BLUEPRINT

Industrial Internet of Things (IIoT)

Changing the way industrial companies operate

What is an IIoT platform?

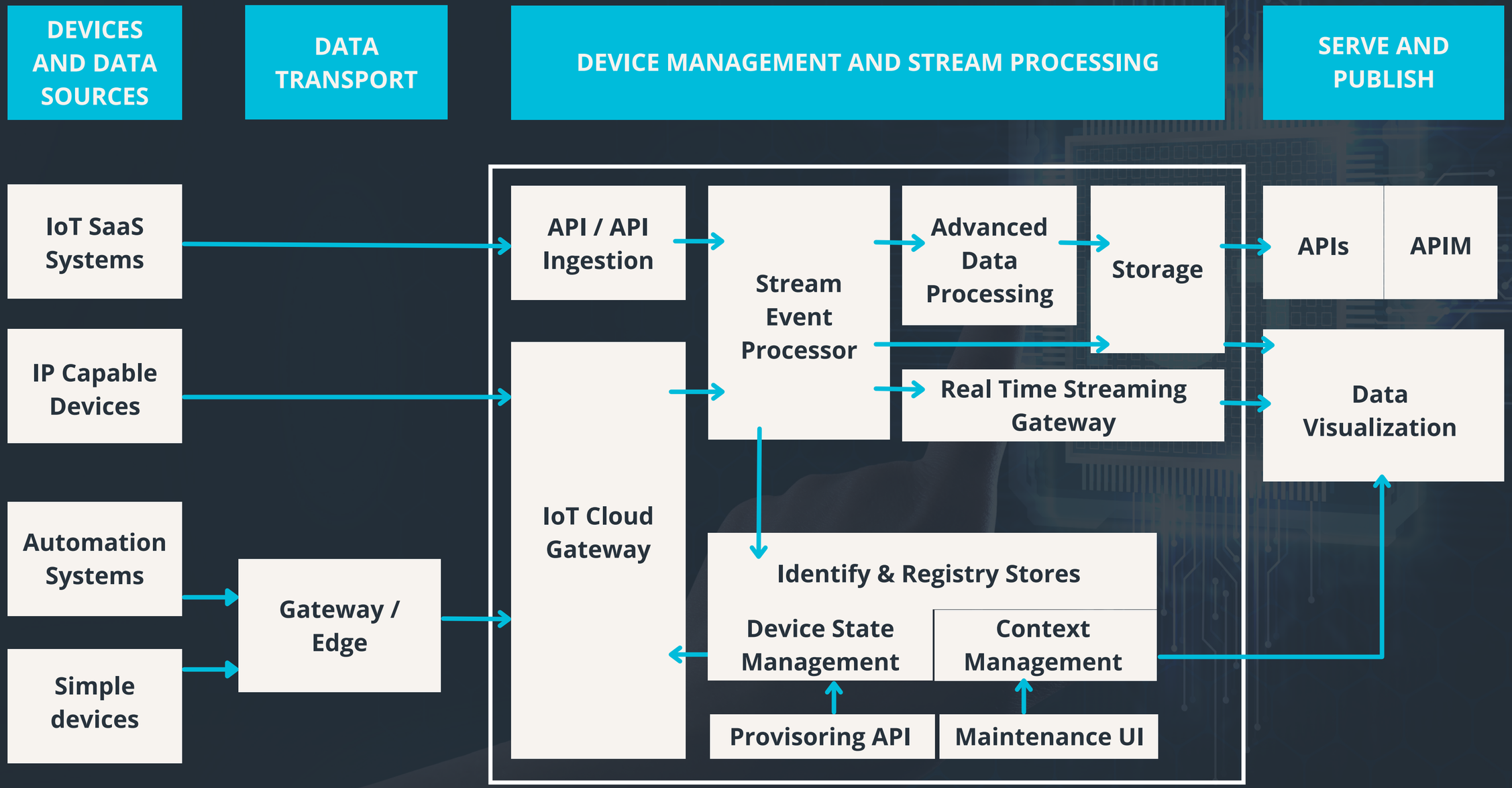
Main functionalities

Connecting and ingesting data by gathering it from physical sources

Transforming, storing and enhancing the data so it is usable

Providing analysis and data serving capabilities

IIoT platform as a concept



Trending IIoT Sectors

Energy, Healthcare, Manufacturing, Transportation and Logistics, Aerospace, Smart Homes and Cities, Agriculture

83%
of organizations have improved their efficiency by introducing IoT technology

108%
estimated growth in IIoT conncetions from 17.7 billion in 2020 to 36.8 billion in 2025

20%
estimated energy cost optimization for manufacturing units by IIoT

Benefits of IIoT

For companies

Monitor over all business processes - Better insight by having data presenting the real world behavior

Improve customer experience (CX) - Fix issues before they come a problem to your customer

Save time and money - Optimize and automate processes by introducing IIoT as part of your processes

Enhance employee productivity - By having an updated view of the environment you can steer employees to where they are needed the most

Integrate an adapt business models - Find new business models by having individual device level of information about your products

IIoT issues that will be solved when choosing Cloud1

SECURITY

- High security standards with Azure IoT

LACK OF STANDARDS

- Cloud1 standardized solution patterns for wide area of IIoT use cases, common processing needs, data serving and analytic templates including real-time reporting

OLD SYSTEMS

- Up-to-date systems with Azure Cloud PaaS and IaC automation for container images

UPFRONT INVESTMENTS

- Azure service Pay As You Scale-model keeps starting costs at minimum

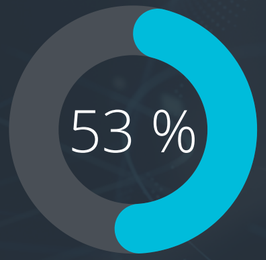
LACK OF SKILLED WORKERS

- Cloud1 can provide dedicated team for development and maintenance
- Azure and Power Platform are widely supported by all main service providers

LIABILITY OF CURRENT TECHNOLOGIES

- Azure and Databricks are well proved industry standards that have extremely high up-time agreements

MANUFACTURING EXECUTIVES WHO DEPLOYED INDUSTRIAL INTERNET OF THINGS



of manufacturing executives utilizing IIoT reported an improvement in business innovation

of manufacturing leaders increased their competitive edge

says to have reduced total cost of ownership (TCO)

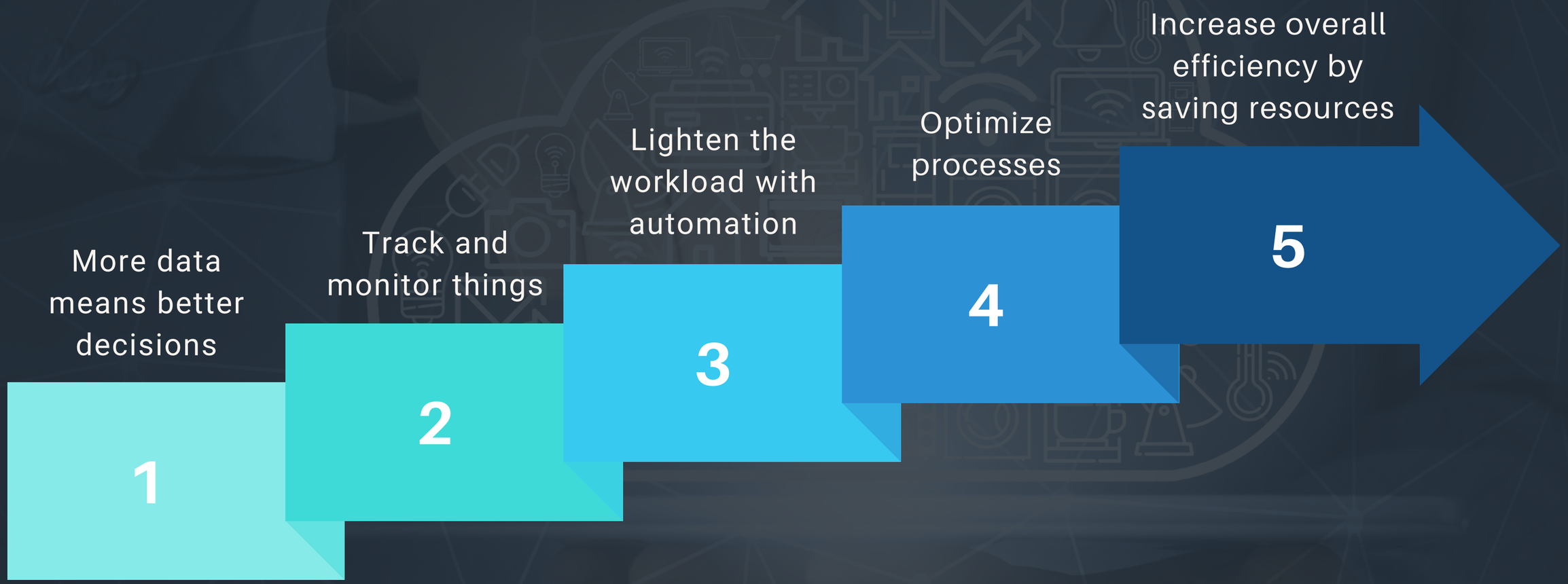
IIoT is like driving a car.

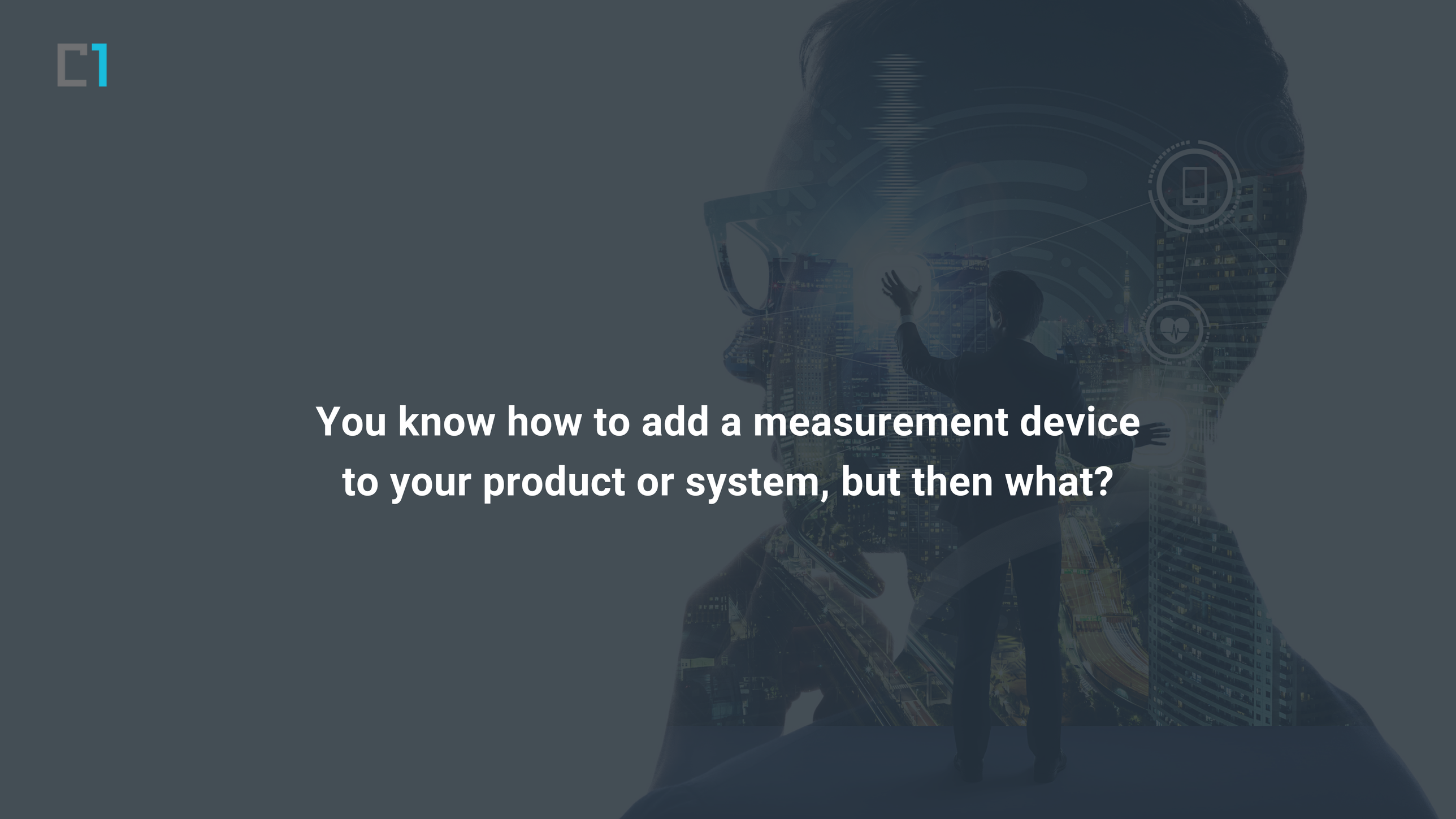
If you have a car that you drive as long as you can without maintanance, and take it to the garage only after it has broken down and has to be towed there, you are not in an optimal situation.

IIoT is like that. You have to know what is happening in your operational environment to make intelligent decisions.

Use cases for IIoT

Steps to increase overall efficiency





You know how to add a measurement device to your product or system, but then what?

Azure IoT

Azure IoT Hub

Enable highly secure and reliable communication between your IoT application and the devices it manages. Azure IoT Hub provides a cloud-hosted solution backend to connect virtually any device.

- Authenticate every device for enhanced security
- Automate device provisioning to accelerate IoT deployment

Azure Event Hub

Event Hub is a fully managed, real-time data ingestion service that’s simple, trusted, and scalable. Stream millions of events per second from any source to build dynamic data pipelines and immediately respond to business challenges.

- Integrate seamlessly with other Azure services to unlock valuable insights
- Allow existing Apache Kafka clients and applications to talk to Event Hubs without any code changes
- Experience real-time data ingestion and microbatching on the same stream

Cloud1 IIoT Reference architecture

Industry proven architecture

Using Cloud1 Development model with Infrastructure as Code and CI/CD pipelines:

- Out of the box initial architecture setup
- Architecture infrastructure with pure code first approach
- Automated configuration and implementation deployments

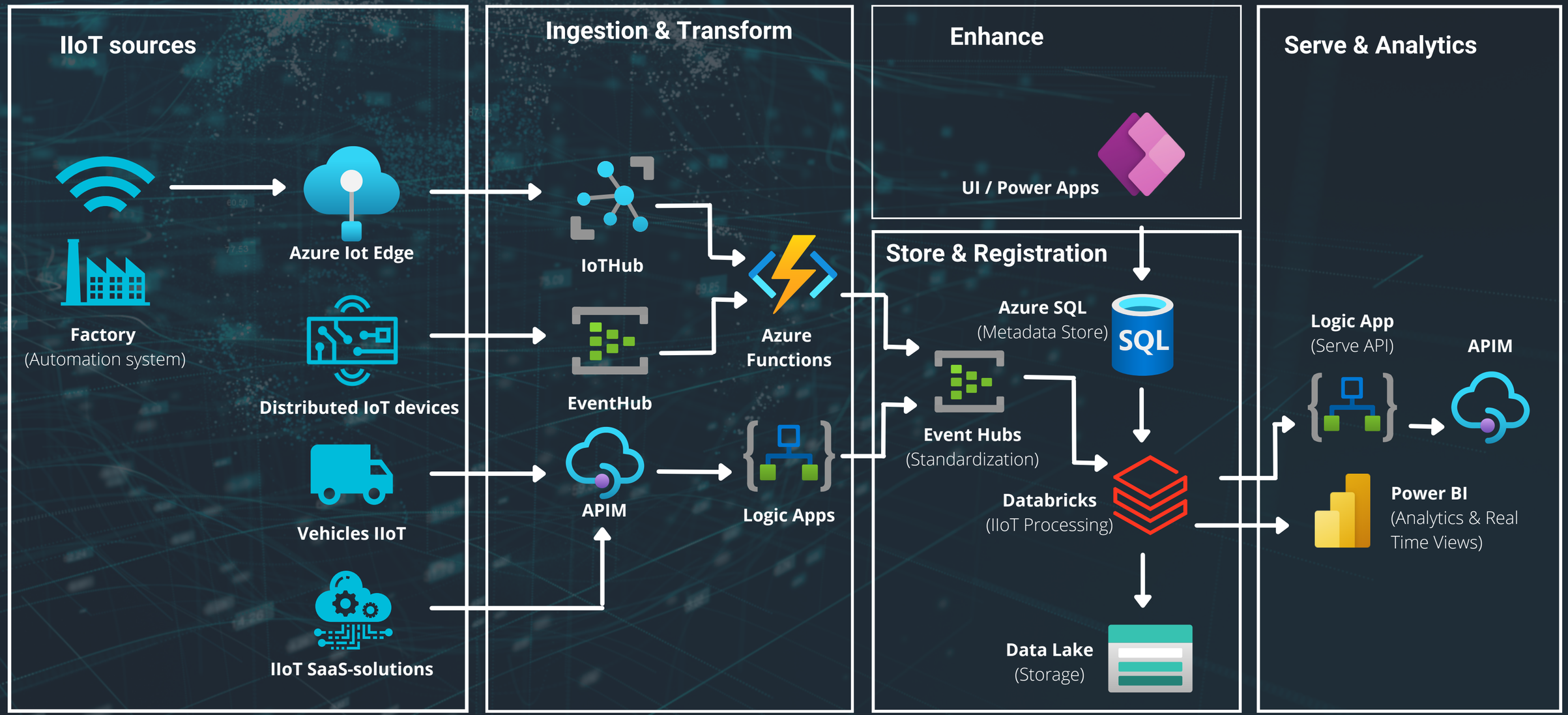
Very high amount of general code base provides standardized capabilities for:

- Data storing
- Tag registration
- Hourly aggregations
- Steered real time streaming
- Data change and silence monitoring

Easily adaptable capabilities include:

- Flexible metadata structures for enhancements
- Data serve API’s
- Data analysis models
- Data quality monitoring

Cloud1 IIoT Reference architecture Process



Cloud1 Architecture IIoT Project

Cloud1 knows the quality of data

Contains

- Azure DevOps code bases CI/CD pipelines
- Installation of full IIoT architecture
- Base line IIoT Data Model
- Single streaming or event source ingestion into the platform
- Raw data serve API
- Stream Data analysis and Aggregated Data analysis templates

What?

- Full IIoT Platform with one ingested source
- Meta data enchancement capabilities
- Raw data serve API implementation
- Data analysis templates
- A platform that is fully ready for additional IoT sources

Price

- from 50,000.00€

Duration

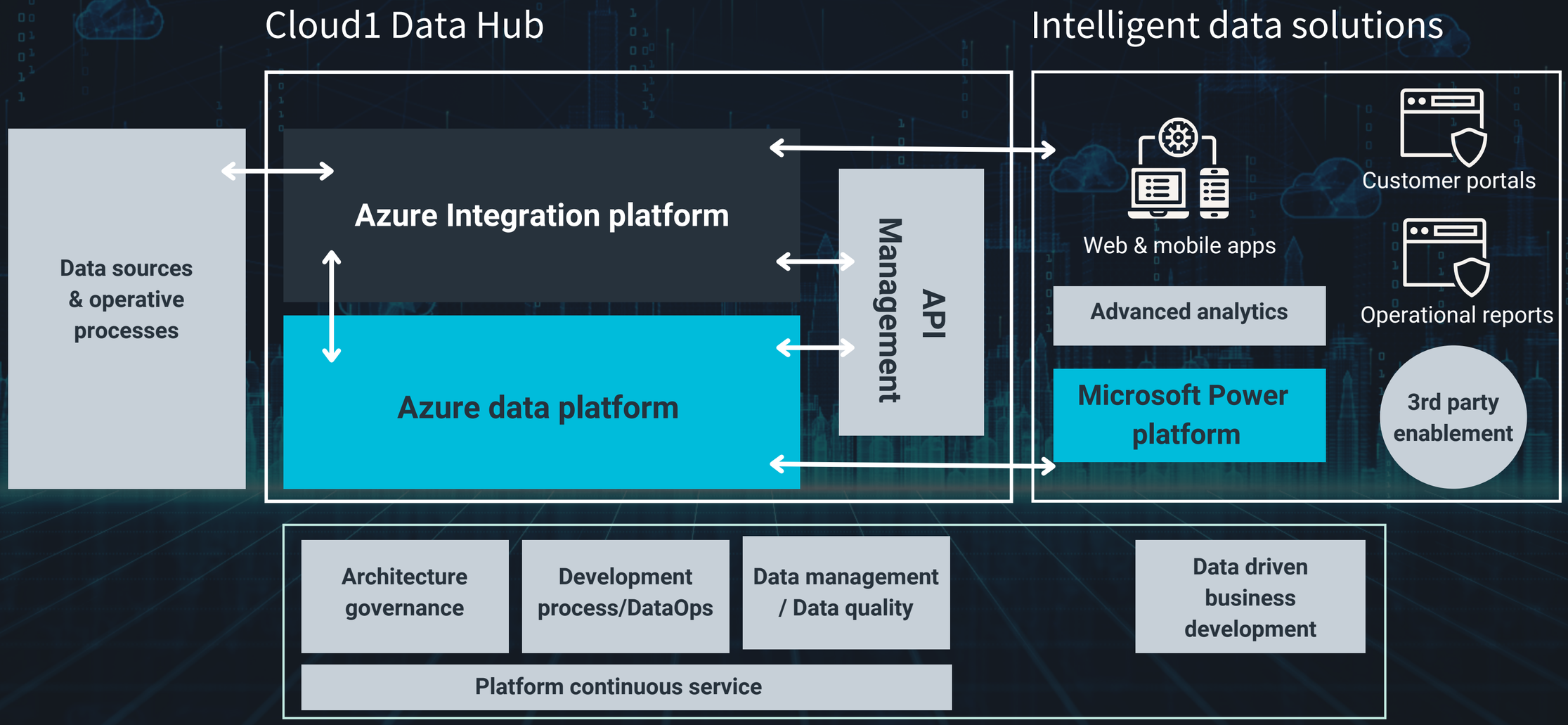
- 2 months

Technologies

- IotHub, EventHub, API Management, Azure Functions, Logic App Standard, Data Lake Gen2, Databricks, Azure SQL Database, Power Apps, Power BI, Key Vault, Log Analytics, Azure DevOps

Cloud1 Data Hub

Cloud1 IIoT platform is based on Cloud1 Data Hub architecture and is fully compatible with its additional features



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