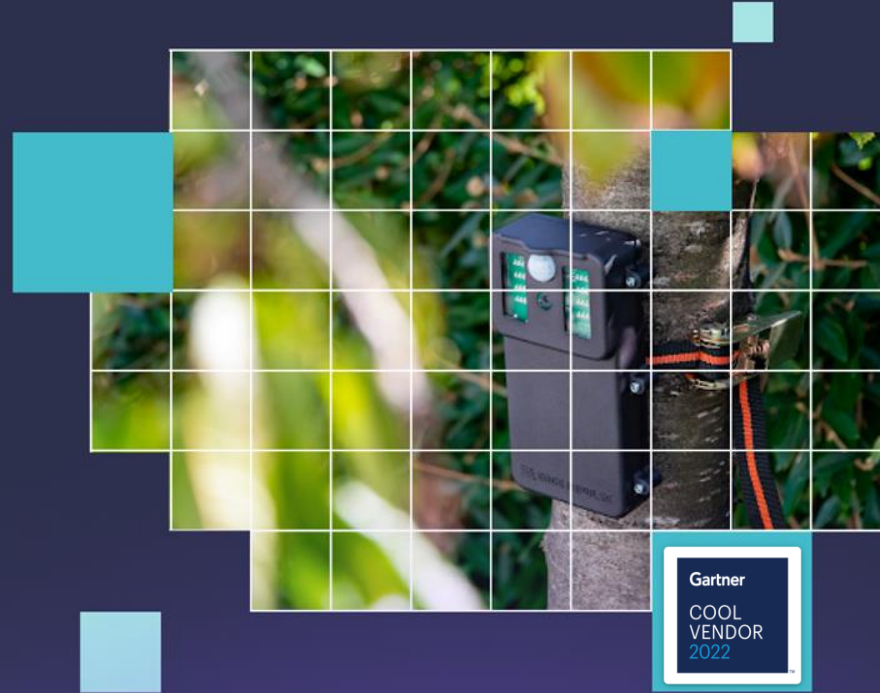
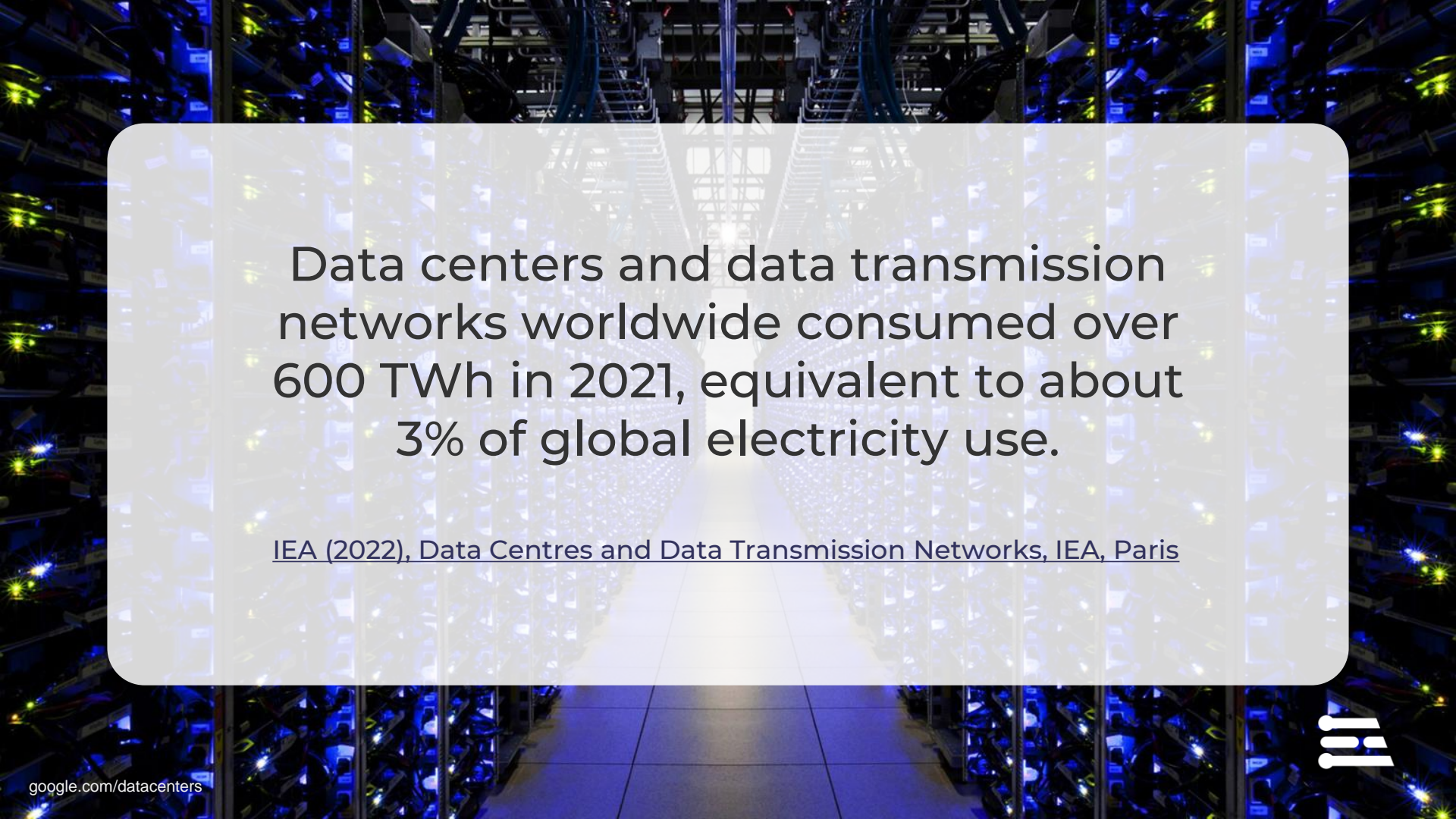


Enhancing human capabilities with valuable edge insights



Alessandro Grande
Head of Product, Edge Impulse



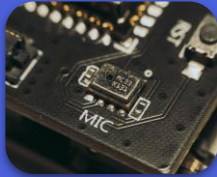


Data centers and data transmission networks worldwide consumed over 600 TWh in 2021, equivalent to about 3% of global electricity use.

[IEA \(2022\), Data Centres and Data Transmission Networks, IEA, Paris](#)



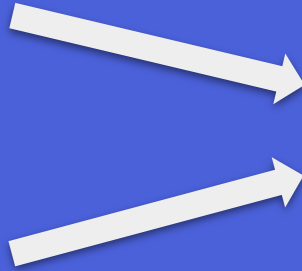
Data, data and more data!



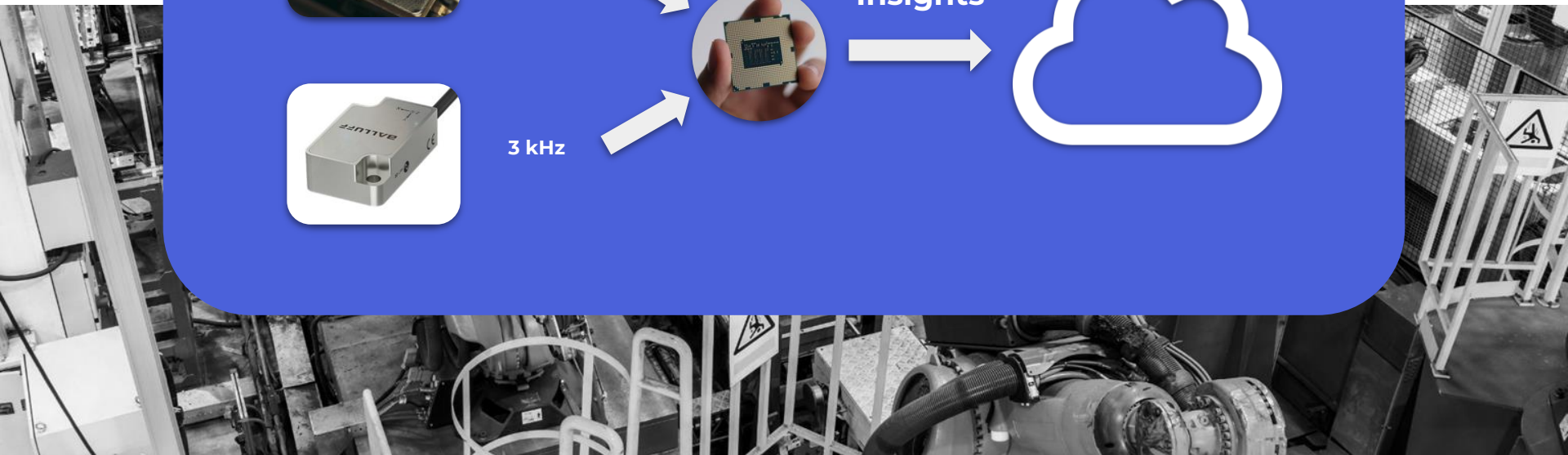
16 kHz



3 kHz



Generate insights reliably and early



Edge ML use cases

Industries

Wearables

Spaces

Industries

Assets

Government

Human health

Machine health

Use Cases

Voice
Detection

Sound
Detection

Predictive
maintenance

Smart Camera

Gesture

Object/People Detection/Tracking/Counting

Silicon

A photograph of a modern industrial factory interior. The scene is filled with complex machinery, including conveyor belts, robotic arms, and various metal structures. The lighting is bright and even, highlighting the metallic surfaces and the organized layout of the production area. A large, semi-transparent white rounded rectangle is overlaid on the center of the image, containing the main text.

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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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

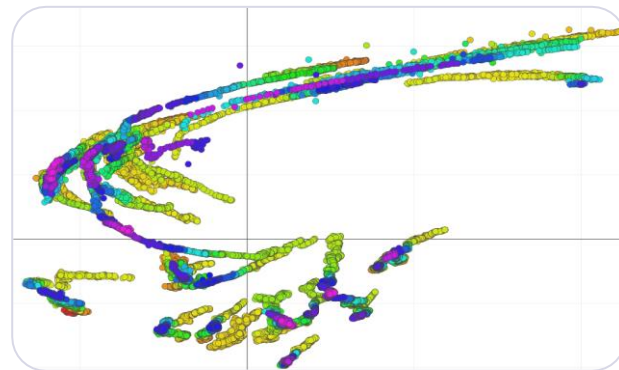
Temperature

- 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



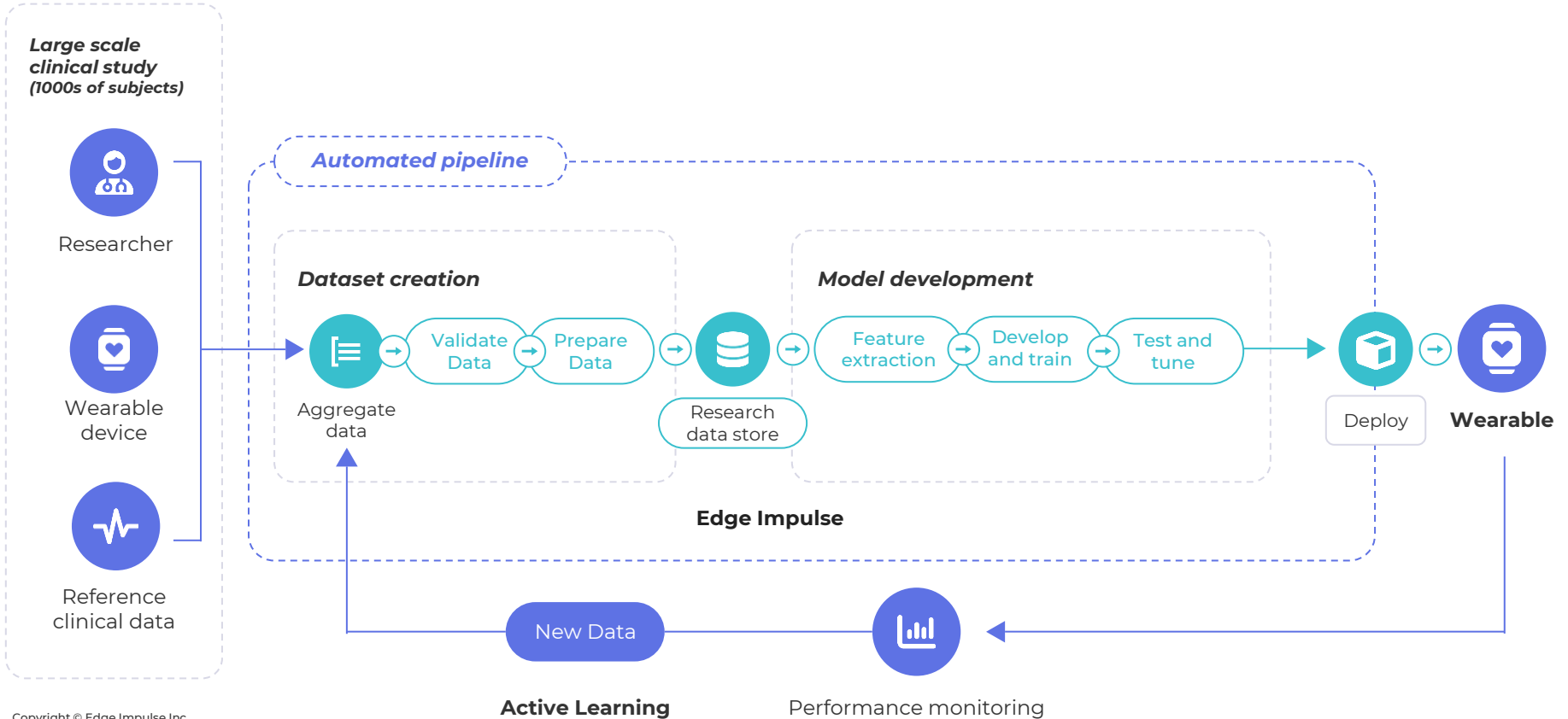
Bio Body

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

Thanks!

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