



 **PROGETTO3000**
DESIGNING FUTURE

LASER SCANNING and LiDAR TECHNOLOGIES

ACCURATE 3D RELIEFS
LASER SCANNING
POINT CLOUDS
LiDAR TECHNOLOGIES



Remote sensing technique that allows the distance of an object or surface to be determined using a laser pulse

Progetto 3000

A leading company in Ticino in the design and realization of civil, industrial and public metal constructions. With over 30 years of experience, Progetto3000 has a solid background in its field.

Always focused on innovation, **Progetto 3000**, is a design studio that provides a **service of laser, LiDAR and photogrammetric surveys** and scanning of absolute precision. A fundamental starting point to guarantee to its clients precise and reliable concepts, allowing the technical staff to design directly in **3D** and **BIM** realizing digital models, technical drawings and photorealistic renderings, ensuring maximum support in all design phases resulting in an efficiency of technical studies.

Project 3000 acts as a **strategic partner** of architectural or engineering firms in the design concepts of building structures, focusing on reliability and expertise to raise the quality standards of its works.

LiDAR significance and operation

An acronym for **Light Detection And Ranging** or **Laser Imaging Detection And Ranging**, it is a remote sensing technique that allows the distance of an object to be measured using laser pulses, exploiting the concept of a radar using a coherent, directed beam of light instead of radio waves.

A pulse of infrared light, usually between 600 nm and 1550 nm in length, is shot in one direction. Dedicated electronic instrumentation calculates the time elapsed between sending and receiving the pulse reflected by affected objects such as walls, animals or people. The beam moving at the speed of light requires instrumentation for extremely precise measurement on the order of a few millimetres.

Time lags are on the order of 10^{-12} seconds.



Light in aid of design



Dynamic and **Performing Scans**

By assessing the complexity of the survey to be carried out, the technology and type of instrument most suitable for obtaining the best possible scan. The instrumentation used can therefore be:

- **Robotic Total Station**
- **Static and mobile Laser Scanner**
- **GPS**
- **Rtk e LiDAR Photogrammetry Drone**



Applications

LiDAR and 3D point clouds scanning technologies can be used in a variety of application areas as scientific technical support as well as a valid and accurate basis for design studies



Plant Architecture

Feasibility studies, Building Information Modeling (BIM), 2D Renderings and 3D models, Energy Assessments for new installation designs and modifications.



Topographic Geology

Readings of morphologies, geological, Environmental impacts, Feasibility studies, DTM and DEM creations. Level maps and Curve, Georeferencing.



Archaeology Cultural heritage

Creations of critical degradation tables, Orthophotoplans, 3D modelling, Navigable databases, Creation of G.I.S. systems, Restitutions at any scale.



Forensic Insurance

Crime scene measurements, 3D dimensional controls, Environments and similes from 2D images, Accurate 3D footage accident detection.



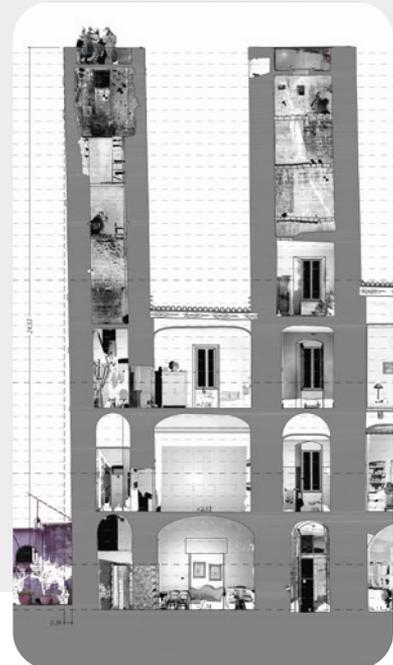
Architecture and plant engineering

FEASIBILITY STUDY the survey makes it possible to simulate and evaluate the impact of the work to be built in a given context

BIM (Building Information Modeling) is the digital representation of geometric and descriptive information about a building

2D RETURNS AND 3D MODELS once the field survey has been carried out and subsequently processed, 2D tables such as plans, sections, elevations or 3D models can be extrapolated from the acquired data for a wide variety of technical evaluations

ENERGY ASSESSMENT it is possible to use the survey of existing buildings or installations as a basis for designing modifications and new installations





Archaeology & Cultural Heritage

Ability to operate at any scale of restitution

Creation of critical degradation tables

Creation of G.I.S. Orthophotoplane systems

3D modelling

Documentation of the various stages of excavation progress

Creation of a navigable database



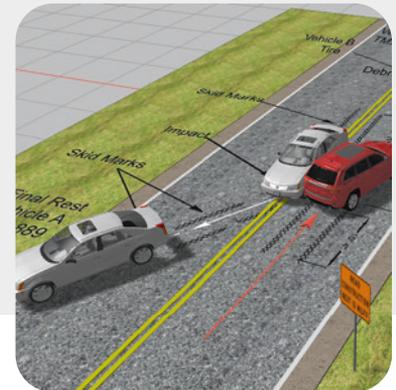
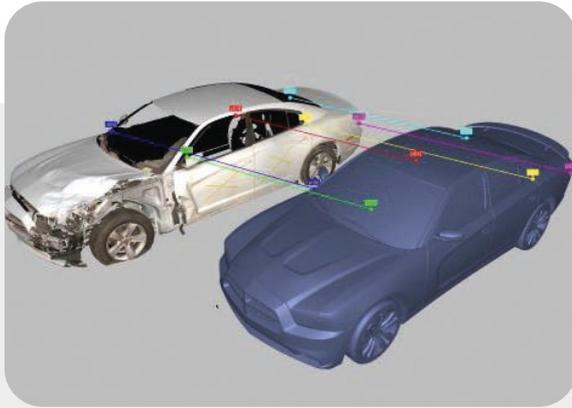


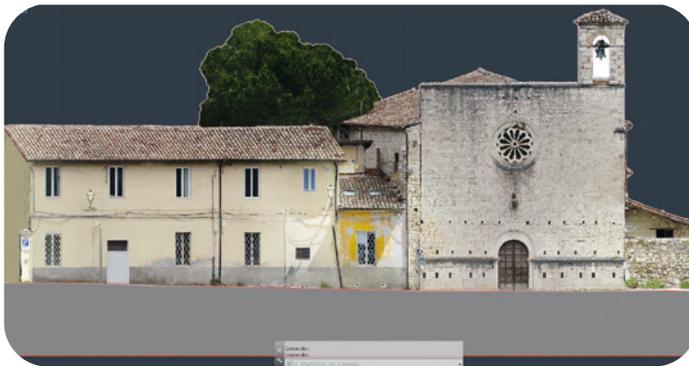
Forensic and Insurance

MEASURING THE SCENE OF CRIME crime scenes can be scanned from various locations, so that the survey of the environment can be completed by connecting the various scans

3D DIMENSIONAL CHECKS a virtual person can be introduced into the point cloud, and thanks to the 2D images its dimensions can be adjusted. In this way, hypotheses made can be confirmed or disproved

INCIDENT RECOVER the survey ensures an accurate and complete 3D shot of the accident scene with details such as vehicle deformations or skid marks





*PERFECTION AND FLEXIBILITY
TO IMPROVE YOUR PROJECTS*





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