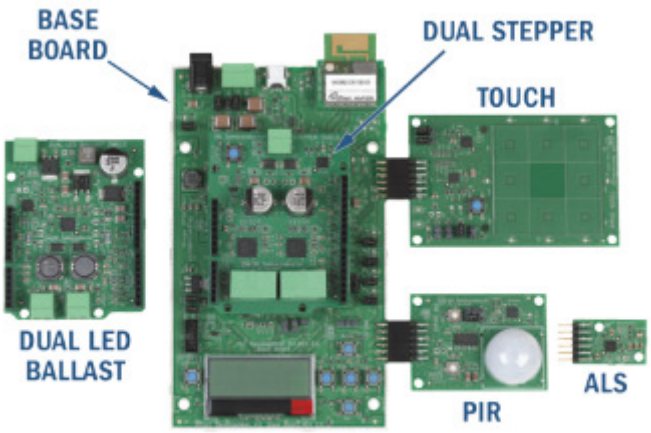
ON Semiconductor®

IoT Development Kit (IDK)

Configurable rapid prototyping platform for Industrial IoT, Smart City/Building, and mHealth applications



Encompassing both hardware and software elements, this multi-faceted product, with a unique modular construction, presents a configurable platform that enables engineers to evaluate, develop and release to market highly differentiated IoT systems in the shortest possible timeframes. The inherent flexibility of the IDK means that it has the necessary scope to address a broad spectrum of industry sectors - including environmental monitoring, healthcare, home/building automation, industrial control and wearable electronics.

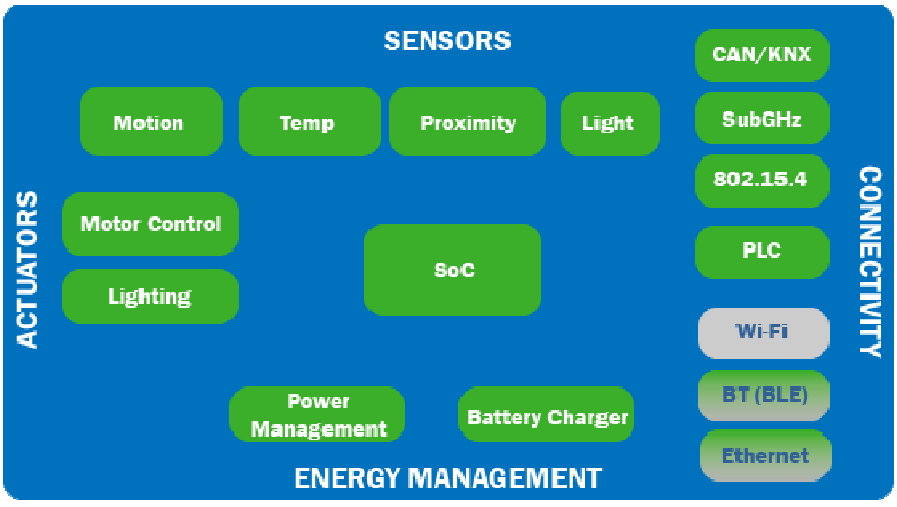
The IDK's baseboard features the company's advanced NCS36510 system-on-chip (SoC), with a low power-optimized 32-bit ARM Cortex-M3 core, running the ARM mbed™ OS. By attaching different daughter boards to the Wi-Fi enabled IDK baseboard, a wealth of connectivity protocols enabled by the company's ultra-low power radios (SIGFOX, Thread, EnOcean, Wireless Mbus, Bluetooth® Low Energy, ZigBee, PoE, CAN, etc.), sensors (temperature, moisture, ambient light, proximity and pressure, along with heart rate monitoring and bio sensor interfaces) and actuators (with stepper and brushless motor driving, plus the ability to drive LED strings) can be added to the system. In addition, the portfolio includes support for numerous functions important for implementing security, including encryption, secure debug, secure boot and authentication.

This is complemented on the software side by an Eclipse-based integrated development environment (IDE) that includes a C++ compiler, debugger and code editor. A comprehensive set of application examples, use cases and related libraries have also been incorporated into the package, in order to facilitate the process of taking IoT designs from the initial concept phase through to full scale deployment. In addition to the default cloud software platform, support for industry standard Cloud connectivity protocols (MQTT and REST) allows utilization of other widely used IoT cloud service providers.

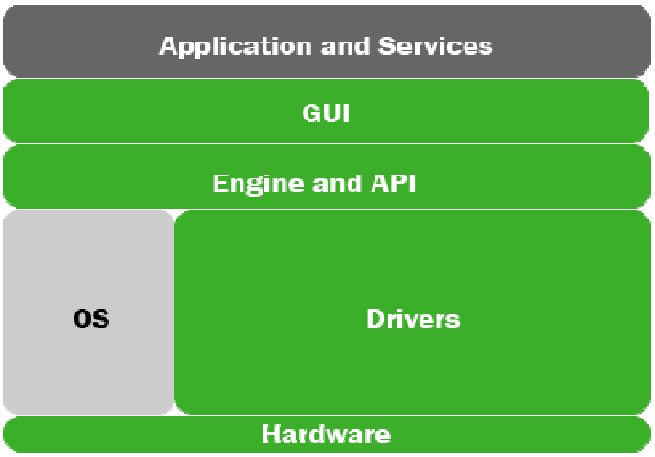
Features:

- Comprehensive portfolio of sensors, connectivity and actuator devices
- Individual API for each and every device
- Complex C Code examples adapted to multiple applications
- Integrated development environment
- Full documentation of system hardware and software design
- Cloud software
- Ready to use for fast turnaround from concept to production

Hardware



Software



Product Table

Board Description	Board Part Number	Key IC Utilized
Baseboard	BB-GEVK	NCS36510
Wireless Connectivity: SIGFOX™	SIGFOX-GEVB	AX-SFEU
Wired Connectivity: Power over Ethernet	POE-GEVB	NCP1083
Sensor: PIR motion	PIR-GEVB	NCS36000
Sensor: Ambient light	ALS-GEVB	NOA1305
Sensor: Touch/proximity/level	TS-GEVB	LC717A00AR
Actuator: Dual stepper motor	D-STPR-GEVK	AMIS-30543
Wired Connectivity: CAN	CAN-GEVB	NCV7342D13R2G
Actuator: BLDC motor control + power stage	BLDC-GEVK	LV8907UWR2G
Actuator: Dual LED + ballast	D-LED-B-GEVK	NCV78763MW0R2G