



Measure Life ... Anywhere

Release Note: OmniSense 2.0

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1. Scope

This document provides an overview of the added features and release status for Zephyr OmniSense 2.0 application software. It covers both OmniSense Live and Analysis applications and is applicable to Zephyr PSM Responder and PSM Training systems.

2. Document Version Control

Version	Description
1.1	First Release
1.2	Updated Release to fix minor issues in Version 1.1
2.0	Updated to support more radios, new features and modified GUI, added restrictions on Blood Pressure and SpO ² devices

3. References

This document refers to the OmniSense Live version 2.0 and OmniSense Analysis version 2.0 software releases.

4. Definitions and Abbreviations

4.1. Abbreviations

PSM	Physiological Status Monitoring
USB	Universal Serial Bus
HR@VT	Heart Rate at Ventilatory Threshold
BioGauge	Graphical representation of physiological parameters
SCL	Skin Conductance Level
BPM	Blood Pressure Meter
SpO ₂	Pulse Oximeter
HR	Heart Rate
RSM	Remote Speaker Microphone



5. Operational Requirements

5.1. Operating systems supported

Windows XP with Service Pack 3 / Windows Vista / Windows 7.

5.2. PC System requirements

512MB of memory, 100MB free disk space required, at least one USB port or serial port.

5.3. Motorola XTS Requirements

The following feature sets must be installed on the XTS Motorola radios:

- Q947 – Packet Data Interface

5.4. Firmware

All hardware such as Remote Speaker Microphones (RSM), Radio Interface Devices (RID), BioModules and third party sensors are compatible with this release provided they are supported with the listed firmware below.

Firmware upgrades for existing devices are included in the supplied Zephyr installation disc.

5.4.1. Zephyr Hardware

- BioHarness v2.1.5.0
- RSM v2.0.13.0

5.4.2. Third Party Hardware

- MyTech HPL-108 To be advised.
- Nonin 9560 Not applicable



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6. New Features

In addition to the features released with OmniSense 1.2 the following new features were added.

Copies of previous release notes are obtainable here:

<http://www.zephyr-technology.com/releasenotes.html>.

6.1. *Radio Support*

OmniSense now supports Motorola XTS digital radios and two additional military tactical radios.

6.2. *Support integrated Garments and side on strap for OminSense*

OmniSense is now fully functional with a choice of garments and harness options. Two types of garments are supported, a 100% cotton shirt aimed at the first responder market and a combat shirt for the Defense market. These shirts have the BioHarness integrated into them eliminating the need to wear a separate harness under clothing.

In addition to the garments there is also a new strap that moves the BioModule from the front of the chest to under the left armpit. This strap is intended for the use of body armor to avoid any interference from body armor.

6.3. *Remote monitoring of Blood Pressure*

Blood pressure measurements are now supported via Bluetooth. This allows any team member to measure blood pressure and view the results in OmniSense live and also in Analysis for post event analysis. Up to 5 blood pressure meters (BPM) are supported at any one point in time. The BPM meters are custom to Zephyr

6.4. *Remote monitoring of Pulse Oximetry*

Pulse Oximetry measurements supported via Bluetooth. This allows any team member to measure Pulse Oximetry (SpO₂) and view the results in OmniSense live and also in Analysis for post event analysis. Up to 5 SpO₂ meters are supported at any one point in time. The Pulse Oximetry meters supported are Nonin 9560.



6.5. Team Reports

An easy to use Team Report incorporated into OmniSense Analysis. The Team Report allows team performance to be measured and compared on date of exercise, duration, effort, average heart rate (HR), Max HR, average heart rate recovery, average breathing rate, time at Ventilatory threshold, average skin temperature and calories burned. The above are summarized and identifies those that are outside the expected norm making it easy for any coach to pinpoint those that need extra attention. Reports are not restricted to a maximum of 16 members at any one time as it is the case with graphical views.

Reports are seamlessly exported to Microsoft Excel as an Excel file for further manipulation.

6.6. Importing, Exporting and Deletion of Sessions

It is now possible to import, export and delete any session in OmniSense Analysis. Exporting and importing of sessions is in Zephyr file format for easy sharing of data between multiple OmniSense Analysis users.

6.7. Graphical User Interface (GUI) Changes

A number of GUI changes were incorporated into OmniSense live view. Below is a list of these:

6.7.1. Summary view:

When this view is selected it provides a single view of all deployed team members, indicating their physiological status only. Red, orange, green (ROG) status. Team members of interest are selected in the normal way by clicking on the interested person.

6.7.2. Medic Tab (high interest tab)

Team members that have reached a red status are automatically placed in this tab and can only be released manually to previous assigned tab views. This makes it easy for anyone to see all the team members that who may need special attention in one screen.

6.7.3. Sensor Tab

This tab allows the assignment of BPM and SpO₂ meters to any team member in the medic tab. The sensor tab is only available in PSM Defence and PSM Responder applications.



6.7.4. Session Names

It is now possible to create session names in addition to the already existing markers. This will allow users to name their sessions for easier identification during analysis or searching for a specific session.

6.7.5. Marker Auto Advance

Markers now automatically advance to the next marker once selected. This allows user to easily click through markers in sequence if they have been pre-defined.

7. Fixes and Corrections

There were no major bug fixes required for this release from a previous release.

7.1. *Various minor bug fixes.*

Various minor bugs that did not affect system performance or user interfaces were rectified to enable a more reliable product.

8. Dropped Features

None.



9. Known Issues, Limitations and Restrictions

9.1. Known Issues

9.1.1. Installation/ Upgrade

- When upgrading from the Zephyr Team system to OmniSense 2.0 and the Team System data base was not installed in the default file location, the user must point the OmniSense installer to the “polling. FDB” file location to import the database file.
- To avoid the warnings that the Zephyr driver is not a certified Micro Soft driver the Zephyr driver should be manually uninstalled prior to upgrading from any OmniSense pre version to 1.1.

9.1.2. OmniSense configuration

In isolated cases when radio network type is changed, the team configuration is lost and teams must be re-assigned and redeployed.

9.1.3. Windows Related

If hibernation is enabled in the system, OmniSense could lock up when the operating system is recovering from hibernation.

9.1.4. Operational

- In some cases the user selections (teams and data grids) are lost when the user toggles from setup mode to live mode and back to setup mode.
- If the physical connection between the gateway radio and the PC is temporarily lost, OmniSense has to be restarted to continue data collection. A screen prompt is displayed to alert the user to restart OmniSense.
- Desassignment of Sensors cannot be performed if the Bluetooth link to the sensors is lost. In the event that this occurs the sensors need to be switched off to un-assign them from a user.

9.2. Limitations

- Any existing Zephyr hardware must have a firmware upgrade to version 2.1.5.0. New Firmware is shipped with this release. BioModules and XTS RID Microphones are incompatible with OmniSense 2.0 without this firmware upgrade. Hardware shipped with this release does not require a firmware upgrade.

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- This release only supports one database file and data cannot be shared between different database files
- Hibernation should always be disabled when using OmniSense.

9.3. Restrictions

9.3.1. Interaction with Blood Pressure and SpO₂

Due to the restrictions with the Zephyr selected Bluetooth dongle, this release does not support blood pressure and SpO₂ on Windows 7 operating systems. Blood pressure and SpO₂ are supported with all other operating systems as depicted earlier in this document.

It is expected that this restriction will be lifted within the next release due in August 2010.

10. Related Documentation

All product documentation is contained on the OmniSense installer CD under the "Documentation" folder.

Application notes on how to get the most benefit from the "Team Report" functionality is available on www.zephyr-technology.com

All updated data sheets are also available on www.zephyr-technology.com