Our Fusion Future

Bob Mumgaard, CEO and Co-founder

Commonwealth
Fusion Systems

CFS: the surest path

SPARC: the ARC pilot plant

- SPARC is a fusion power plant demonstration device — the prototype for ARC

- Will demonstrate 10x energy out than in

- Makes industrial scale fusion heat—100MW

- Based on established science with revolutionary engineering

- In a package that can be constructed anywhere in the world

- Delivered by a company built to make these quickly

- Modular, scalable, and replicable

SPARC is Progressing rapidly

- First of a kind greenfield

- Started in 2021

- 60% complete

- Global supply chain engaged

- On site assembly has begun

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We are already operating the first factory

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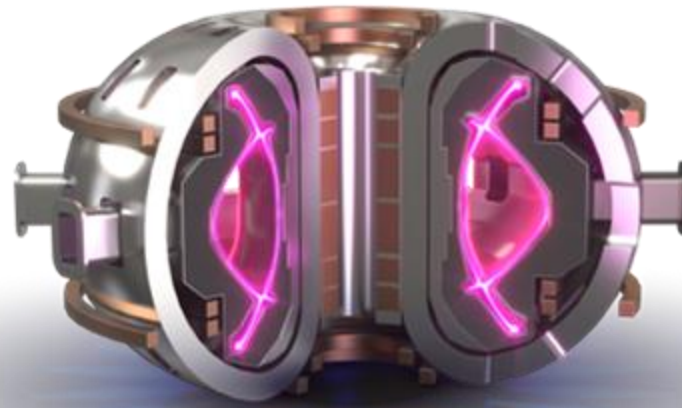
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World's first fusion power plant: Virginia, US

Commonwealth Fusion Systems ARC Site
Power station

Sustain a Burning Plasma: SPARC to ARC

There are two general categories of physics learning in SPARC:

- Confirmatory
  - Areas that have an expected answer and SPARC will confirm or dispute
  - For example, confinement scaling, burning plasma effects, RF heating, etc.
- Exploratory
  - Areas where current solutions don't scale well to ARC or data is missing
  - For example, divertor heat exhaust, gas fueling, disruptivity in ARC-relevant conditions

SPARC

ARC
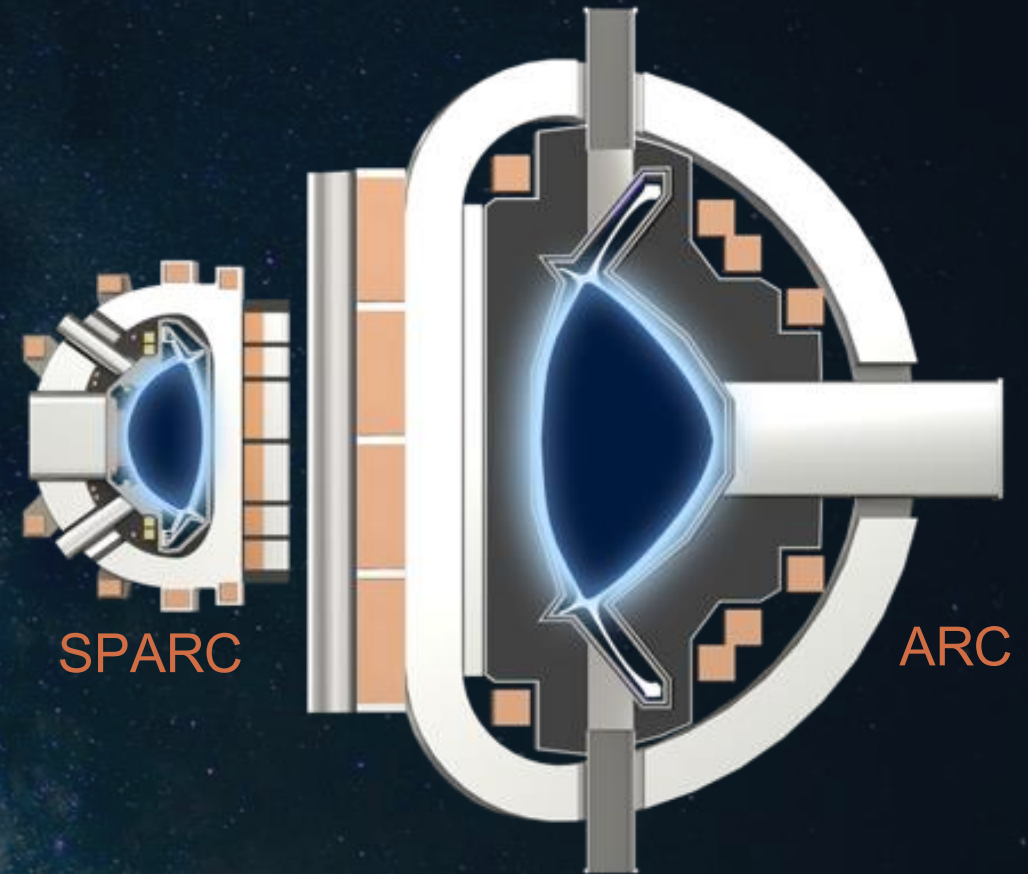
ARC design is underway

- ARC detailed design in progress; SPARC designers rolling off SPARC tasks onto ARC

- Ramping up R&D on ARC-specific systems related to molten salt and materials

- Collaborations in place with global researchers to leverage state of the art facilities and expertise

- ARC design has inherent flexibility to incorporate late learnings from SPARC into the final ARC design

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