Leica SmartWorx Viva Software Release Notes

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Version 3.50
Release date 13 May 2011

Available for:
Products
Field Controllers: CS10, CS15
Total Stations: TS15, TS11
GNSS Sensors: GS10, GS15
Viva Smart Pole: GS12
Viva Net Rover: GS08
Viva Uno: GS05, GS06

Available via:
DVD SmartWorx Viva (article number 767908)
myWorld https://myworld.leica-geosystems.com/irj/portal

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**SMARTWORX VIVA v3.50 RELEASE NOTES - INTRODUCTION**

These Release Notes contain important information about the following softwares:
- SmartWorx Viva software version 3.50
- GS10/15 Sensor software version 3.50

Please do take your time to read these Release Notes. They contain a summary of what is new within the v3.50 softwares and information on how to obtain and load the softwares.

It is strongly recommended you use the Leica myWorld portal to upgrade your CS Field Controllers, GS10/15 Sensors and TS total stations with the new softwares. Click [https://myworld.leica-geosystems.com/irj/portal](https://myworld.leica-geosystems.com/irj/portal) to access the portal.

**Important – please take care to read the following notes carefully**

**Customer Care Product (CCP) dates**

The SmartWorx Viva software version 3.50 can only be loaded onto CS Field Controllers which have a CCP date of 01 May 2011 or later.

The SmartWorx Viva software version 3.50 can only be loaded onto TS11/15 Total Stations which have a CCP date of 01 May 2011 or later.

The GS10/15 Sensor software version 3.50 can be loaded onto all GS10/15 Sensors regardless of the CCP date.

**Jobs, Coordinate Systems, Working Styles, RTK Profiles and other objects**

All SmartWorx Viva “objects” (such as Jobs, Coordinate Systems, Working Styles, RTK profiles etc) created or used within previous SmartWorx Viva firmware versions can be used without problems in SmartWorx Viva v3.50.

**Version compatibility between CS Field Controllers and GS10/15 Sensors**

The new v3.50 softwares must be loaded to both the CS Field Controllers and GS10/15 Sensors.

It is not possible to use a CS Field Controller running earlier SmartWorx Viva software versions with a GS10/15 Sensor running v3.50 software. Similarly it is not possible to use a CS Field Controller running SmartWorx Viva v3.50 software with a GS10/15 Sensor running earlier software.

Ensure v3.50 softwares are loaded to all CS Field Controllers and GS10/15 Sensors.

**Version compatibility between CS Field Controllers and TS11/15 Total Stations**

The new v3.50 softwares must be loaded to both the CS Field Controllers and TS11/15 Total Stations.

It is not possible to use a CS Field Controller running earlier SmartWorx Viva software versions with a TS11/15 Total Station running v3.50 software. Similarly it is not possible to use a CS Field Controller running SmartWorx Viva v3.50 software with a TS11/15 Total Station running earlier software.

Ensure v3.50 softwares are loaded to all CS Field Controllers and TS11/15 Total Stations.
SMARTWORX VIVA SOFTWARE IMPROVEMENTS

**TS12 Performance Robotic packages**

SmartWorx Viva v3.50 now supports the Leica Viva TS12 Performance Robotic packages.

A Leica Viva TS12 package includes the following:

- Leica Viva TS12 Total Station
- Leica Viva CS10 Radio Field Controller
- SmartWorx Viva LT
- Leica Geosystems Original Accessories

The following packages are available:

<table>
<thead>
<tr>
<th>TS12 A</th>
<th>TS12 P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot; PinPoint R1000</td>
<td>2&quot; PinPoint R1000</td>
</tr>
<tr>
<td>3&quot; PinPoint R1000</td>
<td>3&quot; PinPoint R1000</td>
</tr>
<tr>
<td>7&quot; PinPoint R400</td>
<td>7&quot; PinPoint R400</td>
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<td>6005550</td>
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</tbody>
</table>

For more information on the Leica Viva TS12, please contact your nearest Leica Geosystems sales representative.

**Leica Active Assist**

Leica Active Assist allows the surveyor in the field to get expert help from Leica Geosystems support staff in an extremely efficient manner.

Using Leica Active Assist, the support staff can connect directly to the user's
CS Field Controller or TS Total Station. The support person can then see exactly what the user sees on the screen of the Field Controller or Total Station. The Field Controller or Total Station can even be controlled directly by the support staff.

In order to use Leica Active Assist the following is required

1. The Field Controller or Total Station must have a valid CCP

2. An Active Assist license key needs to be purchased. **Note this key will not be delivered to the customer. This key does not need to be loaded to the CS Field Controller or TS Total Station.**

For more information on Leica Active Assist, please contact your nearest Leica Geosystems sales representative.

**Sketch Templates**

Sketch templates are now supported within the Sketch Pad functionality.

The Sketch Pad functionality was already possible with SmartWorx Viva v3.50 – it was accessed by choosing **Sketch pad** from the Leica Favourites menu.

However it was only previously possible to sketch on a “blank sheet of paper”.

With SmartWorx Viva v3.50, it is now possible to sketch on a variety of different “sheets of paper”.

- narrow lined paper
- large spaced lined paper
- small grid
- large grid

![Choose Sketch Template](image)

This will help make sketching easier.
Simple ASCII export

An additional way to export ASCII data has been added.

From the main menu choose Jobs & Data and then 2 Export & copy data and then Export ASCII data.

Press F2(Config..) to configure delimiter and the order in which the data should be exported. The following data can be exported:

- Point ID
- Easting
- Northing
- Elevation
- Code
- Description
- Attribute 1
- Attribute 2
- Attribute 3
- Attribute 4
- Linework

For simple ASCII exports this may be much easier than using a format file.

Additional RTK information which can be exported using Custom Data Export (format files)

Additional RTK information is stored to the MDB:

- Reference ID of physical and non-physical reference stations (VRS, i-Max)
- Master ID and Auxiliary station IDs for Max

The information is obtained from different RTCM 3.x messages (1005, 1014 and 1032).

The information can be exported using custom data export (format files) on the instrument itself or inside LGO.

Import of DTM within a DXF file to a DTM

It is now possible to import dxf files containing DTM data into a DTM job.
The DTM job can then be used in to stake relative to the DTM – in the Stakeout DTM app, Stakeout DTM &pts app and in Road, Rail and Tunnel apps.

The new functionality is in the Import Data menu.

Note that the DTM must be stored as a 3D Face “layer” within the dxf file.

Using this new SmartWorx Viva functionality may be more suitable for some customers than using the existing method of creating DTM jobs within LGO Design to Field.

Creation of job on import of ASCII data

When importing ASCII data it is now possible to create a new job as the data is imported and store the data to the newly created job.

Within the existing Import ASCII Data panel the Create new job on import check box has been added.

It is then possible to choose to set the new job as the currently active working or control job and to define to which memory device the newly created job should be stored.
Copy last stored point

It is now possible to make a “copy” of the last stored point.

This is done by configuring a hot key or the User Favourites menu to include the option **Data – Copy last point**. When this hot key is used then the **New Point** panel is accessed – the coordinates of the new point are the same as the last measured point.

This may be useful for example when it is needed to give two different feature codes to the same 2 points.

Imagine a fence is being surveyed. Every point which is measured along the fence is given the point code **FENCE**.

Imagine now a gate appears along the fence line. The surveyor needs to measure the location where the fence changes to a gate. This point is measured and is given the point code **FENCE**.

Using the new functionality, a new point is made with exactly the same coordinates as the point which was just measured. In the **New Point** panel the user can now change the point code to **GATE**.

Improved import of polylines which contain arcs

The import of polylines which contain arcs from a .dxf or shape file using the “pop up menus” in the map view has been improved.

Previously many points along the arc section of the polyline were imported.

Now only the start, middle and end point of the arc, along with the centre point of the arc are imported.

In the panel above, Pt_19, Pt_20 and Pt_22 have been imported as points along the arc. Pt_21 has been imported as the centre point.

Improvements to entering antenna heights

The way to enter the moving antenna height has been made simpler.
If it is required to enter a moving antenna height which is different to the static antenna height then select the Use offset for moving antenna and enter the Offset value.

Note, if the static antenna height is changed within survey, the moving antenna height is NOT changed. The Offset value is changed.

Similarly, if the moving antenna height is changed within survey, the static antenna height is NOT changed. The Offset value is changed.

Showing of message box if wrong RTK base coordinates are entered

A message box is now shown if the “wrong” base station coordinates are entered when setting up a GS10 or GS15 as an RTK base station.

Wrong here means that the entered coordinates are significantly different to those computed by the GS Sensor itself.

Previously only a message line was shown. The new message is much more visibly and must be confirmed with F4(OK)

Clearer information as to what is lost when formatting the various memory

It is now much clearer as to what exactly will be lost when the various memory devices on a CS Field Controller or TS Total Station are formatted.
Additional text in the screens describes exactly the objects which will be lost.

It is also summarised here

<table>
<thead>
<tr>
<th>Memory device</th>
<th>Objects which are lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Working styles</td>
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<tr>
<td></td>
<td>Stations to Dial list</td>
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<tr>
<td></td>
<td>Server list</td>
</tr>
<tr>
<td>Internal memory</td>
<td>Jobs (stored on the internal memory)</td>
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<tr>
<td></td>
<td>Admin settings</td>
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<tr>
<td></td>
<td>Codelists</td>
</tr>
<tr>
<td></td>
<td>Coordinate systems</td>
</tr>
<tr>
<td></td>
<td>Format files</td>
</tr>
<tr>
<td></td>
<td>CSCS field files</td>
</tr>
<tr>
<td></td>
<td>Geoid field files</td>
</tr>
<tr>
<td></td>
<td>RTK profiles</td>
</tr>
<tr>
<td></td>
<td>User created antenna</td>
</tr>
<tr>
<td>Apps</td>
<td>All loaded apps</td>
</tr>
<tr>
<td>SD card</td>
<td>All data currently stored on the SD card</td>
</tr>
<tr>
<td>CF card</td>
<td>All data currently stored on the CF card</td>
</tr>
<tr>
<td>USB stick</td>
<td>All data currently stored on the USB stick</td>
</tr>
</tbody>
</table>

A confirmation message is now shown to the user if static and kinematic raw GNSS data is being logged and escape is pressed.
Improved normal EDM mode and manual aiming icons

This prevents the user accidentally stopping the raw data logging session.

The following total station related icons have been improved.

If the mode **Single** is chosen for the **Measure mode** then the following icon is shown in the icon bar:

If the mode **Manual** is chosen for **Target aiming** then the following icon is shown in the icon bar:

Notification message on CS Field Controller if GS10/15 Sensor or TS11/15 battery is low

If the battery level of the battery in the GS10/15 GNSS Sensor or the TS11/15 Total Station drops to a critically low level then a warning message is shown on the CS Field Controller.

This is particularly useful if working robotically with a TS15 total station.

Improved support of Disto D8 & Trupuls 360

The Bluetooth Hidden Point devices **Leica Disto D8** and **Laser Technology Trupuls 360** are now fully supported.
It is now possible to measure the slope distance and elevation angle and transfer the measurements to the **Hidden Point Measurement** panel.

In case of the **Trupuls 360** the azimuth measurement is also supported.

To use the **Trupuls 360** the **Criterion compat** device has to be selected in the **Devices (BT)** panel.

The initialisation AT-commands for the CS Field Controller internal 3.5G modem are now available to be adjusted to specific country needs.

If the CS 3.5G modem is selected inside a Interface the (**F5**) **Devce..** button is now available to access the **Edit Device: CS 3.5G modem** panel.

This panel allows access to the initialisation AT commands by pressing **F4 (AT Msg)**

It is now possible to configure a second raw data logging session on the GS10 and GS15 GNSS sensors.
This is only possible using the GS web server (not from SmartWorx Viva on the CS Field Controllers).

A second and different logging rate can be configured.

**Geo++ receiver handling**

GNSmart (Geo++) reference station networks send out a special receiver type name inside the RTCM 3.x message type 1033. These receiver type names do not conform to the IGS naming convention.

These special receiver type names are now detected from the RTCM 3.x message type 1033.

If a Geo++ receiver type has been detected it is displayed in the **Base** page tab
of the RTK Data Link Status panel.

Automatic RTK base sensor type detection

GLONASS biases are caused by the different hardware biases between the GNSS sensors from different manufacturers.

If the RTK rover is able to detect the RTK base sensor manufacturer these biases can be easily corrected.

In SmartWorx Viva v3.50, SmartRTK can detect the RTK base sensor type from the information within the RTK data even if the RTK network or the RTK base sensor does not explicitly transmit the hardware manufacturer information.

The ability to automatically detect the RTK base sensor type allows the GLONASS biases. This then improves the precision and availability of the computed fixed position when using a non-Leica RTK base is improved.

The automatic detection of the RTK base sensor type is used when Automatically detect is selected at the Antenna at base prompt in the RTK base page tab of the RTK Rover Settings panel.

![RTK Rover Settings](image)

This means the user no longer needs to explicitly choose the RTK base sensor type when working with a variety of RTK base sensor types, maybe when moving between different sites.

SmartRTK enhancement – MAX now support GLONASS

GLONASS MAC, as with GPS MAC, is an RTCM standard designed to ensure the consistency and quality in the generation of Network Corrections while providing a flexible method for quality control on the Network RTK Rover.

The Spider MAX product now supports the RTCM standardised GPS and GLONASS MAC corrections making it the only standardised network product on the market to handle inherent GLONASS issues such as GLONASS biases in a consistent manner.

In SmartWorx Viva 3.5, SmartRTK will support the new GLONASS MAC corrections to further enhance the SmartRTK position accuracy and availability in MAC supported Reference Station Networks.

A Leica GNSS rover can now be used in any MAC network and use GLONASS without any reduction in accuracy or availability.

Extensions to the OWI MSG command

Status information with regards to Devices, GSM and GPRS connectivity and the RTK data link can now be obtained using the OWI MSG command.
New voice file

The following voice file is now supported:

- Finnish

Road app

Using lines from control jobs

It is now possible to work in the Road app using lines from a control job. The Road app is no longer limited to specifically working with design data from a road job.

Additionally if a CAD file is attached to the control job, then it’s possible to import the line from the CAD file and work with it in the Road App.

If only a control job is selected, then only the **Local Line** and **Local Manual Slope** methods are available.

This would be useful when it is needed to stake out a drain line (where the location of the drain line is not related to any alignment) and the user wishes to use some of the more advanced features within Road, as opposed to say the Ref Line app.

It is also possible to work with design data from both a road job and a control job simultaneously. In this case the following methods are available.

This would be useful when it is needed to stake out a drain line (and the location of the drain line is related to an alignment).

If only a Road job is selected, then all methods are available as in SmartWorx Viva v3.50.
New Local manual slope method

The new stake and check method **Local manual slope** is very similar to the existing **Manual slope** method, except the chainage information is related to the selected hinge line rather than the centreline (found in the road job).

The new method allows the staking and checking of manually defined slopes, where the hinge line is selected from a control job and a road job is not used.

![New Local manual slope method](image)

**New Map page tab in the Define Line Task panel**

For the methods **Line**, **Local line**, **Manual slope** and **Local manual slope** it is now possible to select the line to be used within the new **Map** page tab of the **Define Line Task** panel.

![New Map page tab](image)

**Changed location for the Toggle offsets left/right setting**

The **Toggle offsets left/right** setting available in all methods (excluding slope methods and the layer method) has been moved from the **General** page to the **Offsets** page.
General Text improvements
The following improvements have been made to the terminology used within the Road app.

A Stringline is now called Line
An Individual line is now called a Local line
A Cross slope is now called a Surface grade

Automatic Working Chainage
If the current GPS or total station position is located along the alignment, then the chainage of this position relative to the current alignment is automatically entered into the Working chainage prompt the first time the Define Task panel is entered.

This is particularly useful to quickly understand the current location along the alignment.

If the GPS or total station position is not located along the alignment, then the working chainage will remain as dashes as previously seen in earlier versions.

Change to ‘delta Height’ calculation in the methods Stake& Check Surface Grade (formerly Cross Slope) and Stake & Check Crown
The ‘delta height’ displayed in the Stake page, Info page and Plot page is the difference between the measured height and the surface grade or crown.

Rail app

The Rail app now supports the use of mounted reflectors fixed on a rail bar (solar gauge).

If in the Rail design page of the Rail Configuration panel the option Perpendicular is chosen at the Apply target height option then the easting, northing and elevation of the measured point is calculated using the design cant or if enabled the manual cant.

The existing way of working (using the Plumpline option) is shown below.
The new way of working (using the Perpendicular option) is shown below.

### Tunnel app

#### Additional Drilling Rig Orientation Features

Previously in the Tunnel Configuration panel it was possible to set the Drilling rig orientation prompt to Yes or No.

It is now possible to choose the following options for the Drilling rig orientation prompt.

- **None** – This means no options for drilling rig guidance are displayed
- **Parallel to alignment** – This guides the drilling rig parallel to the alignment
- **Drill pattern** – This allows the drilling rig to be guided so that drilling is in the direction that the user defines.

If Drill pattern is selected the user input fields **Drill hz angle** and **Drill v angle** are available in the Offsets page of the Stake Face panel.
The horizontal and vertical drill direction 0 deg/gon is along the alignment centre-line.

If **Drill pattern** is selected then the **Apply drill pattern from** prompt becomes available in the **Define** panel.

If **Measured chainage** is chosen then this applies the defined drill pattern to the tunnel face at the measured chainage (same as in SmartWorx Viva v3.50).

If **Defined chainage** is chosen then this ensures the same drill direction is used between two chainages.

For example if an explosion does not explode the required amount of material, then the drilling direction as set at the original chainage (before the first blast) is used to intersect the measured surface (after the first blast) to define the next drilling point position and direction.
The Format Manager variable for Distance along profile (measured) can now be exported.

**Alignment Editor**

**Use of Map to view entered values**

It is now possible to use the Map page to easily find what values were entered for a particular line element or PI.

Depending on how the alignment was defined (using line elements or entering PIs), select the line element or PI (coordinates also displayed) in the map and then see in the Line or PI page the focus is on the respective line element or PI.

**Support of Bloss curves**

The geometric element known as a Bloss curve is now supported when creating a horizontal alignment for a road job.
Import alignment data app

When importing alignments from LandXML files, cross sections within which do not contain vertex connections are now supported.

On import the cross sections are automatically connected.

Surfaces and Volumes app

Toggling points between boundary and surface and removing points from a surface

It is now much easier to toggle points between being a boundary point or surface point, or completely remove the point.

In the Map page of the Edit Surface panel, surface and boundary points can now be selected.

When a point is selected pressing Bndry will toggle if the point is part of the boundary or not,
Pressing **Remov** will completely remove the point from the surface.

Note: The **Remov** button is also available in the map page of the **Edit Boundary** panel allowing incorrect boundary points to be removed.

**Exporting a measured surface directly as a DTM job**

Once a surface has been triangulated the **Triangulation Results** panel is shown.

![Triangulation Results panel](image)

It has always been possible to export the triangulation to a DXF file using the **DXF** button.

With SmartWorx Viva v3.50 the **Store** button allows the triangulated surface to be stored directly as a DTM job.

The DTM job can then be used in to stake relative to the DTM – in the **Stakeout DTM** app, **Stakeout DTM &pts** app and in **Road, Rail** and **Tunnel** apps.

**New app - Unlevelled setup**

A new app is available called **Unlevelled setup**.

This app which is available for the CS Field Controller and the TS11/15 Total Station allows the user to define a X,Y,Z coordinate system that is not normal to gravity.

The application allows data collection and stakeout in the non-normal coordinate system. Unlevelled setup can be used with or without the compensators activated.

With the compensators disabled, the instrument can be used on unstable platforms like barge’s and boats. Using the compensators allows the instrument to be used in fixed positions to lay out objects in a coordinate system that is not normal to gravity.

The article numbers are as follows
- For use on the TS instrument 789392
- For use on the CS instrument 789390
All other apps

Although no changes have been made to any other SmartWorx Viva App, the new v3.50 Apps must be loaded to work with the SmartWorx Viva v3.50 software.

Older version Apps cannot be used with the v3.50 SmartWorx Viva software.

Language files

The new v3.50 language files must be loaded to work with the new SmartWorx Viva software v3.50.

The following additional languages are now supported:
- Arabic

**Known Issues Resolved Within SmartWorx Viva Software**

The following issues which were present in SmartWorx Viva v3.50 have been resolved within SmartWorx Viva software v3.50.

**Sending out of old base coordinates**

In SmartWorx Viva v3.50 it was occasionally possible that after setting up an RTK base station over a known point, the previous base station coordinates were transmitted instead of the new. This is now fixed.

**Check Point**

In SmartWorx Viva v3.50 there was the following problem within the (TPS) Check Point functionality when accessed from within the survey app.

When a different point was selected to be checked and F4(Positn) was pressed then the user would return to the survey app before being able to measure a distance to the point to be checked. This is now fixed.

**Use of the F5(Calc) button**

In SmartWorx Viva v3.50 when using the F5(Calc) button to compute a new antenna or reflector height then the newly computed height was not applied to the measured point. This is now fixed.

**Use of GS10/15 as a client when used as an RTK base**

In SmartWorx Viva v3.50 when setting up the GS10/15 as an RTK base it was not possible to configure the GS15 to be a client which could connect to the NTRIP caster. This is now fixed.

**Failing to send out GGA message when RTK rover being used in an RTK network**

In SmartWorx Viva v3.50 when using a GS10/15 as an RTK rover within an RTK network, the GGA message needed by the RTK network was occasionally not sent out after turning in. It needed the RTK profile to be “re-selected” or the GGA message to be re-configured. This is now fixed.

**Use UMTS setting**

In SmartWorx Viva v3.50 when using the RTK rover wizard, the Use UMTS setting was not always stored. This is now fixed.

**Obtaining and Loading the New Softwares, Language Files and Apps Using MyWorld**

Leica Viva
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As described above, it is strongly recommended to use MyWorld to load the new v3.50 softwares to all CS Field Controllers, GS10/15 Sensors and TS11,15 Total Stations.

Once your Controllers, Sensors and Total Stations have been registered, connect the hardware to your PC and follow the on-screen instructions. The latest software versions, languages and Apps will be loaded as required.

Note 1) In order to connect CS Field Controllers, GS10/15 Sensors and TS11,15 Total Stations to the PC you need to first install the CS, GS10/15 and TS11/15 drivers. These drivers are available for download at myWorld.

Note 2) During the loading of SmartWorx Viva to the CS Field Controllers and TS Total Stations, the touch screens will need to be calibrated. Check the screen of the CS and TS occasionally during the upload process to see when this is needed. Note also that the backlight of the screen will also turn off during the upload, so you may need to tap the screen to make the screen more visible.

**OBTAINING AND LOADING THE NEW SOFTWARES, LANGUAGE FILES AND APPS USING MANUAL LOADING**

If you prefer not to use myWorld, then it is also possible to “manually” load the new softwares – in this case, please carefully read the notes below.

**Obtaining the New Firmware**

The new softwares, language files and apps can be obtained from the following sources:

- the myWorld web site (it is also possible to manually download the files from the myWorld web site as well as automatically upgrading your controllers and sensors with myWorld)
- the Viva 3.50 DVD
- your local Leica Selling Unit or Dealer

**Files which need to be obtained for upgrading a CS Field Controller**

1) The “main” SmartWorx Viva software file (for example Viva+WinCE_EN.fw)

Other files are also available if you prefer to have WinCE operating in other languages:

- Viva+WinCE_DE.fw - for WinCE in German
- Viva+WinCE_FR.fw - for WinCE in French
- Viva+WinCE_SP.fw - for WinCE in Spanish
- Viva+WinCE_ZH.fw - for WinCE in Chinese
- Viva+WinCE_JA.fw - for WinCE in Japanese
- Viva+WinCE_RU.fw - for WinCE in Russian

Once the Viva+WinCE_xx.fw file has been loaded then the required SmartWorx Viva language files should be loaded.

2) The SmartWorx Viva language file (for example SYS_LANG.sde)

The last 2 characters in the file name extension indicate which language will be loaded – for example SYS_LANG.sde is the German language file. Many more language files exist for other languages.
3) The SmartWorx Viva Apps files (for example Volumes_Surfaces.axx)
There are many apps available for use with SmartWorx Viva – some are free, some must be purchased. But remember the purchasable apps come with a 180 day free trial period.

Files which need to be obtained for upgrading a TS11/15 Total Station

The following files need to be obtained in order to upgrade a TS11/15 Total Station

2) The “main” SmartWorx Viva software file (for example TS_Viva+WinCE_EN.fw)  
Other files are also available if you prefer to have WinCE operating in other languages

- TS_Viva+WinCE DE.fw - for WinCE in German
- TS_Viva+WinCE FR.fw - for WinCE in French
- TS_Viva+WinCE SP.fw - for WinCE in Spanish
- TS_Viva+WinCE ZH.fw - for WinCE in Chinese
- TS_Viva+WinCE JA.fw - for WinCE in Japanese
- TS_Viva+WinCE RU.fw - for WinCE in Russian

Once the TS_Viva+WinCE_xx.fw file has been loaded then the required SmartWorx Viva language files should be loaded.

2) The SmartWorx Viva language file (for example SYS_LANG.sde)
The last 2 characters in the file name extension indicate which language will be loaded – for example SYS_LANG.sde is the German language file. Many more language files exist for other languages.

3) The SmartWorx Viva Apps files (for example Volumes_Surfaces.axx)
There are many apps available for use with SmartWorx Viva – some are free, some must be purchased. But remember the purchasable apps come with a 180 day free trial period.

Files which need to be obtained for upgrading a GS10/15 Sensor

The following firmware files are available for the GS10/15 sensor:

1) The “main” GS10/15 Sensor software file – GS_FW+WinCE_EN.fw

2) If you use the GS10/15 web server functionality, then language files also exist for this – WEB_LANG.sde

How to load the SmartWorx Viva files to a CS Field Controller or TS11/15 Total Station

Copy the files to the SD or CF card (it is NOT possible to use a USB stick to upgrade your CS Field Controller or TS11/15 Total Station). CF Cards cannot be used with a TS11/15 Total Station.

1. Insert the SD or CF card into your PC or card reader and copy the necessary files to be uploaded to the instrument to the System directory of the card. This can be done with Windows Explorer or any other suitable PC software.
2. Insert the SD or CF card into the CS Field Controller or TS11/15 Total Station and turn on. Ensure the battery is at least 50% full.
Loading the “main” SmartWorx Viva software file (Viva+WinCE_EN.fw)
1. From the main menu, choose 4 User and then choose menu item 4 Tools & utilities... and then choose 2 Load firmware, Apps. The Load Firmware & Apps screen is now visible.
2. In the Object to transfer list box ensure that Firmware is selected and the correct memory device is selected at the From prompt. Ensure the file name Viva+WinCE_EN.fw is visible in the Firmware prompt. If the file name is not visible then check you have correctly copied the firmware file to the System directory of the SD or CF card.

![Load Firmware & Apps](image)

3. Press F1(OK) to continue – a message will appear to remind you the controller will turn off and on during the process. Press F6(Yes) to begin the loading process.
4. The loading process will take a few minutes and the controller will turn off and on several times during the process. You will also need to re-calibrate the touch screen during the process.

Loading the SmartWorx Viva language file

If required to load additional language files then follow the instructions below.
1. From the main menu, choose 4 User and then choose menu item 4 Tools & utilities... and then choose 2 Load firmware, Apps. The Load Firmware & Apps screen is now visible.
2. In the Object to transfer list box ensure that Language is selected and the correct memory device is selected at the From prompt. Ensure a language file is visible in the Language prompt. If the language file is not visible then check you have correctly copied the file to the System directory of the SD or CF card.
3. Press F1(OK) to load the language. The loading process will take a few seconds. Once complete, a message will appear asking if it is wished to use this language.

Loading SmartWorx Viva Apps

It is now possible to load the SmartWorx Viva Apps

1. From the main menu, choose 4 User and then choose menu item 4 Tools & utilities... and then choose 2 Load firmware, Apps. The Load Firmware & Apps screen is now visible.

2. In the Object to transfer list box ensure that Apps is selected and the correct memory device is selected at the From prompt. Ensure an App file is visible in the App prompt. If the app file is not visible then check you have correctly copied the file to the System directory of the SD or CF card.

3. It is highly recommended to tick the Install all Apps check box – this will then load all Apps.

4. Press F1(OK) to load the app(s).
5. The loading process will take a few seconds. Note that a message may appear saying some apps could not be loaded – this is because some apps (stakeout, COGO and some others were already installed with the “main” SmartWorx Viva software file)

6. You will now be able to use the loaded Apps.

How to load the GS10/15 Sensor software to a GS10/15 Sensor

The GS10/15 Sensor software can only be loaded to a GS10/15 Sensor using the GS10/15 web server software. (The CS Field Controller and SmartWorx Viva cannot be used to load the GS10/15 Sensor software to a GS10/15 Sensor and are not needed during the process described below).

Copy the files to the SD card

1. Insert the SD card into your PC or card reader and copy the GS_FW+WinCE_EN.fw file to the System directory of the card. This can be done with Windows Explorer or any other suitable PC software.

2. Insert the SD card into the GS10/15 Sensor and only then turn on the sensor. Ensure the battery is at least 50% full.

Connect the GS10/15 Sensor to your PC and start the GS10/15 web server software

1. In order to obtain a connection between your GS10/15 Sensor and PC you must have previously installed the GS10/15 driver. This driver is available for download at myWorld or on any SmartWorx Viva DVD with full instructions how to install the driver.

2. Connect the GS10/15 Sensor to your PC using cable

3. Open your Internet browser

4. Enter the following address: 192.168.254.2 and the web server software will start as shown below

5. Click on User and then Load firmware to access the page shown below
6. Ensure to tick the box `.fw` file on SD Card (System folder) and then click **Load new firmware** to start the upload.
7. The loading process will take a few minutes and the sensor will turn off and on several times during the process.

**SUMMARY OF SMARTWORX VIVA SOFTWARE COMPONENTS**

Listed below is a summary of the files available relating to the new SmartWorx Viva software. The version numbers for all files is 3.50.

<table>
<thead>
<tr>
<th>Main SmartWorx Viva Software file name</th>
<th>Description</th>
<th>File date</th>
<th>Build no.</th>
<th>Maintenance date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viva+WinCE_xx.fw</td>
<td>Main CS Field Controller SmartWorx Viva software file</td>
<td>28.04.2011</td>
<td>1822</td>
<td>01.05.2011</td>
</tr>
<tr>
<td>TS_Viva+WinCE_xx.fw</td>
<td>Main TS Total Station SmartWorx Viva software file</td>
<td>28.04.2011</td>
<td>1822</td>
<td>01.05.2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SmartWorx Viva Language file names</th>
<th>Language</th>
<th>File date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sys_Lang.sar</td>
<td>Arabic</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sys_Lang.sbg</td>
<td>Bulgarian</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sys_Lang.sb5</td>
<td>Chinese (traditional)</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sys_Lang.sda</td>
<td>Danish</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sys_Lang.sde</td>
<td>German</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sys_Lang.sel</td>
<td>Greek</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>SmartWorx Viva App file names</td>
<td>App(s) which is (are) loaded</td>
<td>File date</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Alignment_Editor.axx</td>
<td>Alignment Editor</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Calculators.axx</td>
<td>COGO Calculators</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>COGO.axx</td>
<td>COGO App</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Det_Cood_System.axx</td>
<td>Determine Coord System</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Dxf_Export.axx</td>
<td>Export DXF data</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Dxf_Import.axx</td>
<td>Import DXF data</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>FieldDataExtractor.axx</td>
<td>Export FBK/RW5/RAW data</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>LandXML_Export.axx</td>
<td>Export LandXML data</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Reference_Line.axx</td>
<td>Measure to ref line</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Application Name</td>
<td>Description</td>
<td>Version</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Reference_Plane.axx</td>
<td>Reference Plane</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>RoadRunner_Importers.axx</td>
<td>Import DXF, LandXml &amp; MxGenio alignment data for RoadRunner</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>RoadRunner_Rail.axx</td>
<td>Rail - Stakeout Rail – As built check</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>RoadRunner_Road.axx</td>
<td>Rail - Stakeout Rail – As built check</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>RoadRunner_Tunnel.axx</td>
<td>Tunnel - Stakeout Tunnel – As built check</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Sets_of_Angles.axx</td>
<td>Sets of Angles</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>SimpleASCIIExport.axx</td>
<td>Export ASCII</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Stakeout.axx</td>
<td>Stakeout</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Survey_CrossSection.axx</td>
<td>Survey cross section</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>TPS_Hidden_Point.axx</td>
<td>TPS hidden point</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>TPS_Traverse.axx</td>
<td>TPS Traverse</td>
<td>28.04.2011</td>
</tr>
<tr>
<td>Volumes_Surfaces.axx</td>
<td>Volume Calculations</td>
<td>28.04.2011</td>
</tr>
</tbody>
</table>
After loading the files the software component version numbers shown below can be checked in the About Leica Viva panel within SmartWorx Viva. Access from main menu with 4 User and then 5 About Leica Viva).

**SUMMARY OF GS10/15 SENSOR SOFTWARE COMPONENTS**

Listed below is a summary of the files available relating to the GS10/15 Sensor software. The version numbers for all files is 3.50.

<table>
<thead>
<tr>
<th>Main GS10/15 Sensor Software file name</th>
<th>Description</th>
<th>File date</th>
<th>Build no.</th>
<th>Maintenance date</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS_FW+WinCE_EN.fw</td>
<td>GS10/15 Sensor software file</td>
<td>01.10.2010</td>
<td>1822</td>
<td>23.10 2009</td>
</tr>
</tbody>
</table>

After loading the main firmware file the software component version numbers shown below can be checked in the About Leica Viva panel within SmartWorx Viva. Access from main menu with 4 User and then 5 About Leica Viva).
SUMMARY OF SMARTWORX VIVA SIMULATOR COMPONENTS

There is also a new CS Viva Simulation available. This can be downloaded from myWorld or is available on the Leica Viva DVD.

After installing the simulator the version numbers shown below can be checked in the About CS Simulator dialog. Access this dialog from the Help menu item and then About CS Simulator.