



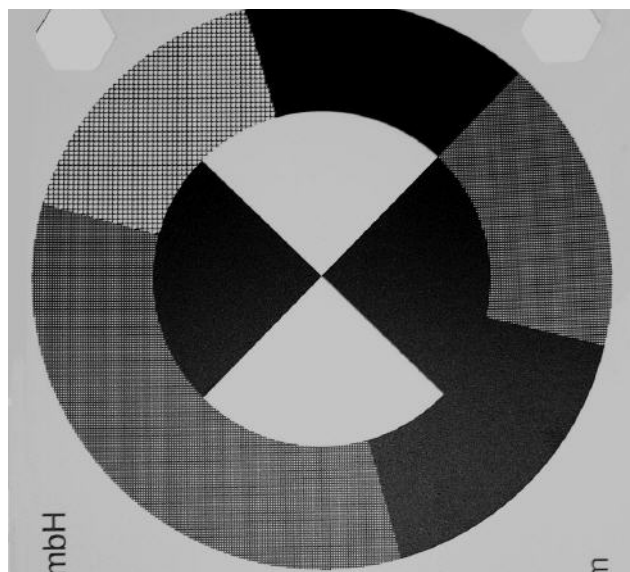
Z+F UK specialises in 3D laser scanning. Our LFM software development team uses its experience to solve complex problems, yet making intuitive and powerful tools. User feedback is constantly sought and integrated into new versions of LFM. By actively listening to our customers the LFM product range is now one of the most comprehensive available. LFM is fast becoming regarded as an industry standard.

Registration is the process by which individual 3D laser scans are transformed into a uniform project co-ordinate system. Registration is most easily achieved by placing targets at strategic points in the crime or accident scene. The targets, which are visible to the scanner are then surveyed to determine their exact location. Once processed, this survey data can be imported into LFM Register to bring multiple scans together into a fully registered framework.

LFM Register is equipped with tools and techniques that ensure accurate registration. For example, visible metrics in the form of a simple three-coloured 'traffic light' set: green, amber and red show the quality of registration against the survey for every single target.

A feature called Bundle Adjustment can be used to increase the accuracy of registration. With bundle adjustment the location of a target is considered from every scan position. A mean average of its location is then taken before a scan is re-registered. This process is continually repeated resulting in increased accuracy in the registration process. Bundle adjustment is particularly useful where a control survey is not possible.

Also if no targets are used the scans can be registered automatically by calculation of common features. It takes an initial approximate registration, then iteratively refining the registration between the image data until a perfect fit is achieved.



A Z+F AutoTarget

Quality assurance tools are very important in Forensics and Accident documentation, the crime scene or accident may not be available to re-scan at a later date. Z+F UK appreciate that time is likely to be a constraining factor within the field of Forensic, Security or Accident documentation. Therefore LFM Register has been developed in a way that ensures the customer can register the data in a minimum amount of time.

With target prediction the user need only identify the approximate location of two targets manually, LFM Register is then capable of locating the additional targets. By combining the technology in the new Z+F AutoTargets and LFM Register 3.92.1, target identification becomes a fully automatic process. This removes the need for an operator and the requirement of manual target selection.