# ABOUT INNATERA

#### Innatera

is a trailblazing developer of ultra-efficient neuromorphic processors. Spun out of the Delft University of Technology in 2018, it pioneers a revolutionary computing solution that enables next-generation Al and signal processing capabilities to be co-located with sensors in battery-powered and power-limited devices.

Built on over a decade of research into the intersection of neuroscience and computer architecture, Innatera's proprietary Spiking Neural Processor architecture delivers ground-breaking cognition performance within a narrow power envelope. It delivers an unprecedented combination of ultra-low power consumption and short response latency for pattern recognition in sensor data streams. Innatera's solutions are a critical enabler of always-on sensing applications in consumer, industrial, and Internet-of-Things market verticals.

## The always-on processor for sensors

500x lower energy than conventional CPU/DSP/AI

100x shorter latency than conventional solutions

PyTorch integrated SDK for fast development



Address Lange Kleiweg 40, Rijswijk,

2288 GK, The Netherlands

**Phone** +31 85 040 90 70

Email info@innatera.com

Website www.innatera.com



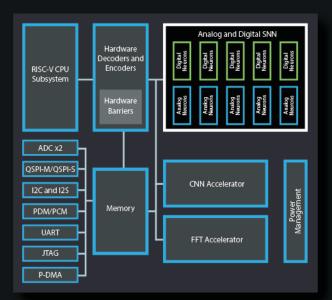


World's first ultra-low power neuromorphic processor for Ambient Intelligence



## **OUR PRODUCTS**

With versatile silicon, a comprehensive SDK, Al model library, and application software, Innatera provides end-to-end solutions for a wide range of applications and sensor types





An ultra-low power neuromorphic SoC for always-on AI at the edge



#### Nimble on-chip RISC-V CPU

32-bit RISC-V core, 384 KB embedded SRAM



#### Fast ultra-low power processing

Analog mixed signal processing with event-driven spiking neural networks for sub-1 mw pattern recognition



#### Multi-faceted processing capabilities

Efficiently implement SNNs, CNNs, and conventional processing in the same device



#### Diverse interfaces

QSPI-M, QSPI-S, JTAG, I2C, UART, GPIO, Analog in, I2S, PDM2PCM, CIF



#### Advanced power management

Three sleep modes to enable power-efficient operation across the application lifecycle 



Explore the power-performance benefits of neuromorphic processing





#### Comprehensive platform

Ready to use platform for application prototyping and profiling



#### Accesible

Built in software for developing applications



#### Wide interface

Standard interfaces supporting a range of sensors

#### **TALAMO SDK**

Powerful software environment for application development and deployment







#### Pytorch front-end

Develop and train models with the industry-standard PyTorch ML framework, use powerful measurement and visualization capabilities of Tensorboard



#### Comprehensive

Wide-range of models, network topologies, libraries for application development

## **AMBIENT**

## INTELLIGENCE

We are pioneering a new era of invisible, intuitive computing. Our technology represents a radical leap forward with the introduction of the world's first ultra-efficient neuromorphic microprocessor for sensors. In an ambiently intelligent world, technology does not merely await our requests; it quietly comprehends our needs, perceives our surroundings, and responds appropriately, often before we become aware of its presence. This approach reimagines our relationship with computing, where systems seamlessly integrate into the background of our daily lives.

## **APPLICATIONS**





Microphone







Image sensors

ECG/PPG





Ultrasonic sensors