TerraLens®
Real-Time Geospatial SDK

Build Beautiful, Perform-ant Geospatial Applications

TerraLens® is a highly performant next-gen geospatial and display SDK designed for easy project integration and quick implementation in virtually any development environment. TerraLens provides real-time 2D and 3D mapping with powerful data visualization tools. TerraLens also includes a flexible and full-featured UI development toolset that, when coupled with QT, includes advanced multi-touch support.

Reduce Risk and Deliver Performance

TerraLens® reduces the risk and complexity of application development by providing a comprehensive API that transforms low-level platform graphics into a powerful, full-featured situational display engine.

Developers can leverage a mature, purpose-built SDK to deliver the features and performance they need, instead of having to develop a display framework from scratch. The TerraLens API has been evolved and tested over decades of development, and includes hundreds of powerful features that meet the most exacting operating requirements. This allows your team to focus on your system-unique requirements, significantly reducing development time, and project risks.

The Flexibility You Need

The TerraLens layered display approach allows developers to layer map data with multiple sources of geospatial data to craft complex situational displays. The system incorporates data from multiple sources, including real-time data feeds, databases, maps and images. Any number of data sources can be visually fused in the situation display, independent of their source.
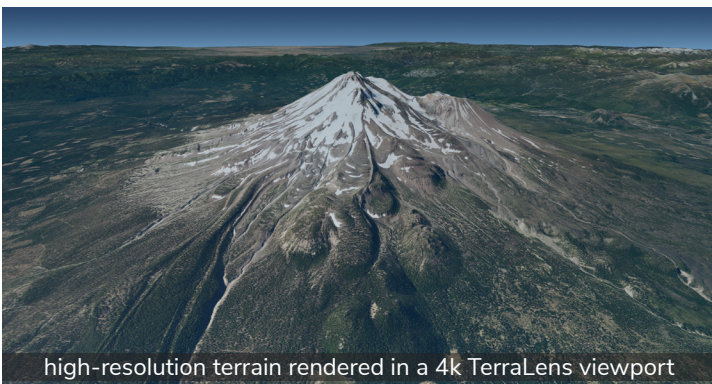
high-resolution terrain rendered in a 4k TerraLens viewport

TerraLens lets developers fully customize all elements of their application display and interface, while providing real-time performance and extreme precision. Using OpenGL context sharing, TerraLens views can be displayed as part of a composite image, allowing for complete customization of the user interface. TerraLens can easily be integrated with an existing application, and is compatible with most GUI toolkits, including Qt, Qt Quick, QML, and Java.

To help with quick prototyping and UI / UX development, we have also created an application development framework called TerraLens UI, which includes a basic application framework, and a library of components, including 2D and 3D map viewports, and document and video viewports, that can be easily styled and configured to create a functional application very quickly. TerraLens is standards-based, and platform independent, and includes libraries, documentation, and sample code for most operating systems and multiple development environments.

Use Your Choice of Development Environment
TerraLens® supports a broad variety of platforms, operating systems, development environments (IDEs), and compilers.

Ingest Most Map Formats
Ingest virtually any map data format - many without prepro-cessing, or use TerraLens Creator to prepare map data.

Display Real-Time Sensor Data
Easily add new sensor data feeds using a publish-subscribe middleware such as InterCOM DDS.

Visualize Geo-Located Big Data Sources
Integrate big data sources in your application using your choice of data connector.

Create Unlimited Viewports and Overlays
Create unlimited 2D and 3D viewports and overlay layers to create effective and attractive application displays.

Distribute Your Map Data
Distribute map data using your choice of WMTS Server, or use TerraLens Server to deliver any combination of map layers.

Build Once and Deploy to Multiple Platforms

TerraLens supports more platforms, operating systems, and form factors than any other mapping SDK or geospatial library. With TerraLens, you can easily deploy your application to multiple platforms and form factors, and be confident of the same standard of performance – whether your application is running on a desktop, tablet, smart phone, or other dedicated hardware.

Features

- Precision terrain mapping to within 2.5cm/pixel
- High-performance plotting of up to 100 000 simultaneous tracks
- Support for ARM and other low-power architecture
- Unlimited 2D and 3D viewports
- Support for unlimited layer overlays for data visualization
- Cutting-edge HMI / UI framework with multi-touch support
- Can update multiple display layers at different rates
- Supports over 20 spheroid and over 30 map projections
- Supports most map data formats and multiple coordinate systems
- High-performance 3D terrain engine
- Consistent 30+ FPS frame rate at 4K resolution
- Support for custom symbology, ships with MIL-STD-2525B/C

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