



LFM

Continual Innovation.
Support.

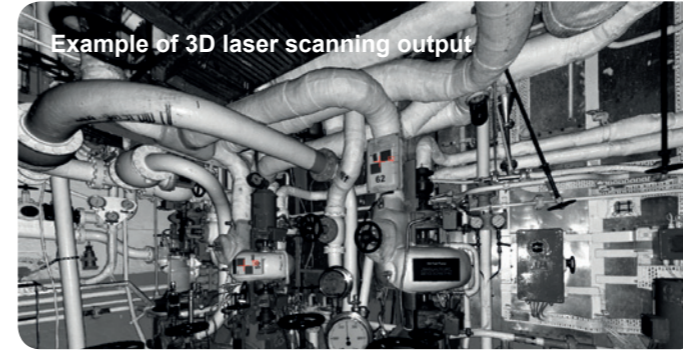


Why 3D Laser scanning?

For Brownfield projects, the use of laser scanning mitigates project risks and reduces costs by providing the designer with a detailed, accurate “as-built” knowledge of the site. This improves efficiency and reduces costly and time consuming mistakes. For example, mis-routing a pipe through an existing feature can have large knock-on effects in the fabrication, delivery, installation, redesign and modification on site.

By utilising this powerful technology, the user is able to spend less time on site capturing as-built information, dramatically reducing project timescales and costs. Project timescales can also be reduced during the design and construction phases by up to 80% and 20% respectively. Overall schedule compressions of 10% have been reported.

When correct work flows are followed, an 80% reduction in cost for capturing as-built data can be achieved with laser scanning compared to traditional means.



Outside the EPC environment, Owner / Operators are now also recognising the benefits of 3D laser scanning. Laser scanning allows for compliance with health and safety regulation; remote data capture is possible and less elevated work is required. Rapid data collection has beneficial implications for the amount of time and the number of people exposed to potential hazards on site.

Off-site, Owner / Operators continue to benefit from 3D laser scanning as the accurate, high resolution, high quality data forms an integral part of their asset management strategy and downstream work processes. Laser scanning data allows for the management of building data throughout its life cycle. It aids communication and collaboration between architects, engineers, builders and owners.

The features of LFM allow the user to experience the time and cost savings permitted by 3D laser scanning and to enhance these to previously unachievable levels.

The benefits of 3D Laser scanning can not be fully realised without the best in 3D Laser scanning software.



Why LFM?

Work intuitively and efficiently within the powerful *BubbleView™*

Project critical tasks such as as-built modelling or clash detection can be performed within a panoramic true-to-life *BubbleView™*. LFM is driven by the *BubbleView™*. The *BubbleView™* is so powerful that the user has the impression of being on-site. It is incredibly intuitive and provides previously unachievable levels of efficiency.

LFM is able to read numerous 3D laser scanning formats

Our hardware-vendor neutral approach has cost saving implications for LFM customers since only one software solution is required even when there are multiple hardware systems. If the hardware system changes, the software solution does not have to. This avoids expensive switching costs.

Intuitive to use

LFM can therefore be assimilated into a users existing work flow with minimum disruption.

Customers who are new to LFM can quickly receive the full benefit provided by this highly efficient software package.



LFM is continually innovated

New software versions have been released in order to take account of customer feedback which is actively sought and implemented into LFM. New products have also been released to meet changing needs and to quickly react to technological developments and social issues, for example the issue of global work share was quickly resolved with the launch of LFM NetView. LFM Customers can be confident that LFM will be able to meet their needs now and in the future.

LFM customers are world renowned, they include amongst others; Owner/Operators such as BP, Shell, British Energy, BASF, Total and Saudi Aramco and EPC's such as AMEC, Jacobs Engineering and Fluor.

LFM was one of the first 3D laser scanning software packages to be created. Since its initial inception in 1998, LFM has been engaged in a continuous cycle of development.

It is therefore very well placed to meet customer needs.

Excellent Support

Where a large capital retrofit project may cost in the region of \$500 million, reductions in project timescales represent considerable cost savings. Therefore rapid access to technical support if or when it is needed is incredibly important.

In a recent survey, LFM customers rated the support they had received in terms of availability, reliability, responsiveness, competence and empathy. 90% felt the support they had received was good or very good across these five dimensions. We will strive to improve this further.



LFM Products

LFM Register
LFM Server
LFM NetView
LFM Modeller

LFM Hosting Service



LFM Register

Features like Bundle Adjustment lead to higher levels of accuracy that until now have been associated with traditional survey instruments. LFM Register allows the user to 'bundle adjust' laser scan data. Trials have shown that as much as 50% less control work may be needed when using bundle adjustment. In some scenarios, bundle adjustment can be used in place of a control survey, for example in explosive or hazardous environments where it is not possible to use an electronic total station.

Tools like Automatic Registration and Target Prediction make 'the search for targets' process redundant, providing additional opportunities to reduce project timescales and costs.

Data registered in LFM can be used with server packages from other laser scanning software vendors.

LFM Register moves the registration process off the critical project path so that clients can quickly receive the full benefit from laser scan data.



LFM Server

LFM is hardware and CAD-vendor neutral. Close relationships are maintained with all of the leading CAD vendors, allowing our customers to benefit from a seamless interface between LFM and any number of CAD packages. Therefore staff only need to be trained in one laser scanning software package even where multiple CAD deliverables are required.

LFM customers are also able to benefit from *Infinite Core™* database technology. *Infinite Core™* technology is unique, it allows an unlimited number of registered laser scans to be stored in a single database without compromise. Access speed is unaffected and individual laser scans remain unaltered and intact. Every measured co-ordinate is stored ready for rapid retrieval by the user. Automatic Clash detection tools list every interference between the scanned site and a proposed CAD design. Each clash can be reviewed in a 360° photographic *BubbleView™*.

A modular approach allows the customer to 'build' their own package including only features that they require, this further ensures that LFM Server is able to meet individual needs.

LFM is able to interface with leading CAD packages from Autodesk, AVEVA, Bentley, Intergraph and VR Context.



LFM NetView

LFM NetView is innovative in its approach to sharing 3D laser scan data online; LFM NetView connects back to the master LFM Server data set. This approach ensures that resolution of 3D laser scan data is maintained when accessed remotely. Alternative Internet based products involve the transfer of laser data, inevitably necessitating a loss of resolution.

LFM NetView allow users to do more than just 'view' and 'share' laser scan data over the Internet; it is intuitive and requires no formal training while simultaneously offering more functionality than simple web-enabled viewing packages. A Master-Slave mode allows users to conduct live, project reviews with colleagues or clients remotely. An increasing trend to work globally, in parallel with travel budget restrictions poses a problem that LFM NetView is able to resolve.

The LFM NetView approach is unique; for the first time end-users can remotely and rapidly access huge databases containing an unlimited number of scans for free.





LFM Modeller

Using LFM Modeller, a pipe-elbow-pipe branch can be modelled in just four clicks of the mouse. 3D models created in LFM Modeller are also exceptionally accurate and are relied upon by leading Owner / Operators to document their as-built condition for safety, inspection, maintenance and training purposes.



Use *BubbleView™* Modeling to rapidly create intelligent, accurate 3D models.



LFM Hosting Service

An LFM Server hosting service provides a secure ultra-high performance facility where service providers, EPC's and Owner / Operators can host a wealth of 3D laser scan data relating to an asset. Users can be granted access to this invaluable data via LFM NetView. The hosting service is particularly appealing to Owner / Operators since for an initial set up cost and a low quarterly fee, they will receive an unlimited number of free LFM NetView software seats.

A new hosting service represents an invaluable opportunity for Owner / Operators



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