HOUSE OF DATA

Data Elevated: Harmonise, Optimise, Drive

Preparing Organisations for the Next Five Years

Can Technology Finally Deliver on the Data-Driven Promise?

The Data-Driven Promise: What Business was Sold & What Actually Happened

The Promise

- Enable objective, **fact-based** decisions
- Provide **real-time** visibility into the business
- Create a single **source of truth**
- **Democratise** data across the organisation
- Deliver AI-enabled insights
- Build a strong data culture

We reduce gut feel and make decisions objectively.

The Reality

- Strategic decisions remain **political**
- Metrics are often **retrofitted** to justify decisions already made
- Data is used as evidence or **decoration**, not as the foundation
- Dashboards explain decisions **after the fact**
- Trust in data remains **fragile**

We became data-rich, but decision-poor.

What We'll Cover Today

Foundational Data Problems

- Why they've always existed, and why unresolved foundations make everything worse

What we tried before & Why it struggled

- How historical approaches addressed symptoms, not foundations

Why the next five years are different

- What has changed and where real opportunity now exists

The Problems Beneath the Symptoms

The four Vs of Data Complexity

Volume

- The overwhelming amount of data generated every second

Velocity

- The speed at which data is created, processed, and analysed

Variety

- The diversity of data types, formats, and sources

Veracity

- The reliability and accuracy of data

Human Limits in Scale, Patience & Resources

Lack of formal **data governance** and scalable practices

- **Governance existed as policy, not as a capability**

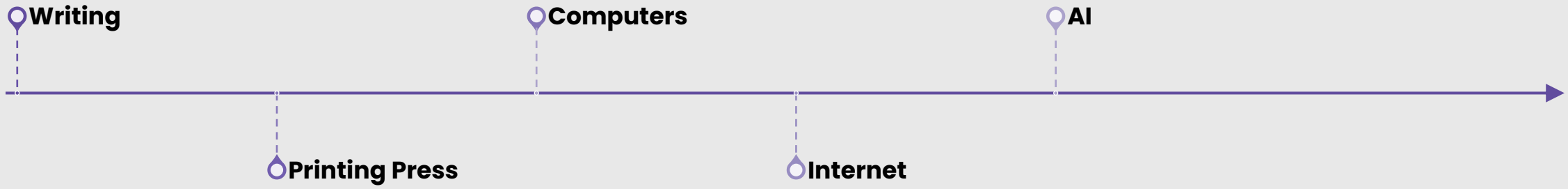
Organisations often lacked

- Patience to wait for foundational value
- Resources to maintain it long-term
- Clear understanding of the benefits

Unresolved foundational problems do not disappear, they amplify. This is why:

- Failure rates in data and IT initiatives remain high
- Complexity increases faster than organisations can respond

How Did We Get Here?



Each technological leap created more data, faster than organisations could adapt their practices.

At every major shift we were able to come up with the solutions	Foundational data work was rarely prioritised
•Indexes •Classification systems •Ontologies (e.g. Dewey) •Master data •Metadata	•Unless circumstances demanded it •Under pressure to deliver visible outcomes quickly

Foundational data work competed with urgent business needs, and usually lost.

The Scale, Speed, and Noise Have Fundamentally Changed

Data volume and complexity are accelerating

- Data sets are enormous and still growing
- The four Vs now compound each other, rather than appearing in isolation

The environment is noisier and faster

- Socio-economic conditions are changing more rapidly
- **Decision cycles** are **shorter**, but **data landscapes** are **more complex**
- We need **faster decisions** based on more **unstable inputs.**

Technology both helps and hurts

- New technologies constantly emerge or evolve
- Each promises opportunity (new insights, automation, capabilites,...)
- Each introduces new data sources, integration points, inconsistencies

Human-centric approaches can no longer keep up with the pace and scale of modern data environments.

What is Fundamentally Different Today?

What changed in the last 5 years

- **Mature storage and analytical platforms** (Scalable, reliable, economically viable; No longer the primary bottleneck)
- **A step-change in computational capability** (Models that can reason over large, complex information spaces; Not just process data, but work with meaning)

Infrastructure is **no longer the constraint.**

Why this matters: the LLM shift

- Large Language Models were built on: **"All you need is attention"**
- Organisations already **have the data**
- And with memory, models can: **Learn context,** Accumulate understanding, Improve over time

For the first time, systems can operate at a level closer to human reasoning, but **at machine scale.**

The convergence that never existed before

- **Technology** (Scalable platforms, LLMs, Automation)
- **Established methods** (Metadata management, Data governance, Information modelling)
- **Emerging methods** (Memory management, Data contracts, Agentic systems)

We never had these pieces **together** before.

Foundational data problems can now be designed for, not endlessly worked around.

So Where Are Enterprises Now? From Processing to Thinking

The current enterprise model

- People are used to **think about data**
- Systems are used to **process data**
- Critical activities **rely on humans** to:
  - Interpret meaning
  - Resolve inconsistencies
  - Create metadata
  - Maintain governance
  - Explain data to others
- This worked when data volumes were manageable.

Why this model no longer scales

- Data sources now exceed **human cognitive bandwidth**
- Manual creation of:
  - Metadata
  - Lineage
  - Documentation
  - Classification is no longer feasible
- Humans spend increasing time:
  - Reconciling
  - Explaining
  - Fixing instead of deciding
- The **bottleneck** has shifted from processing to **thinking**.

The Thinking Enterprise

- **Systems assist** with:
  - Understanding data
  - Maintaining context
  - Curating metadata
  - Highlighting real issues
- **Humans focus** on:
  - Judgement
  - Strategy
  - Trade-offs
  - Accountability
- **Thinking** and **learning** are **embedded** at the **data foundation**, not layered on top.

The next shift is not smarter dashboards, but smarter data foundations.

Making Enterprises Think and Learn

Automation: automating the "thinking" work

- Combine emerging AI technologies with **structured approaches**
- Automate activities humans cannot sustain at scale:
  - Metadata creation and curation
  - Classification and semantic alignment
  - Detection of inconsistencies and quality issues
- Shift from automating processes to **automating automation itself**

→AI reduces noise so humans can focus on what actually matters.

Integration: from silos to shared understanding

- Move **beyond "integrating the latest application"**
- Use automation to:
  - Add context and relevance to data
  - Connect information across domains
  - Build a shared, enterprise-wide knowledge base

→Integration becomes sense-making, not just plumbing.

Data governance & understanding, finally at scale

- Replace manual governance with **embedded governance**
- Use intelligent systems to:
  - Maintain lineage and ownership
  - Enrich and classify metadata
  - Surface governance issues in human-readable terms
- Make governance a **by-product of use**, not a separate activity

→Governance becomes possible **without creating a data bureaucracy.**

By embedding AI-driven thinking at the data core, enterprises can finally stabilise and evolve their data foundations.

Making Data-Drivenness Measurable and Actionable

Decision & Outcome Metrics (Is data improving decisions?)

- These metrics reflect behavioural and strategic change, not tooling. **Examples**:
  - Forecast error over time
  - Percentage of strategic initiatives stopped early due to evidence
  - Average time from question → decision → action
  - Decision reversal rate
  - Confidence-adjusted decisions

Data Foundation Metrics (Is the data fit to support decisions?)

- These are the **enablers**, not the goal. Examples:
  - **Data quality** (accuracy, completeness, timeliness)
  - **Lineage coverage**
  - **Ownership coverage**
  - **Metadata completeness** and freshness
  - **Data trust index** (e.g. usage vs. override rates)
  - Policy and contract compliance

  → These metrics explain ***why*** **decision metrics improve or don't.**

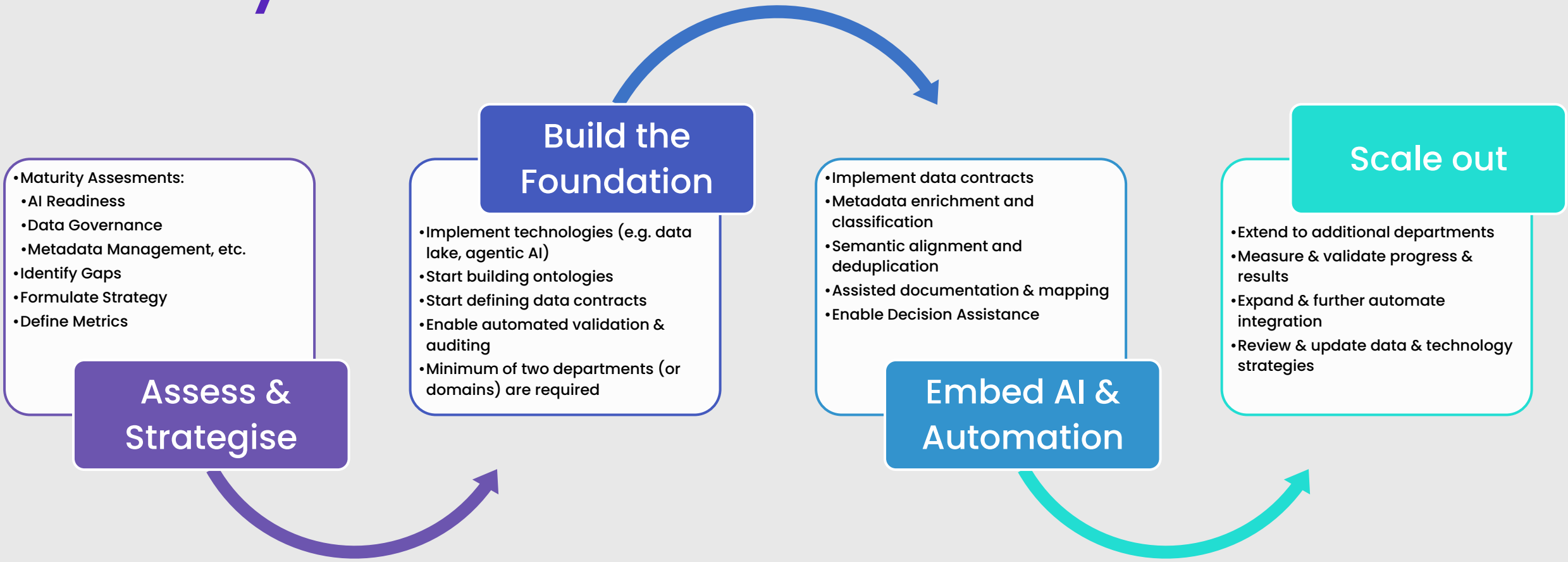
Bringing data into existing management systems (Not creating a parallel universe)

- **Embed data metrics** into:
  - KPIs
  - Balanced Scorecards
  - Risk and performance reviews
- Treat data as:
  - A **strategic asset**
  - A **risk factor**
  - A **decision capability**

  → Data becomes part of how the organisation governs itself.

A data-driven organisation measures not just data, but the quality and impact of its decisions.

What to focus on for the next five years?



Questions