

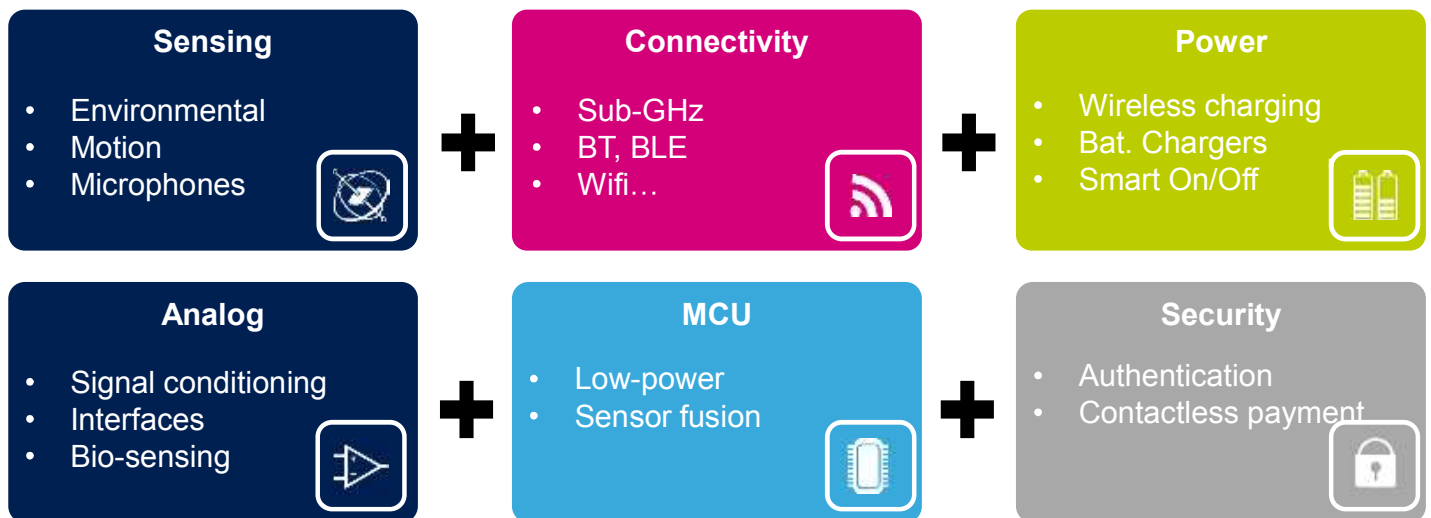
ST Solutions for IoT

EMEA Marketing & Application
September 2017

ST blocs for IoT

2

Ultra-low power...



Fast evaluation & prototyping

3

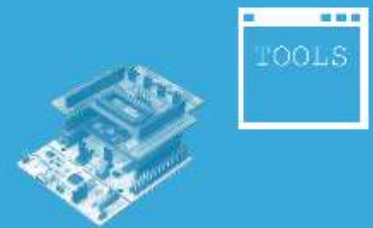
Hardware Building Blocks



Software Building Blocks

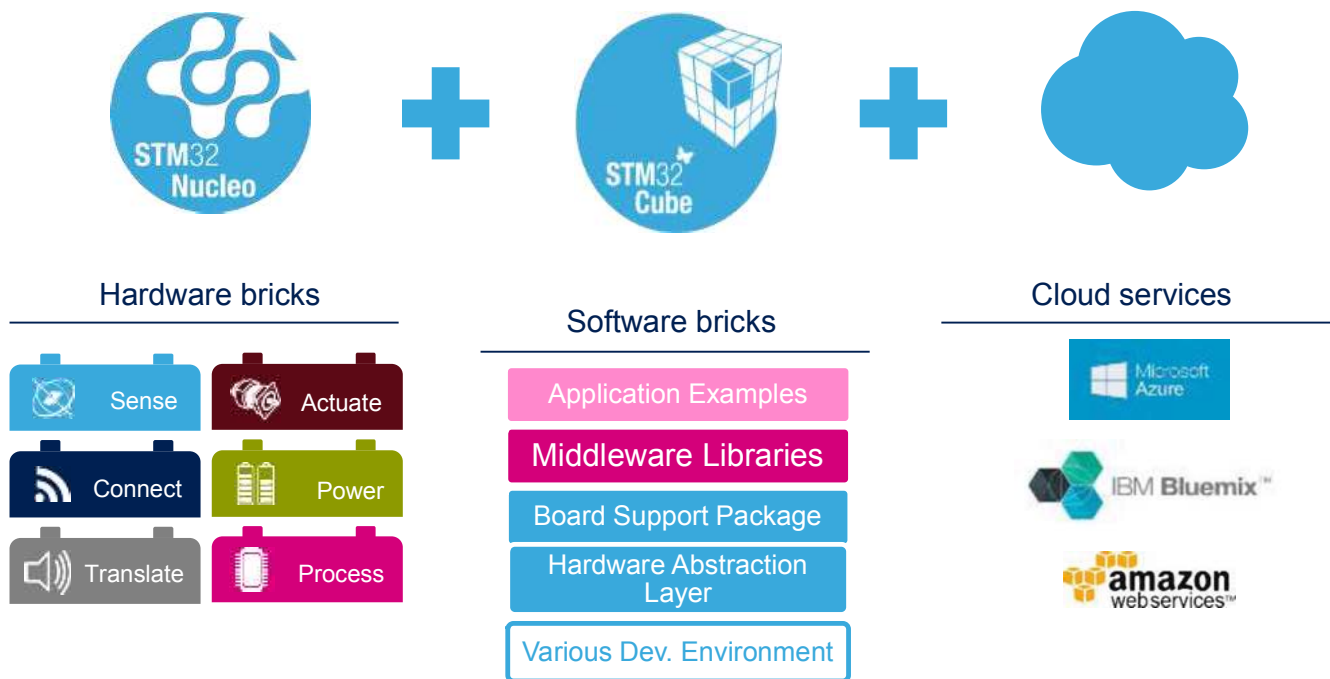


Development & Prototyping Tools



ST Augmenting the IoT Development

4



Wireless Sensor Nodes (WSN) Overview

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Wireless Sensor Node is a node that is capable of performing some processing, gathering sensory information and communicating through a radio link



- **Sensors**

- Produce a measurable response to a change in a physical condition like movement or pressure
- Signal is typically digitized in sensor device by an ADC and sent to controller for further processing
- Smart sensor device can do also data processing functionalities to save system power



- **Controller**

- Performs tasks, processes data and controls the functionality of other components in the sensor node
- Controller is typically an MCU or wireless SoC



- **Wireless communication**

- Uses ISM band which gives free radio spectrum allocation and global availability
- Communicating with host, gateway or wireless sensor network
- Transmitted data can be stored to local host to a cloud service



- **Power**

- WSN is typically operated by rechargeable or non-rechargeable battery
- High energy efficiency is needed due to expected long autonomy times
- Energy harvesting can be used in low or no maintenance WSN devices

Wireless Sensor Nodes (WSN) Applications

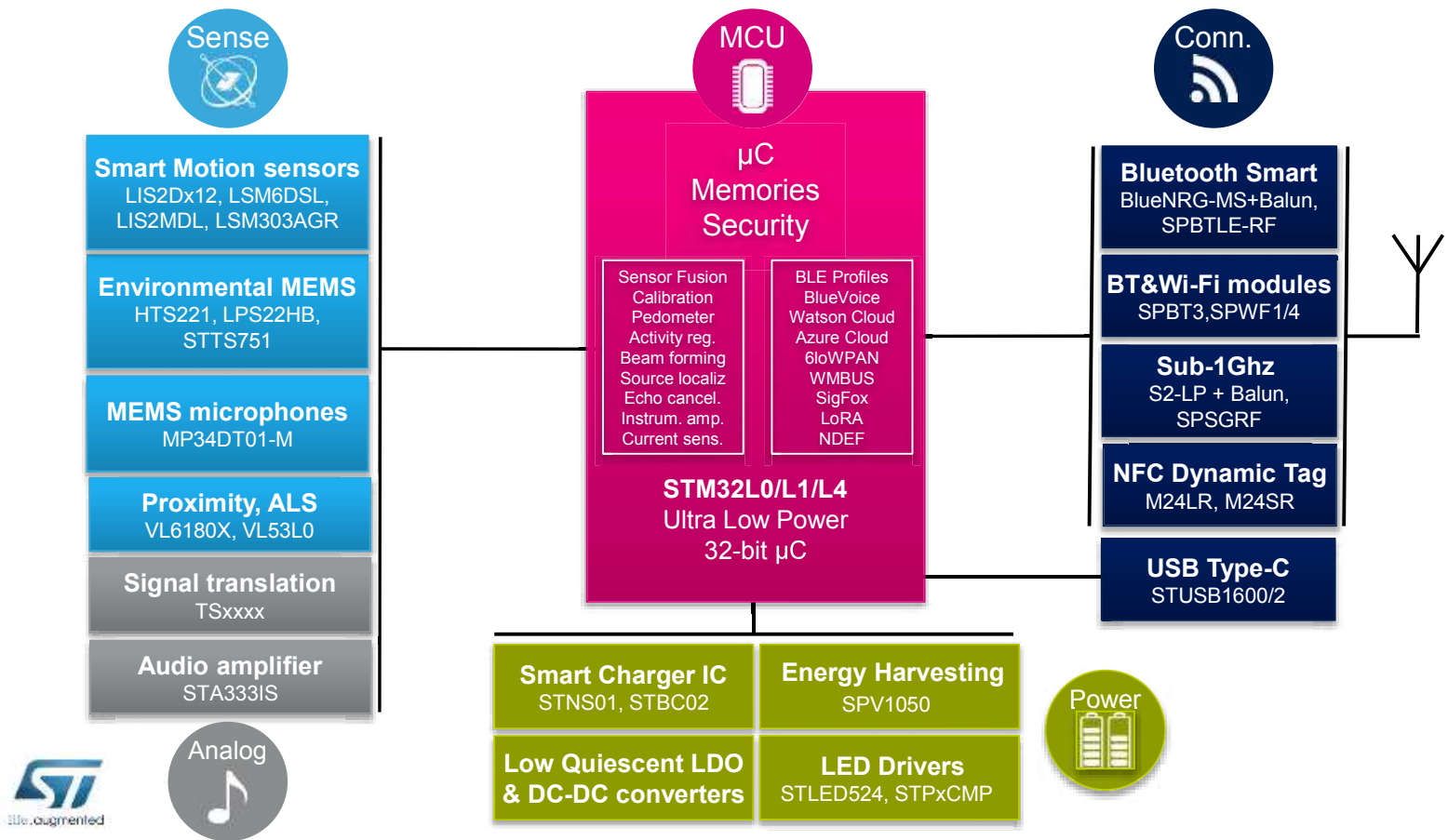


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Wireless Sensor Node Block Diagram

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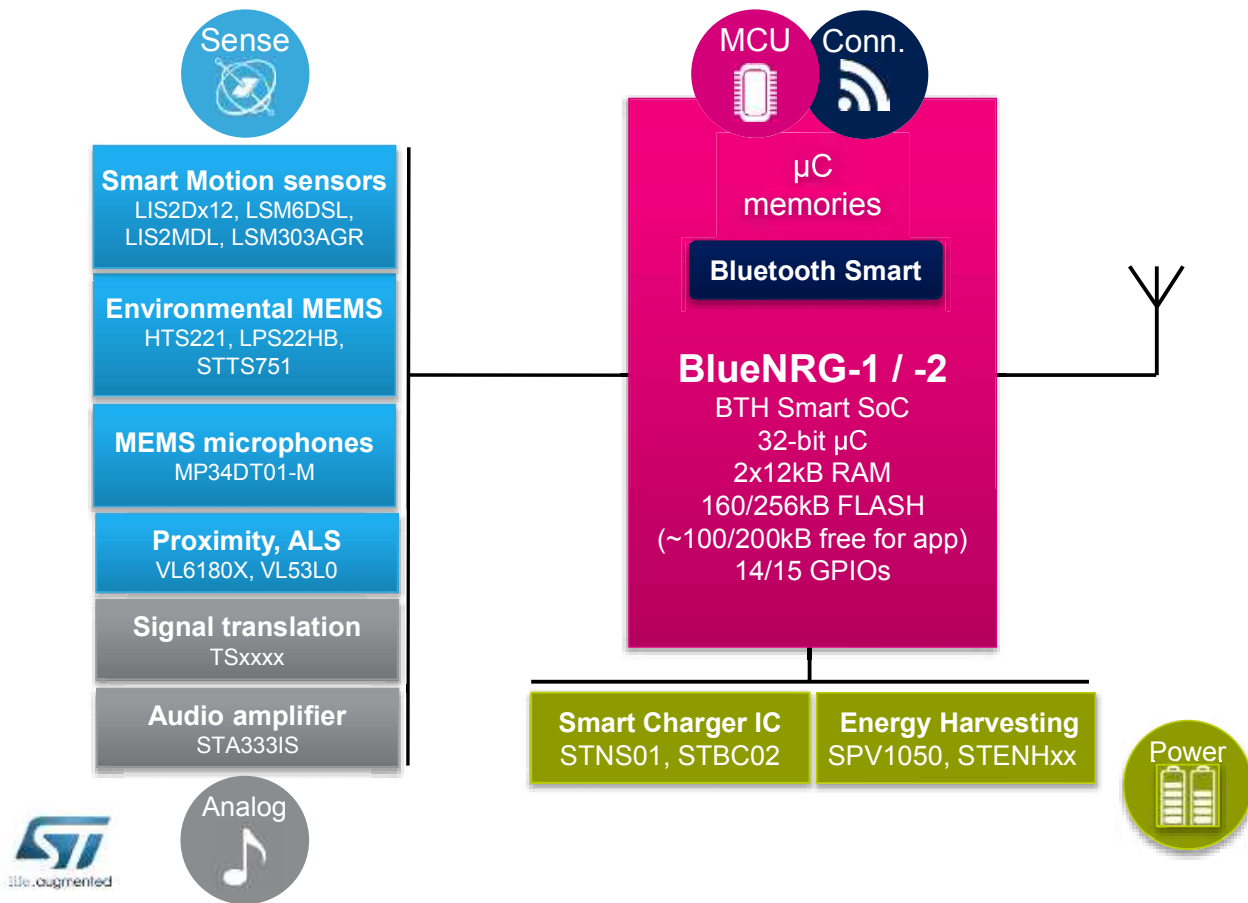
Modular WSN solution



Wireless Sensor Node Block Diagram

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Optimized Bluetooth Smart WSN solution





WSN - Sensors

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Smart Motion MEMS sensors

- [LSM6DSL](#) - ultra low-power (max 650 uA) always-on 6-axis inertial module: 3D accelerometer and 3D gyroscope
- [LIS2MDL*](#) - 3-axes magnetometer with high full scale and low noise
- [LSM303AGR](#) - Ultra-compact high-performance eCompass module: ultra-low-power 3D accelerometer and 3D magnetometer
- [LIS2DW12](#) - Ultra Low power/noise accelerometer for IOT and wearable
- [LIS2DS12](#) - 3-axes femto accelerometer with ultra long FIFO and pedometer
- [LIS2DH12](#) - ultra low-power high performance 3-axes femto accelerometer



Environmental MEMS sensors

- [LPS22HB](#) - MEMS pressure sensor: 260-1260 hPa absolute digital output barometer
- [HTS221](#) - Capacitive digital sensor for relative humidity and temperature
- [STTS751](#) - 2.25 V low-voltage local digital temperature sensor
- [STLM20](#) - Ultra-low current 2.4 V precision analog temperature sensor

Microphones

- [MP34DT01-M](#) / [MP34DB02](#) – Top / bottom port MEMS microphone, AOP of 120 dBSPL with a 61 / 62.2 dB SNR and -26 dBFS sensitivity
- [MP34DT04](#) – Top port MEMS microphone, AOP of 120 dBSPL with a 64 dB SNR and -26 dBFS sensitivity
- [MP23AB01DH](#) - Bottom Port, Analog Differential microphone, AOP of 135dBSPL with a 65dBV SNR. ± 1 dB SENS for better sound fidelity



(*) Contact ST sales and marketing for further details



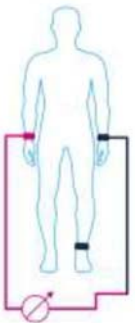
WSN - Sensors

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Proximity and ambient light sensing

- **VL6180X** - Proximity sensor, gesture and ambient light sensing (ALS) module with 10-20cm range
- **VL53L0X** - Proximity sensor with up to 2m range



Signal translation

- **ST's op amp portfolio** provides a unique choice of high performance, low power, precision op amps and tiny packages
- **TSZ12x / TSZ18x** – Zero drift (Vio 5uV / 25uV, 400kHz / 3MHz) optimal for signal conditioning for bio sensing, low side current sensing, strain gauge applications
- **TSU111** - Nanopower (900 nA), high accuracy (150 uV) optimal for high accuracy and ultra low power sensor applications like gas sensing
- **TSC10x** – High side current sensing amplifier with common-mode voltage up to 70 V
- **TS985** - Micropower low-voltage (14 uA) rail-to-rail comparator for space constraint applications (CSP, 1.2 x 0.8 mm)

Audio amplifier

- **STA333IS** – Digital audio processor providing full digital audio streaming to the speaker delivering up to 10 W + 10 W of power
- **STA350BW** - Sound Terminal 2.1-channel high-efficiency digital audio system delivering up to 2 x 18 W + 1 x 40 W of music output power



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(*) Contact ST sales and marketing for further details



WSN - Connectivity

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Sub-1GHz ICs and Modules

- **S2-LP** – very low-power RF transceiver IC for 433 & 868 and 920 MHz bands with very high sensitivity, also supporting SigFox
- **SPSGRF / SPSGRFC** - pre-certified RF Module based on SPIRIT1 IC for 868 and 915 MHz bands with chip antenna or ufl antenna connector



Bluetooth Smart ICs and Modules, Bluetooth Modules

- **BlueNRG-1 / -2*** - Bluetooth Smart v4.2 compliant single chip solution with ARM Cortex M0
- **BlueNRG-MS** – low power Bluetooth LE Network Processor supporting 4.1 core specification with multiple simultaneous role support (act as sensor and hub), for balun use **BALF-NRG-01D3**
- **SPBTLE-RF** – pre-certified Bluetooth LE module supporting 4.1 core specification based on BlueNRG-MS
- **SPBT3.0DP1 / 2** – pre-certified traditional Class1/Class2 Bluetooth 3.0 module for serial port replacement



WIFI Modules

- **SPWF01** – pre-certified 802.11b/g/n WIFI module for serial port replacement (UART)
- **SPWF04** – pre-certified 802.11b/g/n WIFI module for serial port replacement (SPI and UART) and integrated micropython scripting engine for custom applications



(*) Contact ST sales and marketing for further details



WSN - Connectivity

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USB Type-C

- **STUSB1600** – USB Type-C controller (with Vconn switch)
- **STUSB1602** – USB Type-C controller with TX/RX line driver and BMC



RS-485, RS-422, RS-423 Interface

- **ST485AB** – 5V powered, >30 Mbps RS-485/RS-422 transceiver, temp range -40 to 85°C
- **ST485EX** – 5V powered, 5 Mbps RS-485/RS-422 transceiver, temp range -55 to 125°C, 15 kV ESD protected
- **ST4485EB** – 3.3 V powered, 20 Mbps RS-485/RS-422 transceiver, temp range -40 to 105°C, 15 kV ESD protected
- **STR485LV*** – 1.8/3.3 V powered, 20 Mbps RS-485 transceiver, temp range -40 to 125°C, 15 kV ESD protected



Power Line Communication

- **ST7580** – FSK, PSK multi-mode power line networking system-on-chip up to 28.8 kbps



NFC Dynamic Tags

- **M24SR** – short range ISO 14443 compatible RFID interface IC for simple pairing
- **M24LR** – long range ISO 15693 compatible RFID interface IC with energy harvesting



(*) Contact ST sales and marketing for further details



WSN - Controllers

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Explore ST's complete ecosystem to start developing with STM32 [Go st.com](http://go.st.com)



- **STM32 F4 Series**

- High-performance MCUs with DSP and FPU instructions
- **STM32 F4** - Cortex M4 @ 180MHz ARM, ≤384kB RAM, 512-2048kB Flash, USB2.0 OTG FS/HS, SDIO, UART, SPI, I2C, I2S, 12-bit ADC, 12-bit DAC, 16 & 32 bit timers, ART Accelerator, external memory controller



- **STM32 L0, L1 and L4 Series**

- Ultra Low power MCU series
- **STM32 L0** - Cortex-M0+ @ 32 MHz, ≤20kB SRAM, 16-192kB Flash, USB, LCD, Analog
- **STM32 L1** - Cortex-M3 @ 32 MHz, ≤80kB SRAM, 32-512kB Flash, USB, LCD, AES, Rich Analog, True EEPROM, Dual bank Flash (RWW)
- **STM32 L4** - Cortex-M4 w/ FPU @ 80 MHz, ≤128kB SRAM, 256-1024kB Flash, ADC 5 Msps, PGA, Compar., DAC, op amp, USB OTG, LCD, AES, PDM stream processor

- **BlueNRG SoC**

- Bluetooth Smart compliant single chip solution
- **BlueNRG-1 / BlueNRG-2** – BLE 4.2 compliant, Cortex M0 @ 32MHz, 24kB RAM, 160kB/256kB Flash, UART, SPI, I2C, 12 bit ADC, Multifunctional timers, watchdog, RTC, DMA, PDM stream processor

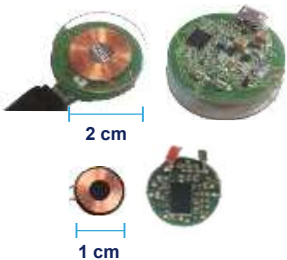


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WSN - Power

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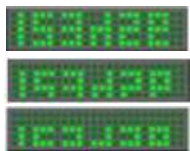
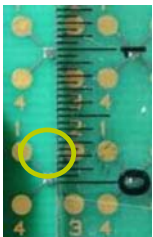


Smart battery charging solutions

- **STBC02** – 450mA Ultra Low Quiescent Current Li-Ion Battery Charger with LDO, power path and battery protections
- **STNS01** - 200mA Li-Ion Linear Battery Charger with LDO, power path and battery protections
- **STBCFG01** - 1.2A Switch-mode Li-Ion Battery Charger with OTG Boost, Fuel Gauge and LDO
- **STWBC-WA** + **STWLC04** – Qi based 1 Watt wireless charger Tx + Rx solution for wearable appli.
- **STWBC** + **STWLC03** – Qi and PMA certified 5 Watt wireless charger Tx & Rx solution
- **SPV1050** - Ultra low power energy harvester and battery charger with embed. MPPT and LDOs

DC-DC converters and LDOs

- **ST1S15** - 500mA 6MHz Synchronous Step Down converter
- **ST1PS01/02(*)** - 400mA NanoQuiescent (Dual) Step Down converter
- **STBB2** / **STBB3** - 800mA / 2A, high efficiency single inductor buck-boost DC-DC converter
- **LDBL20** - 200mA World's smallest LDO (0.49x0.49 mm)
- **LD39020/130S** - 200/300mA very Low Iq High PSRR LDOs, (Green mode in 130S)
- **LDLN015/025** - 150/250mA ultra low noise (6.3/6.5 μV_{RMS}) - high PSRR LDO



Scroll function

LED power management

- **STLED524** - 5x24 Matrix LED Driver with Auto Calibration function
- **STP4CMP** – 4 channels current LED driver with charge pump

eDesignSuite available in st.com

[Go st.com](http://Go.st.com)

(*) Contact ST sales and marketing for further details





WSN - Software and Vertical Applications

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Added value software applications with STM32 Nucleo

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Start with Nucleo today!

1. Get STM32 Nucleo and X-Nucleo add on boards
2. Download SW packages
3. Experience with example projects and ST value add Open.MEMS, Open.Audio, Open.RF libraries and vertical applications
4. Get going just in minutes!



Software Package	Description	Nucleo	X-Nucleo	Core Products
X-CUBE-MEMS1	Motion MEMS and environmental sensor software expansion for STM32Cube. Quick start guide	F401RE, L053R8, L152RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL, LSM303AGR, LPS22HB, HTS221
X-CUBE-MEMS-XT1	Driver collection to support through DIL connector H3LIS331DL, HTS221, LIS2DH12, LIS3MDL, LPS22HB, LPS25HB, LSM303AGR, LSM6DS0, LSM6DS3 and LSM6DSL	F401RE, L476RG	X-NUCLEO-IKS01A2 X-NUCLEO-IKS01A1	Multiple
+ osxMotionFX (Open.MEMS)	9 or 6 axis sensor fusion library	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL, LSM303AGR,
+ osxMotionMC (Open.MEMS)	Real-time magnetometer HI/SI calibration library	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM303AGR,
+ osxMotionAC (Open.MEMS)	Real-time accelerometer gain and offset calibration library	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL, LSM303AGR,
+ osxMotionGC	Real-time gyroscope calibration software for STM32Cube	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL,
+ osxMotionCP (Open.MEMS)	Carrying position library for wearable: desk, in the hand, near the head, in a shirt pocket etc	F401RE	(X-NUCLEO-IKS01A1)	LSM6DS0/3,
+ osxMotionAR (Open.MEMS)	Activity recognition library for wearables: stationary, walking, fast walking, jogging and biking	F401RE	(X-NUCLEO-IKS01A1)	LSM6DS0/3,
+ osxMotionAW (Open.MEMS)	Activity recognition library for wrist devices: stationary, walking, fast walking, jogging and biking	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL, LSM303AGR,
+ osxMotionGR (Open.MEMS)	Gesture recognition library for phones/wearables: wake up, glance and pick up	F401RE, L476RG	(X-NUCLEO-IKS01A1)	LSM6DS0/3,
+ osxMotionID (Open.MEMS)	Movement intensity/calories measurement library for wearables	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL
+ osxMotionPE (Open.MEMS)	Human pose estimation library for wearable: standing, sitting and lying down	F401RE, L476RG	X-NUCLEO-IKS01A2 (X-NUCLEO-IKS01A1)	LSM6DSL
+ osxMotionPM (Open.MEMS)	Pedometer library to calculate steps for wearables	F401RE, L476RG	(X-NUCLEO-IKS01A1)	LSM6DS0/3





WSN - Software and Vertical Applications

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Added value software applications with STM32 Nucleo

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3. Experience with example projects and ST value add Open.MEMS, Open.Audio, Open.RF libraries and vertical applications
4. Get going just in minutes!



Software Package	Description	Nucleo	X-Nucleo	Core Products
X-CUBE-MEMSMIC1	Digital MEMS microphones acquisition and processing software expansion for STM32Cube. Quick start guide	F401RE, F072RB, L053R8	X-NUCLEO-CCA02M1	MP34DT01-M
+ osxAcousticBF (Open.Audio)	Real-time beam forming software expansion for STM32Cube	F401RE	X-NUCLEO-CCA02M1	MP34DT01-M
+ osxAcousticEC (Open.Audio)	Real-time acoustic echo cancellation software expansion for STM32Cube	F407 Discovery	X-NUCLEO-CCA02M1	MP34DT01-M
+ osxAcousticSL (Open.Audio)	Real-time sound source localization software expansion for STM32Cube	F401RE	X-NUCLEO-CCA02M1	MP34DT01-M
SmartAcoustic1	Smart audio IN-OUT software includes middleware for audio DSP to perform acoustic beam forming , echo cancellation , and source localization .	F446RE	X-NUCLEO-CCA01M1 X-NUCLEO-CCA02M1	STA350BW, MP34DT01-M
X-CUBE-6180XA1	Proximity , gesture, ambient light sensor software expansion for STM32Cube	F401RE, L053R8	X-NUCLEO-6180XA1	VL6180X
X-CUBE-53L0A1	Long 2m range proximity sensor software expansion for STM32Cube	F401RE, L476RG	X-NUCLEO-53L0A1	VL53L0
X-CUBE-ANALOG1	Multifunctional expansion board based on operational amplifiers . Quick start guide	F401RE, F103RB, L053R8	X-NUCLEO-IKA01A1	TSZ124, TSV734, TSU104



WSN - Software and Vertical Applications

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Software Package	Description	Nucleo	X-Nucleo	Core Products
X-CUBE-BLE1 STSW-BLUENRG-DK	BlueNRG expansion software for STM32Cube. Allow to easily prototype and build a BLE application. Quick start guide	F401RE, F411RE, L476RG, L053R8	X-NUCLEO-IDB04A1 X-NUCLEO-IDS01A5	BlueNRG-MS, SPBTLE-RF
+ OSXSmartConnPS (Open.RF)	Bluetooth low energy profiles for the X-CUBE-BLE1 expansion for STM32Cube	F401RE, L053R8	X-NUCLEO-IDB04A1 X-NUCLEO-IDS01A5	BlueNRG-MS, SPBTLE-RF
X-CUBE-SUBG1	Spriti1 Sub-GHz RF communication software expansion for STM32Cube. Quick start guide	F401RE, L053R8	X-NUCLEO-IDS01A4 X-NUCLEO-IDS01A5	SPSGRF-868, SPSGRF-915, SPIRIT1
+ osxContiki6LP (Open.RF)	Contiki 6LoWPAN on STM32 Nucleo plugged with Sub-1 GHz RF expansion board	L152RE	X-NUCLEO-IDS01A4 / X-NUCLEO-IDS01A5 X-NUCLEO-IKS01A1	SPSGRF-868, SPSGRF-915, SPIRIT1, HTS221
STSW-S2LP-DK	S2-LP Sub-GHz evaluation software package based on Nucleo platform	L152RE Included	(STEVAL-FKI433V1) (STEVAL-FKI868V1)	S2-LP
STSW-S2LP-SFX-DK	S2-LP evaluation software package for SigFox networking running on Nucleo platform	L152RE Included	(STEVAL-FKI868V1) (STEVAL-FKI915V1)	S2-LP
I-CUBE-LRWAN1	LORA networking stack running on Nucleo platform	STM32L0 Included	(P-NUCLEO-LRWAN1)	STM32L0
X-CUBE-WIFI1	Wi-Fi expansion board based on SWPF01SA / SPWF04SA module for STM32 Nucleo. Quick start guide STSW-WIFI004 Firmware @ SPWF04Sx	F401RE, F103RB, L053R8	X-NUCLEO-IDW01M1 X-NUCLEO-IDW04A1	SPWF01SA, SPWF04SA
FP-NET-BLESTAR1	Application-layer bridging between a BLE network and a Wi-Fi network. Sensor data from a device in the BLE network can be transparently sent to the IBM Watson IoT cloud platform and visualized on a client connected to the cloud. Quick start guide	F401RE	X-NUCLEO-IDB05A1 X-NUCLEO-IDW01M1 (X-NUCLEO-IKS01A1)	BlueNRG-MS, SPBTLE-RF, SPWF01SA
X-CUBE-NFC1	Complete middleware to build applications using M24SR dynamic NFC tag	L0, L1, F0, F3, F4	X-NUCLEO-NFC01A1	M24SR



WSN - Software and Vertical Applications

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Added value software applications with STM32 Nucleo

[Go st.com](http://Go.st.com)

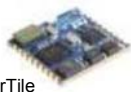
Other Nucleo SW available through ST sales & marketing

- Exact Angle/Tilt measurement with accelerometer
- Differential air pressure change notifications/alerts with pressure sensor
- 6-axis Accelerometer + Gyroscope LSM6DSL Sensor Hub examples with LIS2MDL magnetometer



SensorTile

[STEVAL-STLKT01V1](#)



	Software Package	Description	Nucleo	X-Nucleo	Core Products
Vertical	BLUEMICROSYSTEM1 (Open.Framework)	Bluetooth low energy and sensors software expansion for STM32Cube running real-time motion sensor data fusion and transmitting sensor data to a smartphone (Android or iOS based) via Bluetooth	F401RE, L476RG, STEVAL-STLKT01 V1	X-NUCLEO-IDB04A1 / X-NUCLEO-IDB01A5 / X-NUCLEO-IKS01A2 / X-NUCLEO-IKS01A1	BlueNRG-MS SPBRLE-RF, LSM6DSL, LSM303AGR, LPS22HB, HTS221
Vertical	BLUEMICROSYSTEM2 (Open.Framework)	Software lets you read and display real-time environmental sensor data, digital microphone levels, battery level (STEVAL-STLKT01V1 only), voice communication over Bluetooth low energy and acoustic source localization information with a dedicated BlueMS App for Android/iOS.	F401RE, L476RG, STEVAL-STLKT01 V1	X-NUCLEO-CCA02M1 / X-NUCLEO-IKS01A2 / X-NUCLEO-IKS01A1 / X-NUCLEO-IDB01A5 / X-NUCLEO-IDB04A1	MP34DT01-M, LSM6DSL, LSM303AGR, LPS22HB, HTS221, BlueNRG-MS SPBRLE-RF
Vertical	BLUEMICROSYSTEM3 (Open.Framework)	Software recognize the Bluetooth Low Energy, Dynamic NFC tag, sensor devices and proximity and ambient light sensing module. It uses the NDEF standard for writing the information for establishing a simple and secure Bluetooth pairing by storing the necessary information on the NFC tag.	F401RE, L476RG	X-NUCLEO-NFC01A1 / X-NUCLEO-6180XA1 / X-NUCLEO-IDB04A1 / X-NUCLEO-IDS01A5 / X-NUCLEO-IKS01A1	M24SR, VL6180X, BlueNRG-MS SPBRLE-RF, LSM6DSO, LSM6DS3, LIS3MDL, LPS25HB, HTS221
Vertical	FP-CLD-WATSON1	Connecting sensors to IBM Watson IoT Cloud . Including special middleware for MQTT cloud communication and FFT vibration analysis for Condition Monitoring/Preventive Maintenance with accelerometer	F401RE	X-NUCLEO-IDW01M1 / X-NUCLEO-NFC01A1 / X-NUCLEO-IKS01A2 / X-NUCLEO-IKS01A1	SPW01SA, M24SR, LSM6DSL, LSM303AGR, LPS22HB, HTS221
Vertical	FP-CLD-AZURE1	Connecting sensors to Microsoft Azure IoT Cloud . Running on FreeRTOS and using HTTP communication for bi-directional communication with the sensors.	F401RE	X-NUCLEO-IDW01M1 / X-NUCLEO-NFC01A1 / X-NUCLEO-IKS01A2 / X-NUCLEO-IKS01A1	SPW01SA, M24SR, LSM6DSL, LSM303AGR, LPS22HB, HTS221



STEVAL-STLKT01V1

SensorTile + Eval kit

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STEVAL-STLCS01V1



13.5 x 13.5 mm



Miniaturized Tile that can be **soldered** or **plugged** on a host board

Key products on board

LSM6DSM: MEMS 3D accelerometer ($\pm 2/\pm 4/\pm 8/\pm 16$ g) + 3D gyroscope ($\pm 245/\pm 500/\pm 2000$ dps) with OIS

LSM303AGR: MEMS 3D magnetometer (± 50 gauss) + 3D accelerometer ($\pm 2/\pm 4/\pm 8$ g / ± 16 g)

LPS22HB: MEMS pressure sensor, 260-1260 hPa absolute digital output barometer

BLUENRG-MS: BLE Network processor

BALF-NRG-01D3 : 50 Ohm / Conjugate match to BlueNRG Balun

MP34DT04 : Digital MEMS microphone

STM32L476 : Microcontroller

100 mAh Li-Ion battery included



OSX
OpenSWiX

open.AUDIO

open.MEMS

open.RF

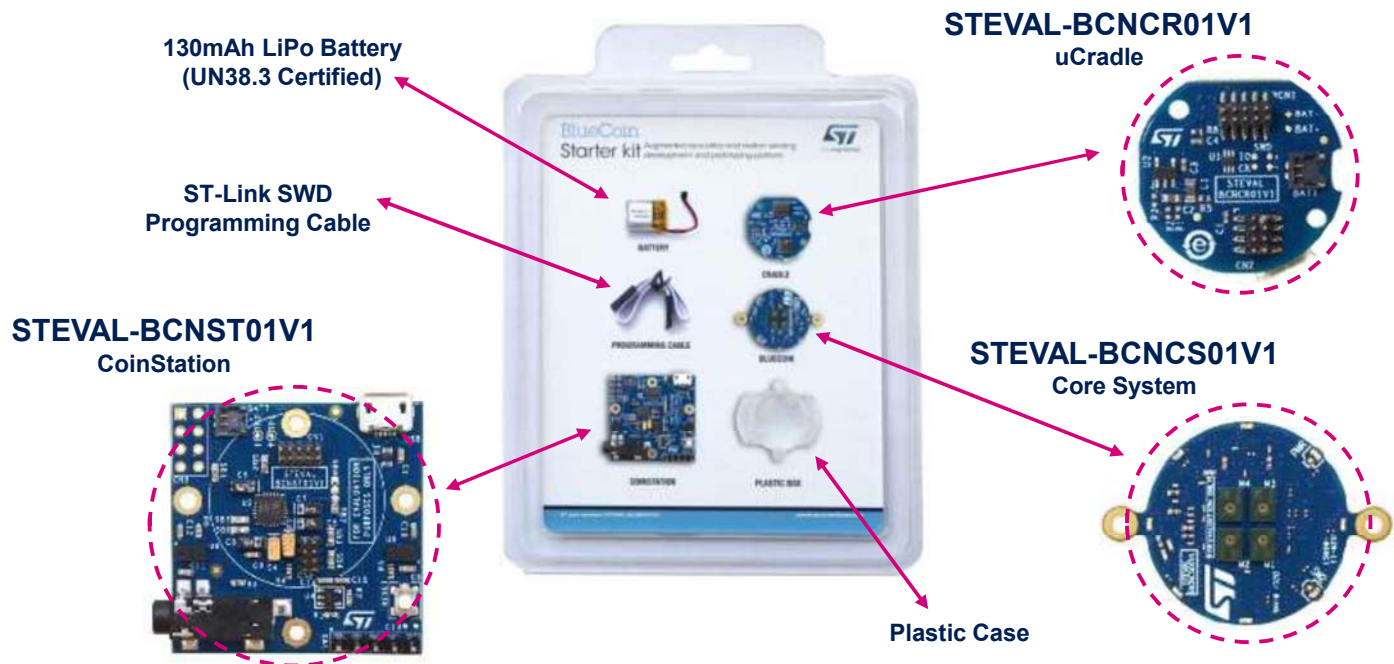
Latest info available at
[STEVAL-STLKT01V1](#)

Order code: **STEVAL-STLKT01V1**
Module only: **STEVAL-CS02V1** (available in Q2)





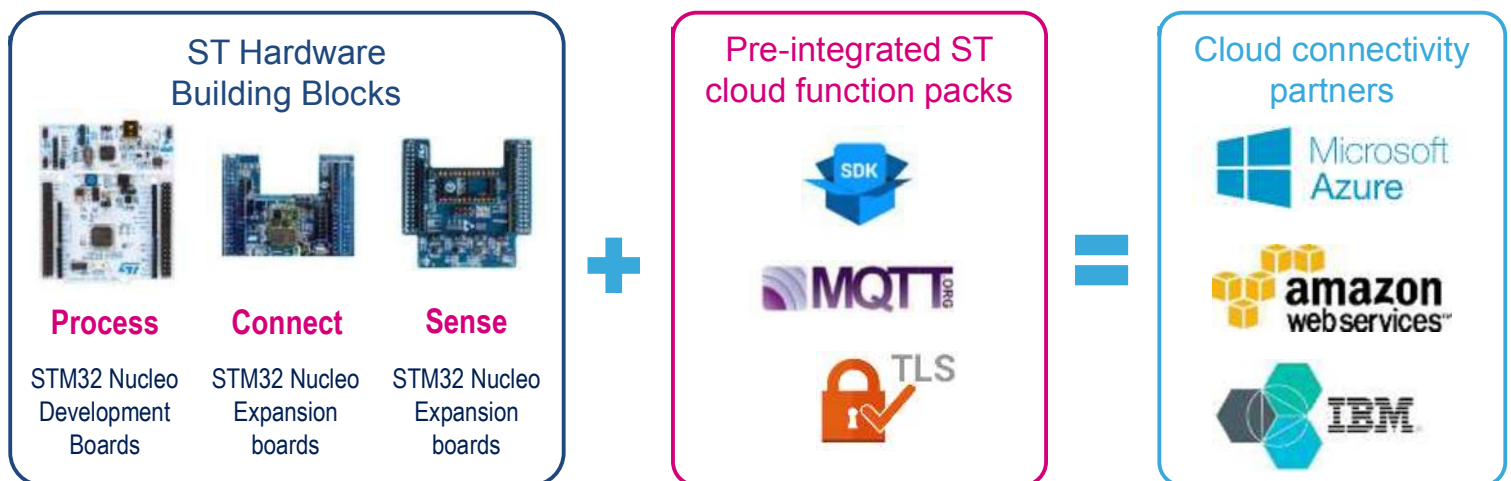
STEVAL-BCNKT01V1 BlueCoin Starter Kit



Cloud Connectivity Out of the Box

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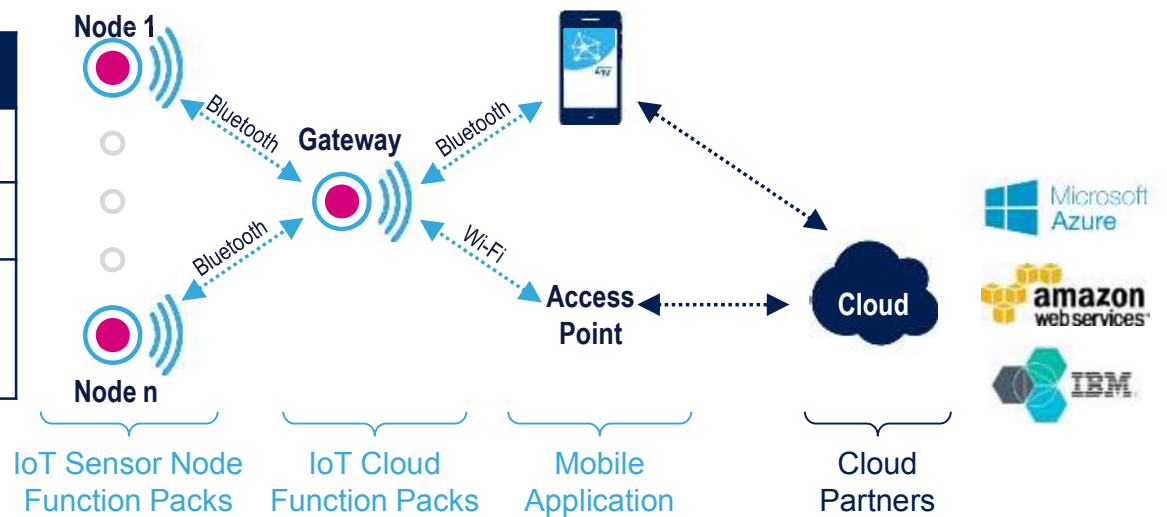
Rapid prototyping of **sensor-to-cloud** solutions



Cloud Connectivity Out of the Box

STM32 ODE Function Packs to access multiple cloud IoT suppliers

Network	Functionality
Gateway	 
	  
Nodes	    
	 



LoRa® Technology Powered by STM32



The broadest ecosystem ever available now!

Best-in-class in ultra low power
and long range

Broadest hardware & software
ecosystem

Easy to use

LoRa® Gateway STM32F7 based



LPWAN
Discovery kit



LoRa® + Sensor
expansion board



LoRa®
Nucleo Pack

Secure Sigfox Ready™ Connectivity

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Ultra-low-power Sensor-to-Cloud Connectivity out-of-the-box

S2-LP

Ultra-low power, high performance
Sub-1GHz RF transceiver

STSAFE-A1SX

Plug and play certified security
HW CC EAL5+

STM32L

Ultra-low-power MCU portfolio



S2-LP evaluation Kit
SIGFOX End Product certified



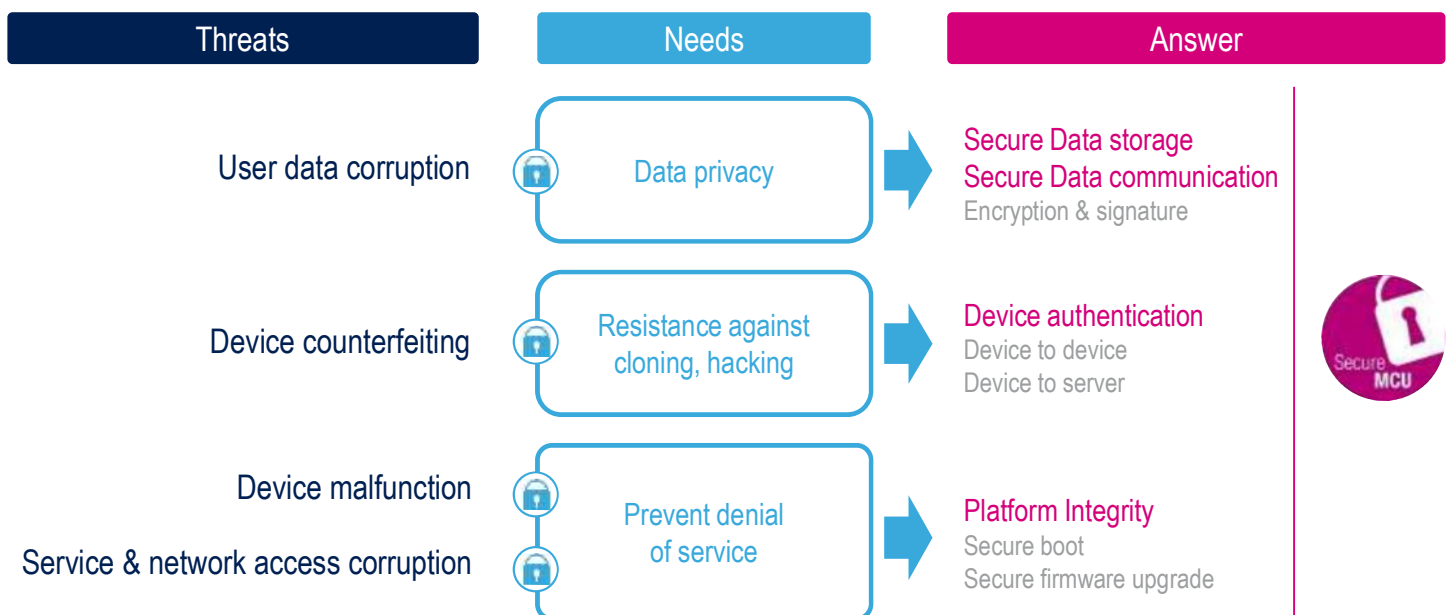
STSAFE-A1SX evaluation Kit
Security for Sigfox Ready™



Securing IoT devices with STSAFE

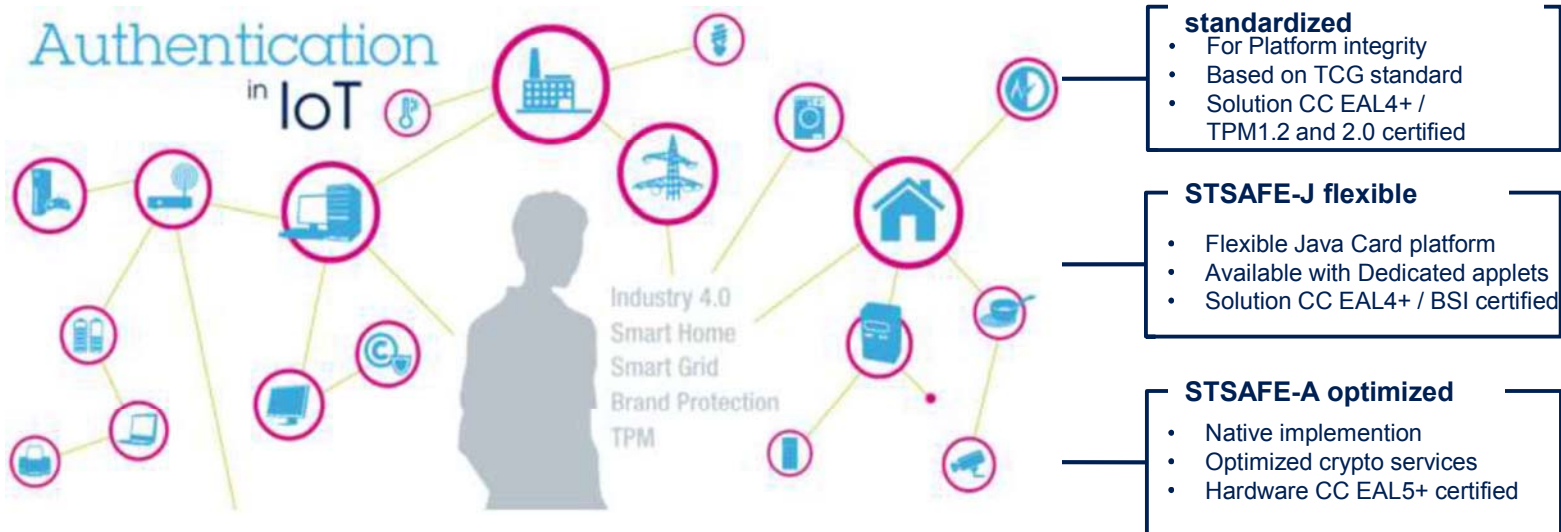
Internet of Things - Threats and Needs

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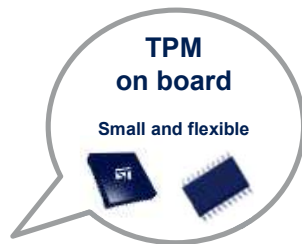
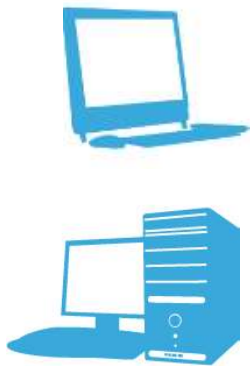
STSAFE Family Range Overview

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STSAFE-TPM: Solution overview

Trusted Platform Module solution for platform integrity



TPM 1.2 & 2.0
Trust Computing Group
certified



Platform integrity

Secure Boot

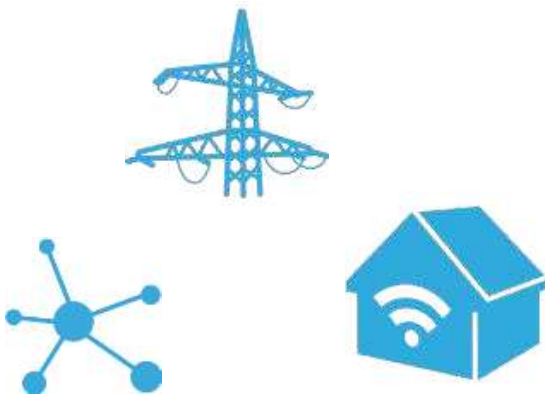
Secure Firmware upgrade

Secure Data storage & Secure communication

Trusted network access with Authentication

STSAFE-J: Solution Overview

Flexible Java Card platform for Gateways



Solution
Common Criteria EAL4+
and BSI certified

Flexible Java Solution with dedicated applets

Secure Data storage & Secure communication

Trusted network access with Authentication

Personalization services

Ecosystem with expansion boards and middleware

STSAFE-A100: Solution Overview

Highly secure & cost optimized solution for connected devices



EAL5+ Common Criteria certified chip

Authentication

Secure data communication

Secure Firmware upgrade

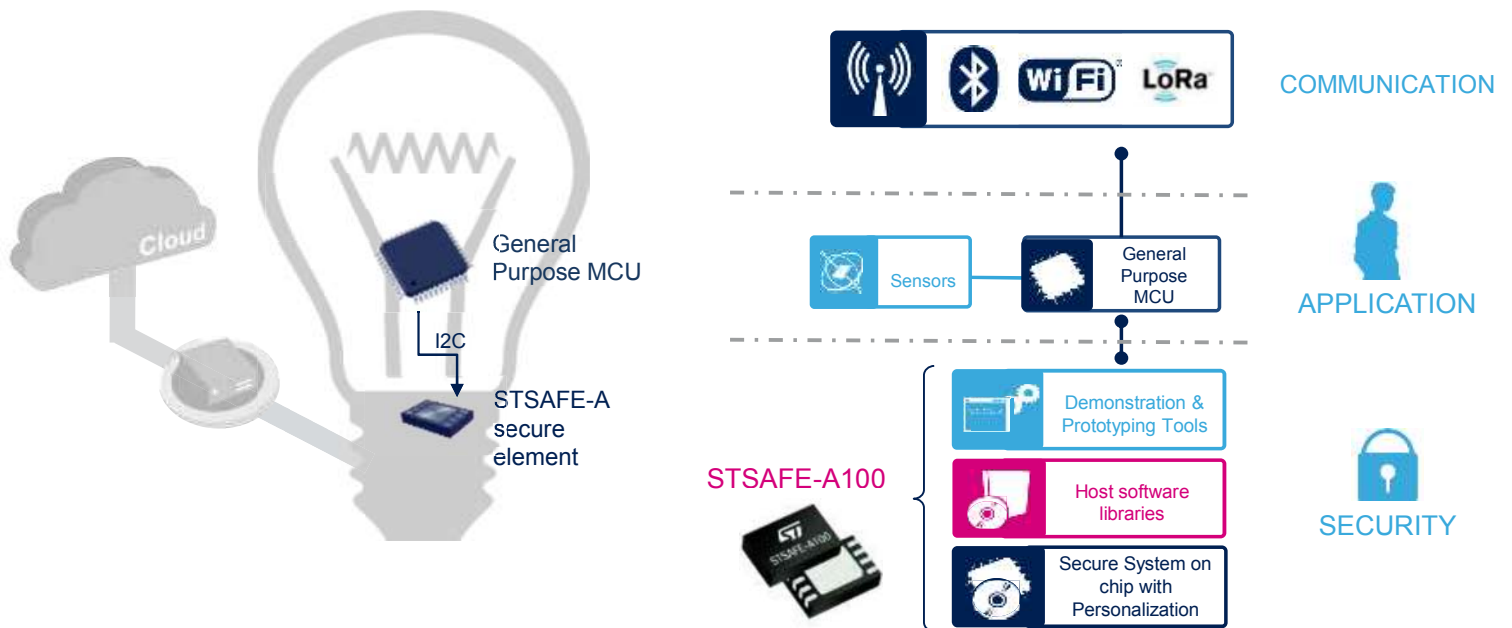
Secure key provisioning service

Seamless integration with GP MCU

STSAFE-A100: Companion Secure Element

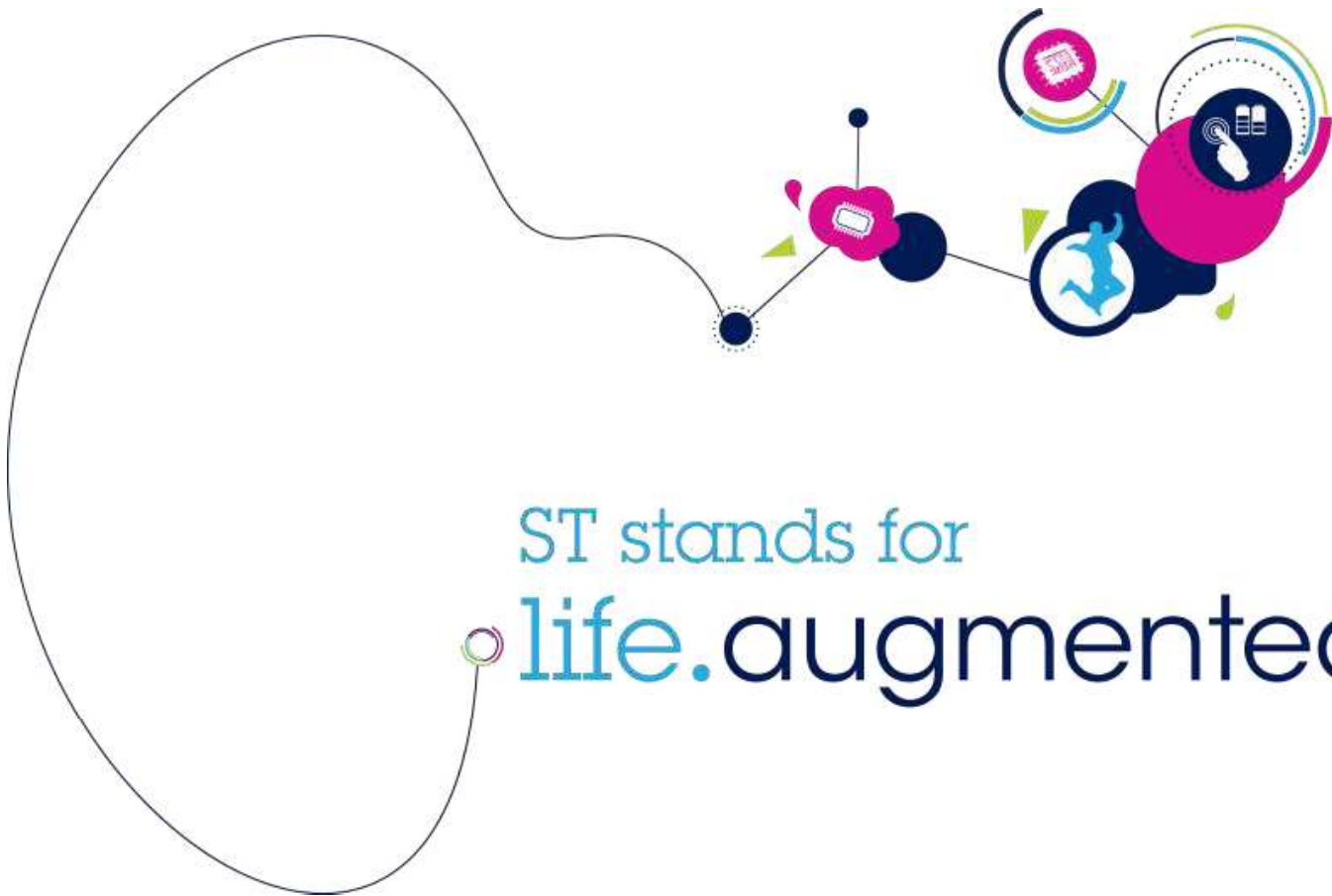
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Enabling easy of use security services for IoT developers



Thank You

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ST stands for
life.augmented