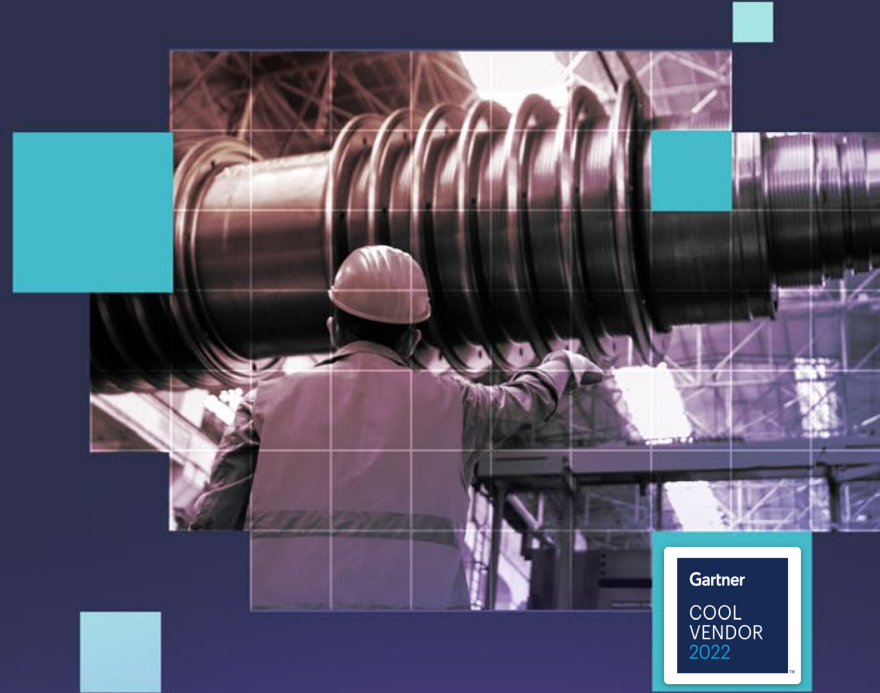


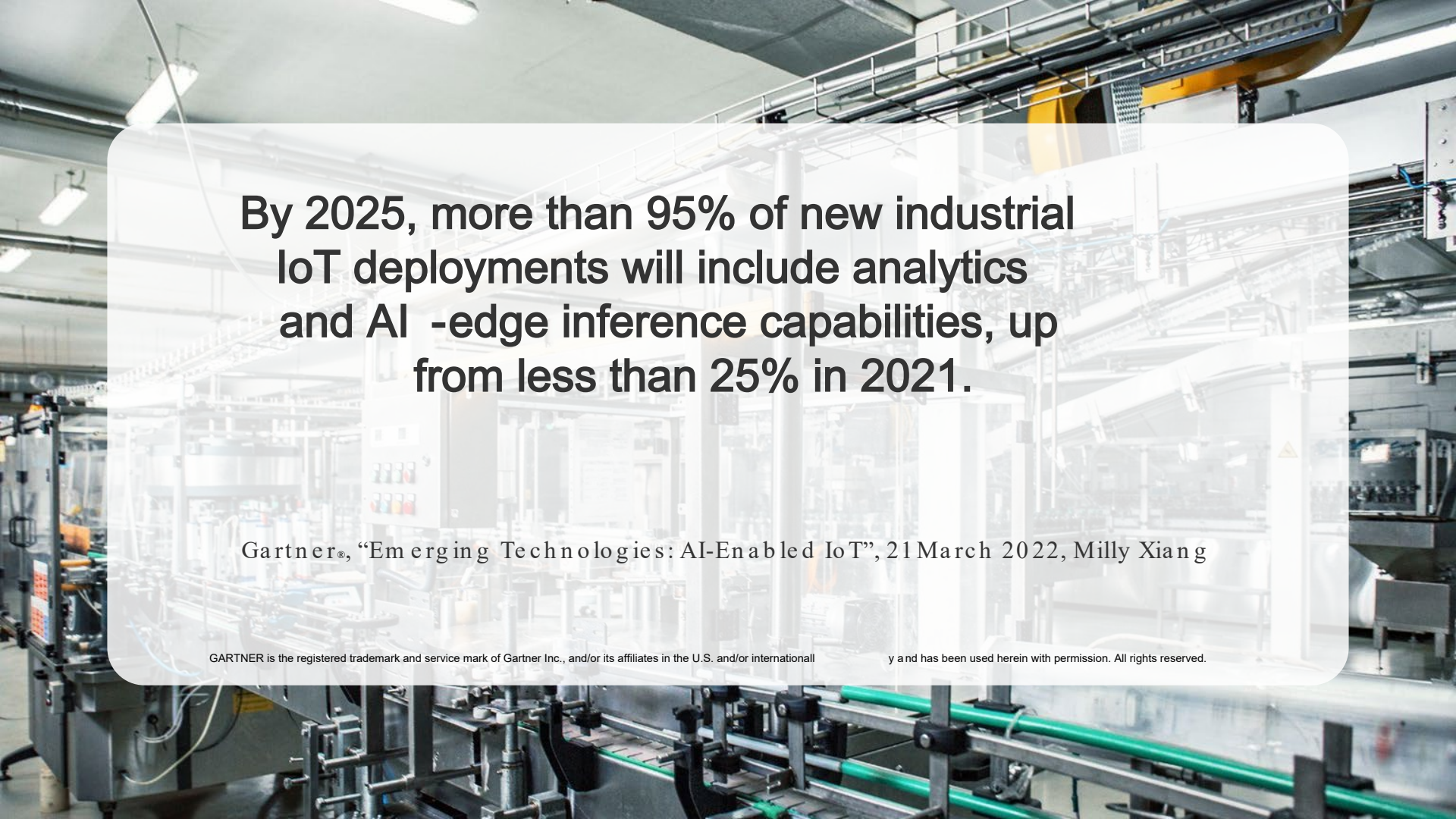
# Gaining real-world insights from tiny devices

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Senior Developer Relations Engineer, Edge Impulse



Gartner  
COOL  
VENDOR  
2022

A background image of a modern industrial factory with complex machinery, conveyor belts, and overhead cranes. The scene is brightly lit with industrial lights.

**By 2025, more than 95% of new industrial IoT deployments will include analytics and AI -edge inference capabilities, up from less than 25% in 2021.**

Gartner®, “Emerging Technologies: AI-Enabled IoT”, 21 March 2022, Milly Xiang

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# Benefits of edge ML



## Innovation

Add new differentiating features, become a market leader by standing out from your competition



## Privacy

Data stays on the device, gets processed locally and drives remote alerts, notifications, and actions



## Power

Stay operational for longer periods of time



## Cost

Save on storage and compute costs by not sending raw data constantly to the cloud



## Reliability

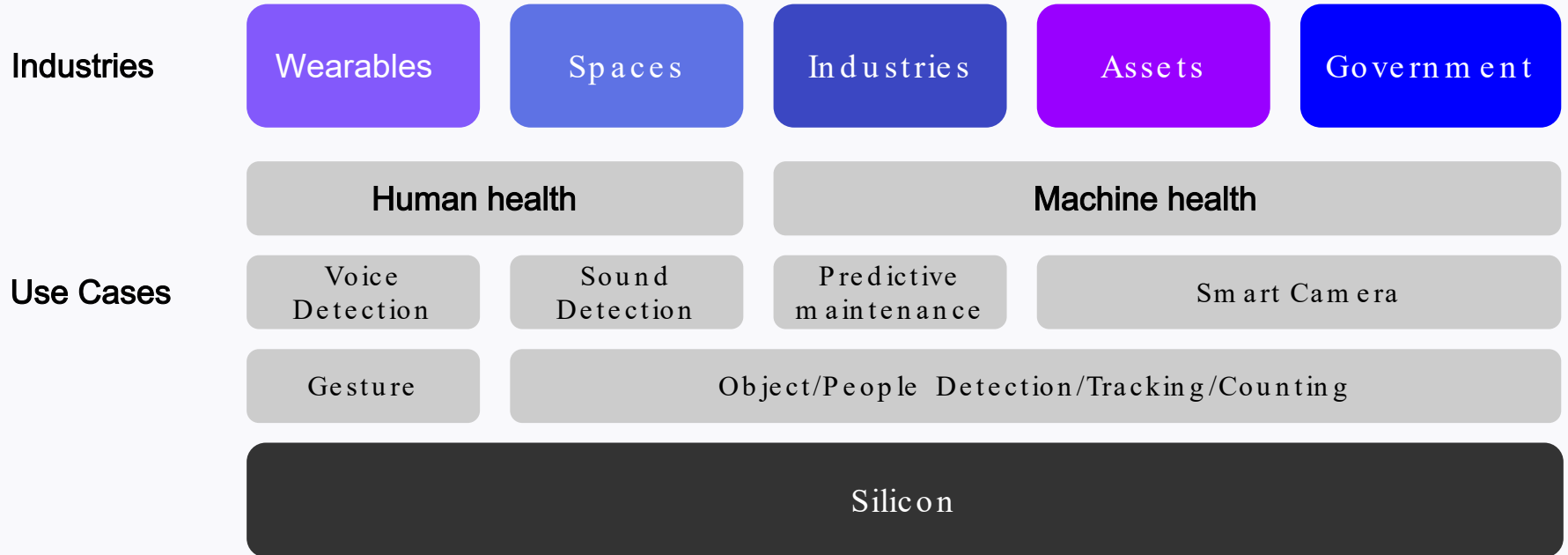
Be operational in low connectivity environments



## Bandwidth & Latency

Process data real-time on the edge device, without having to wait for a response back from the cloud

# Edge ML use cases



# How Edge Impulse solves top edge ML challenges

**99% of sensor & device data is discarded**

Accelerate next gen IoT products and solutions turning data from any edge device into actionable insights

**Current ML tools are not designed for edge**

Enable developers enterprise-wide to rapidly build ML solutions natively for edge devices, amplifying your ML experts

**87% of AI/ML projects fail due to infrastructure complexity**

MLOps infrastructure from data collection to edge deployment, for enterprise data science and ML teams, with leading integrations

**Difficulties in building smart product experiences**

Build innovative experiences with ML with ease, leading to growth and competitive differentiation

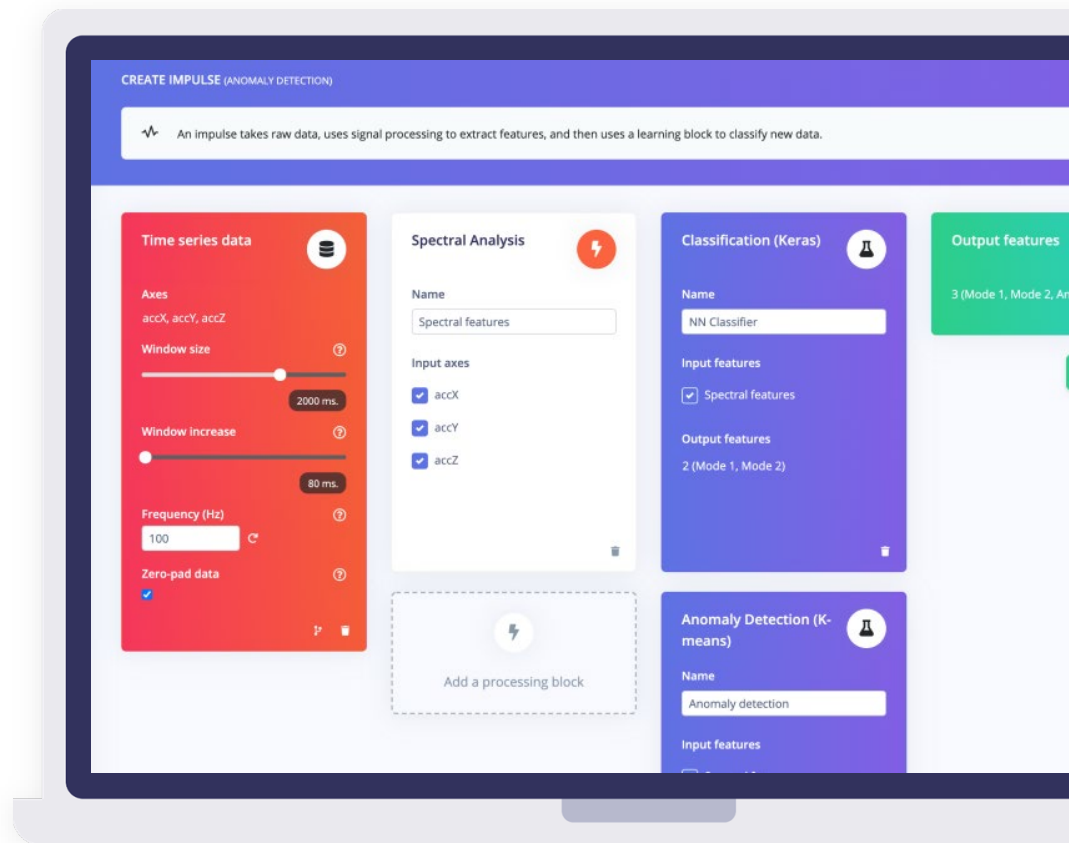
# The first fully integrated ML platform

Full development lifecycle from data to deployment of **industrial algorithms**

Total explainability, **no black boxes**

**Royalty -free** business model

**Deploy anywhere** to edge devices, gateways or the cloud



# Powering the largest edge ecosystem with MLOps

50,000+

Developers

125,000+

Projects

4,000+

Enterprises

TRUSTED BY LEADING ENTERPRISES

ŌURA

 Lexmark™

 poly



SONY

IZOELEKTRO

 KNOW  
LABS

SAIC®

NOWATCH

ECOLAB®



# Machine health

Predict failures and forecast maintenance cycles with precision

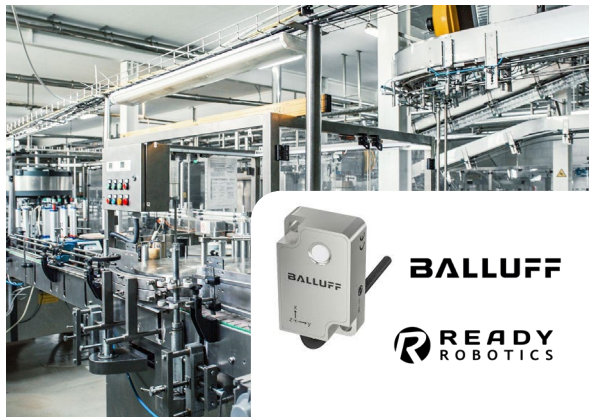
Current

Vibration

Sound

Temperature

Images



Sensing



Maintenance



HVAC



Robotics





# Human health

Drive valuable health insights with diagnostic and predictive algorithms

ECG/PPG

EEG

Skin

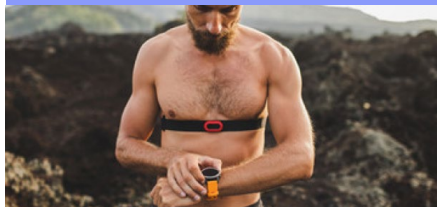
Motion

Temperature

## Life Quality



## Performance



## Safety



## Health



NOWATCH



ŌURA

SLATE SAFETY



CASE STUDY

# Oura goes deeper on deep sleep

Through the use of Edge Impulse's advanced data infrastructure, Oura rapidly improved their algorithm

Heart

Motion

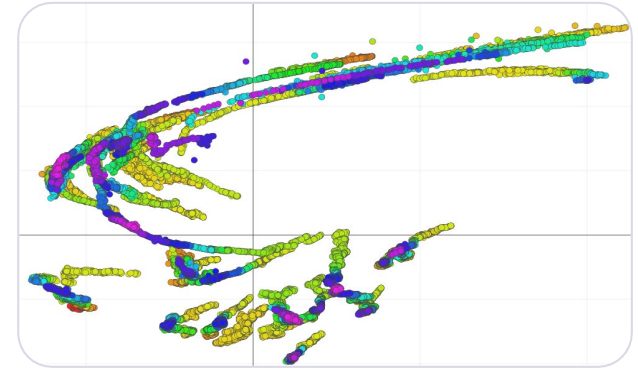
Temperature

- Reached unprecedented sleep-scoring accuracy of 79%
- Close to best-in-class 82-83% only reached by human scorers
- Data-driven development process enabled Oura's data science team to scale



OURA

# Non-invasive glucose monitoring



Bio

Body

R

Radio

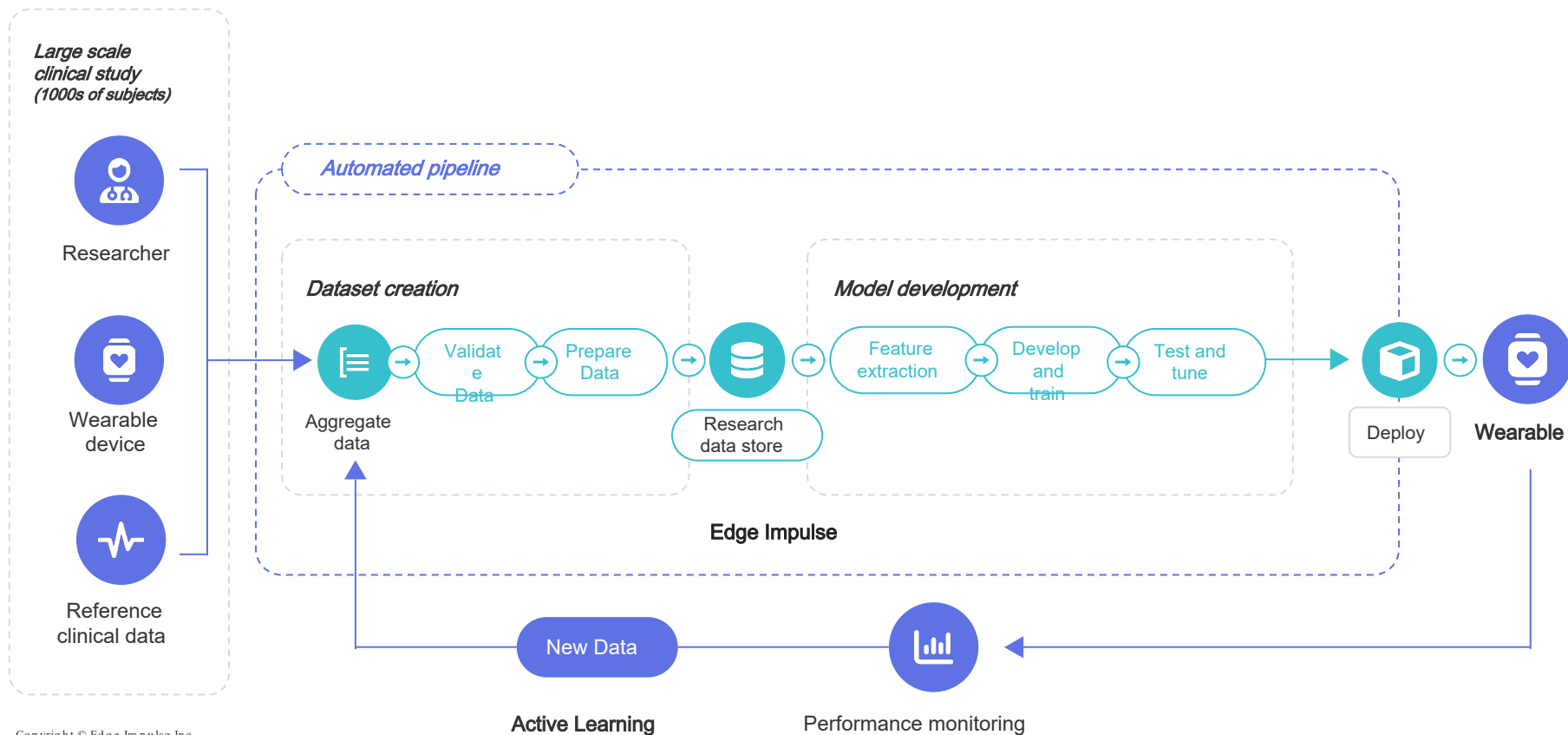
F

Frequency

ID

Identification

# What does it take to build health ML?



# Recap

Reduce energy waste and improve lives!

Focus on generating insights reliably and early

Start thinking about your active learning strategy

# Thank you!

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