

WebSteering

Stay ahead of the drill bit

Release Notes & Install
Instructions for
GVERSE WebSteering 2017.3.1



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Introduction

LMKR is pleased to announce the release of the GVERSE® WebSteering 2017.3.1 software. This document provides an introduction to the WebSteering application features and benefits, guides you through the installation and license configuration processes of the WebSteering software. It also lists the system requirements necessary to install and run the application.

What is GVERSE WebSteering?

GVERSE WebSteering application is designed specifically to help geoscientists' geosteer horizontal wells in thin pay zones and to direct the bit in real time.

The GVERSE WebSteering application installs into the web browser with a few button clicks. Then it's a simple process to load LWD and surveys from the rig, add type logs and subsurface grids from GeoGraphix®, and start steering. At any point during this process, LWD data can be sent back to GeoGraphix for further analysis using GeoGraphix's feature-rich suite of tools. GVERSE WebSteering runs even when disconnected from your corporate network so whether you are in the office or working remotely, you can define your target surface and send updated drilling targets to the rig. The WebSteering application is part of the GVERSE application suite by LMKR (http://www.lmkr.com/gverse).

LMKR GVERSE consists of geoscience and engineering solutions focused on workflow optimization and enhancing productivity of teams working on diverse geological and geophysical projects. These applications help cut the processing time required for interpretations resulting in fast, easy to use scalable tools that are inter-operable with other known geoscience software suites; enabling a connected multi skilled workforce.

Main Features

The main features of the WebSteering application are as follows:

- A web-based application designed to work when it is connected to a GeoGraphix server as well as when it is not.
- Ability to help geologists build a more accurate target surface that can be used to drill the next well.
- This application can also be connected to a WITSML Server. Therefore, data loaded from the rig can be directly saved to GeoGraphix.
- Easy installation.
- Technical Geosteering based on Relative Stratigraphic Depth concepts (no distortion like vertical section projection).
- Capable of converting an LAS file into a Type Log.
- Automatically calculates True Vertical Depth (TVD), Northing, Easting and Vertical Sections from MD,
 Inclination and Azimuth.

- Directional survey calculations and related minimum-curvature interpolations for geosteering and graphing.
- Graphic display of data with full zooming capabilities and coupling of graphs including LWD,
 Wellbore directional survey data, and Type Log.
- Segment addition and management.
- Display can be customized e.g. line colors, min/max scale limits, linear scale format etc.
- Has the capability to process files that have been dragged-and-dropped on the interface.
- Requires GeoGraphix® Discovery.

Benefits

The GVERSE WebSteering application offers you the following benefits:

- **Flexible:** Flexibility in the location where you geosteer a horizontal well from in the office, at home, or in the field
- **Simple:** Simplified Data Entry for LWD and survey data using drag-and-drop or WITSML. Data is transferred into LMKR GeoGraphix projects via the web with one button click.
- Integration with GeoGraphix: Integration with GeoGraphix applications, including selection of type
 logs and gridded surfaces from the GeoGraphix database, and use of WebSteering interpretations in
 GeoGraphix to produce more accurate target surfaces.

System Requirements

The following sections list the system requirements for the WebSteering application.

Software

The software that must be installed on the system running the WebSteering application are as follows:

- GeoGraphix Discovery 2016.1.5, 2017.1 with hotfix (HF1), 2017.2 or 2017.3
- Microsoft .NET Framework 4.2 or greater
- LMKR License Management Tool 2016.1 for WebSteering license
 The LMKR License Management Tool (LMT) must be installed to configure the WebSteering license.
- Adobe Reader for selected help files (optional)

Note: It is recommended that you run the WebSteering application on Internet Explorer 11.x.x and Google Chrome 70.x.x.x or later.

Operating System

To run the WebSteering application, you need the Windows® 7 or Windows® 10 operating systems installed on your system.

Note: It is recommended to use the latest Microsoft service packs and security patches.

Hardware

The hardware requirements for the WebSteering application are as follows:

- Quad 2.4 GHz 64-bit Intel[®] class or better
- 4 GB RAM or greater
- 1024x768 graphics resolution

Licenses

The following licenses are required to run the WebSteering application:

- GVERSE WebSteering 2017.3 requires license version 2017.1
- GeoGraphix Discovery 2016.1.5 requires license version 2016.1
- GeoGraphix Discovery 2017.1/2017.2/2017.3 requires license version 2017.1

Note: Refer to the LMKR Customer Support > Knowledge Center > <u>System Requirements</u> page for up-to-date information on the requirements.

Fixed Issue

ID	Fix Description
183630	Fixed the mismatched segment display between WebSteering and GeoModeling applications. When a fault segment was updated in WebSteering, the offset of the adjacent segment was not updated automatically. When such a segment was exported to smartSTRAT, a mismatch was found. This issue has been fixed. Hence, when a fault is updated in a segment, the adjacent segment's offset is reset automatically.

Installation

This section guides you through the installation and uninstallation processes of the WebSteering application.

Installing GVERSE WebSteering

Prior to installation, please make sure that supported version of GeoGraphix is installed on the system. To install the WebSteering application:

- 1. Download the application from the **LMKR Support Portal >** <u>Downloads</u> page.
- 2. Navigate to the location where you downloaded the installation setup.

Note: Before starting the installation, please make sure that all open applications are closed.

3. Double-click the setup icon for the WebSteering application setup executable file (EXE).

The Installation Wizard dialog displays.

4. Click Next.

The END USER LICENSE AGREEMENT dialog displays.

5. If you agree to the license agreement, then click **Install**.

The installation process initiates and the dialog displays the installation progress.

6. When the installation finishes, the Exit dialog displays, click **Exit** to complete the installation.

Uninstalling GVERSE WebSteering

To uninstall the WebSteering application:

1. From the Windows Start menu, select Control Panel.

The Control Panel window displays.

2. From **Programs**, select **Uninstall a Program**.

The Programs and Features window displays.

3. In the list of applications, double-click **GVERSE WebSteering**.

The dialog to uninstall the WebSteering application displays.

4. Click Uninstall.

The uninstall process initiates and the dialog displays the uninstallation progress.

5. Once the WebSteering application is uninstalled from your system, the 'Uninstallation complete' message displays, click **Exit** to finish the uninstallation.

Licensing

To run GVERSE WebSteering application, you need a valid license. Please contact COS@Imkr.com to request a license. Once you receive the license, use LMT to configure it for a single system or to set up a network license on a server. This can be done either before or after the WebSteering application installation.

If a license file is not configured, then the application does not open and an error message displays. In this case, you must configure the license using LMT, and then re-launch the WebSteering application.

This section provides basic information on how to configure the WebSteering application license using LMT. For detailed information on how to install LMT and configure the WebSteering license, please refer to the LMT installation document.

Configuring the License

To configure the WebSteering application license:

- 1. Obtain your license file from COS@lmkr.com.
- 2. Download LMT from the LMKR Support Portal > <u>Downloads</u> page.
- 3. Install LMT. Once installed, launch LMT from **Start >> All Programs >> LMKR >> Licensing >> License Management Tool.**

The LMKR License Management Tool Welcome dialog displays.



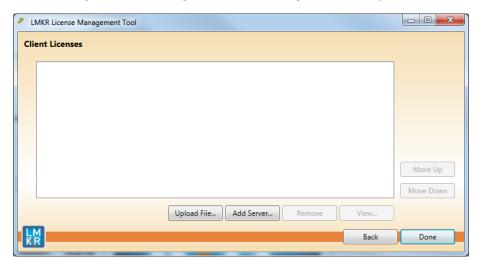
- 4. In this dialog, you can either:
 - Click I want to configure client licensing for this computer to configure a client side license on the current system.

Or

 Click I want to setup or manage a network license server on this computer to <u>setup a license</u> server.

Configure a Client Side License

After clicking I want to configure client licensing for this computer, the Client Licenses dialog displays.



- 5. In this dialog, you can either:
 - Click Upload file to <u>select a standalone client license file</u>.

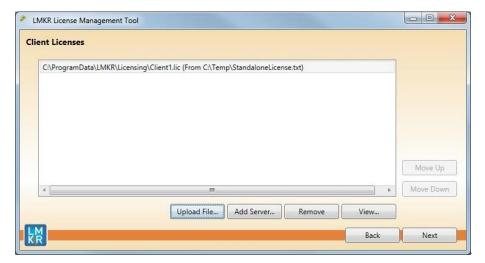
Or

Click Add Server to connect to an existing license server.

Select a Standalone Client License File

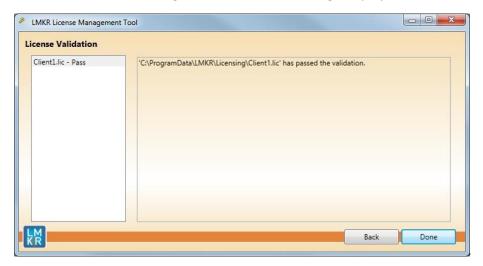
6. Click **Upload File**, browse to select the license you received from LMKR, and then click **Open**.

The selected license displays.



7. Click Next.

On successful license configuration, the 'Pass' message displays as shown in the image below.



Note: If an error occurs, please contact support@lmkr.com for assistance.

8. Click **Done** when finished.

Connect to an Existing License Server

6. Click Add Server.

The Add Server dialog displays.

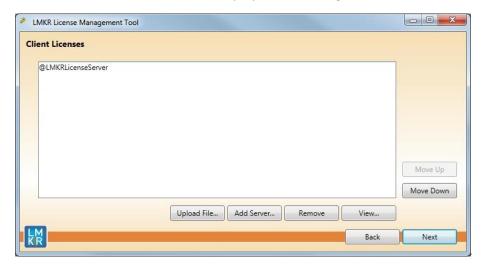


- 7. In this dialog, specify the following:
 - Port Number: If a specific port is required, clear the Auto check box, and then enter the port number that matches the port number being used by the LMKR license server (contact your network administrator for more information).
 - **Server Name:** Enter the name or the IP address of the license server.

Note: By default, the Auto option is selected where the port is automatically detected. This option is used only when the license server uses a port from within the block of ports specific for Flexera FLEXnet Licensing ranging from 27000 to 27009.

8. Click OK.

The selected LMKR license server displays in this dialog.

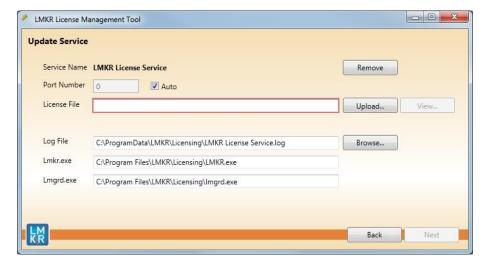


- 9. Click Next.
- 10. Click **Done** when finished.

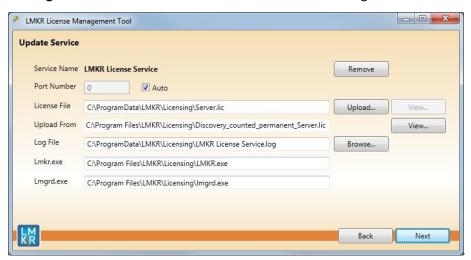
Setup a License Server

This is only performed on the system running the LMKR license server.

After clicking I want to setup or manage a network license server on this computer, the Update Service dialog displays.

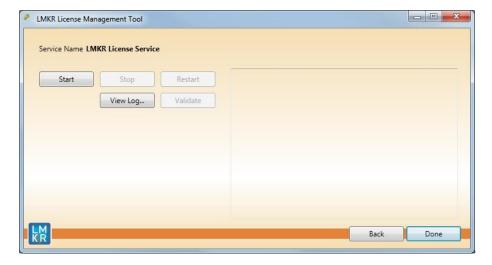


- 5. In this dialog, specify the following:
 - Port Number: If a specific port is required by your network administrator, clear the Auto check box, and then enter the port number.
 - **License File:** Click **Upload** to upload a new license file. The license file that is uploaded is renamed as Server.lic. This file is saved in the C:\ProgramData\LMKR\Licensing folder.
 - Log File: Click Browse to select a location to save the log file.



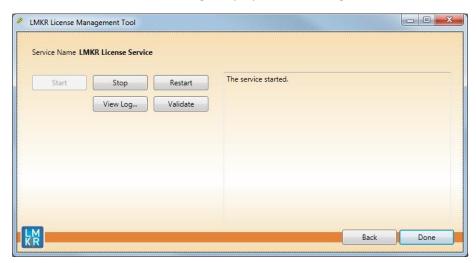
6. Click Next.

The LMKR License Server is then installed as a Windows Service.



7. Click **Start** to initiate the **LMKR License Service**.

The 'The service started' message displays on the dialog.



Note: If an error appears, contact support@lmkr.com for assistance.

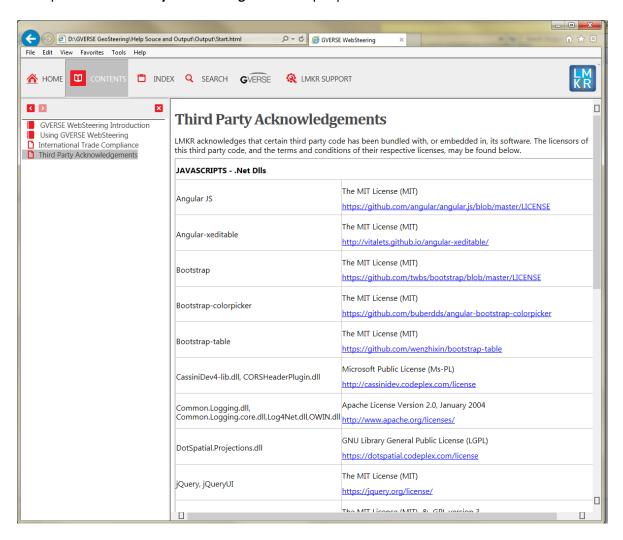
8. Click **Done** when finished.

Third Party Applications

LMKR acknowledges that certain third party code has been bundled with, or embedded in its software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found in the WebSteering application Help file.

To access the third party license agreements:

- 1. Click **Help** from the main menu bar.
- 2. Open the Third Party Acknowledgements help topic.



International Trade Compliance

This application is manufactured or designed using U.S. origin technology and is therefore subject to the export control laws of the United States. Any use or further disposition of such items is subject to U.S. law. Exports from the United States and any re-export thereafter may require a formal export license authorization from the government. If there are doubts about the requirements of the applicable law, it is recommended that the buyer obtain qualified legal advice. These items cannot be used in the design, production, use, or storage of chemical, biological, or nuclear weapons, or missiles of any kind.

The ECCNs provided (if available) here represent LMKR's opinion of the correct classification for the product today (based on the original software and/or original hardware). Classifications are subject to change. If you have any questions or need assistance please contact us at support@lmkr.com.

Under the U.S. Export Administration Regulations (EAR), the U.S. Government assigns your organization or client, as exporter/importer of record, responsibility for determining the correct authorization for the item at the time of export/import. Restrictions may apply to shipments based on the products, the customer, or the country of destination, and an export license may be required by the Department of Commerce prior to shipment. The U.S. Bureau of Industry and Security provides a website to assist you with determining the need for a license and with information regarding where to obtain help.

The URL is: http://www.bis.doc.gov.

Definitions

ECCN - Export Control Classification Number - The ECCN is an alpha-numeric code, e.g., 3A001, that describes a particular item or type of item, and shows the controls placed on that item. The CCL (Commerce Control List) is divided into ten broad categories, and each category is further subdivided into five product groups. The CCL is available on the <u>EAR Website</u>.

The following illustration is a sample:



- C. Material D. Software
- E. Technology

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The ECCN number (if available) and License Type for this product are included in the table below. Also included is the date the table was last updated.

Product/Component/R5000	EAR Number	License	Last Updated On
GVERSE WebSteering	EAR99	EAR	11/23/2015

Contacting LMKR Support

LMKR is committed to providing the highest level of technical customer support in the industry. With an average tenure of more than thirteen years, our highly trained and experienced staff of technical analysts is comprised of geoscientists, engineers, land professionals, petrophysicists, and system specialists.

Please refer to our Customer Support timings mentioned below to ensure that you have access to our support analysts assigned to your region. When getting in touch with LMKR support, please remember that real-time support will not be available during bank holidays or after office hours. If you do get in touch with LMKR Support outside of work hours, please leave a voice message with a brief description of the issue that you are facing. Your voice message will be used to automatically create a support case for you. This will enable our analysts to attend to your issue and provide you with a resolution as soon as possible

North and South America	Europe, Middle East & Africa
Monday – Friday 8 am-6 pm CST* Toll Free (US/Canada): +1 855 GGX LMKR (449 5657)	UK: Monday - Friday 8 am – 5 pm* +44 20 3608 8042
Colombia: +57 1381 4908 United States: +1 303 295 0020 Canada: +1 587 233 4004	UAE: Sunday - Thursday (Dubai GMT+4) 8 am - 5 pm* +971 4 3727 999
*Excluding bank holidays	*Excluding bank holidays
Asia Pacific & Australian Continent	Southwest Asian countries
Malaysia: Monday - Friday (Kuala Lumpur GMT+8) 9 am – 6 pm* +60 32 300 8777	Pakistan: Monday - Friday (Islamabad GMT+5) 9 am - 6 pm* +92 51 209 7400
*Excluding bank holidays	*Excluding bank holidays

Helpful Links

Name	Website Address
LMKR Homepage	http://www.lmkr.com
LMKR GVERSE	http://www.lmkr.com/gverse
LMKR Support Portal	http://support.lmkr.com