Rahan
Engineering & Consultancy

COMPANY PROFILE



Survey, design and **inspection** across Afghanistan.

Accurate surveying, transportation infrastructure design, UAV mapping, GNSS control and technical project support.

Kolola Pushta Road, Kabul, Afghanistan

www.rahanengineering.com

WELCOME TO OUR COMPANY

We deliver survey and design solutions that help projects move from **planning to construction** with confidence.

Rahan Engineering & Consultancy is a professional engineering firm providing accurate surveying, transportation infrastructure design, UAV mapping, GNSS control and technical project support across Afghanistan.

This profile introduces who we are, the services and equipment behind our work, the projects we have surveyed and the deliverables our clients receive.

Contents

01 About the company 03

02 Director's message 05

03 Our mission 06

04 Vision & values 07

05 Core services 08

06 From field to final drawings 09

07 Our equipment 10

08 Our experience 12

09 Selected projects 13

10 Our deliverables 15

11 Contact us 16

01 · ABOUT US

Field experience, modern technology and **practical engineering.**



Herat–Shindan railway survey

01

Who we are

A professional engineering firm providing accurate surveying, transportation infrastructure design, UAV mapping, GNSS control and technical project support across Afghanistan.

02

What we do

We support roads, railways, mining, dams, urban development and construction projects with reliable field data, practical engineering design and clear technical deliverables — from survey to final drawings.

03

Our commitment

We combine experienced engineers, modern survey technology and disciplined field-to-office workflows to deliver accurate, practical and project-ready results.

01 · COMPANY DESCRIPTION

One firm, from the first survey point to **final drawings.**

Rahan Engineering & Consultancy combines field surveying experience, modern UAV/GNSS technology and practical engineering design knowledge to support infrastructure development.

Our services cover topographic surveys, UAV mapping, GNSS control networks, route surveys, road and railway design support, mining site mapping, dam and reservoir surveys, transmission line corridors and urban development surveys.



Tulak mining survey · Ghor

Survey scope

All kinds of engineering projects

Design scope

Transportation and infrastructure projects

Sectors we support

Roads | Railways | Mining | Dams | Urban development | Construction

WHY CHOOSE US

01

Accurate survey data

02

Practical engineering design

03

Field-to-office delivery

“Reliable engineering starts with **accurate survey data** and **responsible technical decisions.**”



Aq Muhammad Rasooli

General Director, Rahan Engineering & Consultancy

At Rahan Engineering & Consultancy, our objective is simple: to deliver accurate field data, practical designs and reliable technical support that clients can trust during planning, design, construction and decision-making.

Our team has worked across difficult terrain, remote sites and major infrastructure corridors, and we understand that successful engineering starts with correct survey data and clear design judgment.

We are committed to building a professional Afghan engineering company with modern technology, disciplined field methods and strong responsibility toward every project we accept.

01

Accurate data

Precision in every measurement.

02

Practical design

Solutions that work on the ground.

03

Trusted delivery

Committed to quality and responsibility.

03 · OUR MISSION

Three commitments behind **every project.**



01

Reliable survey data

Deliver reliable topographic, route, corridor, UAV, GNSS and control survey data for accurate planning, engineering design, construction supervision and project verification. Our survey outputs help clients understand the real site condition before starting any design or field activity.

02

Buildable design support

Provide clear, practical and buildable design support for roads, highways, railway alignments, access roads, urban roads, drainage systems, profiles, cross-sections and related infrastructure. We focus on solutions that are technically correct, site-feasible and easy to implement during construction.

03

Project-ready documentation

Prepare professional maps, CAD drawings, DEMs, orthomosaics, point clouds, reports, design drawings, quantity sheets and engineering documentation ready for client review, approval and construction use. All deliverables are organised clearly to support decision-making and project execution.

04 · OUR VISION

To be a leading engineering and surveying consultancy recognised for **accuracy, innovation and integrity**, contributing to sustainable infrastructure development and national progress.



15 MW solar plant · Kandahar

Our **core values**

01

Future focused

We embrace modern technology and innovative solutions to shape a better tomorrow.

02

Client centred

We deliver value through accuracy, reliability and dedicated support.

03

Sustainable impact

We are committed to environmental responsibility and long-term positive impact.

04

Quality driven

We maintain high standards in every survey, design and technical deliverable to ensure reliable project results.

05 · OUR CORE SERVICES

Nine services, **one standard.**

Delivering precision, innovation and excellence across engineering, surveying and geospatial solutions.

01

Engineering Surveying

Topographic surveys, route surveys, construction setting-out, control networks, benchmark establishment, cross-sections, as-built surveys and verification surveys.

02

GIS, CAD & Reporting

GIS mapping, CAD drafting, georeferenced maps, technical reports, quantity support, survey reports and deliverable packages for clients and authorities.

03

Asphalt Inspection

UAV-based asphalt condition surveys, crack detection, surface distress mapping, reporting and maintenance planning.

04

UAV Mapping & 3D Data

Drone photogrammetry and LiDAR mapping, orthomosaic production, DEM/DSM, point clouds, 3D models, contour generation and site monitoring.

05

Mining Topography

High-accuracy topographic surveys for mining exploration and planning, stockpile volume calculation, terrain modelling and mine design support.

06

Transportation Design

Road geometry, railway corridor support, plan/profile drawings, alignments, cross-sections, earthwork data, drainage coordination and CAD-based design documentation.

07

Project Support & Consulting

Feasibility studies, route selection support, engineering consulting, QA/QC, project management support and technical advisory services.

08

Bridge Drone Inspection

Detailed drone inspections for bridges and structures, visual condition assessment, crack mapping, 3D modelling and inspection reporting.

09

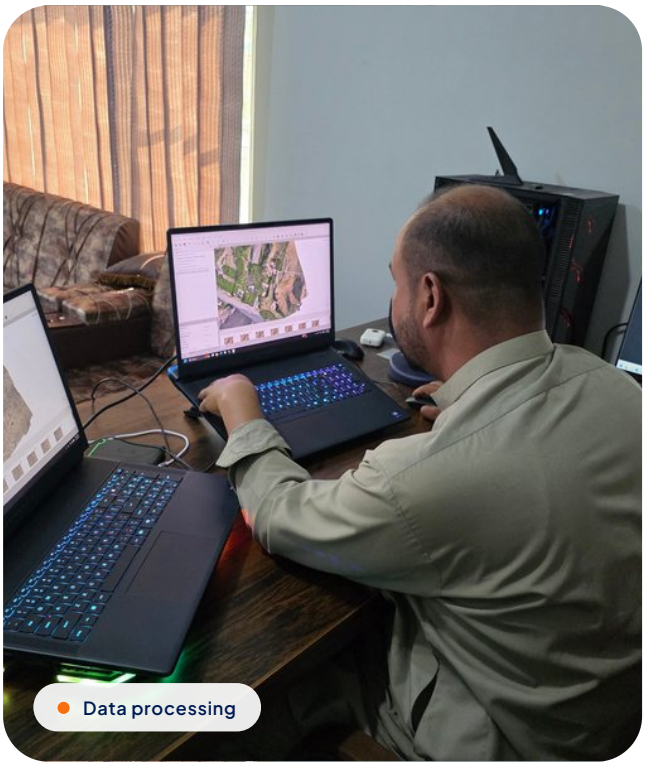
Transmission Line

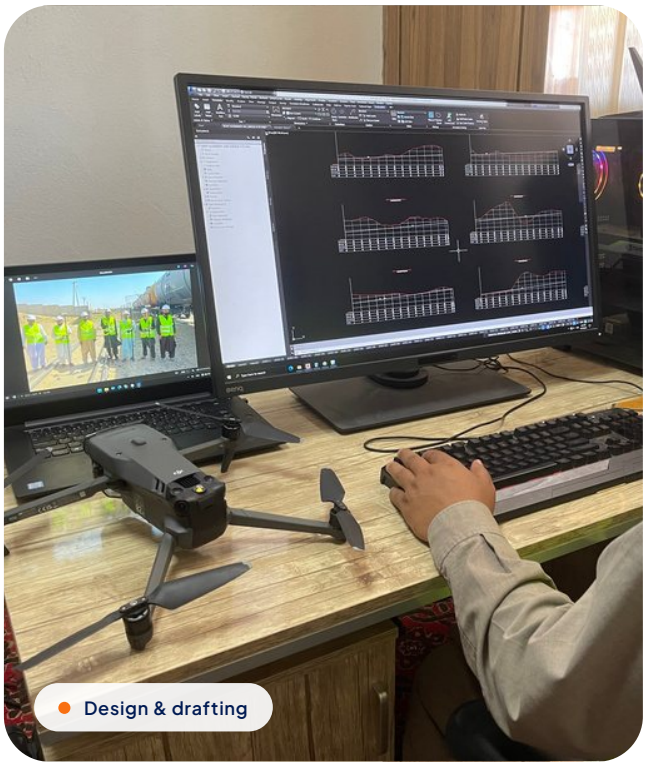
UAV inspection and mapping of transmission lines, tower condition assessment, corridor mapping, clearance verification and asset management support.

06 · HOW WE DELIVER

From field data to **final drawings,** with one team.

Experienced engineers, modern survey technology and disciplined field-to-office workflows turn site measurements into project-ready results.





01

Field survey

GNSS control, total station measurements and UAV / LiDAR data capture on site.

02

Data processing

Aerial images and LiDAR data processed into orthomosaics, point clouds, DSM / DEM and contours.

03

Engineering design

Alignments, plan / profile drawings, cross-sections and earthwork data.

04

Deliverables

Maps, CAD drawings, reports and drawing packages for review, approval and construction.

07 · OUR EQUIPMENT

Survey-grade instruments, **in our own hands.**



TOTAL STATION

Sokkia iM-101

Professional manual total station used for topographic survey, control points, construction layout, as-built survey and engineering field measurements.

- 1-second angle accuracy
- 30× telescope
- Dual-axis compensation
- Reflectorless up to 800 m
- Prism range up to 5,000 m



GNSS RTK SYSTEM

SingularXYZ XBase

with Horus Laser & AR Vision Rover

Advanced GNSS survey system for high-accuracy topographic survey, control point establishment, construction layout, hard-to-reach point measurement and fast field verification.

- Integrated RTK base station
- Laser measurement
- AR visual staking



MAPPING DRONE

DJI Matrice 4E RTK

RTK mapping drone with high-accuracy mapping capability.

- 4/3 CMOS 20 MP
- Mechanical shutter
- 48 MP zoom camera
- Laser rangefinder
- 49-minute flight time



PHOTOGRAMMETRY SYSTEM

DJI Matrice 350 RTK

with Zenmuse P1

Professional RTK aerial mapping system for high-accuracy photogrammetry, large-area topographic survey, corridor mapping and engineering project documentation.

- 45 MP full-frame camera
- 35 mm lens
- Global mechanical shutter



LIDAR SYSTEM

DJI Matrice 350 RTK

with Zenmuse L2

Professional RTK LiDAR mapping system for high-accuracy LiDAR survey, topographic mapping, corridor mapping, powerline survey and 3D terrain modelling.

- 240,000 pts/s point cloud rate
- Up to 450 m detection range
- Up to 5 returns



PROCESSING SOFTWARE

DJI Terra

mapping software

Professional drone mapping and photogrammetry software that processes aerial images and LiDAR data for topographic survey, corridor mapping, mining survey, construction monitoring and engineering deliverables.

- Orthomosaic maps
- 3D models
- DSM / DEM
- Contours
- Point clouds

Reliable field execution across Afghanistan's **most challenging project environments.**

500+

KM ROAD SURVEYS

Route, corridor, topographic, profile, cross-section and construction-support surveys for national and regional road projects.

300+

KM RAILWAY CORRIDORS

Railway corridor surveys, route alternatives, station areas, alignment support, DEM, orthophoto and CAD mapping.

250+

KM² MINING SITE SURVEYS

Mining site topographic surveys, UAV mapping, DGPS control, DEM, contours and 3D surface preparation.

150+

MW SOLAR POWER PROJECT SURVEYS

Utility-scale solar developments: topographic mapping, DGPS control, UAV survey, site planning support and engineering base data.

90+

KM² URBAN PLANNING SURVEYS

Survey work supporting urban planning and development.

50

MW WIND TURBINE SITE SURVEY

Topographic and site survey for wind turbine developments: terrain mapping, control establishment and engineering support.

5

MAJOR DAM PROJECTS

Topographic surveys for dam sites, reservoirs, canals, command areas and related water infrastructure.

Many other minor infrastructure projects

Multi-sector experience: transmission lines, canals, industrial sites, power infrastructure and other public works.

On site, **across the country.**



Kajaki Dam survey

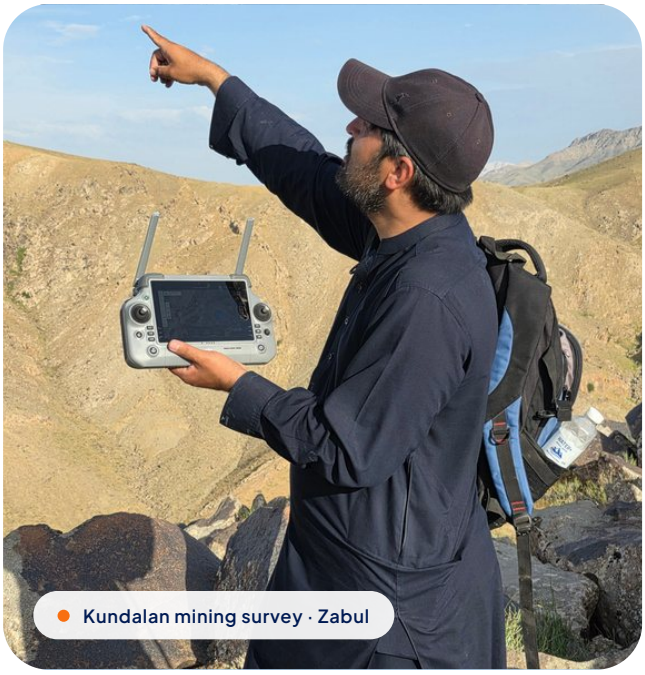


Mining survey · Bamyan



Lora Dam survey

"Our team has worked across difficult terrain, remote sites and major infrastructure corridors."



Kundalan mining survey · Zabul



Railway survey



Herat–Shindan railway survey

Project index

Herat–Shindan Railway Survey	RAILWAY	Kundalan Mining Survey · Zabul	MINING
Torghundi–Herat Railway Survey	RAILWAY	Tulak Mining Survey · Ghor	MINING
Kajaki Dam Survey	DAM	Mining Survey · Bamyan	MINING
Lora Dam Survey	DAM	15 MW Solar Power Plant · Kandahar	ENERGY

Clear outputs, ready for review, **approval and construction.**

13 Survey deliverables

01 Topographic survey maps

02 Orthomosaic maps

03 DEM / DSM models

04 Contour maps

05 3D point clouds

06 TIN surface models

07 Control point and benchmark reports

08 Route alignment survey data

09 Cross-sections and longitudinal profiles

10 CAD drawings in DWG format

11 GIS files / shapefiles / KML–KMZ where required

12 Technical survey reports

13 Volume / earthwork calculations

12 Design deliverables

01 Road plan and profile drawings

02 Horizontal and vertical alignment drawings

03 Typical cross-sections

04 Corridor layout drawings

05 Transportation structure drawings

06 Bridge and viaduct layout support

07 Culvert and drainage structure location support

08 Underpass and retaining wall layout support

09 Tunnel-related layout support, where required

10 Earthwork quantity support

11 Design report and drawing package

12 Construction reference drawings

Rahan
Engineering & Consultancy



11 · CONTACT US

Your trusted partner in **engineering.**

For survey, mapping, infrastructure design and engineering consultancy services, please contact us.

PHONE

+93-780807677
+93-777799111

EMAIL

info@rahanengineering.com

WEBSITE

www.rahanengineering.com

OFFICE

Kolola Pushta Road, Kabul, Afghanistan