

MANAGING DATA, MANAGING WITH DATA,  
AND IMPROVING WITH DATA

# CONFIGURATION AND DATA MANAGEMENT EXPERTS

Helping our clients succeed by enabling faster, more efficient,  
and less risky product development and lifecycle management.



ALTEN

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AN ALTEN COMPANY

## MARKET CHALLENGES

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**The nuclear industry faces unique challenges with stringent safety and regulatory requirements, lengthy asset lifecycles, and high capital costs. Organisations must maintain compliance with IAEA / ONR regulations while managing complex plant configurations and planning for future builds, including new Small Modular Reactors (SMRs).**

Alongside new projects, operators are extending the life of existing plants beyond original design limits and preparing for eventual decommissioning. These activities demand rigorous control of design change and traceability across decades of operation, often involving legacy systems and paper records.

At the same time, the sector is under pressure to deliver innovation, efficiency, and energy security. Modernisation and digital transformation are critical to ensure digital continuity, lifecycle traceability, predictive maintenance, and cybersecurity. Supply chain complexity, unclear ownership, and inconsistent data standards add risk which is further compounded by the loss of institutional knowledge as experienced engineers retire and skills shortages in configuration management leave engineering teams struggling under a growing data burden.

As a recent government review highlighted, the UK has become the “most expensive place in the world to build nuclear power plants”, citing “overly complex” bureaucracy as a key factor. Streamlining process and improving configuration control is essential to ensure safety whilst addressing inefficiencies.

## OUR KEY CLIENTS

### ENERGY

EDF EPR-E  
ROLLS-ROYCE SMR

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### AUTOMOTIVE

FORD  
JLR

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### CIVIL AEROSPACE

ROLLS-ROYCE  
SAFRAN

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### DEFENCE

THALES  
DAMEN NAVAL

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## OUR RESOURCES

### 390+

permanent configuration  
and product data management specialists

### 5M+

hours of support delivered

## EXPERTISE HUBS

in the UK, USA, and Australia

### 15

**specialists**

in our dedicated energy practice

## OUR VALUE PROPOSITION & OFFERING

### HANDS-ON EXPERTISE FROM SOCIABLE DATA SPECIALISTS

We are a specialist consultancy offering Configuration Management, Product Data Management and data-led PMO. Our model combines hands-on delivery, embedded experts, and tailored consulting to accelerate delivery and reducing risk in complex product development and lifecycle management programmes. Our people uniquely blend collaboration and influencing skills with a data-driven problem-solving mindset. We help clients connect silos, unlock efficiency, build digital continuity, and reduce the data burden on engineers.

### BENEFITS

- **Get engineers back to engineering**  
Build capacity by alleviating the data burden on engineers, enabling them to focus on engineering.
- **Connect silos and work efficiently**  
Streamline collaboration across the organisation and supply chain. Ensuring the right people have access to the right data at the right time.
- **Lay foundations for digital continuity**  
Digital transformation and end-to-end traceability require a holistic approach to people, processes, data, and systems.
- **Mitigate risk and ensure delivery**  
Reduce program risk through visibility, control, and traceability ensuring you deliver on schedule and within budget.

## OUR EXPERTISE

### CONNECTING DATA, PROCESS, AND PEOPLE FOR NUCLEAR SUCCESS

- **Master Product Data** – Strategy, BoM management, and engineering change
- **Production Readiness** – Supply chain, build support, and verification planning
- **Through-Life Support** – Asset management, configuration control and digital continuity
- **Operational Performance Improvement** – Metrics, efficiency, and data governance
- **Enterprise Lifecycle Transformation** – Diagnostics, business process, and digital enablement



# OUR APPROACH

## GOVERNANCE AND DATA INTEGRITY THROUGHOUT THE LIFECYCLE

### 1. Configuration Planning

Support planning activities to ensure that a products configuration can be robustly managed throughout its lifecycle.

- Define and document the tools and processes
- Facilitate system selection and implementation
- Create documentation and train users

### 2. Configuration Identification

Facilitate traceable product development creating product hierarchies and baselines. Support engineers to identify configuration items, flow down requirements and link documents.

- Define the product breakdown structure
- Identify and document configuration items
- Link configuration items to configuration documentation

### 3. Configuration Change Control

Ensure impact analysis and data quality is of a high standard so that change control boards have the information needed to make prompt decisions.

- Coordinate change impact analysis
- Record change control board decisions
- Ensure changes are implemented and verified

### 4. Configuration Status Accounting

Connect silos to guarantee, visibility and accountability for all product data, changes and decisions building a traceable digital thread.

- Maintain a record of all config items and changes
- Maintain functional, allocated and product baselines
- Generate regular status reports

### 5. Configuration Audit

Coordinate audit of configuration data ensuring conformance. Continuously improve to eliminate process disconnects and reduce corrective action.

- Prepare for functional and physical audits
- Identify corrective actions
- Drive continuous improvement

### 6. Through-Life Support

Provide ongoing CM expertise to maintain data accuracy and compliance as products evolve. Enable confident decision-making for sustainment, upgrades, and eventual disposal.

- Maintain configuration integrity throughout the product lifecycle
- Manage obsolescence and sustainment activities
- Support upgrades, modifications, and end-of-life decisions

## QUOTES FROM OUR EXPERTS

“Configuration Control is not about constraint, it’s about creating the clarity and confidence to move faster, with less risk, and even unlock valuable opportunities.”



**Rob Ferrone,**

Founder and Managing Director,  
Quick Release

“Change is inevitable, control is optional. Robust CM and great data quality are the backbone of scalable efficient product development and consistent performance across the product lifecycle.”



**Matthew Tickner,**

Configuration Management  
Specialist, Quick Release

# OUR CLIENTS SUCCESS STORIES

## DRIVING EFFICIENCY AND REDUCING RISK ACROSS NUCLEAR PROGRAMS

### BUILDING A SCALABLE DATA GOVERNANCE FRAMEWORK – ROLLS-ROYCE SMR

**QR implemented a Reference Data Library (RDL) aligned with CFIHOS standards to provide a single source of truth across engineering tools; strengthening attribute governance, creating clear and authoritative data standards, and automating validation for compliance readiness.**

#### Key Results:

- Formal change governance implemented to onboard new domains and expand scope.
- Automated live conformance metrics identified 200,000+ validation errors for leadership visibility.
- 100,000+ errors have been resolved to date.
- 43% parts progressed to Make/Buy decision.

### CHANGE MANAGEMENT PROCESS IMPROVEMENTS – ROLLS-ROYCE SMR

**QR strengthened the Engineering Change Management process within the PLM system by introducing a simplified, standardized framework tailored for the nuclear environment. This ensured rigorous control over baselined designs and Environment, Safety, Security, and Safeguards (E3S) cases while improving usability and stakeholder engagement.**

#### Key Figures:

- 8-step lifecycle established for end-to-end change control
- Impact scoring system implemented for technical and program impacts (cost, schedule, risk, scope)
- Formal governance with multi-disciplinary approval panels including Radiation Protection, E3S, Manufacturing, and Regulators
- Logical data architecture defined to manage complex change relationships and prevent conflicting revisions
- Simplified guidance and provided at-shoulder change management support to overcome historic engagement issues and improve user adoption

### TERMINOLOGY GLOSSARY AND AI DRIVEN STANDARDISATION – ROLLS-ROYCE SMR

**QR eliminated ambiguity and improved communication by creating a standardized glossary of acronyms and technical terms. Using AI-driven automation, the team aligned terminology with the Reference Data Library (RDL) and Enterprise Model, ensuring a single source of truth across the program.**

#### Key Figures:

- 1,800+ terms, acronyms, and abbreviations categorized
- AI-driven automation accelerated glossary generation and category alignment
- All definitions aligned with RDL and Enterprise Model for consistency
- Delivered a centralized, authoritative glossary for cross-team communication

### STATUS ACCOUNTING METRICS – ROLLS-ROYCE SMR

**QR introduced a metrics framework for live visibility of data health and process performance. Automated Power BI dashboards with tailored views aligned to stakeholder needs enabled proactive error reduction and compliance with industry standards.**

#### Key Results:

- Top-3 most used dashboard in the business with 2,500+ views, ~200 unique users, and 50–200 views per day.
- 100+ automated data validation checks enabled targeted audits, materially improving data quality.
- A single, governed source of truth, significantly improving trust and organisational alignment.
- Component requirement release rate increased from ~20 per month to ~1,000 per month by highlighting delays and gaps in detailed design maturity.
- Enabled a preliminary EBOM representation despite system limitations by integrating master data across departments, driving further demand for new analytical views.

### DESIGN CHANGE BACKLOG MANAGEMENT AND REPORTING – EDF EPR-E

**QR accelerated the throughput of design changes by introducing data-led project management processes and right-view reporting tools, while delivering significant cost savings through automation. The team focused on improving data health in the design change database and introducing dashboards to improve visibility, reduce lead times, and streamline the approvals process.**

#### Key Results:

- 91.5% Reduction in backlog of design changes, from 60 to 5
- Average lead time reduced by 58% from 1,550 days to 659 days
- £175k/year saved through automation (109 hours/week)
- Change implementation timing visibility data quality improved from 77% to 99.9%
- Dashboard provides live visibility over 37,000+ open actions where previous reporting required 45 mins of manual effort

**TO LEARN MORE ABOUT**  
OUR VISION, COMMITMENT, OFFERS  
**VISIT OUR WEBSITE**

**alten.com**



**CONTACT OUR EXPERTS**  
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