RSG

RUBESH SANAT GOSTAR
Consulting Engineers Co.

IMAGER 5006h

About Us

Rubesh Sanat Gostar (RSG)

Rubesh Sanat Gostar (RSG), Inc. as a consulting engineering firm, offers petrochemical complexes, gas & petroleum industries, power plants a full spectrum of professional services in engineering design and procurement field.

RSG, Inc. is the Iranian-German consulting engineering and procurement firm (EP contractor) with a big capability in both sides. The 3D laser scanning technology as the cutting-edge surveying equipment has been presented for the first time to the Iranian industries.

Unlike all traditional methods, in order to create various As built drawings, preparation of 3D model (as the point cloud files) using 3D laser scanner, is the most reliable solution ever in the world. By utilizing 3D laser scanners technical accuracy comes along with considerable thrifty.

New Technology made us more capable in process plants Renovation,Maitenance and Commissioning
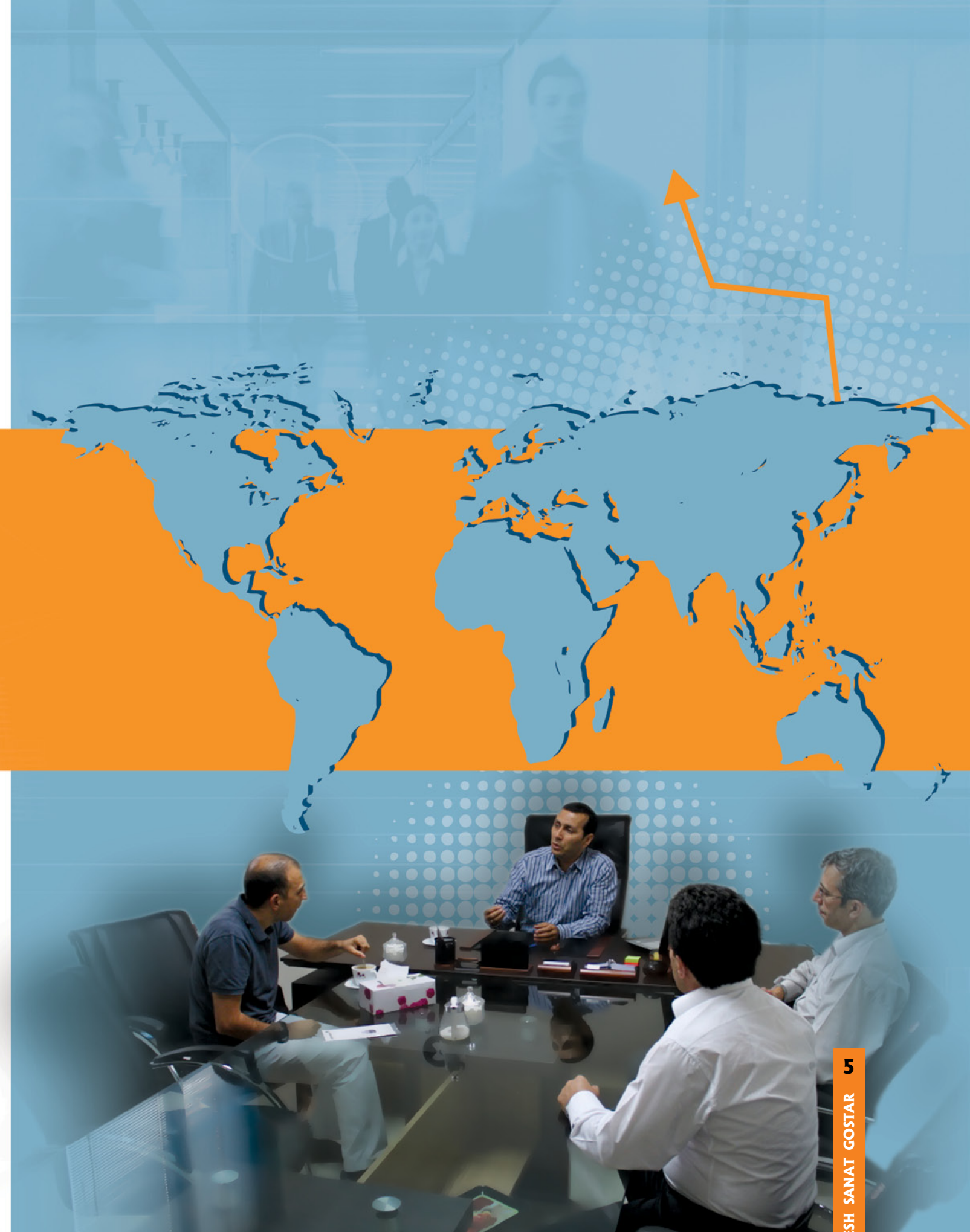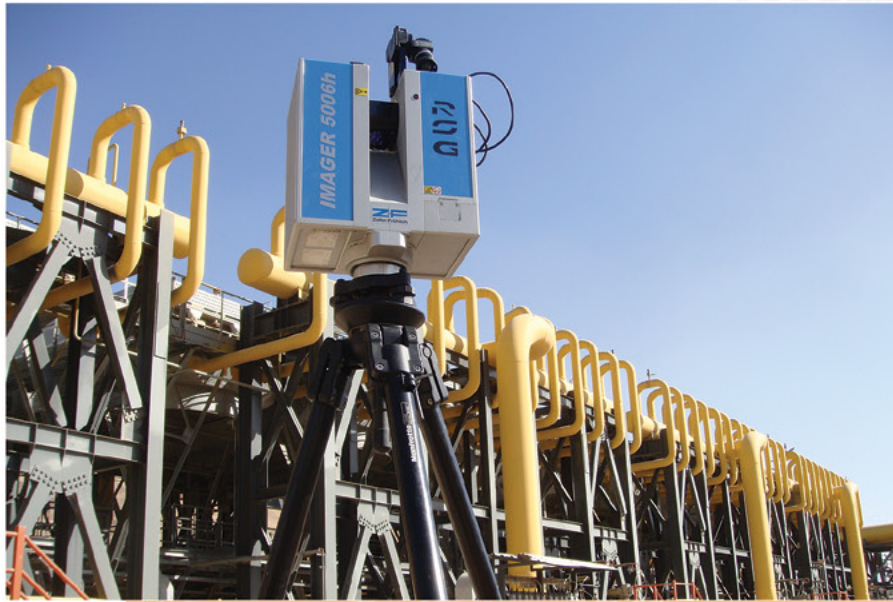
Main goals and policy

RSG Inc. with special approaches to the knowledge-based entrepreneurship is the most eligible seller firm for Z+F Company's products in Iran and Middle East region. Possessing close collaboration with Z+F Company along with our reliable experiences and specialty in offering engineering services to the public and private sectors, makes us unique in all over the region.

At RSG, Inc. our main task is to acquire the respect and confidence of our clients by providing high quality professional services "competent in all aspects". Immense attention to our client's requirement and utilization of expert personnel will provide our prospective prosperity in our engineering profession.
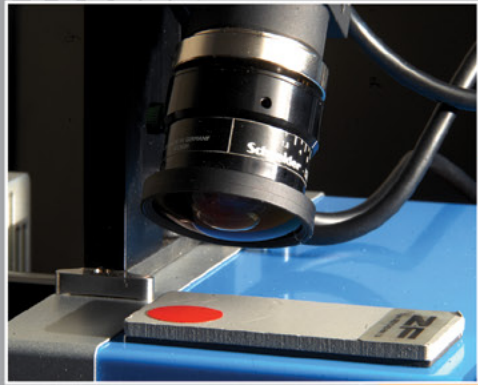
Laser Scanning Technology

Why Laser Scanning?

For aged plants the use of laser scanning decreases project risks and reduces overall costs
(25% up to 75%)

Every detail information would be available with high precision (Resolution Range up to 0.1mm) in a frame of user friendly software . This technology improves efficiency and reduces costly and time consuming mistakes.

By utilizing this powerful technology, the user is able to spend less time on site gathering As built information, dramatically reducing project timescale and costs.

Owners/Operators are now also recognizing 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.

EPC contractors continue to benefit from 3D laser scanning practical data. Laser scanning data allows for the management of building data throughout its life cycle. It aids communication and collaboration between engineers, builders and owners

Step
to Scanning Projects

RSG Inc. has the resources and the required experience to make sure that the client's Laser Scan data is modeled quickly and cost effectively.

The existing configuration's 3D As built model would be delivered to PDMS, Auto Plant, AutoCAD, Microstation, PDS and Ryhealitylinx users.

3D Laser Scanning

We scan industrial areas and all types of large scale objects such as process plant units, factories and mine working areas. We provide our clients with a point cloud, the rough data gathered through scanning.

Specialists of RSG Inc. possess wide experiences and related knowledge of supplying 3D As built data to petroleum, gas & petrochemical industry clients.

3D Modeling
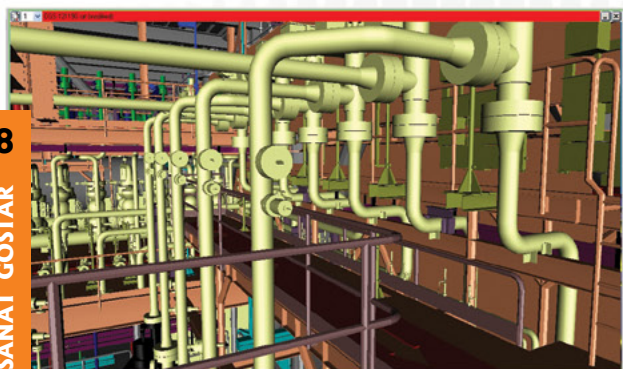
RSG Inc. is able to operate on its own As built 3D modeling and has all the resources including experienced individual and needed software.

These facilities make us sure that the captured data via laser scanners could be modeled quickly and cost effectively. We accept scan data for processing captured through Z+F and also FARO or Leica Scanners

3D Model Adjustment

RSG Inc. offers a 3D Model Adjustment service to the clients. We import existing 3D model (PDMS, CAD, AutoPlant, etc.) and check it against 3D Laser Scan Data (existing point cloud model which expresses real As built situation).

We use scanned data to move the modeled objects to its correct As built position, reflecting the conditions on site.

Plant Rebuilding and Relocation

Sometimes, construction of new similar plant is not the best option for a variety of reasons such as cost effectiveness, scheduling or environmental issues.

On hand basic documents from an old plant along with 3D point cloud As built model make a complete package for similar plant reconstructions.

Reverse Engineering

Reverse Engineering applies when the manufacturer is out of business or even legacy data is unavailable.

Typically, laser scanning is ten times faster than the most advanced touch probes speed. Using 3D laser scanning we create accurate 3D models which reflect the special relationships between elements of the object.
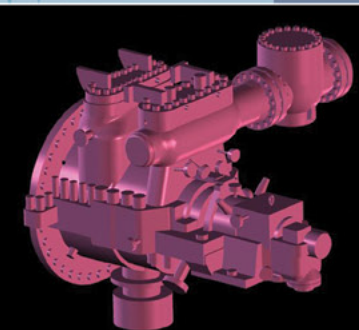
3D Laser Scanning

We are expert in the mentioned fields and regularly conversion of scan data into 3D models for clients Our operators are sophisticated in positioning of laser scanner to get the maximum coverage and also ensuring of getting data with the required quality.

achieved point cloud models have higher quality in 3D laser scanning process.

Then 3D scanned data can be delivered to the client as point cloud data or converted to a 3D As built model for use with our client's 3D modeling package.
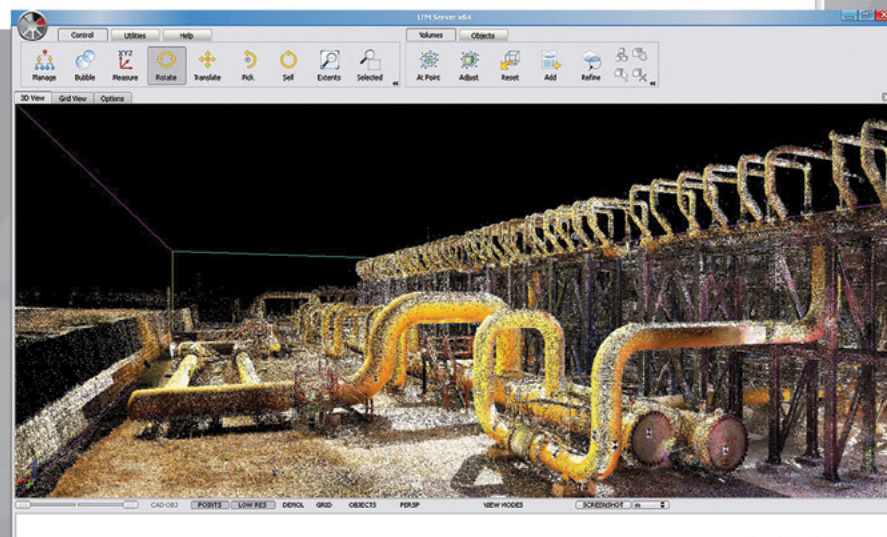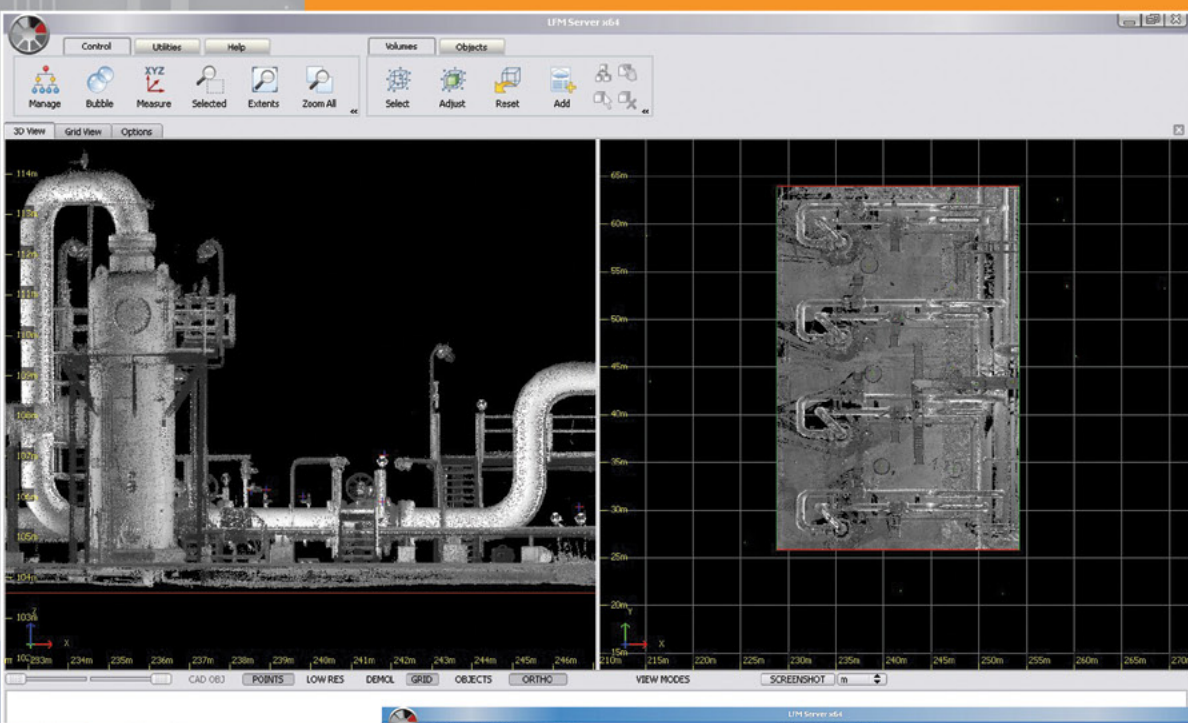

Consequences:

3D point cloud model contains full geometrical information from existing situation. It could be delivered to the clients.

RSG Inc. offers a wide range of deliverable options in LFM packages to meet the ready-prepared As built data. Applied 3D point cloud model would be placed instead of uncountable hard copy As built drawings. It lets owners to have electronic archive instead of traditional library.

Alternatively, 3D As built point cloud model could be linked with all major 3D design packages including PDMS, Auto Plant, AutoCAD, Microstation, PDS and RealityLinx.

By using the mentioned 3D model, checking feasibility and various measurements are possible without frequently site visiting. Consequently designers can make most practical and optimized implementation decisions.
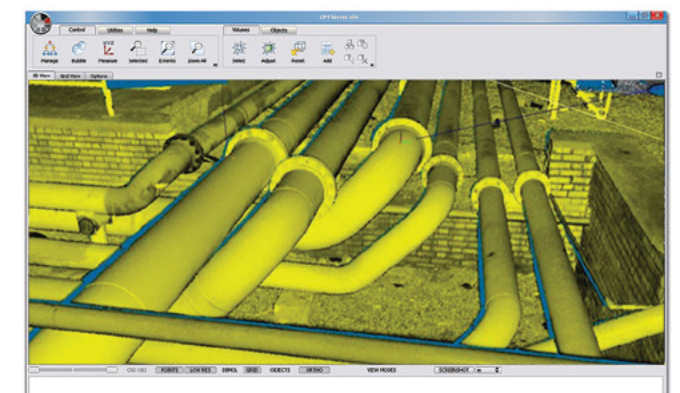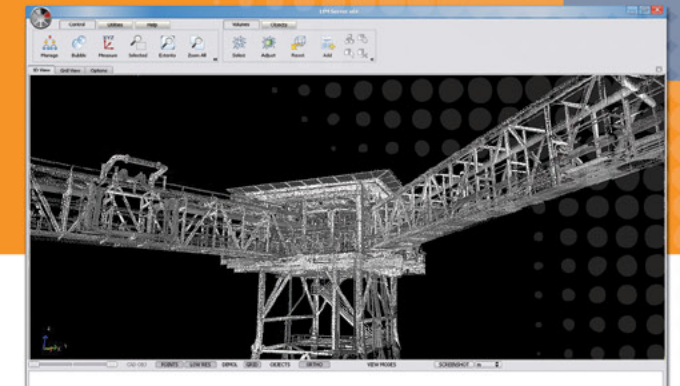
3D Laser Scanning

Key Benefits:

- Rapid data capture of large volumes with increased accuracy
- Improved safety due to less time spent working in hazardous environment
- Eliminates costly "return visits" to site
- Compatibility of 3D point cloud model with 3D modeling software
- Perfect measurable software environment

3D Modeling

Majority of the existing plants do not have updated As built drawings. Owners have serious lack of information in confrontation with practical situation.

New generation of laser scanners lead aged industries to create updated 3D model of their belongings. It helps them to get all plan, isometric, support … drawings.

We deliver 3D As built model to all 3D modeling software.Modeling software allows our technicians to check modeled objects with natural pictures.
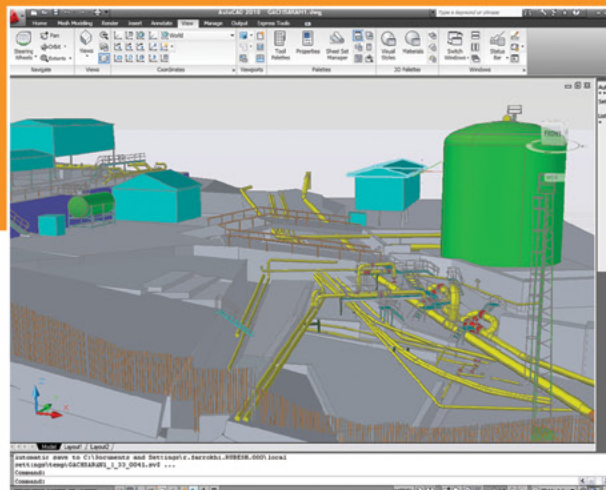
Consequence:

In order to make a perfect design inside an existing plant, designers have to check all new objects dimensions with old systems coordination.

when we work inside an old industry for implementing new system some parts of old packages should be removed. so, for applying economic decision designer has to produce demolition plan and drawings as well.

These kinds of drawings are completely new issue in the world. Both could be made if point cloud model had already been created.

Key Benefits:

• RSG inc. has the resources to make sure that we deliver client project quickly and cost effectively

• Rigorous quality checking ensures clients get an accurate and complete model

• Exports directly to PDMS, Auto Plant, AutoCAD, Microstation, PDS and etc.

• Plot plan, piping plans, isometric drawings, piping MTO, for existing plants would be made accordingly

• Offering economical and engineerin demolation drawings for renovation projects

• Shorter project times with a rapid turnaround of information

• Project stays on schedule using accurate and rapidly provided data

• Providing accurate drawing means that "off-site fabrication and first time installation possibility"

3D Model Adjustment
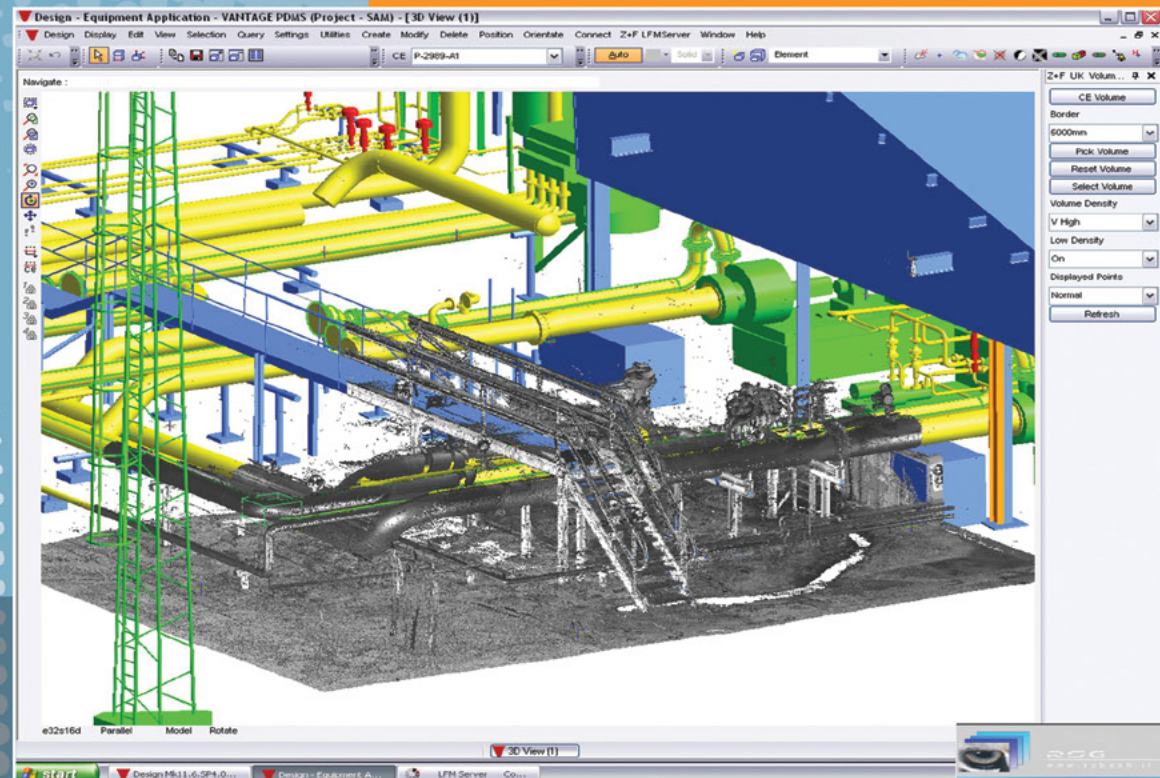
During construction job offered 3D model faces with serious changes. Designed 3D model would be updated in case captured scan data imports in it.

All modifications and misalignment can be loaded again and makes real configuration. Result would be updated As built model.

Any change could be reflected in it while operation life cycle. It means that 3D As built model would be kept in the plant for ever.

RSG Inc. offers an economical solution to recreate 3D As built model based on As built situation.

By importing the existing 3D model into our software, we can check its position against the point cloud data.

As the client, you can set the tolerance allowable for your project. misalignments could be remodeled quickly We can currently import scanned data captured via Z+F, Leica or FARO 3D laser scanners.

Consequence:

RSG Inc. can currently export moved models to the following 3D design packages: PDMS, Auto plant, AutoCAD, Microstation, PDS, RealityLinx, 3D PlantLinx.

Our proposed models contain many detail information such as:
- As built plot plant drawings
- As built piping plan drawings
- As built isometric drawings
- Piping, support, cables,... material take off

Plus full geometrical information for equipments, buildings, structures, roads, and etc

Key Benefits:

- Ideal for moving large equipment, major steel items and ... to their correct 3D As built coordination.

- Allows clients to reuse existing model

- Slightly faster turnaround because there is no need to model the items again from the point cloud

- Economical solution for quickly moving large items to the correct position

Plant Rebuilding & Relocation
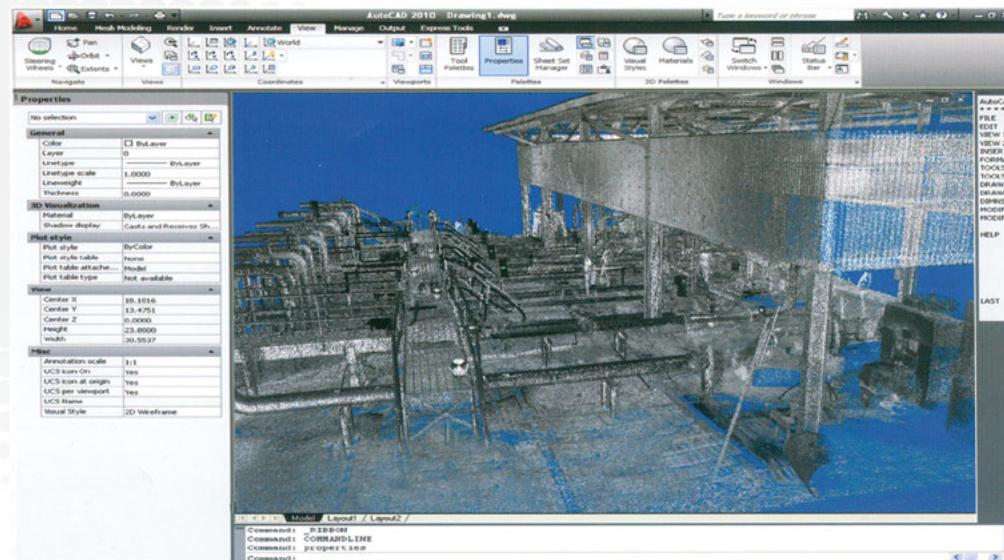
RSG Inc. can support your plant relocation project using 3D Laser Scanning to accurately document both the physical plant layout and individual assets.

Using point cloud data scanned at the plant, RSG Inc.

can generate a 3D model showing equipment and piping arrangements as well as all major steel work items.

Hereby we can generate elevations, sections, plans and as-built isometrics, which can be used during the plant reconstruction at its new location.

When it comes to re-assembling the plant in its new location, the client's Engineers will be able to access the 3D model to produce new general arrangements and layouts of major equipment items.

From these, they can accurately fabricate any new piping to ensure first time fit or alternatively, existing piping can be re-assembled in the correct order.

3D laser scanning technology is introduced to users as the most compatible and cost-effective way in creation of implementation due to industrial units rebuilding.

In such projects, basic design cost and preparation time can be completely deleted during Engineering & Design processes.

Using basic projects' data and regarding geometrical conditions of desired units, direct us to process plants projects rebuilding

Key Benefits:

- Remarkable overall cost reduction
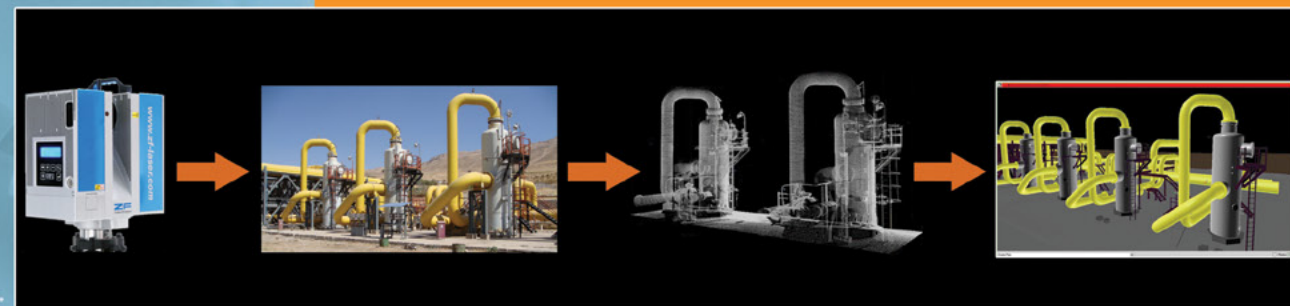- Faster project turnarounds
- Greater control over planning and estimating
- Accurately track down major equipment of plant and work out their physical sizes and volumes
- Upon purchase, the client will have a full set of drawings and a 3D Model to visualization and re-construction
- For selling or relocating of an existing plant, 3D model and a full set of accurate drawings are crucial.

Reverse Engineering

Reverse Engineering applies when the manufacturer is out of business or even legacy data is unavailable.

Precise and non-contact laser scanning is an ideal way to quickly obtain an accurate 3D model of the entire part.

In Reverse Engineering, the laser scanner allows rapid modeling of parts by using point cloud system including X, Y, Z coordinate information for collected points.

Through the use of a laser scanner device, less manpower is needed. Another advantage is the handling and operation, which are quite easy.

Costs, time and effort are drastically reduced through fast and accurate measurements as well as efficient planning and modeling with digital models.

Nowadays, revers engineering has some indirect advantage as well. for example; Flexible thermal insulation coverage like blanket sheets replaced instead of asbestos insulation methods. RSG succeeded to scan this kind of objects and create complete 2D pattern for mentioned flexible sheets.

In jacket design project, RSG Inc. offered to his client, a high-quality and high-precision 3D laser scanning model in order to produce required layer for flexible insulated sheet of turbine-jacket.
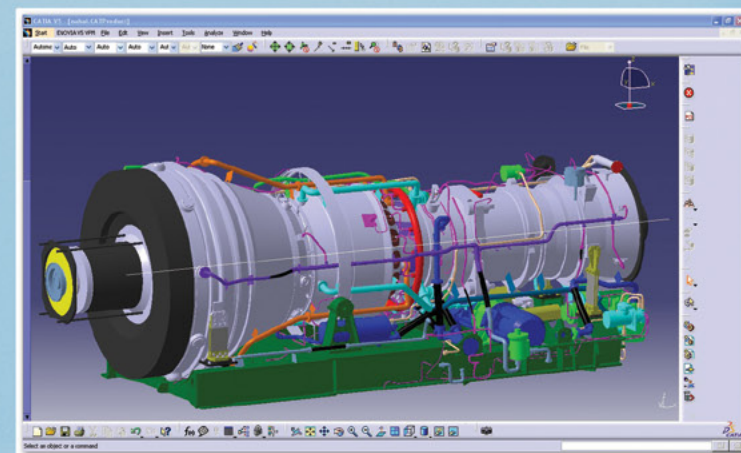

After scanning, the point cloud will be transformed into various 3D modeling software required formats like AutoCAD, Catia, Rhino, Point Tools, Pro/E and more.

Laser scanning provides the high resolution data very quickly, so digital models can be made and used to create 3D virtual spaces.

After scanning process, the scanning software automatically connects the point cloud data from multiple views into a common coordinate system in a single scan file.

The original shapes can be extracted even if the as-built part is warped, misaligned, or broken.

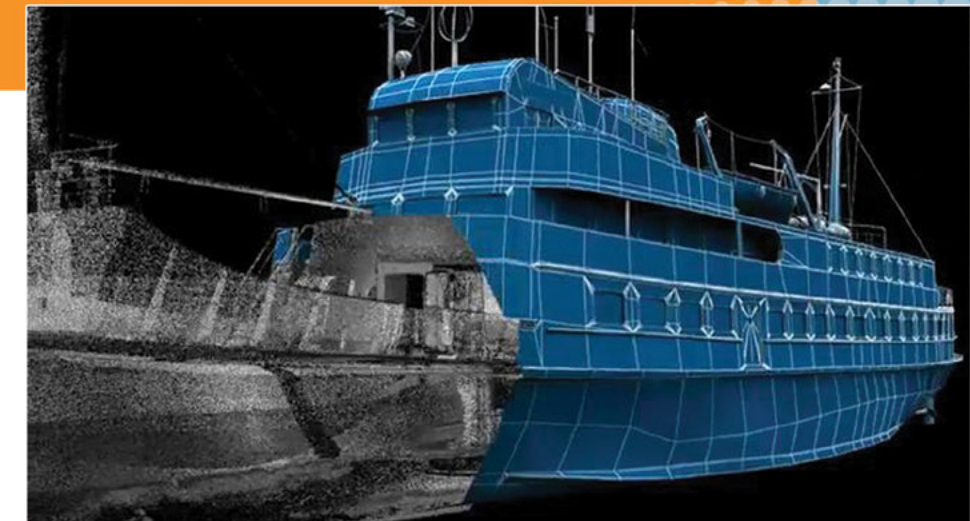## Other application:

- Aerospace
- Architecture
- Automotive
- Building-construction
- Civil engineering
- Cultural heritage
- Film-gaming
- Forensics
- Government application
- Manufacturing
- Mining
- Process-power
- Ship building-repair
  and ...

LFM
Software Solution

LFM is a powerful and independent 3D modeling software. It is realized to the market in order to process 3D point cloud data.

LFM Software is a general solution for all kind of 3D laser scanning hardware. LFM is able to read numerous 3D laser scanning formats but recommends Z+F imager as a best in the market

Welcome to AVEVA
Find out what this means for you

Key benefits:

- LFM is a comprehensive and neutral software
- LFM is a user friendly modeling software with easy to learn environment
- LFM 3D modeling job proceeds based on extensive catalog definition which is already defined in it. All kind of shapes from different standard packages are predicted (piping, structure…)
- Similar environment with PDMS software
- Compatibility with all 3D modeling software particularly with Autodesk products (CAD packages)
- Work efficiently within the powerful "Bubble View"
- LFM is intuitive to use
- permanent technical support
- continual innovation software services (based on the user's demands)…

AVEVA Spotlight

With its recent acquisition of LFM Software, AVEVA now offers the most advanced and comprehensive range of technologies available for exploiting the power of 3D laser surveying.

This technology is transforming asset management in the plant industries. Follow the links to learn more:

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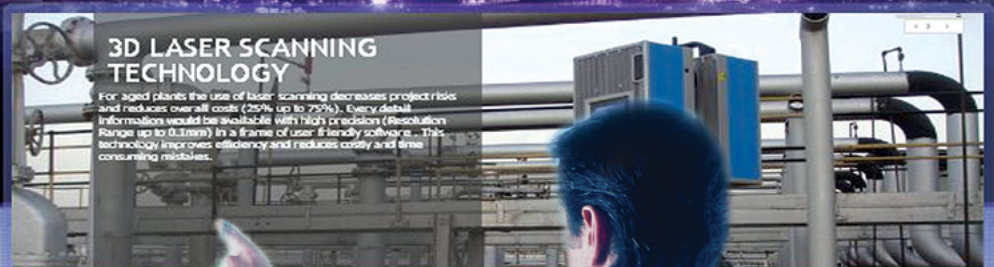
3D LASER SCANNING TECHNOLOGY

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"We think in 3D, we live in 3D ..."

LATEST NEWS
AVEVA Spotlight - Dec 2011
Aveva Acquires the LFM Software division of Z+F UK
RSG will be attend in INTERGEO 2011
RSG Participated in 16th International Oil, Gas, Refining & Petrochemical Ex
RSG Authorised From Z+F Company To Demonstrate Their Products

Field jobs
- Oil, Gas,Petrochemical & Power plant
- Building/Construction
- Cultural Heritage & Forensics
- Reverse Engineering
- Decommissioning & Demolition DWG

Main Activity
- 3D Laser Scann
- 3D Modeling
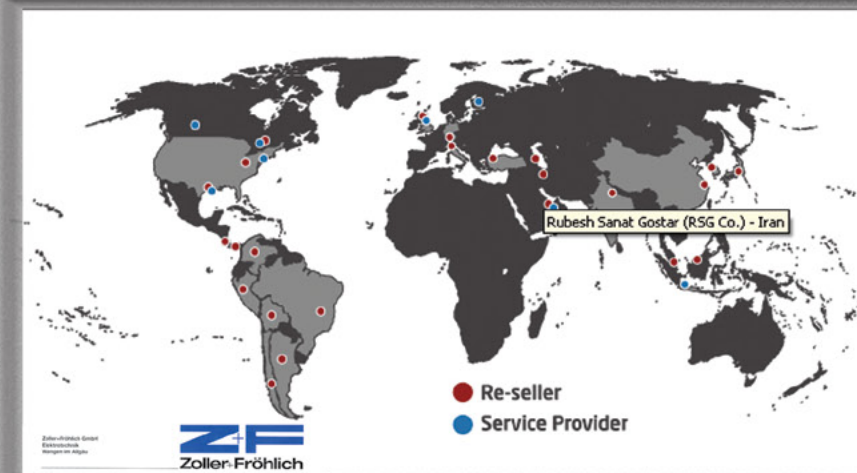- Engineering
- Technical Sof
- Procuremen

www.rubesh.ir
www.rsg-co.ir

RSG RUBESH SANAT GOSTAR
Consulting Engineers Co.

Engineering, Procurement
3D Modeling, Laser Scanning
Oil, Gas & Petrochemical Industry

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RUBESH SANAT GOSTAR

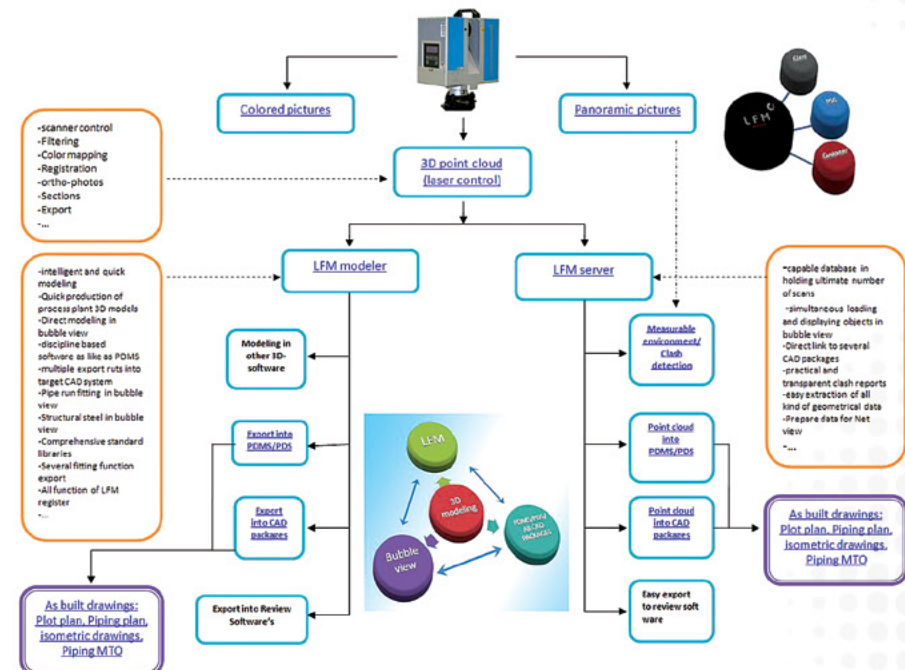### LFM Resellers

Rubesh Sanat Gostar (RSG Co.) - Iran

● Re-seller
● Service Provider

ZF Zoller·Fröhlich

Iran

Rubesh Sanat Gostar (RSG Co.)
Suite No.4,2nd floor, No 13
Dovome Alef Alley, Bisotun Ave
Fatemi Square, Tehran
1431653814
Iran
Tel: +98-21-88997794
Fax: +98-21-88950559
Email: marketing@rubesh.ir
Web: http://www.rubesh.ir

Certificate of Completion
ZF Zoller·Fröhlich

This is to certify that **Mr. Kourosh Fazel** has satisfactorily completed the "Z+F Basic Training Course" consisting of classroom instruction and field exercises in the deployment and use of the IMAGER 5006h 3D laser scanning system and the Laser Control and LFM point cloud processing software.

This course was completed during the period of Date 29th of July through 31st of July 2010 Tehran, Iran.

Zoller+Fröhlich

Step of work

- Colored pictures
- Panoramic pictures
- 3D point cloud (laser control)

- scanner control
- Filtering
- Color mapping
- Registration
- ortho-photos
- Sections
- Export

- LFM modeler
- LFM server

- intelligent and quick modeling
- Quick production of process plant 3D models
- Direct modeling in bubble view
- discipline based software as like as PDMS
- multiple export runs into target CAD system
- Pipe run fitting in bubble view
- Structural steel in bubble view
- Comprehensive standard libraries
- Several fitting function export
- All function of LFM register

- Modeling in other 3D software
- Export into PDMS/PDS
- Export into CAD packages
- Export into Review Software's

- Measurable environment/ Clash detection
- Point cloud into PDMS/PDS
- Point cloud into CAD packages
- Easy export to review soft ware

- capable database in holding ultimate number of scans
- simultaneous loading and displaying objects in bubble view
- Direct link to several CAD packages
- practical and transparent clash reports
- easy extraction of all kind of geometrical data
- Prepare data for Net view

As built drawings: Plot plan, Piping plan, isometric drawings, Piping MTO

As built drawings: Plot plan, Piping plan, isometric drawings, Piping MTO

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