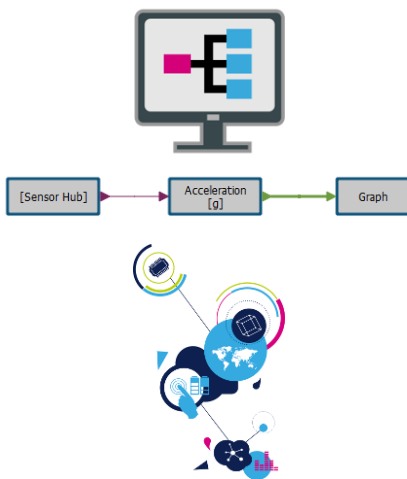


## Application for the graphical design of algorithms



### Features

- Simple graphical design of algorithms (drag and drop, connect, set properties, build, upload)
- Optional multi-level design
- Wide range of function blocks available in libraries, including motion sensor algorithms (e.g. sensor fusion, gyroscope, magnetometer calibration, pedometer, ...)
- Integrated function blocks for FFT analysis
- Function block creator for custom block creation
- Automatic validation of design rules
- C code generation from the graphical design
- Use of external compilers ([STM32CubeIDE](#), IAR EWARM, Keil  $\mu$ Vision<sup>®</sup>, System Workbench for STM32)
- Generated firmware output displayed through integrated output data monitor or [Unicleo-GUI](#)
- Open XML format for function blocks and design storage
- Possibility to send output data to AWS cloud using MQTT protocol
- Support for [NUCLEO-F401RE](#) or [NUCLEO-L476RG](#) with connected [X-NUCLEO-IKS01A2](#) or [X-NUCLEO-IKS01A3](#) expansion board, SensorTile [STEVAL-STLKT01V1](#) and SensorTile.box [STEVAL-MKSBOX1V1](#)
- Network updates with automatic notification of new releases
- Free user-friendly licensing terms

### Product summary

Application for the graphical design of algorithms	<a href="#">AlgoBuilder</a>
STM32 Nucleo development board	<a href="#">STM32 Nucleo</a>
Motion MEMS and environmental sensor expansion board for STM32 Nucleo	<a href="#">X-NUCLEO-IKS01A2</a> or <a href="#">X-NUCLEO-IKS01A3</a>
GUI for motion MEMS and environmental sensor software expansion for STM32Cube	<a href="#">Unicleo-GUI</a>
SensorTile.box wireless multisensor development kit with user-friendly app for IoT and wearable sensor applications	<a href="#">STEVAL-MKSBOX1V1</a>

### Description

[AlgoBuilder](#) is a graphical design application to build and use algorithms.

It quickly elaborates prototypes of applications for STM32 microcontrollers and MEMS sensors, including already existing algorithms (i.e. sensor fusion or pedometer), user-defined data processing blocks and additional functionalities.

The application eases the process of implementing proof of concept using a graphical interface without writing the code.

[AlgoBuilder](#) reuses previously defined blocks, combines multiple functionalities in a single project and visualizes data using [Unicleo-GUI](#) in real time using plot and display.

[AlgoBuilder](#) utilizes the STM32 ODE (Open Development Environment) ecosystem which combines hardware like [STM32 Nucleo](#) boards ([NUCLEO-F401RE](#) or [NUCLEO-L476RG](#)), [X-NUCLEO-IKS01A2](#) or [X-NUCLEO-IKS01A3](#) expansion board and software (STM32 HAL drivers, BSP structure, low and high-level sensor drivers) and [Unicleo-GUI](#).

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
26-Mar-2018	1	Initial release
25-Jul-2018	2	Addition of SensorTile STEVAL-STLKT01V1 (Features)
05-Apr-2019	3	Updated Features Added X-NUCLEO-IKS01A3 expansion board
18-Jun-2019	4	Added SensorTile.box STEVAL-MKSBOX1V1
19-Aug-2019	5	Added STM32CubeIDE compiler ( <a href="#">Features</a> )

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