

SURVEYING PROFILE

**Assuring Codes
& Keen Design**

Since 2004

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Riyadh, Saudi Arabia

ACKD

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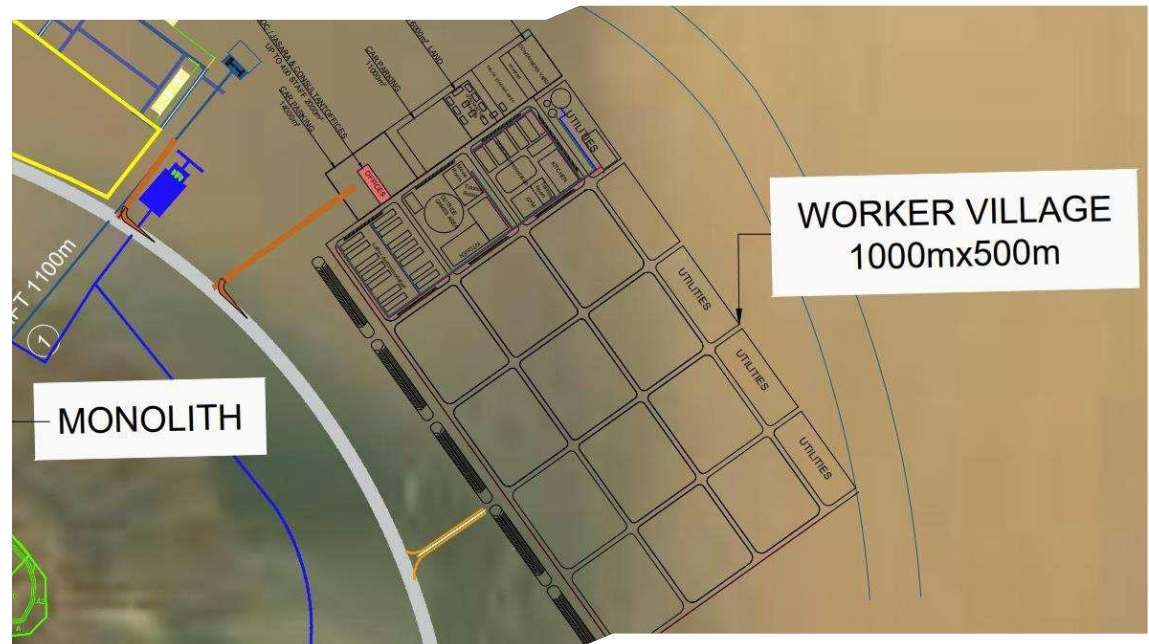
Surveying

Previous Projects

Project W construction of Worker Village, ALULA

ACKD scope of work:

- > AS-BUILT Drawings AND SITE PLAN.
- > Review and Approval of fire safety Systems.
- > Testing & Inspection of fire safety systems.
- > Handover to Civil Defense.



Previous Projects

Integrated Logistics Bonded Zone (ILBZ) Project - King Khalid International Airport (KKIA)

ACKD scope of work:

- > AS BUILT AND SITE PLAN.
- > Design review of fire safety systems.
- > Approval of all fire safety Systems from GACA and CD.

 Systematica

 **GACA**[®]
الهيئة العامة للطيران المدني
General Authority of Civil Aviation



Previous Projects

WADI HANIFA PROJECT

ACKD scope of work:

- AS BUILT AND SITE PLAN.
- Review of fire safety systems (FLS).
- Approval of Fire Safety systems from Civil Defense.



Previous Projects

The RITZ CARLTON Hotel

ACKD scope of work:

- As-built project.
- Fire & Life Safety design review.
- Approval of FLS package from Civil Defense.
- Inspection, and handover to Civil Defense.



الشركة السعودية للضيافة التراثية
Saudi Heritage Hospitality Company



Previous Projects

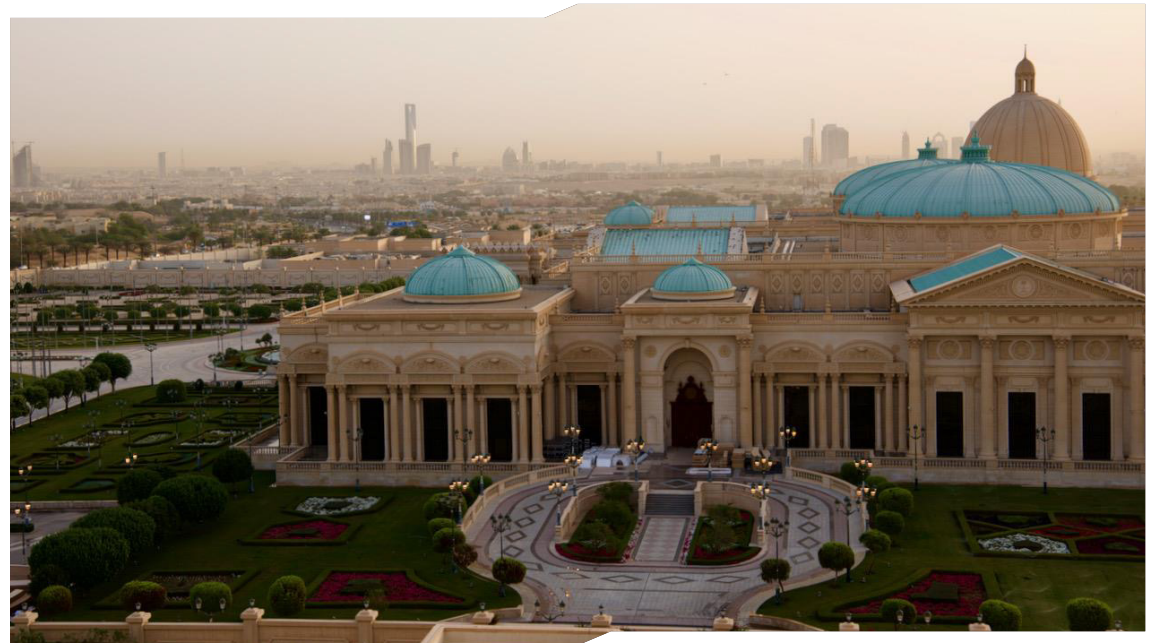
King Abdul Aziz International Conference Center

ACKD scope of work:

- As-built project.
- Fire & Life Safety design review.
- Approval of FLS package from Civil Defense.
- Inspection, and handover to Civil Defense.



الشركة السعودية للضيافة التراثية
Saudi Heritage Hospitality Company



Previous Projects

King Abdul Aziz International Conference Center

ACKD scope of work:

- Laser scan project.
- Fire & Life Safety design review.
- Approval of FLS package from Civil Defense.
- Inspection, and handover to Civil Defense



الشركة السعودية للضيافة التراثية
Saudi Heritage Hospitality Company



Previous Projects

Jeddah Islamic Seaport

ACKD scope of work:

- > Develop the existing life safety system, and hand it over to the HCIS.
- > Site survey project



Laser scan survey

Introduction

Laser scanning of buildings is considered a modern and very advanced technology compared to traditional scanning. Here are some of the main advantages of building laser scanning:

High accuracy: Laser scanning uses high-precision sensors that measure distances very accurately. A 3D point cloud containing millions of points is created, providing an accurate representation of the surveyed building.

Speed and efficiency: Thanks to laser scanning technology, the dimensions and geometric details of the building can be measured very quickly. A 3D model of the building can be generated quickly, saving time and effort spent on traditional surveying that requires manual measurement.

Save resources: Laser scanning reduces the need for complex pre-planning and the use of many traditional teams and tools.

Alternatively, a small laser scanning team can carry out the scanning easily and effectively.

Provides comprehensive information: Laser scanning provides comprehensive and comprehensive information about the building, including the interior and exterior structure, engineering details and finishes. This information can be used in a variety of applications such as engineering design and analysis and facilities management.

Collision accuracy and probability: Laser scanning data can be used to analyze potential collisions and conflicts in a building. Better coordination of projects can be achieved and potential problems in the post-construction stages can be avoided.



Laser scan survey Process

Laser scanning is a technology used to measure distances and determine locations using laser beams.

Here are the basic steps to perform laser scanning:

You will need a laser device that contains a laser source and a receiver to receive the bounced signals.

We install the device: Mount the device on a stable platform such as a tripod or a moving vehicle.

We define the scanning area: Select the area you wish to laser scan. This area can be a building, floor, city, or any other location.

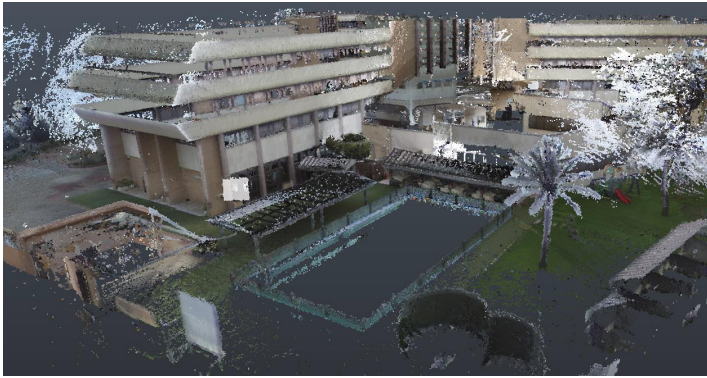
We turn on the laser: turn on the device and adjust its settings according to your needs. You can adjust the polarization angle, pulse intensity, sampling rate, laser range and other settings.

We analyze the data: After collecting the data, it must be analyzed and processed using BIM programs in order to create two-dimensional maps, horizontal projections, and a 3D model. On the BIM system



Sample of the previous projects

1_SAUDI HOSPITALITY COMPANY (SHC)



Scope of Services

As-Built: Architecture, Civil & MEP WITH LASER SCAN

LE MERIDIEN EL HADA HOTEL



2_The RITZ CARLTON Hotel.(survey project).



Scope of Services

As-Built: Architecture & MEP

Sample of the previous projects

3_ Al Tamimi company.



Scope of Services

As-Built: Architecture & Civil & MEP

CANOPY BUILDING

4_ Ibrahim Al-Qahtani company (iq) for real estate development



As-Built: Architecture, Civil & MEP

Residential Buildings

Sample of the previous projects

5_Bisha City Boulevard.



ACKD Consult SOW:
As-built architecture, Civil & MEP.
Fit out for building

6_Jeddah Islamic Seaport.

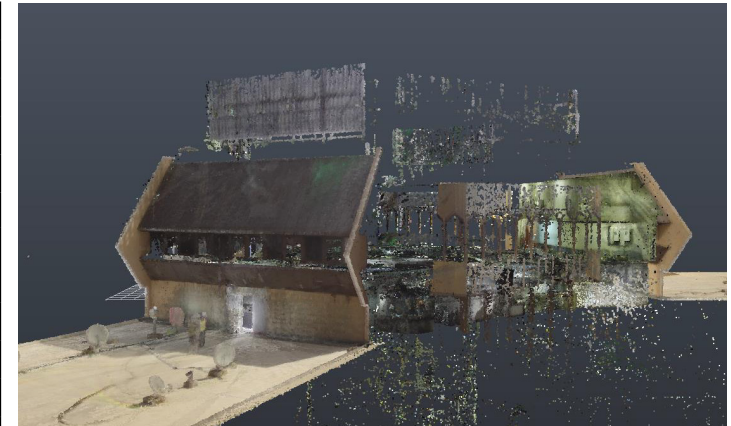


ACKD Consult SOW:
Survey for the site plan .

Laser scan survey

System Features Data

Maximum Range		Range 100m (features <40m)
Data Acquisition		300,000 points/sec
Data Storage Capacity		55GB
Resolution		0.625° horizontal 1.8° vertical
No. of sensors		16
Raw data file size		100-200MB* a minute
Mounting Operation		Removable handle provided, can also be pole or vehicle mounted
Accuracy	Relative Accuracy	1 – 3cm
	Absolute Position Accuracy	3 – 30cm (10 mins scanning, 1 loop)
Angular FOV		270° x 360°
Battery Life		1.5hours (continuous use)
Colorized point cloud		YES
UAV compatibility		High
Scanning Speed		100 HZ
360° camera		compatible
Wi-Fi		yes
Other format		las, .ply, .e57
Real time visualization during scanning		yes
Weight		(scanner) 1.3kg (total system with battery) 4.1kg



APPLICATIONS, INCLUDING

2D FLOOR PLAN GENERATION

3D VOLUMETRIC CALCULATIONS

MEASURED BUILDING SURVEY SCANNED TO BIM

OBJECT IDENTIFICATION

REAL STATE

MINING

DATA COLLECTION FOR GEOSPATIAL PROJECTS WITHOUT
THE NEED FOR GPS APPLICATIONS

General Features Fast Complete surveys in minutes, much faster than traditional

Graphical user interface using a mobile phone or tablet

SLAM quality real-time while 3D scanning Real-time

Real time processing while 3D scanning

Colored RGB point clouds

Publish web-based 360-degree virtual tours

Scan outdoors and indoors with ease

Build a highly accurate 3D model with Cutting-edge technology with the latest SLAM algorithm

300,000 points per second with an accuracy of 1



Geo slam



Gps



Total station

APPLICATIONS, INCLUDING

3D laser scanning has remarkable experiences on a wide variety of historic and archaeological sites preservation and documentation we respect both the cultural significance as well as possible fragile physical conditions that are often present. These types of sites are well suited for 3D laser scanning. They often have structures or ruins that are very sensitive and require careful evaluation before any work is done .

Sometimes, data is needed in order to catalogue existing conditions for documentation or scientific study. In any case, laser light is the preferred method for collecting data of current conditions. Our laser scanners can map out complex areas easily and can track the smallest changes over time - without endangering ruins, artifacts or historic structures. Also we produce metric orthophoto images with pixel size ranging from a few millimeters to a few tenths of a millimeter.



As Built & Urban Mapping

Laser scanning is being used widely for the capture of 3D city models for applications ranging from urban planning and traffic management, to architecture documentation. Mounted on an automobile, mobile mapping systems can capture laser data at normal driving speeds, meaning that urban environments can be mapped in a short amount of time.

Combining the laser scan data with video and photographic imagery enables color point clouds and 3D models to be created accurately with realistic texture mapping.

Typical urban mapping applications include:

- > City Modeling •
- > Road & Highway Improvement •
- > Flood Mapping
- > Traffic Management •
- > ALLPHOTO



Industrial sector services

Industrial Sector Services

We provide accurate and comprehensive digital models for industrial facilities 3D laser scanning services provide the most valuable tool you can have in managing your facility Saving time and money. Managing multiple facilities over a large area is very challenging, we provide with 3D models derived from highly accurate 3D laser scanning data. You will have the ability to visit each site virtually from your desktop. When you need to take measurements, make tenant improvements, or plan for department relocations, just pull up a Tru View of the facility on your computer .

Expansions to complex facilities needs accurate as-built information. With our advanced 3D laser scanning Tec equipment, structural steel - and give you an intelligent model of your facility. we can capture everything - piping, HVAC, Every single component of your facility, When do they require maintenance? Do you have a list of these assets and their maintenance records? Let us help you map and inventory these assets and get your maintenance schedule working so that you are PRO -active instead of RE-active in maintaining your .facility throw intelligent operating / maintenance models.



Industrial sector services

MEP (Mechanical, Electrical, and Plumbing) systems laser scanning refers to the application of laser scanning technology specifically for capturing and analyzing MEP systems in buildings or infrastructure projects. It involves using laser scanning devices to collect precise and detailed measurements of MEP components such as pipes, ducts, electrical conduits, and equipment.(As-Built Documentation, Clash Detection and Coordination, Retrofitting and Renovation,.....



THANK YOU

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ACKD scope of work

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