



Geophysics

Powerful seismic interpretation for your play

2017.2

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Introduction

LMKR is pleased to announce the release of the GVERSE™ Geophysics 2017.2 software.

This document provides an introduction to the Geophysics software features and benefits. It also lists the system requirements necessary to install and run the software.

What is GVERSE Geophysics?

GVERSE Geophysics is a new, intuitive and easy-to-use seismic interpretation system with powerful 3D visualization and interpretation capabilities. GVERSE Geophysics enables geoscientists to execute end-to-end workflows for basic interpretation and more advanced geophysical tasks. The Geophysics software 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.

Main Features

- View 2D and 3D seismic data in highly optimized 3D viewer
- Visualize volumes with voxel rendering
- View horizons, faults, wells and associated well data, ISOMap layers and much more in 3D
- Big data support with the new LOD format
- Powerful color palette control with histogram and selective transparency
- Blending to visualize data from multiple versions simultaneously
- Interpret horizons and faults directly in the 3D view
- View surveys, lines, wells, surfaces, layers on highly customizable maps
- Seamless interactivity between map and 3D views
- Import external cubes and use as your velocity model
- Use velocity model for depth conversion of horizons
- View velocity values on seismic sections in real time
- Work on multiple screens with dockable windows
- Save and share work as sessions
- Full backward compatibility for existing interpretations

Benefits

Blazing Fast 3D Visualization: GVERSE Geophysics introduces a brand-new 3D viewer that is built on an engine designed and optimized for seismic and related data. It's never been easier to view your seismic sections, horizons, faults, wells and wellbore data, and much more in the 3D space. The new LOD format does not compromise performance even with very large seismic files. And with features such as voxel rendering and co-blending, you can visualize subsurface structures like never before, gain more insight into your data, and make better decisions for your play.

Interpretation in 3D: Pick your horizons and faults directly in the 3D viewer. Mark seeds picks and run the auto-trackers directly from the 3D view. With all horizon and fault picking and editing modes available, you can quickly mark your structures and instantly see what they look like in the 3D space.

Do More with Your Velocity Models: Import external velocity cubes and use them as your velocity model, visualize velocity values directly on your sections and horizon surfaces, or use the velocity model for T/D conversion of horizons. The velocity modelling improvements will help you get a more accurate picture of the subsurface.

Easy to use, Intuitive Workflows: Leverage the latest in technology to minimize your learning curve and focus on what's important. No more digging through tons of menus and dialogs to find what you are looking for. The multi-screen enabled, ribbon-based interface puts everything you need right in front of you.

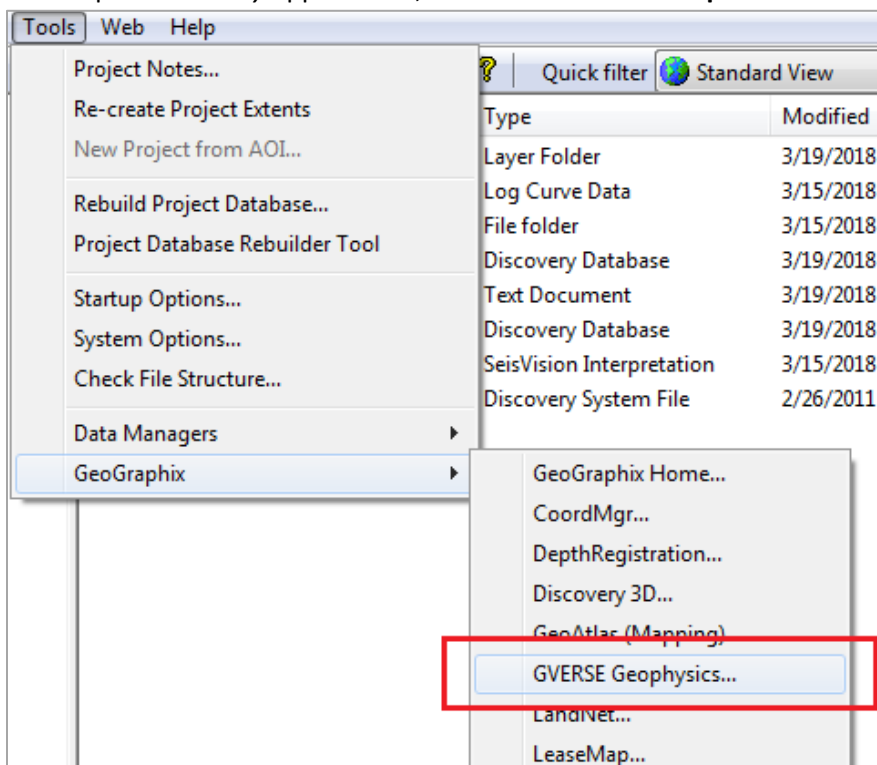
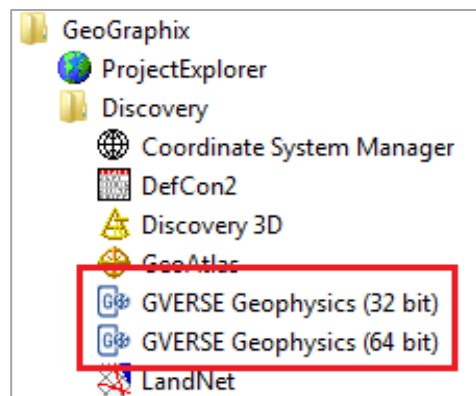
Installing GVERSE Geophysics

GVERSE Geophysics along with its 3D module, is installed seamlessly as part of the GeoGraphix installation. For details, refer to the GeoGraphix Installation Guide.

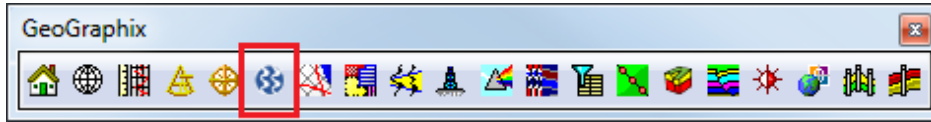
Launching GVERSE Geophysics

After successful installation of GeoGraphix, GVERSE Geophysics can be launched in any of the following three ways:


- From the **Start** menu, select **Start >> Programs >> GeoGraphix >> Discovery >> GVERSE Geophysics (32 bit & 64 bit)**
- From the menu bar of ProjectExplorer or other GeoGraphix *Discovery* applications, select **Tools >> GeoGraphix >> GVERSE Geophysics**



- Click the **GVERSE Geophysics** button  on the GeoGraphix toolbar in any other Discovery application.



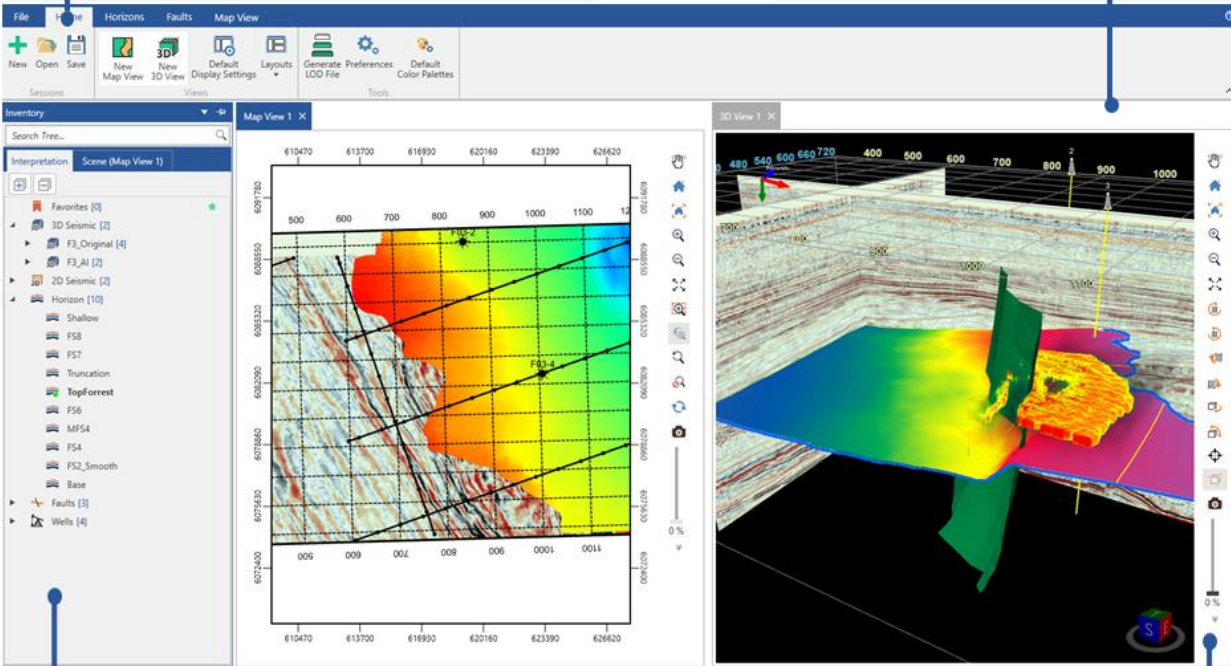
Launching 3D Module of GVERSE Geophysics

To open the 3D module of GVERSE Geophysics, from the 3D View toolbar, click the **Launch 3D View** button .

The 3D module of GVERSE Geophysics launches as a separate instance from within the main GVERSE Geophysics interface. Once launched, all data in the interpretation can be accessed from within the 3D module. You can also use the 3D View toolbar to view seismic sections and interpretation objects such as horizons and faults, in the 3D module directly from the main map.


3D Module Tabs
Provide access to File menu, Home, Horizons, Faults, Map View and 3D View tabs

Map/3D Views
Provide visualization and control of seismic objects available in the active survey



Inventory Pane
Provides access to all the seismic data, picked horizons and faults, well data and mapping grids through Interpretation and Scene trees

Map/3D View Sidebar
Allows access to all the common options that can be applied to Map/3D view

- Note:** To access the online help for the 3D module, either press **<F1>** or click the **Help** button  located at the top right corner.

System Requirements

The following sections list the system requirements.

Software

- GeoGraphix Discovery 2017.2
- LMKR License Management Tool 2016.1 for GVERSE Geophysics license
The LMKR License Management Tool (LMT) must be installed to configure the Geophysics license.
- Microsoft DirectX End-User Runtime (June 2010)
- Microsoft® .NET Framework 4.5.1
- Adobe Reader for selected help files (optional)

Operating System

- Windows® 7 Professional x64
- Windows® 7 Enterprise x64
- Windows® 7 Ultimate x64
- Windows® 10 Professional x64
- Windows® 10 Enterprise x64

Note: It is recommend to use the latest Microsoft® service packs and security patches. Geophysics specifically requires Windows platform update KB2670838 installed on the machine, in case the operating system is Windows 7.

Hardware

Minimum

- 2.4 GHz 64-bit processor
- 8 GB RAM
- Any DirectX 11.1 capable card comparable with Nvidia® GeForce GTX 430 with 1GB VRAM. DirectX is not shipped with GeoGraphix 2017.2. You must download and install it separately.
- 1366 x 768 screen resolution

Recommended

- Quad 3.2 GHz 64-bit processor
- 32 GB RAM
- Any DirectX 11.1 capable card comparable with Nvidia® GeForce GTX 1060 with 6GB VRAM. DirectX is not shipped with GeoGraphix 2017.2. You must download and install it separately.
- Solid state hard disk
- 1920 x 1080 screen resolution

Licenses

The following licenses are required to run the GVERSE Geophysics:

- GeoGraphix Discovery license version 2017.1
- GVERSE Geophysics license version 2017.1


Notes:

- Users upgrading from GeoGraphix 2017.1 to GeoGraphix 2017.2 require a new Geophysics license. New users or users upgrading from other versions of GeoGraphix also need valid LMKR licenses.
- Refer to the LMKR Customer Support Portal (<http://support.lmkr.com/>) for up-to-date information on the requirements.

Third Party Applications

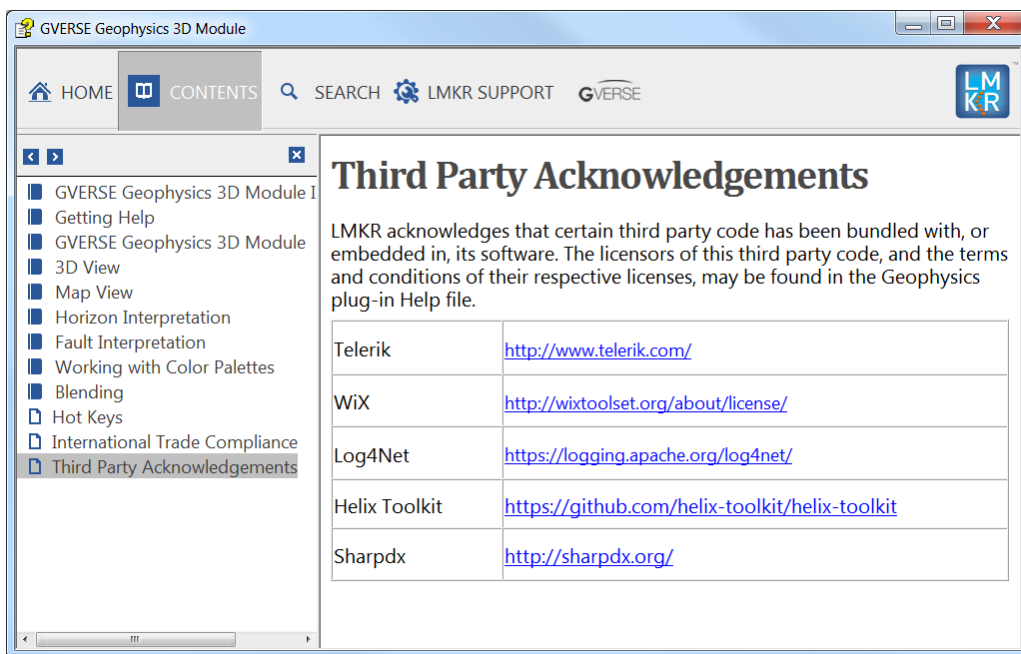
LMKR acknowledges that certain third party code has been bundled with, or embedded in, its software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found in the Geophysics help file.

To access the 3rd party license agreements:

1. Either press <F1> or click the **Help** button  located at the top right corner.

The Help window displays.

2. In the **Contents** pane, locate the **Third Party Acknowledgements** help topic as shown in the image below.



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 here (if available) 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.

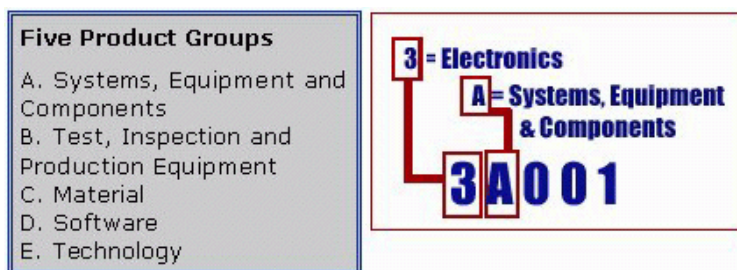
Under the U.S. Export Administration Regulations (EAR), the U.S. Government assigns your organization or client, as exporter/importer of record, responsibility for determining the correct authorization for the item at the time of export/import. Restrictions may apply to shipments based on the products, 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 [EAR Website](#).

The following illustration is a sample:



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 Geophysics	EAR99	EAR	28/03/2018

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
<p>Monday – Friday 8am-6pm CST Toll Free (US/Canada) : +1 855 GGX LMKR (449 5657) Colombia : +57 1381 4908 United States : +1 303 295 0020 Canada : +1 587 233 4004 *Excluding bank holidays</p>	<p>UK Monday - Friday 8am - 5pm +44 20 3608 8042 *Excluding bank holidays</p> <p>UAE Sunday - Thursday (Dubai GMT+4) 8am - 5pm +971 4 3727 999</p> <p>Egypt Sunday - Thursday +0800-000-0635 *Excluding bank holidays</p>
Asia Pacific & Australian Continent	Southwest Asian countries
<p>Malaysia Monday - Friday (Kuala Lumpur GMT+8) 9am - 6pm +60 32 300 8777 *Excluding bank holidays</p>	<p>Pakistan Monday - Friday (Islamabad GMT+5) 9am - 6pm +92 51 209 7400 *Excluding bank holidays</p>

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