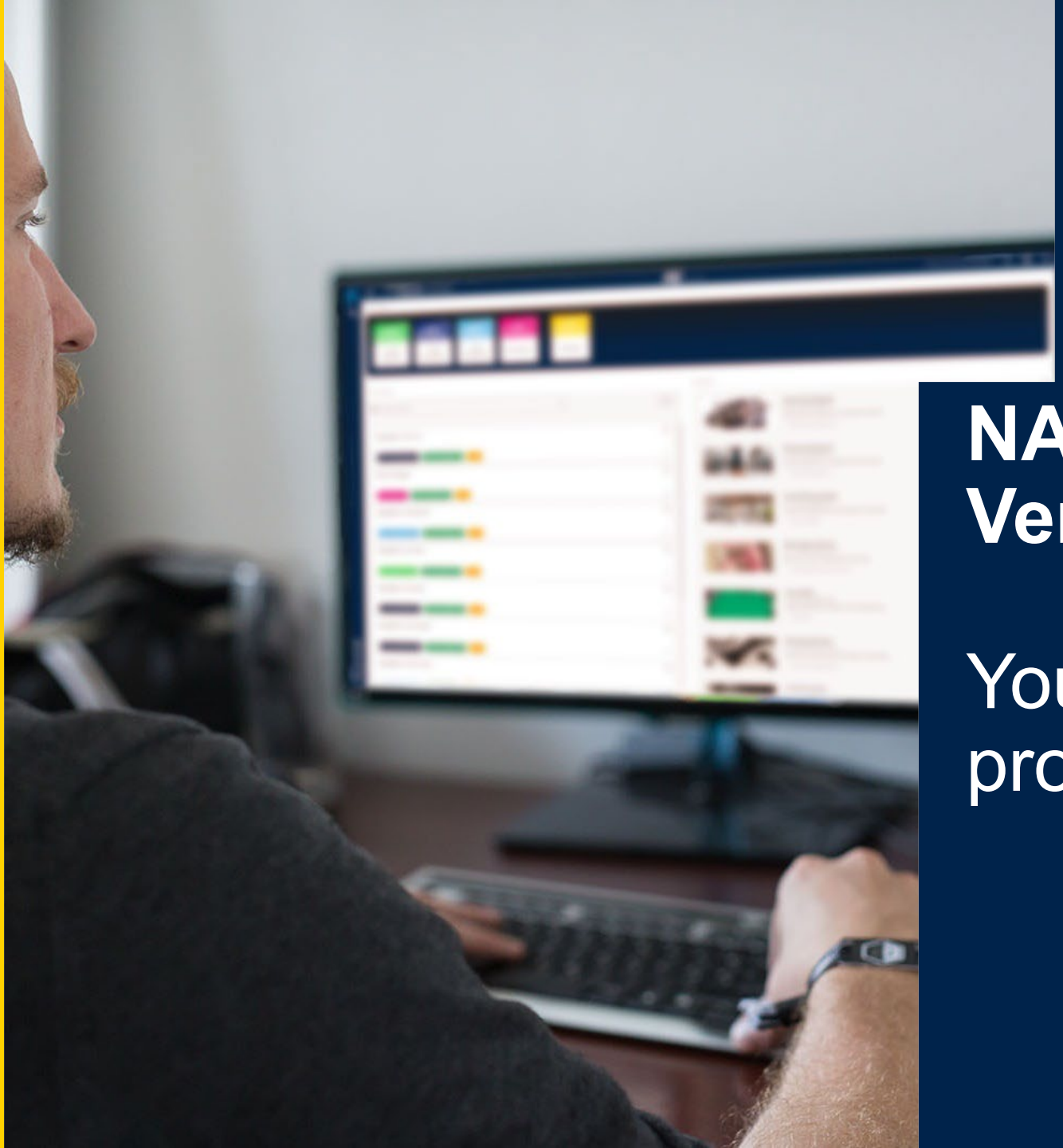

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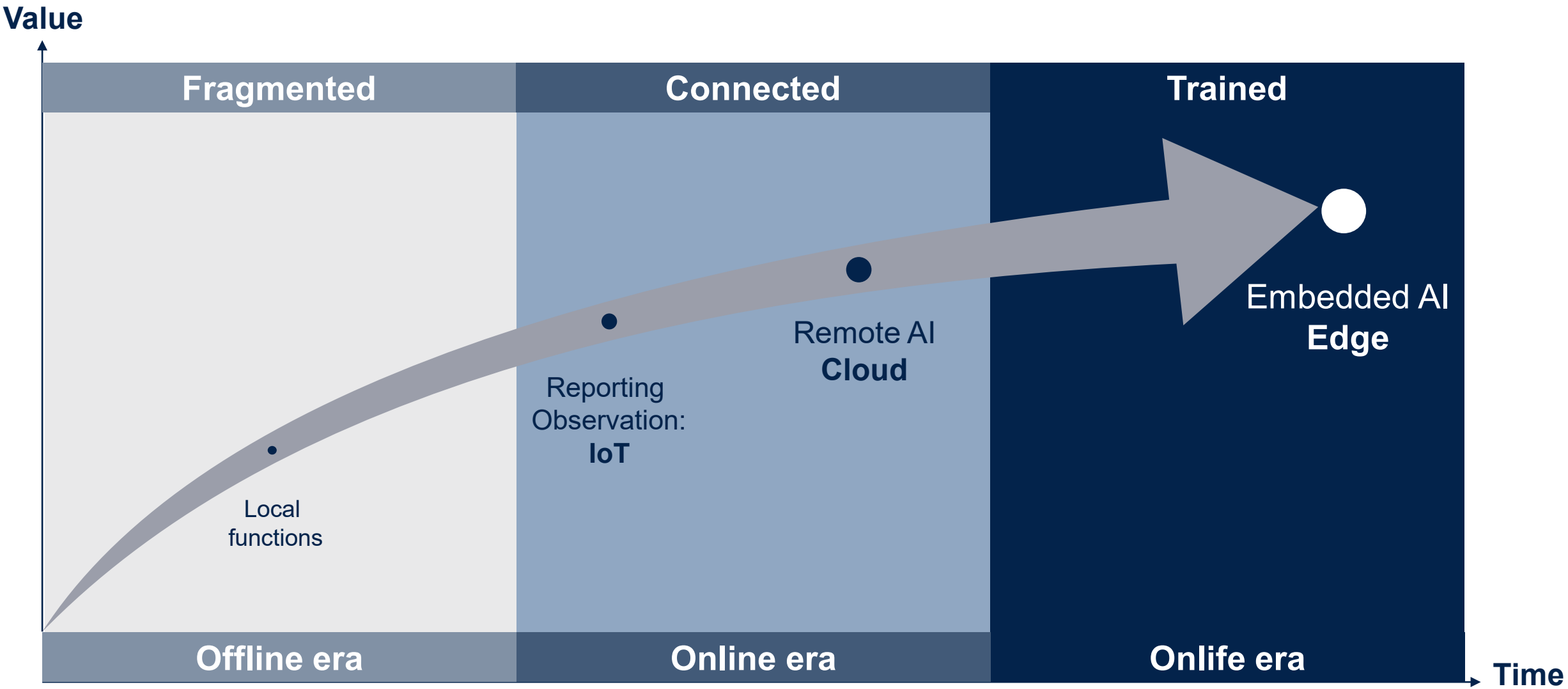
NANOEDGE AI STUDIO
Version 3

Your fast track to smart products

NANOEDGE AI STUDIO

The quest for an ever-SMARTER infrastructure



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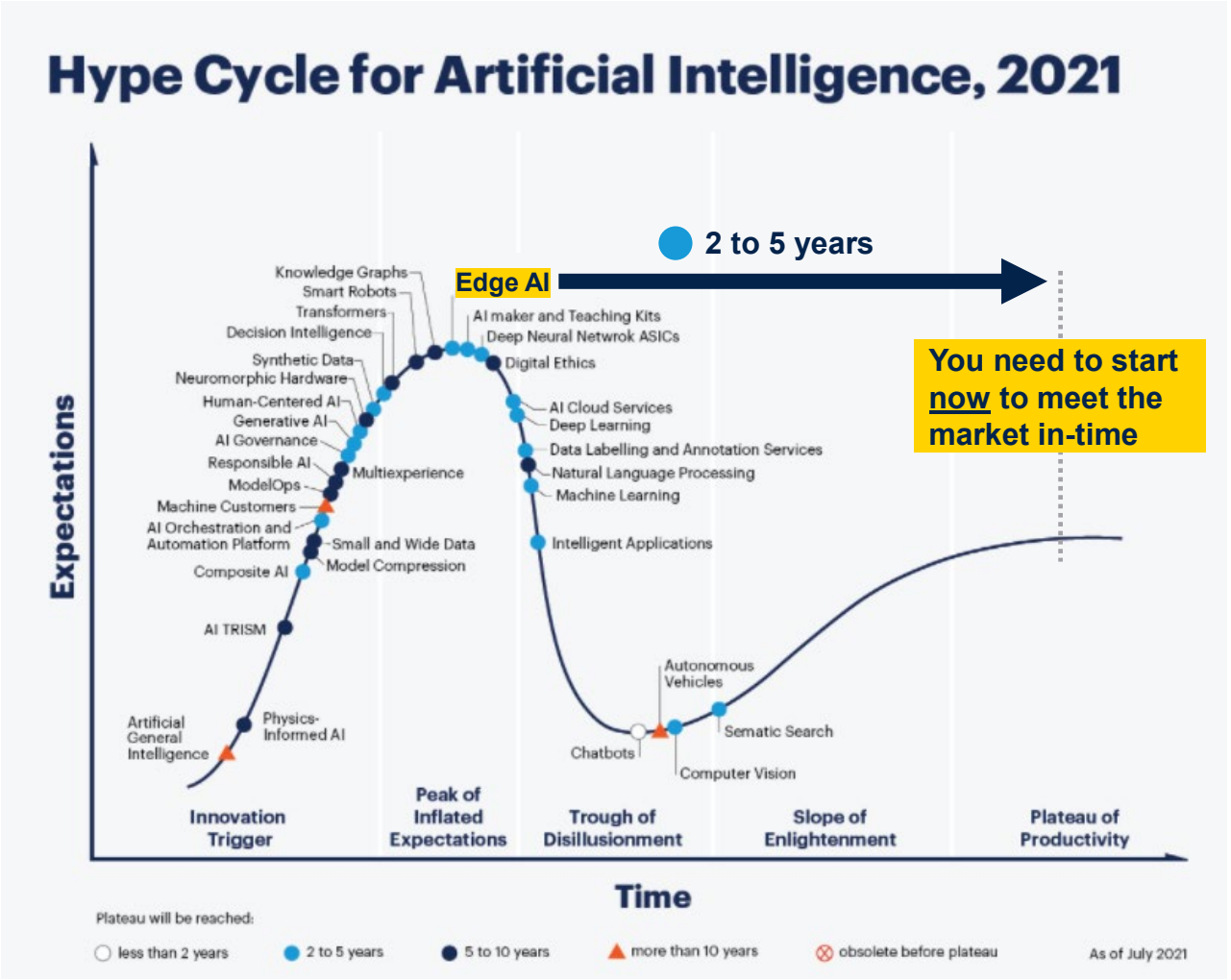
AI Momentum: Buzz versus business value



Source: Gartner 2021

Confusion around AI

Companies struggle to assign a **realistic value** and **business outcome**

AI products will be a standard on the market in 2 to 5 years (Gartner)

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160 Billions machines just “want” to do a better job

The pump is about to break down

due to

a failure on a ball bearing

INDUSTRIAL MAINTENANCE

The washer isn't draining properly

because

a belt is showing signs of wear

HOME MAINTENANCE

An unusual noise has been detected

and

recognized as a window break

SECURITY

Enterprise restaurant is full

and

your waiting time is currently estimated to 15mn

PEOPLE COUNTING

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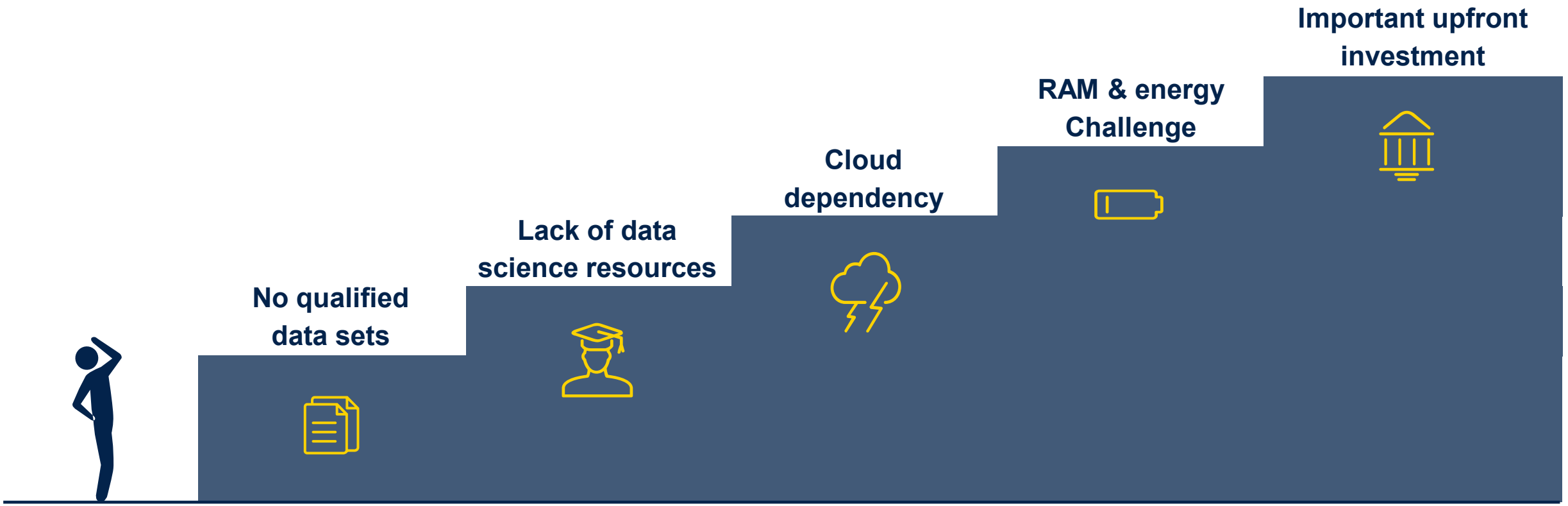
For most companies, creating an edge AI device is a long journey with extraordinary challenges

Investment, complexity and development time are often barriers to AI adoption



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Start today with Edge AI

“ If only
I had solutions to overcome
AI design challenges

That’s where we come in

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Introducing NanoEdge™ AI Studio V3

New “V3” major release for NanoEdge™ AI Studio

A Software Development Environment to radically simplify and shorten Edge AI Solution design

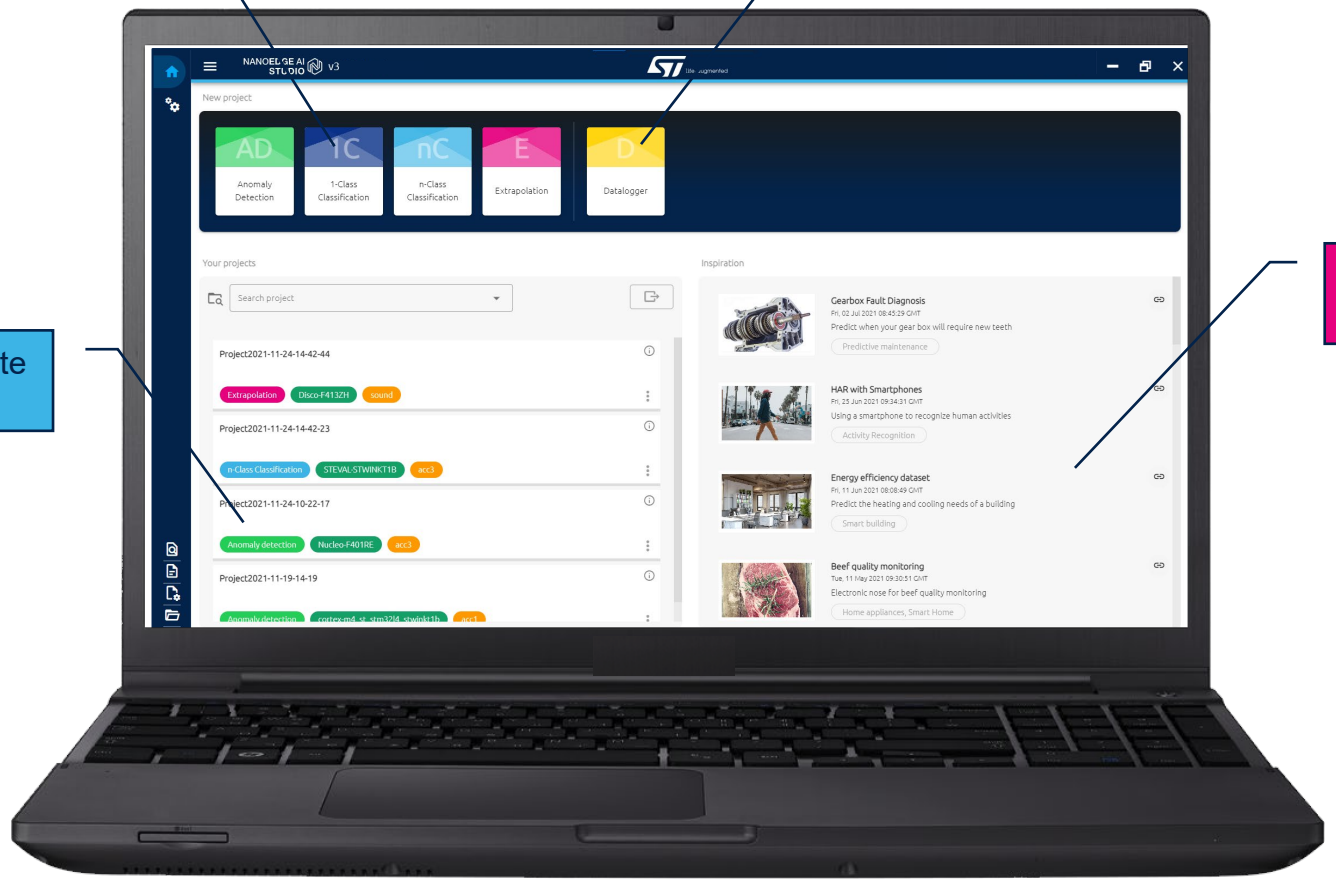
New user interface, more functions, better user experience

New families of Machine Learning algorithms

New Datalogging experience

Easily retrieve or create projects

Get inspired by Multiple uses cases



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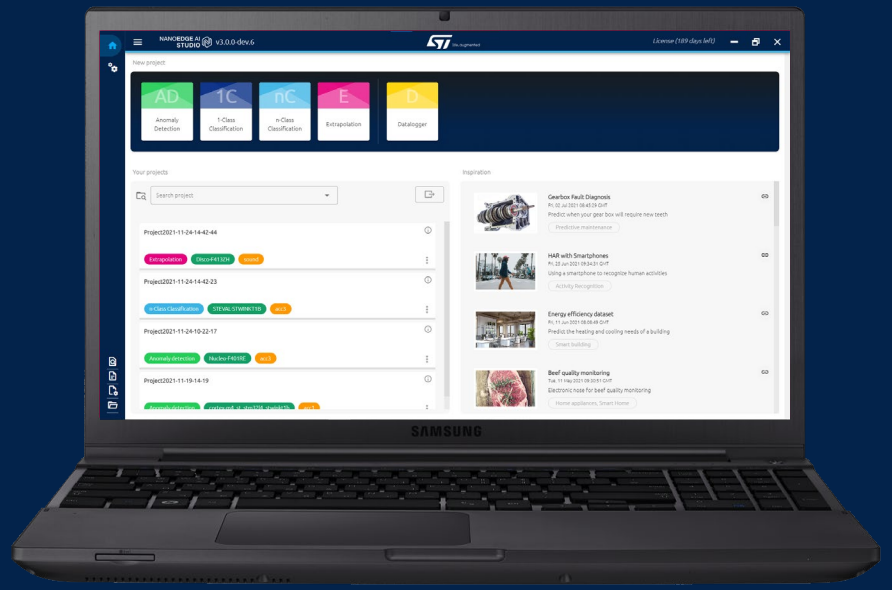
NANOEDGE AI STUDIO

NanoEdge AI Studio V3
Same easiness, more power

ON THE PC

1 Create the library, ONCE.

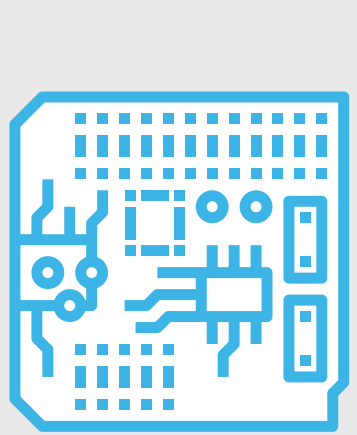


Standalone PC (Win/Linux) solution

Create and embed a self learning engine

ON THE MCU

2 Use the library, MANY TIMES.



For anomaly detection, the model is self-trained at the Edge.

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Our customers have increasingly ambitious use cases for ever smarter products

AD
Anomaly Detection

1C
1-Class Classification

nC
n-Class Classification

E
Extrapolation

"My pumps are installed in a variety of environments that I can't anticipate.
I want them to autonomously adapt to their target environment and detect anomalies by themselves."

"I know exactly how my pumps behave.
I want to detect any outliers."

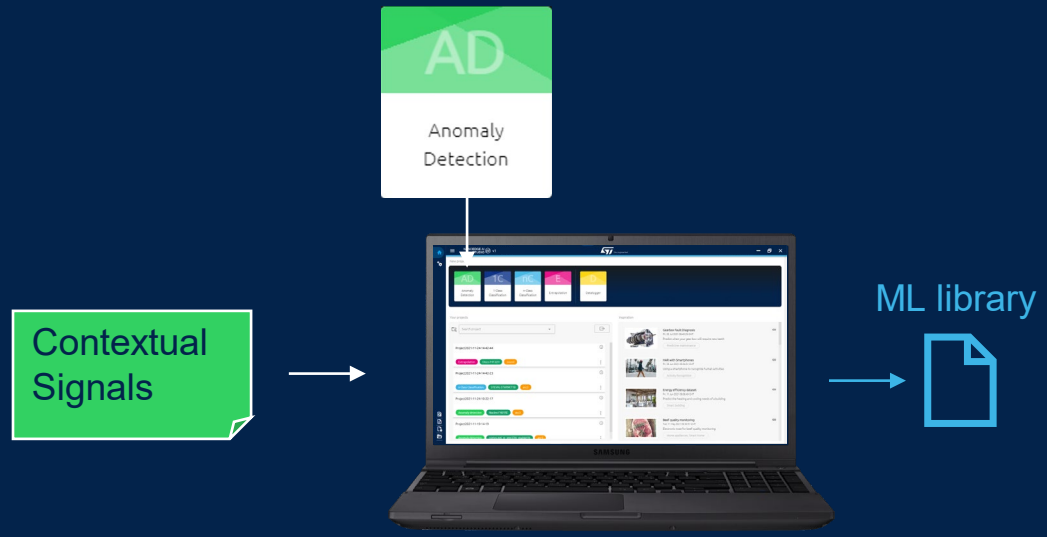
"I know the signals when a pump is experiencing, for example, ball bearing or cavitation problems.
I want to know by name what problems are occurring.“w

“I know several vibration values of my machine.
I want to anticipate when a specific vibration level will be reached so that I have time to take corrective actions before reaching that limit.”

Anomaly detection use-case

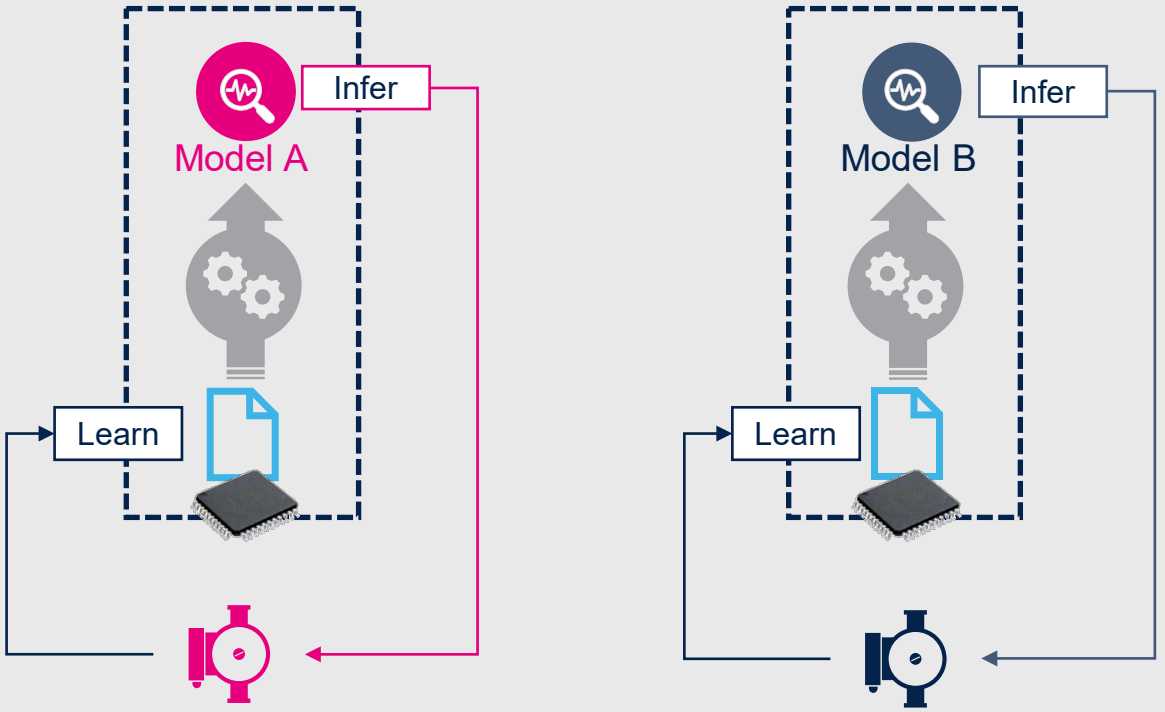
ON THE PC

1 Creation of an **ANOMALY DETECTION** Machine Learning library



ON THE MCU

2 Use of an **ANOMALY DETECTION** Machine Learning library

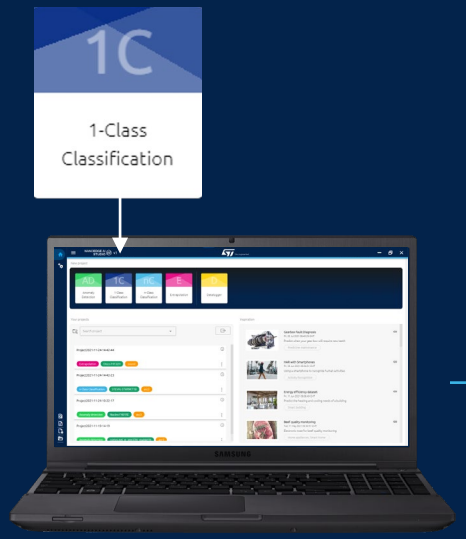


NEW

One class classification use-case

ON THE PC

1 Creation of a **ONE CLASS CLASSIFICATION** Machine Learning library

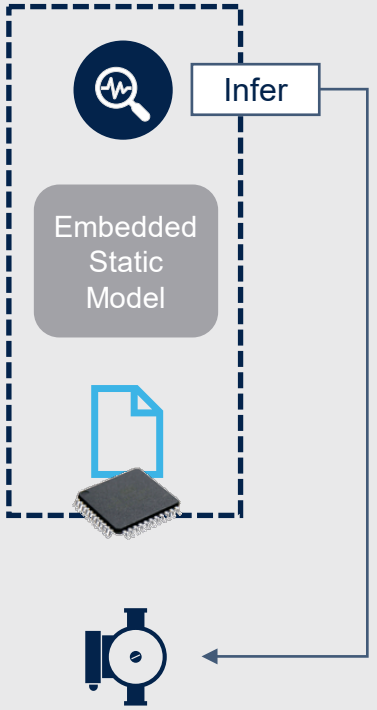


Normal Condition Signal

ML library

ON THE MCU

2 Use of an **ONE CLASS CLASSIFICATION** Machine Learning library



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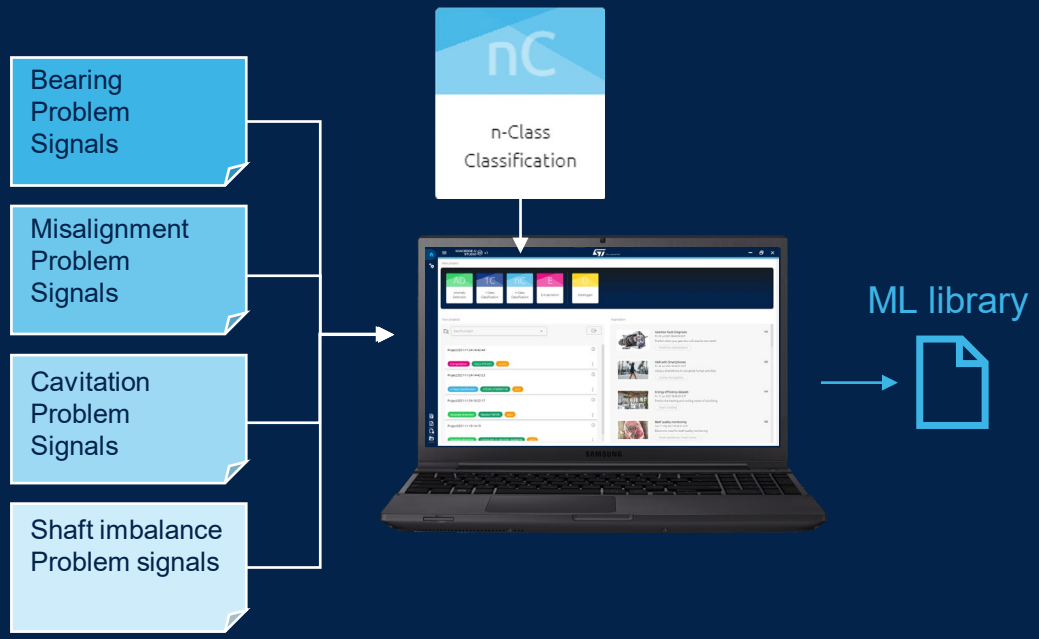
n Class classification use-case

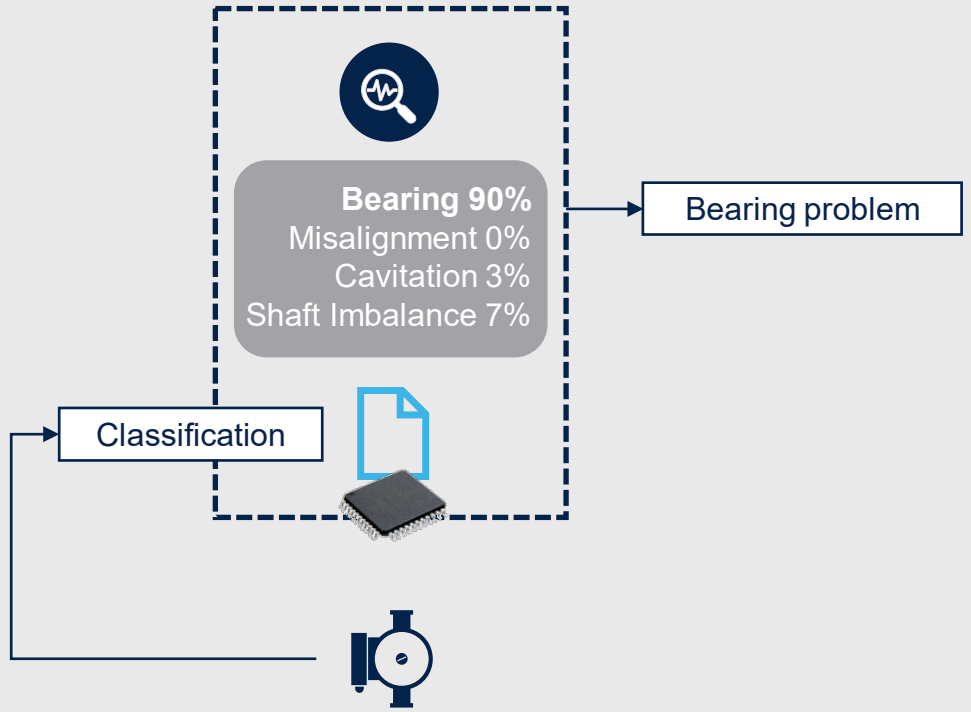
ON THE PC

1 Creation of a **n CLASS CLASSIFICATION** Machine Learning library



ON THE MCU

2 Use of an **n CLASS CLASSIFICATION** Machine Learning library

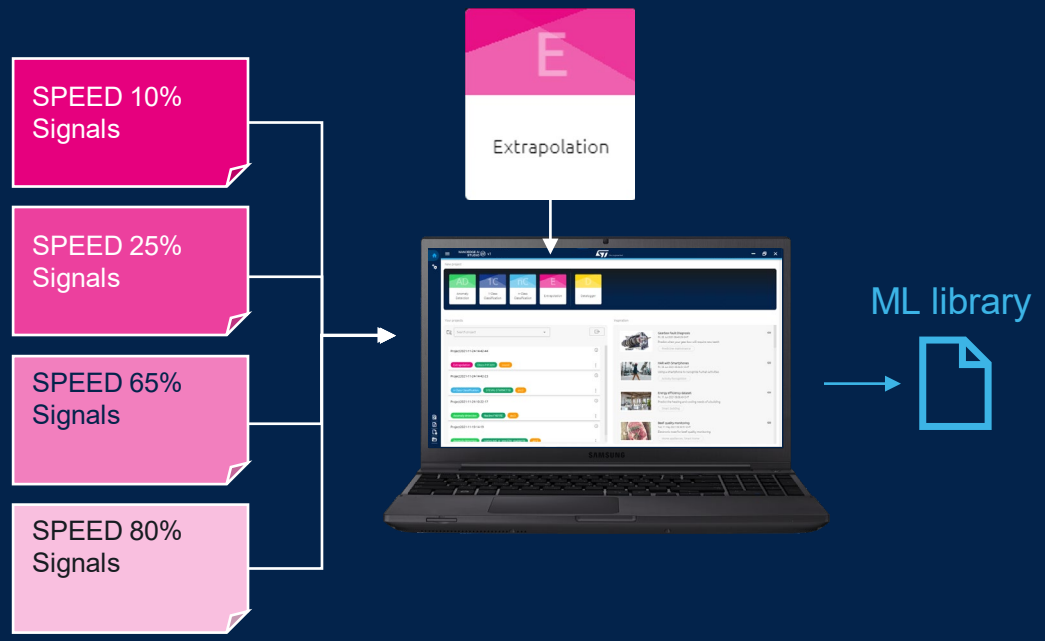


NEW

Extrapolation use-case

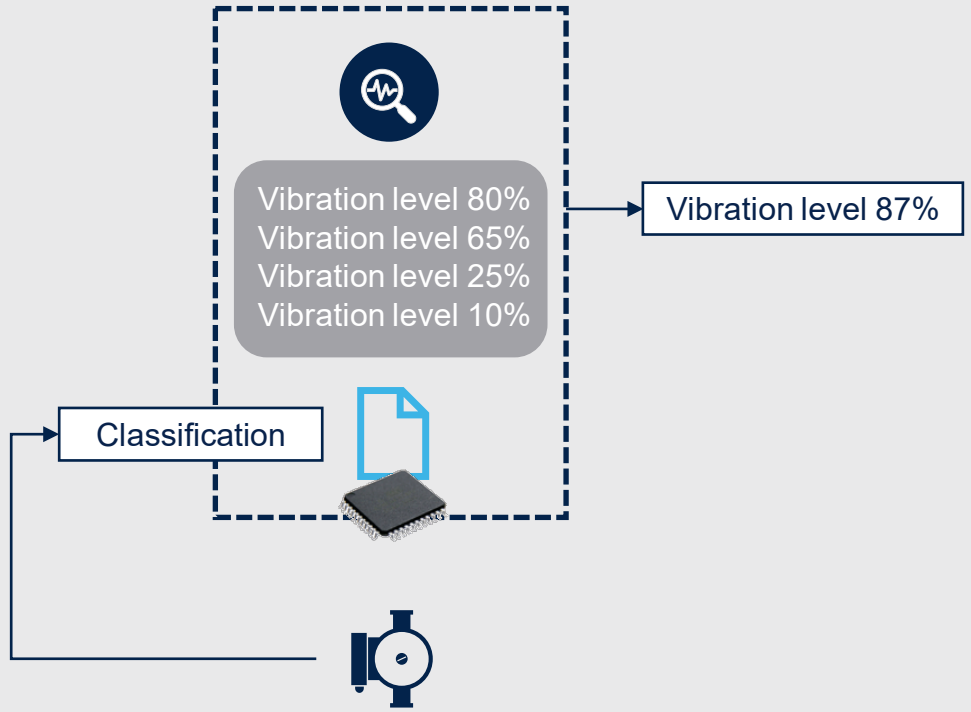
ON THE PC

1 Creation of an **EXTRAPOLATION** Machine Learning library



ON THE MCU

2 Use of an **EXTRAPOLATION** Machine Learning library



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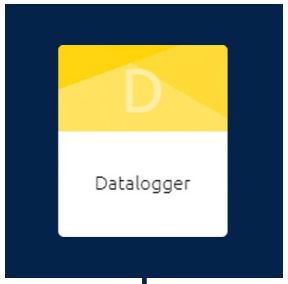
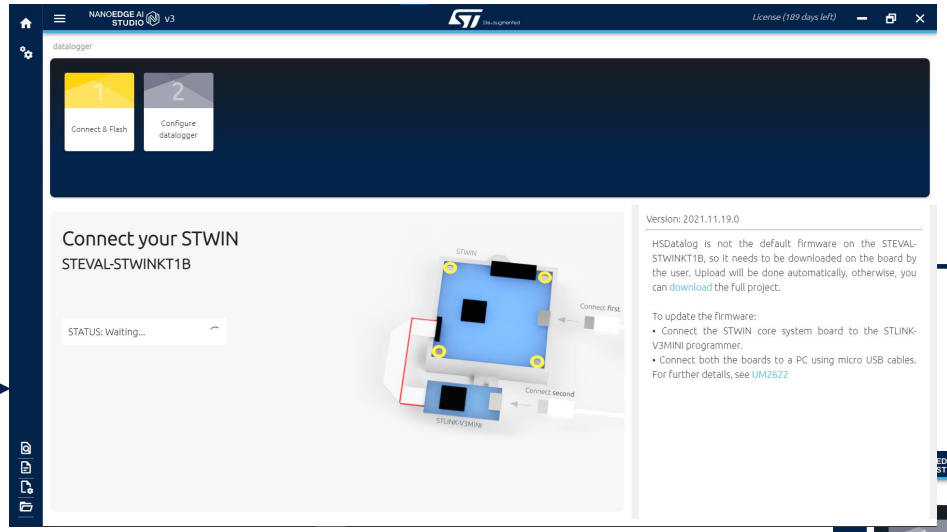
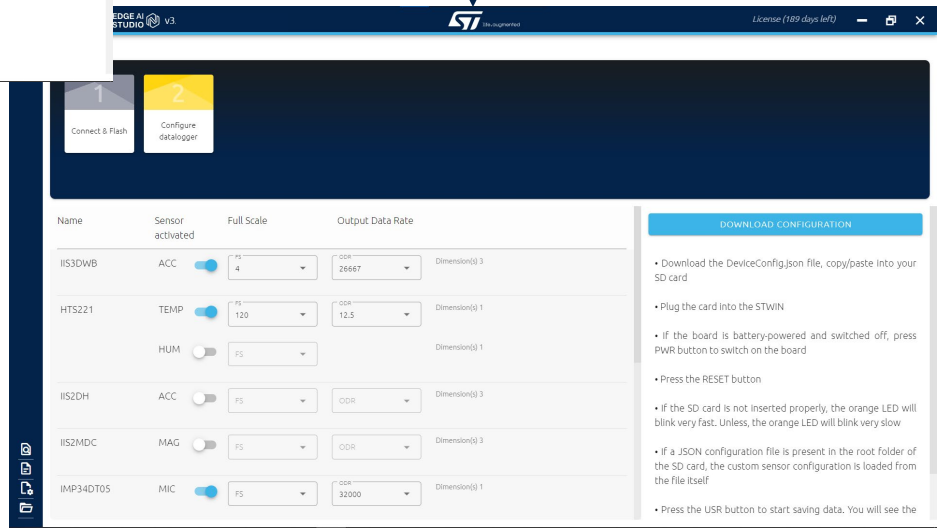
NEW

From idea to datalogging in a matter of minutes



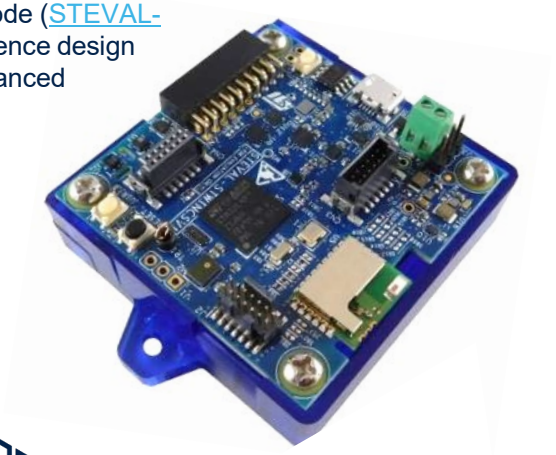


- Streamlined data logging process
- No code
- All settings done using a graphic interface



The STWIN SensorTile wireless industrial node (STEVAL-STWINKT1B) is a development kit and reference design that simplifies prototyping and testing of advanced industrial IoT applications such as condition monitoring and predictive maintenance

The kit features a core system board with a range of embedded industrial-grade sensors and an ultra-low-power microcontroller



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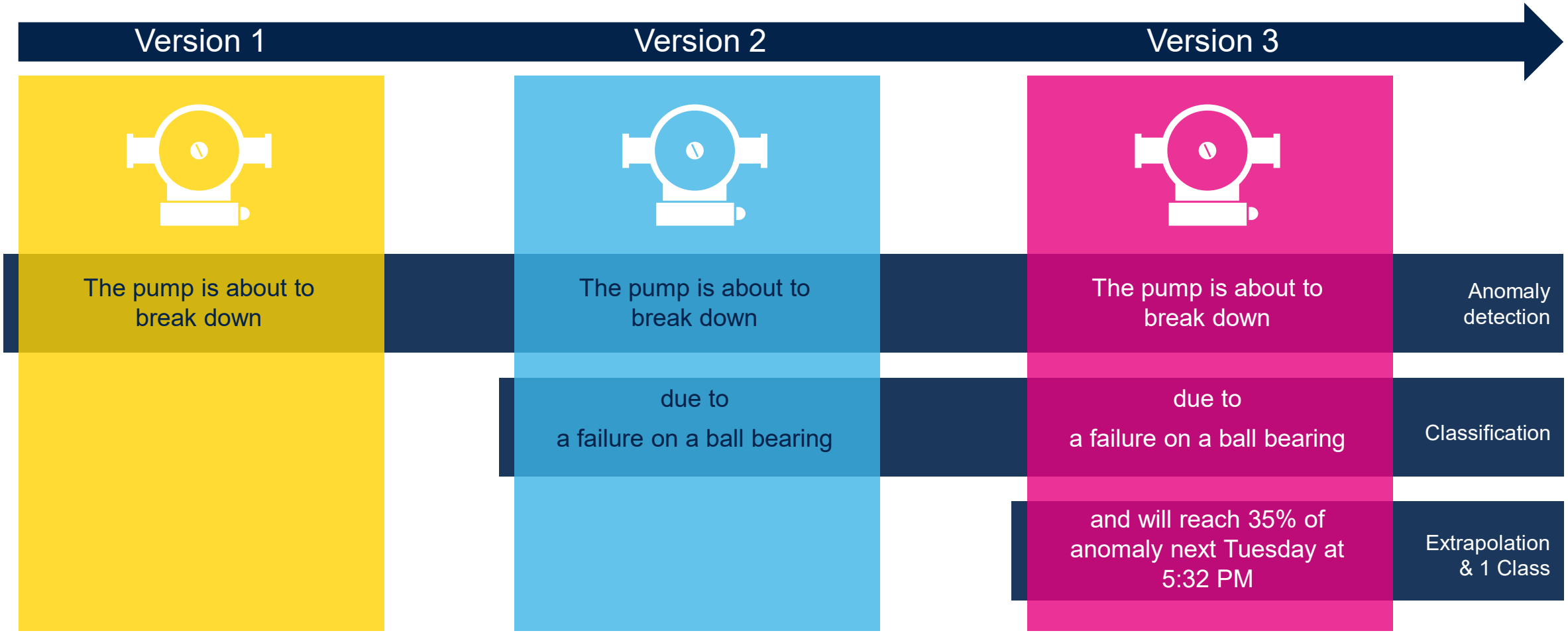
NanoEdge AI Studio
Always more added value, always as simple to use



What’s next?

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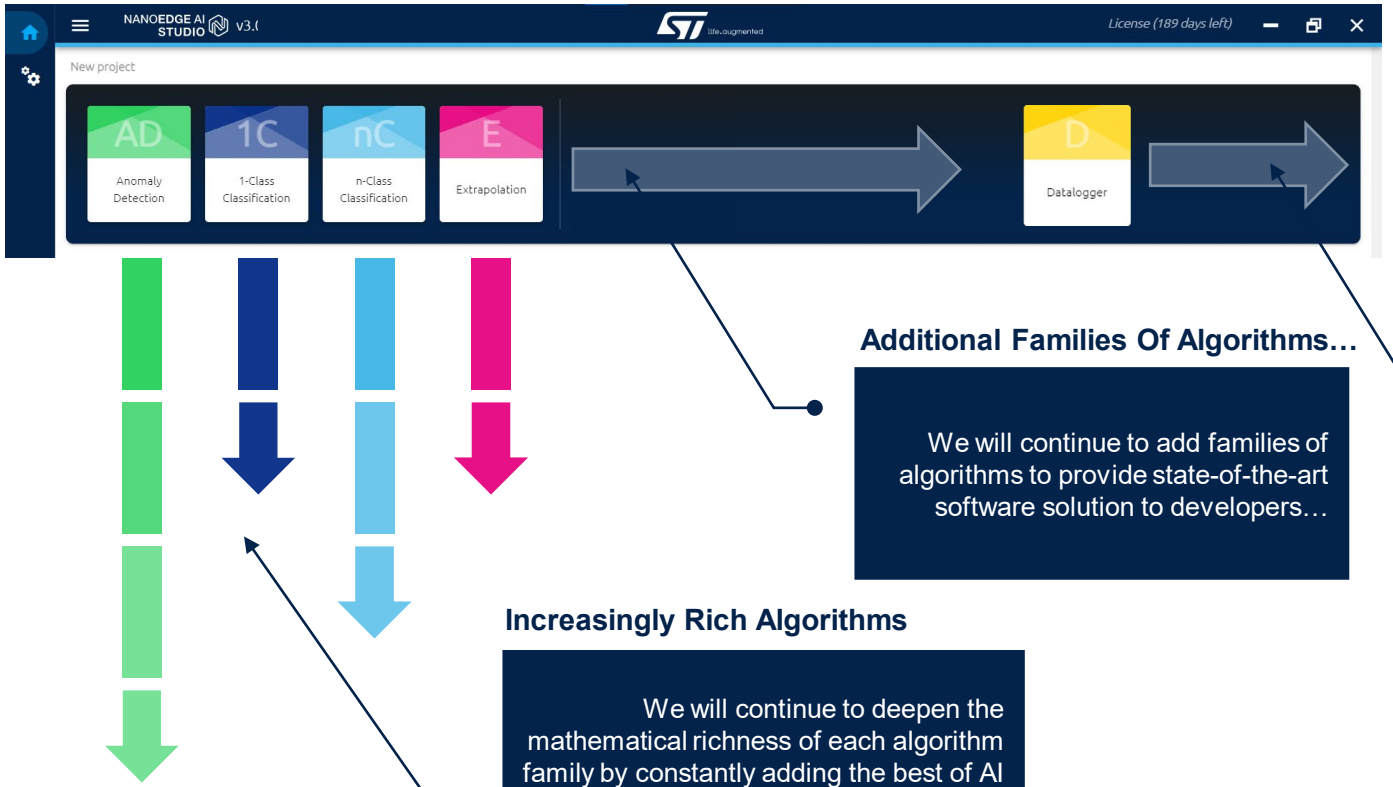
NanoEdge AI Studio Version 3 roadmap

« A complete development software for any embedded developer willing to easily make any product smarter.



Additional Families Of Algorithms…

We will continue to add families of algorithms to provide state-of-the-art software solution to developers…

… And Tools

…and even more useful tools to facilitate prototyping and make embedded AI development a breeze.

Increasingly Rich Algorithms

We will continue to deepen the mathematical richness of each algorithm family by constantly adding the best of AI algorithms from our own R&D team.

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Our technology starts with You

Find out more at http://www.st.com/stm32NanoEdgeAI

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