Industrial Intelligence Solutions

UNS is Powerful for Industry 4.0

ectobox

G5 Consulting & Engineering Services

HIVEMQ

INTRODUCTIONS & AGENDA

*The **Unified Namespace** is Powerful for Industry 4.0, But How Does it Work?*

1) Introductions
2) Business Challenges
3) What is the UNS
4) Apply it to Manufacturing
5) Examples
6) Stop & Review
7) How to Execute
8) Q&A

David Schultz

Solution Architect

G5 Consulting

Kevin Jones

CEO/Founder

Ectobox

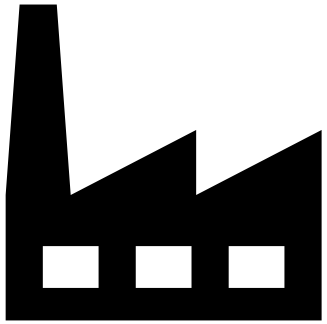
MANUFACTURING CHALLENGES

Manufacturing and Industry:

- More Competitive
- More Expensive
- Limited Workforce
- Workforce Traits
- Supply Chain Disruptions
- More Orders, Economy Coming Back
- Inflation
- More Demanding Customers

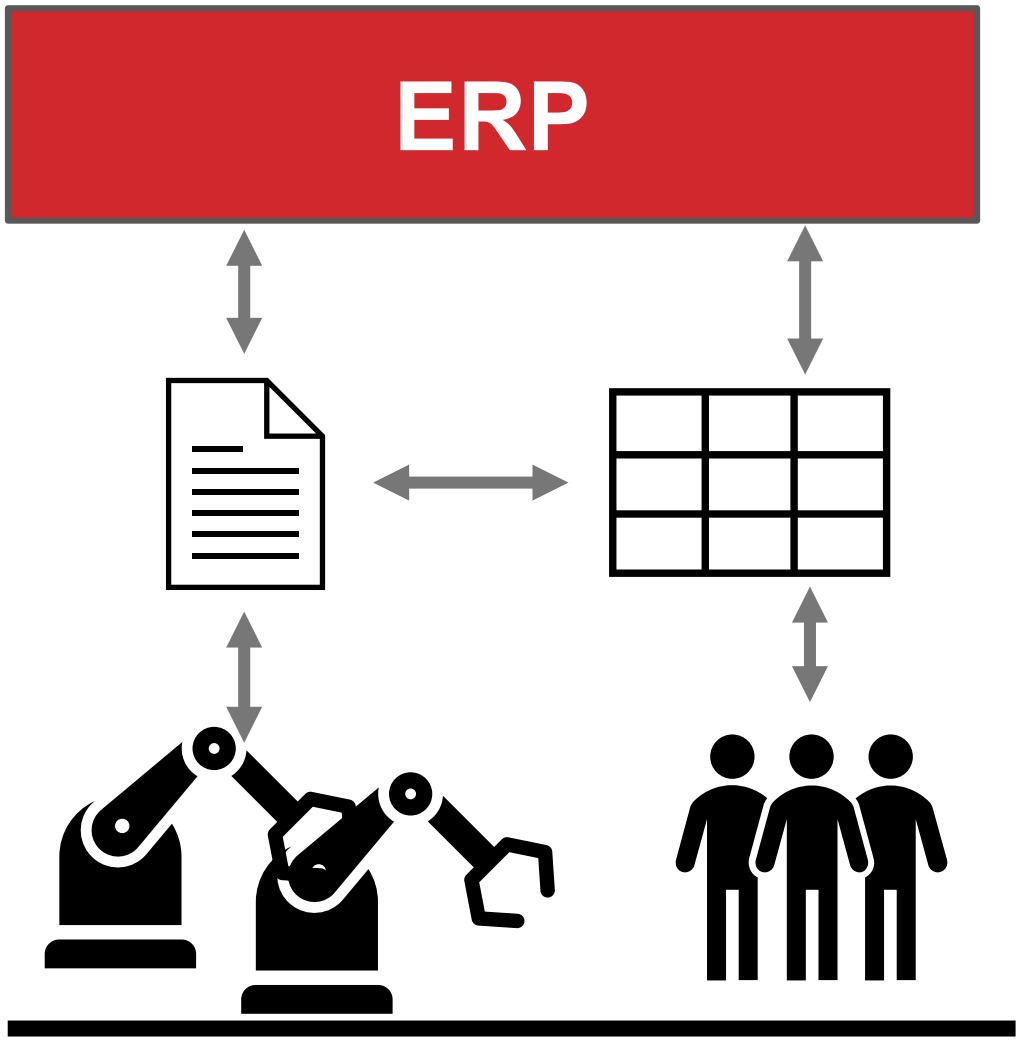
In the Plant:

- Machine Downtime
- Production Throughput
- Quality
- On-Time Delivery
- Recruiting
- Retention
- Revenue & Profit
- Company Valuation



Need Data → Deeper Visibility into the Factory Floor

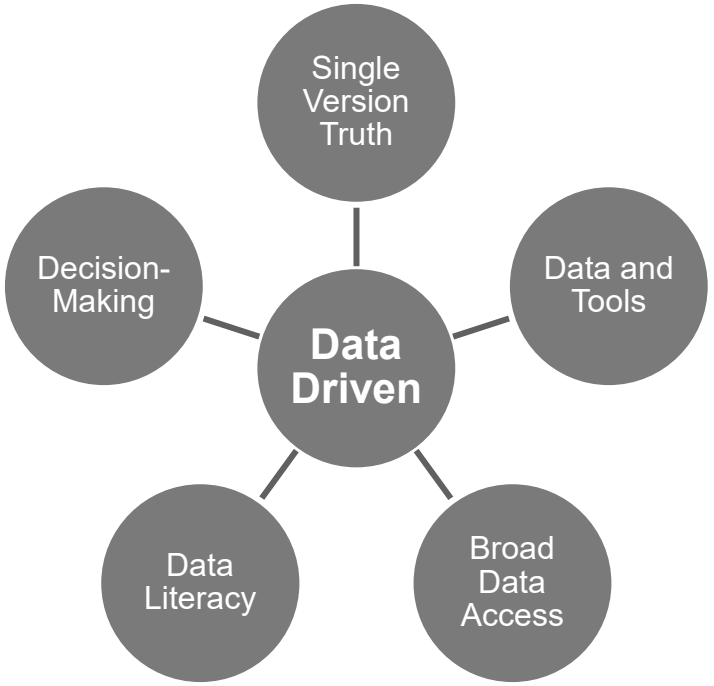
CURRENT STATE



DATA-DRIVEN MANUFACTURING

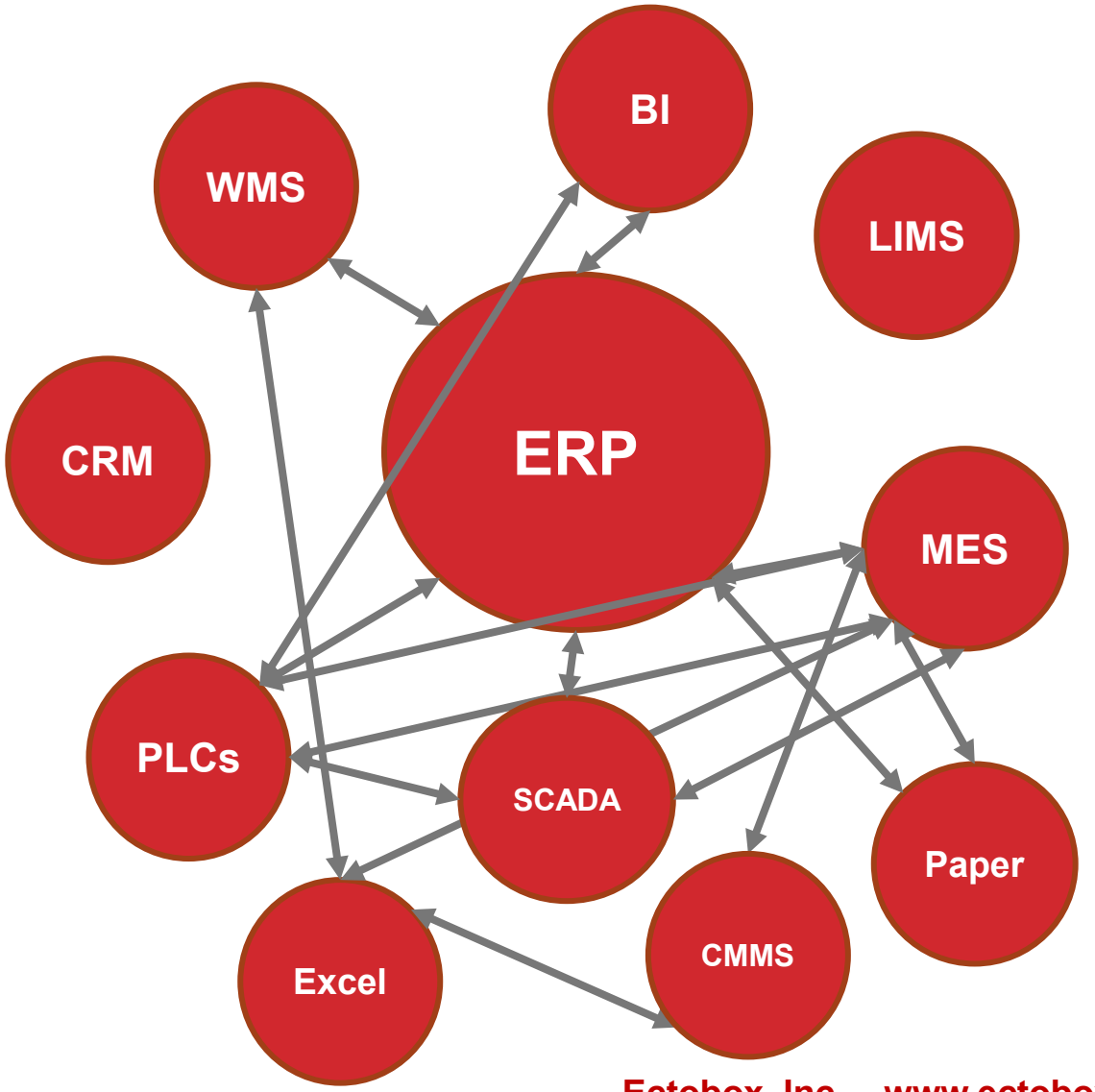
Holy Grail

- Everything and Everyone is Plugged into Network
- Layers of Business are Integrated and Operate Based on Data and Information from All Other Layers
- Stakeholders Know the State of the Business in Real-Time
- Stakeholders Know the Future State of the Business in Real-Time



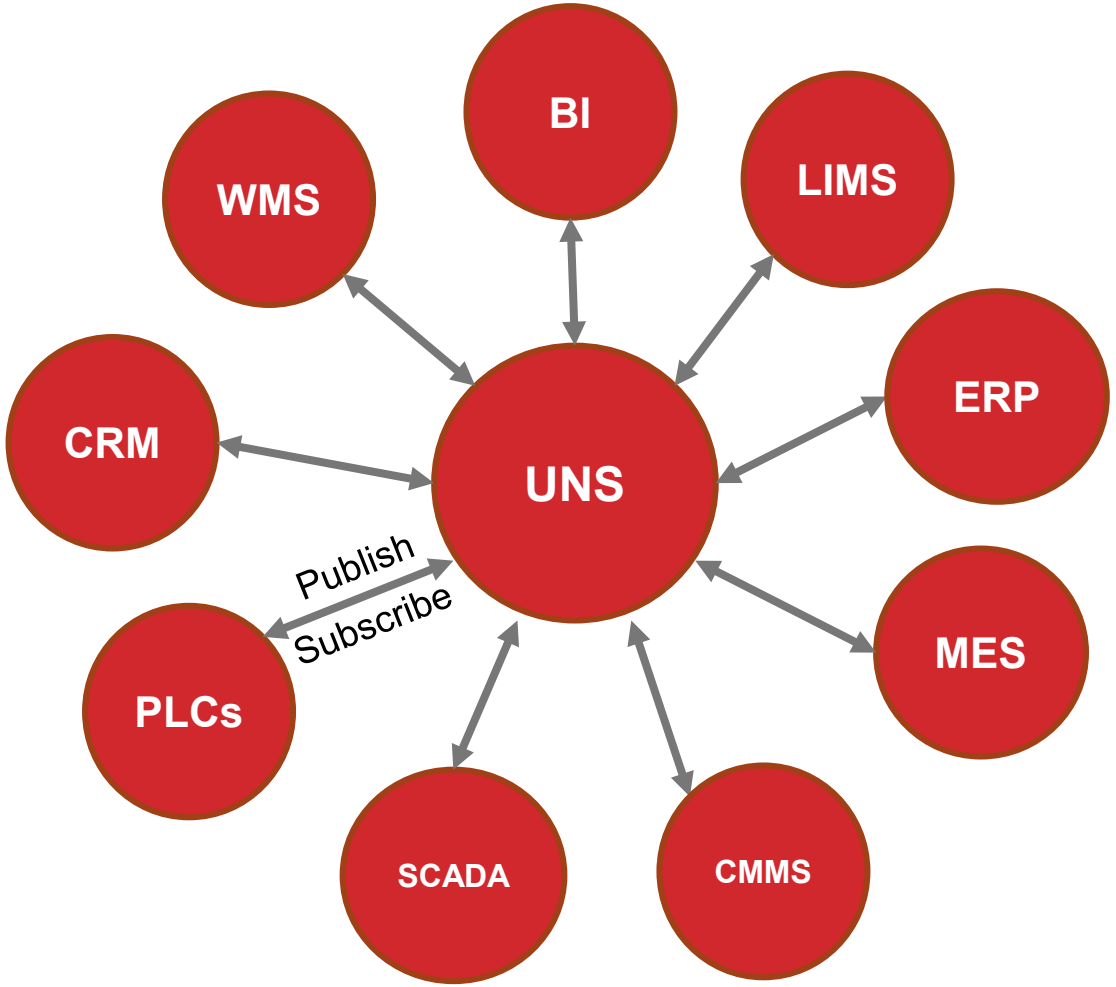
Become a Data-Driven Manufacturer

CURRENT STATE



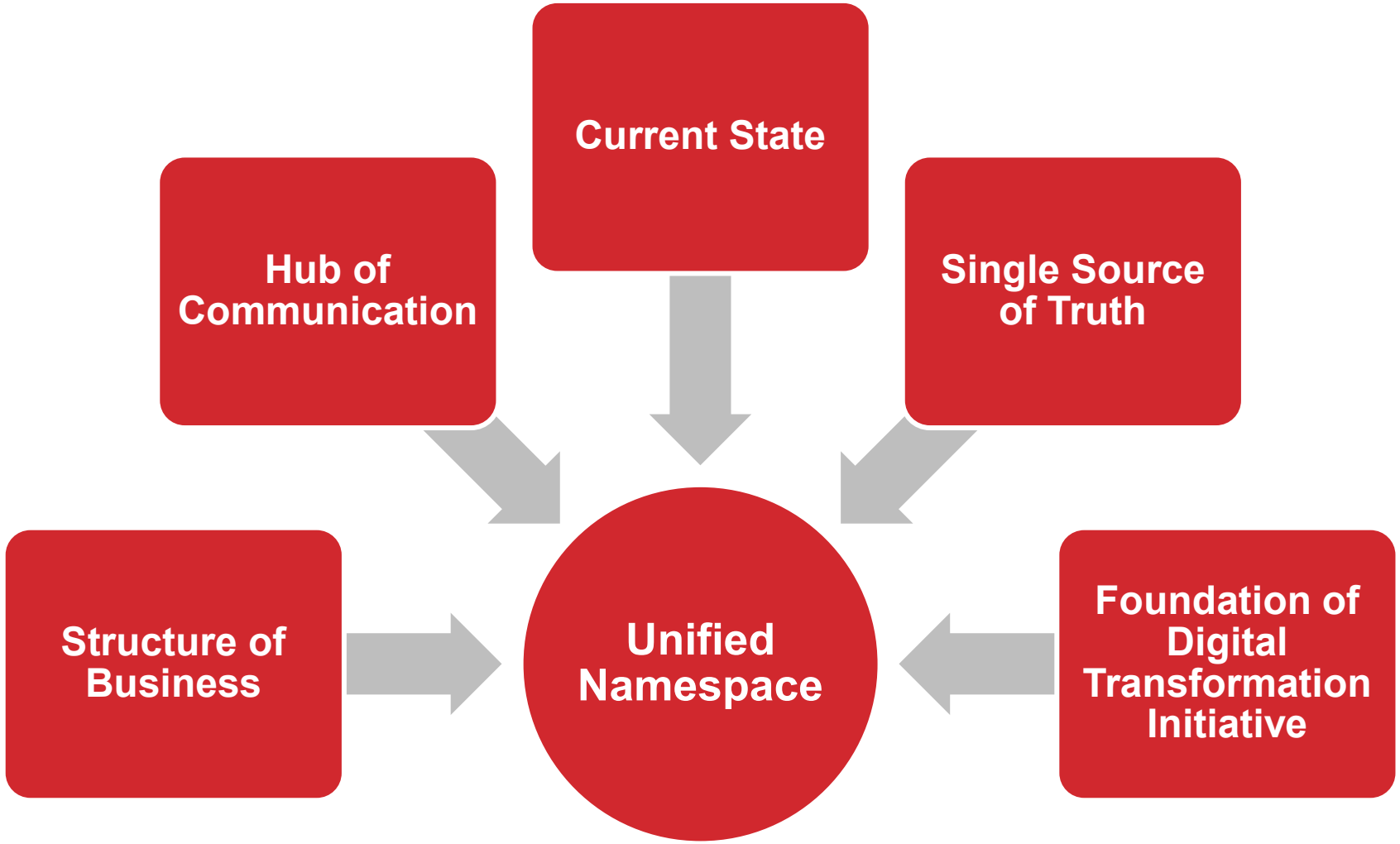
- Discrete connections between many systems
- Difficult/Expensive to change systems
- No real-time visibility
- No standards for data
- Silos of data
- Data trapped in PLCs and machines
- Hidden Factory / Dark Data

FLEXIBLE ARCHITECTURE



UNS – WHAT IS IT?

Namespace - a system to identify and uniquely refer to related concepts or objects



UNS – WHAT IS IT?

Unified Namespace

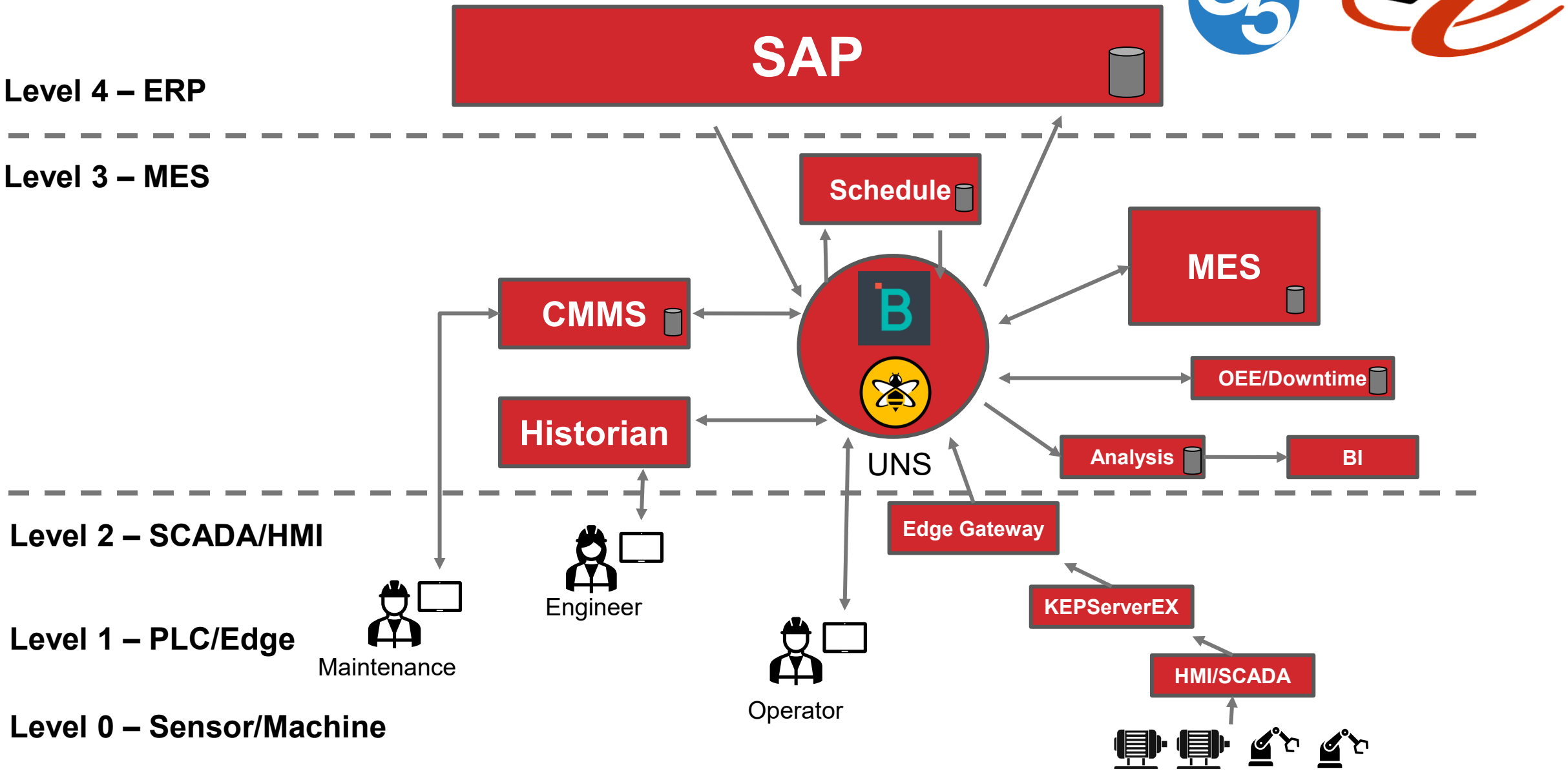
- Enterprise
  - Site
    - Area
      - Line
        - Cell

Example

- Coca Cola
  - Pittsburgh
    - ERP
      - Work Order
      - Routing
      - Schedule
    - Bottling
      - Line 1
        - Process Control
        - PLC 1
          - PLC Tags
      - Line 2
      - MES
        - OEE
        - Downtime

** From ISA-95 Part 2*

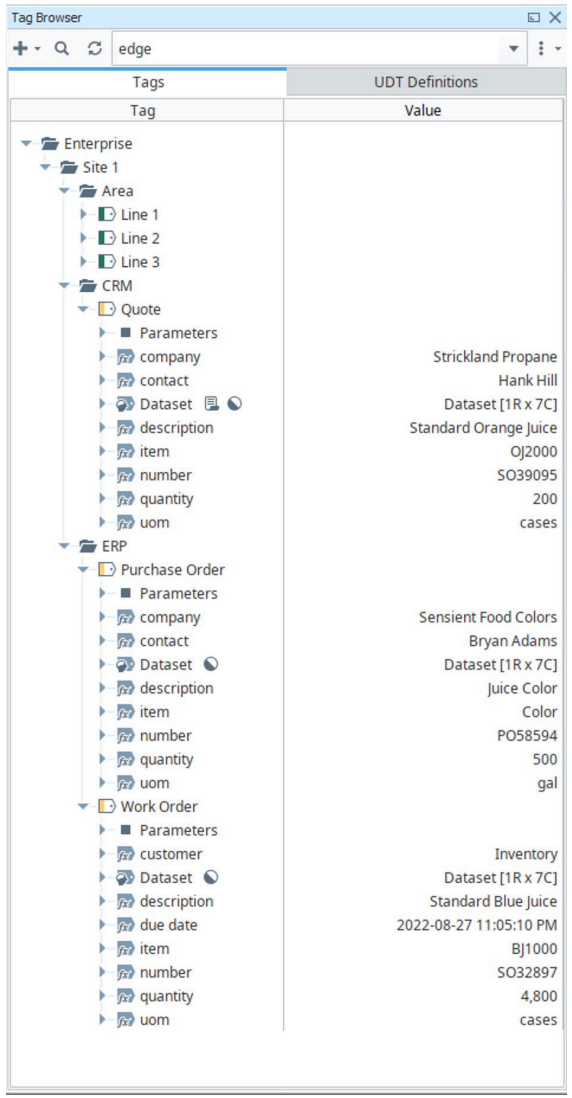
MANUFACTURING EXAMPLE



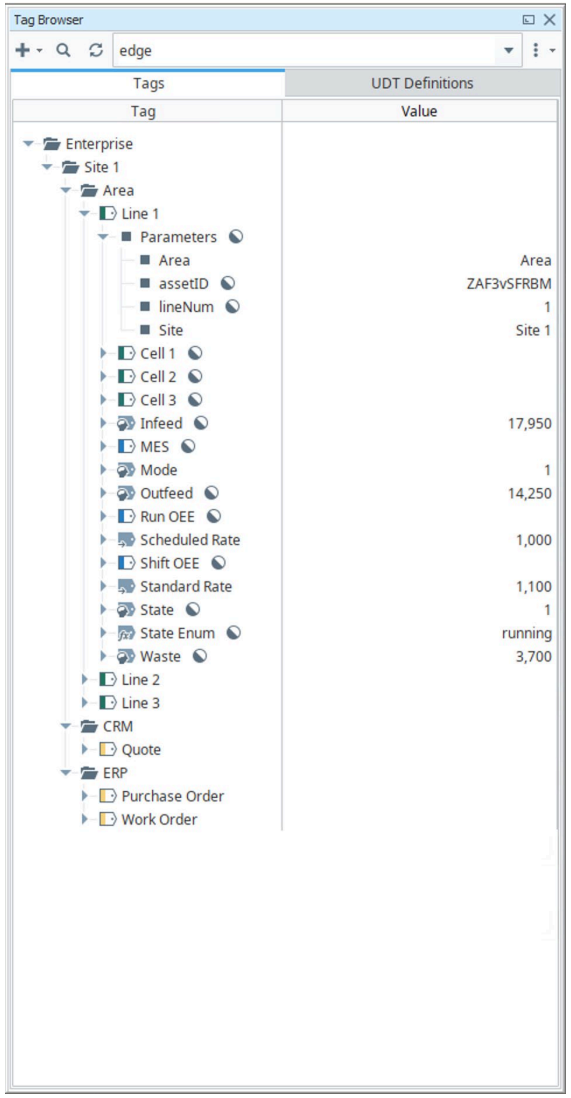
EXAMPLES

UNS EXAMPLES

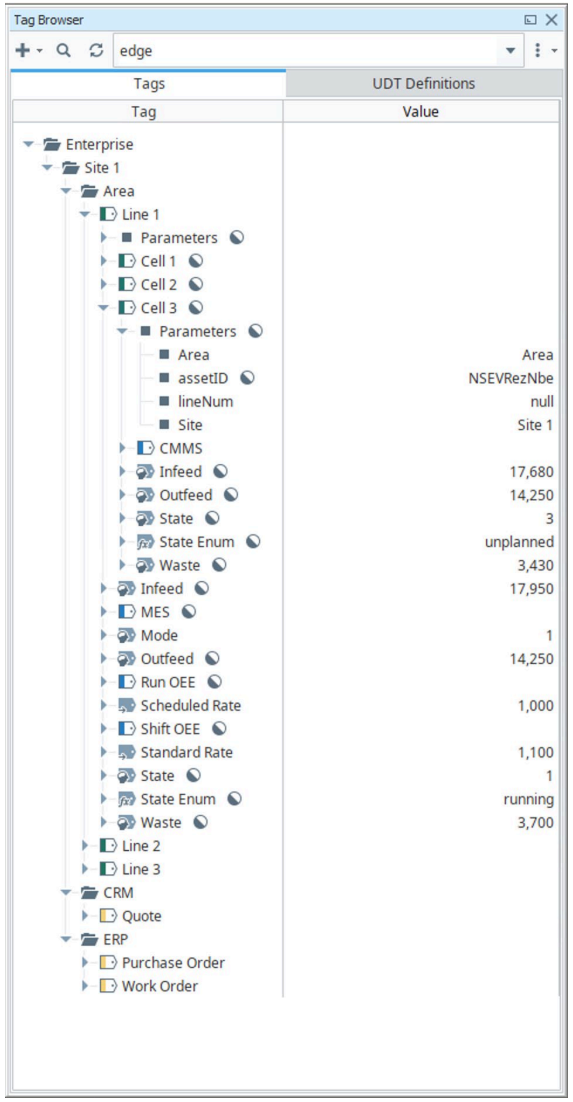
Site Overview



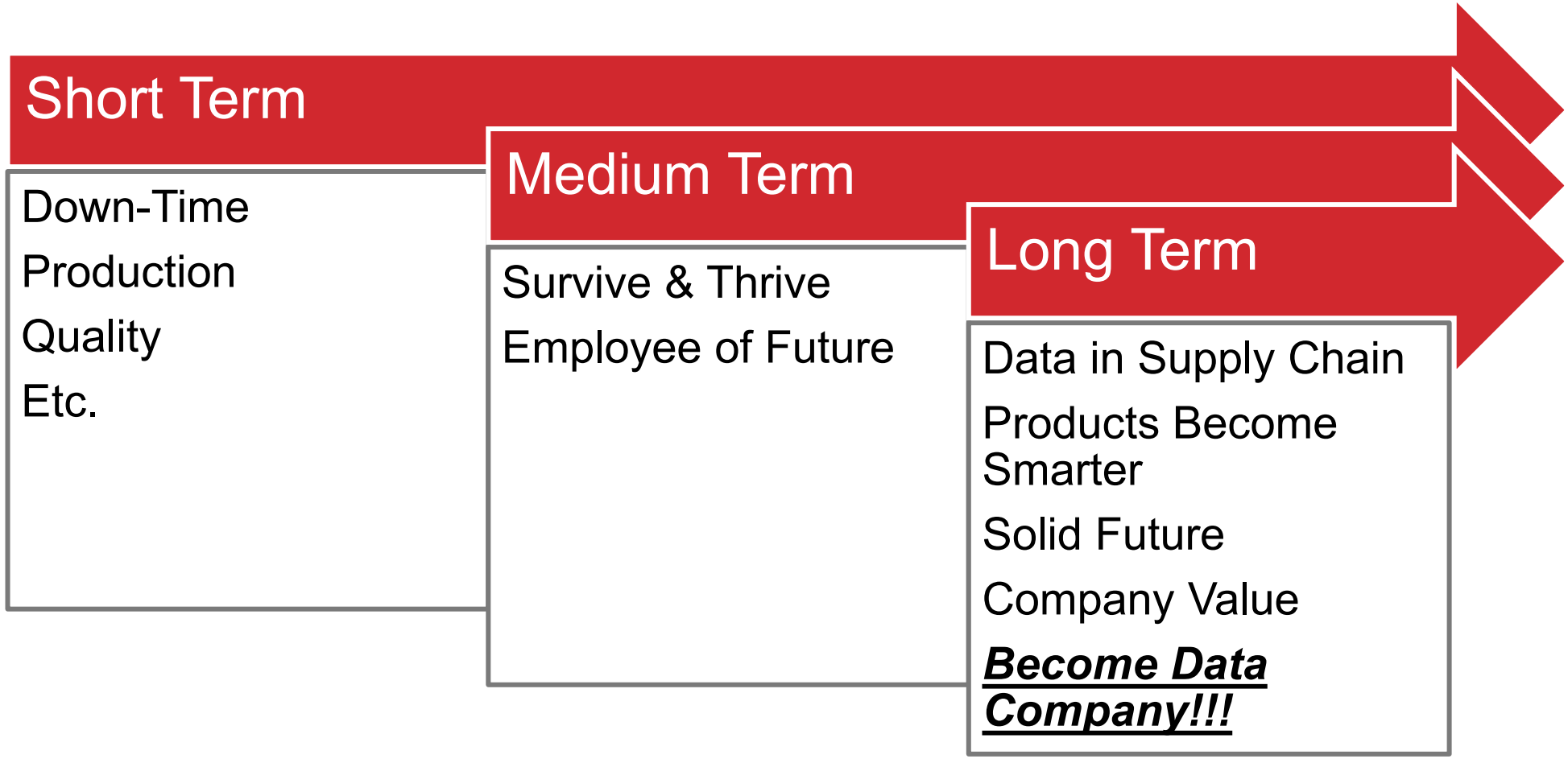
Line Overview



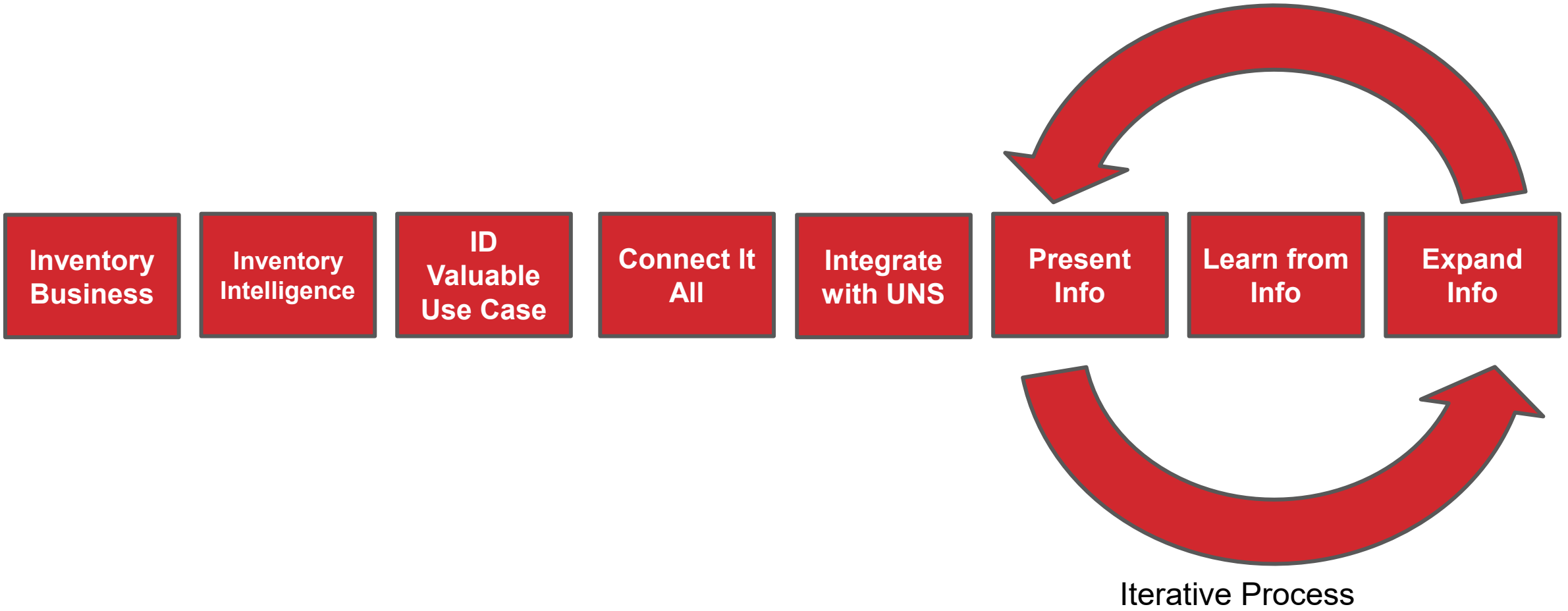
Cell Overview



WAIT!!! WHY IS THIS VALUABLE?



HOW TO EXECUTE



COMMON QUESTIONS

- Where does it live?
- Does it store data?
- Where does it store data?
- What if devices don’t speak MQTT Sparkplug B?

Q&A

David Schultz

dschultz@g5ces.com

Kevin Jones

kevin.jones@ectobox.com

ectobox

Consulting
& Engineering Services

HIVEMQ