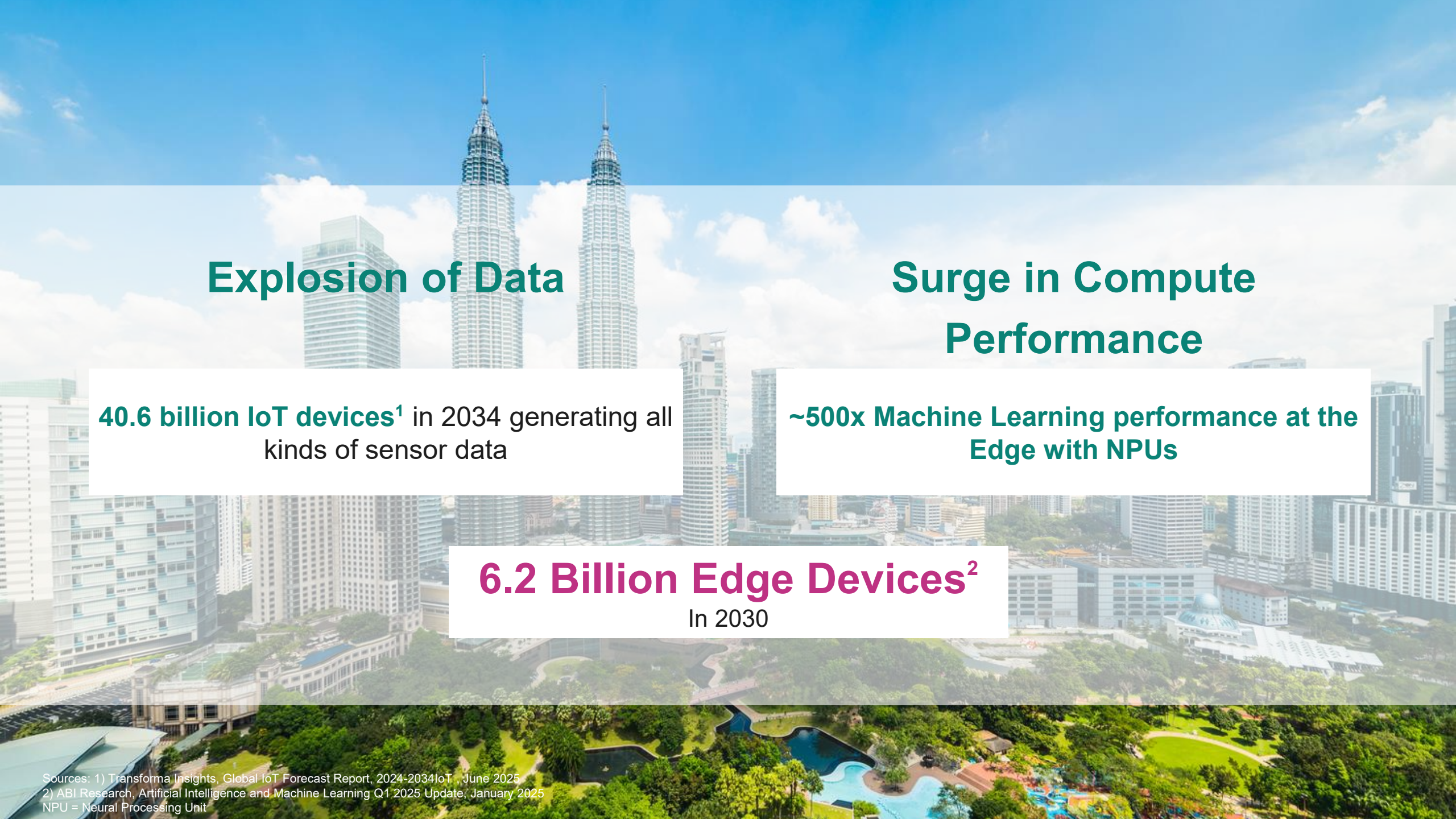




Introducing DEEPCRAFT™ Studio + DEEPCRAFT™ Ready Models

December 2025





Explosion of Data

40.6 billion IoT devices¹ in 2034 generating all kinds of sensor data

Surge in Compute Performance

~500x Machine Learning performance at the Edge with NPUs

6.2 Billion Edge Devices²

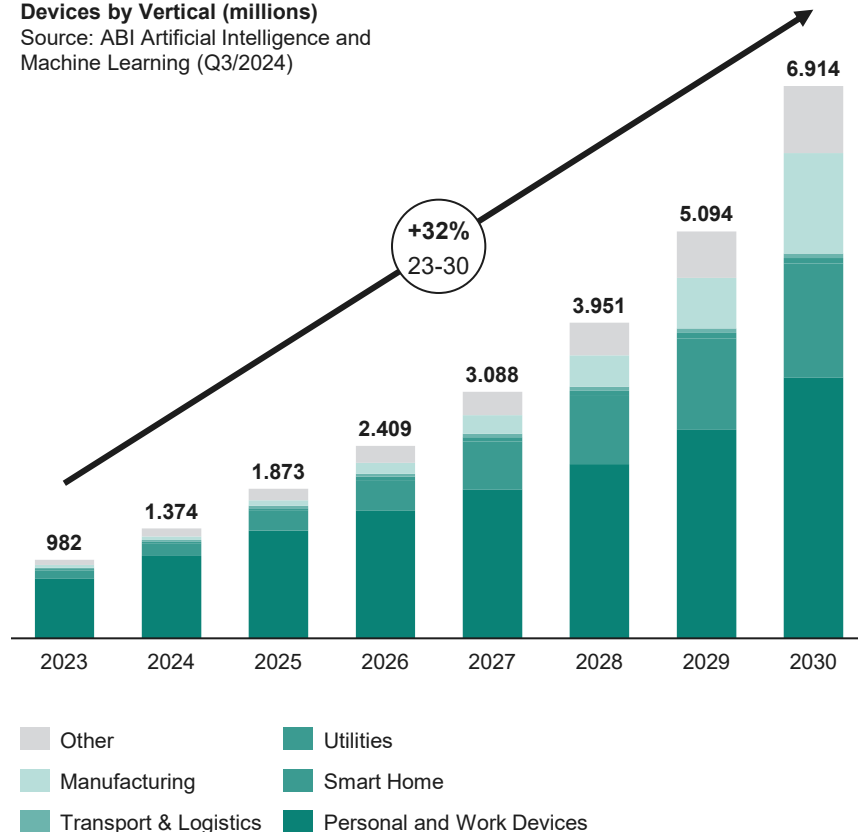
In 2030

Edge AI is a key enabler of IoT and beyond, offering significant market opportunity for intelligent devices

Edge AI models run on devices at the edge of a network. Close to the source of data. Available on MCUs.

Edge AI is growing

Total shipments for TinyML
Devices by Vertical (millions)
Source: ABI Artificial Intelligence and
Machine Learning (Q3/2024)



Benefits of Edge AI

Low latency and deterministic response: faster system response times and lower latency vs. cloud-based analytics

Improved Security & Data privacy: Data never has to leave your device, thus increasing data privacy and security

Increased system reliability: not reliant on a network that may suffer connection or bandwidth issues

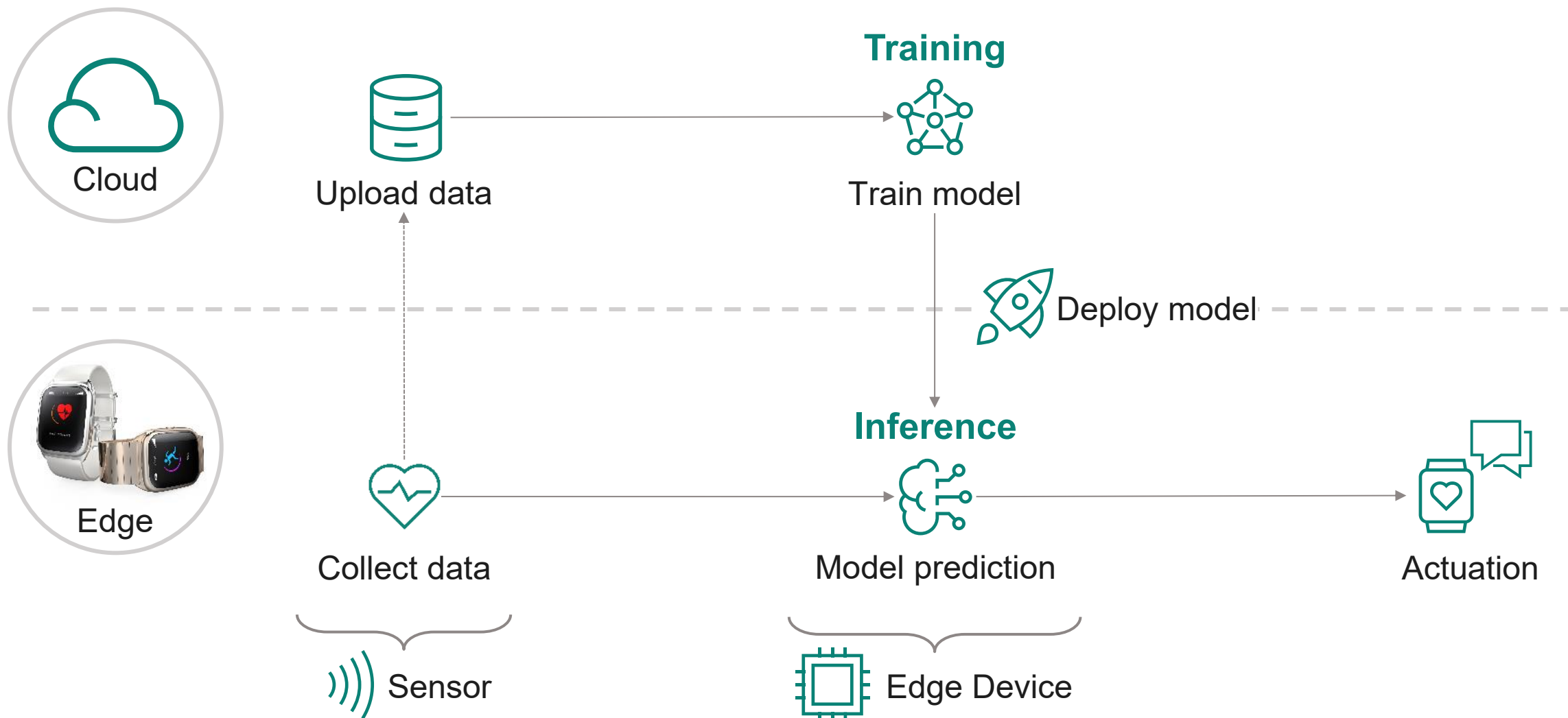
Low power consumption: no streaming data leads to less power consumption

Small memory requirement: reduced memory size per processor enables smarter IoT Devices

Reduced system cost: saving cloud cost



AI on the Edge – Workflow



Our Edge AI solutions have customer projects in a wide range of industries



AI in IOT & Consumer



Customer Project

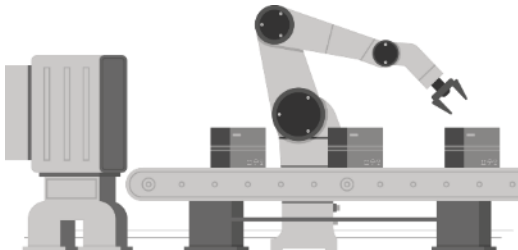
- **Fall Detection in wearables and appliances**
- **Gesture Detection for hearables**
- **Health Acoustic Event Detection**
- **Seamless Door Access**
- **Tool Usage Detection**

AI in Automotive



- **Steering Wheel Gesture Detection**
- **Lane Change Detection**
- **Detecting Emergency Vehicles**

Industrial AI



- **Motor Fault Detection**
- **Manufacturing Fault Detection**
- **Predictive Maintenance**

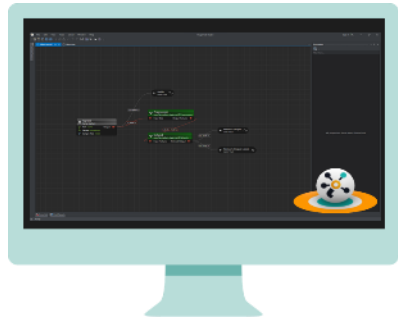
DEEPCRAFT™ AI Suite is your fast-track to intelligent, low-power Edge AI products



DEEPCRAFT™ products provide **innovative, trustworthy, convenient and green AI** software solutions for customers. Our **portfolio** offers **end-to-end Edge AI** and **best-in-class system performance in combination with Infineon Hardware**.

Platform & Tools

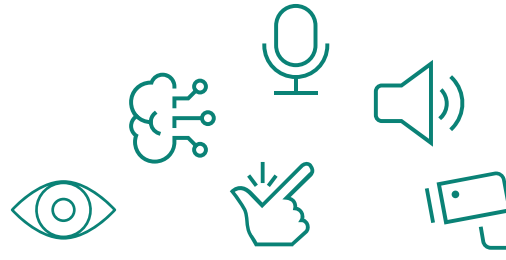
For data collection & pre-processing, model training, model conversion & deployment.



DEEPCRAFT™ Studio
20+ DEEPCRAFT™ Studio Accelerators
DEEPCRAFT™ Model Converter

Solutions

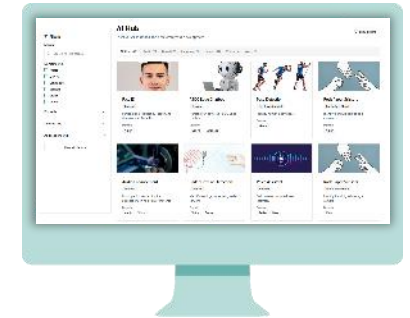
Collection of high value tools, models and configurators to add AI-based capabilities. Range across sensor and data types, from off-the-shelf to customizable solutions.



DEEPCRAFT™ Ready Models
DEEPCRAFT™ Audio Enhancement
DEEPCRAFT™ Voice Assistant

DEEPCRAFT™ AI Hub

Find the DEEPCRAFT™ Studio platform, plus the models, demos, solutions, tools and more that you need all in one centralized hub.



Explore the DEEPCRAFT™ AI Suite,
open-source models, and more.
Everything Edge AI in one place!

Edge AI Success Stories

Identifying faulty welding

Problem: Faulty welds inside machines can't be detected visually



Microphone in welding machine collects audio

Edge AI model warns and stops faulty weld

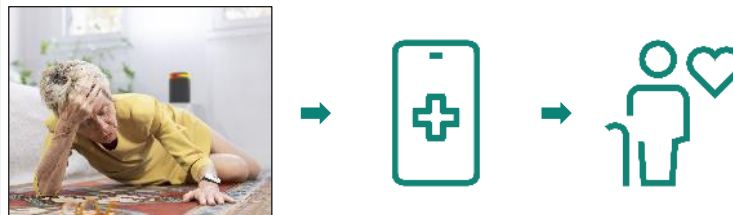
Increased profits

Solution:

- Experienced welders can hear faulty welds. We created an audio-based Edge AI model that emulates that capability.
- Model is used to trigger a warning when a faulty weld is detected.
- This is currently used by major European mobility manufacturing company.

Detecting falls in the elderly

Problem: Falls among the elderly projected to result in rising rate of hospital care



Fall detected via wristworn wearable

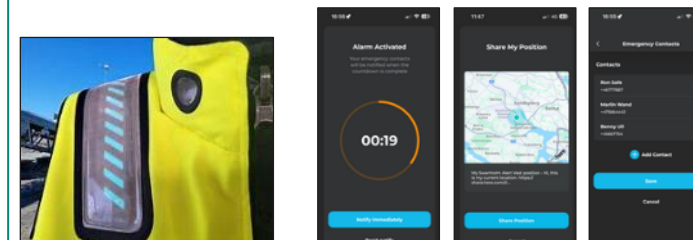
Automated notification sent

Solution:

- We developed an Edge AI model that detects falls in the elderly using wrist-worn wearables (demand for a 6-month long battery life for the wearable)
- This model has been taken into production by two customers.

Increasing safety for truckers

Problem: Truck driving is the 9th most dangerous job in Sweden



Fall Detection in safety vests

Trigger different actions

Solution:

- Created a fall detection model for use in safety vests that triggers various actions
- Lights up when the wearer steps out of a truck; Alarm sent when the wearer falls
- Wearer's position can be shared; Emergency contacts can be notified
- Vests are currently sold by major Sweden based safety vest company.

Infinite offers end-to-end technology solutions for your Edge AI market entry



Our Capabilities

AI models & capabilities for a wide variety of applications

End-to-end software solutions for easy training & deployment

The right hardware for your Edge AI model

Infineon Edge AI Solution Offering



AI Models & AI Solutions

In-house Edge AI software



DEEPCRAFT™ Studio

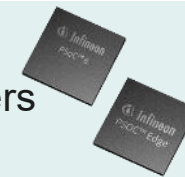
Development & AI Ecosystem



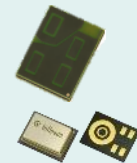
ModusToolbox™ Software



PSOC™, XMC™, AURIX™, TRAVEO™ Microcontrollers



XENSIV™ Radar and Microphones

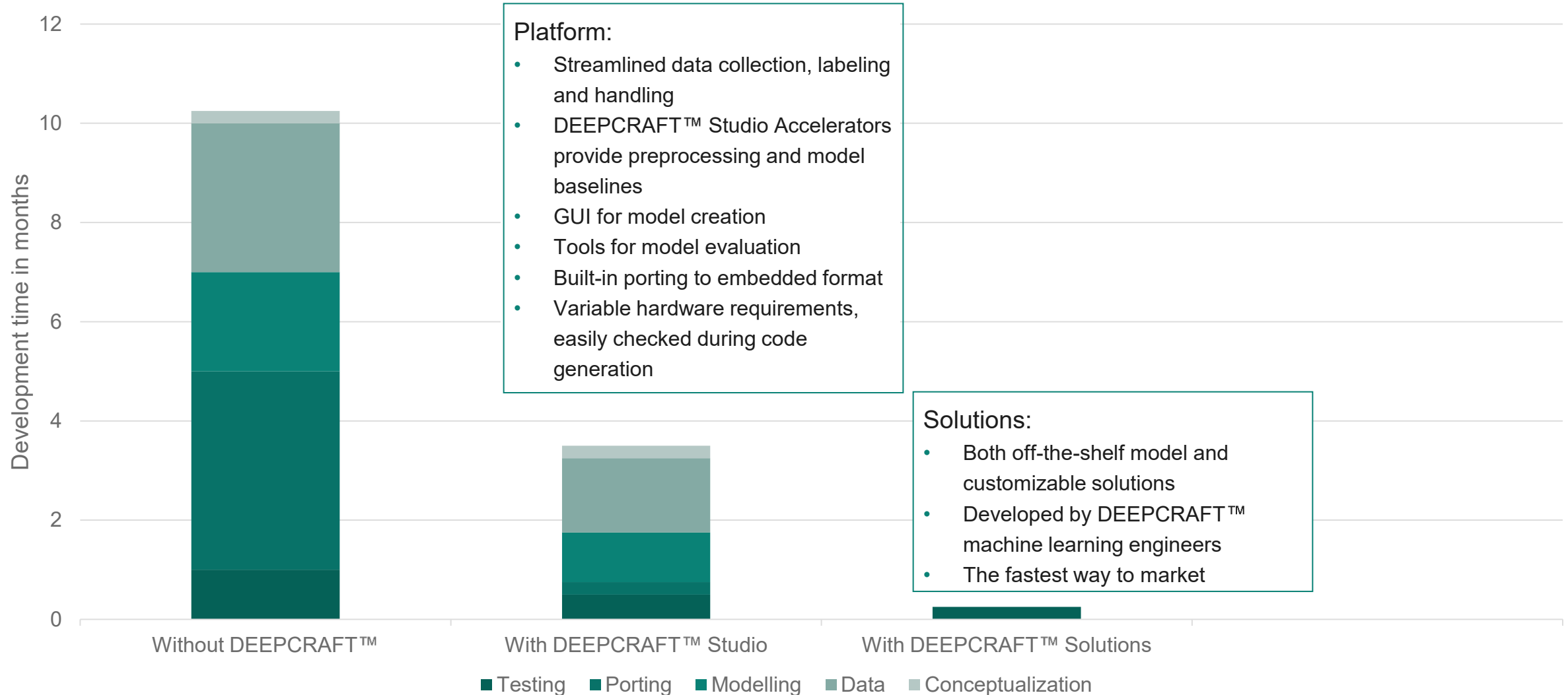


Connectivity & Security Solutions

Customer Product



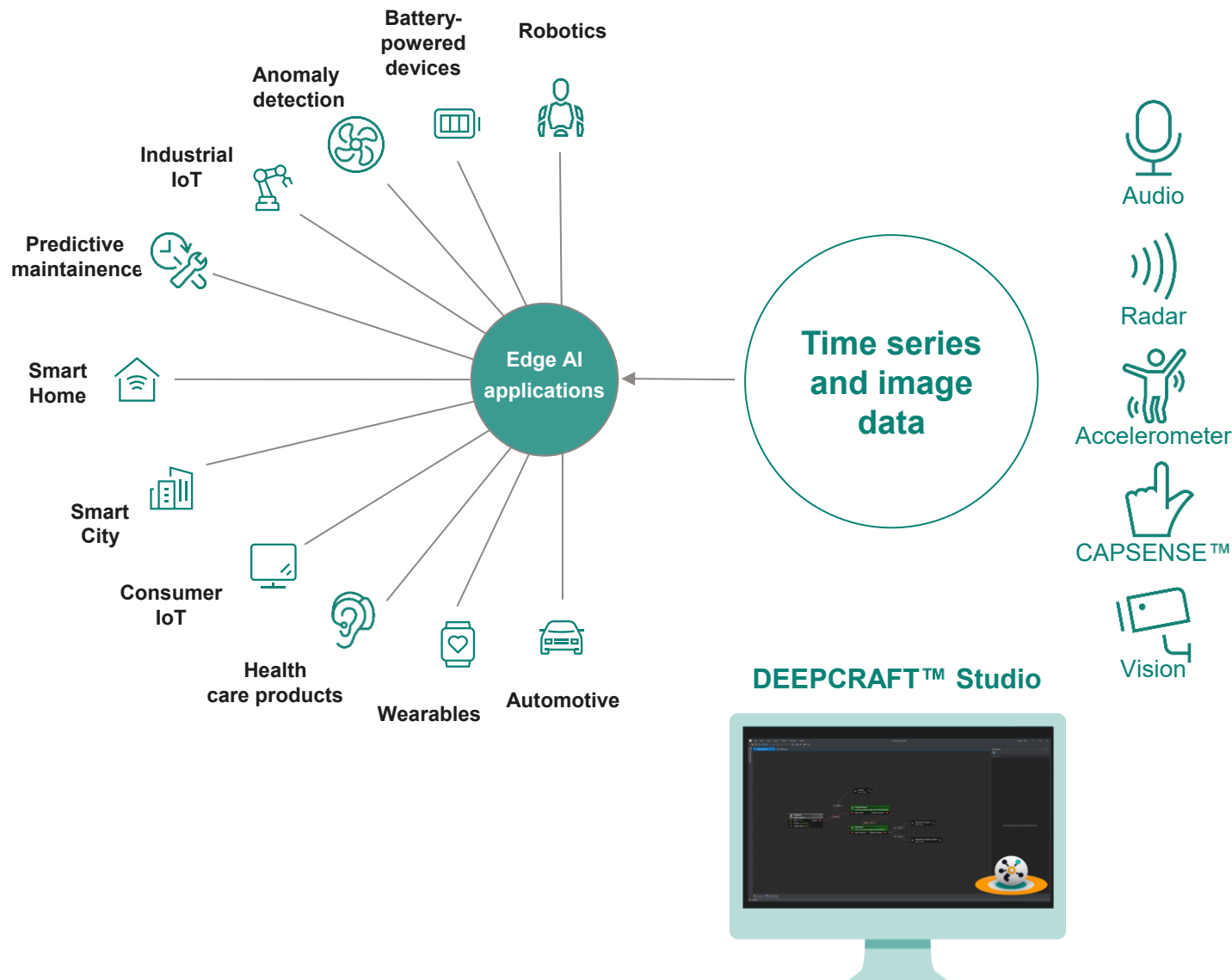
Save months of development time with DEEPCRAFT™ Edge AI software!



DEEPCRAFT™ Studio is an Edge AI development platform

DEEPCRAFT™ Studio

- Train **production-grade custom Edge AI models** with our state-of-the-art platform
- Designed for machine learning (ML) **experts and beginners**
- Leverage pre-trained Studio Accelerators for **shorter time to production**
- Transparent data policy **protects your IP**
- Graph UX interface provides **unique insight** during ML development process
- Focuses on **deep learning**, leveraging modern neural processing units for **enhanced and optimized AI capabilities**



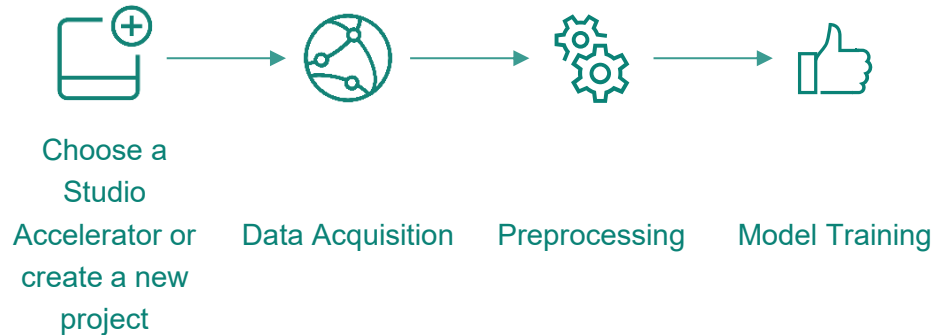
DEEPCRAFT™ Studio provides the full journey from AI/ML model development to embedded software



Build a new custom model, starting from scratch or using a DEEPCRAFT™ Studio Accelerator

Model development and customization

DEEPCRAFT™ Studio



Model optimization

DEEPCRAFT™ Studio

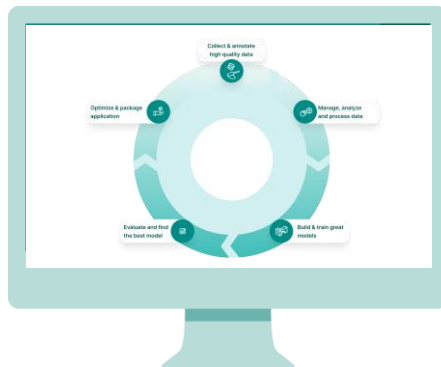


Model deployment on MCU

ModusToolbox™ - for PSOC™ and TRAVEO™



AURIX™ Development Studio



DEEPCRAFT™ Studio's features make it easy to create ML models and take them into production



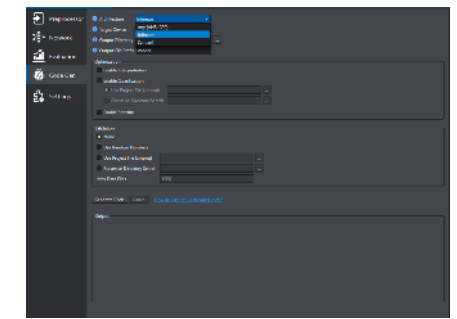
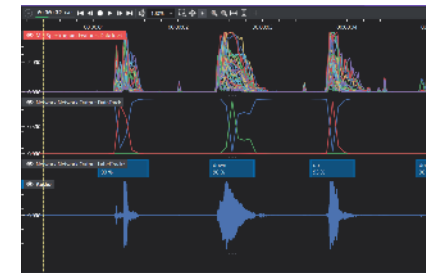
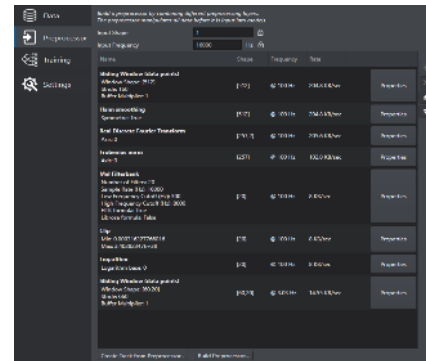
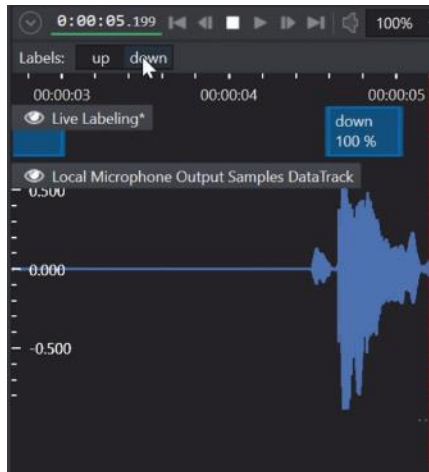
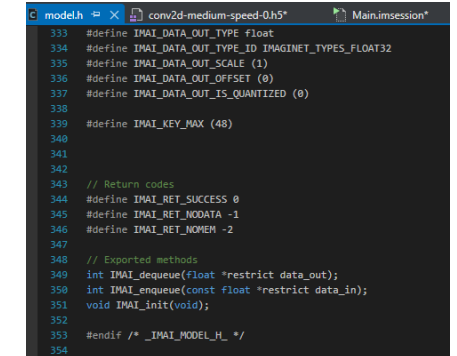
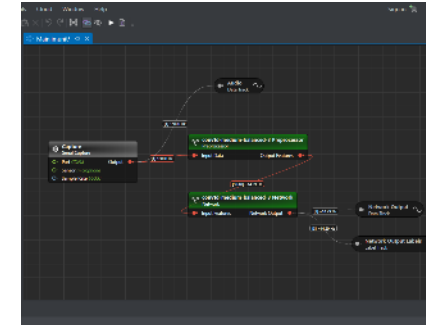
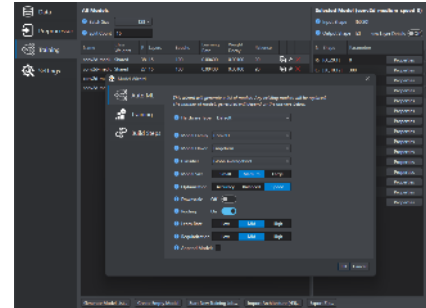
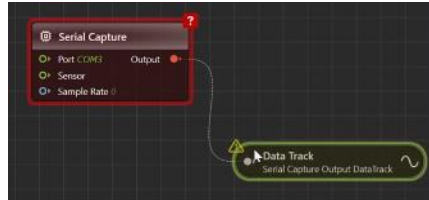
Live data collection & auto-labelling from device to computer

Manage all data in your project easily – annotate, weigh, label, distribute, ...

Generate and train high quality models with the click of a button using Model Wizard

Visualization is everything – Graph UX unveils the ML black box

Package for the edge – optimized for Infineon Hardware



Collect & annotate high quality data

Manage data into different datasets

Build & train great models

Evaluate and find the best model

Optimize and package application

Deployment and Maintenance

AI model development made easier with DEEPCRAFT™ Studio Accelerators



DEEPCRAFT™ Studio Accelerators

- DEEPCRAFT™ Studio Accelerators are **easily accessible** from within DEEPCRAFT™ Studio
- Include the **datasets, preprocessing, model architecture and instructions** needed to turn them into **production-ready models**
- A **wide variety of Studio Accelerators** are **available** to inspire and guide you for different use cases and sensors
- Studio Accelerators **for any hardware** that DEEPCRAFT™ Studio supports
- **Open-source models** developed by Machine Learning engineers from Infineon and elsewhere, so there are **always new ones released**

DEEPCRAFT™ Studio Accelerators facilitate the development of custom Edge AI models. Some examples:

Baby Cry Detection



Home Sounds Detection



Fall Detection



Gunshot Detection



Siren Detection



Human Activity Detection



Chainsaw Detection



Drill Material Detection



Drill Material Detection



Keyword Spotter



Touch Detection / CAPSENSE™



Fan Anomaly Detection



Surface Detection



RockPaperScissors Detection



Termite Detection



Water Detection



Movement type Detection



Presence Detection



Audio



Radar



Accelerometer/

IMU



CAPSENSE™



Vision

Add AI to your devices easily with DEEPCRAFT™ Ready Models

DEEPCRAFT™ Ready Models

- These off-the-shelf models are the **fastest way to take Edge AI into production**
- Every model is **designed for the edge**, with **low memory and power consumption**, and **fast inference times**
- Trained by **our machine learning experts**
- **Comprehensively tested** on a large library of different datasets to ensure they work in all intended scenarios
- **Designed for Infineon MCUs**

DEEPCRAFT™ Ready Models enable Edge AI solutions for wearables, smart homes, industrial, automotive and more!

Baby Cry Detection 

Factory Alarm Detection 

Cough Detection 

Siren Detection 

Direction of Arrival 

Snore Detection 

Fall Detection 

Gesture Detection 



Audio



Radar



Accelerometer

DEEPCRAFT™ Ready Models

Production-ready Edge AI models. Created by experts; trained, tested and optimized for Infineon hardware

Try the Ready Model



Purchase (Pay a royalty per device)

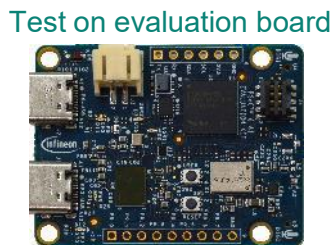


Integrate the model to your product



.hex or .a

Get evaluation version from the [Infineon Developer Center](#)



Test on evaluation board



PSOC™ Edge E84 AI Kit (Soon)

PSOC™ 6 - CY8CKIT-062S2-AI



Buy the Model



Get the full library



Deploy the model in your product



Distribute product

Get started via our developer portal!
developer.imagimob.com
 (Imagimob - An Infineon Technology Company)

DEEPCRAFT™ Ready Model MCU requirements

Ready Model	RAM (kB)	Flash (kB)	Infineon MCU it runs on*	ARM architecture	Inference (ms) on PSOC™ 6	Sensitivity*** (%)
Gesture detection	3	45	PSOC 6	CM4	8	92
Fall detection	6	15	PSOC 4	CM0	1	93
Snore detection	24	53	PSOC 6	CM4	23	92
Baby Cry detection	27	27	PSOC 6	CM4	127	95
Cough detection	27	82	PSOC 6	CM4	150	95
Factory Alarm detection	27	32	PSOC 6	CM4	144	90
Siren detection	60	51	PSOC 6	CM4	20	92
Direction of Arrival (Audio)	826	186	PSOC Edge	CA72	82**	97

* Minimum requirement for running the model, higher processors offer better performance and scalability

** This model cannot run on PSOC™ 6, inference is instead calculated on an Arm CA72 processor

*** represents the proportion of actual positive cases that are correctly classified as positive by a model, the true positive rate

DEEPCRAFT™ Models + availability for Infineon MCUs

Ready Model	PSOC™ 6	PSOC™ Edge
Gesture detection	✓	✓
Fall detection	✓	✓
Snore detection	✓	
Baby Cry detection	✓	✓
Cough detection	✓	✓
Factory Alarm detection	✓	✓
Siren detection	✓	✓
Direction of Arrival (Audio)		✓

*Available for other Infineon MCUs upon request

DEEPCRAFT™ Studio

- ✓ Available
- ✓ Available upon request
- ✗ – not applicable for that MCU

Product Name	PSOC 4	PSOC 6	PSOC Edge	PSOC Control	PSOC ATV	AURIX TC3	AURIX TC4	TRAVE O M4	TRAVE O M7	XMC 1000	XMC 4000	XMC 7000
Studio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Find everything you need to add Edge AI to your devices in the DEEPCRAFT™ AI Hub

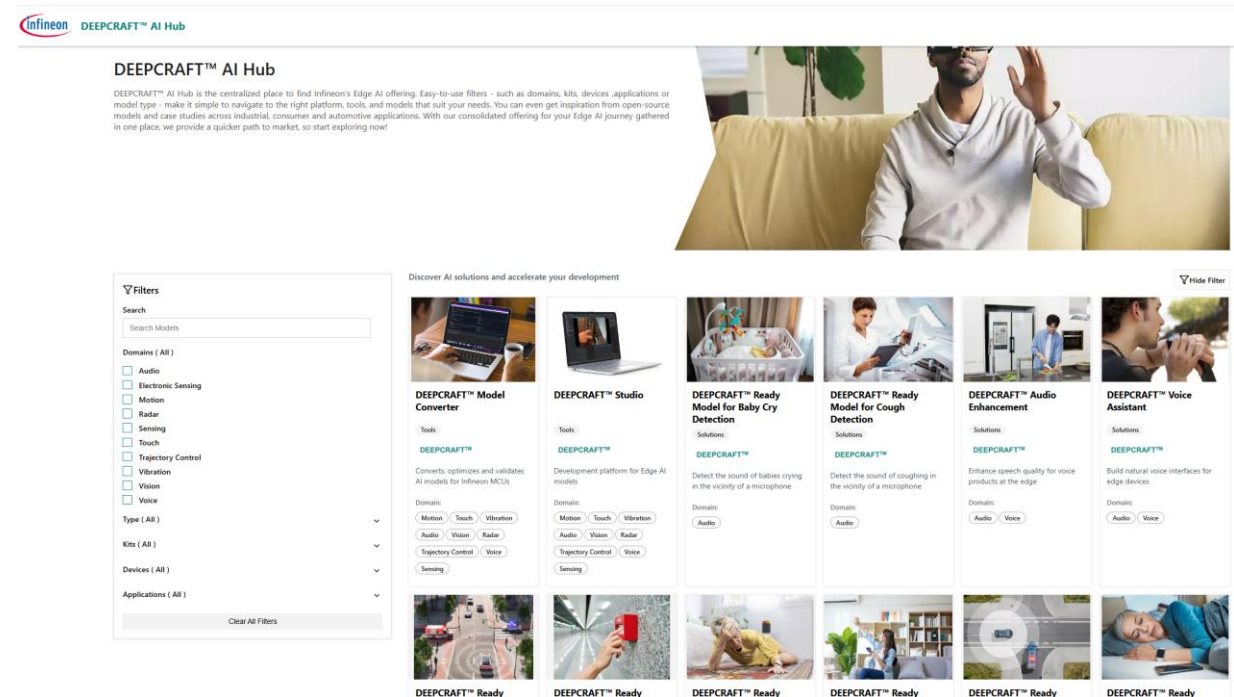


DEEPCRAFT™ AI Hub

Your Edge AI Solutions in One Place

- **Centralized Access:** One-stop shop for all Edge AI software needs
- **Organized by Use Case:** Easily find the right solution for your specific requirements
- **Customer enablement:** Comprehensive resources for successful implementation
- **Diverse Solutions:** Explore the DEEPCRAFT™ AI Suite as well as third-party and open-source content for maximum flexibility
- **Accelerated Time to Market:** Consolidated offerings to get you to market faster

Your go-to for everything Edge AI!



Browse through the A Hub to find everything from AI models, to our development platform & tools, solutions, inspiring concepts, and more!

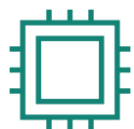
Link: <https://deepcraft.infineon.com>

Key takeaways



Edge AI is crucial to drive Industrial & Consumer IoT

AI/ML will be a driver of safety, efficiency & automation in Industrial Applications



Small chipset footprint

Reduced memory size required per processor, enables smarter IoT Devices



Getting ready for the edge

With a growing solution offering, including Infineon's PSOC™ Edge, AI is widely accessible and easily applicable



Higher power efficiency

Not streaming data, leads to power savings



Infineon is putting the customer at the center

By ensuring ease of use, high performance and short time-to-market, we optimize development and usage of our solutions



Product name & number for DEEPCRAFT™ products

Product	Product name	OPN	SP number
Ready Model for Baby Cry Detection	RM_BABYCRY	RMBABYCRYSOFT1	SP006034975
Ready Model for Cough Detection	RM_COUGH	RMCOUGHSOFT1	SP006052232
Ready Model for Factory Alarm and Siren Detection	RM_FACTORYALARM	RMFACTORYALARMSOFT1	SP006052225
Ready Model for Fall Detection	RM_FALL	RMFALLSOFT1	SP006101912
Ready Model for Gesture Detection	RM_GESTURE	RMGESTURESOFT1	SP006101904
Ready Model for Siren Detection	RM_SIREN	RMSIRENSOFT1	SP006052228
Ready Model for Snore Detection	RM_SNORE	RMSNORESOFT1	SP006052234
Ready Model for Direction of Arrival (Audio)	RM_SOUNDIRECTION	RMSOUNDIRECTIONSOFT1	SP006101908
DEEPCRAFT Studio model	DEEPCRAFT STUDIO_SM	DEEPCRAFTSTUDIOSMSOFT1	SP006091276

How to get your started in DEEPCRAFT™ Studio in three easy steps



1. Download

- DEEPCRAFT™ Studio is developed by Imagimob, an Infineon Technologies Company, and available imagimob.com.
- DEEPCRAFT™ Studio is automatically updated upon new releases.
- Good starting resources found on Imagimob, an Infineon Technologies Company [YouTube](#) video guides and [documentation](#).

2. Setup Environment

Options depending on customer needs:

1. Bring your own data (any time series data)

If you already have data: Get started with a '[Studio Accelerator](#)'. These serve as inspiration & foundation to build production-ready models, and contain data, preprocessing and a model architecture. Our [documentation](#) highlights how to add the customer's data to a project.

2. Collect your own data

- If you are using IMU, Radar (BGT60TR13C), Microphone, Temperature, Pressure or Magnetometer we recommend the AI Evaluation Kit for data collection. Instructions to use it are found [here](#).
- If you have another custom sensor, you can follow [this](#) guide to create a firmware to stream data directly into Studio.
- Alternatively, if you have a way to collect their data outside of Studio, you should do so and then follow the steps in [1. Bring your own data]. Once the data is in Studio the labelling features can be utilized.

3. Bring your own model

If you already have a model you could open it with DEEPCRAFT™ Studio and leverage the optimizations and code generations available for Infineon MCUs. Detailed instructions can be found [here](#). Currently this is only supported for TensorFlow models (.h5 files) but soon it will also support PyTorch. *Note:* this requires your model to be optimized for the edge – provided optimizations do not make models edge-compatible

3. Support

- The goal of DEEPCRAFT™ Studio is to be a hands-off approach, providing you with sufficient tools to build production-ready models.
- When technical questions arise and the documentation is not sufficient, please turn to our [Developer Community](#) to ask for support.

More information to get started



Web Pages

- [DEEPCRAFT™ Edge AI Solutions](#)
- [DEEPCRAFT™ Studio](#)
- [DEEPCRAFT™ Ready Models](#)

Development Kits, Module Partners, and Software

- [PSOC™ 6 Artificial Intelligence EVK \(CY8CKIT-062S2-AI\)](#)
- [PSOC™ Edge E84 AI Kit \(Soon\)](#)

Product Collateral

- Product Briefs: [Baby Cry Detection](#) | [Cough Detection](#) | [Direction of Arrival Detection](#) | [Factory Alarm Detection](#) | [Fall Detection](#) | [Gesture Detection](#) | [Siren Detection](#) | [Snore Detection](#) | [DEEPCRAFT™ Studio](#)

Developer Community (For Technical Support)

- [Ask the Community](#)

Other

- [PSOC™ Edge](#)
- [Imagimob YouTube Channel](#)
- Getting started information at developer.imagimob.com

