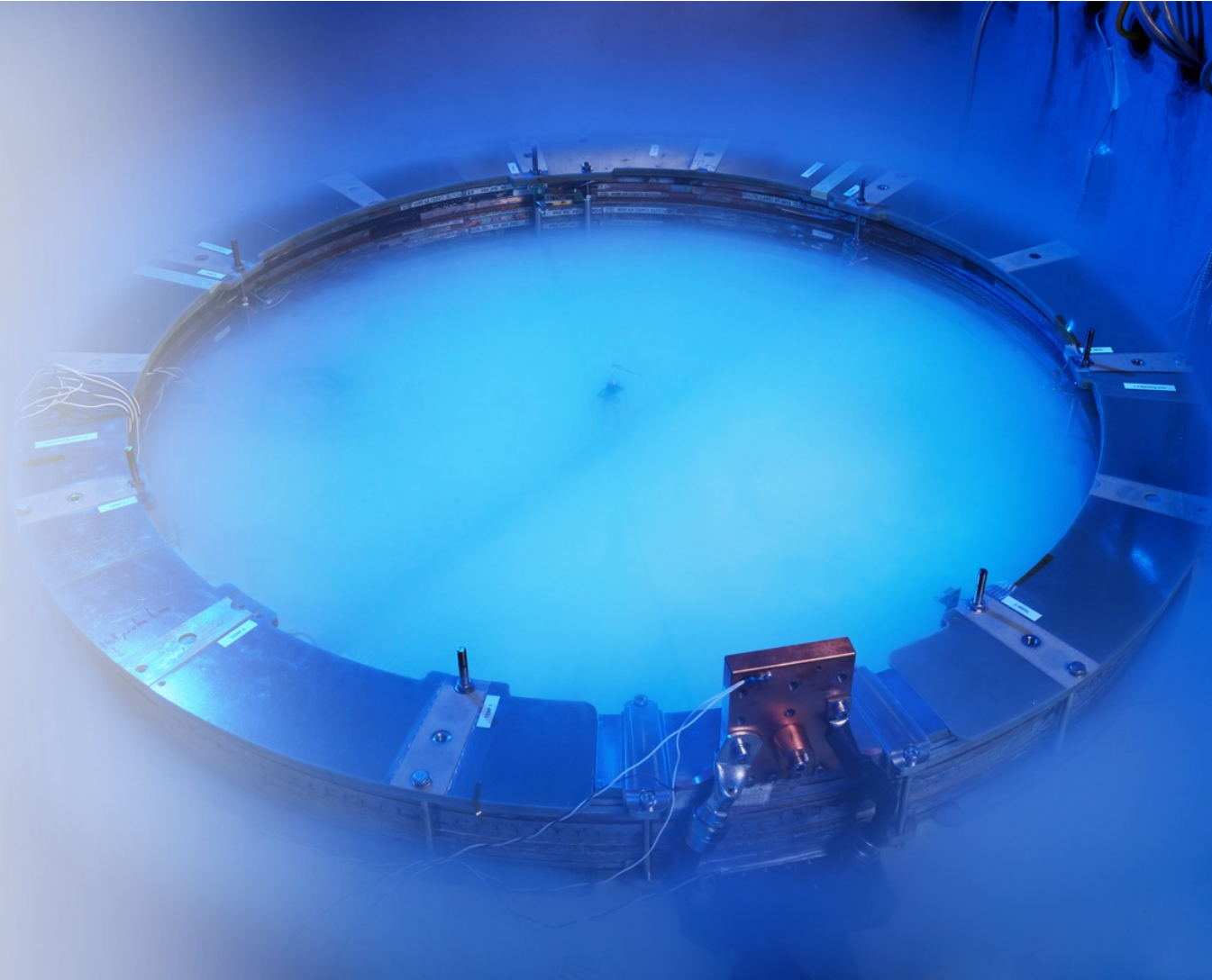
**MBU is a new, dedicated division
within Tokamak Energy**

Focused on commercialising our HTS magnet
technologies across a range of markets
beyond our commercial fusion programme



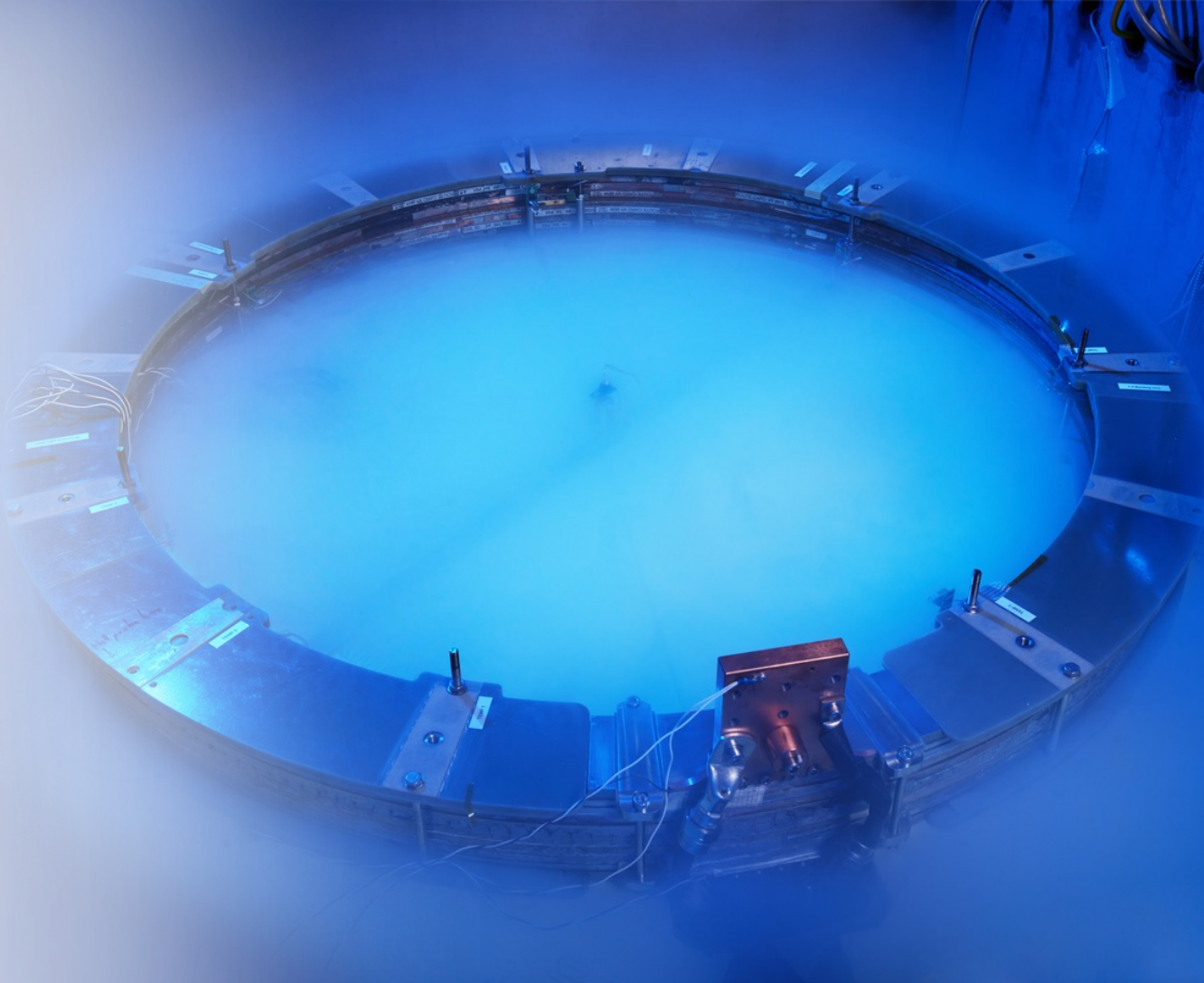
MBU builds on our unique competitive strengths

- Comprehensive IP portfolio (35 Patent Families, 164 Granted Patents for HTS and Magnet technology)
- Built and tested the worlds' highest-field HTS magnet at 20K, achieving record 24T field in 2019
- Operate a new 2,000 m² magnet fabrication facility alongside worldclass laboratory testing facilities



Commercial Magnets

Other commercial magnet applications including:



Fusion is the 21st century's most valuable technology.

Tokamak Energy's business plan:

- Commercialises current and future IP families →
 - Generates early profitable revenues →
 - Remains IP rich and capital light →
 - Maximises the benefit of public and private partnerships
 - Creates the credible pathway to commercial fusion
- Develop critical fusion technology
 - Grow the commercial magnet business
 - Continue to build IP for the future plan





Thank You

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