SYSTEM PLATFORMS FOR ENERGY EFFICIENT DESIGN
SPEED
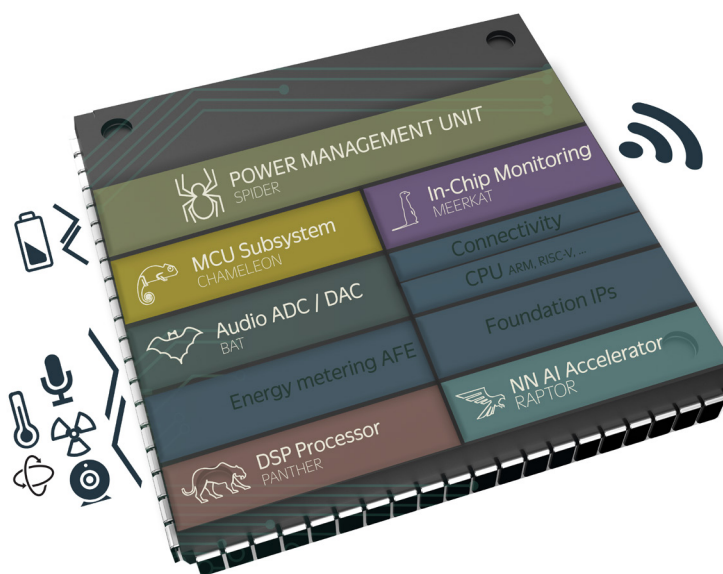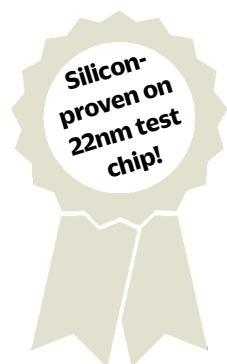IP PLATFORM BRIEF

DOLPHIN DESIGN

SPEED is the response to energy efficiency challenges for Ultra-low Power chip

APPLICATIONS

- Image and activity analysis
- Smart Audio
- Ultra-low Power Always-On sensing
- People and face detection
- Gesture recognition
- Wearables (TWS, GNSS, BLE, Wifi, etc.)
- Augmented and virtual reality
- Industry 4.0

SPEED (System Platforms for Energy Efficient Design) is a turnkey offering of IP platforms to cost-effectively design energy efficient SoCs for smart devices. SPEED IP platforms allow any IC designer to achieve performance levels at constant energy consumption that were previously only accessible through cloud or GPU-based systems

SPEED offering consists in 6 IP platforms: BAT for audio processing, SPIDER for power management, CHAMELEON for MCU subsystems, RAPTOR for neural processing unit, PANTHER for multi-core DSPs, and MEERKAT for in-situ performance monitoring.

Silicon-proven on 22nm test chip!

POWER MANAGEMENT UNIT
SPIDER

In-Chip Monitoring
MEERKAT

MCU Subsystem
CHAMELEON

Connectivity

CPU ARM, RISC-V, ...

Audio ADC / DAC
BAT

Foundation IPs

Energy metering AFE

NN AI Accelerator
RAPTOR

DSP Processor
PANTHER

TECHNOLOGY FOR BETTER FUTURE

By 2030, 24B of IoT devices will be battery powered and 5B batteries will be replaced every year (15M units per day!). The exponential growth of needs for greater device interoperability, predictability and performances is challenged by the global need for more energy frugality.

With its SPEED IP platforms, Dolphin Design is positioned as THE provider of solutions for Ultra-low Power systems, bringing the processing closer to the data. With our 35years+ experience, we enable our customers to do much more with less energy resulting in major benefits for user experience and their environmental impact.

SOLARIMPULSE
LABEL
EFFICIENT SOLUTION

Dolphin Design's SPEED IP platform is labelled by the Solar Impulse Foundation among 1,000 solutions for tomorrow.
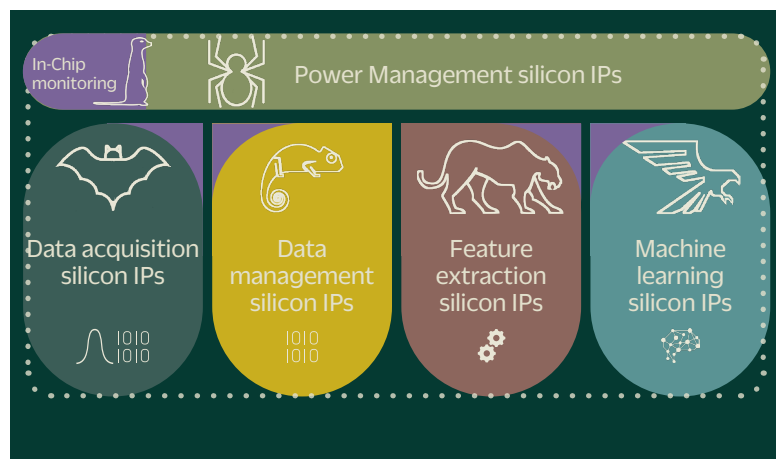
KEY BENEFITS

- Accelerate your time-to-market by using our silicon-proven solutions
- Focus your resources and expertise on your core competences
- System cost optimization thanks to small silicon area IPs and reduced BOM
- More than 300 Ultra-low Power state-of-the-art IPs available
- To support the rollout of energy efficient SoCs, SPEED IP platforms are constantly enhanced and enriched
- 35years+ experience and 600 customers worlwide

KEY FEATURES

- SPIDER: *Ultra-low Power and energy efficient IPs (SIMO, DC/DC, LDO, 32k OSC)*
- BAT: *High-fidelity, customizable audio IPs, enabling advanced features (ADC, DAC, CODEC, digital filters, Voice detection, keyword spotting and more)*
- CHAMELEON: *autonomous peripherals and high bandwith interconnect*
- RAPTOR: *Scalable Neural Processor with embedded memory delivered with a complete market-compliant software toolset*
- PANTHER: *bring the flexibility of a multicore high-efficient DSP to any HW accelerator*
- MEERKAT: *critical path in-situ monitoring enabling real time high-accuracy AVS*

ENABLING SMARTER SENSORS

SPEED IP PLATFORMS

SPEED is a turnkey solution which combines analog/mixed signal and digital IPs to enable highly energy-efficient Systems-on-Chips.

HIGHLY COMBINABLE
SPEED IP platforms may be licensed stand-alone or all together. Each IP block part of a given SPEED IP platform is designed to be efficiently interconnected with IP blocks from other SPEED IP platforms. E.g. audio converters part of BAT are proposed fully integrated into CHAMELEON MCU subsystem to store data in memory autonomously, i.e. without a CPU.

COMPREHENSIVE OFFERING TAILORED FOR EACH SoC
Each design platform incorporates a comprehensive set of silicon IPs that have been duly verified to streamline the cost-effective design of energy-efficient SoCs. Silicon IPs are delivered as ready-to-use blocks, provided configured or user-configurable based on SoC requirements. Out-of-the box SoC integration is made possible through a complete and consistent set of deliverables (HW/SW) for standard design flows.