

BizTalks · Utilities (Gas & Power) · Executive Perspective — September 2026

From asset health to capital confidence

A governed decision model for UK network investment

UK network operators do not need another asset score. They need a traceable way to turn imperfect evidence into interventions that withstand operational, financial and regulatory scrutiny.

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A. At a glance

The investment and delivery tension

Four sourced signals frame the capital-confidence question

£23.1bn

electricity distribution companies expect to invest this amount during RIIO-ED2, in 2020–21 prices. Ofgem's point is equally important: investment alone is not enough; consumers must see value and delivery against agreed outputs. [1]

22–36%

the range of cumulative NARM delivery reported across most DNO groups at the end of RIIO-ED2 Year 2, against a simple 40% straight-line reference. Underlying individual DNO values vary more widely. All groups still forecast meeting or exceeding their period targets. [1]

£28bn

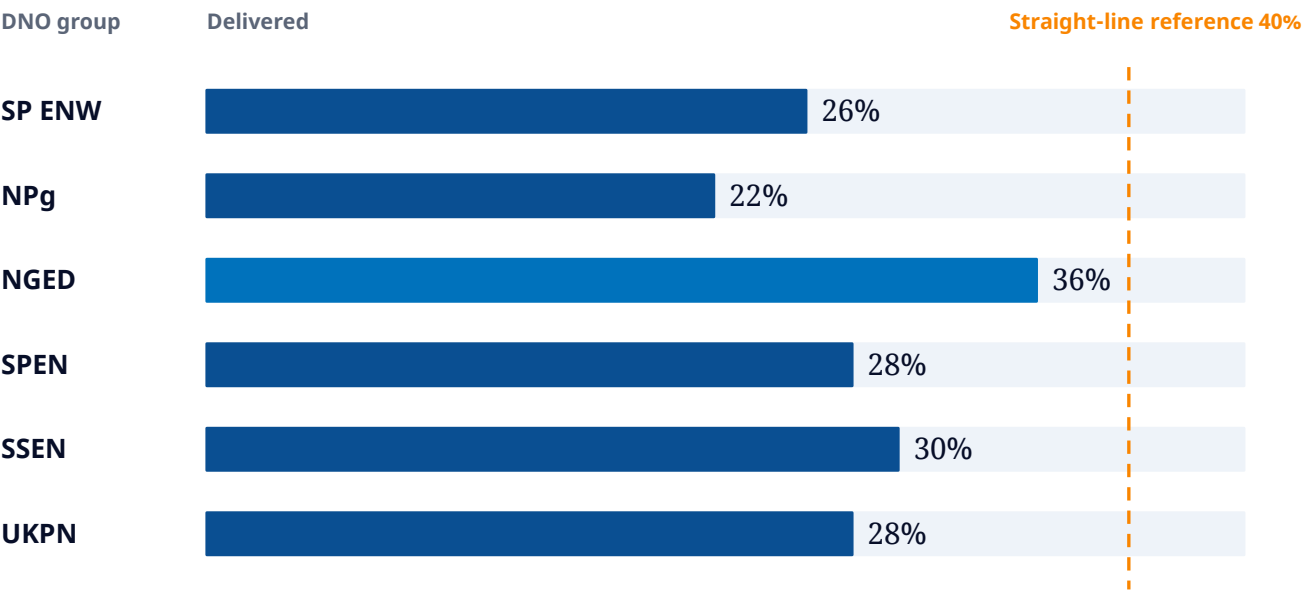
Ofgem's initial RIIO-3 settlement for electricity transmission, gas transmission and gas distribution from 2026 to 2031; Ofgem estimates the commitment will rise to £90bn by 2031 across gas and electricity networks. It also reported more than £4.5bn of savings against companies' initial proposals. [5]

2032

the deadline by which all Tier 1 iron gas mains must be decommissioned. HSE's current policy also expects condition monitoring and analysis of failure hotspots to inform integrity decisions across remaining iron mains. [4]

Sources: Ofgem [1][5]; Health and Safety Executive [4]. Values retain the scope and caveats stated in the text.

Delivery reality after RIIO-ED2 Year 2



Source: Ofgem, RIIO-2 Electricity Distribution Annual Report 2024/25 [1]. The marker is a simple linear reference, not each company's approved delivery profile.

Executive proposition. Asset health is an input. Capital confidence is the organisational ability to explain why a particular portfolio is the best available response to risk, obligations and constraints — and to update that answer as evidence changes.

Business decision. How should a network operator allocate constrained capital among replacement, refurbishment, maintenance, monitoring, reinforcement and deferral while preserving safety, resilience, affordability, regulatory delivery and readiness for the energy transition?

Scope and assumptions. The perspective covers common decision principles across electricity and gas networks in Great Britain. It does not imply that the two sectors share the same asset models, legal duties or intervention thresholds. The primary horizon is the current operating and investment cycle through 2031–32, with strategic implications beyond 2030.

B. What the evidence says

Capital confidence is an end-to-end decision discipline

The portfolio becomes defensible when the evidence and execution feedback stay connected

01

Evidence

Condition, defects, history, network context

02

Risk

Probability, consequence, uncertainty

03

Options

Repair, refurbish, replace, monitor, defer

04

Portfolio

Capital and delivery constraints applied

05

Decision

Accountable approval and overrides

06

Feedback

Delivered risk reduction and outcomes

NTT DATA decision framework — qualitative assessment.



Executive summary: the investment case is becoming harder to defend with a single metric

Britain is asking its energy networks to expand and renew at the same time. The Clean Power 2030 Action Plan calls for investment ahead of need, faster delivery of strategically important infrastructure and stronger accountability for outcomes. The Clean Power 2030 Action Plan estimates around £40 billion of average annual investment between 2025 and 2030; NESO scenario ranges shown in the plan are broadly in the £40–50 billion range. [6]

This creates two simultaneous capital questions.

1 The first is where new capacity must be built.

2 The second is how the existing asset base should be maintained, refurbished or replaced while that expansion is under way.

These questions compete for management attention, specialist labour, outages, supply-chain capacity and customer funding even when they sit in different regulatory mechanisms. They also compete for data quality, engineering capacity and execution bandwidth.

The regulatory architecture is already risk based. In electricity distribution, Ofgem's Network Asset Risk Metric converts health and criticality into long-term monetised risk, using predicted probability and consequence of failure over a 30-year asset horizon. The reporting framework is designed to show movements in monetised network risk and support assessment of delivery against RIIO-ED2 output and incentive arrangements. [2]

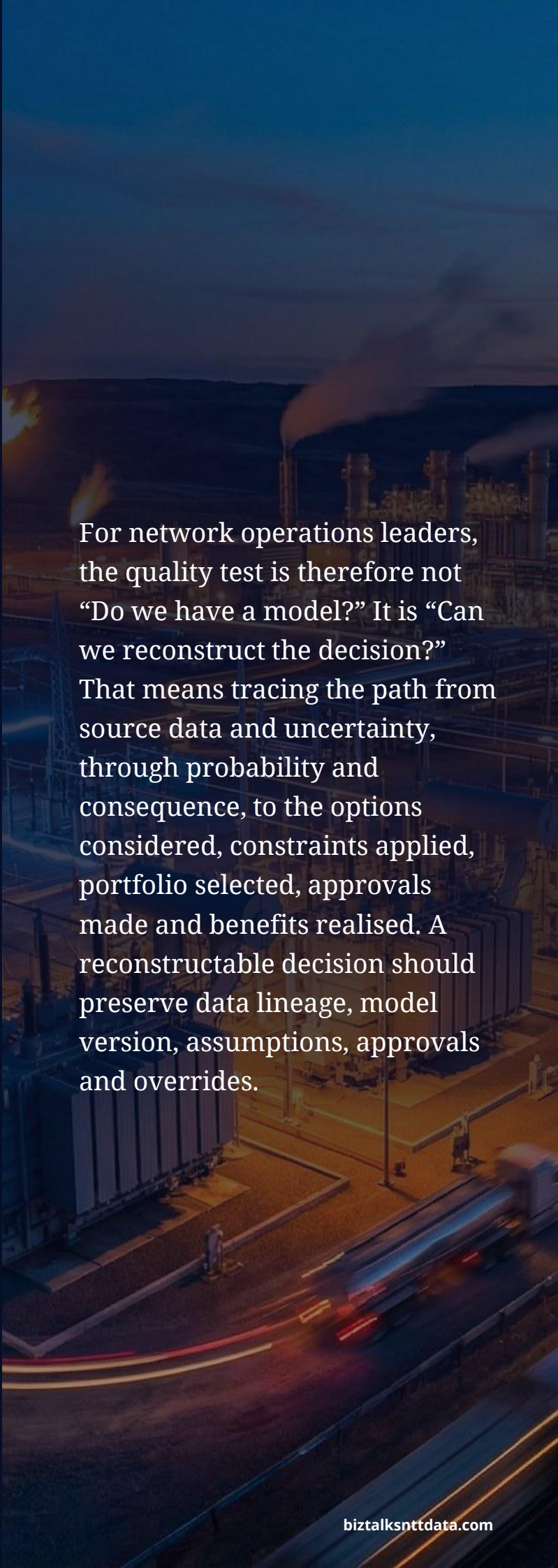
Yet the latest annual report shows most DNO groups behind a simple 40% Year 2 trajectory, with cumulative delivery ranging from 22% to 36% for four of the groups and material variation within groups. Companies expect delivery to accelerate later in RIIO-ED2. [1]

This is not evidence that risk-based asset management has failed. It is evidence that selecting a defensible portfolio and delivering it are different capabilities. A portfolio can be analytically attractive and still be operationally implausible.

Why it matters: regulators are testing the quality of the reasoning, not the sophistication of the score

Ofgem's RIIO-GD3 assessment offers a sharp warning against false precision. It found variable quality in the asset-condition evidence submitted by gas distribution networks. It also identified proposals to replace assets with good health scores because their overall NARM score indicated high criticality. Ofgem concluded that criticality alone was insufficient justification and adjusted proposed workloads where the need or options had not been adequately demonstrated. [3]

The implication reaches beyond gas distribution. An asset-risk number cannot, on its own, answer whether repair, refurbishment, replacement, targeted monitoring, operational mitigation or deferral creates the strongest value under the same constraints. Nor can it show whether the intervention can be delivered in the required window, whether a strategic reinforcement will remove the risk through another route, or whether new inspection evidence should change the ranking.



For network operations leaders, the quality test is therefore not “Do we have a model?” It is “Can we reconstruct the decision?” That means tracing the path from source data and uncertainty, through probability and consequence, to the options considered, constraints applied, portfolio selected, approvals made and benefits realised. A reconstructable decision should preserve data lineage, model version, assumptions, approvals and overrides.

Market and investment flows: local asset choices now sit inside a whole-system plan

NESO's Strategic Spatial Energy Plan is intended to provide a GB-wide pathway for the types, locations, capacities and timing of electricity and hydrogen generation and storage from 2030 to 2050. Its methodology considers demand, network needs, cost and wider environmental and societal factors. [7] The government's Clean Power 2030 plan, meanwhile, calls for network investment ahead of need and for viable projects to be prioritised in line with strategic system requirements. [6]



This changes the context for asset decisions. The value of an intervention is no longer determined only by the asset's condition today.

A component that appears secondary in a static hierarchy may become a constraint in a future network configuration. Conversely, an apparent asset-health priority may be superseded by reinforcement or redesign already in the strategic plan. The portfolio should therefore be recalculated when load forecasts, connection plans, network topology or strategic projects change.

It may also depend on

future power flows

electrification demand

connection priorities

network reconfiguration

hydrogen uncertainty

environmental exposure

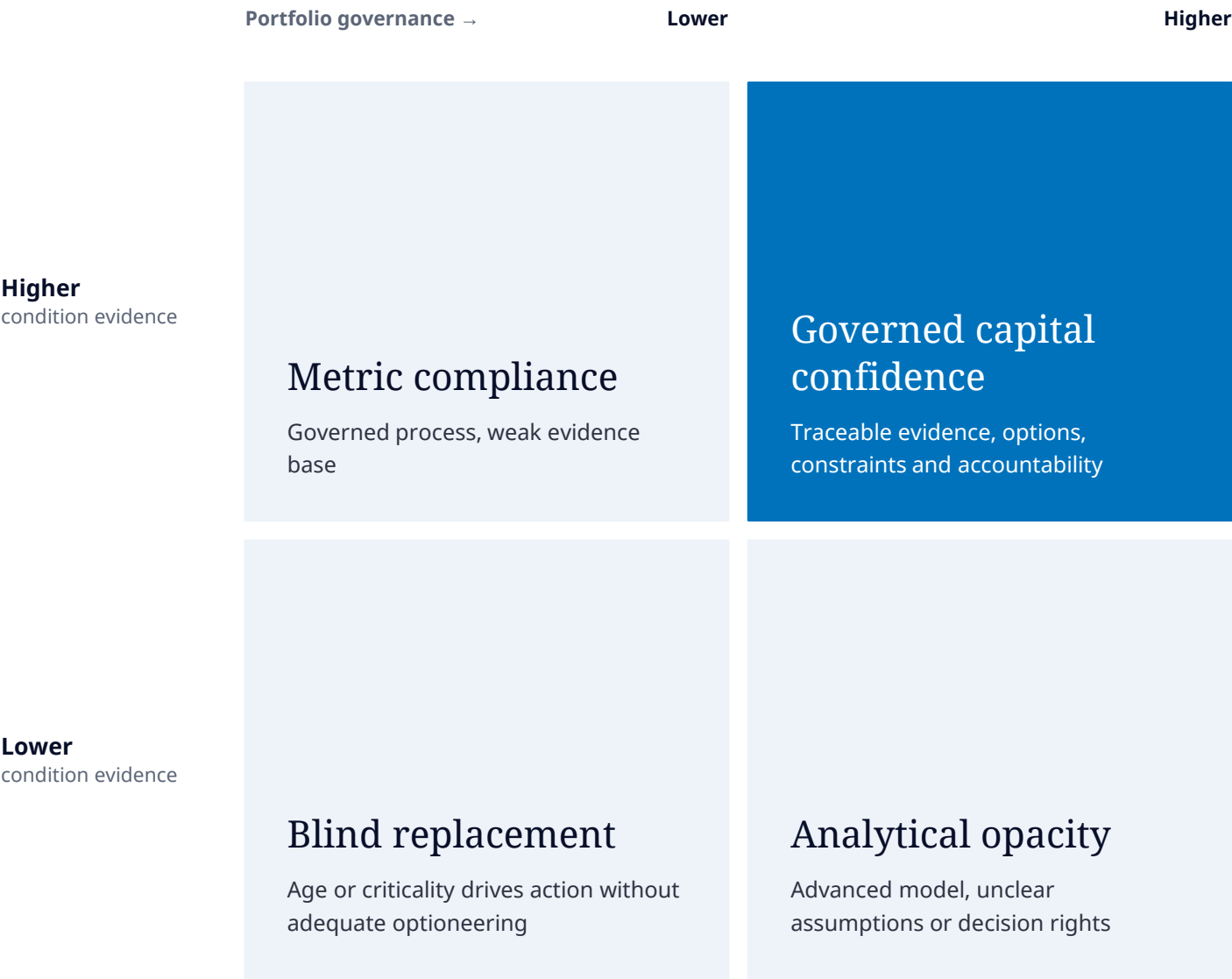
the timing of adjacent projects.

Capital confidence therefore requires a portfolio view that can absorb external planning signals without converting every new policy or forecast into an immediate replacement programme.

Risk landscape: four ways a technically sound plan can still destroy value

Where false confidence enters the portfolio

Condition evidence and governance must mature together



Qualitative assessment; regulatory context in Ofgem [\[2\]](#)[\[3\]](#).



Evidence risk. Age, inspection history and failure records are incomplete proxies for condition. Relevant evidence may be spread across enterprise asset management systems, GIS, inspection records, defect registers, maintenance history and network models. Ofgem's ED2 framework explicitly records data cleansing and other non-intervention changes because revised information can move reported risk even when no physical work has occurred. [2] Without transparent data lineage and uncertainty, a more advanced model can merely automate yesterday's assumptions.

Portfolio risk. Individually justified interventions can still produce a weak portfolio if they compete for the same outages, engineers, contractors, equipment or local permissions. Workforce capacity, contractor availability, outage windows, material lead times and geographic dependencies should be formal inputs to portfolio optimisation. Ofgem reports that several DNO groups expect a later delivery ramp-up and cites supply-chain, material, contractor and overhead-line constraints. [1]

Model risk. Monetised risk creates a common language, but aggregation can obscure why one option ranks above another. Ofgem's GD3 decision demonstrates the danger of allowing high consequence or criticality to dominate condition and optioneering. [3]

Governance risk. AI and optimisation can compare more scenarios, but they can also create unjustified confidence if decision rights, model limitations and human challenge are unclear. AI-supported recommendations should explain which evidence changed the recommendation and why.



C. Implications and scenarios

Portfolio scenario explorer

Illustrative only, not a NARM calculation or investment recommendation

Input	Illustrative setting
Condition confidence	Medium
Delivery capacity	Medium
Capital constraint	Medium
Consequence weighting	Balanced

Compare intervention portfolios

Test replacement, refurbishment, monitoring and deferral under the same delivery constraints.

Governance challenge: make trade-offs and assumptions visible before approval.

Three potential operating scenarios

These are qualitative scenarios, not forecasts or probability estimates.

A

Scenario A

Metric compliance, weak portfolio confidence.

The operator meets formal reporting requirements and maintains asset scores, but investment cases are assembled asset by asset. Delivery constraints appear late, benefits are difficult to reconcile and changes in strategic plans trigger repeated rework. The portfolio may be compliant without being coherent.

B

Scenario B

Central optimisation, limited operational trust.

A sophisticated analytical engine generates a ranked portfolio, but frontline engineering teams cannot see how data quality, assumptions or business consequences shaped the answer. Challenges are resolved outside the system and the approved plan diverges from the model. The technology is advanced; the decision process remains manual.

C

Scenario C

Governed capital confidence.

The operator maintains a shared decision model linking asset evidence, uncertainty, probability and consequence of failure, regulatory and strategic obligations, intervention options, delivery constraints and realised outcomes. Technology makes more alternatives testable and more evidence visible. Named leaders approve trade-offs, and the portfolio is periodically rebalanced as condition and system needs change.

The third scenario does not demand perfect data. It demands that uncertainty is visible and decision consequences are explicit.

Industry impact: from a ranked list to a living investment portfolio

The business shift is from answering “Which asset is riskiest?” to answering six connected questions:

1

What do we know, and how reliable is it? Condition evidence, inspection coverage, failure history and data quality need confidence bands, provenance and an owner.

2

What happens if the asset fails? Safety, reliability, environment, customers, system constraints, regulatory outputs and financial exposure must be visible without collapsing their differences into an unexplained total.

3

What could we do? Replacement is one option alongside refurbishment, maintenance, monitoring, operational mitigation, redundancy, reinforcement and time-bound deferral.

4

What can we deliver? Portfolio optimisation must include outages, workforce, supply chain, permitting, dependencies and delivery risk.

5

What changed after intervention? Benefits should be tracked as realised risk reduction and operational outcomes, not only as expenditure or completed units.

6

Which interventions remain optimal once delivery constraints are applied? A portfolio should be re-tested after workforce, contractor, outage, material and geographic constraints are imposed.

The result is not one immutable five-year answer. It is a governed portfolio that preserves the audit trail while allowing priorities to change.

What leaders are doing differently

The emerging leadership pattern is to join decisions that are often separated organisationally:

Asset management	defines condition, deterioration and intervention logic.
Network operations	contributes operational criticality, access constraints and contingency options.
Finance	tests affordability, timing, financing and portfolio value.
Regulation	translates commitments into evidence and delivery requirements.
Strategy	introduces future-system needs and investment-ahead-of-need assumptions.
Digital and data teams	make the evidence reusable, traceable and available at decision speed.
Field Operations and Delivery	own the execution reality: workforce capacity, outage access, contractor mobilisation and the feasibility of the intervention schedule.

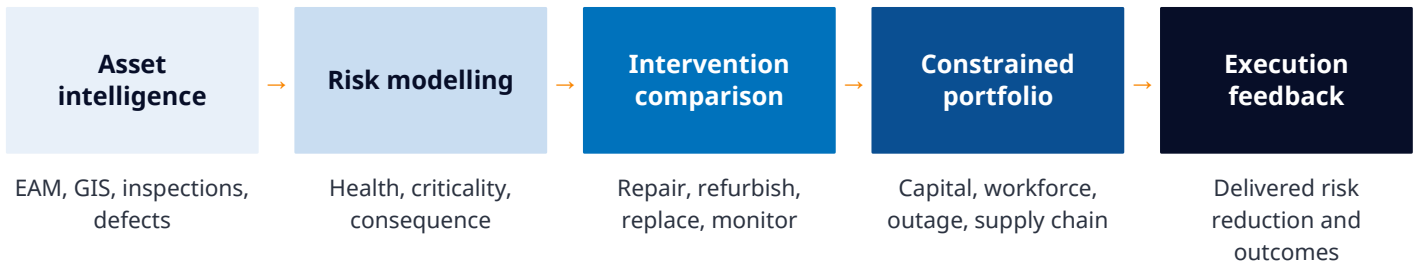


Gas networks provide a concrete illustration. HSE's 2026–31 enforcement policy requires condition-monitoring regimes for remaining iron mains and expects operators to analyse the outputs to identify failure hotspots. It also distinguishes mandatory Tier 1 decommissioning from condition- and cost-benefit-led decisions for other tiers. [4] This is precisely the kind of environment in which continuous evidence must change portfolio choices without weakening accountability.

D. NTT DATA point of view

The proposed NTT DATA operating model

Digital technology expands the evidence and options; accountable leaders retain the decision



Supported by BizTalks [8]–[12].

The objective is not to automate the capital decision. It is to industrialise the evidence, comparison and traceability around that decision.

The public BizTalks Utilities narrative frames NTT DATA's role around connecting assets, operations and data, including asset intelligence and predictive maintenance for transmission and distribution networks. [8] The more specific position on AI-Assisted Asset Investment Prioritization connects asset condition, failure probability, criticality and business impact to compare replacement, refurbishment and maintenance options within real capital constraints. It also states that accountability remains with asset leaders. [9] The related Decision Intelligence position adds operational conditions, forecasts, workforce, customer impact, regulation and finance so that leaders can compare alternatives and see trade-offs rather than receive an unexplained recommendation. [10]

Two published BizTalks success stories provide delivery evidence. **CBRM Asset Health, Criticality & Risk Management** describes a 22-month programme for a transmission and distribution network operator that connected condition, defects, measurements and criticality in a repeatable model supporting maintenance, investment planning and regulatory reporting. [11] **Risk-Based Gas Network Maintenance Planning** describes subsection-level leakage-risk modelling, network segmentation and annual and monthly optimisation under workforce constraints; the documented results include a **33% reduction in kilometres monitored per year** and a 20% improvement in carbon footprint. [12]

For UK network operators, that translates into five practical design principles:

- 1 Start with the decision, not the platform.** Define the portfolio questions, approval rights and evidence thresholds before selecting analytical tools.
- 2 Build a traceable evidence spine.** Connect asset registers, inspection and failure data, geospatial context, maintenance history, network models, work management, investment planning, customer consequences, regulatory commitments and financial plans without erasing source provenance.
- 3 Model alternatives, not only failure.** Compare intervention strategies and timing, including the option to gather more evidence before committing capital.
- 4 Optimise for deliverable value.** Include workforce capacity, supply chain, outage windows, contractor constraints and other dependencies so that the selected portfolio can be executed, not merely ranked.
- 5 Keep expert accountability visible.** Record model limitations, human challenges, approvals and reasons for overrides; use AI to expand decision capacity, not to obscure responsibility.



E. What leaders should do

A 90-day capital-confidence agenda

● Days 0–30 Choose one consequential decision. Select a live portfolio decision with competing interventions and material operational or regulatory consequences. Map the evidence, decision rights, options, constraints and current approval route. Do not begin with an enterprise-wide technology programme.	● Days 31–60 Expose the trade-offs. Create a portfolio view that separates asset condition, probability of failure, consequence, obligations, strategic dependencies, deliverability and uncertainty. As the pilot proof point, reconstruct and compare one historical decision using the new evidence model to test whether the reasoning and data lineage are genuinely auditable.	● Days 61–90 Run a governed scenario review. Compare at least three intervention portfolios under the same capital and delivery constraints. Record which variables change the decision, where expert judgement overrides the model and what new evidence would justify rebalancing. Convert the outcome into a repeatable investment-decision template and governance pattern.
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NTT DATA proposed 90-day agenda for this perspective.

Boardroom questions

- 1 Can we explain why the last unit of capital in the portfolio creates more risk reduction or strategic value than the first unfunded intervention?
- 2 Which investment decisions would change if condition confidence, delivery capacity or future network use moved outside the planning assumption?
- 3 Where does accountability sit when an algorithmic recommendation conflicts with engineering judgement or regulatory evidence?

Convene a cross-functional capital-confidence review around one real network portfolio. The output should be a decision record and a repeatable governance pattern, not another dashboard.



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