



SMR

Rolls-Royce SMR

SIL Sähköpäivä

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SMR

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

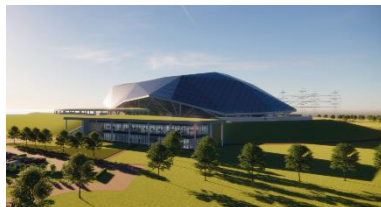


Strong nuclear heritage with roots in defence and civil development

Nuclear Business Experience

Civil Nuclear

Rolls-Royce SMR



Innovation & Future Programs

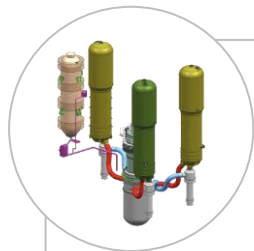


Defence Nuclear

Submarines

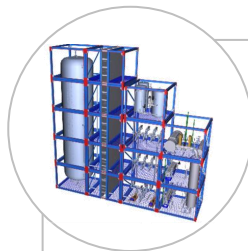


Our unique approach to a plant product



Proven Technology

- 3-loop Pressurized Water Reactor
- Standard fuel
- Seismic isolation
- Commercial Off The Shelf (COTS) items
- Conventional Steam-Turbine Generator



Innovative Delivery

- Complete power plant assembly
- Standardised frames and modules
 - preassembled in controlled factory environment
 - sized for simplified logistics flow
 - "plug-and-play" interfaces
- Weather-protected site factory
- No large cranes, less than 500 people on site

Based in a digital strategy to create value throughout the plant lifecycle

Small

- Is about maximising the power against the physical constraints applied to the design – optimising techno-economics

$$LCOE = \frac{(Capex + Opex + Decom + Fuel + Financing)}{Power\ Generation \times Capacity\ Factor}$$

- Small footprint and reduced site construction activity



Modular

- Standardisation, factory repeatability in a production line approach.
- Whole power station modularisation, maximising off-site factory production and delivering standard transportable modules
- Modules tested in factories to reduce site activity
- Move volume of activity off site and into factories



Reactor Power Plant

- Reactor plant is only ~20-30% of the power station by capital value
- Must look at modularisation and standardisation of the whole power station including civil construction
- Otherwise, we are not addressing the challenges of Repeatability, Buildability and Deliverability



RR SMR Delivery philosophy drives for risk reduction

Integrated 'whole power plant' standardised design



Full modularisation and factory build



Entire plant optimised for economics

$$\text{LCOE} = \frac{(\text{Capex} + \text{Opex} + \text{Decom} + \text{Fuel} + \text{Financing})}{\text{Power Generation} \times \text{Capacity Factor}}$$

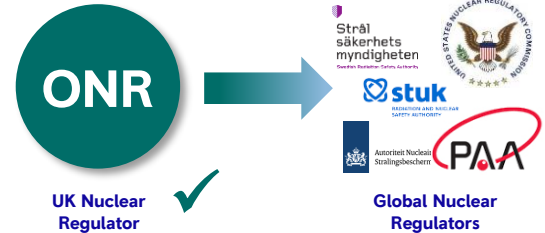
Single contract delivery

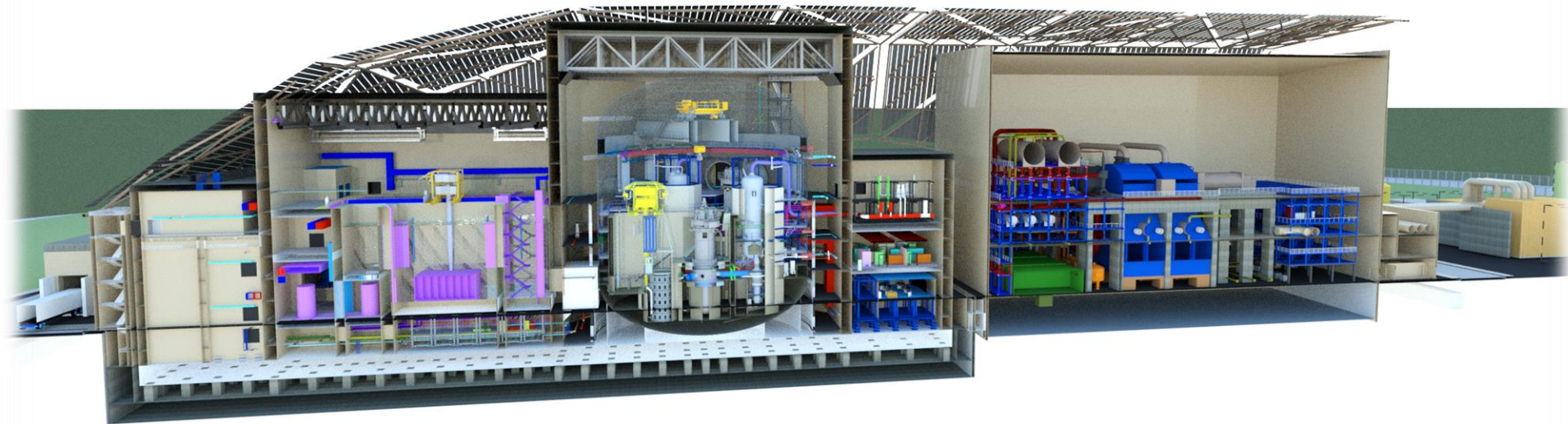


Our owners – with world-class nuclear capability

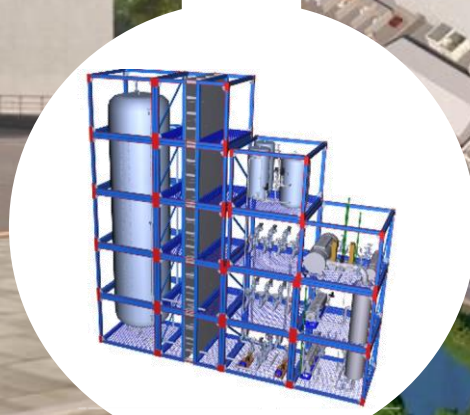


Furthest progressed SMR through EU nuclear licensing



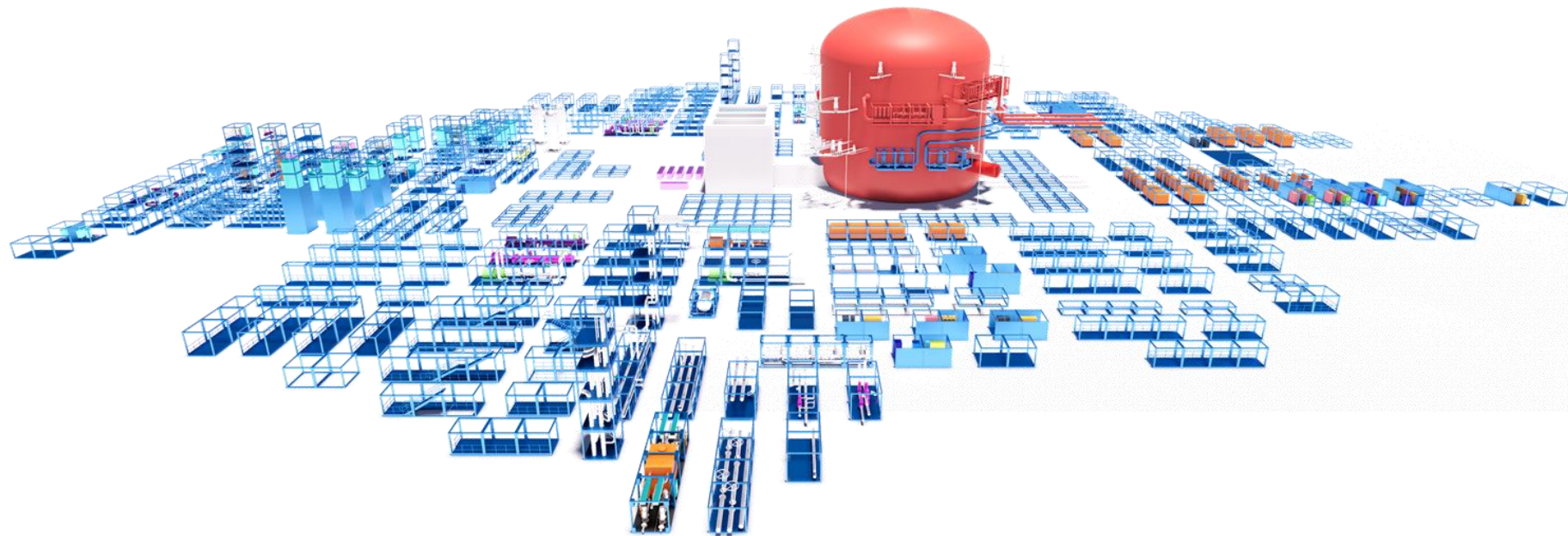


Hundreds of factory-manufactured modules will be transported to the site and assembled under the weather-protected site factory – like lego bricks



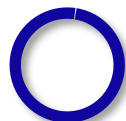
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70% product – 30% project



SMR Decarbonisation Potential

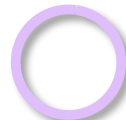
Secure, dependable power
at the heart of the energy
transition



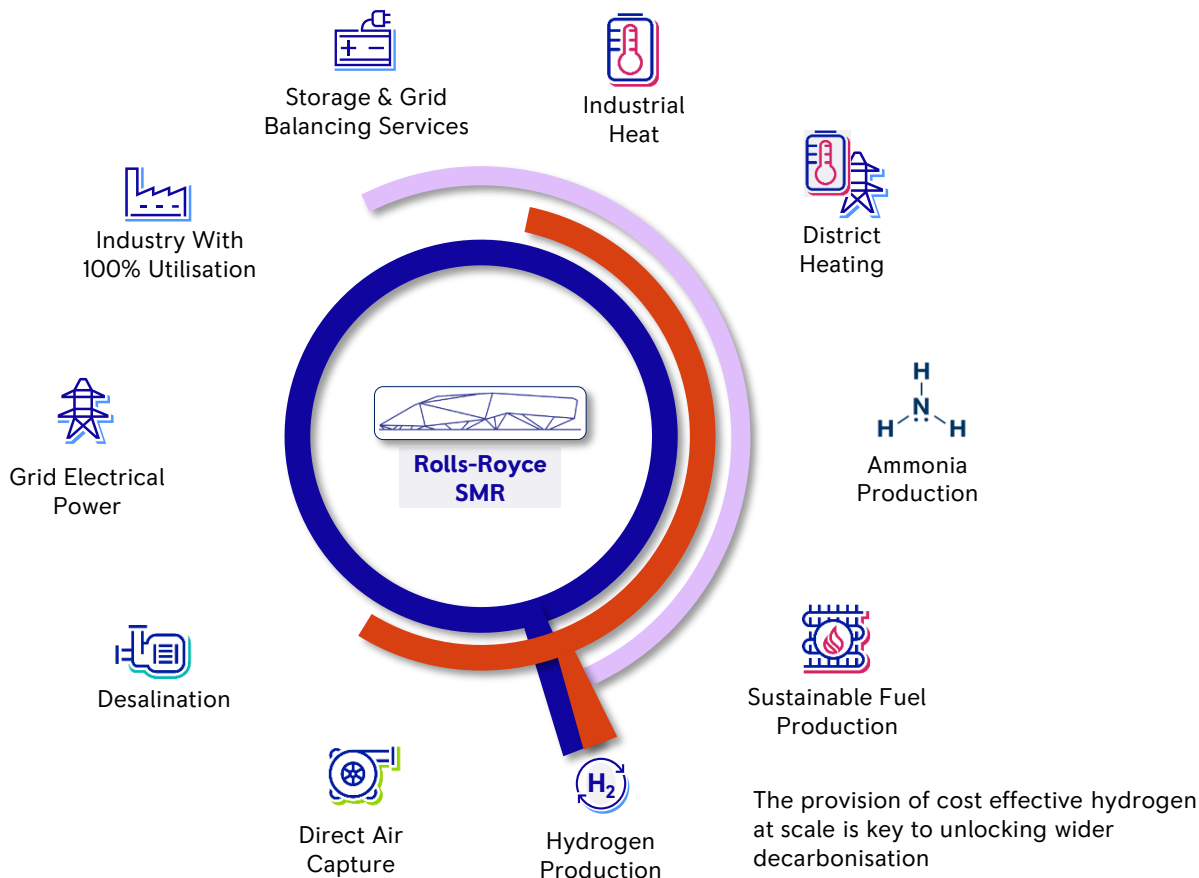
**Electrical
Power**



**Thermal
Power**



Hydrogen





SMR

Latest news





SMR

Rolls-Royce SMR has been singularly selected as the preferred bidder in the multi-year SMR competition in the UK

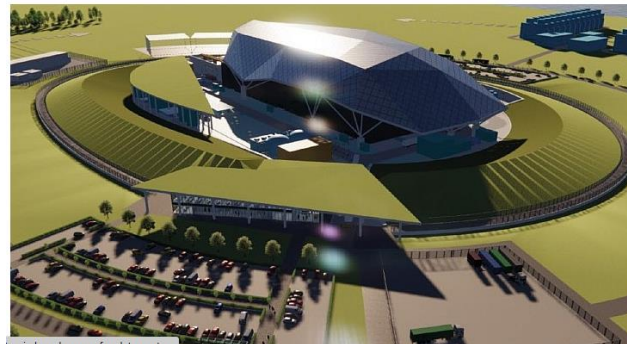


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Rolls-Royce SMR named as UK's selected technology

Tuesday, 10 June 2025

Following a two-year competition, Rolls-Royce SMR has been selected as the preferred bidder to construct the UK's first small modular reactors.

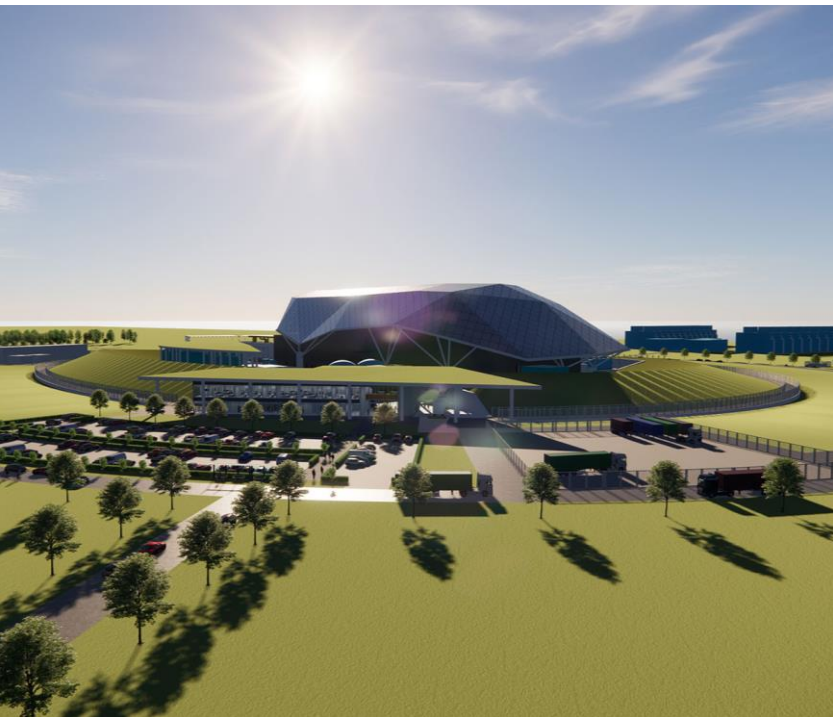


- Great British nuclear announced on June 10th that Rolls-Royce SMR has been selected as the preferred partner to develop SMRs
- Contract signing during 2025
- Site allocation in 2025
- Final Investment Decision expected in 2029



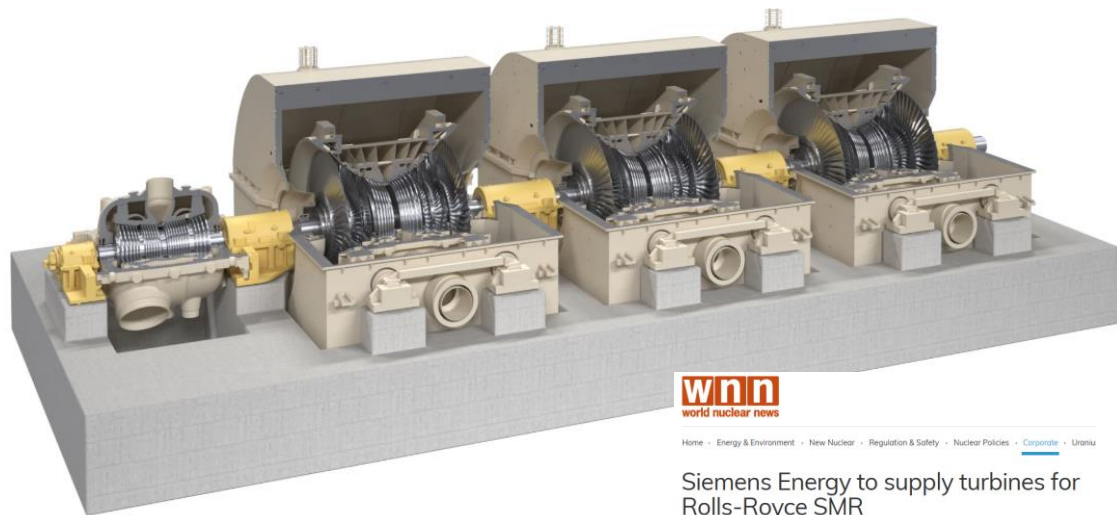
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Rolls-Royce SMR – ČEZ Partnership official



- **ČEZ selected Rolls-Royce SMR** as its preferred SMR technology, placing us ahead of 6 other vendors and designs
 - First SMR units to be deployed at Temelin for a COD in the mid-2030s
- **Fleet commitment to 3GW of Rolls-Royce SMRs**
 - Six units to be deployed across the Czech Republic
- **ČEZ has made a significant equity investment into Rolls-Royce SMR**
 - CEZ has taken a 20% stake in our business
 - We will benefit from its significant capability & capacity in nuclear design & deployment
 - CEZ officially became a RR SMR shareholder on March 4th
- **We have greater access to an experienced supply chain**
 - With ČEZ's ownership of ŠKODA JS, we can incorporate Czech engineering and manufacturing expertise into a broader European nuclear supply chain, reinforcing Rolls-Royce SMR's Supply Chain stability
- **Enhanced European SMR Collaboration**
 - A coordinated licensing approach between the UK, Czech Republic, and the Nordics enables us to streamline licensing
- **Standardised SMR Fleet for Operational Excellence:**
 - A shared commitment to building a standardised SMR fleet across Europe enhances safety, long term operational support and efficiency - reinforcing our collective leadership in nuclear innovation

- Siemens Energy has been selected as the turbine plant partner for Rolls-Royce SMR
- Turbogenerator & BoP
- Exclusive agreement
- Deployment to entire fleet with standard SST-8000 series design
- Choice of 2LP & 3LP versions depending on site
- Suitable for both direct and indirect cooling
- Hydrogen cooling for generator rotor
- Steam off-take possibility



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Siemens Energy to supply turbines for Rolls-Royce SMR

Friday, 28 February 2025

Rolls-Royce SMR of the UK has selected Germany-based energy technology company Siemens Energy as its global turbine systems partner for its small modular reactor. The final contract, detailing all specifics, is expected to be completed by the end of 2025.



- Rolls-Royce SMR has entered into a partnership with UK-based nuclear business Curtiss-Wright
- Delivery of critical safety systems (I&C)
- Curtiss-Wright provides non-programmable diverse reactor protection systems for the entire RR SMR fleet



Our Procurement and Supply Chain team has developed a global and resilient supply chain, going beyond the traditional nuclear supply chain

**80%
Coverage of
plant by
product**

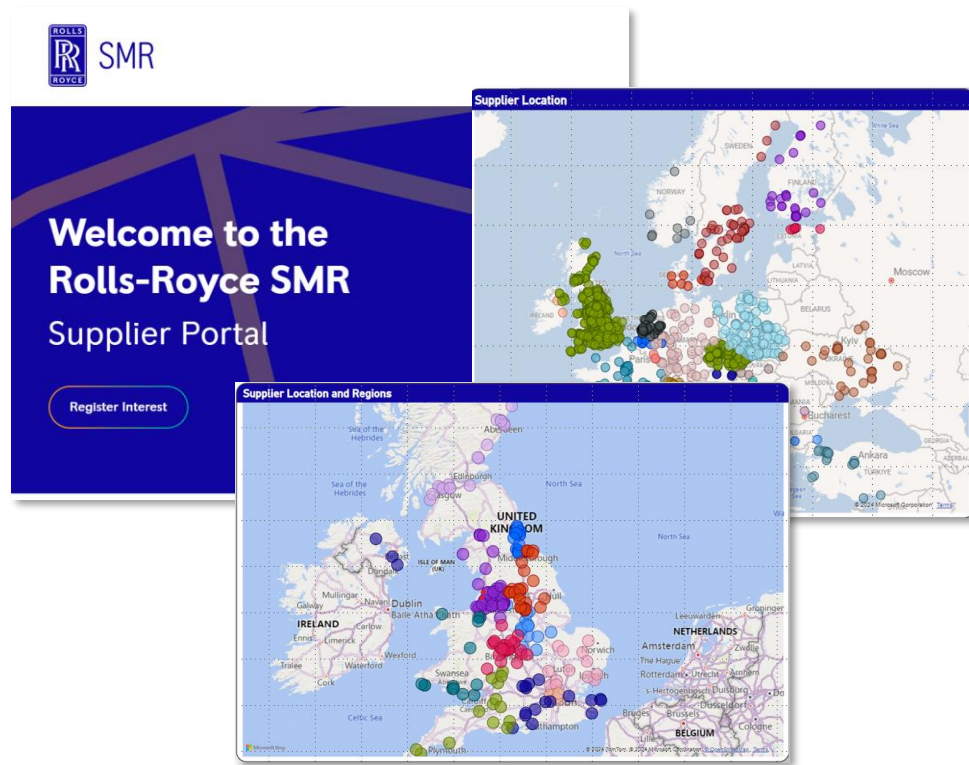
**8,800
Suppliers
evaluated**

**2,500
Suppliers
registered
on portal**

**80%+
Coverage
value by
spend**

**2nd
Supplier
Conference
Held**

**800+
Suppliers
under NDA**





Standardoitua, sarjavalmisteista ydinvoimaa kokonaistoimituksena.
Asiakkaamme haluavat välttää projektikohtaista räätälöintiä