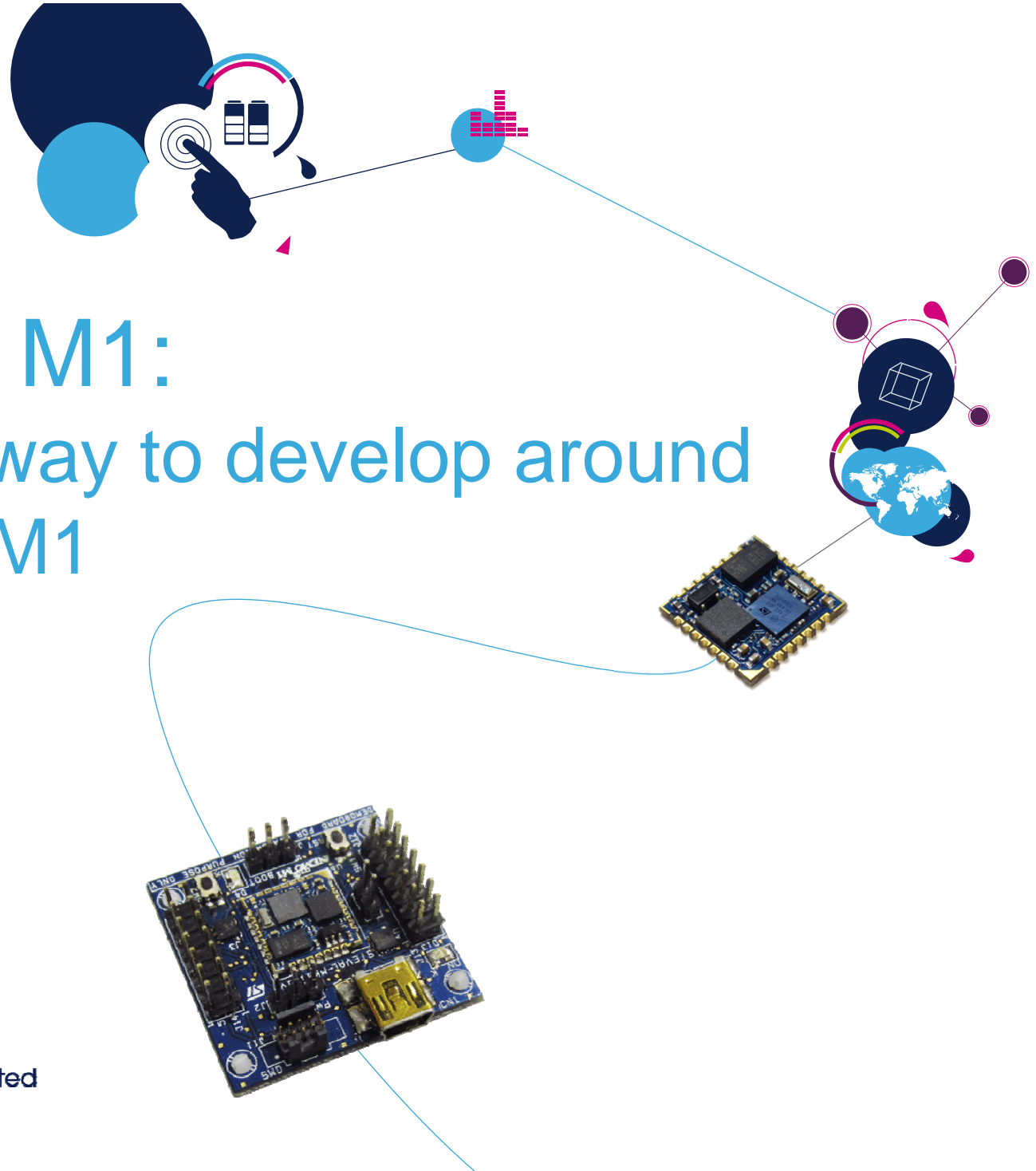


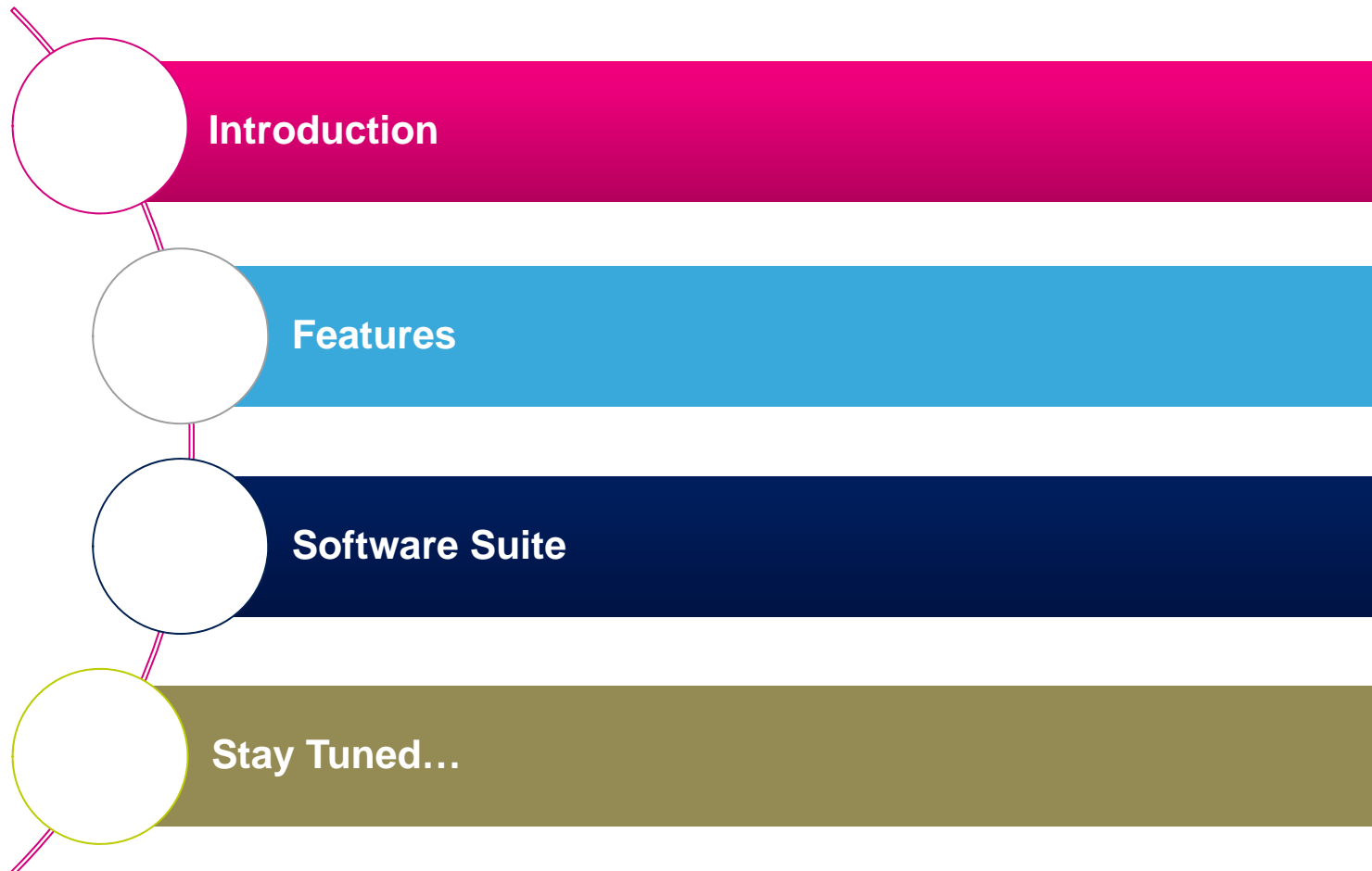
# Discovery M1:

## The fastest way to develop around the INEMO-M1



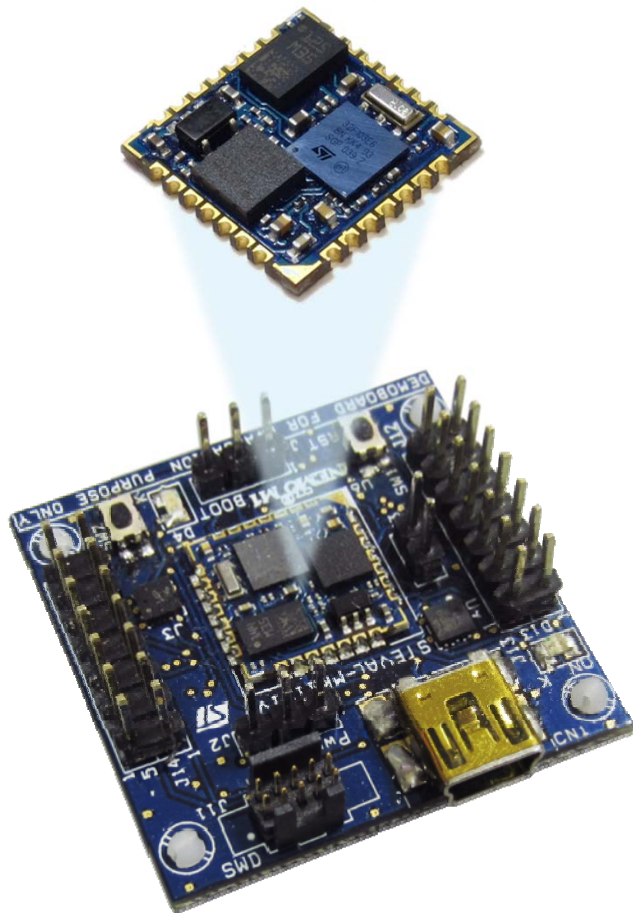
# Content

2



# Why use the Discovery M1?

3



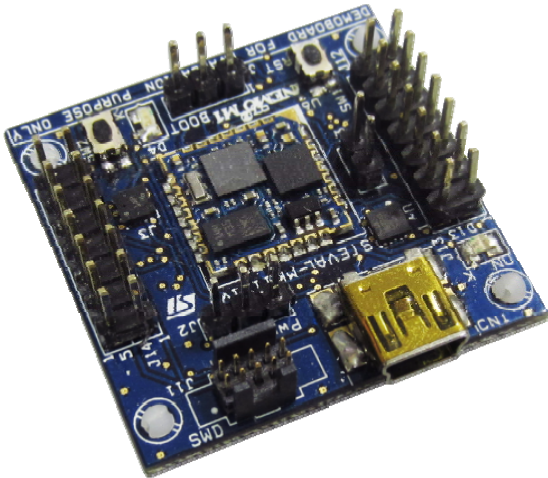
To enable rapid development with the INEMO-M1

It delivers a sensor platform capable of tracking 10 degrees-of-freedom by combining the INEMO-M1 and LPS331AP

It includes an SDK and embeds a pre-compiled Attitude Heading Reference System (AHRS) algorithm

# Overview of Discovery M1

4

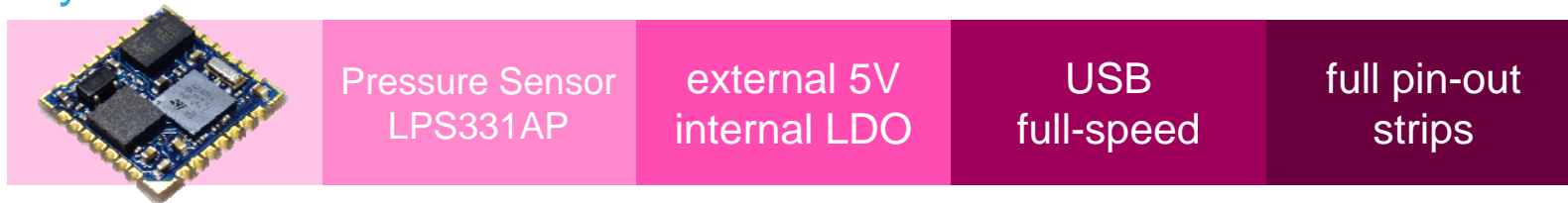


- The Discovery M1 opens the INEMO-M1 ecosystem to the worldwide developer community. It offers a means to explore and evaluate the INEMO-M1, providing complete access to all the benefits of the first 9-axis system-on-board (SoB) in the iNEMO® module family. The accelerometer, gyroscope, magnetometer and ARM® Cortex™-M3 32-bit MCU are fully accessible to the user firmware, enabling the implementation of complex and versatile inertial applications in fields such as robotics, personal navigation, gaming, and wearable sensors for healthcare/fitness or sport kinetics.
- The Discovery M1 includes the LPS331AP pressure sensor, adding barometric and altimeter information to the inertial data to create a complete 10-DoF system.
- The pin-out of the two on-board connectors offer immediate access to all of the communication interfaces and peripherals of the INEMO-M1. The PC GUI combined with the firmware libraries permit quick sensor output display.

# Discovery M1: Features

5

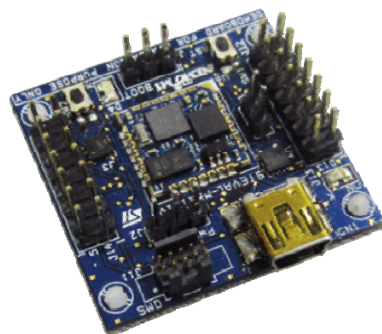
## HW layer



## SW layer (embedded)



Also available as:  
[STSW-INEMO001](#)

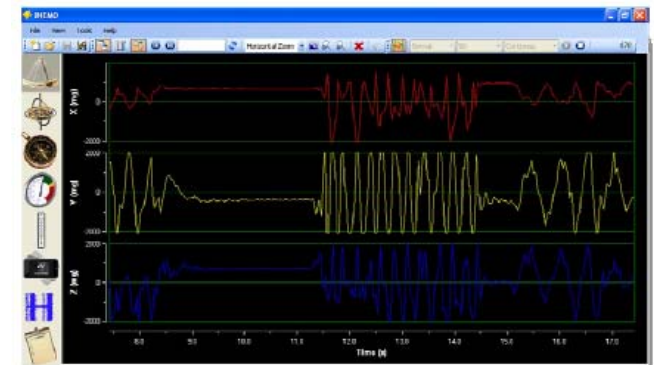


# Discovery M1 Software Suite\*

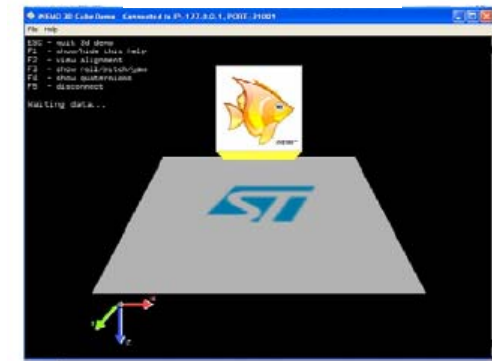
6

The iNEMO® Suite (v2.5) includes:

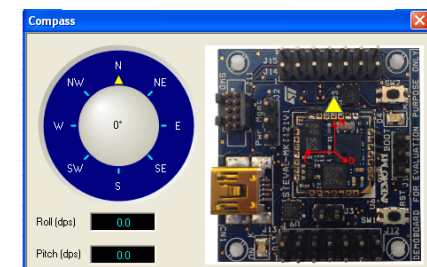
- A graphical user interface to exploit the Discovery M1 board features and display the sensor data
- An SDK (Software Development Kit) to develop personalized PC applications
- A Compass application demo
- A 3D Cube demo to show the AHRS (Attitude Heading Reference System) capability of iNEMO Engine Lite\*\*
- A boot loader to easily update the firmware via DFU
- A complete set of firmware libraries to manage the INEMO-M1 on-board sensors
- A firmware framework based on FreeRTOS™



Main Window



3D cube window



Compass window



\*Available also as download, refer to [STSW-INEMO001](#) on [www.st.com](http://www.st.com)

\*\*The iNEMO Engine Lite is available as [iNEMOEng\\_M1LI3](#) on [www.st.com](http://www.st.com)

# Stay tuned for more on the Discovery M1 ecosystem

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- **INEMO-M1:** 9-axis motion sensing system-on-board (SoB)  
More info at: [http://www.st.com/web/en/catalog/sense\\_power/FM89/SC1448/PF253162](http://www.st.com/web/en/catalog/sense_power/FM89/SC1448/PF253162)
- **Discovery M1:** INEMO-M1 Discovery kit  
More info at: <http://www.st.com/web/catalog/tools/FM116/SC1116/PF255175>
- **STSW-INEMO001:** Software suite (GUI, firmware and SDK) for Discovery M1  
Download available at: <http://www.st.com/web/catalog/tools/FM147/SC1870/PF257504>
- **iNEMOEng\_M1LI3:** iNEMO Engine Lite, source code for sensor fusion AHRS algorithm for iNEMO-M1  
More info at: <http://www.st.com/web/catalog/tools/FM147/CL1818/SC1528/PF260129>  
[For additional information please contact your local ST Sales Office: <http://www.st.com/stonline/contactus/contacts/index.php>]

The screenshot shows the STMicroelectronics website interface. At the top, there is a search bar and a navigation menu with links like Home, Products, Applications, Support, Sample & Buy, About, Contact, and My ST Login. Below the navigation menu, the breadcrumb trail reads: Home > Tools and Software > Evaluation Tools > MEMS Motion Sensor Eval Boards > STEVAL-MKI121V1. The main heading is "STEVAL-MKI121V1 INEMO-M1 Discovery" with a status indicator "Active". The text describes the Discovery-M1 as a platform for evaluating the INEMO-M1 module, which includes a 6-axis geomagnetic module, a 3-axis gyroscope, and an ARM Cortex-M3 32-bit MCU. A blue arrow points to the "Save to MyST" button, with a callout text: "Click on Save to MyST to receive updated information".



# Stay Tuned with ST

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