



SMR

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Rolls-Royce SMR

Clean, Affordable Energy for all

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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)



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

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

Civil Aerospace



Power Systems



Defence



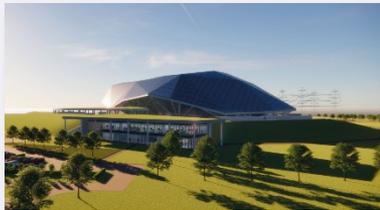
Strong nuclear heritage with roots in defence and civil development

Nuclear Business Experience

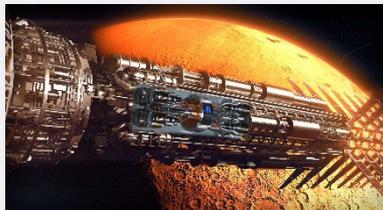
Civil Nuclear

Defence Nuclear

Rolls-Royce SMR



Innovation & Future Programs



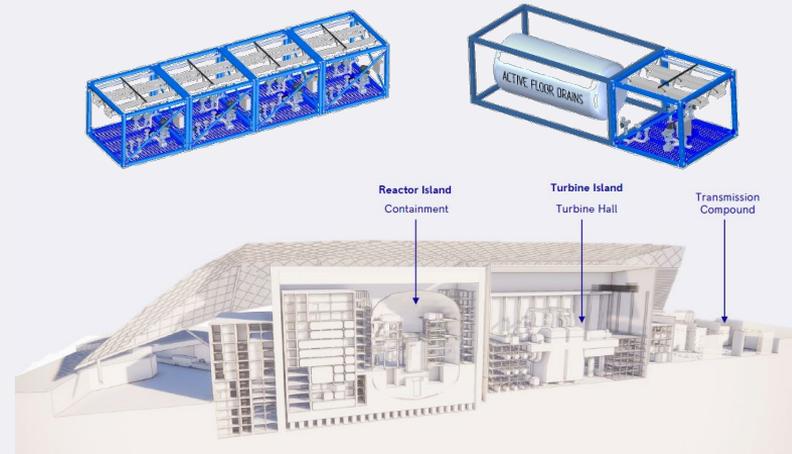
Submarines



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

- **M**odular
 - 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

- **R**eactor
 - 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 GBP10bn+
- Reactor only, *not* whole plant
- Government driven
- Commercially complex



Designed for market requirements



Reducing Project Risk

Factory Product



Standardization



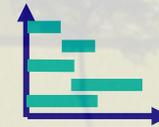
✓ EMA (factory product)

Engineering
Manufacturing
Assembly

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

= Reduced financing cost

Schedule certainty



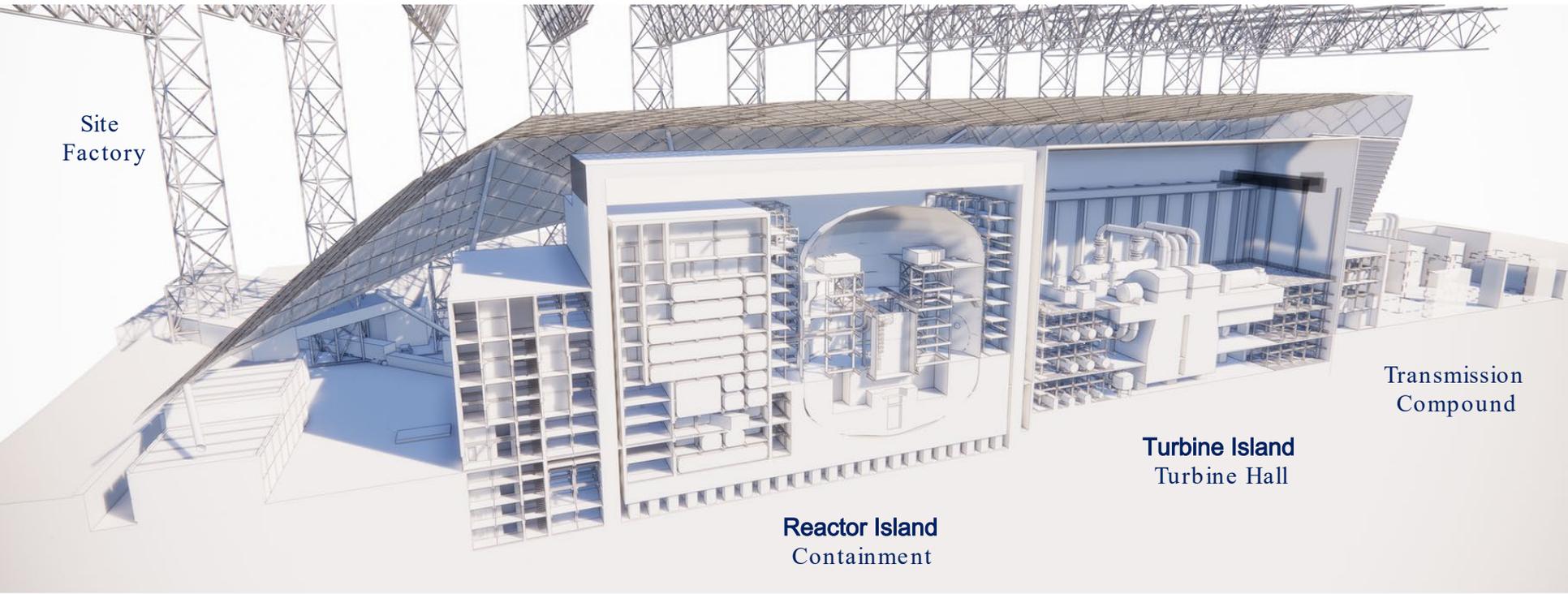
Commercial simplification





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A whole power plant approach focused on standardisation, repeatability, commoditisation where allowable



Site
Factory

Transmission
Compound

Turbine Island
Turbine Hall

Reactor Island
Containment

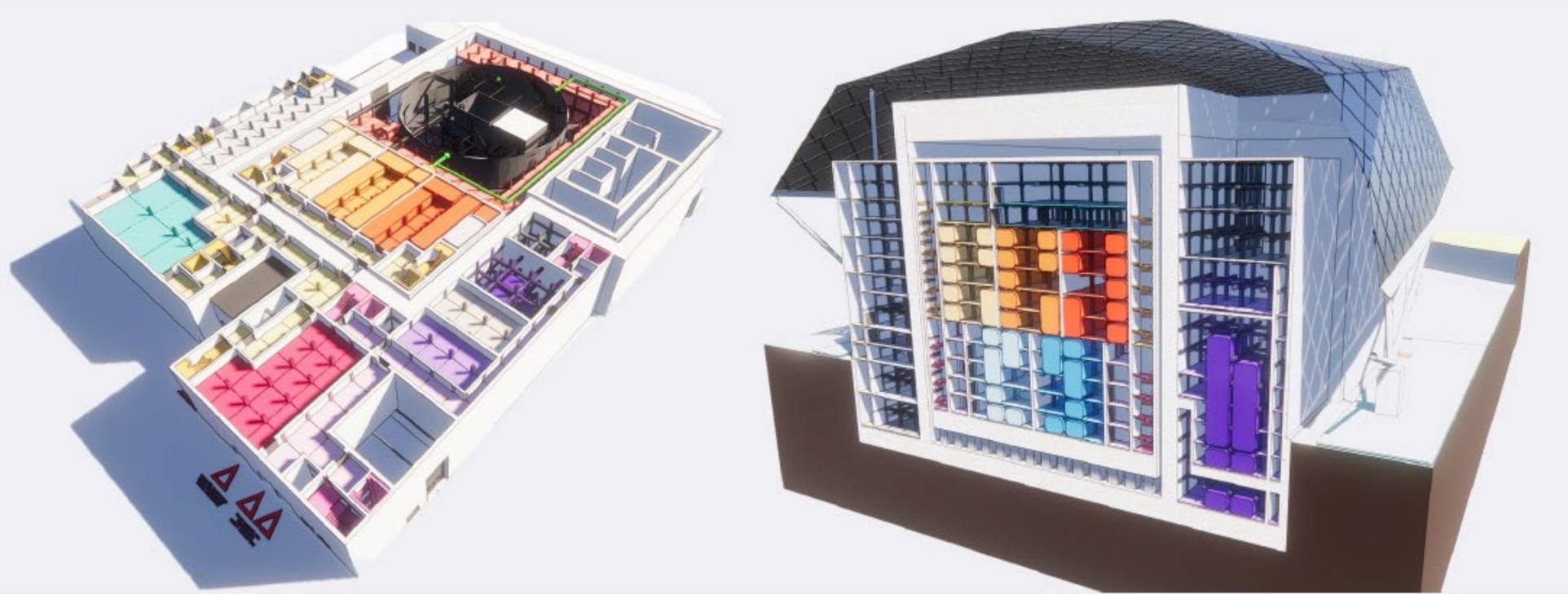




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A Factory Fabricated Product

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





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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

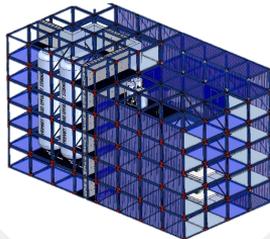
Minimise variation across all areas

Reduce and simplify interfaces (plug and play)

Increase robustness to variation

Reduce human interaction

Standardised Modular Power Station

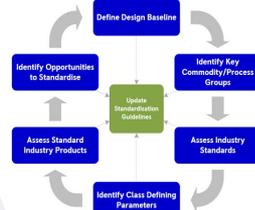


Modularisation



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





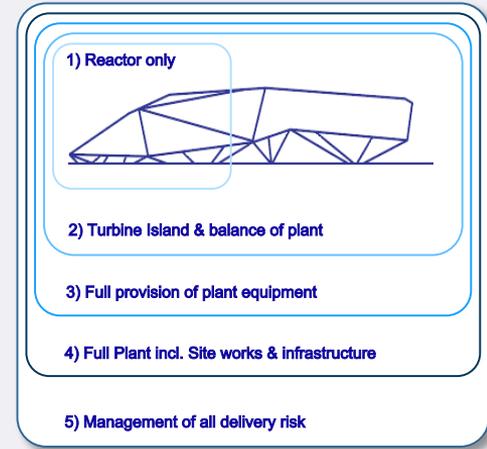
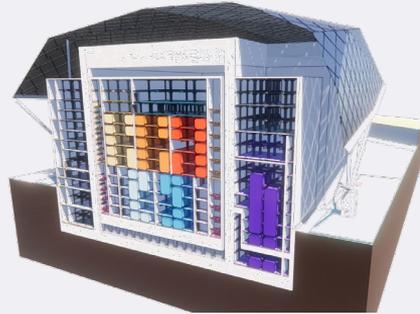
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Our Turnkey Solution

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



Reducing risk, increasing customer confidence

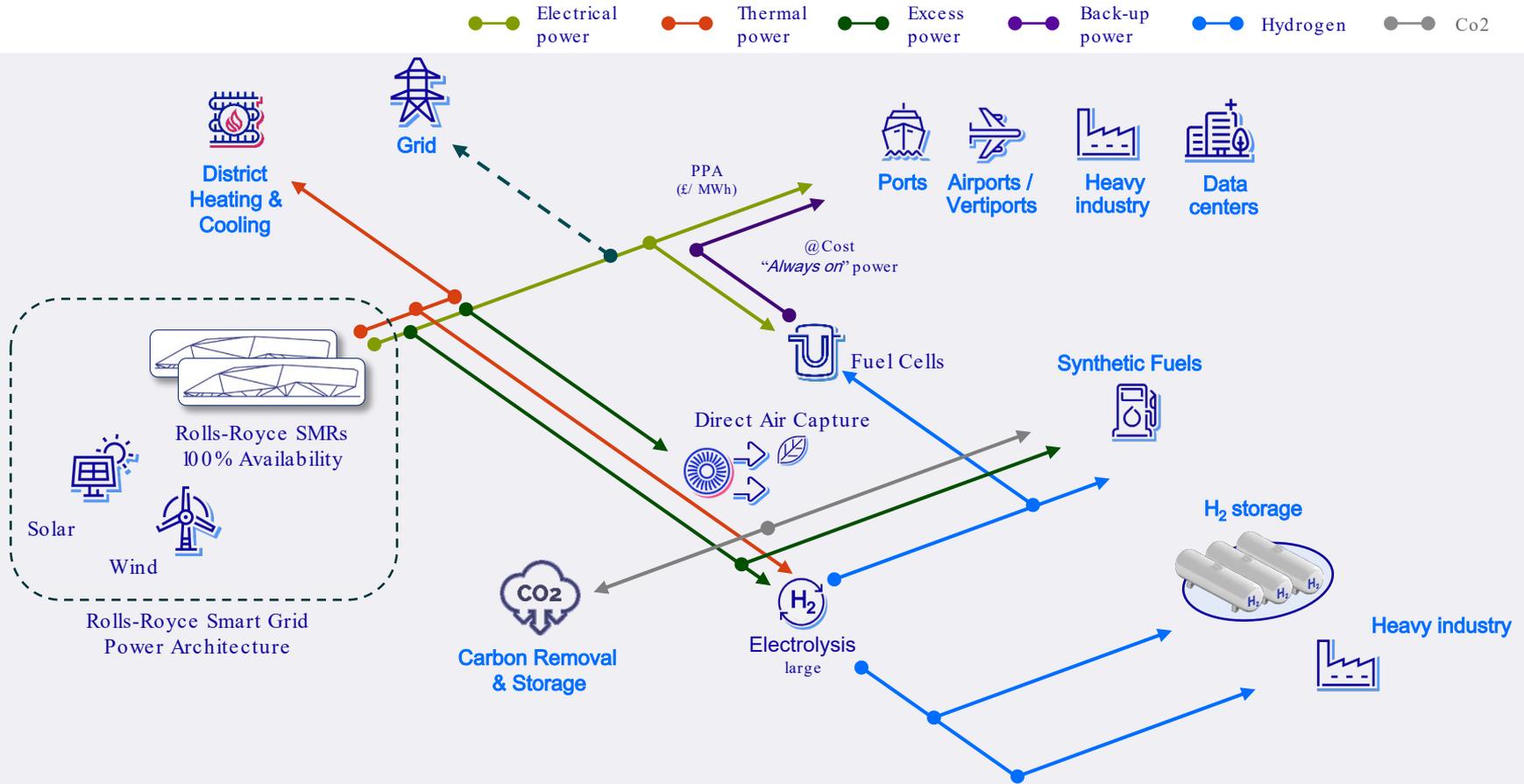
- **Manufacturing innovation** – use of factory build and modular assembly for the entire power plant.
- **Cost fidelity** - Priced certainty from use of off-the-shelf equipment and decades of learning in the manufacture of the UK nuclear submarine reactors





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





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