MTw Awinda DEVELOPMENT KIT

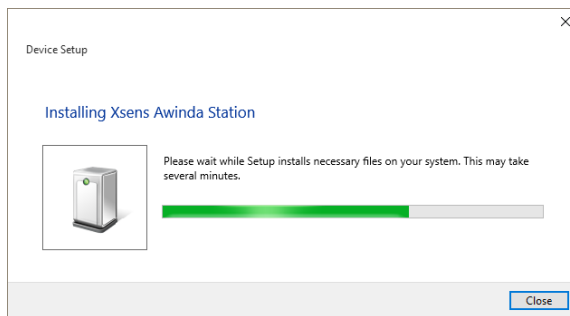**QUICK SETUP GUIDE: GETTING STARTED WITH YOUR MTw Awinda DEVELOPMENT KIT**

Step 1. Software Setup

- Run the MT SDK installer (setup.exe) with 'Administrator' rights if you install on Windows 7 or Windows 10.
- The Installer will install the necessary drivers for the Xsens USB-serial Converter.
- Uninstall previously installed versions of the Xsens MT SDK and the USB drivers. The USB drivers are listed as 'Windows Driver Package - Xsens USB-serial Converter Driver Package' in Add/Remove Programs.
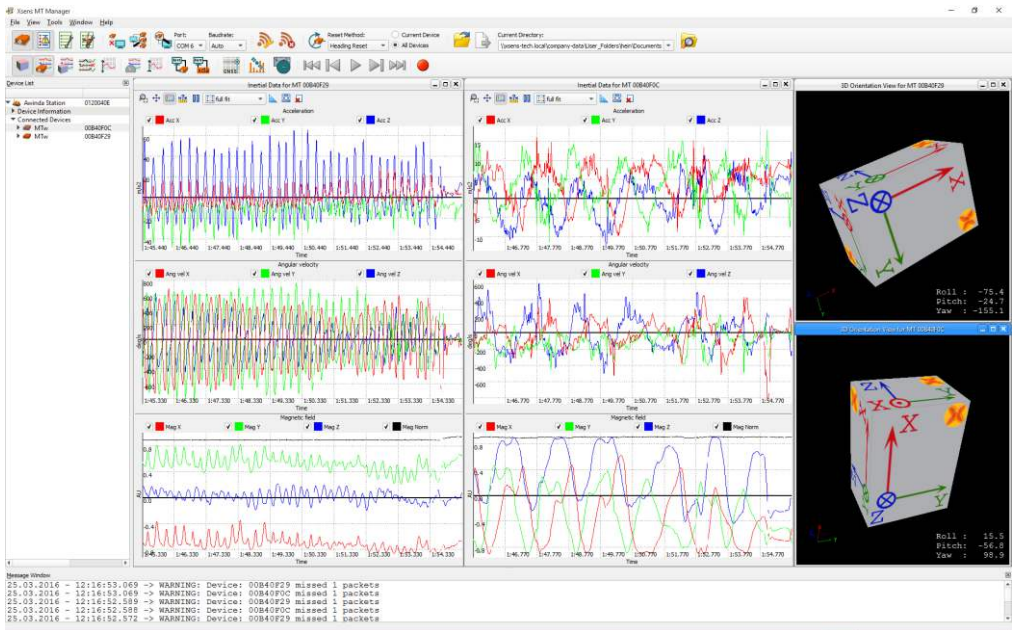
Step 2. Hardware Setup

- Dock the MTw's into a powered Awinda Station.
- Power the MTw's by pressing the button
- Connect the Awinda Station or the Awinda USB Dongle via USB to the PC.
- After connecting to the PC, Windows will detect the installed drivers, performed at step 1. Xsens drivers will be installed automatically.

- The Xsens MTw Development Kit is ready for use. The components will be displayed in the Device Manager of MT Manager.

Step 3. First use

- It is advised to use the installed MTw User Manual for detailed instructions.
- MT Manager is the easiest way to get started. This user-friendly software with familiar Windows user interface enables to view 3D orientation in real-time, view 2D plots or inertial data. With MT Manager it is possible to export logged MT binary data files (.MTB) to ASCII files. Furthermore, MT Manager enables full set-up of the device settings and properties and the ability to create the wireless network.
- In order to visualize the data, it is necessary create a wireless network, using the wireless configuration menu or icon. In this menu, MTw's can be associated to a Wireless Master (either the Awinda Station or the Awinda USB Dongle). The steps required are described in the MTw User Manual.
- The easiest way to check if the MTw is running and configured correctly is to view the 3D representation* of the Motion Tracker in the MT Manager. Click on the button to open the 3D View.
- When the MTw has been set-up to the required settings, use 'Record' to start a measurement. The measurement will be logged in the 'Current Directory'.

Please make sure your PC's Graphics Card meets the requirements for 3D graphical output (refer to System Requirements in the MTw User Manual).

Step 4. Software Development Kit

The Xsens MTw Development Kit includes a software development kit (SDK). The main objective of the SDK is to facilitate easy development of applications based on Xsens motion trackers.

The MT SDK consists of the Xsens Device API (XDA) library, its header files, and reference (API) documentation, as well as a number of examples. The XDA is an extensive library of classes and functions needed to work with Xsens motion trackers.

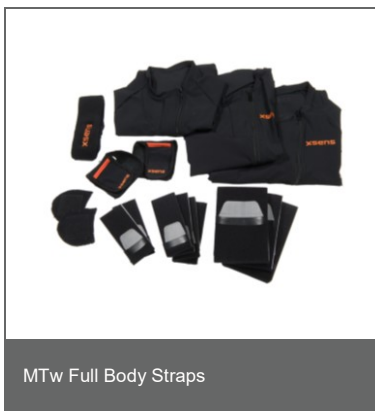### Interface through COM-object API or DLL API

To develop a Windows software application that uses the MTw, using the COM-object API (XsensDeviceApi.DLL) can be used, or interface directly with the DLL. Xsens Devicepi.DLL provides user friendly function calls to obtain data from the sensor or to change settings. The DLL takes care of the hardware communication interfacing and it is an easy way to get (soft) real-time data access.

Using the COM-object API is typically preferred when you want to access the MT's capabilities directly in application software such as MATLAB, LabVIEW, etc. (some examples included in MT SDK). Both polling and events based methods are supported.

Using the DLL API is typically preferred when you are using programming languages such as C, C++, etc.

The process is very user friendly by inclusion of the source code (C and a C++ wrapper) of the Xsens Device API. Example C/C++ application code will facilitate your development platform of choice. The example code is also tested on Linux.

Content MTw Awinda Development Kit

Wireless Motion Trackers (MTw)

Awinda Station, Power Supply and USB Cable

MTw Full Body Straps

Awinda USB Dongle

ABOUT XSENS

Xsens is the leading innovator in 3D motion tracking technology and products. Its sensor fusion technologies enable a seamless interaction between the physical and the digital world in consumer electronics devices and professional applications such as 3D character animation, motion analysis, and industrial control & stabilization. Clients and partners include Electronic Arts, NBC Universal, Daimler, Autodesk, Sagem (Safran Group), Siemens and various other leading institutes and companies throughout the world. Founded in 2000, Xsens is a privately held company with headquarters in Enschede, the Netherlands and a US subsidiary in Los Angeles, California.

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