

**IA-DS**

# Intelligent Dataspace for Industrial Data

Transforming Industrial data for AI readiness



Sandeep Sreekumar  
COO, Product Strategy Lead  
IndustryApps Singapore

# AI is shaping the future of manufacturing

“AI will transform the manufacturing industry to a level previously not available.” – Gartner

“GenAI will support the path to the factory of the future” – BCG

“The future is all about generative AI-powered assistant for the industry” – Siemens



AI driven  
Factory





# With irreplicable business value!

AI replaces the need for complex, expensive tool sets and solutions for Digitalization

Automated real-time scheduling for seamless production workflows

1

2

AI driven real time process monitoring and controls

Monitor asset utilization continuously to maximize efficiency and uptime.

4

3

Reduce labor skill development time with intuitive AI-guided systems

Real-time quality control for consistently high product standards

5



6

Receive real-time alerts and notifications for proactive issue resolution.



# and just one challenge to be solved!

## Industrial data is not AI ready

All factories irrespective of their Digital Tool maturity have data. They just lack a means to utilize them effectively.

### 01 **Distributed data sources**

Industrial data remains distributed across multiple systems, Historians, Local databases, Central ERP, Cloud systems and Physical documents

### 02 **Lack of Standards**

No data layer standardization – Projects executed by diverse teams external engineering companies all bringing their own standards and terminologies for documents

### 03 **Missing Semantics / Data Context**

No Standardized Language library for Industrial Engineering data. Lack of shared context makes information sharing complex and difficult to interpret

### 04 **Data Quality challenges**

Systems with multiple copies of data, manual updates, non synchronized masterdata rules, different time clocks



# Introducing IndustryApps

IndustryApps is at the forefront of industrial data management, providing a platform that contextualises and standardises data:

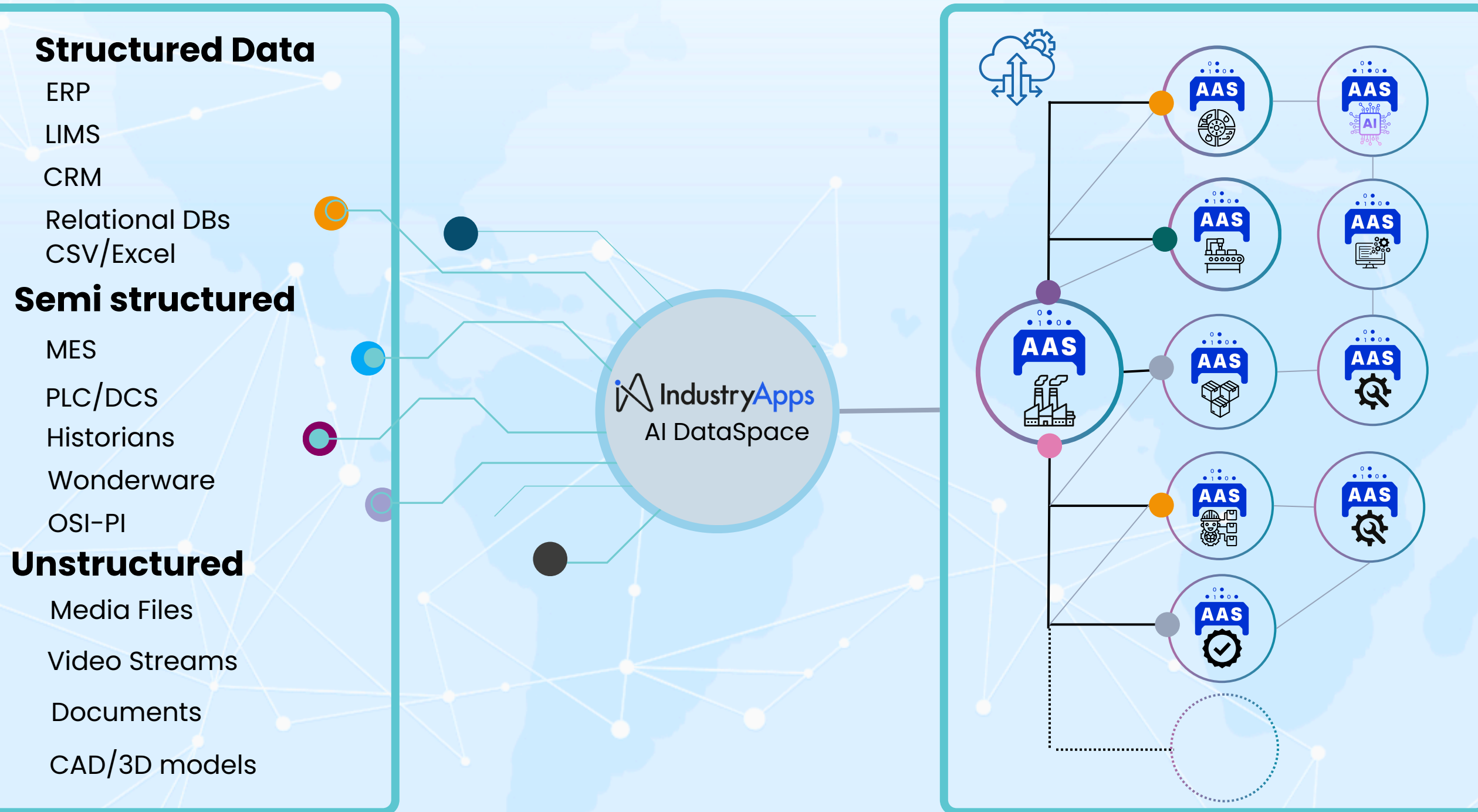
- Eliminating tailored integration between multiple systems
- Transform your distributed unstructured data from any source and any protocol to a universal open standard
- Seamless data transfer between internal applications, suppliers, customers, and partners





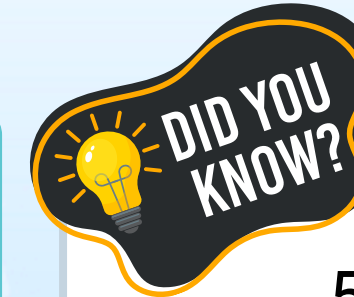
# Our Solution: IADS Dataspace

Transforming complex Industrial data to Contextual AI ready data



Industrial Data  
( Raw)

Enterprise Digital Twin  
Knowledge graph



## 5 Facts about IADS

1. Enable factories irrespective of their current Digital Maturity to become a Smart Data driven factory
2. Efficient use of IT resource needs - Execute with internal resources, your IT Partners or us
3. Short projects - Fast efficient implementations
4. Experience the business value with AI interaction in weeks
5. Fast ROI with complete control on your investments

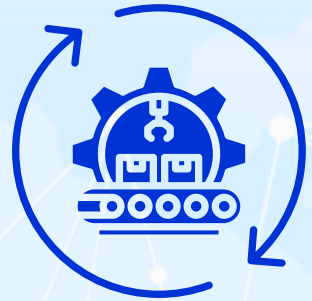
# The Value drivers and selected opportunities

Relevant for all CXO/ Digital Leaders

CDO/ CIO/ CTO/ COO/ DIGITAL LEADS  
Smart Factory / Data Lake/ Gen AI Projects



Supply Chain Leaders



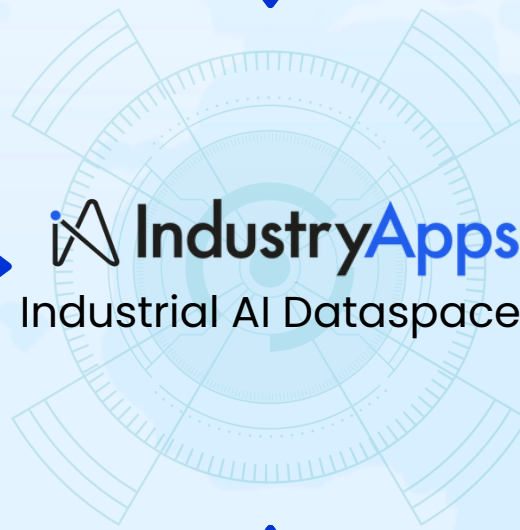
Operational Leaders



Compliance Quality Leaders



R&D



Real time Digital Twin data for Advanced Planning

AI driven manufacturing process optimization

Product Life cycle Traceability based on EU DPP standards

Simulation models for new Product designs and developments



# Additional opportunities:

## One Platform for Industry 4.0

- Industry 4.0 Roadmap
- Smart Operations platform
- Trusted Data Excellence Platform
- Industrial Digital Twins
- Industrial AI
- Digital Product Passport (DPP)
- Smart Supply Chain Management
- Product Traceability (Extended PLM)
- PCF – Product Carbon Foot print
- Circular Economy Tracking



# Do it yourself - with us - or with your preferred partner

## A Lightweight Industrial data gateway for Digital Twins

Your Cloud Landscape



Cloud Datalake



Cloud AI



Cloud Analytics



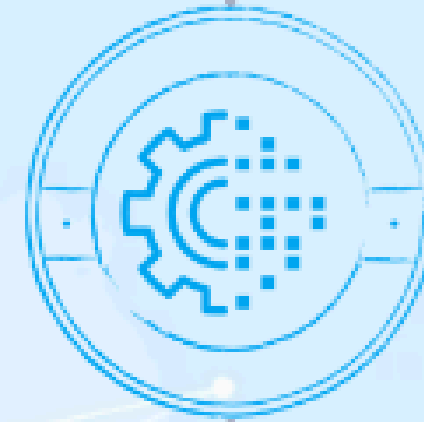
Cloud Collaboration



Advanced Business Applications

Structured - Contextualized Interoperable - AI ready data

Enable Gateway on EDGE / Cloud or Hybrid Mode



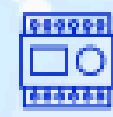
IndustryApps  
Industrial AI Gateway

Unstructured, Distributed Non-Contextual Industrial data

Your Industrial data Landscape



Historian



PLC/IoT



MES



CMMS



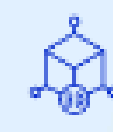
ERP



QMS



Simulation



3D data



Video/Images



Docs



Labour data



Robotics

Operational (OT) data

IT data

Engineering data

Media/External data

Labour data

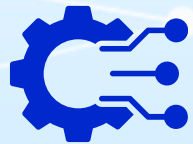
Robotics



# Benefits:

A growing ROI with data and application rollouts

## IT Benefits



### Integration Cost

- Reduce IT/OT Integration Cost
- Standard templates for data mapping  
80% of data elements pre defined
- 40 -50%% reduction in IT/OT Cost



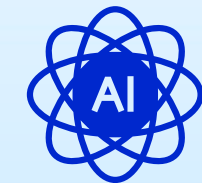
### Cloud Cost

- Reduce Cloud storage and computing cost
- 30 - 60% Reduction in Cloud cost



### Advanced Data security

- Enable advanced ABAC controls
- API security



### AI readiness

- Apply GenAI tools on data with out multiple Cloud services
- 70% reduction in Data Cleaning Transformation tool

## Operations Benefits



### Business Capabilities

- More than 100 Modular business capabilities and agile application enablement and role outs



### Industry Standard

- Adhere to Industry standards
- Adhere to EU data Act
- Adhere to Digital Product Passport (DPP)



### Quick Insights

- Generate Insights from the Shopfloor data
- Improve 5-8% in productivity just from Shopfloor transparency



### Future readiness

- Future readiness to Industrial data ecosystems
- Catena-X
- Cofinity-X
- Manufacturing-X



# Use case: Benefits

## Deterministic results to LLM Search

### IT Benefits

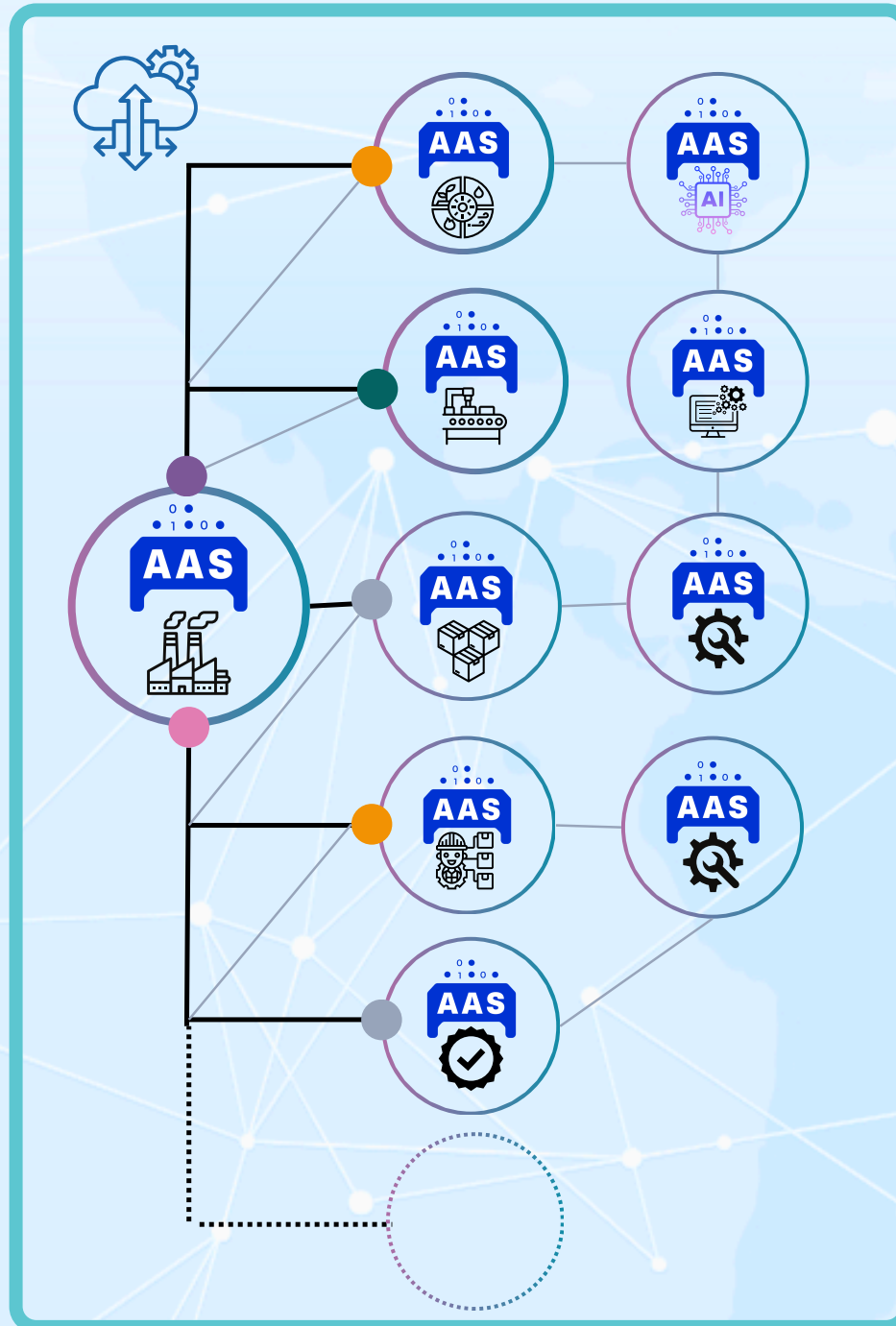
- 40% reduction in Cloud ( Databricks ) cost - Reduction in data read/write and computing
- Effective RAG by ensuring data context and using Product Digital twin data models
- Effective AI/Analytics Team efforts - A standardized Product Ontology allows scalable AI Models
- Integrated Semantic Library for easy application building
- Extensibility with new capabilities - Voice search, Image search etc

### Business Benefits

- Natural language based interaction - Multi language search
- Integration with CRM layer for Customer Service Team
- No additional user training or complex data integration demands
- Minimal effort to add new product data - Automated data pipeline
- Significant value for New Product research with Process Digital twins

# Use case: Digital Twin based data Governance

## Single source of data



Enterprise Digital Twin Knowledge graph

### Unified Industry ready DataModels IEC - 63278

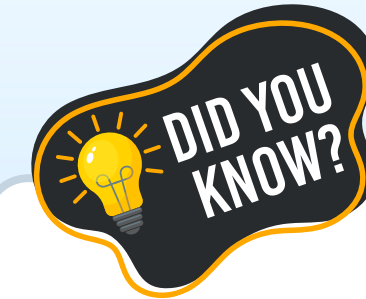
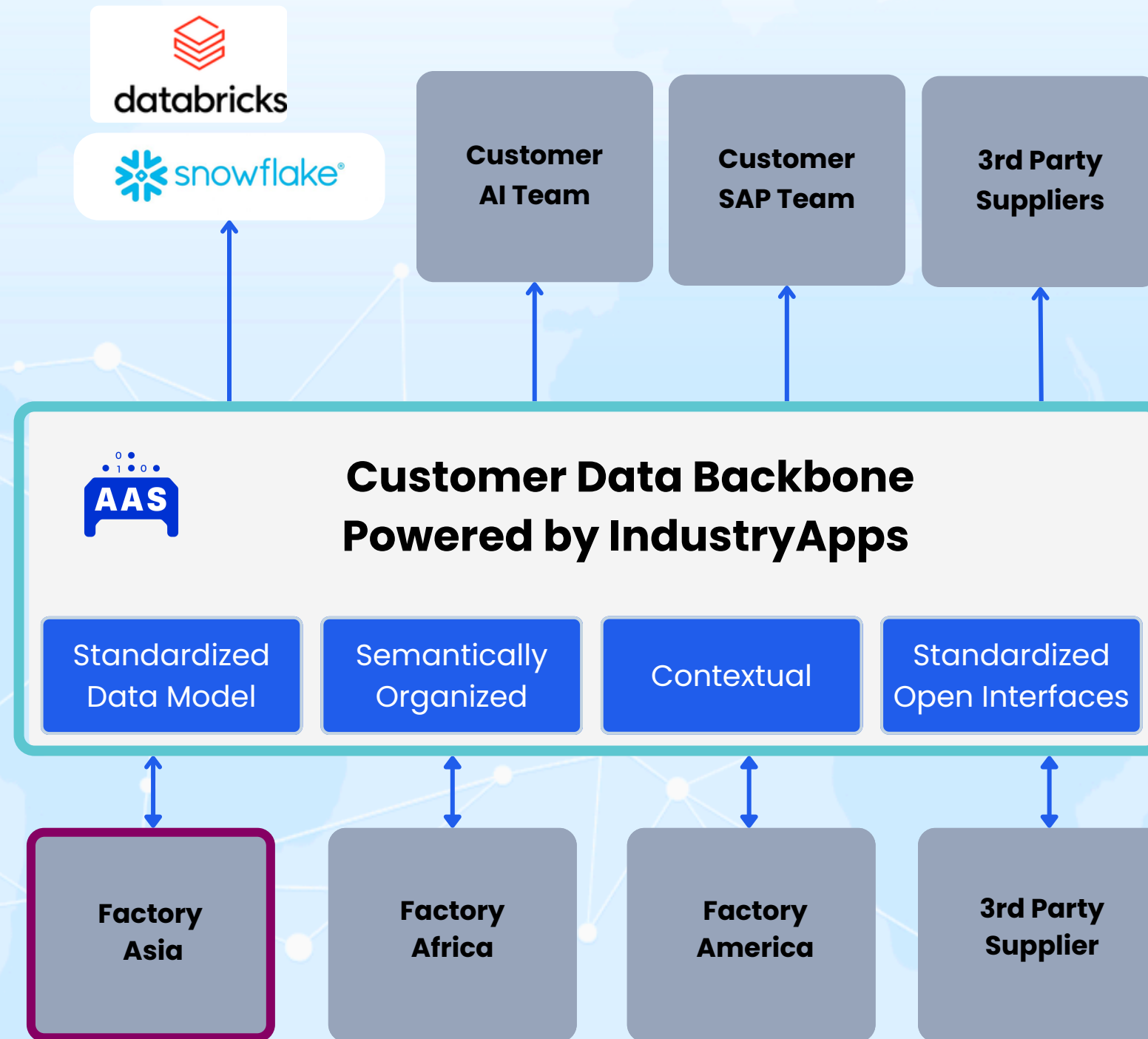
- **Master data (Static)**
  - ERP
  - CRM
  - PLM
  - Engineering
- **Transactional (Dynamic)**
  - ERP
  - MES
  - QMS
- **Machine data (Time series)**
  - MES
  - Historian
  - IIOT - Sensors

### IADS - Benefits

- **One set of API to access all data types**
- **Central API Access Management**
- **Ability to share data at Data block level - Production Data, Time series data, Transactional data**
- **Easy governance - Grant/Revoke access at Plant, Asset level**
- **ABAC - Granular access control at Attribute level**
- **Data Governance that fits Industrial data needs**

# One Global Data Backbone

Clean, contextual Industrial data



## Customer Benefits

1. Build your **Global data backbone** based on Open Industry standards
2. Reduce storage and computing cost of Datalake with structured, contextual data
3. Standardized data interfaces - No customised interfaces
4. Advanced granular security controls with ABAC (Attribute based Access Control Technology)
5. Achieve faster ROI on AI/digital programs with clean, contextual data



Stay ahead of the curve - be AI ready today!



Make your data AI ready

**Thank you!**

**Heinz Koster (Sales)**

- ✉ heinz-k@industryapps.net
- ☎ +55 19 98899 1611
- ☎ +49 172 5461611

**Sandeep Sreekumar (Technical Sales)**

- ✉ ssk@industryapps.net
- ☎ +65 8428 5413
- 🌐 [linkedin.com/in/sandeep-sreekumar-50a6171](https://www.linkedin.com/in/sandeep-sreekumar-50a6171)