**GreenWaves Technologies Unveils GAP8, the Industry's Lowest Power IoT Application Processor, Enabling Groundbreaking Embedded Artificial Intelligence at the Very Edge**

*After raising 3.1 million euros in funding, GreenWaves brings to market innovative RISC-V based solution to process rich data on battery-operated devices used in AI and IoT applications*

**Grenoble, France, Feb. 26, 2018 –** GreenWaves Technologies, a fabless semiconductor startup designing disruptive ultra-low power embedded solutions for image, sound and vibration AI processing in sensing devices, today announced its GAP8 IoT application processor and the availability of the GAP8 Software Development Kit. GAP8 evaluation boards can be pre-ordered at www.greenwaves-technologies.com/gap8.

GreenWaves' pioneering GAP8 IoT application processor enables the cost-effective development, deployment and autonomous operation of intelligent sensing devices that capture, analyze, classify and act on the fusion of rich data sources such as images, sounds or vibrations. GAP8 is uniquely optimized to execute a large spectrum of image and audio algorithms including convolutional neural network (CNN) inference, with extreme energy efficiency, thanks to an integrated 8-core computational cluster combined with a convolution hardware accelerator. A separate core, within an independent voltage and frequency domain, takes care of communication, control and information pre-analysis. This allows industrial and consumer product manufacturers to integrate artificial intelligence and advanced classification into new classes of wireless sensing devices for IoT applications including image recognition, counting people and objects, machine health monitoring, home security, speech recognition, consumer robotics, wearables and smart toys.

"GAP8 differs radically from the flurry of other AI focused processors, which target either far more complex applications that can't be battery powered, or much narrower application spaces. Instead, GAP8 is precisely positioned at the crossroads of the AI, IoT and MCU worlds. The autonomous operation enabled by GAP8 dramatically reduces the deployment and operating costs of image, sound and vibration sensing devices, enabling an unprecedented scale of adoption," said Loïc Liétar, co-founder and CEO of GreenWaves Technologies. "Furthermore, building on the RISC-V and PULP open source projects has allowed us to bring to market radical innovation with an outstanding capital efficiency at a speed that allows us to promptly serve customer demand."

In August 2017, GreenWaves raised 3.1 million euros to turn GAP8 into a commercial product. Leveraging open source technology, GreenWaves accomplished the engineering feat of quickly bringing to market a leading-edge System-On-a-Chip (SOC). GAP8 is built on the RISC-V based Parallel Ultra Low Power (PULP) computing open-source platform developed at the University of Bologna and ETH Zurich. PULP provides GAP8 with the maturity of several previous silicon designs, a vibrant open source software developer community and a full tool chain, enabling faster time to market for integrators.

"GreenWaves' GAP8 shows first-hand how open technology enables innovation at an amazing speed, while dramatically reducing cost compared to traditional embedded design," said Rick O'Connor, executive director of the non-profit RISC-V Foundation. "We are excited to continue to witness startups and established companies alike take full advantage of the flexibility and extensibility of the free, open RISC-V architecture to create innovative, custom embedded solutions."

GAP8's ultra-low power operation enables use cases such as

- Always-on face detection with a few mWs of power
- Indoor people counting / presence detection with years of autonomy
- Sub $15 machine vision and voice control solutions for consumer robotics
- Single chip processing for 4 microphone voice capture and 10-word speaker independent keyword spotting

For most developers, GAP8 is programmed just like any MCU. When compute-intense tasks need to be launched they are off-loaded to the cluster through the APIs of a rich compute library included in the GAP8 SDK. A well guided, tool-driven methodology also allows trained CNNs described with an AI framework to be optimized for and ported onto GAP8.

Christopher R. Wilder, senior analyst of Industrial Internet of Things at Moor Insights & Strategy, said: "With billions of connected devices generating colossal amounts of data every second, companies are turning to edge computing to cut down on rising data management costs and speed up data processing. GreenWaves' GAP8 meets the market's demand for ultra-low power edge computing solutions to lower overall system costs and process rich data sources such as images, sounds or vibrations being created."

GreenWaves will be introducing GAP8 at the RISC-V Foundation booth (Hall 3A, Booth 3A-419) at Embedded World in Nuremberg, Germany from Feb. 27 to March 1, 2018. Additionally, co-founder and CTO Eric Flamand will be presenting the session, "RISC-V in High Computing, Ultra-Low-Power, Programmable Circuits" in the RISC-V Class at Embedded World on Tuesday, Feb. 27 at 4:30 p.m. CET. GreenWaves will also be present in the LoRa Alliance stand (Fira Gran Via Hall 8.0 Stand 8.0D3) at MWC in Barcelona, Spain from Feb. 26 to March 1, 2018.

In April 2018, GreenWaves will be rolling out a development board to enable customers to get GAP8 solutions up and running quickly. To learn more about GAP8 and GreenWaves Technologies and to pre-order the GAP8 development board, please visit www.greenwaves-technologies.com/gap8. Orders for the development board will be fulfilled on a first come first served basis.

To schedule a meeting with GreenWaves at either show, please contact press@greenwaves-technologies.com. For business inquiries, please visit: https://greenwaves-technologies.com/en/contact-us-form/.

**About GreenWaves Technologies**

GreenWaves Technologies is a fabless semiconductor startup designing disruptive ultra-low power embedded solutions for image, sound and vibration AI processing in sensing devices. GreenWaves was founded in 2014 with the mission of revolutionizing the market for intelligent sensors and devices with ultra-low energy and cost-efficient solutions. GreenWaves' GAP8 is the industry's first ultra-low power processor enabling battery operated artificial intelligence (AI) in Internet of Things (IoT) applications. The company is headquartered just outside Grenoble, France. To learn more, visit www.greenwaves-technologies.com.

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