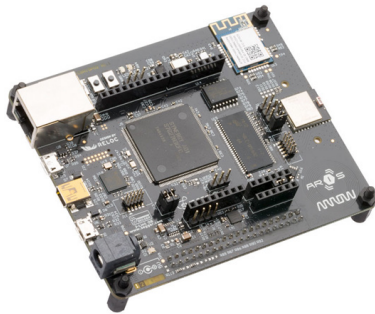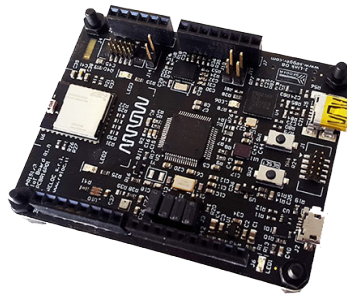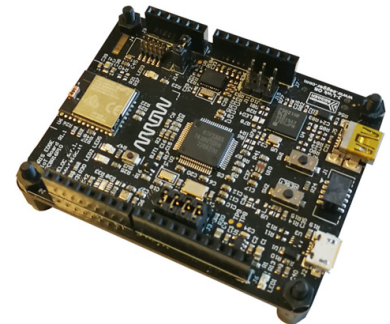# ARIS IoT Board Ecosystem

Ready-to-Use IoT Solutions

ARIS is an Internet of Things (IoT) hardware and software platform primed for users to kickstart IoT applications straight away. ARIS leverages the Renesas Synergy™ development framework which includes an RTOS, many qualified stacks, libraries and APIs that simplify and speed up the development process. The combination of Arrow ARIS board and Renesas Synergy™ platform allows developers to concentrate on their own area of specialization rather than having to recreate the basic building blocks. Multiple on-board sensors deliver information on parameters such as motion, position, and provide environmental feedback on humidity, pressure, and temperature.

ARIS GATEWAY

ARIS EDGE S1

ARIS EDGE S3

Target Applications
> Robotics & gaming
> Augmented and virtual reality
> Drone applications
> Industrial sensing applications
> Home automation
> Smart meters/lighting
> Wearables & medical monitors

Benefits
> Accelerates IoT designs
> Reduces time–to–market
> Decreases total cost of product ownership
> Supports multiple wireless and wired protocols
> Ultra-low power efficiencies

V | **Five Years** Out

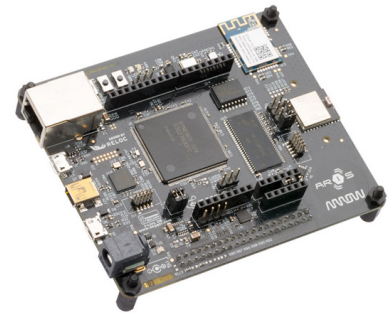# The ARIS Product Portfolio

ARIS Internet-of-Things Board

Features
> Renesas Synergy S7G2ARM Cortex-M4 core, up to 240 MHz core clock, 4096 KB code flash, 640 KB SRAM
> Micron MT48LC16M16A2 256 Mbit (32 Mbyte) SDRAM memory
> Silicon Labs BGM111 BLE 4.1 module (upgradable to BLE 4.2), Ethernet 10/100 port
> NXP NT3H1201 Energy harvesting NFC Forum Type 2 Tag with field detection pin and I2C interface for over-the-air (OTA) firmware updates
> Spansion S25FL512S 512 Mbit (64 Mbyte) QSPI Flash Memory with advanced security features
> Atmel WINC1500 Wi-Fi 802.11 b/g/n IoT module optimized for low power IoT applications
> Analog Devices ADXRS290 High performance MEMS pitch and roll (dual-axis in-plane) angular rate sensor (gyroscope)
> Silicon Labs Si70130 Humidity and temperature sensor
> Analog Devices ADXL362 Ultralow power 3-axis MEMS accelerometer

ARIS IoT development board kit ideal for BLE and Wi-Fi applications (Bluetooth Module)

ARIS GATEWAY

The ARIS Gateway board is an upgrade on the ARIS. It has Silicon Lab's MGM111 multi-protocol module for mesh networking capability. The MGM111 module is a small form factor module for Zigbee and Thread mesh networks and is ideal for low data rate applications.

ARIS Gateway development board kit ideal for IoT HUB and mesh network Wi-Fi applications (Multi-protocol Module)
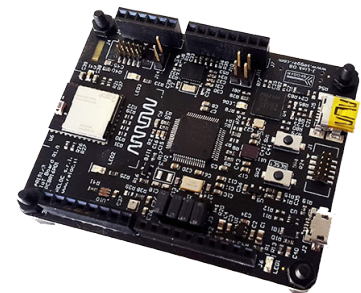
ARIS EDGE S1

Arrow ARIS Edge Board is an IoT end device development board ideal for mesh network applications

The ARIS EDGE S1 board has a host of features that equip it for smart sensing and IoT operations. It's a low-power development board based on Renesas' Synergy S1 MCU, populated with sensors and a multi-protocol module. These features make this board a perfect tool to develop IoT end devices. ARIS EDGE can also be expanded using widely available Arduino shields.
Features
> Renesas Synergy S124 ARM Cortex-M0+ CPU, Up to 32-MHz core clock, 128 kB code flash, and 16 kB SRAM
> Silicon Labs Mighty Gecko MGM111 module: Multi-protocol module supporting BLE, Thread, and ZigBee stacks
> Bosch BNO055 High performance MEMS9-degrees-of-freedom IMU with sensor fusion capabilities
> Bosch BME280 Pressure, Humidity, and Temperature sensor
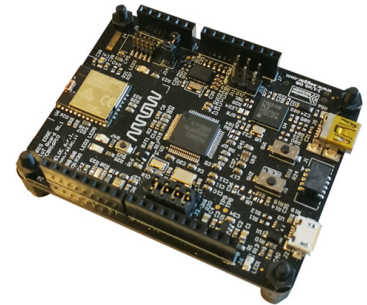> On-Board J-Link programming connector
> AMS TSL25711FN Ambient light sensor

ARIS EDGE S3

ARIS Edge S3 is an IoT end device development board ideal for mesh network and LCD application development

ARIS EDGE S3 is a variation on ARIS EDGE S1 with a more powerful MCU with extended compute performance. In addition to smart sensing and IoT capabilities it also facilitates small HMI designs. Together with ARIS LCD shield the ARIS EDGE S3 is an ideal choice for IoT applications where a display is needed and still ensures a low-power operation.

Features
> Renesas Synergy S3A3 ARM Cortex-M4 CPU, Up to 48-MHz core clock, 512 KB code flash, 96 KB SRAM
> Silicon Labs Mighty Gecko MGM111 module Multi-protocol module supporting BLE, Thread and ZigBee stacks
> Bosch BNO055 High performance MEMS 9-degrees-of-freedom IMU with sensor fusion capabilities
> Bosch BME280 Pressure, humidity, and temperature sensor
> AMS TSL25711FN Ambient light sensor
> USB Device micro-USB connector providing access to the native S3 USB peripheral
> On-Board J-Link programming connector
> AMS TSL25711FN Ambient light sensor

ARIS-EDGE-LCD

ARIS Edge LCD add-on GUI solution is built to use with the ARIS EDGE S3

Features
> The ARIS-EDGE-LCD Shield extends the ARIS EDGE S3 capabilities with a flexible touch TFT LCD interface
> ARIS-EDGE-S3+ ARIS LCD allows developers to connect a small-form-factor TFT display and create a GUI for additional interactivity
> It simplifies development of battery -powered applications with compact TFT display

In Person

Please contact your local Arrow sales team for more information

Online

www.arrow.com/arisedges3

Five Years Out