



# SMR

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# Rolls-Royce SMR

Clean, Affordable Energy for all

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Manager





# SMR

Rolls-Royce SMR Ltd is a technology vendor offering a complete SMR power plant on a turnkey basis.

Our development programme is fully funded with € 565m through commercial equity and UK Government grant funding

## Rolls-Royce SMR Ltd Shareholders



**Rolls-Royce Group**  
60 years designing, manufacturing, supporting and operating nuclear technology



**Constellation Energy (previously Exelon Generation Ltd)**  
Operates the largest U.S. fleet of zero -carbon nuclear plants with over 18.7GW from 21 reactors at 12 facilities



**BNF Resources UK Ltd**  
Extensive investments in the energy space and represented and advised by BNF Capital Limited, an FCA regulated UK -based investment advisory



**Qatar Investment Authority**  
Invests in the energy transition and funds technologies that enable low carbon electricity generation

## UK Government Grant Funding



Department for  
Business, Energy  
& Industrial Strategy



UK Research  
and Innovation

**UK department of Business Energy and Industrial Strategy**  
Rolls-Royce SMR Ltd received the Low-cost nuclear (LCN) grant award by UK Research and Investment (UKRI)



# SMR

## Rolls-Royce's Nuclear Heritage

Strong nuclear heritage  
with roots in defence and  
civil development

Designing, manufacturing  
and supporting small  
reactors for over 60 years

Rolls-Royce is a globally  
recognised and trusted  
partner

Rolls-Royce is one of the world's **leading** industrial technology companies pioneering cutting-edge technologies that deliver **clean, safe and competitive** solutions

Civil Aerospace



Power Systems



Defence

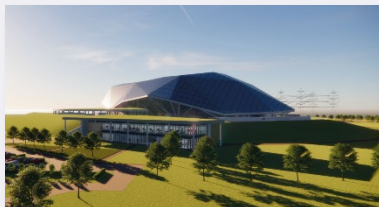


**Strong nuclear heritage** with roots in defence and civil development

Nuclear Business Experience

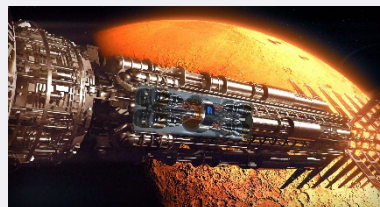
Civil Nuclear

Rolls-Royce SMR



Defence Nuclear

Innovation & Future Programs



Submarines



### Small

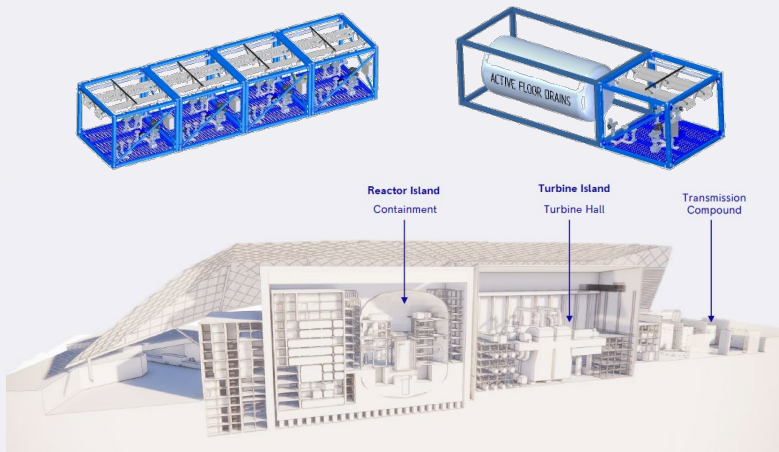
- Maximise power for physical constraints around manufacturability and transportability
- Not about designing around an arbitrary power level

### Modular

- Standardisation, factory repeatability in a production line approach.
- Avoidance of large modules that must be disassembled for transportation - defeats the benefits of modularisation
- Modules tested in factories to reduce site activity

### Reactor

- RR provides the power plant, not just the reactor
- Reactor is ~20-25% of the power plant by capital
- Modularisation of the full power plant including civil construction
- Enables delivery, by Rolls-Royce SMR under single EMA contract





# SMR Turning nuclear into a product not a one-off mega infrastructure project

✗ EPC (mega project)

## Conventional EPC (e.g. Large nuclear)

- Mega project GBP 10bn+
- Reactor only, *not* whole plant
- Government driven
- Commercially complex



Designed for market requirements



Reducing Project Risk

Factory Product



Standardization



Schedule certainty



Commercial simplification



✓ EMA (factory product)

Engineering  
Manufacturing  
Assembly

- Much lower risk
- Reduced Capital
- Shorter Time to Build

= Reduced financing cost

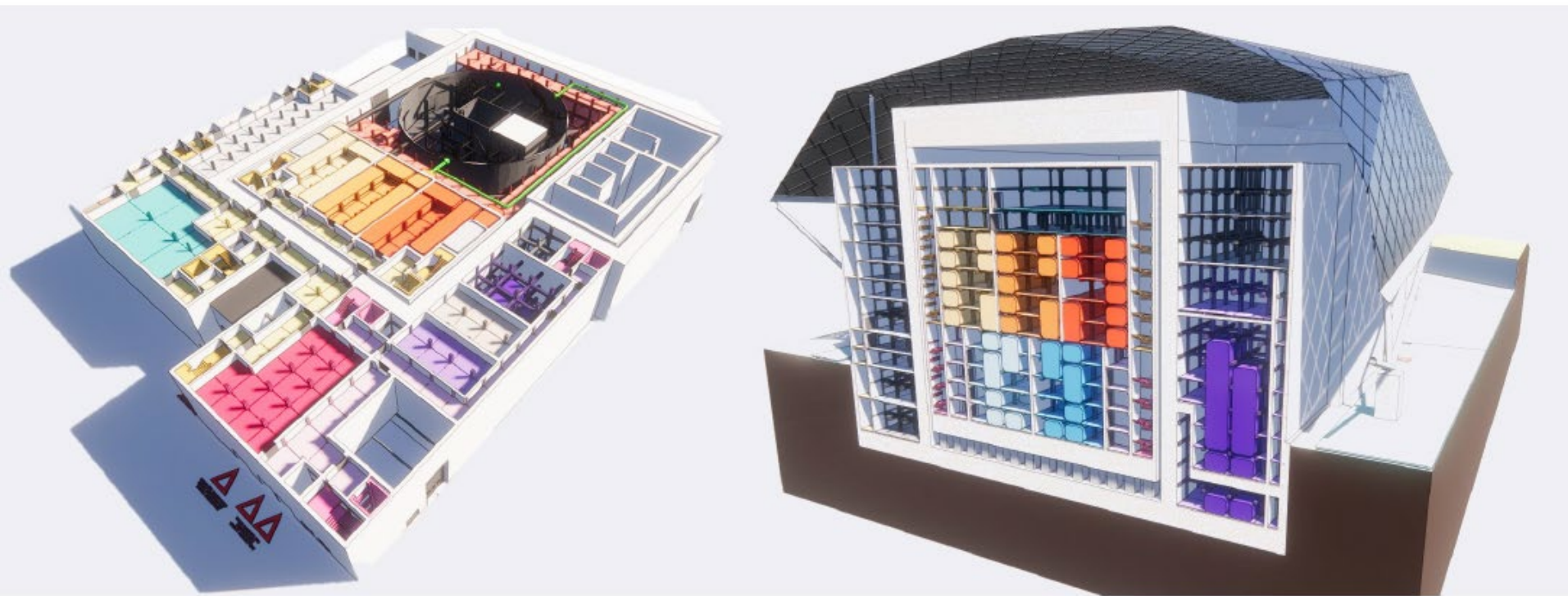
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## A Factory Fabricated Product

Road transportability of modules is a pre-requisite, reducing Capex per MW and improving delivery time & certainty





## Build Certainty

### Build Certainty – What Does it Look Like?

The Six Principles:

Maximise off-site build and assembly

Simplify logistics flow for on-site Build

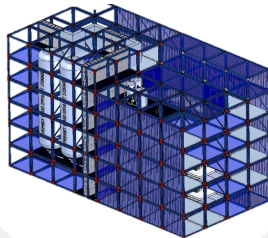
Minimise variation across all areas

Reduce and simplify interfaces (plug and play)

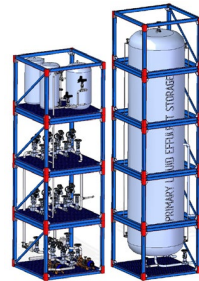
Increase robustness to variation

Reduce human interaction

### Standardised Modular Power Station

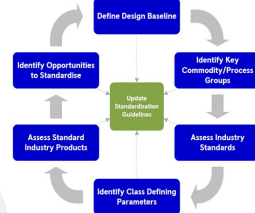


### Modularisation



BC

### Standardisation



**Kit of Parts Design**  
Module Strategy  
Structural Assessment  
Meeting Requirements

**Module Technology**  
Industry Intelligence  
Innovation  
V&V

**Standardisation  
Philosophy**  
Standard Spec  
Standard Parts  
Catalogue  
Standard Process

**Supply Assurance  
and Logical Model**



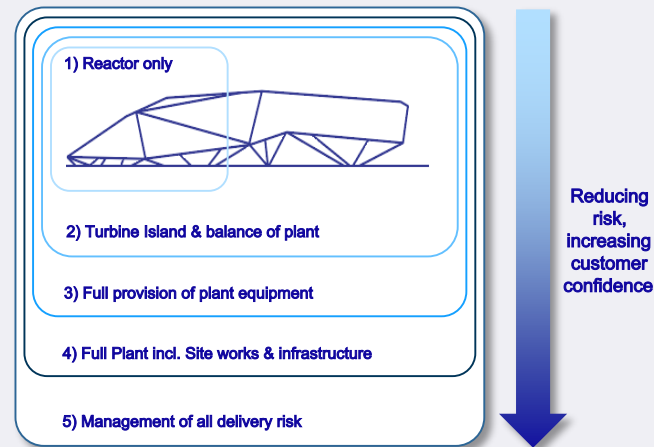
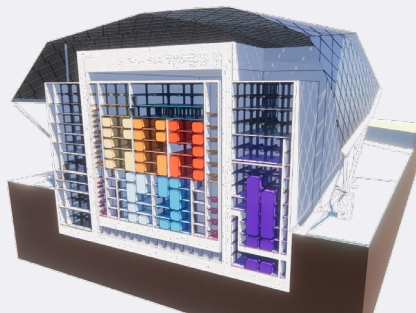


## Our Turnkey Solution

Contracted through an Engineering, Manufacture and Assembly (EMA) contract:

- Simple contracting mechanism
- Standardised product purchase
- Transparent pricing
- Minimised cost and schedule risk to developer

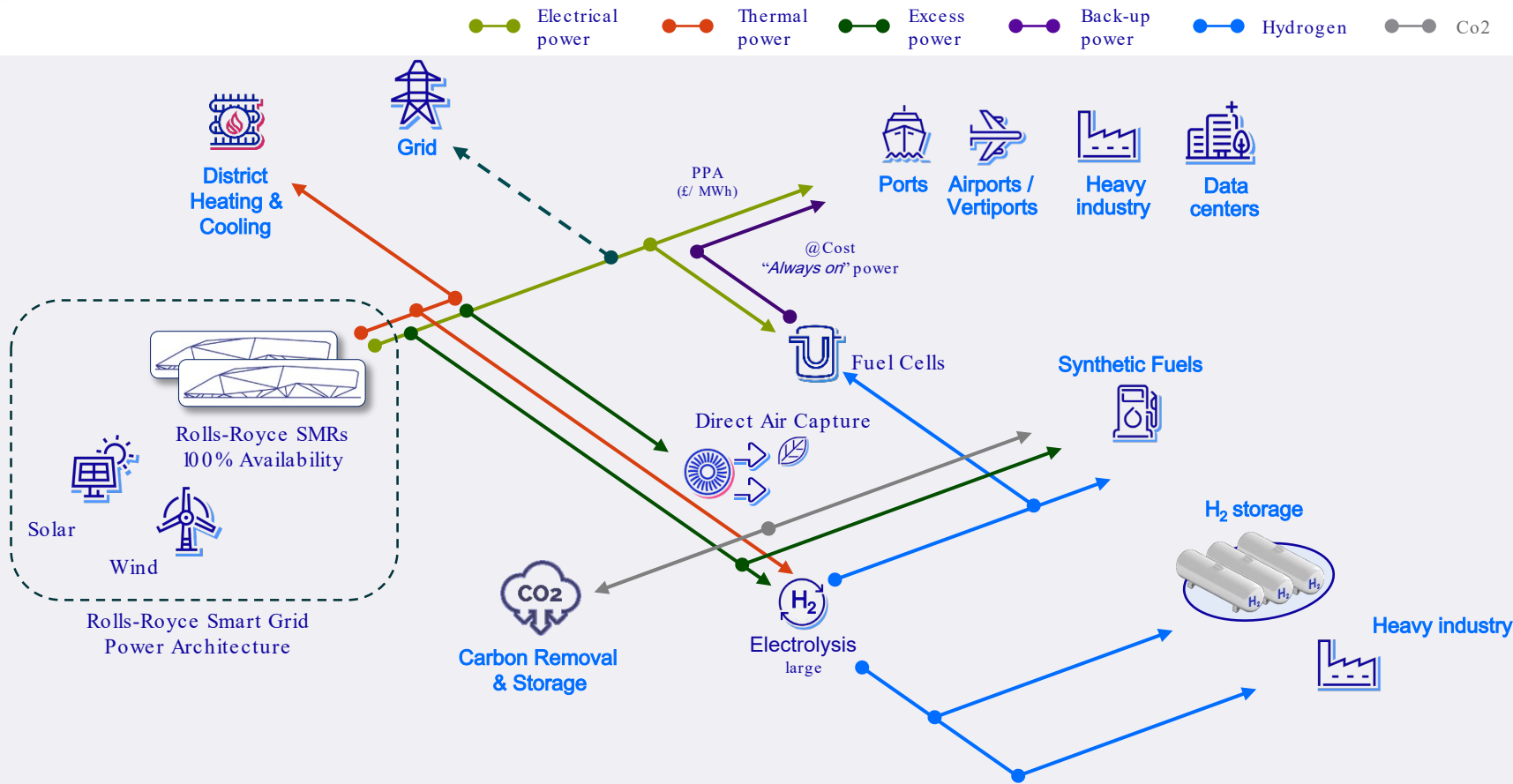
- **More than a reactor** - a complete and operational power plant with all aspects designed together from the outset
- **Increased customer confidence** - All technical and commercial interface risk managed and owned by Rolls-Royce SMR, ensuring a 4-year build time



- **Manufacturing innovation** – use of factory build and modular assembly for the entire power plant.
- **Cost fidelity** - Priced certainty from use of off-the-shelf equipment and decades of learning in the manufacture of the UK nuclear submarine reactors



## A Low-Carbon Integrated Technology and Industrial Offering optimizing Group level Capabilities and Scalable to Regional Demand and Applications





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