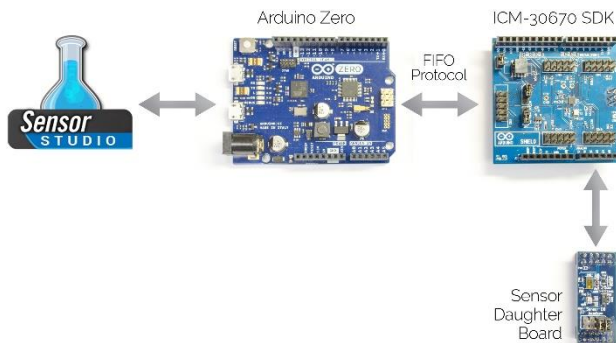# SensorStudio FireFly ICM-30670 Development Kit

GENERAL DESCRIPTION

SensorStudio + FireFly Development Kit enable rapid prototyping and product development of IoT applications.

The Kit is composed of 4 critical components.

The ICM-30670 DK with integrated sensor framework software and associated Sensor daughter board. The second is our new development tool, SensorStudio, and lastly the Arduino Zero board.

APPLICATIONS

- Internet Of Things

FEATURES

- **Sensor fusion:** Sensor Calibration, 3D Orientation, Gestures, Linear acceleration
- **Auxiliary sensors:** magnetometer AKM-09911, pressure sensor BMP-280, and a proximity sensor VCNL4040
- **Sensor Framework** (running FreeRTOS)
- **Extension API** to create sensor drivers and data fusion
- **Cross-build** with GCC linaro
- **Eclipse IDE** for C/C++ Developers
- **J-LINK Debug probe** from Segger
- **Arduino IDE** sketches
- **GUI** to program & visualize FireFly
- **Visual environment** for data fusion development (Cube, 2D Plots, Histogram, …)

DETAILLED DESCRIPTION

- **FireFly Evaluation with SensorStudio**

    The SensorStudio software provides a graphical user interface supporting evaluations of the FireFly SoC (ICM 30670).

    The ICM-30670 comes with low power accelerometer & gyroscope and pre-integrated Sensor fusion running on its DMP (Digital Motion Processor).

    Auxiliary sensors, connected to FireFly thru I2C, are also pre-integrated.

- **FireFly Programming with SensorStudio**

    The SensorStudio software comes with a C editor to build on FireFly SoC (ICM-30670) sensor framework and support its extension with custom sensor driver and data fusion.

    Complete API, to integrate and extend the sensor framework with custom sensor driver and data fusion, is provided.

    Simple GUI push buttons are available to build and flash the extended sensor framework on FireFly SoC (ICM- 30670), simplifying the GCC linaro toolchain usage.

- **FireFly Debugging with SensorStudio**

    SensorStudio DK supports using J-LINK Debug probe from Segger.

    Simple GUI push button is available to launch Eclipse IDE for C/C++ Developers.

    SensorStudio also comes with standard visualizations simplifying data fusion solutions debug.

    Arduino IDE library is provide to access FireFly sensor outputs, standards & customs, thru documented sketches.

BLOCK DIAGRAM

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