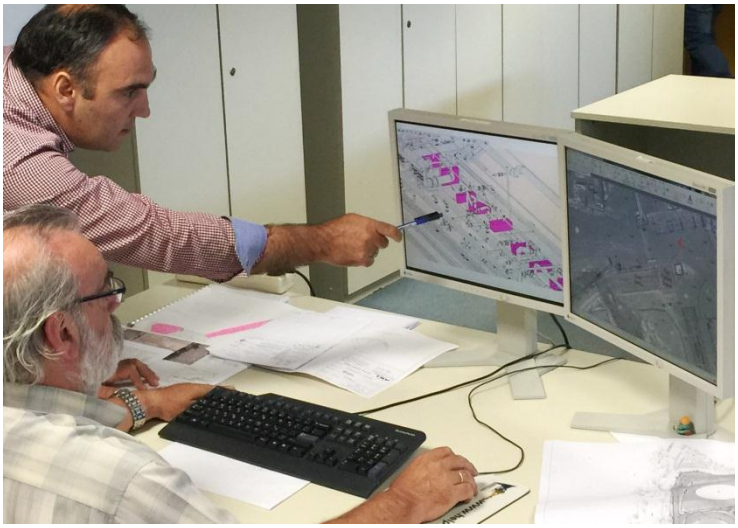
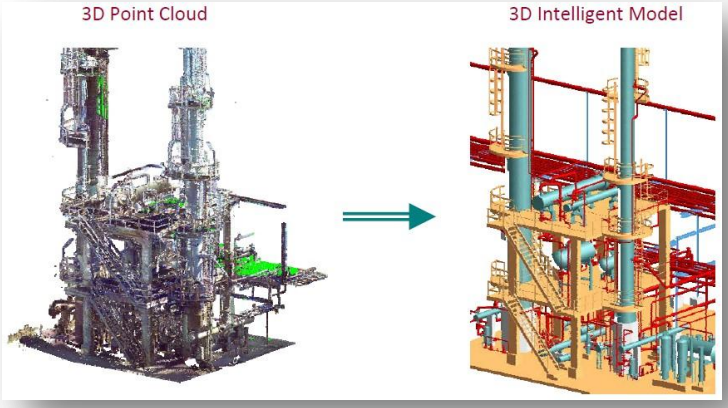
Smart Tools, Better Services

ASPROFOS Engineering's technical personnel uses intelligent 3D models to design, manage and maintain refineries and other industrial installations. An intelligent 3D model, by using laser scanning technology, surpasses traditional 2D designs and 3D CAD models. For refineries, utilities or other heavy processing industries, ASPROFOS uses laser scanning technology in upgrade projects and ongoing asset management activities seeing that it effectively measures "as-built" conditions accurately within a fraction of an inch. For every produced intelligent 3D model, ASPROFOS provides a list of equipment items and a complete description of their specifications, therefore not only providing an accurate representation of the actual geometrical state but also the existing operational condition of the installations either during the as-built or design phase of the survey.



Our survey and piping experts, Antonis Kavarinos and Angelos Pasalaris respectively, work synergistically to create intelligent 3D models with the use of 3D laser Scanning Technology

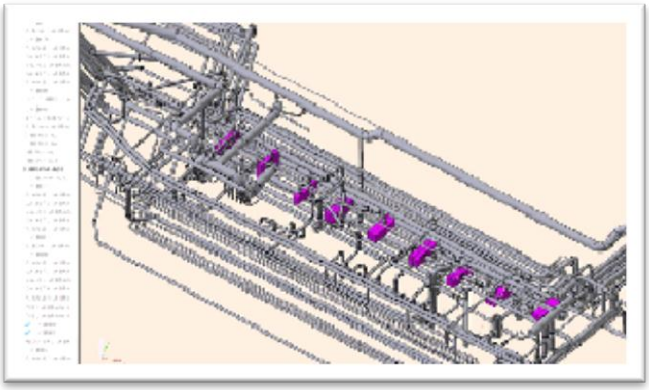


Conversion of 3D Point Cloud into 3D Intelligent Model

Through the use of a laser radar and specialized software tools, ASPROFOS acquires the intelligent 3D model which is then exported automatically in the desired electronic design format (ie. plot plan, general arrangements, its subsequent isometrics, P&IDs, etc.) as well as material lists. All this produced information may be used simply to study future installation expansions, plan investments and conduct stress analysis or even up to more complex actions required for monitoring, controlling and management of any refinery installation during its entire lifecycle.

By using intelligent 3D laser scanned models, ASPROFOS provides added value for its process industry customers because it enables:

- Immediate and accurate access to precise information 3D as-built conditions, necessary in order to take technical and economic decisions for construction planning



Correlation of 3D Model with Objects Library

- Information management systems of the designed and built segments required for operations and maintenance
- Identification of as-built construction deformations and errors
- Programmed and coordinated maintenance activities which result in the prevention of breakdowns that could lead to the interruption of the production lines
- Inspection and monitoring of the installation which can also reach complete control through real time monitoring
- True representation of the existing industrial installations vis a vis future investment goals
- Planning future upgrade or expansion requirements based on accurate data and specifications which could form the basis for taking sound technical economic decisions

3D Laser Scanning Technology is recognized internationally as the most complete, precise, fast, and therefore, most cost effective means of surveying refineries and industrial installations.

ASPROFOS Engineering belongs to the Hellenic Petroleum Group of Companies. It has over 30 years' experience in providing Engineering Consultancy services to the Oil and Gas market.
Do not hesitate to contact us for any further assistance or information regarding our services at Business Development Department (tel.: +30 210 94 91 349, e-mail: etsapra@asprofos.gr).

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