

THURSDAY MAY 19, 2022

---

# Data Collection On-premises and at the Industrial Edge

Jiyeon Hwang & Ryan McErlean

**AVEVA**

# Role of Data in Your Workplace?

# Agenda

Data Collection at the Edge + Demo

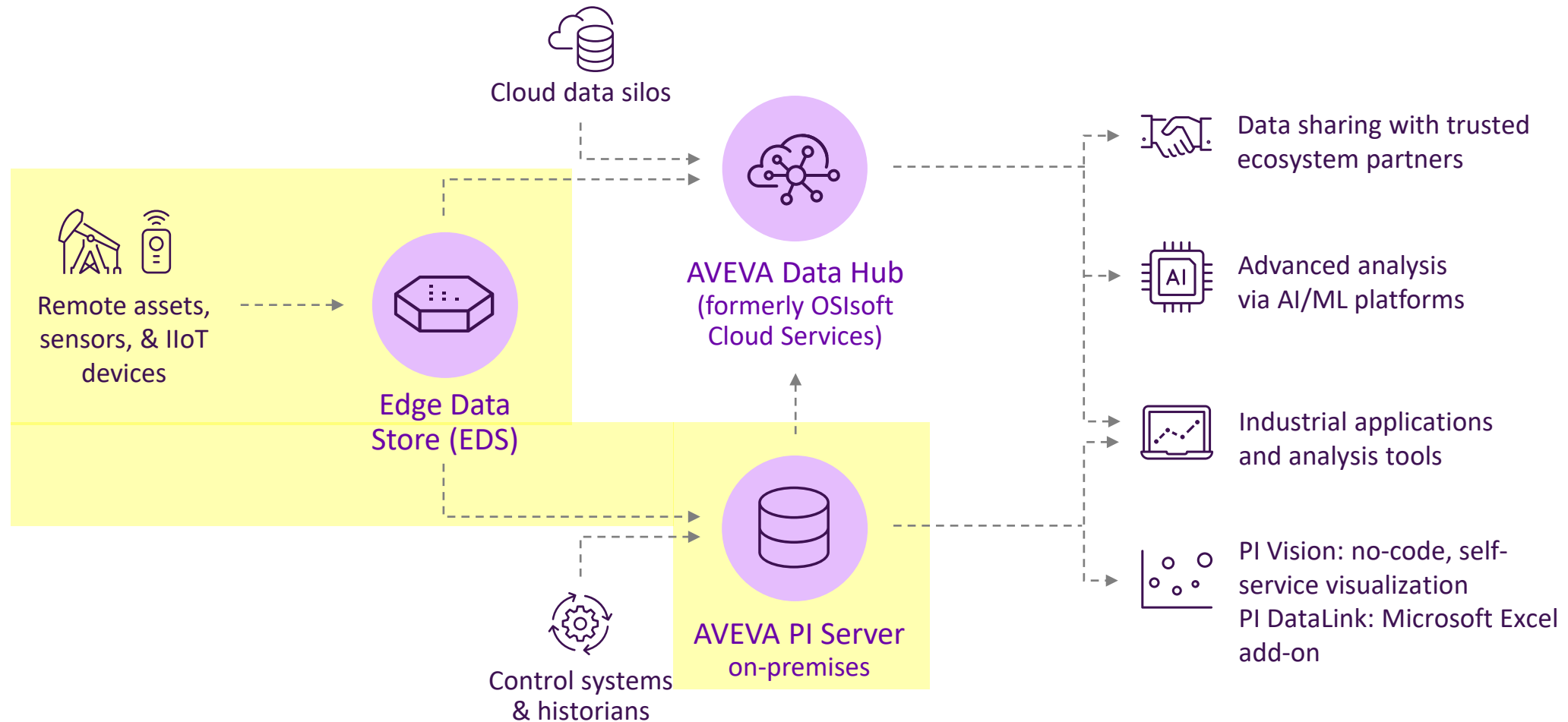
Remote Device Management + Demo

Remote Software Management

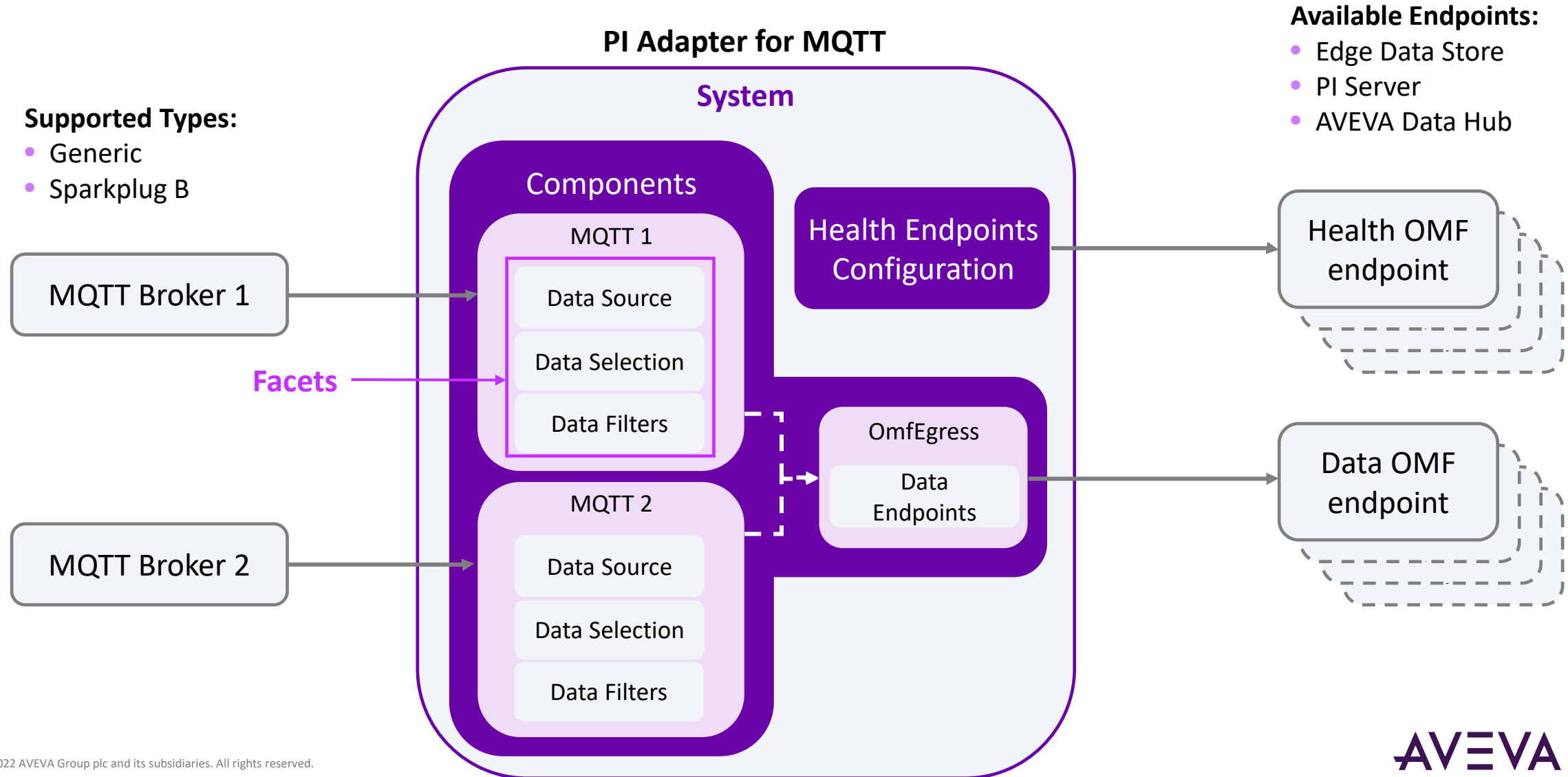
Looking ahead

Wrap up

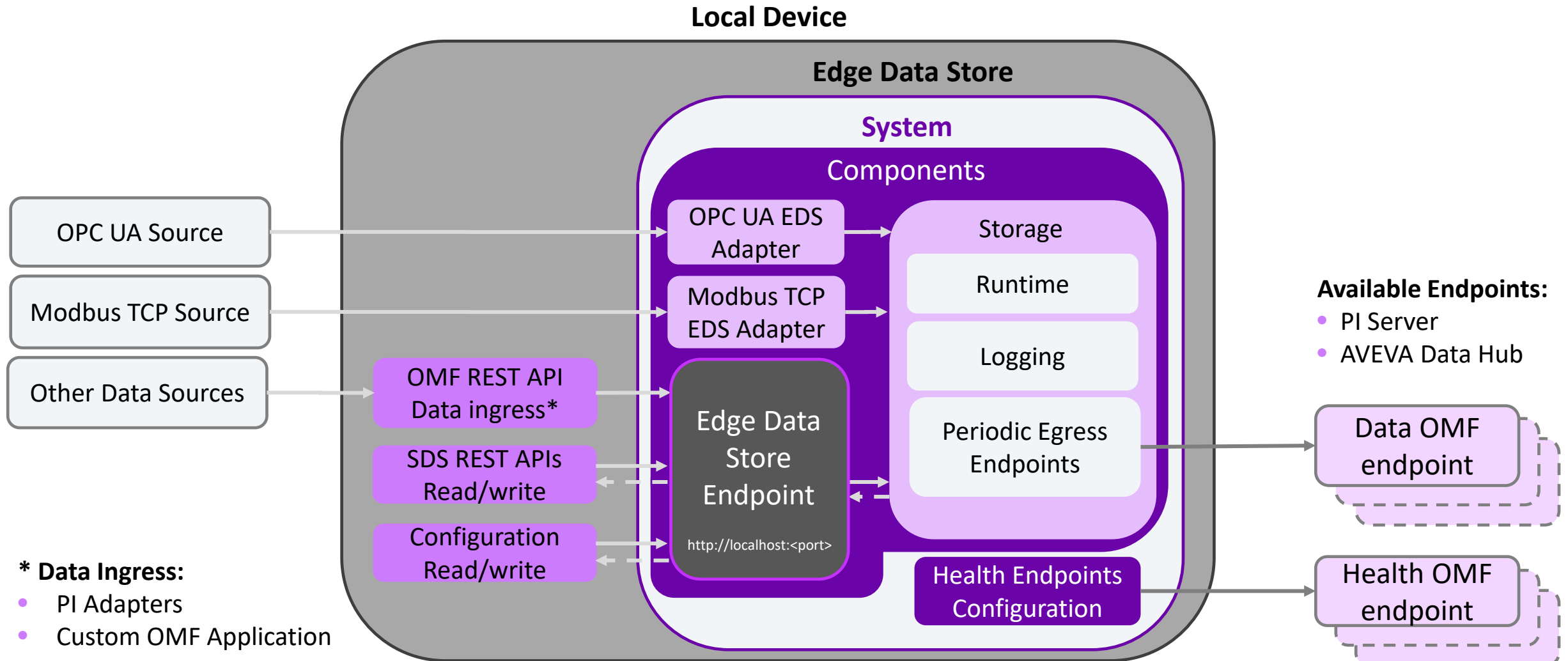
# Data management enables visibility and informed decision making



# Example Architecture of a PI Adapter



# Architecture of Edge Data Store



---

# Demo: Data Collection on the Edge





Recycle Bin



Archive

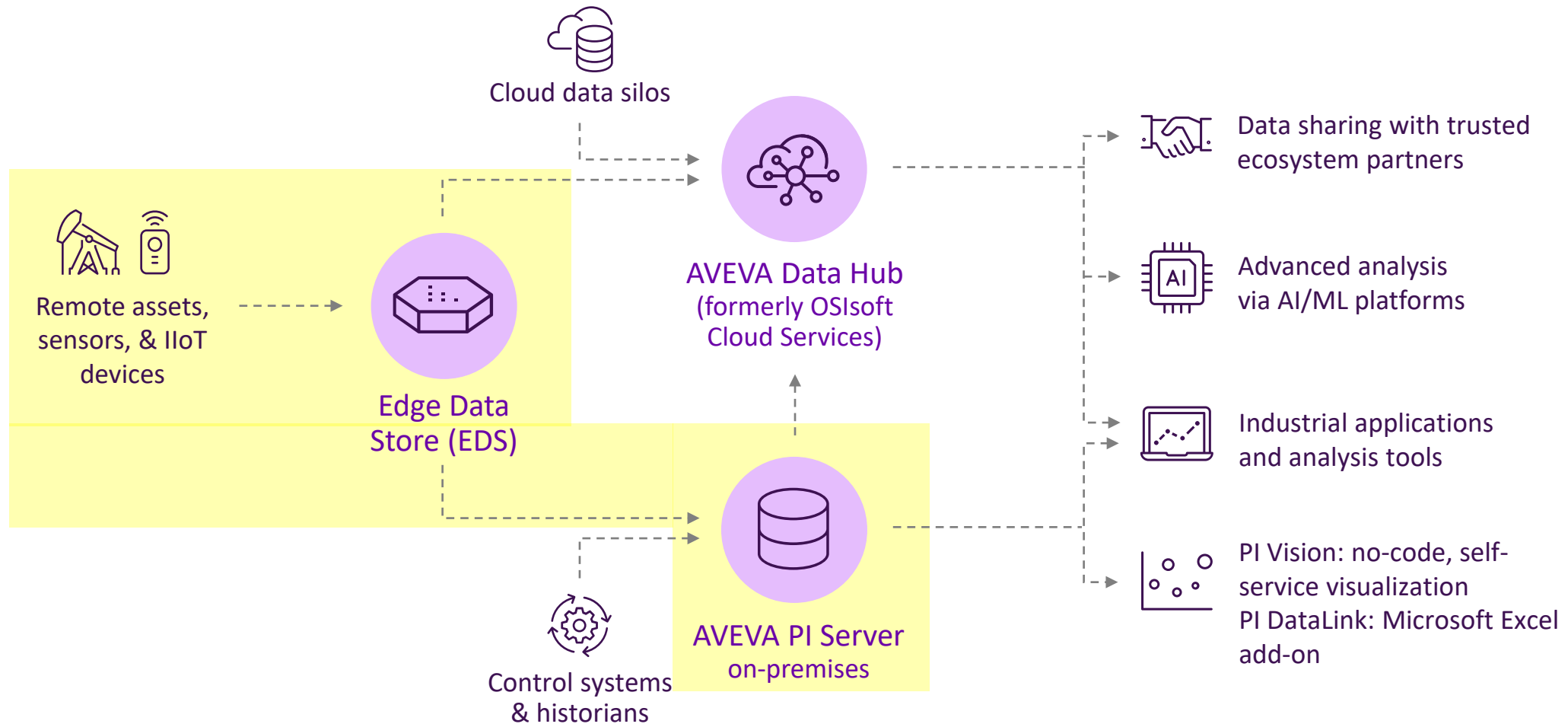


ConfigFiles



InstallKits

# Data management enables visibility and informed decision making



AVEVA EDGE MANAGEMENT

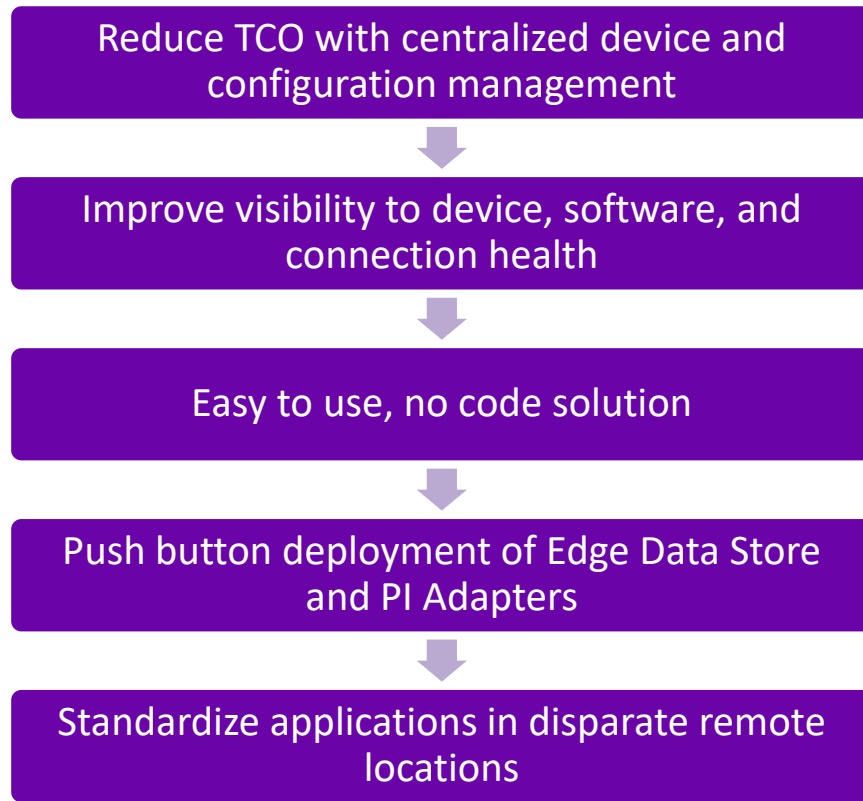
---

# Remote Device Management



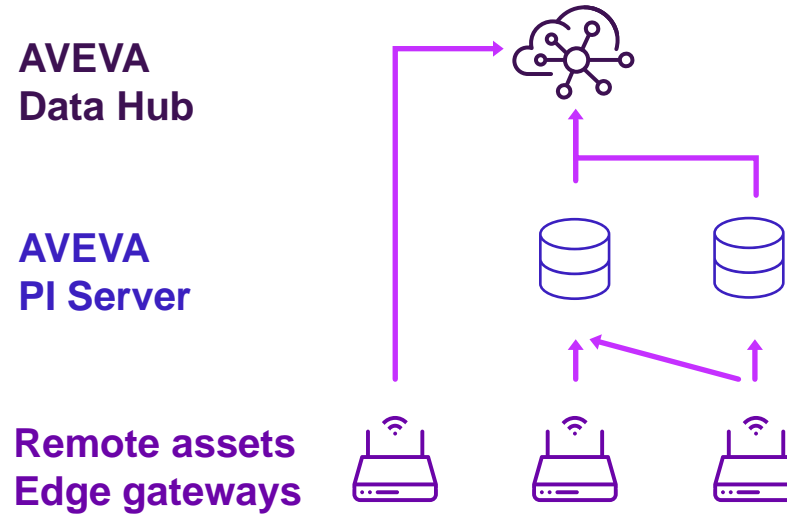
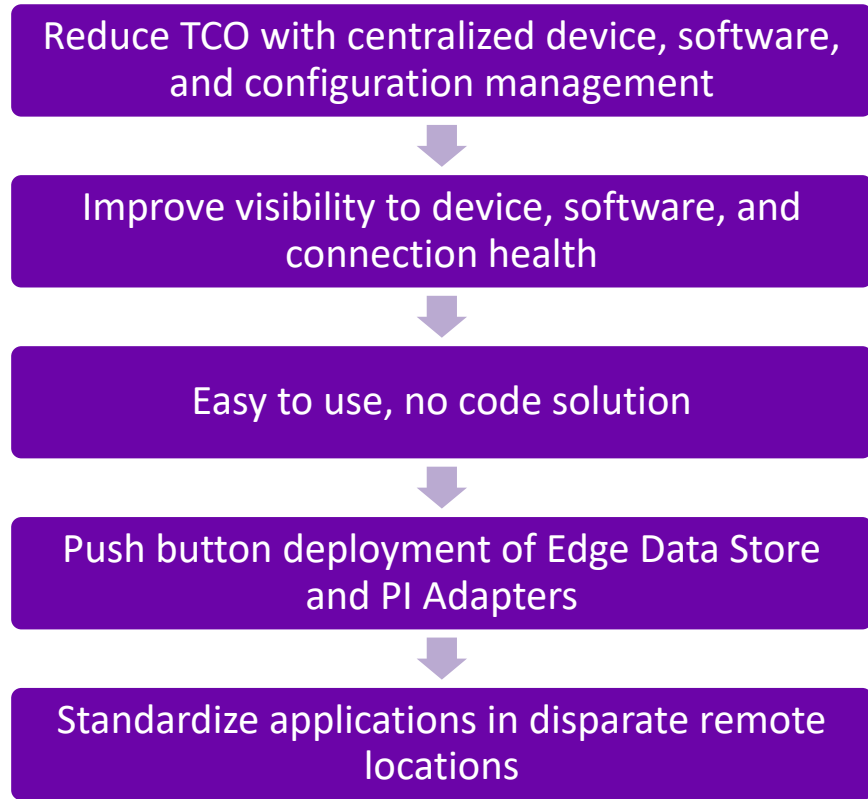
# Remote Device Management

## AVEVA Edge Management



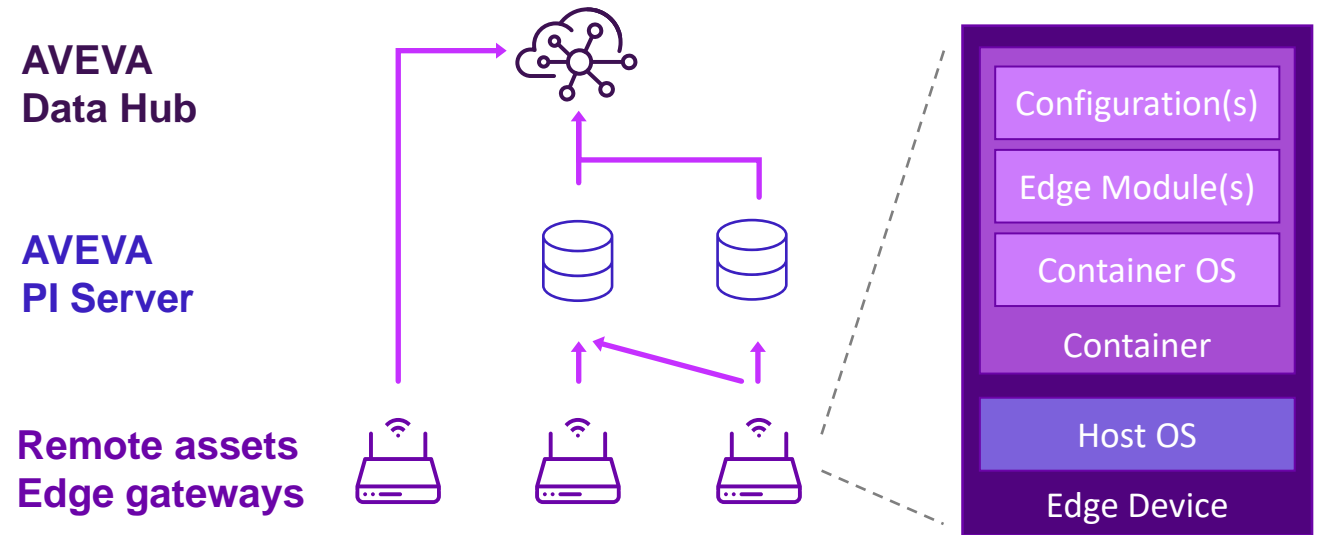
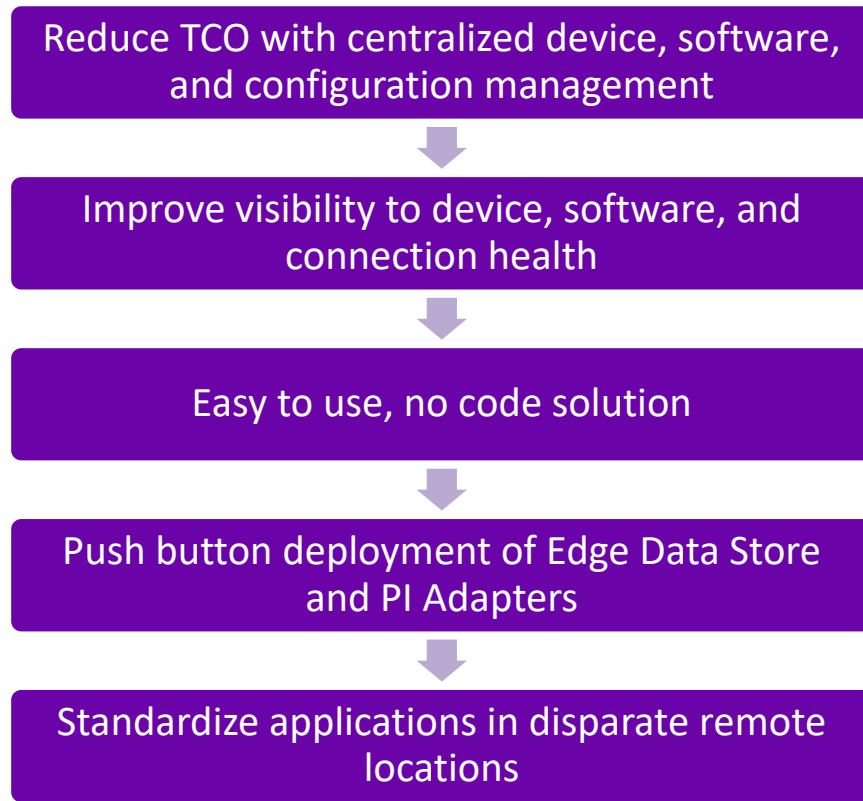
# Remote Device Management

## AVEVA Edge Management



# Remote Device Management

## AVEVA Edge Management



---

# Demo: Remote Device Management





# Remote Device Management

## AVEVA Edge Management

### Pair

PIADAPTERS2

Summary

Details

Modules

Deployment

Details

DescriptionField device running Edge Data Store & PI Adapter for MQTT

Device TypeUbuntu 20.04

PlatformLinux x64 (e.g.: Ubuntu)

Keywords

MQTT

EDS

Pairing

Run this command in the linux terminal on the edge device to pair the device to its device twin

sudo wget -O - https://connect.aveva.com/api/api/v1/devices/devicecode/bootstrap | bash

Refresh

Copy to clipboard

Pair device with AVEVA Edge Management

### Deploy

PIADAPTERS2

Summary

Details

Modules

Deployment

Back To Add Modules >>

Edge Data Store 0/mo

MQTT Adapter 0/mo

Versions1.1.1

Deployment Name \*pi\_edge\_data\_store\_module\_linux\_x64

Configuration File \*eds\_config.json

Connection Port \*5590

Cancel

Update

Deploy Edge Data Store and PI Adapter modules

### Manage

AVEVA™ Edge Management

Device List

Status	Connection	License	Name	Description	Keywords
PUBLISHED	📶	✓	PIADAPTER1	Field device running Edge Data Store and PI Adapter for MQTT	EDS
PUBLISHED	📶	✓	PIADAPTER2	Field device running Edge Data Store and PI Adapter for MQTT	EDS
PUBLISHED	📶	✓	PIADAPTER3	Field device running Edge Data Store and PI Adapter for MQTT	EDS
PUBLISHED	📶	✓	PIADAPTER4	Field device running Edge Data Store and PI Adapter for MQTT	EDS
PUBLISHED	📶	✓	PIADAPTER5	Field device running Edge Data Store and PI Adapter for MQTT	EDS

Manage software configuration and upgrades remotely

AVEVA DATA HUB

---

# Remote Software Management



# Extend the value of PI System with AVEVA Data Hub

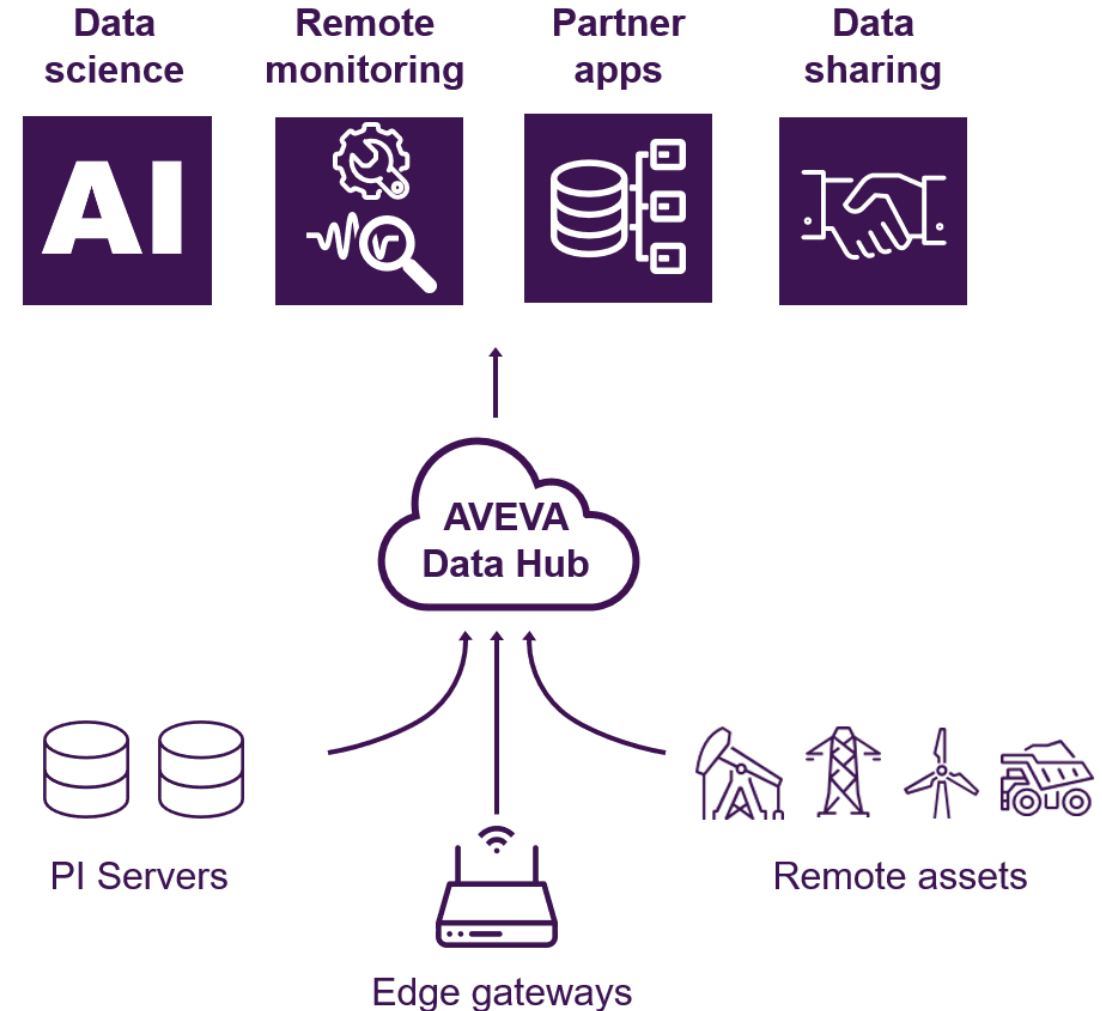
Engage new personas, enable new use cases

**Purpose built** to meet the demands and challenges of industrial information

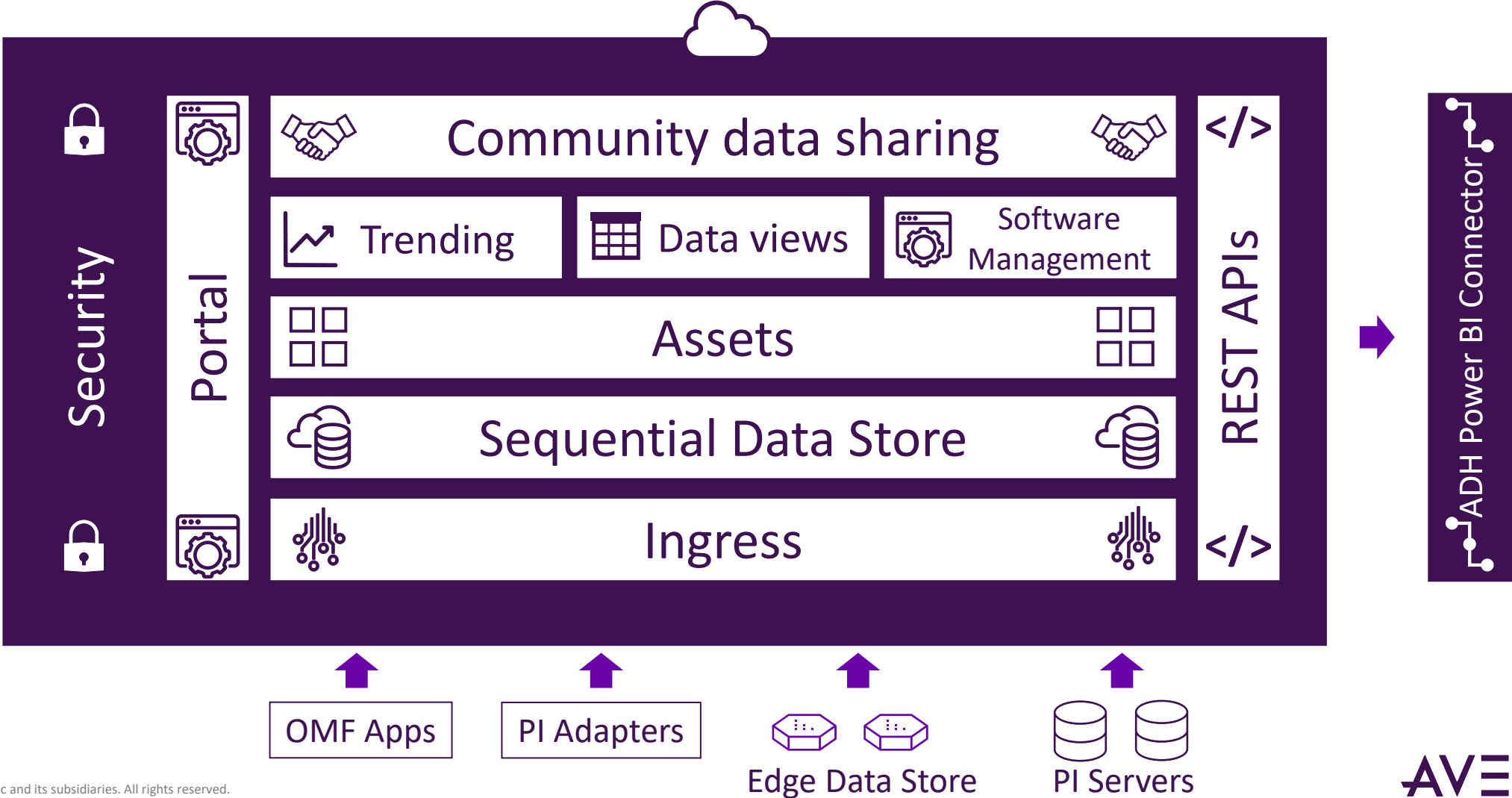
Simple, **secure data sharing** with trusted partners and experts

Rapid time-to-value with **native integration** to AVEVA PI Server and Edge Data Store

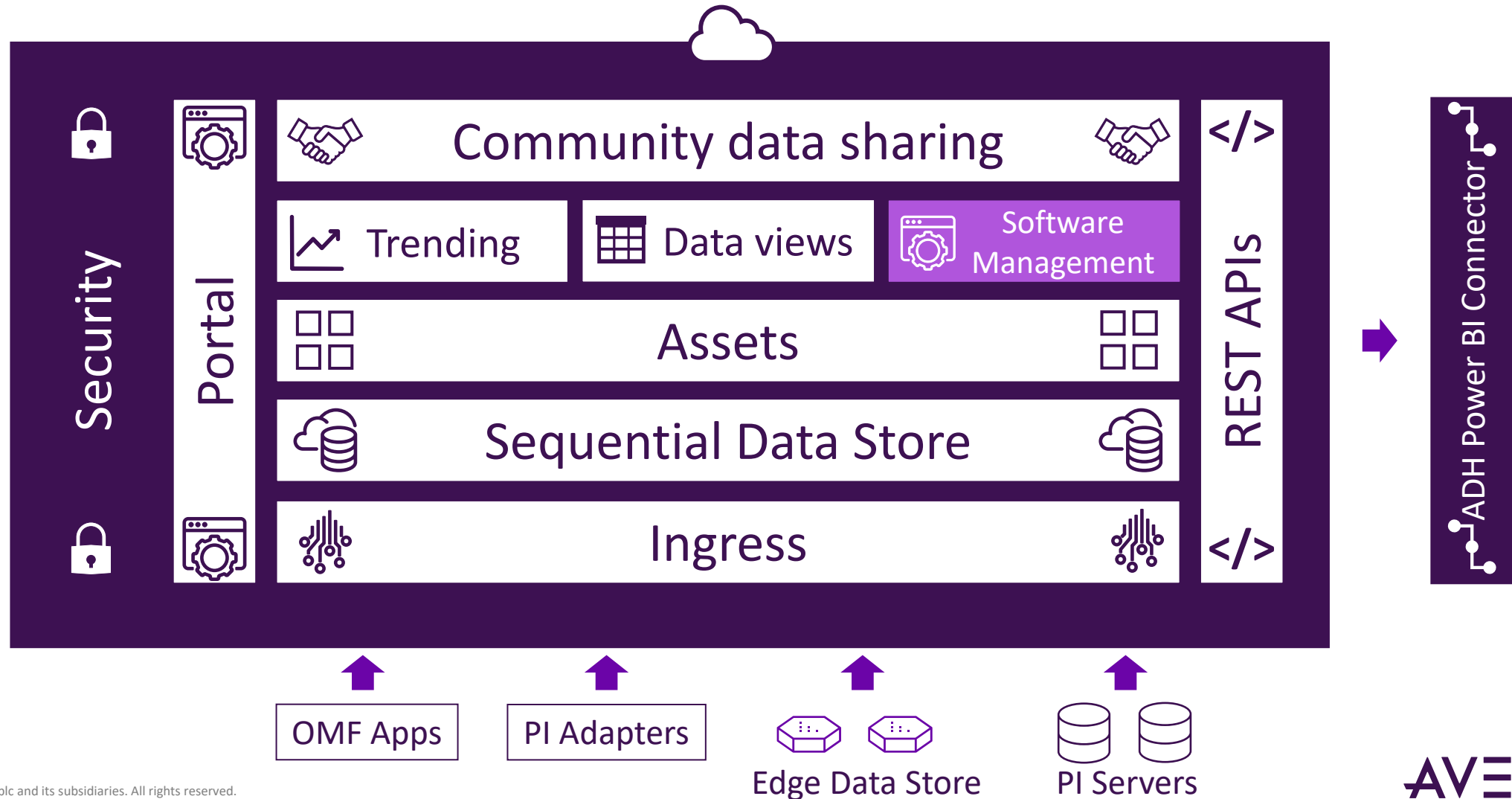
Scalable foundation for new digital service business. Get up and running in **minutes, not months**



# AVEVA Data Hub capabilities

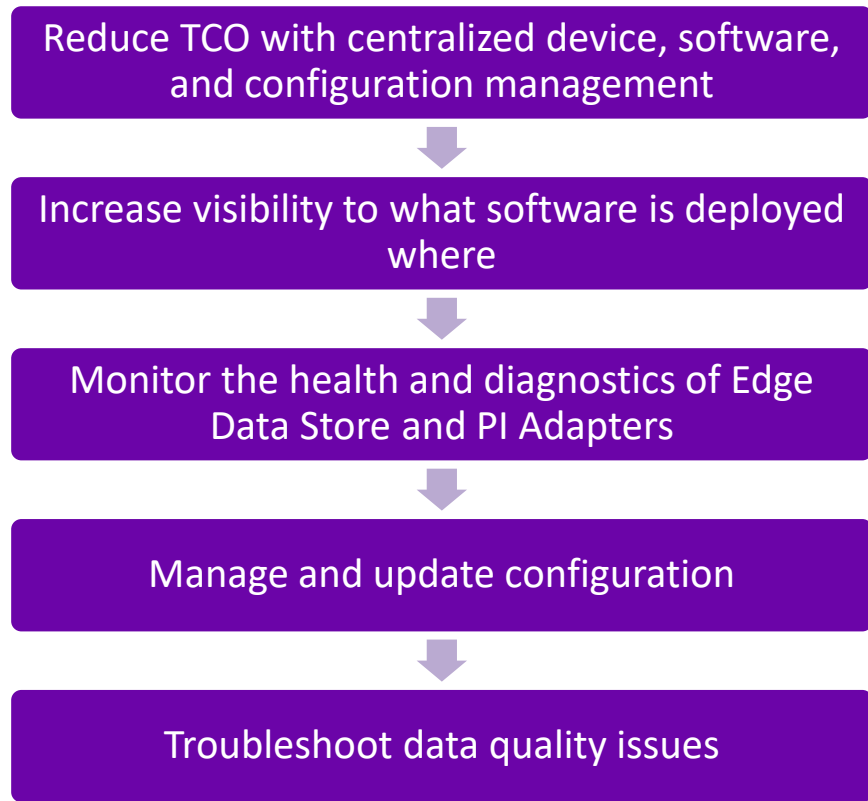


# AVEVA Data Hub capabilities



# Remote Software Management

## AVEVA Data Hub



# Remote Software Management

## Health and Status Reporting

Installed Software

Home

Data Management

Data Collection

Visualization

Analytics

Security

Developer Tools

Support

Edge Systems

Search for Edge System

Edit Edge System

Device Name	Status	Type	Version	Last Contacted	Tags
PIADAPTER1	Good	Edge Data Store	1.0.852	a minute ago	
PIADAPTER2	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER3	Good	Edge Data Store	1.0.852	a minute ago	
PIADAPTER4	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER5	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER1	Good	PI Adapter for MQTT	1.1.0.1	a minute ago	
PIADAPTER2	Good	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER3	Good	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER4	Device In Error	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER5	Not Configured	PI Adapter for MQTT	1.1.0.1	a few seconds ago	

PIADAPTER1

Details Configuration

Edge Data Store

Id

1fe107f7-9653-4953-a873-6ceaa73ef56a

Status

Good

Version

1.0.852

Memory

171.5 MB

Storage Used

9.5 GB / 103.6 GB

9%

Last Contacted

a minute ago

Last Modified

Tags

Components

Storage

Health

Good

Streams

111

Ingress Rate

54

Device Name

Health Status

Device diagnostics

Software Metrics

Trend metrics and diagnostics

# Remote Software Management

## Configuration Management

The screenshot displays the AVEVA Data Hub Software Management interface. The left sidebar contains navigation links: Home, Data Management, Data Collection (selected), Visualization, Analytics, Security, Developer Tools, and Support. The main content area is titled 'Software Management' and shows configuration for 'EDS1'. At the top, there are buttons for 'Export Configuration', 'Import Configuration', and 'Save & Close'. Below these, the 'Configuration' section is active, showing 'JSON Configuration' selected. A status message indicates 'No Problems Detected'. The main area displays a JSON configuration file with the following structure:

```
1 {
2   "Storage": {
3     "PeriodicEgressEndpoints": [
4       {
5         "id": "PI",
6         "executionPeriod": "00:00:15",
7         "endpoint": "https://piserver1/piwebapi/omf/",
8         "userName": "username",
9         "password": "password"
10      }
11    ],
12    "Runtime": { ...
13  },
14  "Logging": {}
15 },
16 "System": {
17   "Logging": {},
18   "HealthEndpoints": [
19     {
20       "id": "AVEVA Data Hub",
21       "endpoint": "https://datahub.connect.aveva.com/api/v1/Tenants/tenantId/NamespaceId/omf",
22       "clientId": "clientId",
23       "clientSecret": "clientSecret"
24     },
25     {
26       "id": "PI",
27       "endpoint": "https://piserver1/piwebapi/omf/",
28       "userName": "username",
29       "password": "password"
30     }
31   ]
32 }
33 }
```

On the right side, the 'Actions' panel lists several options: 'Open Documentation' (Opens the edge system documentation), 'Revert Changes' (Restores configuration with saved version), 'Import Section' (Imports file into current section), and 'Export Section' (Downloads the current section as a JSON file).

# Device Management + Software Management

## AVEVA Edge Management + AVEVA Data Hub

### Pair

PIADAPTERS2

Summary

Details

Modules

Deployment

Details

Description

Field device running Edge Data Store & PI Adapter for MQTT

Device Type

Ubuntu 20.04

Platform

Linux x64 (e.g.: Ubuntu)

Keywords

MQTT EDS

Pairing

Run this command in the linux terminal on the edge device to pair the device to its device twin

sudo wget -O - https://connect.aveva.com/api/api/v1/devices/devicecode/bootstrap | bash

Refresh

Copy to clipboard

Pair device with AVEVA Edge Management

### Deploy

PIADAPTERS2

Summary

Details

Modules

Deployment

Back To Add Modules >>

Edge Data Store

MQTT Adapter

Deployment Name \*

pi\_edge\_data\_store\_module\_linux\_x64

Configuration File \*

eds\_config.json

Connection Port \*

5590

Cancel

Update

Deploy Edge Data Store and PI Adapter modules

### Collect, Monitor & Manage

AVEVA™ Data Hub

Software Management

Search for Edge Systems

Go to Edge System

Device Name	Status	Type	Version	Last Contacted	Tags
PIADAPTER1	Good	Edge Data Store	1.0.852	a minute ago	
PIADAPTER2	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER3	Good	Edge Data Store	1.0.852	a minute ago	
PIADAPTER4	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER5	Good	Edge Data Store	1.0.852	a few seconds ago	
PIADAPTER1	Good	PI Adapter for MQTT	1.1.0.1	a minute ago	
PIADAPTER2	Good	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER3	Good	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER4	Device In Error	PI Adapter for MQTT	1.1.0.1	a few seconds ago	
PIADAPTER5	Not Configured	PI Adapter for MQTT	1.1.0.1	a few seconds ago	

PIADAPTER1

Details

Configuration

Edge Data Store

id

1f610777-0453-4953-0873-40ea73ef56a

Status

Good

Version

1.0.852

Memory

171.5 MB

Storage Used

9.5 GB / 153.6 GB

9%

Last Contacted

a minute ago

Last Modified

Tags

Components

Storage

Health

Good

Storage

111

Ingress Rate

54

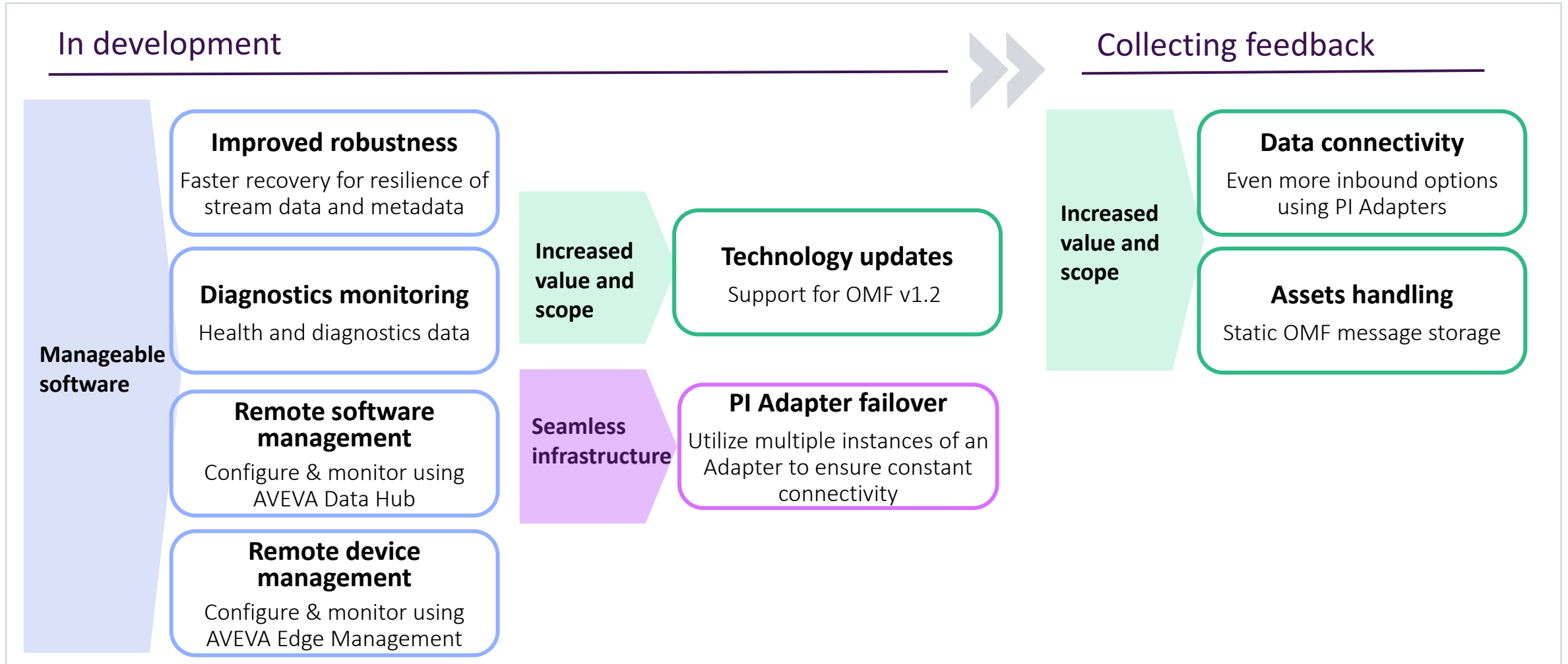
Start collecting data, gain visibility into device and software health, manage configuration and upgrades



# Looking ahead

**AVEVA**

# What's next for Edge Data Store and PI Adapters?

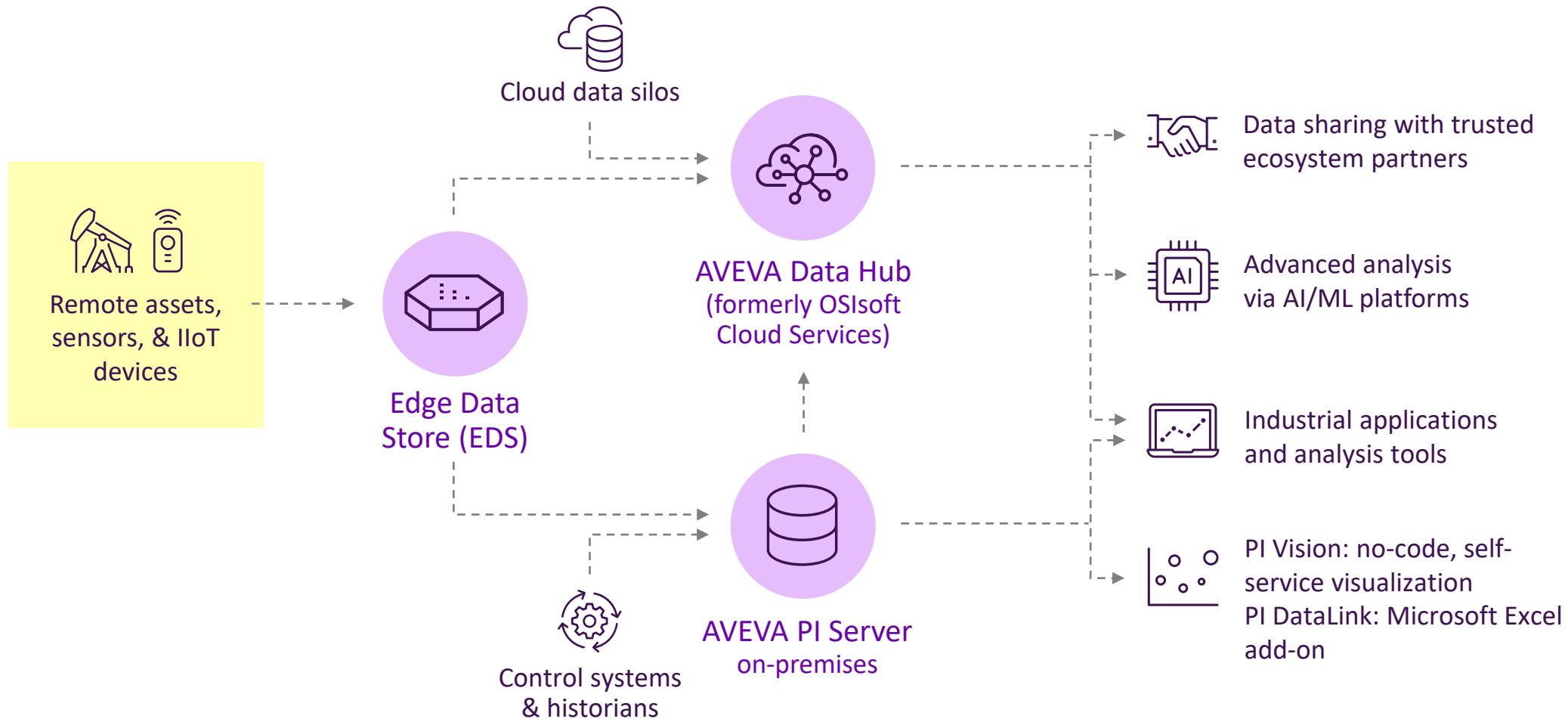




# Wrap up



# Data management enables visibility and informed decision making





# AVEVA Lighthouse Program

Join us in a Lighthouse Project to prove & shape the value of new technology for your business scenarios!

- **AVEVA provides:**

- AVEVA pre-released software
- Installation & configuration support
- Technical R&D support
- Program management

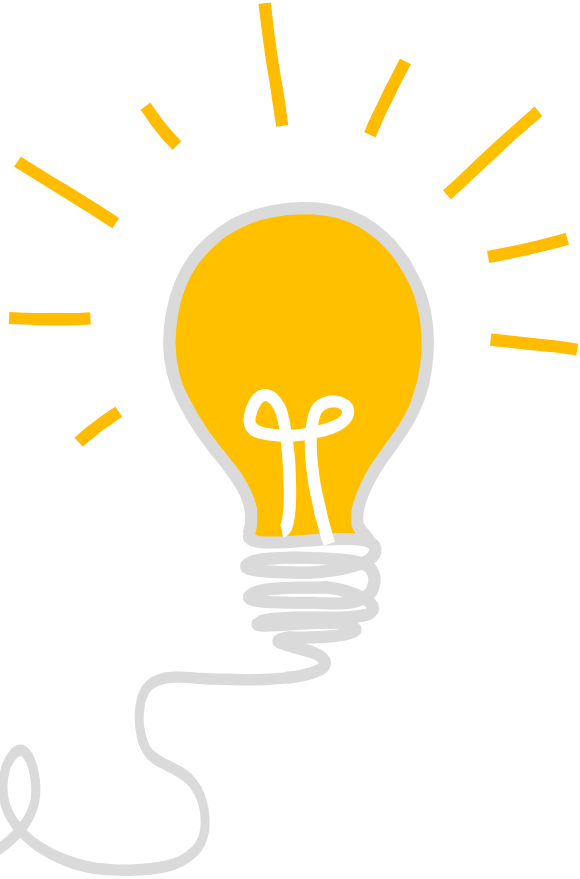
- **Participating customer provides:**

- Viable scenario
- Resources to use AVEVA pre-released software for your scenario
- Product feedback on use of software for scenario
- Willingness to document a success story and participate in a future AVEVA public presentation

*Email us at [lighthouse@aveva.com](mailto:lighthouse@aveva.com) to engage with our team!*

**AVEVA**

How do I influence the AVEVA PI System roadmap?



<https://feedback.osisoft.com>

---

Let us know your product feedback!



# Jiyeon Hwang

Technical Product Manager

- AVEVA
- [jiyeon.hwang@aveva.com](mailto:jiyeon.hwang@aveva.com)



# Ryan McErlean


Sr. Technical Product Manager


- AVEVA
- [ryan.mcerlean@aveva.com](mailto:ryan.mcerlean@aveva.com)



This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

 [@avevagroup](https://twitter.com/avevagroup)

#### ABOUT AVEVA

AVEVA is a global leader in industrial software, driving digital transformation and sustainability. By connecting the power of information and artificial intelligence with human insight, AVEVA enables teams to use their data to unlock new value. We call this Performance Intelligence. AVEVA's comprehensive portfolio enables more than 20,000 industrial enterprises to engineer smarter, operate better and drive sustainable efficiency. AVEVA supports customers through a trusted ecosystem that includes 5,500 partners and 5,700 certified developers around the world. The company is headquartered in Cambridge, UK, with over 6,500 employees and 90 offices in over 40 countries.

Learn more at [www.aveva.com](https://www.aveva.com)