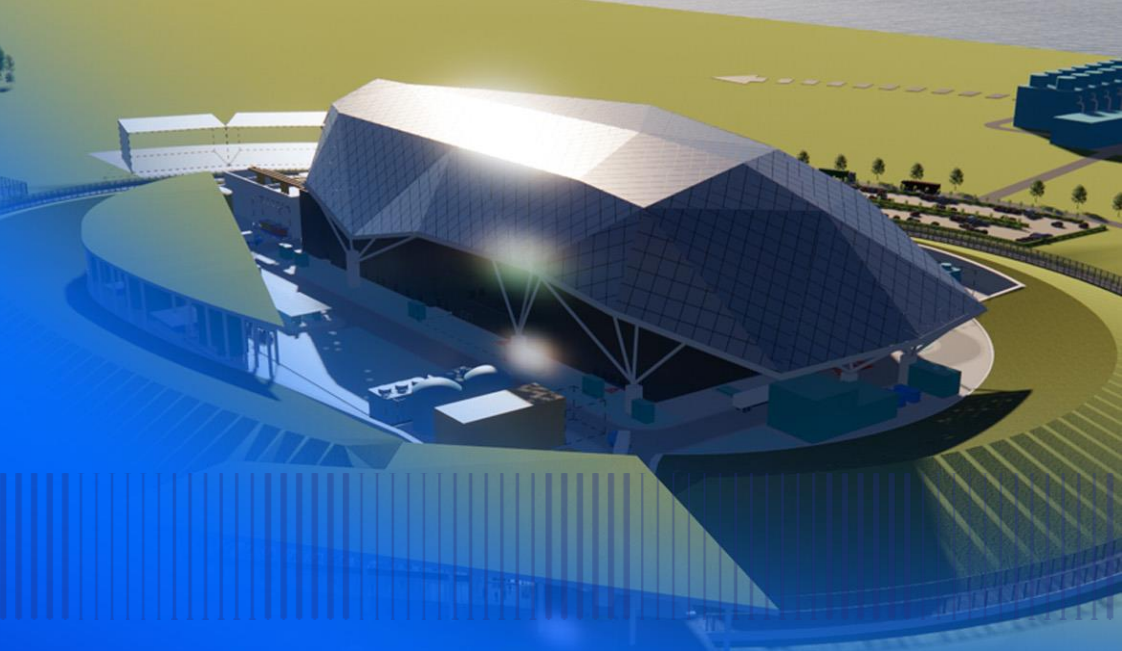
SMR



ROLLS-ROYCE SMR SUPPLIER CONFERENCE 2024

Clean, affordable energy for all.

ROLLS ROYCE SMR

WELCOME

ROLLS ROYCE SMR

THE ROLLS-ROYCE SMR TEAM

Alastair Evans

Corporate and Government Affairs Director

Peter Morton

Chief Financial Officer

Victoria Scott

Chief Manufacturing Engineer

Alan Pardoe

Manufacturing Capability Delivery Manager

Richard Everett

Group Head of Supply Chain

Vicki Green

Head of Procurement Supply Chain Operations

Deborah Lowe

Head of Commercial Supply Chain

SMR

ROLLS-ROYCE SMR BUSINESS BRIEFING

Alastair Evans and Peter Morton

Rolls-Royce SMR Ltd Shareholders

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 £495m through commercial equity and UK Government grant funding

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

Department for Energy Security & Net Zero

UK Research and Innovation

UK Department of Energy Security and Net Zero
Rolls-Royce SMR Ltd received the Low-cost nuclear (LCN) grant award by UK Research and Investment (UKRI)

ROLLS ROYCE SMR

What the Rolls-Royce SMR approach delivers

A LOW-COST SOLUTION

Repeatable cost, driven by factory manufactured product

Clean, reliable electricity at scale, at a price competitive with intermittent renewables

DELIVERABLE PLANT

Rapid deployment – four years (nth of a kind) on-site construction time

Low risk, single entity delivery model under an EMA contract

Minimised site disruption during construction (average of 500 people on site removes requirement for extensive worker infrastructure)

GLOBAL PRODUCT

Highly scalable through innovative production methodology

Can fit within existing infrastructure (grid, transport)

Compact footprint increases site flexibility and maximises potential plant locations (including replacement for existing coal or gas-fired plants)

Indirect cooling option increases siting flexibility

Sustainable, long-term job creation, in factories and supply chain, avoiding the boom and bust cycle associated with large one-off infrastructure projects

Multi-use electricity and/or heat output adaptable to on and off-grid applications

INVESTABLE PROPOSITION

Lower capital cost, risk and build time enables investment by commercial entities on a standard debt and equity basis

Repeatable, low-cost, factory product rather than large one-off infrastructure project

Low completion risk given standardised manufactured nature of the product and repeatable turnkey solution

Supply chain partnerships

Seeking world class organisations to create enduring, non-transactional, win-win relationships

Product and enterprise focused (rather than project)

Partners can participate in a combination of design, manufacture and deployment

Current stage 1 strategic partners

Partnership relationship types	
Equity Partner	Equity owning in RR SMR. Could be combined and a hybrid with below
Incorporated Joint Venture Company	New discrete legal entity, shareholdings can be equal or major/minor.
Alliance Partnering (Delivery)	Multi-Party sharing risks and rewards
Risk and Revenue / Reward Sharing Partner	Sharing risk and reward/revenue between RR SMR and Partner

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SMR is about doing things differently, not replicating large plants on a smaller scale

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

- Rolls-Royce SMR provides the wholepower 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

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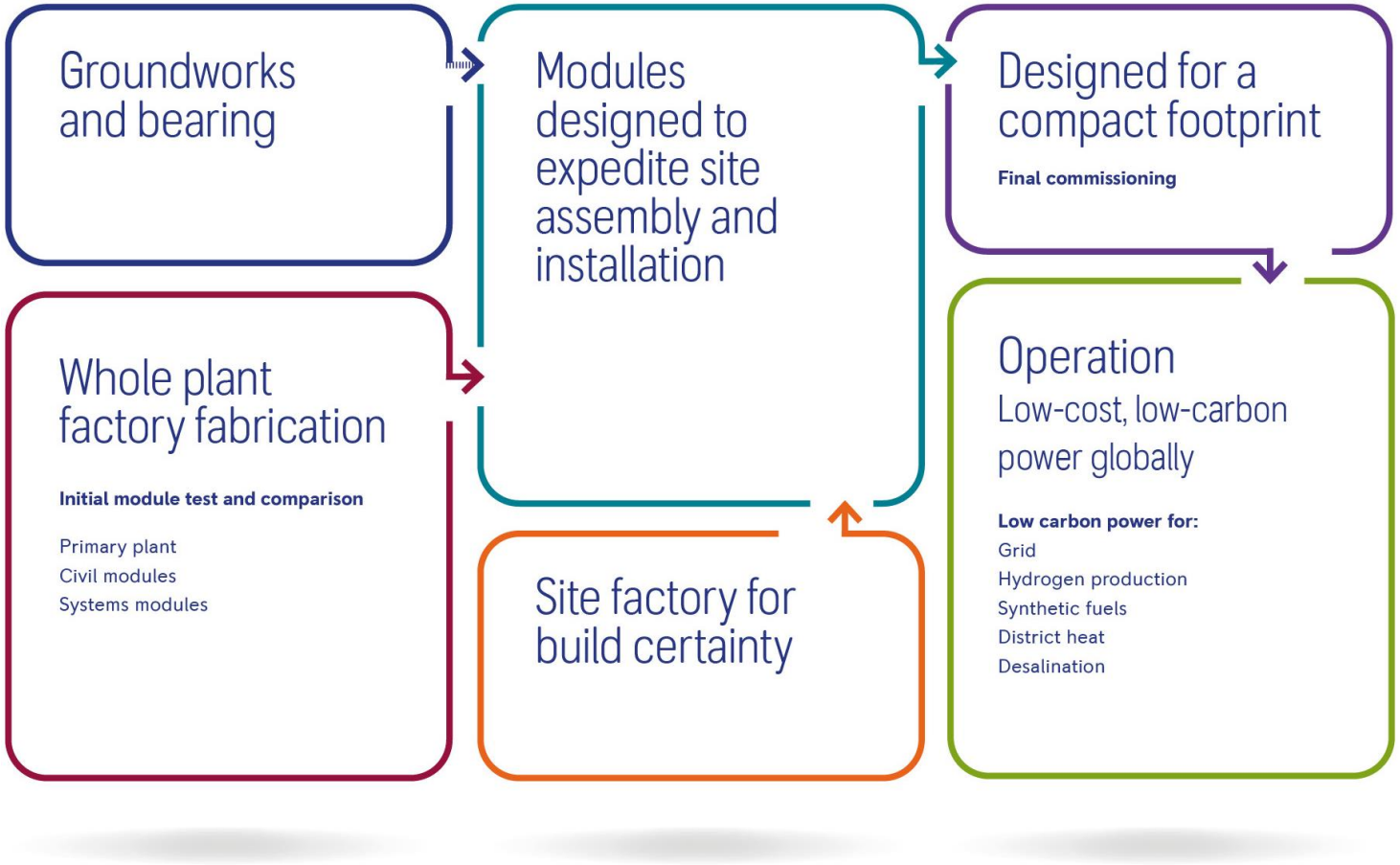
Programme and Commercial Simplification

Reducing risk using a commoditised factory-build product approach



Risk reduction elements

- Standardised - 90% of module fabrication and assembly done in factory conditions
- Managed - full turnkey solution to the market
- Efficient – 4-5 years from construction start to operation
- Accessible - road transportable modules
- Safe - Aseismic isolation

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What needs to happen to secure this opportunity?

Turbine Island
Turbine Hall

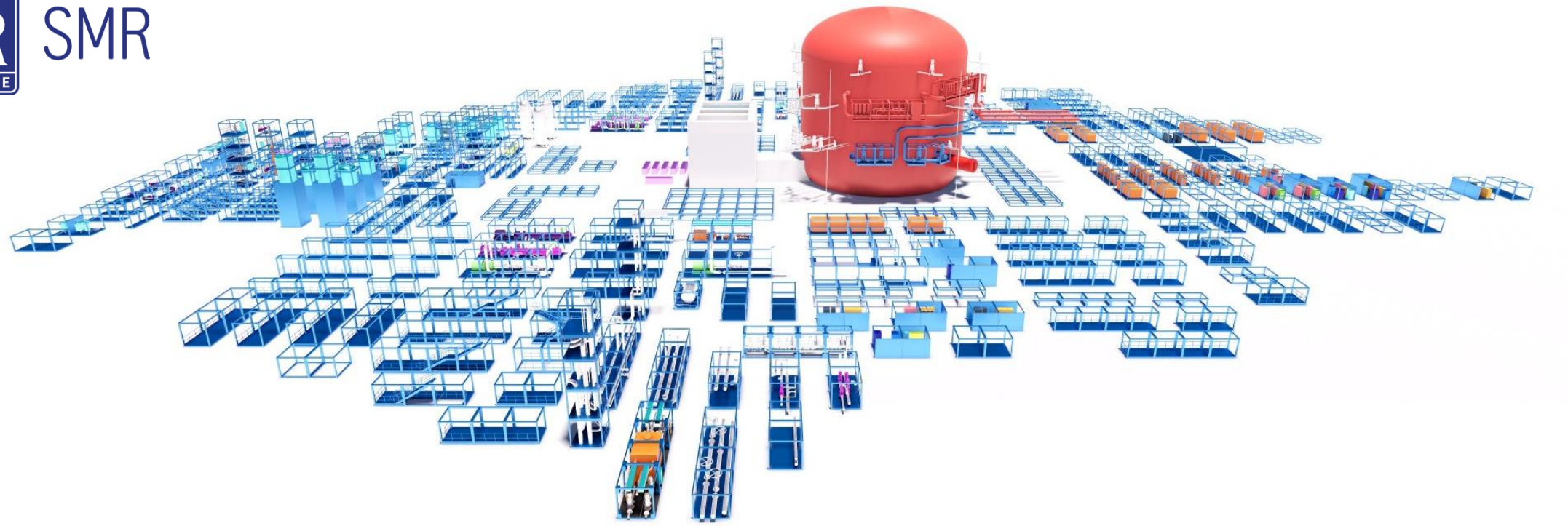
Reactor Island
Containment

SMR

PROCUREMENT PROGRAMME

Richard Everett and Vicki Green

ROLLS ROYCE SMR



Our procurement programme

01. Why Rolls-Royce SMR is different from a supply chain perspective

02. Our strategy

03. How do we identify suppliers?

ROLLS ROYCE SMR

Different.
Designed for delivery.

We're not developing new technology; we are bringing our technology to market in a radically different way...

01. Using currently available solutions

02. Adapting existing opportunities

03. A **PRODUCT** not a **PROJECT**

ROLLS ROYCE SMR

Different.
Designed for delivery.

01. What's the difference between a 'nuclear' and a 'non-nuclear' supplier?

02. How do you make the step from being a 'non-nuclear' to becoming a 'nuclear' supplier?

03. Do you need to make that leap?

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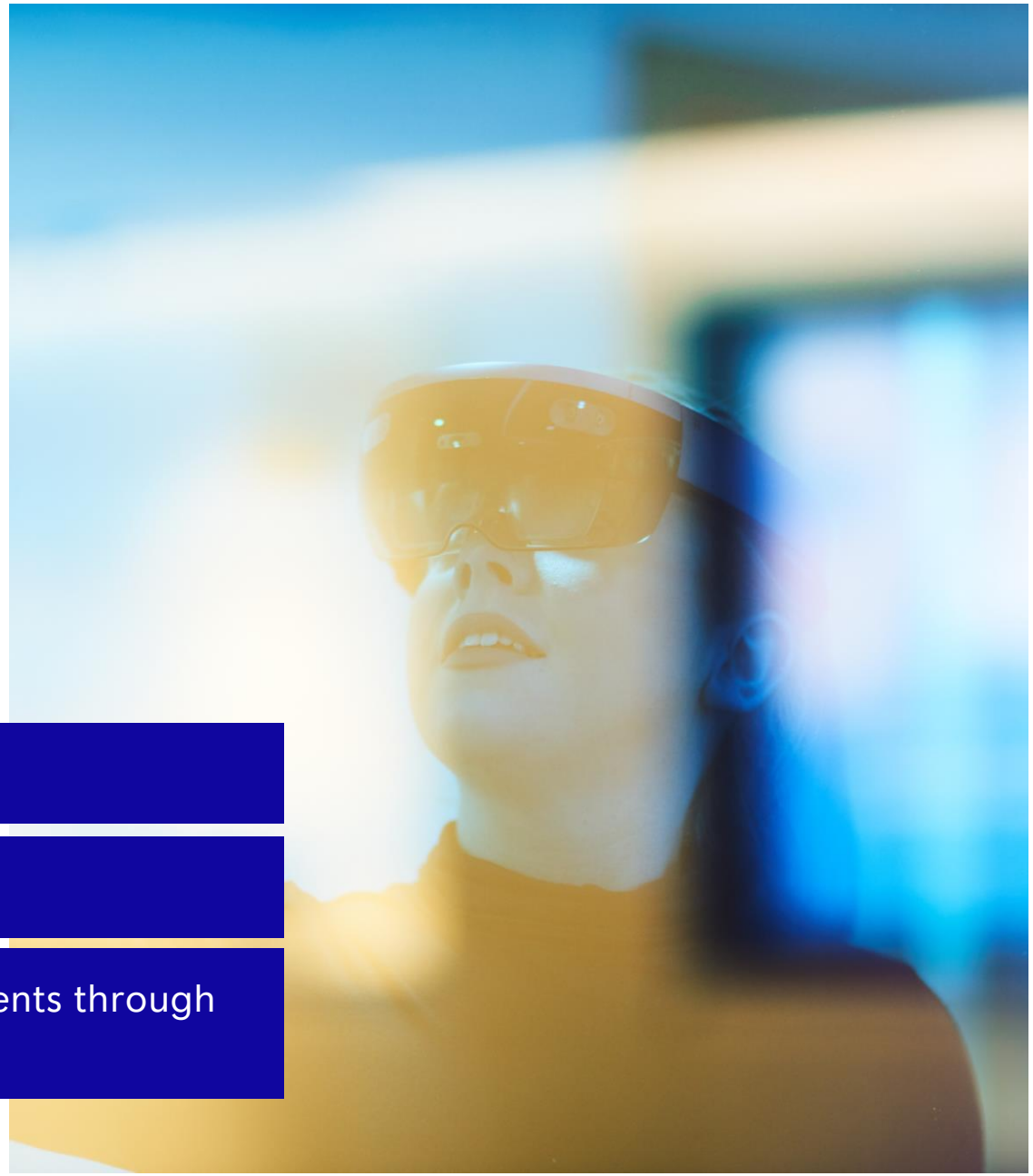
International supply chain



01. Supply Chain design (international and local needs)

02. Supply Chain Capability (assessments and analysis)

03. Optimise our supply chain to support global requirements through use of digital platforms and live data sharing

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The supply chain in numbers

Commodity	Qty per plant
Heavy Pressure Vessels	8
Tanks	29
Heat Exchangers	51
Casks	80
Control Rod Drive Mechs	89
Fuel Assemblies	122
Valves	11,200+
Pumps	42+
Pipework	155Km
Diesel Generators	6
Cooling Towers	58
Chillers	130
MEP modules	700+
Civils Modules	600+
Reinforced Concrete	150,000m3

Commodity	Qty per plant
Reinforcement	35,000t
Site factory	320x133m
Steel	15000t
Batteries	14 systems
Transformers HV & LV	40
Switchgear (HV & LV)	67
230V AC MCBs/Switchboards	9 (min)
220V AC MCBs/Switchboards	34
48V AC MCBs/Switchboards	22
Turbine train	424 tonnes
Moisture separator reheater	235 tonnes
Feedwater tank	174 tonnes

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Social value

We are committed to supporting the delivery of our social value objectives through an engaged and diverse supply chain.

01. Commitment to building a thriving domestic supply chain

02. Maximising diversity

03. Digital platforms

Supply chain engagement

01. Supply Chain Portal

02. Bi-annual supplier conferences

03. Online and face to face ‘meet the buyer’ events

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FACTORY SOLUTION

Victoria Scott and Alan Pardoe

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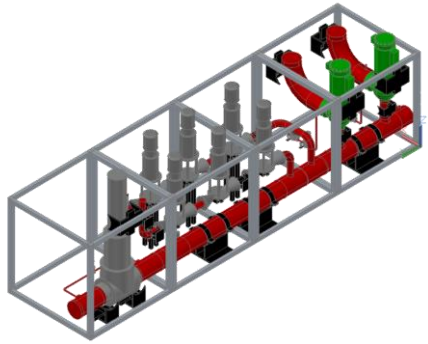
Factory product advantage



Modules Factory

Site Factory

01. A factory-assembled product to reduce programme risk and delivery lead time

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Manufacturing engineering for SMRs

- Drive Design for Manufacture (**DfM**) activities across module definition to ensure **standardisation** of design, and optimisation for assembly and test.
- Develop **automated**, **standard processes**
- Deliver **build certainty** through a reduction of onsite assembly and test activities

01. Standardisation

02. Automation

03. Build certainty

Timely engagement with the supply chain is critical

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Benefits of a factory environment

01. Zero welds outside factory conditions

02. Automated and digital manufacturing techniques

03. Direct read-across of process qualifications from module factory to site factory

04. Factory assembled modules are produced, tested and batched ahead of installation

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Digital manufacturing

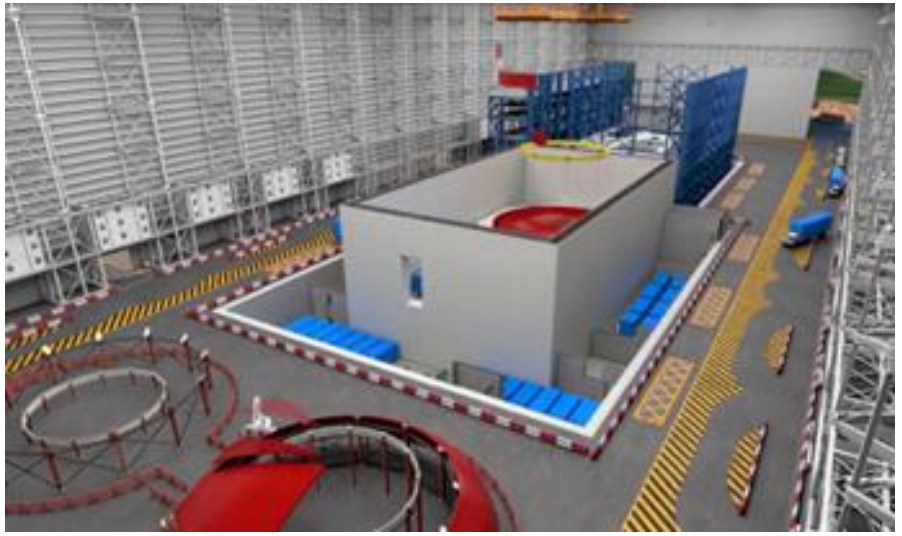
01. Create virtual factories

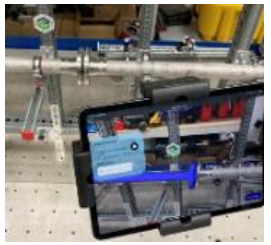
02. Validate virtual models

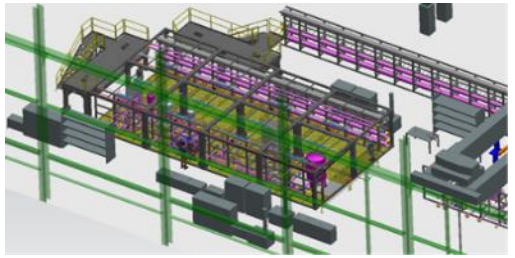
03. Simulation of people, process and product

04. Model based enterprise

05. Delivery of technical instructions and capture of as-built data







Virtual Factories
Use detailed simulations to accurately model flow and scenarios through factories.

SMaRt Factories
Use proven infrastructure and hardware connecting the workforce to the operations, and equipment to the facility.

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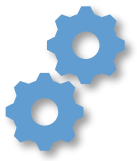
Manufacturing engineering within external supply chain



Manufacturing Capability Assessment

Review of a supplier's capability to understand where they excel and where there are development needs.

Design for X

Working with the supplier and the design organisation to ensure that the product we are asking to be manufactured can be done at the required quality, cost and rate.

Capability development

Working with a supplier to develop capability and close gaps to enable product and processes to be delivered to the required standard.

Production support

Moving into delivery phase, manufacturing engineering will support and manage the continuous improvement, management of non-conformance and provide technical oversight to achieve regulatory compliance.

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A SUPPLIER PERSPECTIVE

BAM NUTTAL

ROLLS ROYCE SMR

Key Rolls-Royce SMR principles

01. We need certainty
02. Collaboration
03. Be bold
04. Bring innovation
05. Think differently…don't be comfortable
06. Challenge
07. We expect excellence
08. We need the best people

History

BAM Commence working with Rolls-Royce SMR prior to Phase 1

Phase 1 Works (UKRI)

- BAM investment

Phase 2 Works SMR (Supplier)

- WP9 – Civil (Site Factory)
- WP14 – Site layout
- WP3 – Build certainty

BAM Investment

- Site Factory design
- Patent applications

BAM contracts

Secondee Agreements

Key staff have been seconded into Rolls-Royce SMR to manage and deliver key elements of work

Managed Service Agreement (MSA)

Key tasks have a defined scope of work, that are delivered under lump sum agreements

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Key behaviour requirements

Collaboration is key

01. The delivery programme will require all teams to work extremely collaboratively

02. The civil , MEP & commissioning will all be concurrent

03. The programme delivery requirements will be prescriptive

04. We must be flexible

05. We must be well informed to ensure we understand the impact of our requirements.

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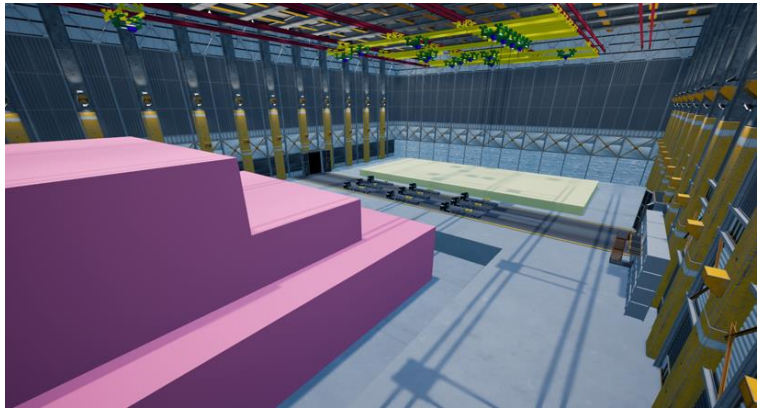
BAM innovation



Collaboration is key

01. BAM site factory
02. Integrated accommodation
03. Rules base algorithms for programme delivery
04. System engineering delivery approach

Key approach

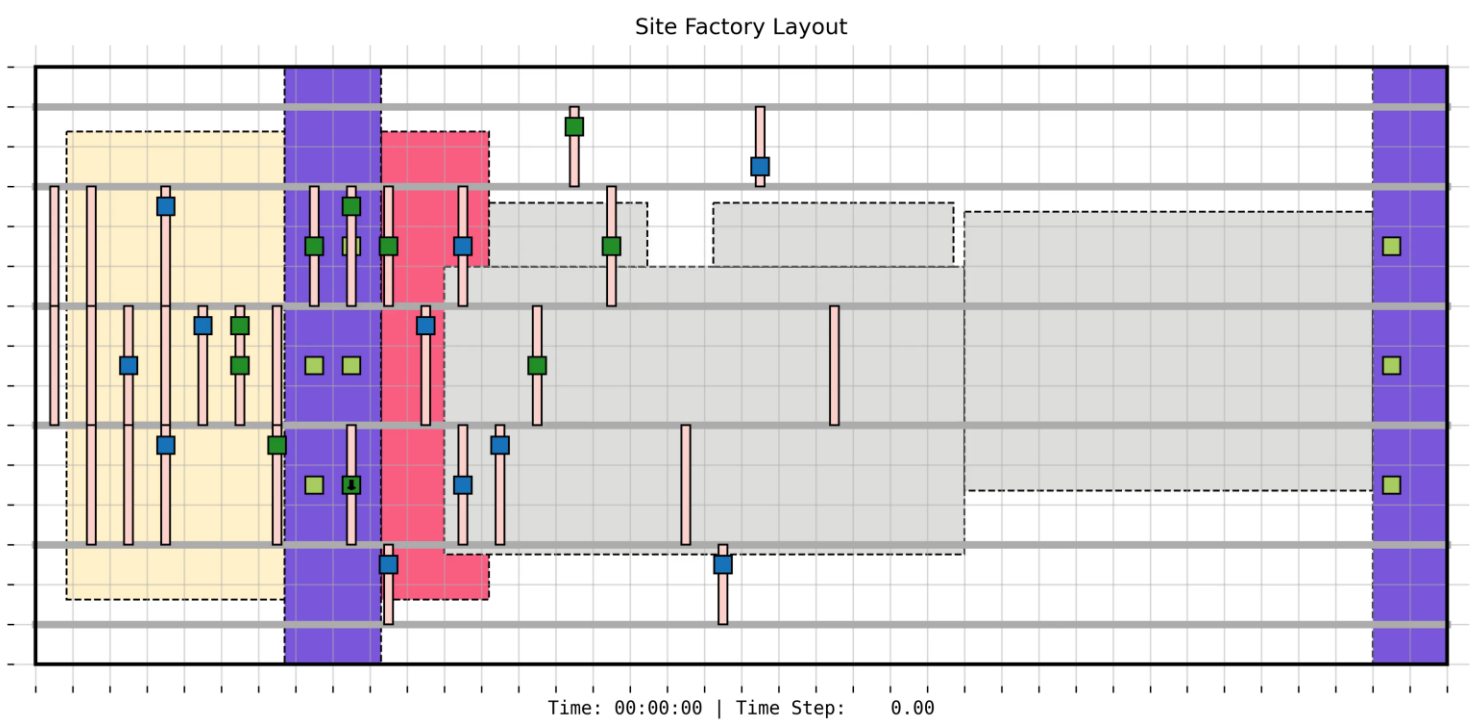
01. Delivery of infrastructure in a manufacturing environment
02. Cost and programme reduction
03. Certainty

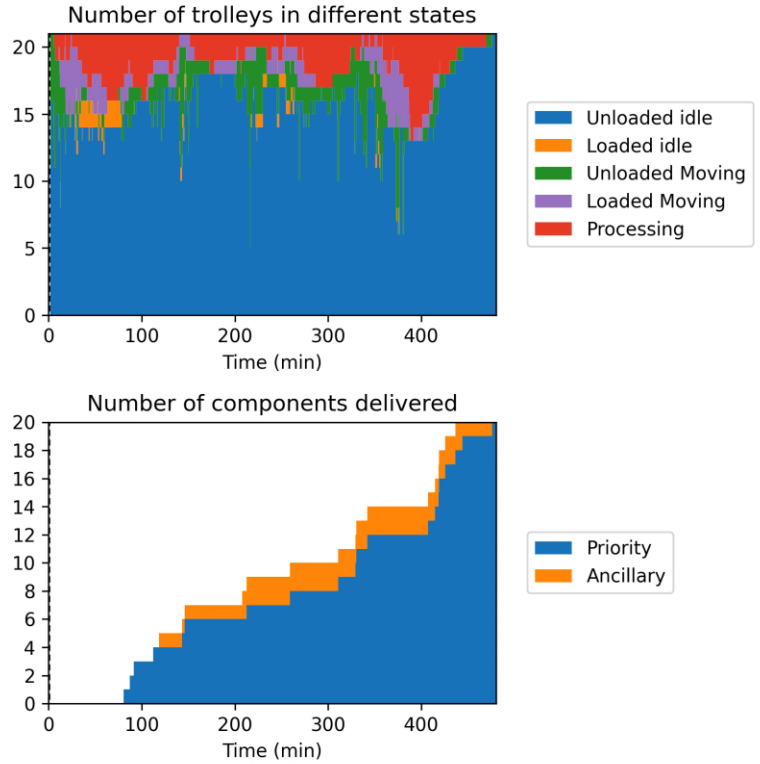
ROLLS ROYCE SMR

Intellectual property – full granted patents

(AL) Albania
(AT) Austria *
(BE) Belgium *
(BG) Bulgaria *
(CH/LI) Switzerland/Liechtenstein
(CY) Cyprus
(CZ) Czech Republic
(DE) Germany *
(DK) Denmark *
(EE) Estonia *
(ES) Spain
(FI) Finland *
(FR) France *
(GB) United Kingdom
(GR) Greece
(HR) Croatia
(HU) Hungary
(IE) Ireland
(IS) Iceland
(IT) Italy *
(LT) Lithuania *
(LU) Luxembourg *
(LV) Latvia *
(MC) Monaco
(MK) Macedonia
(MT) Malta *
(NL) The Netherlands *
(NO) Norway
(PL) Poland
(JP) Japan
(SA) South Africa
(MX) Mexico
(PT) Portugal *
(RO) Romania
(RS) Serbia
(SE) Sweden *
(SI) Slovenia *
(SK) Slovakia
(SM) San Marino
(TR) Turkey

Rules based algorithm planning





Rolls-Royce®