

# 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 AI 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.



**500x lower energy than conventional CPU/DSP/AI**



**100x shorter latency than conventional solutions**



**PyTorch integrated SDK for fast development**

## Next-generation AI and signal processing, at the sensor



## INNATERA HQ NETHERLANDS



Innatera is a spin-off from the Delft University of Technology in the Netherlands. After a decade of research on energy-efficient neuromorphic computing, it pioneers a new breed of microprocessors that give sensors brain-like intelligence.



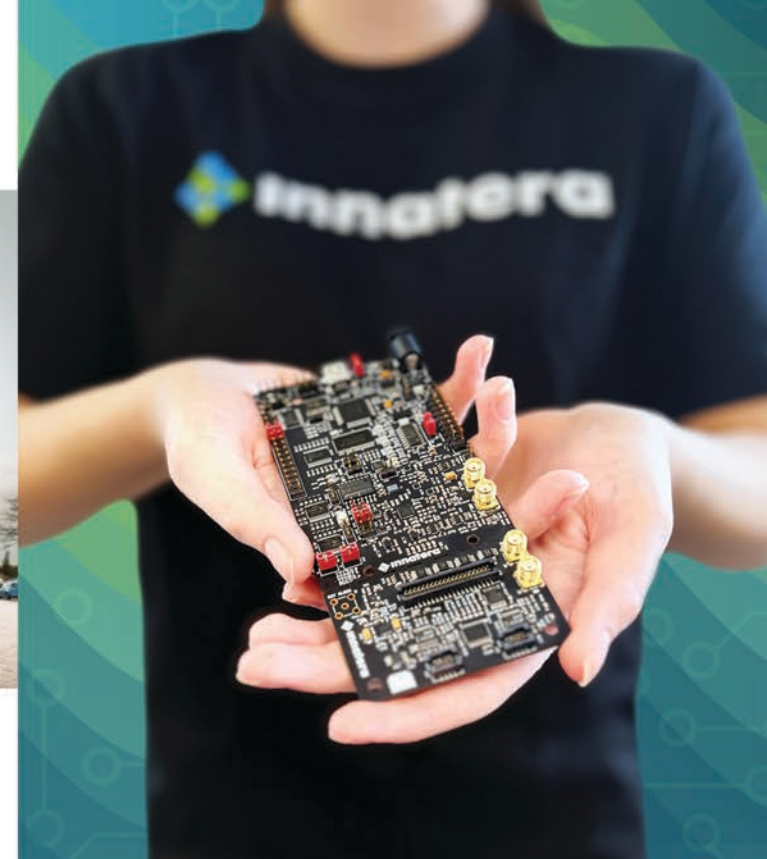
*The always-on processor for sensors*

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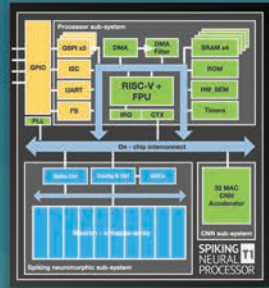
## The always-on processor for sensors

[www.innatera.com](http://www.innatera.com)

# OUR PRODUCTS

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

## Spiking Neural Processor T1



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 1mw pattern recognition.



### Multi-faceted processing capabilities

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



### Diverse Interfaces

QSPI, I2C, UART, JTAG, GPIO, front end ADC



### Compact

2.16mm x 3mm, 35-pin WLCSP package

# T1 Evaluation Kit



Explore the power-performance benefits of neuromorphic processing



### Comprehensive platform

Ready to use platform for application prototyping and profiling



### Accessible

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



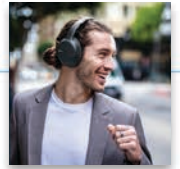
### Comprehensive

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

# APPLICATIONS

## Audio interfaces

Process always-on audio with high-accuracy and ultra-low power dissipation



## Touch-free interfaces

Realize low-latency, ultra-low power touch-free interaction using Radar sensors



## Presence detection

Enable fast and efficient processing of Radar and Camera data for always-on presence sensing



## Activity recognition

Achieve efficient activity recognition in battery-powered wearables with IMUs



## ECG recognition

Implement powerful on-device ECG signal processing independent of the cloud

