Reliable® Insights

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Deterministic, Explainable AI

Dynamic modelling of system behaviour

Forecasting | Anomaly Detection | Actionable Insight

Understand and act on system behaviour

Operational Challenges

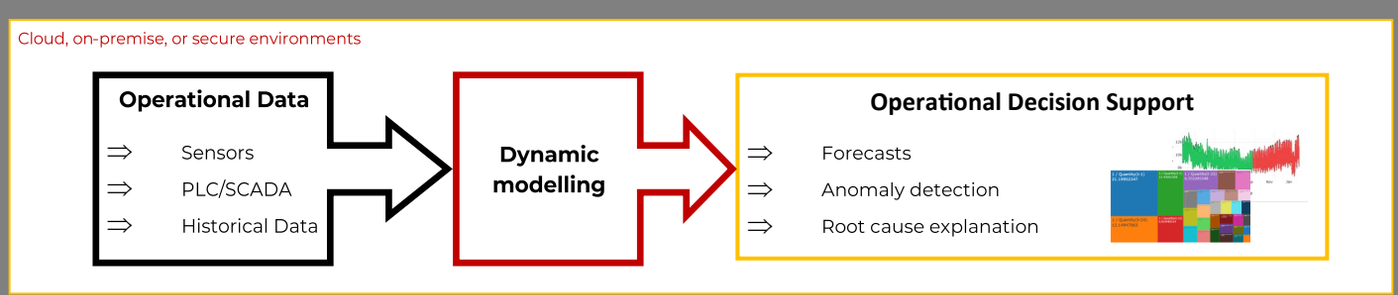
- As systems evolve, models require ongoing maintenance, making **deployment difficult to sustain**
- Advanced analytics are often difficult to deploy in secure or constrained environments, **limiting practical adoption**
- Anomaly detection produces **alerts without context**
- Insight is fragmented across **multiple tools and systems**
- Outputs are often **difficult to trust or act on**

Our Approach

- Use a **deterministic modelling engine** to represent actual system behaviour
- Provide a single framework for forecasting, detection, and explanation, **simplifying operations**
- Deploy across cloud, on-premise, and secure environments. **Bring the analytics to your data.**
- Deliver explainable outputs to **support and inform human judgement**

The Platform

Builds a representation of system behaviour based on current data, enabling forecasting, detection and explanation within a single framework.



Designed for real operational environments, not idealised data science workflows

How it works

- Ingests time-series data from sensors, control systems, and telemetry
- Builds and updates a **model of system behaviour** based on current data
- Generates **forward predictions** (forecasting)
- Compares **observed and expected behaviour** (anomaly detection)
- Identifies and explains **causal links**

Simplifies model lifecycle management by rebuilding models automatically from current data

How we are different

Conventional AI	Reliable Insights
Black-box models	Explainable
Cloud-dependent	Flexible deployment
Uses task-specific models	Deterministic modelling engine
High compute demand	Lightweight deployment
Static or brittle models	Adaptive to system behaviour

What This Enables

- More accurate and trustworthy forecasting
- Detection of meaningful deviations, not just noise
- Clear understanding of system behaviour and its drivers
- Reduced model lifecycle costs and maintenance overhead
- Improved decision-making through explainable outputs

Use Cases

Use Case 1: Modelling in Secure Environments

Challenge

Time-series modelling offers significant value within Critical National Infrastructure (CNI), but is often difficult to deploy in practice.

- Access is required to **sensitive operational data**
- Many Operational Technology (OT) environments are **air-gapped or tightly controlled**
- Moving data to cloud-based analytics platforms increases vulnerabilities

As a result, solutions are often limited, manual, or not deployed

Reliable Insights Approach

Our platform builds models **directly within secure environments**, without data leaving the boundary.

- Deploys on **on-premise or air-gapped infrastructure**
- Uses a **deterministic modelling engine** to represent network behaviour
- Generates **forward predictions of load, supply and constraints**
- Provides **explainable outputs** to support operational decision-making

Outcome

- Scalable solutions that can be **deployed in the real world**
- Increased confidence through **transparent and explainable forecasts**
- Reduction of data ingress/egress from the OT network **enabling security by design**
- Wider adoption of time series modelling in environments where it was **previously not viable**

Example

An Electricity Network operator must ensure that load at their substation does not exceed the equipment limits.
Using the data available locally Reliable Insights can:

- Forecast expected load and system behaviour
- Predict dynamic network constraints
- Explain the drivers behind predicted changes

→ Enabling early response and efficient network management

Use Case 2: Understanding Root Cause

Challenge

Operational systems generate large volumes of data, but when behaviour changes:

- Anomalies are labelled **without explanation**
- It is difficult to determine what changed, why it changed and whether it matters
- Operators remain dependent on **manual investigation and experience**

Reliable Insights Approach

Reliable Insights provides **explainable modelling of system behaviour**, enabling users to understand change, not just detect it.

- Models the **expected relationships between variables over time**
- Identifies **deviations from expected behaviour**
- Explains **which variables are driving the change**
- Highlights **inconsistencies that may indicate abnormal or manipulated behaviour**
- Uses all the available data, making it **robust to change and scalable**

Outcome

- **Identification of root cause**, not only flagged anomalies
- Reduced time spent on **manual investigation and diagnosis**
- Control over detection sensitivity
- Flexible deployment that can adjust to change
- A system that informs the engineer without judgement

Example

A pumping system begins to draw more power than expected for the same output. All readings remain within acceptable limits with no alarms triggered

Traditional monitoring

- Flags nothing, or produces multiple low-priority alerts

Typical anomaly detection:

- Identifies that the system is behaving abnormally, with limited context or explanation

Reliable Insights

- Identifies the deviation from expected relationships, highlights the variables driving the change and indicates the most likely cause.

→ Enabling faster diagnosis and informed response

Reliable Insights

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