

# karya

## ENGINEERING

# COMPANY PROFILE

Engineering Excellence since 2002

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 [karyaengineering.com](http://karyaengineering.com)

Providing engineering, procurement, construction and commissioning services for electrical and instrumentation projects across petroleum, gas, and power industries.

# ABOUT US

**Karya Engineering** was established in 2002. Since its foundation, the company has been providing engineering, procurement, construction and commissioning services in Electrical and Instrumentation sector. Karya Engineering specializes in **electrical and instrumentation projects** for petroleum, gas, and petrochemical facilities, as well as pipelines, land and marine terminals, tank farms, oil refineries, pumping stations, and power plants.

The company operates primarily in the Middle East, with a particular focus on Northern Iraq. Its headquarters are located in İzmir, Türkiye, and since 2015, the company has also been providing services through its branch office in Erbil, Iraq.

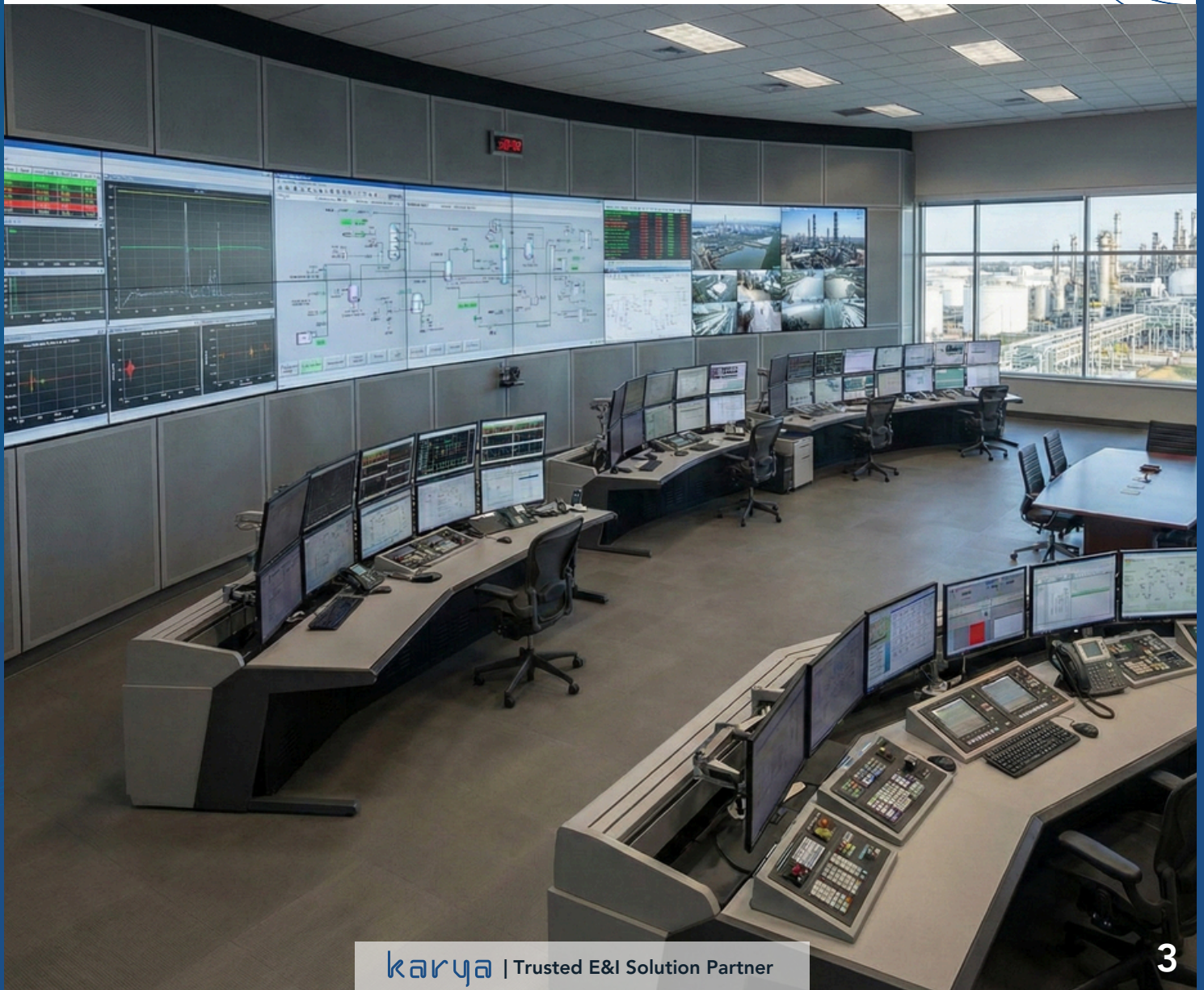
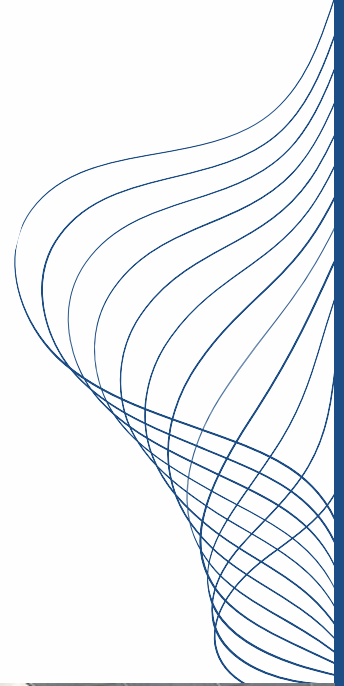
All activities are conducted in accordance with internationally recognized standards, including the ISO 9001:2015 Quality Management System and the ISO 45001 Occupational Health and Safety Management System.

With a highly experienced team that has been part of the organization for many years, Karya Engineering aims to continue delivering successful projects in its specialized field and maintain its strong position in the industry.

# SERVICES

## Engineering

Karya Engineering delivers front-end and detailed engineering that aligns with international standards and project-specific requirements. Safety, compliance, and system integrity are integrated into every stage of our design process. Through technical evaluations and feasibility support, we help clients make informed decisions and ensure reliable, field-ready E&I solutions.



## Key Capabilities in Engineering Services

### FEED Engineering

We develop front-end engineering solutions that define technical scope, system architecture, and cost-effective project execution strategies.

### Detailed Engineering

We produce comprehensive technical designs and documentation to ensure accurate installation, compliance, and operational reliability.

### Project Feasibility

We perform technical and operational assessments to support informed decision-making and early-stage project validation.

### Safety & Compliance

We apply structured safety studies and regulatory standards to ensure system integrity, risk mitigation, and operational compliance.

# SERVICES

## Procurement

Our procurement services ensure the reliable sourcing and supply of certified materials and equipment to support complex E&I project requirements. We work with qualified vendors and manufacturers to maintain compliance with international standards and project specifications. Through structured procurement planning and vendor evaluation, we ensure quality, traceability, and cost-effective delivery. Our processes are designed to minimize supply chain risk and maintain schedule alignment across all project phases. This disciplined approach supports consistent performance and reliable system integration in the field.



## Key Capabilities in Procurement Services

### Vendor Pre-qualification and Evaluation

We assess and qualify vendors based on technical capability, compliance, and performance criteria to ensure reliable sourcing.

### Material and Equipment Sourcing

We source certified materials and equipment that meet project specifications, quality standards, and delivery requirements.

### Quality Inspection and Certification

We perform inspections and manage certification processes to verify compliance with international and project-specific standards.

### Vendor Document Control and Data Management

We manage technical documentation and data flow to ensure traceability, accuracy, and regulatory compliance throughout procurement.

# SERVICES

## Construction Services

### A) Cable Installation and Termination

- Up to 1kV Electrical and Instrumentation Cable Installation and Terminations Works
- Up to 36kV M.V (Middle Voltage) Cable Installation and Terminations Work
- Up to 400kV H.V (High Voltage) Cable Installation and Terminations Work,
- Fiber Optic Cable Installation, Splicing and Test Works



## Construction Services

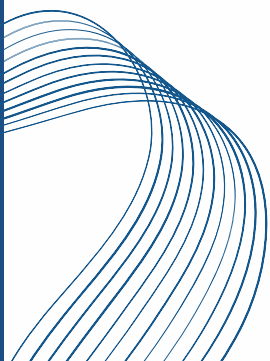
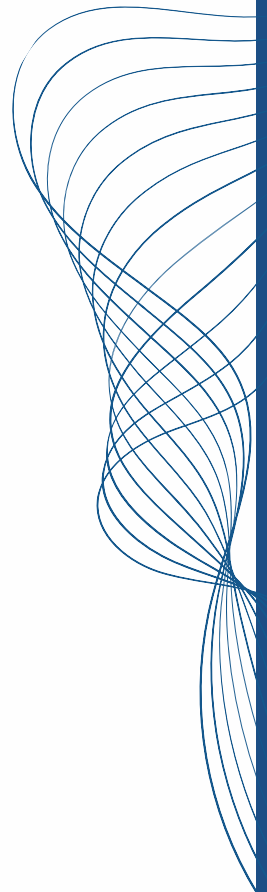
### B) Electrical Equipment Installation

- Up to 200 MVA Generator Step Up(GSU) Transformer Installation Works
- Up to 25 MVA Unit Auxiliary Transformer Installation Works
- M.V (Middle Voltage) and L.V (Low Voltage) Distribution Panels, MCC Panels Installation Works
- DCS and ESD Panels Installation Works
- Control Room Equipment Installation Works ( Work Stations, Scada etc.)
- Generator Installation Works
- UPS System Installation Works

### C) Earthing and Lightning Works

### D) Lighting Works

- Hazardous Area Lighting Works ( Zone 1 and Zone-2 )
- Safe Area Lighting Works



## Construction Services

### E) Instrument Calibration and Installation

- Pressure Instrument Calibration and Installation Works
- Temperature Instrument Calibration and Installation Works
- Level Instrument Verification, function test and Installation Works
- Flow Instruments Verification, function test and Installation Works
- Motor Operative Valve (MOV) Verification, function test and Installation Works
- Pressure Safety Valve (PSV) Calibration and Installation Works



### F) Fire and Gas Detection System Works

## Construction Services

### G) Heat Tracing Works

- Pipeline Heat Tracing Works
- Oil Tank Heat Tracing Works
- Equipment Heat Tracing Works



### H) Other Systems

- CCTV System
- Paga System
- Telecom System
- Access Control System

## Key Capabilities in Construction Services

### E&I Installation

We perform accurate installation and system integration in line with approved engineering documents and technical standards

### Site Supervision and Field Management

We coordinate on-site activities to ensure safe, efficient, and schedule-aligned project execution.

### Quality Control and Compliance

We apply inspection and verification processes to maintain compliance with project specifications and international standards.

### HSE Management and Site Safety

We implement structured HSE practices to ensure safe working conditions and regulatory compliance across all site operations.

## Commissioning Services

- Insulation Resistance Test
- Continuity Test
- Hi-Pot Test (Up to 80kV)
- Earth Resistance Test
- Fiber Optic Test (OTDR - Point to Point)
- Data Cable Test
- Ductor Test
- VFL Test
- Secondary Injection Test
- Pressure Instrument Calibration Test
- Temperature Instrument Calibration Test
- Instrument Functional Test



## Key Capabilities in Commissioning Services

### Pre-Commissioning and System Testing

We conduct structured testing and inspections to verify installation completeness and system readiness.

### Functional and Performance Verification

We validate system functionality and performance against approved specifications and acceptance criteria.

### Handover Documentation and As-Built Records

We prepare complete technical documentation to support compliant and efficient system handover to operations.

### Operational Readiness and Start-Up Support

We support start-up activities to ensure safe, stable, and reliable transition to full operational status.

# PERFORMANCE OVERVIEW



First Inspection Approval Rate

**%93,07**



Punch List Closure Time\*

(Days)

A Punch: 4,69

B Punch: 19,85

C Punch: 24,57



Daily Cable Pulling Performance

(Last 5 Projects)

**4926,99 m**



TRIR - Total Recordable Incident Rate

**0,47**



LTIR - Lost Time Injury Rate

**0,21**



HSE Training Hours

(Last Year)

**3047 h**



Technical Training Hours

**5646 h**

## HSE Excellence

Our TRIR and LTIR values are below the industry average in 2025. We conducted a total of 3000+ hours of HSE training to support our safety culture.

## Quality & Productivity

First inspection approval rates are high, with punch list closure times within project targets. Our daily cable pulling performance averaged around 5000 meters over the last five projects.

**\*Excluding delays resulting from missing project information and/or material shortages.**

## PPCL 250 MMSCFD TRAIN OF THE KM500 GAS TREATMENT PLANT PROJECT



### Project Overview

The Khor Mor KM250 Expansion Project is a major natural gas development undertaken by Pearl Petroleum (Dana Gas & Crescent Petroleum) in the Kurdistan Region of Iraq, increasing the gas processing capacity from 500 to 750 MMSCFD.

Karya Mühendislik A.Ş. participated in this project as the E&I subcontractor to Havatek Makina A.Ş., contributing to the successful and timely completion of the works.

### Project Information

**Location:** Kor Mor Region, Sulaymaniyah / Iraq

**Client / Main Contractor:** Pearl Petroleum Company Ltd. (PPCL) / Havatek Makina A.Ş.

**Construction Period:** February 2022 – August 2025

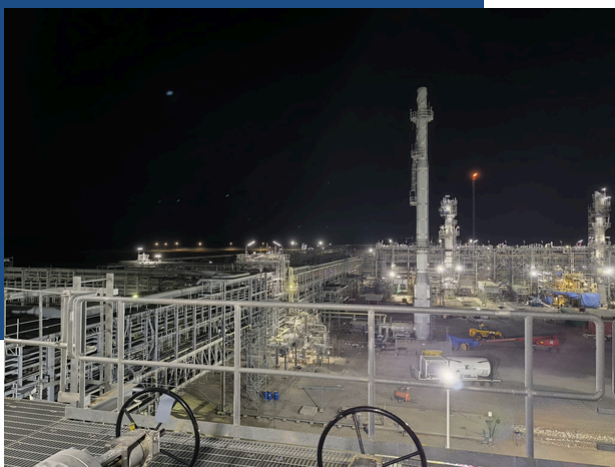
**Scope of Work:** Installation of Electrical & Instrumentation Works

**Completed Man-Hours:** 948,000 MH

**Completed Budget:** 9,836,000 \$

### Project Scope

- 513,750 m MV–LV Power Cable Installation
- 541,210 m Instrumentation Cable Installation
- 17,181 LV & MV Terminations
- 42,000 m Cable Tray Installation
- 6,210 Field Instrument Installations & Tests
- Main Substation (MSS) and CCR Installation
- 8 Prefabricated Substation Installations
- 315 LV/MV Cubicles & 192 Control System Panels
- Fire & Gas Alarm System
- 98,000 m Fiber Optic Cable Installation



## HKN ENERGY SARSANG BLOCK WELLSITE BASED PRODUCTION FACILITIES E&I WORKS



### Project Overview

The HKN Energy, Sarsang Block Wellsite-Based Production Facilities Project, located in the Kurdistan Region of Iraq, was developed to increase crude oil production and processing capacity in the Sarsang field.

Karya Mühendislik A.Ş. took part in this project as the E&I subcontractor to Havatek Makina A.Ş., successfully executing the Electrical and Instrumentation works and supporting the safe and timely commissioning of the facilities.



### Project Information

**Location:** Sarsang Region Northern Iraq

**Client/Main Contractor:** HKN Energy / Havatek Makine A.Ş

**Construction Period:** November 2019– April 2022

**Scope of Work:** Installation and Commissioning of E&I Works

**Projected Man Hour:** 509.060 MH

**Projected Budget:** 5.887.250,00 \$

### Project Scope

- 387.000 meters MV-LV Power Cable Installation
- 469.000 meters Instrumentation Cable Installation
- Up to 115.000 L.V and M.V Cable Termination
- 39.000 meters Cable Tray Installation
- 9 Prefabricated Substation Installation and Commissioning Work
- Total 196 pcs LV and MV Cubicle and 148 Control System(DCS & ESD) Cubicle Installation
- 4235 Field Instrument Installation, Test and Calibration Works
- Plant Fire & Gas Alarm System Installation Works
- 14.000 meters Stainless Steel Instrument Tubing Installation

## KHABAT THERMAL POWER PLANT ELECTRICAL WORKS



### Project Overview

The Khabat Thermal Power Plant Project, located near Erbil, is a 2×150 MW power generation facility designed to enhance the region's power supply and grid stability.

Karya Mühendislik A.Ş. participated as the Low-Voltage and High-Voltage Electrical Subcontractor to Gama Power System, completing all electrical and instrumentation works and supporting successful commissioning.

### Project Information

**Location:** Khabat – Erbil / Iraq

**Client / Main Contractor:** Ministry of Electricity / Gama Power System & POSCO Engineering

**Construction Period:** June 2015 – June 2018

**Scope of Work:** Installation and Commissioning of E&I Works

**Completed Man-Hours:** 598,000 MH

**Completed Budget:** 6,305,500 \$

### Project Scope

- 900,000 m MV–LV Power Cable Installation
- 250,000 m Instrument Cable Installation
- 100,000 LV–MV Terminations
- 30,000 m Cable Tray Installation
- 2×45 MVA UAT & 2×204 MVA Step-Up Transformers
- 2×200 MVA Generator Circuit Breakers
- Isolated Phase Bus Duct Installation
- 1,000+ LV/MV Siemens Switchgear Cubicles



## TÜPRAŞ ALIĞA REFINERY U-7000 REVAMP PROJECT E&I WORKS

### Project Overview

The Tüpraş Aliğa Refinery U-7000 Revamp Project was undertaken to modernize and improve process efficiency as part of Tüpraş's capacity enhancement program.

Karya Mühendislik A.Ş. acted as E&I subcontractor, performing all installation and commissioning works in accordance with refinery safety and quality standards.



### Project Information

**Location:** Aliğa – İzmir / Turkey

**Client / Main Contractor:** Tüpraş / Havatek Makina A.Ş.

**Construction Period:** September 2017 – July 2018

**Scope of Work:** Procurement, Installation and Commissioning of E&I Works

**Project Status:** Completed

**Completed Man-Hours:** 125,000 MH

**Completed Budget:** USD 1,187,000

### Project Scope

- 75,000 m LV Power Cable Installation
- 155,000 m Instrument Cable Installation
- 15,000 LV–MV Terminations
- 9,000 m Cable Tray Installation
- 1,100 Ex-Proof Instruments (Installation & Calibration)
- 15,000 m SS Tubing Design & Installation
- 25,000 m Electrical Heat Tracing Installation
- 250 Ex-Proof LED Lighting Fixtures

## TAQA ATRUSH PF-1 PHASE 1A EPF E&I WORKS



### Project Overview

The TAQA Atrush PF-1 Phase 1A Early Production Facilities Project was developed to establish early crude oil production and processing capability in the Atrush Block.

Karya Mühendislik A.Ş. participated as the E&I subcontractor, performing Electrical and Instrumentation works and supporting the safe start-up and commissioning of the facilities.

### Project Information

**Location:** Atrush – Duhok / Iraq

**Client / Main Contractor:** TAQA / Havatek Makina A.Ş.

**Construction Period:** September 2015 – August 2016

**Scope of Work:** Installation and Commissioning of E&I Works

**Completed Man-Hours:** 195,000 MH

**Completed Budget:** USD 3,610,000

### Project Scope

- 240,000 m MV–LV Power Cable Installation
- 4 Siemens E-Houses (Installation & Commissioning)
- 9,000 m Cable Tray Installation
- 140,000 m Instrument Cable Installation
- MV–LV Transformer Substations Installation
- 2×5.5 MW Gas Turbine Power Generation Units
- Flare Area E&I Works (up to 80 m height)
- 10 km Flowline HV & Fiber Optic Cable Installation



## NAINAWA 6X125 MW POWER PLANT E-BOP WORKS



### Project Overview

The Nainawa 6x125 MW Power Plant Project was executed to strengthen Iraq's electricity generation capacity through six high-efficiency gas turbine units.

Karya Mühendislik A.Ş. completed all Electrical and Instrumentation works, contributing to reliable and timely plant commissioning.

### Project Information

**Location:** Nainawa / Iraq

**Client / Main Contractor:** Ministry of Electricity / Çalık Enerji A.Ş.

**Construction Period:** December 2012 – April 2014

**Scope of Work:** Installation and Commissioning of E&I Works

**Completed Man-Hours:** 490,000 MH

**Completed Budget:** 5,065,000 \$

### Project Scope

- 15,000 m 400 kV HV Cable Installation
- 512,000 m MV-LV Power Cable Installation
- Siemens UAT Transformer Installation & Commissioning
- 28,750 m Cable Tray Installation
- 190,000 m Instrument Cable Installation
- Boiler & Turbine Instrumentation (6xGE PG9161-E Units)
- Pre-commissioning & Perimeter Lighting Works



# RESOURCES

## Human Resources

Human resources represent the most valuable asset of Karya Engineering. Our highly qualified engineering staff carefully supervises project processes and continuously monitors developments within the industry.

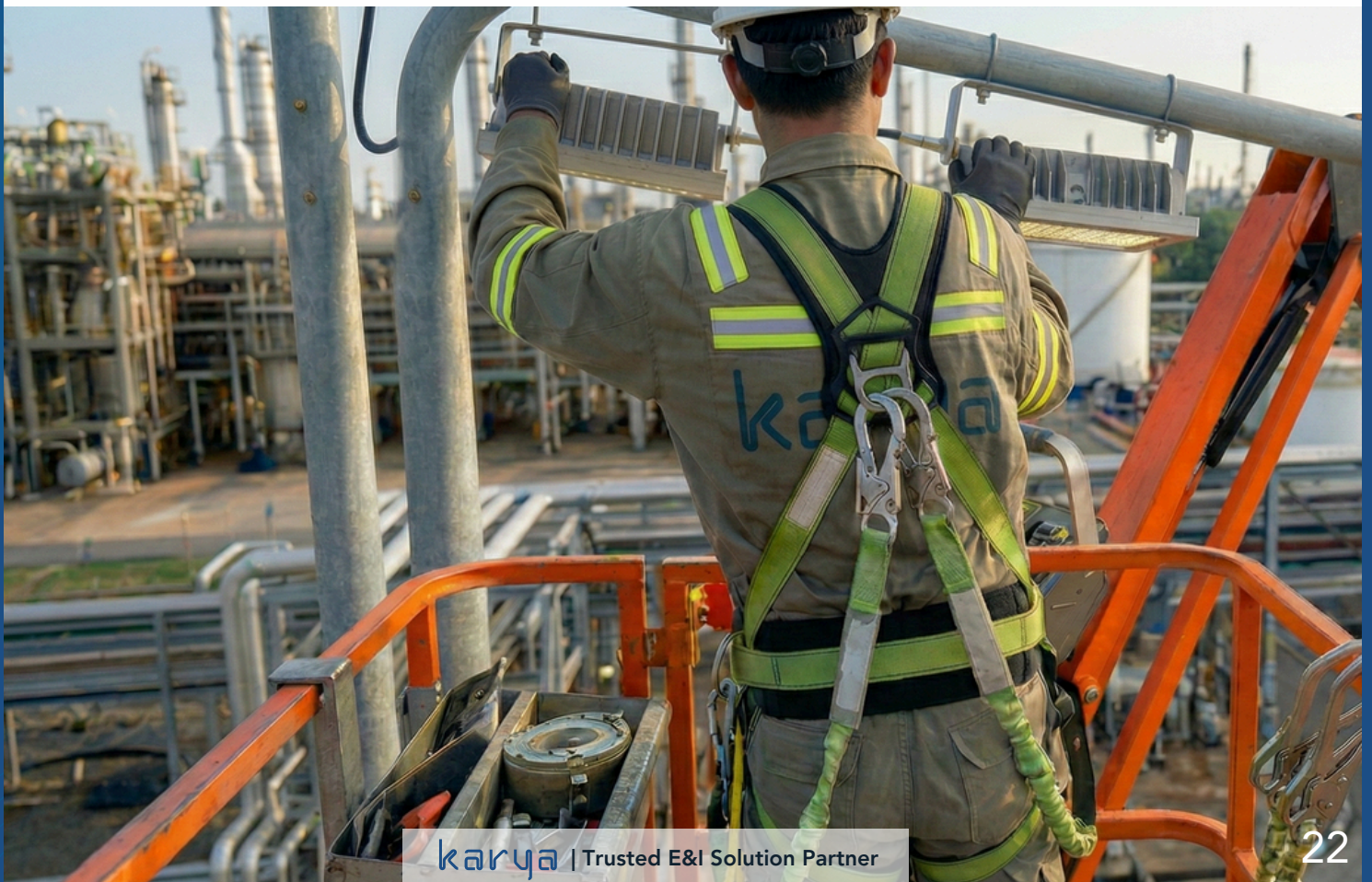
Through a diverse range of field teams, the company ensures the efficient and successful execution of projects by forming specialized teams of experienced professionals tailored to the specific scope and requirements of each project.



# RESOURCES

Our company places great importance on human resources management and implements a structured evaluation system in which engineering and field teams are assessed by their respective managers at the conclusion of each project.

Through this process, employee performance is evaluated using a standardized scoring system, and the results are formally documented. This approach enables the company to build and assign the most suitable teams for future projects, ensuring that the right personnel are allocated to each new project based on their performance and expertise.



Karya Engineering maintains a comprehensive inventory of test equipment and electrical and instrumentation assembly tools that are frequently required in its projects. All equipment is kept up to date with industry developments and complies with internationally recognized standards.

## Test Devices

- Fluke 9144 Temperature Instrument Calibration Device (up to 660 °C)
- Emerson AMS Trex & 475 HART Communicator
- Hipotronics 10 mA 80 kV DC Hipot Tester
- Fluke 1625 GEO Earth Tester

## Electrical & Instrumentation Installation Equipment

- 5 Ton Hydraulic Cable Pulling Machine and Cable Drum Trailer (for cable pulling works up to 400 kV)
- Battery-Powered Hydraulic Crimping Tools (up to 400 mm<sup>2</sup> cable)
- Battery-Powered Hydraulic Cable Cutting Tools (up to 105 mm dia. cable)
- Stainless Steel Tubing Hand Tube Benders (½" to 1½")
- Stainless Steel Tubing Cutter (3/16" to 1")
- Stainless Steel Tubing Deburring Tools (½" to 1½")

# QA/QC FIELD OPERATIONS

At Karya Engineering, field quality control procedures are at the core of our operations. Due to the nature of our industry, we strictly adhere to internationally recognized quality standards in all our activities. In addition, to ensure compliance with project-specific requirements and our clients' individual quality systems, our quality procedures are tailored to meet the specific needs of each project.

The quality process begins with the preparation of a Method Statement (MOS) for each work discipline, in accordance with client specifications and relevant international standards. These documents define, step by step, the methods to be applied during the execution phase and establish the QA/QC procedures to be implemented in the field.

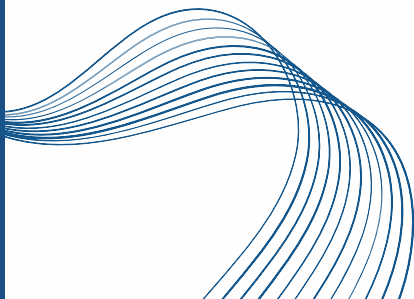
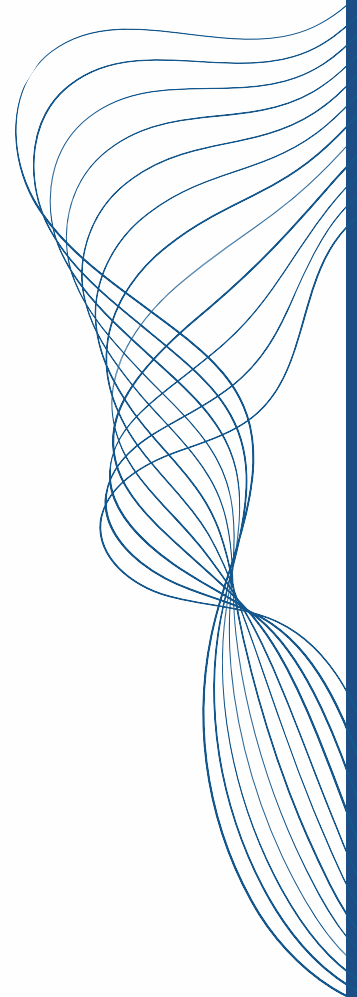


# QA/QC FIELD OPERATIONS

Following the approval of the Method Statement, an Inspection and Test Plan (ITP) is prepared. The ITP defines the inspection and testing points for each stage of the work, the applicable acceptance criteria, inspection frequencies, and the responsible parties. Field operations are then carried out and monitored in accordance with this plan, ensuring that every stage of the work is performed under strict quality control.

Upon completion of the inspections and tests, Inspection and Test Record (ITR) forms are issued. These official documents confirm that the completed work complies with the required standards and specifications. At the final stage of the project, overall integrity is verified based on the ITR documentation prepared for each work discipline.

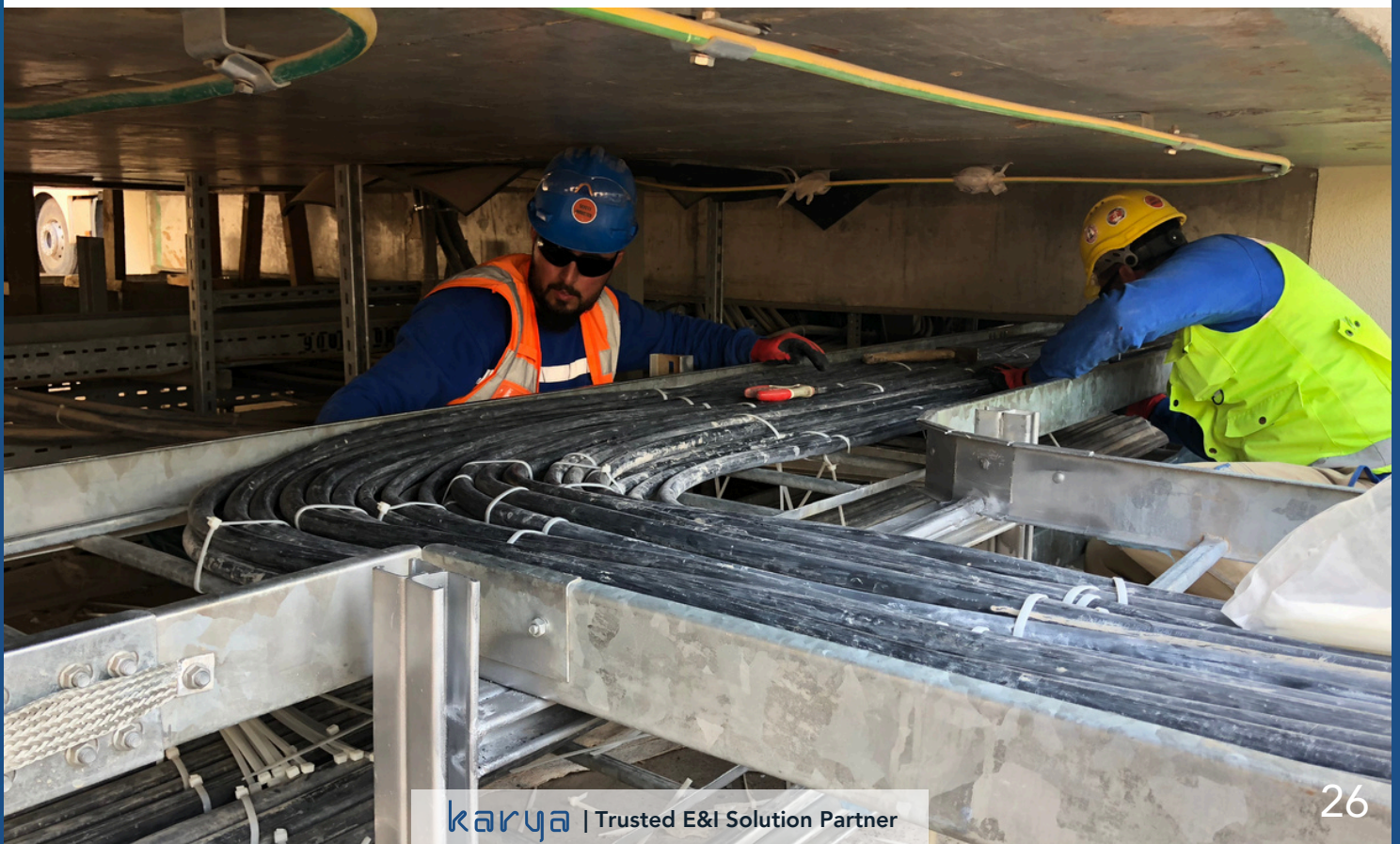
All these processes are designed by our Quality Department, taking into account client requirements and international standards. The overall process management is meticulously carried out by our Completion Team.



# HSE OPERATIONS

Our company implements a meticulous planning and process management approach for Health, Safety, and Environment (HSE) operations. Given the nature of the industries in which we operate and specialize, HSE practices are of critical importance. Fully aware of this responsibility, we adopt a human-centered approach by designing our HSE operations in line with international standards, continuously monitoring all processes, and improving them in accordance with the most up-to-date methodologies.

The first step of HSE operations is the preparation of Risk Assessment (RA) and Job Safety Analysis (JSA) documents, tailored to each specific task before work commences. These studies identify potential risks associated with each activity, define preventive measures, and specify the required Personal Protective Equipment (PPE).



# HSE OPERATIONS

Before any field activity begins, Toolbox Talks and safety awareness training sessions are conducted for all personnel. During these sessions, detailed information is provided on safety regulations, the proper use of Personal Protective Equipment (PPE), environmentally responsible work practices, and emergency procedures.

The HSE team conducts regular site inspections, documents its observations, and takes immediate action in cases of nonconformity. Continuous improvement approach is adopted to prevent workplace accidents, minimize environmental impact, and maintain a safe working environment.

Throughout the project, all accidents, near-miss incidents, and environmental impacts are recorded through the Incident and Near-Miss Reporting System. Root cause analyses are then carried out, and the necessary Corrective and Preventive Actions (CAPA) are implemented.

# HSE OPERATIONS

## Environmental Awareness

At Karya Engineering, we recognize that protecting the environment is not just a responsibility but a commitment to future generations. We strive to minimize our ecological footprint by promoting sustainable work practices, efficient resource management, and strict waste control. Our aim is to ensure that every project we undertake contributes not only to industrial progress but also to a greener and safer planet.

