



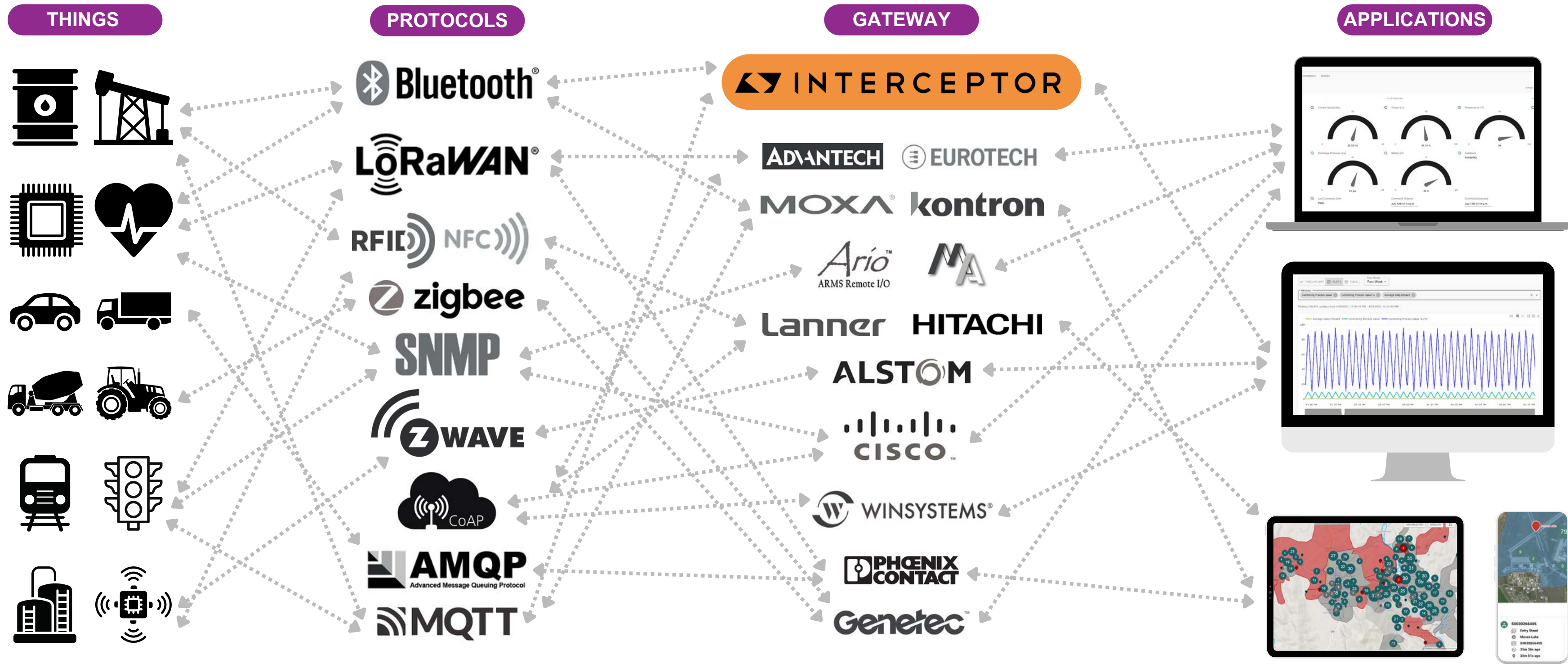
DATA NEBULA

SECURE CORE & CLOUD

IIOT CLOUD DATA PLATFORM

DATA INGESTION CHALLENGE

Edge data ingestion and **MANAGEMENT** is the hardest part of connecting the IoT to the Enterprise.



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

DATA NEBULA SOLUTIONS OVERVIEW



HARDWARE

Seamlessly integrates with the **INTERCEPTOR** modular line of Industrial IoT edge devices. Also compatible with any outbound gateway.



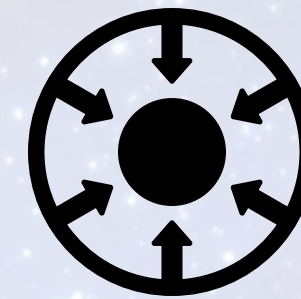
SECURE

IoT, edge computing and AI enables running **ENCRYPTED & SECURE** scalable IIoT applications and OTA updates - **FEDERAL & SEC COMPLIANT.**



REAL-TIME

Provides access to **REAL-TIME DATA** as well as **REAL-TIME CONTROL** of devices out in the field, reducing dependence on labor resources.



CENTRALIZED

Access data from several sources in **ONE CENTRAL LOCATION**, centralizing information in the Nebula.

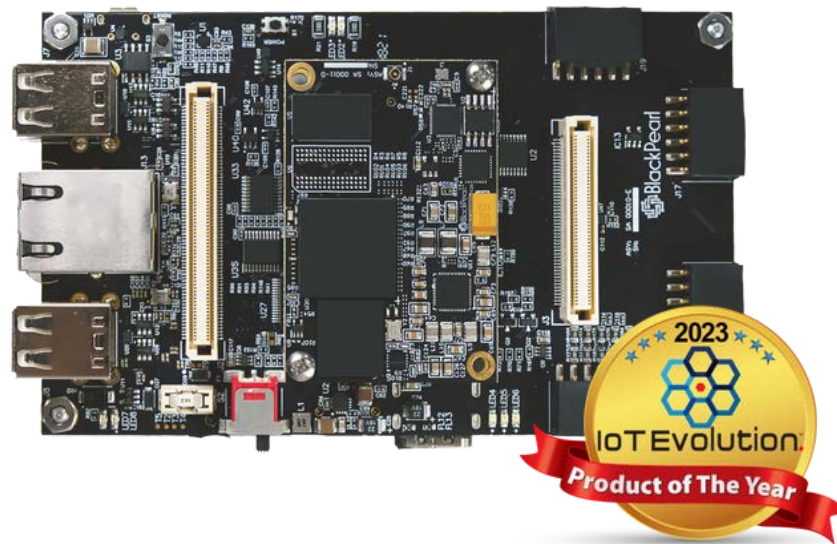


QUICK SETUP

Fully automated, **QUICK DEPLOYMENT**, and fast migration, with pre-built applications deployed on the Platform at the Edge.

DATA NEBULA COMPONENTS

HARDWARE



INTERCEPTOR

The preferred hardware platform for the Data Nebula Secure Enterprise IIoT Cloud Data Platform. When using the Interceptor platform, Data Nebula CLOUD setup fees are waived due to the Interceptor's native integration with Data Nebula.

However, Data Nebula is compatible with any outbound gateway device.

SOFTWARE



DATA NEBULA CORE

Data Nebula CORE is a cloud-native DevOps platform for building and deploying secure solutions for IIoT and Edge.

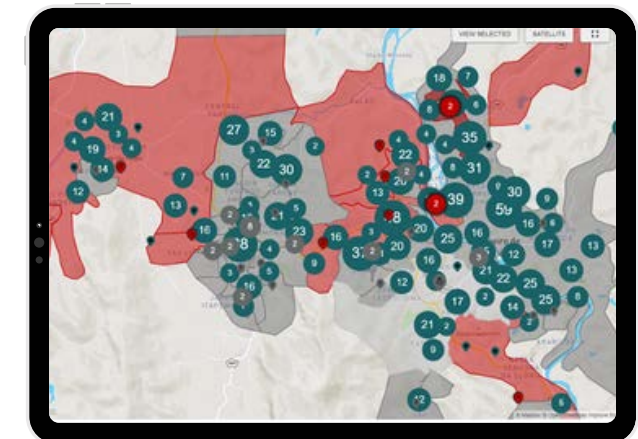
CORE offers complete historical tracking of the Software Build of Materials (SBOM), encrypted and secure OTA remote updates, as well as Federal and SEC compliance requirements.

DATA NEBULA CLOUD

Data Nebula CLOUD is a Secure Enterprise IIoT Cloud Data Platform that can be deployed in the Cloud, on-premises, or hybrid.

CLOUD provides real-time remote monitoring and equipment control which provides transparency and reduces dependence on labor resources.

GPS ASSET TRACKING & CONTROL

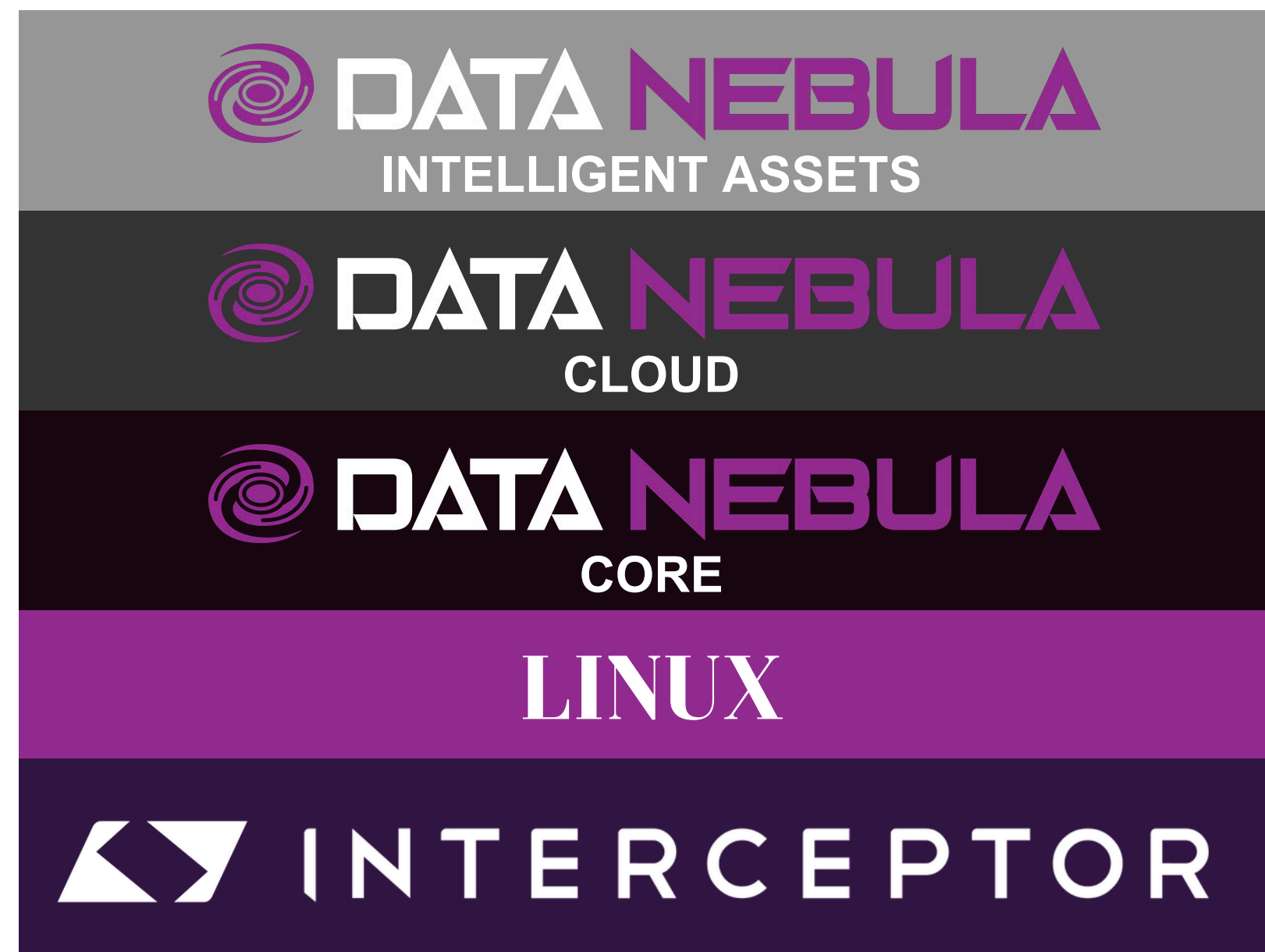


INTELLIGENT ASSETS

Data Nebula includes pre-built applications that can be deployed on the Platform as well as at the Edge to provide a real-time view of your business assets.

Not only can you locate your assets and monitor their activity, you can turn on/turn off devices remotely through the Intelligent Assets application.

DATA NEBULA STACK



or other outbound gateway devices

NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE





CORE

CORE Features:

- Software Build of Materials (SBoM)
 - Complete, immutable history of software
- Audit log of device history
- Over-the Air (OTA) updates and success rates
- Compliance with Federal and SEC requirements
- Hashed and encrypted security

CLOUD

CLOUD Features:

- Native Interceptor integration
- Device table
- Security
- MQTT + messaging
- Service integrations
- Edges
- Remote monitoring
- Custom dashboards
- Real-time data
- Multi-tenant portals
- Enhanced permissions
- IoT code engine
- Edge orchestration
- Data & files *(buckets, big queries, streams, and microservices)
- Enhanced IoT modules
 - IoT portals
 - IoT portal adapters
 - IoT AI engine

INTELLIGENT ASSETS

Intelligent Assets Features:

- No code application for operators
- Monitor/track/control any asset
- GPS asset tracking
- Edge integrated:
 - Rules, AI, and data storage
- Proven across industries:
 - Oil & Gas
 - Aerospace
 - Manufacturing

DATA NEBULA IOT MATURITY MODEL

1

CONNECTIVITY & CAPTURE

- Raw data
- Data source(s) connectivity
- Trust & consistency

2

INTERPRETATION INFORMATION & STRUCTURES

- Filtering of noise
- Visualizations
- Base insights

3

DATA CONTENT KNOWLEDGE

- Data correlation
- Advanced visualization
- Alerting and responding
- Prediction

4

APPLIED INFORMATION DIAGNOSTIC & DECISION MAKING

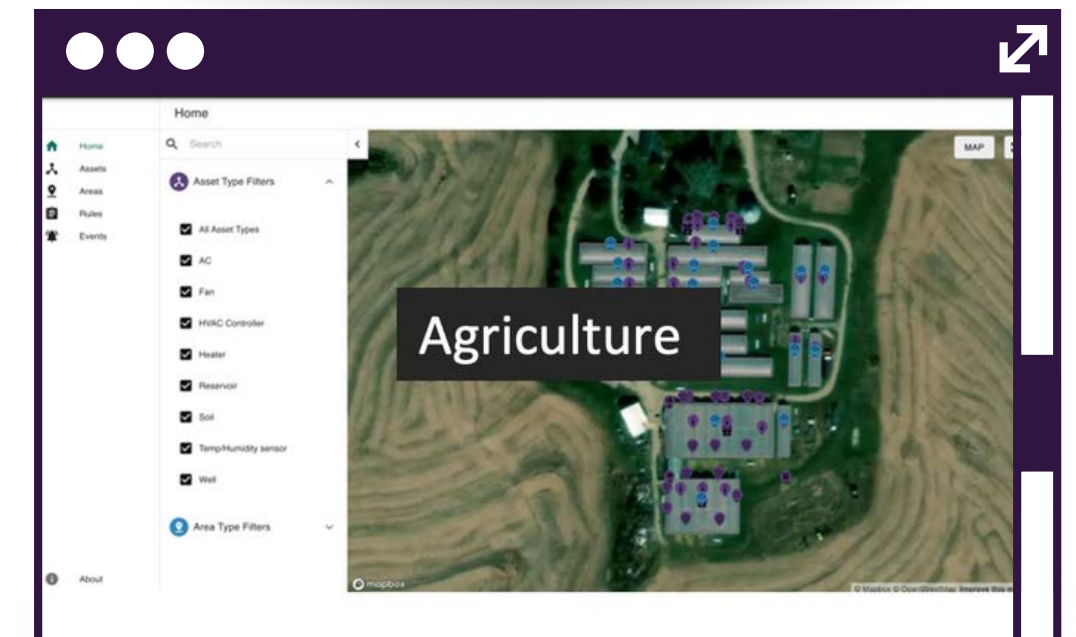
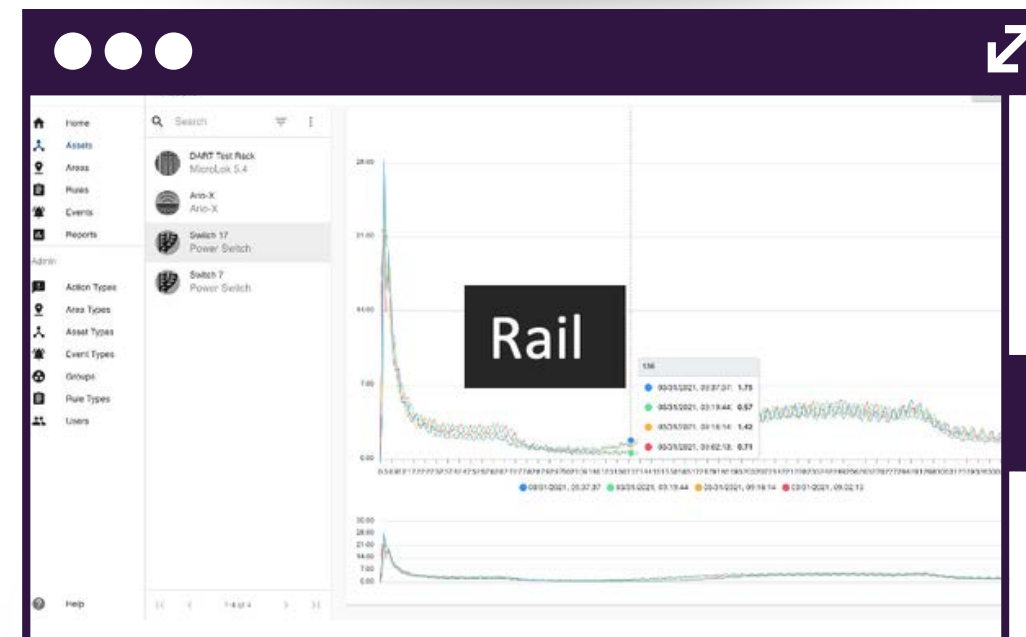
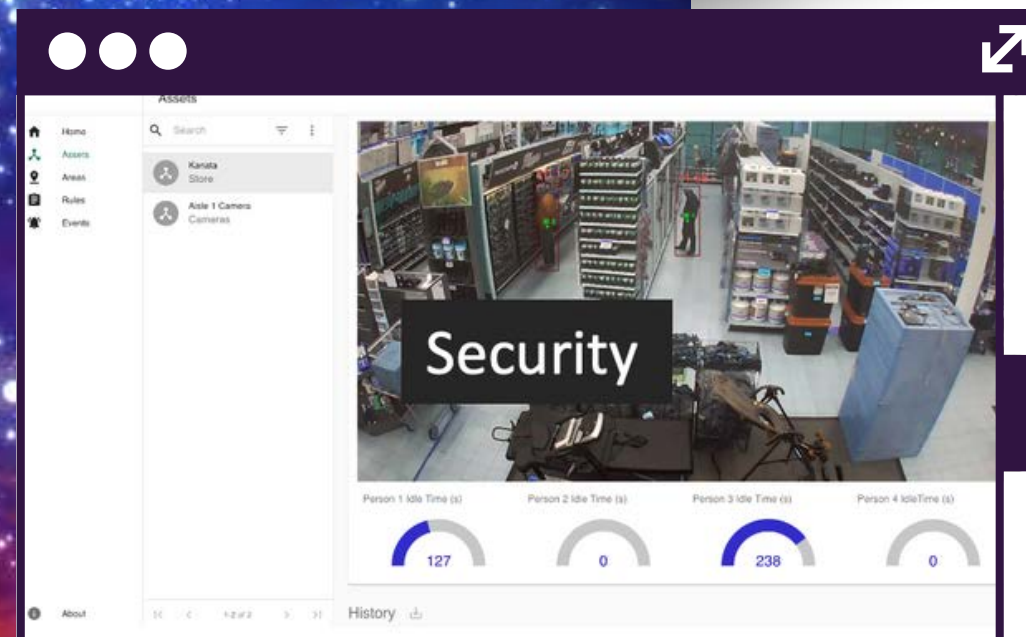
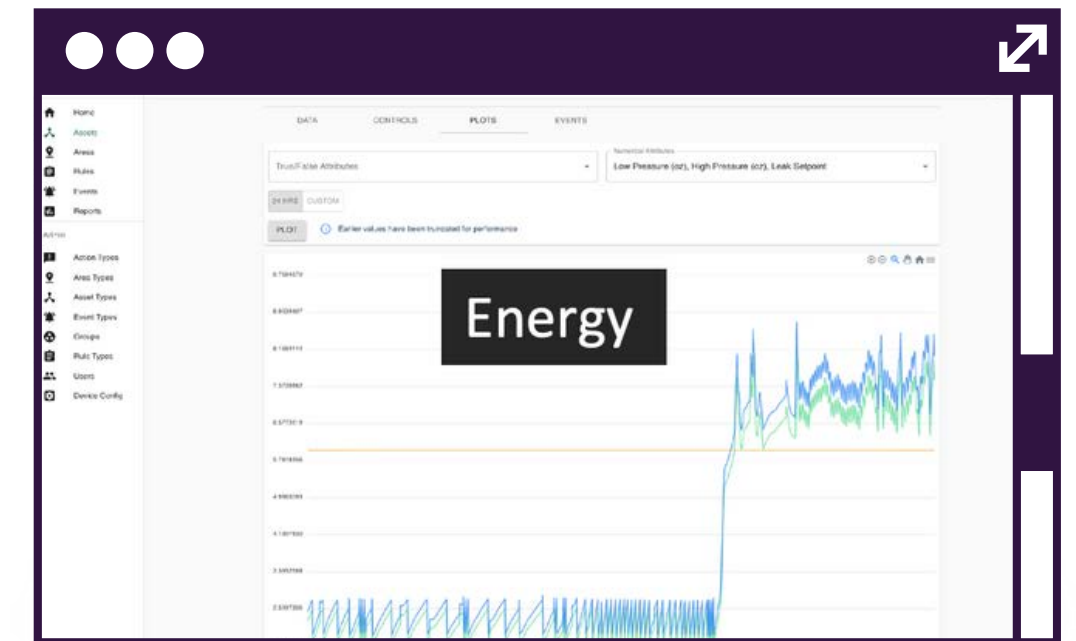
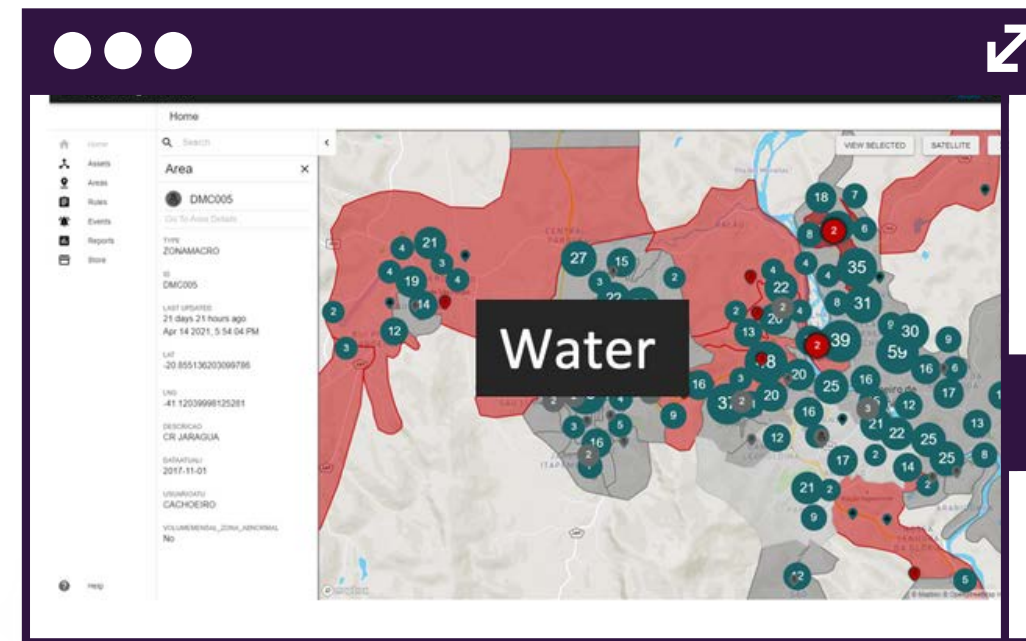
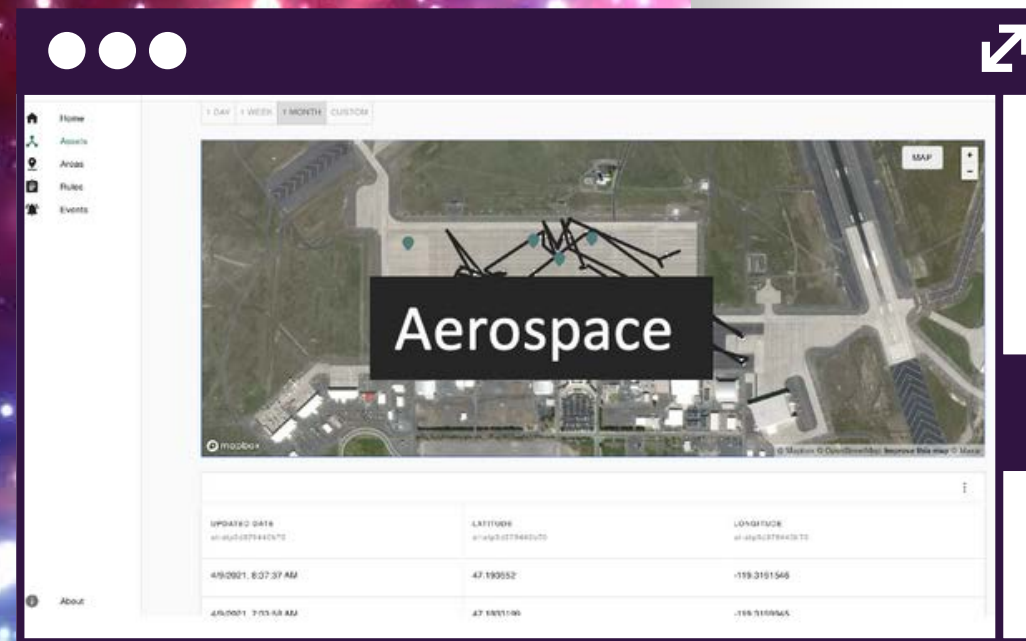
- Modeling/validation
- Command/control operations
- Machine learning

5

AUTOMATION EXPERT SYSTEMS

- Automation
- Intelligent optimization
- Self-learning systems

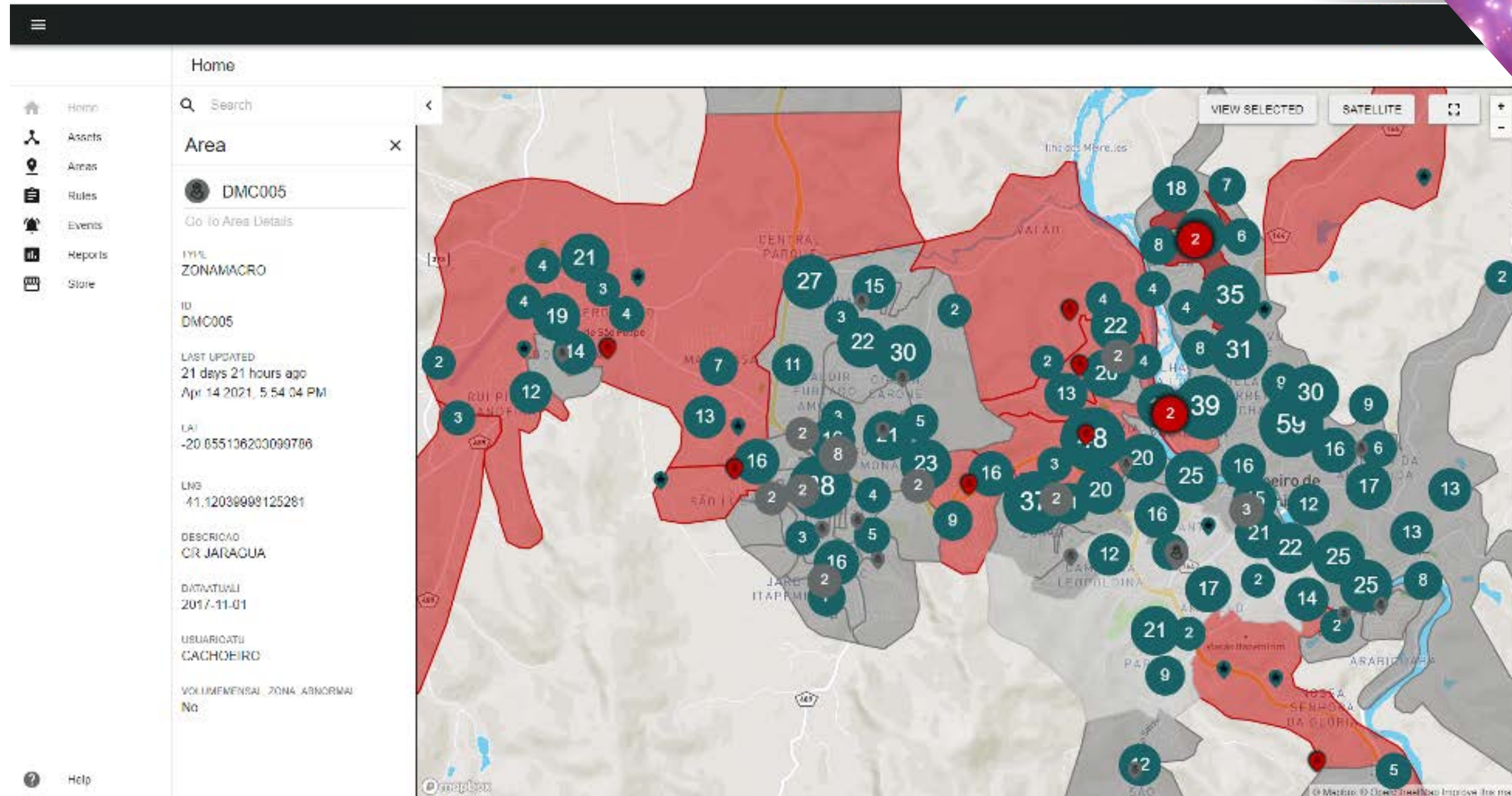
INTELLIGENT ASSETS ACROSS VERTICALS



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

WATER MANAGEMENT

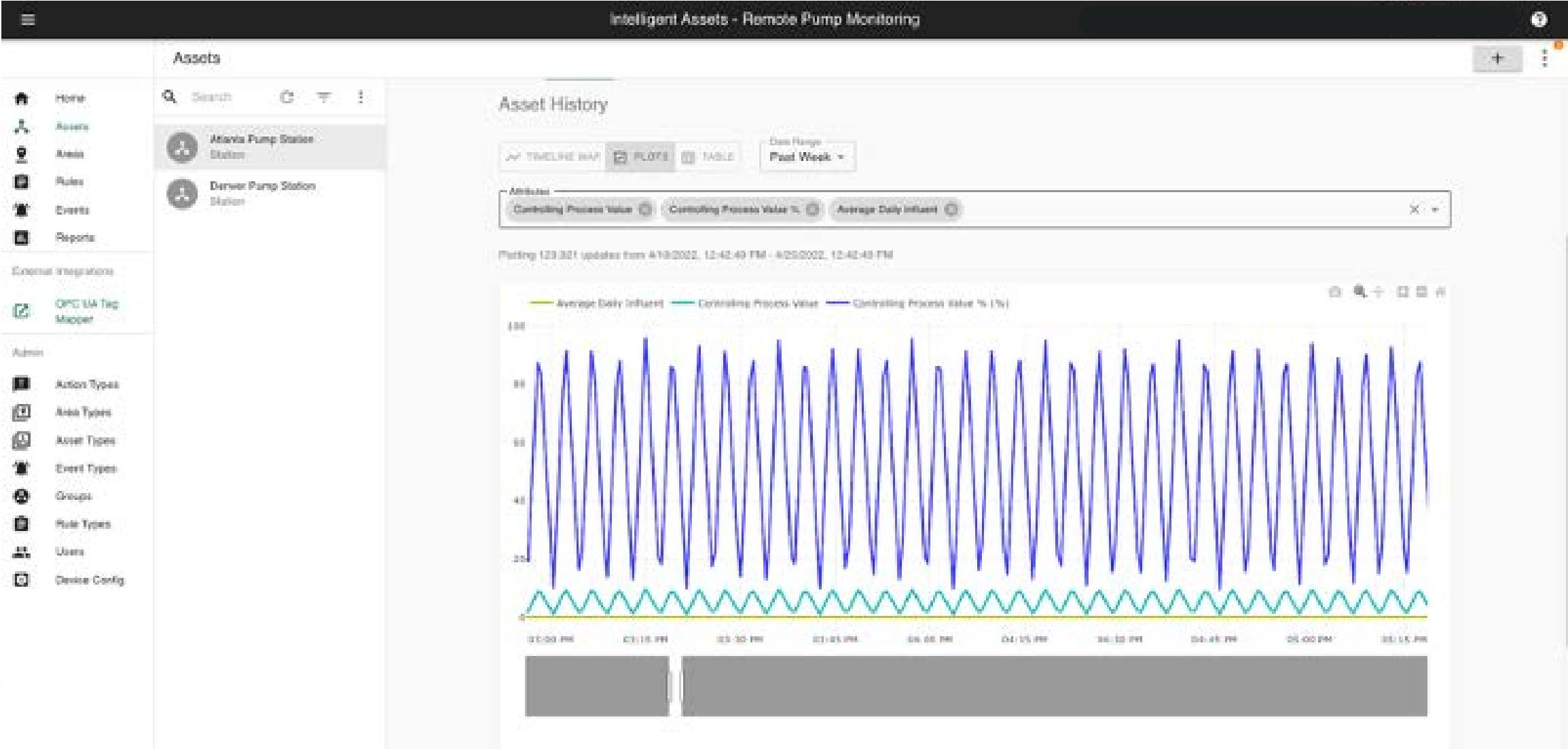
Monitoring of critical water infrastructure for leak detection and applying predictive AI



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

REMOTE PUMP MONITORING

Remote pump monitoring of pumps to improve production and detect leaks through real-time notifications and automation



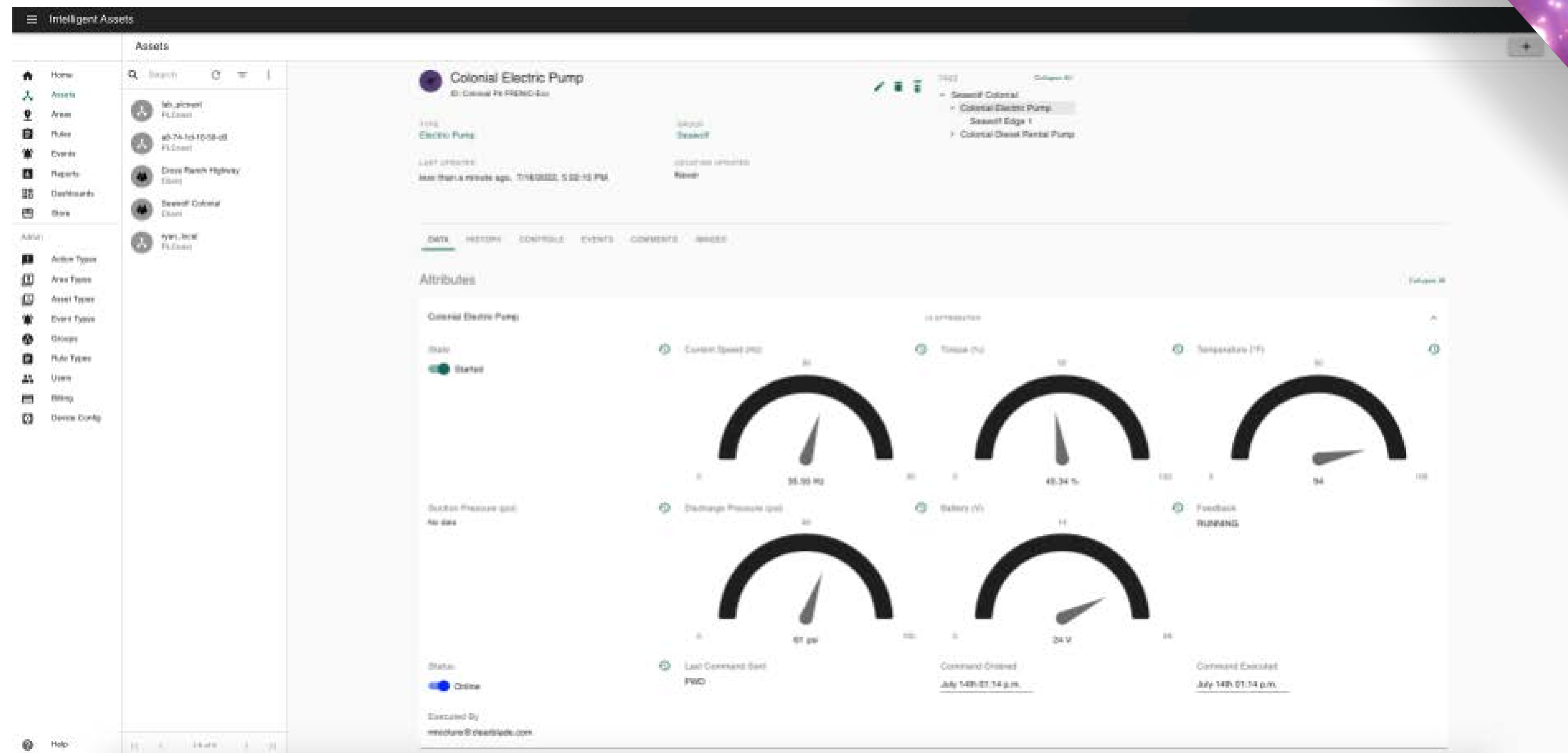
Intelligent Assets - Remote Pump Monitoring						
	Created	Last Updated	Severity	Priority	Assets	Areas
ed	4/1/2022, 10:03:03 AM	4/1/2022, 11:05:44 AM	1	1	Atlanta Pump Station	
1	4/1/2022, 10:05:34 AM	4/1/2022, 10:05:34 AM	1	1	Atlanta Pump Station	
Normal	4/1/2022, 10:04:29 AM	4/1/2022, 10:05:31 AM	1	1	Atlanta Pump Station	
1	4/1/2022, 10:05:27 AM	4/1/2022, 10:05:27 AM	1	1	Atlanta Pump Station	
Normal	4/1/2022, 10:04:27 AM	4/1/2022, 10:05:27 AM	1	1	Atlanta Pump Station	
1	4/1/2022, 10:01:30 AM	4/1/2022, 10:01:30 AM	1	1	Atlanta Pump Station	
	4/1/2022, 10:00:29 AM	4/1/2022, 10:01:29 AM	1	1	Atlanta Pump Station	
	4/1/2022, 10:01:27 AM	4/1/2022, 10:01:27 AM	1	1	Atlanta Pump Station	
	4/1/2022, 10:00:27 AM	4/1/2022, 10:01:27 AM	1	1	Atlanta Pump Station	
	4/1/2022, 9:57:33 AM	4/1/2022, 9:57:33 AM	1	1	Atlanta Pump Station	
	4/1/2022, 9:56:32 AM	4/1/2022, 9:57:29 AM	1	1	Atlanta Pump Station	
	4/1/2022, 9:57:27 AM	4/1/2022, 9:57:27 AM	1	1	Atlanta Pump Station	
	4/1/2022, 9:56:27 AM	4/1/2022, 9:57:26 AM	1	1	Atlanta Pump Station	
	4/1/2022, 9:53:33 AM	4/1/2022, 9:53:33 AM	1	1	Atlanta Pump Station	

NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE



REMOTE PUMP MONITORING

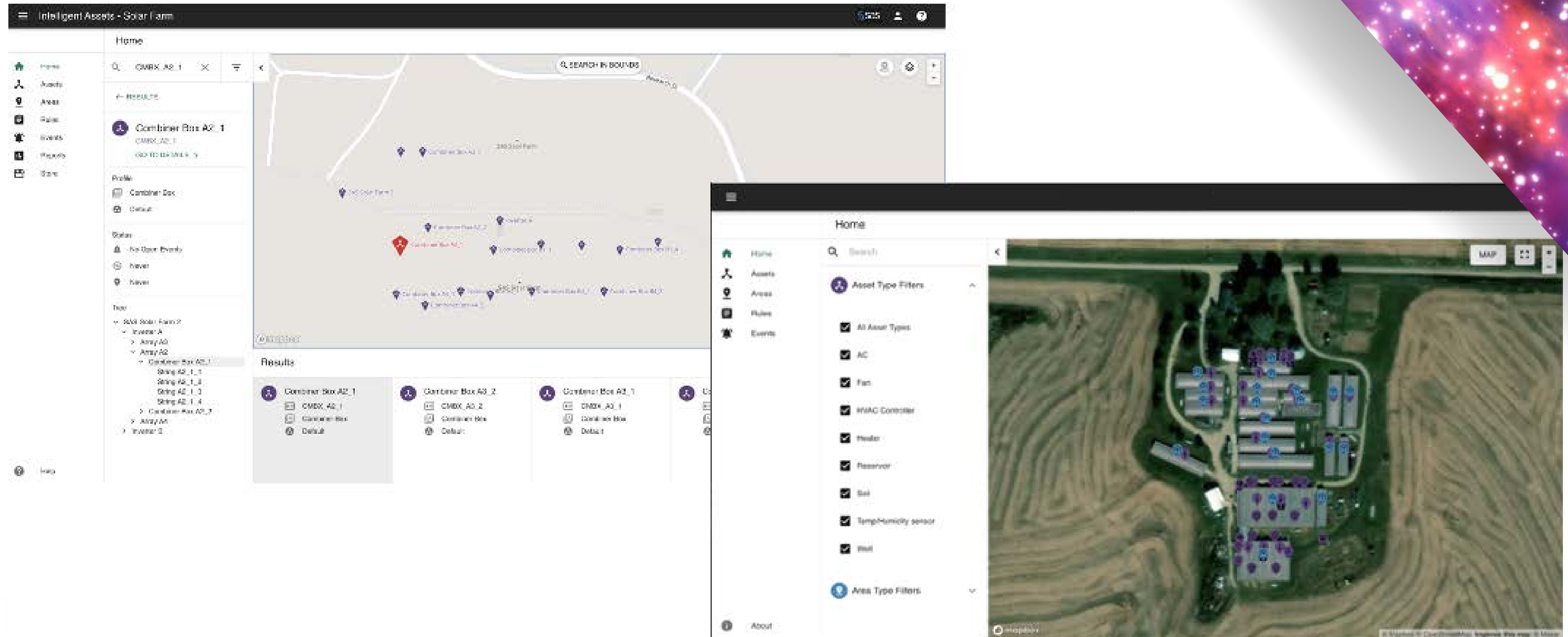
Remote pump monitoring of pumps to improve production and detect leaks through real-time notifications and automation



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

PRECISION AGRICULTURE

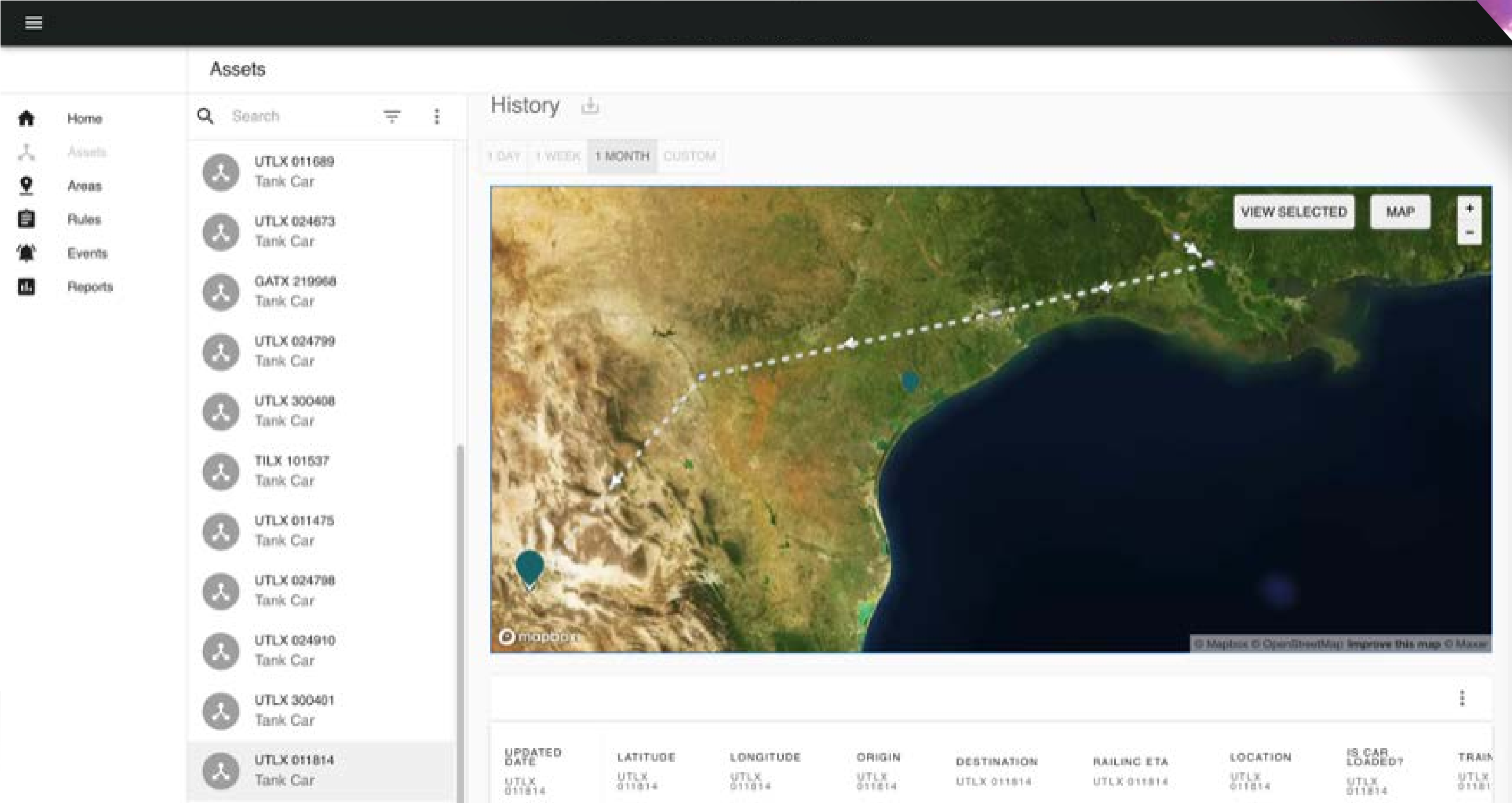
Asset monitoring to improve output of farming through real-time notifications and automation



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

SUPPLY CHAIN MONITORING

Track and predict rail tank car shipments of sulphuric acid across North America



NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE



SOLAR FARM MANAGEMENT

Intelligent Assets - Solar Farm

SAS

Home

Assets

Areas

Rules

Events

Reports

Dashboards

Store

Admin

Action Types

Area Types

Asset Types

Event Types

Groups

Rule Types

Users

Billing

Device Config

Help

Home

EMTR

RESULTS

SAS Solar Farm 2

EMTR

GO TO DETAILS >

Profile

Solar Farm

Default

Status

No Open Events

Updated 25 days ago, 6/24/2022, 3:01:35 PM

Updated 28 days ago, 6/21/2022, 2:17:41 PM

Attributes

Energy Accumulated	683519
Energy Reactive Accumulated	0.39
Energy Received	58312
Phase A I	629
Phase A VN	71.52
Phase B I	835.7
Phase B VN	0.39
Phase C I	833.9

mapbox

SAS Solar Farm 2

2

2

3

2

2

Combiner Box B4_1

Combiner Box B4_2

Combiner Box B4_3

Mapbox © OpenStreetMap Improve this map © Maxar

Results

Assets

Combiner Box B4_1

CMBX_B4_1

Combiner Box

Default

SAS Solar Farm 2

EMTR

Solar Farm

Default

25 days ago

28 days ago

Inverter A

Inverter_A

Inverter

Default

25 days ago

28 days ago

NATIVELY COMPATIBLE WITH THE INTERCEPTOR LINE OF IIOT EDGE DEVICES
COMPATIBLE WITH ANY OTHER OUTBOUND GATEWAY DEVICE

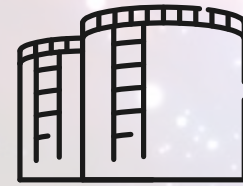


DATA NEBULA CLOUD ENERGY SOLUTIONS



ASSET TRACKING

- Real-time location
- Maximize asset utilization
- Prevent theft
- IP-67 & intrinsically safe



TANK MONITORING

- Report on fill level
- Automate replenishment
- Auditable billing
- Pressure or ultra-sonic



DRILLING OPTIMIZATION

- Optimize MSE
- Black-ream wells
- Increase drilling hours
- Maximize ROI



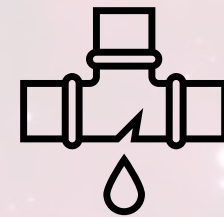
EPA REPORTING

- Ensure compliance
- Liability reduction
- Connect brownfield
- Maintain tank level pressure



PIPELINE MONITORING

- Automated inspection
- Monitor flow rate
- Pressures & temperatures
- Prevent cracks & corrosion



LEAK DETECTION

- Alert on humidity
- Prevent loss
- Damage reduction
- Lower maintenance costs



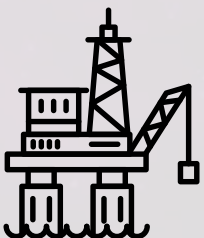
WORKER SAFETY

- Validation of compliance
- Reduce liability
- Imminent danger alerts
- 360-degree awareness



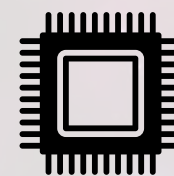
VEHICLE MONITORING

- Predict maintenance
- Integrated vehicle systems
- Telemetry analytics
- Hours of operation



OFFSHORE MONITORING

- Operate w/limited connectivity
- Edge-based AI
- Equipment aggregation
- Command center visibility



SCADA MODERNIZATION

- Digitalize existing SCADA
- Integrate with I/O
- Interface with PLCs
- Brownfield deployment



SMART REFINERY

- Improve production
- Reduce carbon emissions
- Precision measurements
- 100% up-time



CONNECTED TANKER

- Fleet monitoring
- Ship system integration
- Engine & control health
- On-board security

DATA NEBULA CLOUD IOT SOLUTIONS



CONNECTED PRODUCTS

Digitize products, create new data-driven business models, and monetize delivered outcomes



SMART BUILDINGS & CITIES

Resource optimization via real-time data aggregation across disparate commercial building systems



ASSET TRACKING & INTELLIGENCE

Reduce labor costs, identify and improve equipment utilization, and optimize asset performance.



REMOTE OIL MONITORING

Real-time, remote monitoring of oil wells and equipment to improve operating efficiencies and reduces loss



FREIGHT & LOGISTICS

Improve safety and management of transportation resources via secure, real-time status, location, and disposition of assets



SMART RAIL

Worker safety and alerting, wayside monitoring, asset tracking, and predictive maintenance via real-time positioning and monitoring



PREDICTIVE MAINTENANCE

Optimize maintenance schedules and costs based on real-time operations and historical metrics



MARITIME VESSEL MONITORING

Improve maritime safety and operational efficiencies by monitoring disparate ship systems in real time



THANK YOU!



SECURE CORE & CLOUD

IIOT DATA PLATFORM