RELEASE NOTES

Author: Product Manager
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XSENS DOT
PRECISION MOTION TRACKING

1 About this release

The 2020.4 stable release package for Xsens DOT is now available. Section 3 lists out the new features and major improvements made after the previous version. Section 4 gives out the bugs fixed for this release and section 5 lists out the known issues.

Android and iOS Apps will be available for downloading in Google Play Store, and Apple Store respectively. SDK can be downloaded from Xsens DOT developer page[1]. Using the "Device Firmware Upgrade" feature in the new App, user can upgrade to the latest firmware through OTA.

Table 1: Release versions

Release component	Product applicability	New version	Comments
Xsens DOT Firmware	Xsens DOT Sensor	**1.6.0**	Stable release
Android APK and SDK	Xsens DOT Sensor	**2020.4**	Stable release
iOS App and SDK	Xsens DOT Sensor	**2020.4**	Stable release

2 Compatibility

Table 2: Supported platforms

Software	Supported platforms
Android APK and SDK	• Android OS 8.0 and above • ARMv8 CPU architecture
iOS App and SDK	• iOS 11.0 and above
Xsens DOT Data Exporter	• Window, MacOS
Bluetooth requirements	• Best performance with BLE 5.0, DLE[2] supported • Compatible with Bluetooth 4.2

Table 3: List of tested devices

Platform	Tested devices
Android	• Samsung Galaxy S9, Samsung Galaxy S10, Oppo Reno, Huawei Mate20 Pro, Huawei P30 and MI 9, Google pixel 3a.
iOS	• iPhone11 XS Max, iPhone X, iPhone XR, iPhone 8
Others	• Any[3]

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[1] By downloading the Xsens DOT apps and SDKs, you accept the Xsens DOT APP and SDK EULAs accessible on our developer page
[2] Data Length Extension.
[3] Embedded software engineers and System architects can make use of the Xsens DOT BLE Service Specification document to connect to Xsens DOT with any device that supports BLE 5.0.

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3 Major improvements and new features

Meanings of icons: +added, ^changed, !note, #fixed, -removed

2020.4 release includes the following improvements:

3.1 Firmware

+ Seven new output rates in Real-time Streaming, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz and 30Hz.
+ Eight new output rates in Recording, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz, 30Hz and 120Hz.
+ A new filter profile to provide accurate orientation for fast and jerky human motions.
+ Button callback function to notify host device if the sensor power button is pressed.
+ Ability to get the synchronization status to know if the sensor is synced or not.
+ Ability to stop the synchronization after a successful synchronization.
^ Improved synchronization success rate.
- Remove LL_PHY_REQ request sent from sensor to support BLE connection with macOS Catalina.

3.2 Android APK

+ Seven new output rates in Real-time Streaming, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz and 30Hz.
+ Eight new output rates in Recording, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz, 30Hz and 120Hz.
+ A new filter profile to provide accurate orientation for fast and jerky human motions.
+ Support Received Signal Strength Indicator (RSSI) to indicate the signal strength between the phone and DOT sensors.
+ Support V1 signature to deploy App in Baidu platform.
+ Ability to get the synchronization status to know if the sensor is synced or not.
+ Ability to stop the synchronization after a successful synchronization.
^ Improved synchronization success rate.
^ Improved synchronization to allow user to start and stop multiple measurements after one synchronization.
^ Support 5 sensors to do Magnetic Field Mapper (MFM) at a time.
^ Optimized MFM (single-click operation); the new interface lets you know the progress of capturing relevant data.
- The limitation that Device Firmware Update can only do 5 sensors at a time has been removed

3.3 Android SDK

+ Seven new output rates in Real-time Streaming, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz and 30Hz.
+ Eight new output rates in Recording, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz, 30Hz and 120Hz.

+ A new filter profile to provide accurate orientation for fast and jerky human motions.
+ Button callback function to notify host device if the sensor power button is pressed.
+ New firmware update notifications to notify you when new firmware is available.
+ Support Received Signal Strength Indicator (RSSI) to indicate the signal strength between the phone and DOT sensors.
+ Ability to get the synchronization status to know if the sensor is synced or not.
+ Ability to stop the synchronization after a successful synchronization.
^ Improved synchronization success rate.

3.4 iOS App

+ Seven new output rates in Real-time Streaming, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz and 30Hz.
+ Eight new output rates in Recording, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz, 30Hz and 120Hz.
+ A new filter profile to provide accurate orientation for fast and jerky human motions.
+ Support Received Signal Strength Indicator (RSSI) to indicate the signal strength between the phone and DOT sensors.
+ Ability to get the synchronization status to know if the sensor is synced or not.
+ Ability to stop the synchronization after a successful synchronization.
^ Improved synchronization success rate.
^ Improved synchronization to allow user to start and stop multiple measurements after one synchronization.
^ Support 5 sensors to do Magnetic Field Mapper (MFM) at a time.
^ Optimized MFM (single-click operation); the new interface lets you know the progress of capturing relevant data.
- The limitation that Device Firmware Update can only do 5 sensors at a time has been removed

3.5 iOS SDK

+ Seven new output rates in Real-time Streaming, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz and 30Hz.
+ Eight new output rates in Recording, including 1Hz, 4Hz, 10Hz, 12Hz, 15Hz, 20Hz, 30Hz and 120Hz.
+ A new filter profile to provide accurate orientation for fast and jerky human motions.
+ Button callback function to notify host device if the sensor power button is pressed.
+ New firmware update notifications to notify you when new firmware is available.
+ Support Received Signal Strength Indicator (RSSI) to indicate the signal strength between the phone and DOT sensors.
+ Ability to get the synchronization status to know if the sensor is synced or not.
+ Ability to stop the synchronization after a successful synchronization.
^ Improved synchronization success rate.
^ Change the minimum supported iOS version to 11.0.

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4 Bug fixes

This release also fixes the following issues:

4.1 Android APK

In Real-time Streaming, starting a new mode when the previous mode is still running, extra data packets of the previous mode will be displayed and logged in the new mode.
Wrong subtitle in Measure & Collect page.
Only one recording file can be exported if the selected recording files have the same name.
Several crash issues.

4.2 iOS App

Only one recording file can be exported if the selected recording files have the same name.
Several crash issues.

5 Known issues

1. Information such as synchronization status, output rate and filter profile is not saved in recording files.
2. The maximum timer for timed recording is still 88 minutes.
3. Cannot distinguish between sensors that have "synced" status that are synced in different synchronization sessions.
4. Device tag name will be set to default when upgrading to FW1.6.0 or downgrading from FW1.6.0.