THE DATA FOUNDATION

Industrial AI starts before the model.

The infrastructure challenge most AI initiatives underestimate.

CONTEXT | STRUCTURE | GOVERNANCE

A PRACTICAL ARCHITECTURAL VIEW

Factories have data. AI needs meaning.

A signal can be available, accurate and still be difficult to interpret outside its original system.

WHAT IS OFTEN AVAILABLE

- Device tags
- Different naming rules
- Isolated data sources
- Local assumptions

WHAT REUSE REQUIRES

- Asset identity
- Operational context
- Consistent Data Models
- Managed change

Data availability is not the same as data readiness.

Connected does not mean contextualized.

A value alone cannot explain the equipment, unit, meaning or operating context behind it.

RAW SIGNAL

speed = 1450

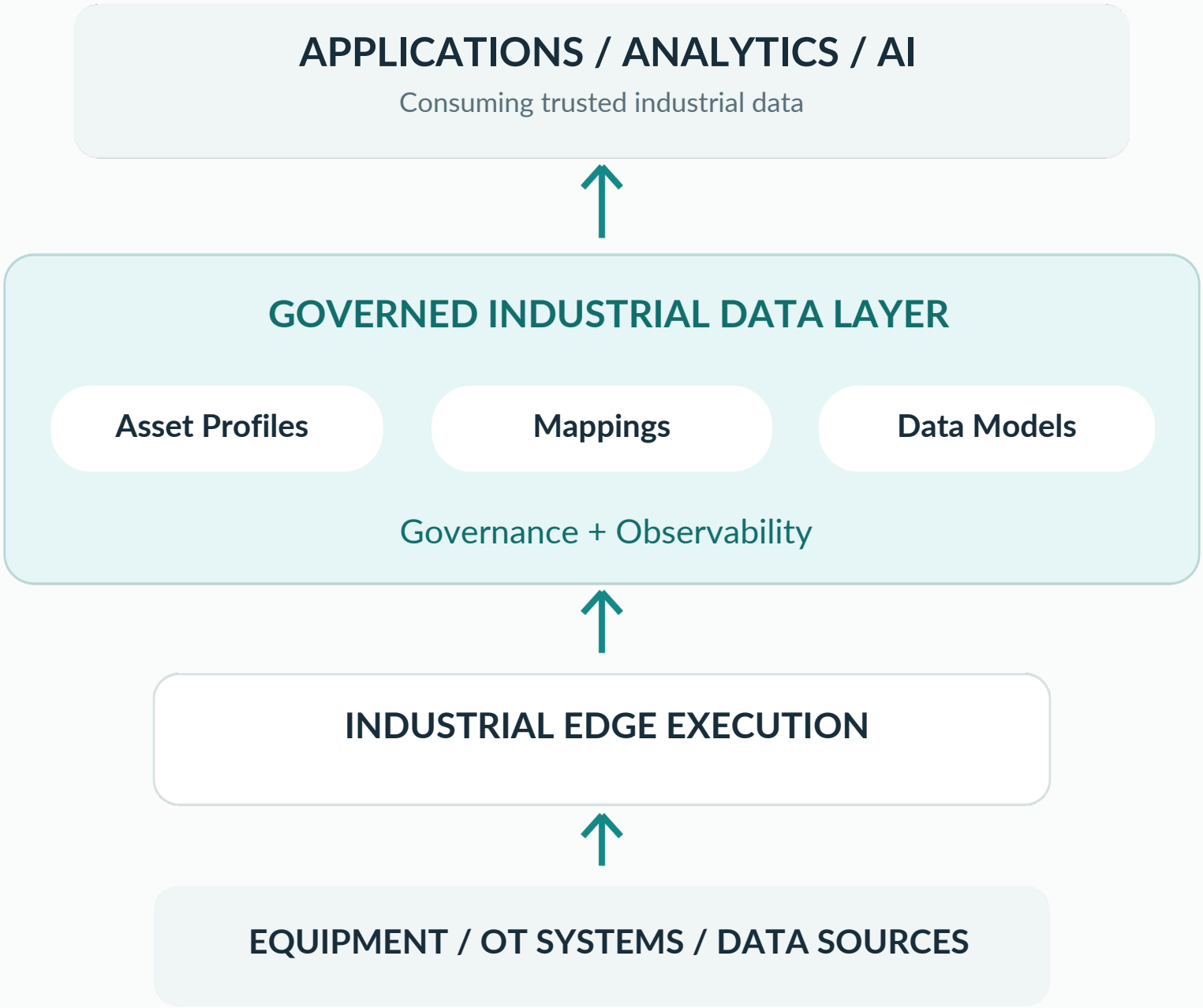
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CONTEXTUALIZED DATA

Asset	**Filler_03**
Measurement	**Motor speed**
Value	**1450 rpm**
Location	**Line 2**

Build the data layer before the AI layer.

The flow should be understandable from equipment to consumers, with structure and governance between them.



Govern more than the final schema.

A reliable output depends on the source structure, the Mapping logic and the target Data Model.

CENTRAL STRUCTURE GOVERNANCE

Definitions, dependencies and managed change

ASSET PROFILE - MAPPING LOGIC - DATA MODEL

When structures evolve, their relationships need governance too.

AI readiness is built. Not assumed.

Connecting equipment is only the first step.

The next step is turning heterogeneous OT data into structured, contextualized and governed industrial data that can be reused.

CONNECT / CONTEXTUALIZE / MODEL

GOVERN / OBSERVE / SCALE