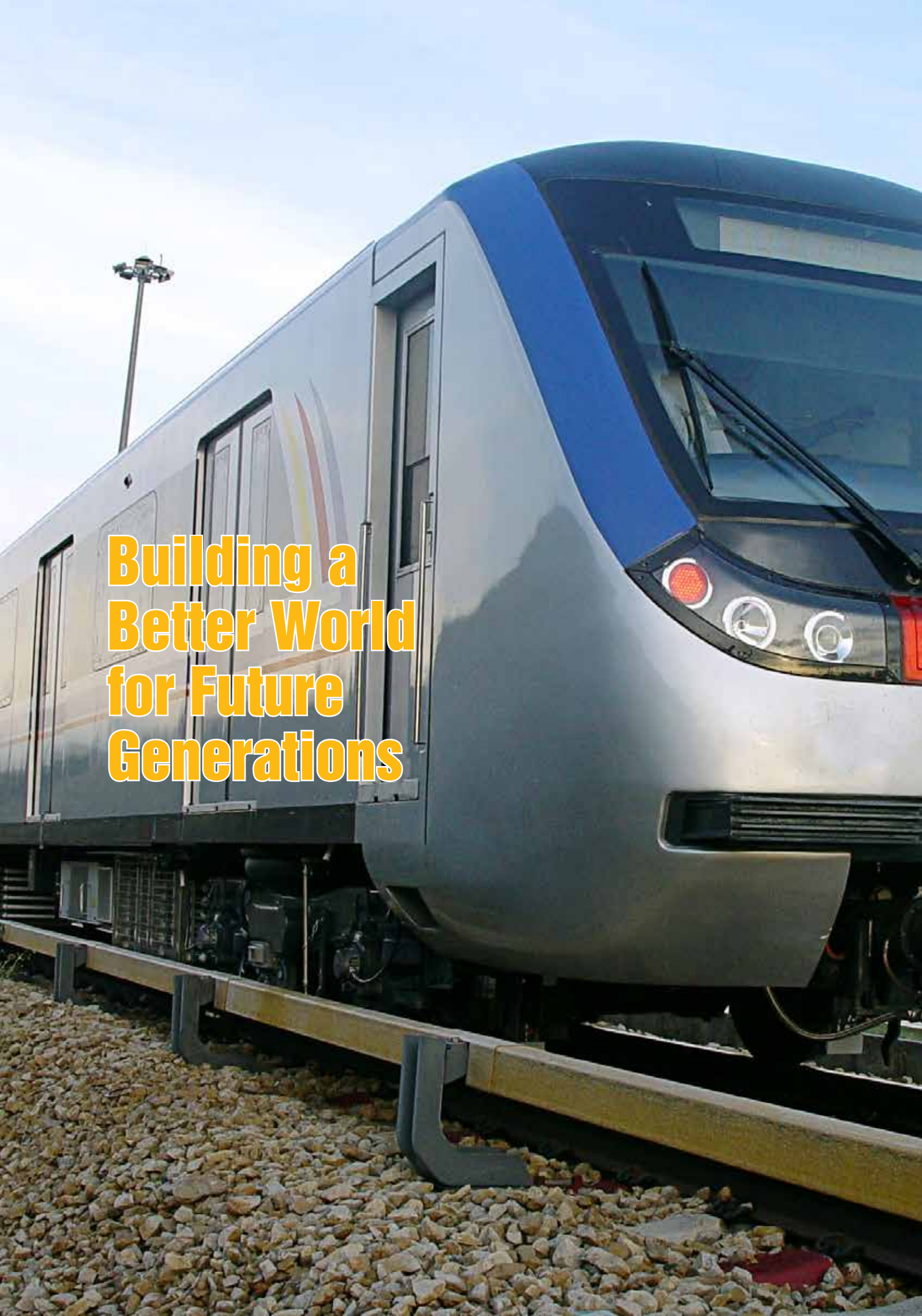




KAYSON

Railway Transportation Systems

Railways • Urban Railways • Monorails



**Building a
Better World
for Future
Generations**

KAYSON

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Show Video

Mission

To Provide World-Class Management, Engineering, Procurement & Construction Services Through People & Organizational Development to Improve the Quality of Life

Values

- Respecting People, Their Values & Rights
- Observing Professional Ethics and Adhering to all Obligations
- Commitment to Health, Safety and Environment
- Commitment to Providing Desired Quality
- Cherishing Creativity, Initiative and Innovation Culture
- Promoting Continual Technical & Managerial Improvements
- Commitment to Win-Win-Win Relationship

Services

- Project Development
- Project Management
- Engineering
- Procurement
- Construction
- Financing
- Investment
- Operation and Maintenance

Divisions

Civil	Water and Wastewater	Railway Transportation Systems	Housing and Buildings	Oil, Gas and Industry
				
■ Ports & Harbors ■ Airports ■ Roads, Elevated Highways & Tunnels ■ Bridges	■ Dams ■ Water Transfer and Diversion Tunnels ■ Irrigation and Drainage Networks ■ Water and Wastewater Treatment Plants ■ Water Transmission Lines ■ Sewerage Collection and Transmission Lines (by Pipejacking Method)	■ Railways ■ Urban Railways ■ Monorails	■ Mass Housing ■ Residential Complexes ■ Townships ■ Infrastructure Facilities & Landscaping ■ Commercial & Office Complexes ■ Sports, Recreational, Cultural & Medical Facilities	■ Refineries & Petrochemical Plants ■ Pumping & Compressor Stations ■ Power Generation Plants, Power Transmission & Substations ■ Industrial Manufacturing Plants ■ Pipelines & Tank Farms ■ Gas Injection Projects

Health, Safety and Environmental Policy

As a general contractor, Kayson is committed to safeguarding the health and safety of its staff and other stakeholders (such as a subcontractors, partners, neighbors, visitors, etc.) and protecting the environment.

To achieve these goals, all levels of the organization and subcontractors shall adhere to the following commitments:

- Creating a safe and healthy workplace
- Minimizing the impact on the environment
- Minimizing disruption in the daily life of people and society
- Complying with legal requirements (local, national and international), and clients' HSE requirements
- Formulating, updating, and implementing suitable and creditable models for the Company's HSE management system
- Providing training for managers and supervisors and securing their active participation in the implementation of basic HSE principles
- Training and encouraging personnel at all levels of the organization and obliging them to abide by basic HSE principles
- Providing training for subcontractors and obliging them to comply with basic HSE principles
- Recording, investigating, researching near misses, accidents and hazards and their causes in order to eliminate them, and, if not possible, minimize the possibility of their recurrence
- Continually improving the performance of the company's HSE management system



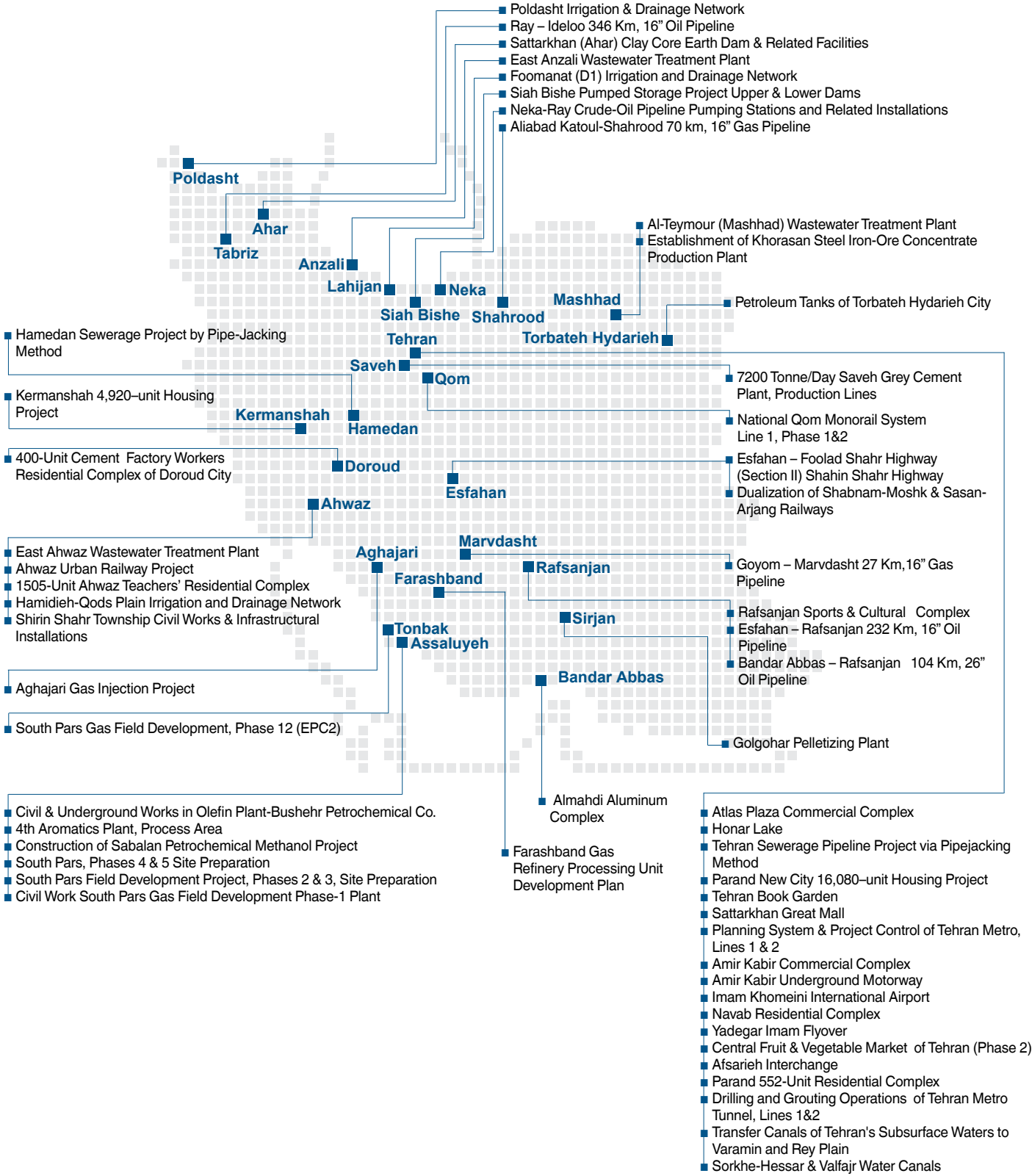
Quality Policy

In Concern with our Mission and to Achieve our Vision and Objectives, with Observing Values and Adhering to all Specifications and Requirements Agreed upon in Contracts, National and International Regulations and Standards, with all Staff Involvement, Kayson is committed to:

- Continual Monitoring and Improvement in Quality of Design and Construction of Projects
- Continual Improvement of Efficiency and Effectiveness of Processes based on Results of Audits, Evaluations and Performance Measurements and Organizational Improvement Management Feedbacks
- Ensuring Efficient Provision and Allocation of Resources to Execute Processes Effectively
- Empowering, Developing and Enhancing Knowledge of Employees and Increasing their Involvement in the Effective Development and Implementation of Management Systems and Knowledge and Experience Transference
- Understanding and Meeting Stakeholders' Requirements and Expectations based on Sustainable Development and Mutual Benefit



National Commitment



World-Class Construction



Ahwaz Urban Railway Project

Client: Ahwaz Municipality, Ahwaz Urban Railway Organization

Partner: Norinco of China

Type of Contract: EPC (Engineering, Procurement & Construction)

Contract Period: 48 months

Location: Ahwaz City, Capital of Khuzistan Province

Status: Under Construction

Project Outline

The population of Ahwaz city, the capital of Khuzistan Province, which according to a census conducted in 2006 stood at 1.38 million, is forecasted to reach 1.6 million in 2021. The city will, therefore, urgently need modern transportation systems, particularly urban railway networks, in order to retain its position as a leading agricultural, industrial and educational center. Fulfillment of this project reduces urban traffic congestion and air pollution thereby provides comfort and welfare for all citizens. Saving in expenses of journeys within the city and offering the most effective and safest transportation system are the other advantages of this project.

Traffic models carried out for Ahwaz city provide for four lines. The first line will carry the most passengers (its peak hour ridership is 17,000 per hour each way). This line is built all underground and will commence at Pasdaran Blvd. northeast of the city. Passing through city's central and crowded district, it will lead toward Golestan Blvd. in southwest. The total length of line 1 is about 23 km and will have 23 stations to provide easy access to the city's major commercial and administrative centers. The travel time, including stops at stations, will be about 44 minutes. At peak travel times, the two trains will operate on the line with the headway of 210 seconds and the maximum speed of trains will reach 80 km/h.

Scope of Work

The project's scope of work includes provision of design, engineering, supply of equipment & materials, construction and installation works, commissioning and training in different areas such as tunneling, construction of railway stations and related access roads, depot buildings, wagon parking facilities, central control building, inter-tunnel ventilators, laying rails, electrical and mechanical equipment, locomotives and wagons for the entire line.

Unique Features of the project

- The first national railway joint venture project, fully executed as an EPC contract, under the leadership of a private company
- Great risks due to high levels underground water
- Passage of railway beneath the Karun Riverbed
- Existence of huge underground infrastructure facilities in the excavation route such as water and oil pipelines
- Variety and complexity of geological structure in the route
- Passing through and constructing stations in the commercial center and city's most populated regions

Key Statistics

- Tunneling: 19x2 km with outer diameter of 6.8 m & inner diameter of 5.9 m
- Rail laying: 23X2 km & 13 km for depot & parking
- Stations: 23
- Parking and depot buildings: 45,500 m²
- Central control building: 5,000 m²
- Earthwork: 4,000,000 m³
- Reinforcement: 80,000 t
- Concrete: 950,000 m³
- Formwork: 600,000 m²
- Segmental lining: 156,000 concrete segments in 26,000 rings



Get More Info...

Qom Monorail Project

Client: Qom Urban Railway Organization
Partner: MAPNA Group
Type of Contract: EPC (Engineering, Procurement & Construction)
Contract Period: 30 months
Location: City of Qom, Qom Province
Status: Under Construction

Project Outline

The construction of Qom's monorail system is part of a nationally-coordinated plan to ease traffic congestion in Iran's major cities. The project, Iran's first monorail system, is being implemented by a joint venture of MAPNA Group and Kayson Company within the framework of an EPC contract. The first phase of the project, which comprises a 6.8 km line with eight stations, is expected to be completed in 30 months. Average speed of operation is 40 km/h with 4 minutes headway. This straddle-beam monorail is designed to carry 12,000 passengers when it opens to the public in the first operation phase and 19,000 passengers in 2026.

The holy city of Qom, located 150 km south of capital, Tehran, is a significant destination for a large number of pilgrims. The project is aimed at improving services for the citizens and pilgrims visiting the city.

Scope of Work

- Basic and detail design of civil structures including the foundation, columns, reinforced concrete beams, stations, depots, terminals, as well procurement of all needed materials.
- Basic and detail design of the fleet; installation of mechanical, electrical, signaling and communication equipment; provision of electrical power, switching design, plus procurement of the fleet, related equipment and commissioning.

Key Statistics

- Embankment (cut & fill): 730,000 m³
- Formwork: 200,000 m²
- Concrete: 110,000 m³
- Reinforcement: 18,000 t
- Steel structures: 3,000 t
- Sandwich panel: 27,000 m²
- 3D panel: 25,000 m²
- Precast concrete beams (by the accelerated steam curing method): 16,600 m
- Average area of each station: 3,500 m²
- Parking, repair & maintenance facilities: 22,500 m²
- Ancillary, control center and support buildings: 6,800 m²
- Dynamic compaction: 55,000 m²



Get More Info...



Dualization of Shabnam-Moshk Railway Track

Client: IRI Railways (Deputy of Foundational and Technical Affairs)
Partners: Hexa Consulting Engineers Co., Darya Khak Pay Consulting Engineers Co.

Contract Period: 24 months

Location: Shabnam-Moshk railway, Isfahan, Iran

Type of contract: EPC (Engineering, Procurement & Construction)

Status: Under construction

Scope of work

IRI railways (aim at improving- tend to improve the capacity of railway services on Shabnam-Moshk railway within constructing "Line2" of it.

"Line1" is a single line railway with Ballast covering.

"Line2" is going to lay next to "Line1" or combining in some areas with the minimum interval space of 5 meters so that the surface of the main foundation of the two lines would be at least 11 meters.

"Line 2" must be constructed and enforced with Ballast covering and minimum resistance of 3D tonnes.

The estimated speed for the new line (Line 2) is 160 km/h.

The total length of Shabnam-Moshk railway Project is 46.6 km with 3 stations in "Shabnam", "Shiraz" and "Varzaneh".

Key statistic

- Earth Work: 1,455,512 m³
- Culverts: 131
- Ballast: 123,958 m³
- Rail: 46,6 km
- Switch Point: 55



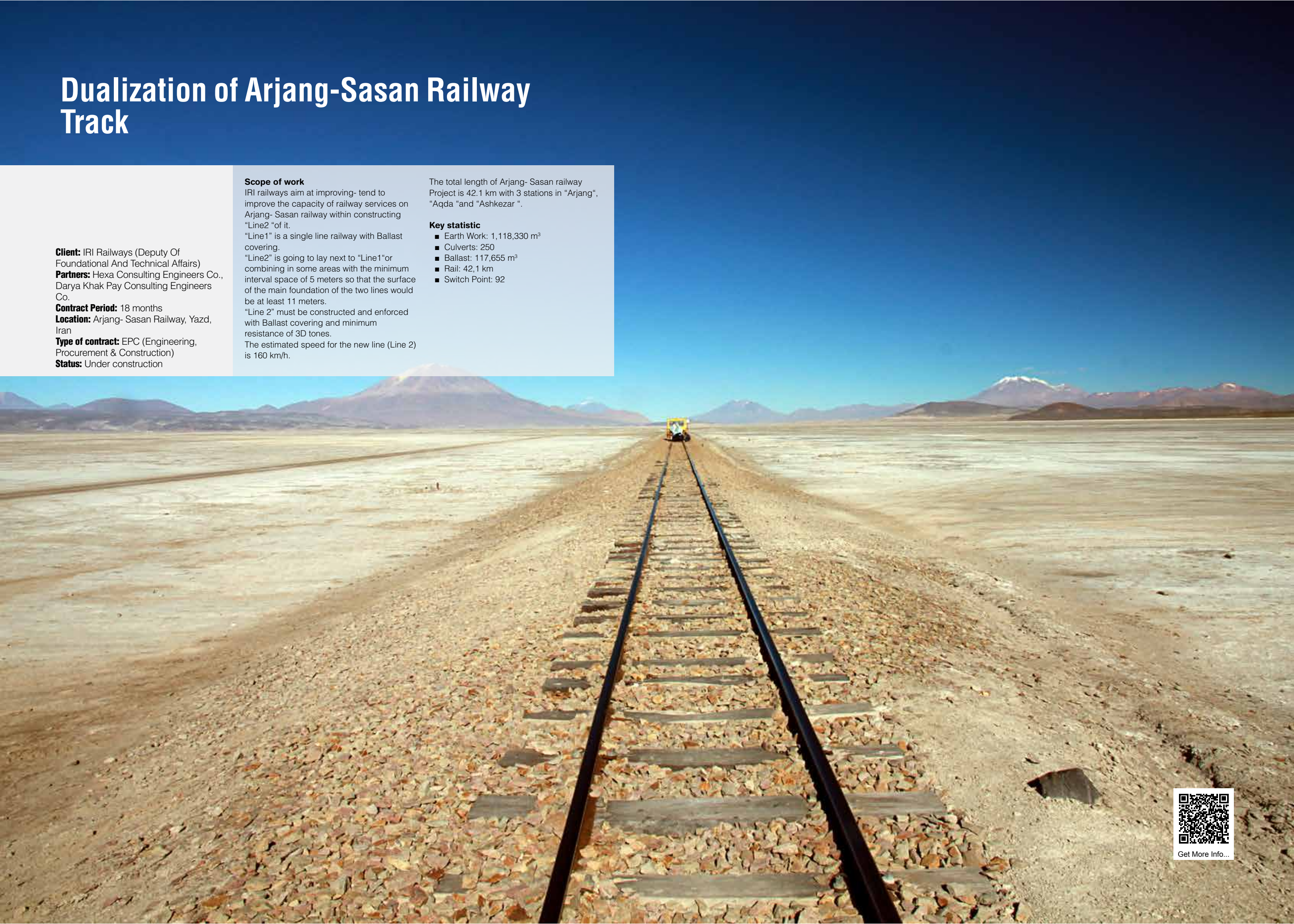
Get More Info...

Dualization of Arjang-Sasan Railway Track

Client: IRI Railways (Deputy Of Foundational And Technical Affairs)
Partners: Hexa Consulting Engineers Co., Darya Khak Pay Consulting Engineers Co.
Contract Period: 18 months
Location: Arjang- Sasan Railway, Yazd, Iran
Type of contract: EPC (Engineering, Procurement & Construction)
Status: Under construction

Scope of work
IRI railways aim at improving- tend to improve the capacity of railway services on Arjang- Sasan railway within constructing "Line2 "of it.
"Line1" is a single line railway with Ballast covering.
"Line2" is going to lay next to "Line1"or combining in some areas with the minimum interval space of 5 meters so that the surface of the main foundation of the two lines would be at least 11 meters.
"Line 2" must be constructed and enforced with Ballast covering and minimum resistance of 3D tones.
The estimated speed for the new line (Line 2) is 160 km/h.

The total length of Arjang- Sasan railway Project is 42.1 km with 3 stations in "Arjang", "Aqda "and "Ashkezar ".
Key statistic
■ Earth Work: 1,118,330 m³
■ Culverts: 250
■ Ballast: 117,655 m³
■ Rail: 42,1 km
■ Switch Point: 92



Get More Info...

Drilling and Grouting Operations of the Tehran Metro Tunnel, Lines 1&2

Client: Tehran Urban & Suburban Railway Company
Consulting Engineers: Khavar Tunnel
Contract Period: 16 Months
Location: Tehran, Iran
Status: Completed

Project Outline

The Tehran metro system is a project of immense national importance which, when completed, is destined to radically transform Tehran's transportation network. Due to the complex nature of the project, the tunneling program encompassed a variety of innovative design and construction techniques.

The Tehran metropolitan area has a diverse and challenging geology, including soft and sandy soils. An important success factor for Tehran metro's tunneling program was, therefore, that the challenges posed by the geology be identified up-front on a segment-by-segment basis, and effective solutions be then derived and implemented to overcome potential difficulties. Specifically, efficient underground system waterproofing techniques had to be used to provide

completely dry tunnels.

The Tehran metro's tunnels were executed via open-trench, Austrian/shotcrete supported and concrete segmental lining methods.

Scope of Work

Involved: Drilling and contact grouting to strengthen the soil contact with the tunnel's segmental lining
Drilling and grouting in order to make an impermeable curtain to prevent underground water seepage and consolidate decompressed zones caused by underground excavation.
Ongoing control of construction specifications prior to and after grouting operations.
Performing waterproofing tests following investigation drilling and upon completion of each stage of grouting.



Get More Info...

Project Planning & Control of Tehran Metro, Lines 1 & 2 (Based on Two Contracts)

Client: Tehran Urban & Suburban Railway Company
Type of Contract: Engineering Services
Contract Period: 36 & 26 Months
Location: Tehran, Iran
Status: Completed

Project Outline

The Tehran Metro is a project of immense strategic importance to the capital's transportation network.

To overcome the problems impeding the project's progress, the Tehran Urban and Suburban Railway Company decided to assign the task of project planning and control to a consultant. The aim was to better integrate the engineering, procurement, planning and construction processes and more effectively coordinate activities carried out by national and international contractors.

Whatever the project, planning and coordination of design, procurement, and construction activities play a determining role in completing the project on time, within budget and in accordance with the required quality standards. The Tehran Metro which was originally planned a few decades ago, gained a new momentum when the responsibility for project planning and control was entrusted to Kayson. Kayson is proud of the role- although small- it has played in the implementation of this huge and highly important project.

Scope of Work

Project Planning:

- As-is assessment
- Restructuring the project's existing organization
- Planning project communication management
- Planning the project's procurement requirements
- Planning the project's cost outlays, including preparation of financial estimates

Project Control:

- Schedule control
- Procurement control
- Cost control
- Scheduling project activities
- Coordinating national and international contractors' activities
- Designing the project's reporting system
- Submitting a weighted progress report on a regular basis to ensure that all required activities are carried out on time so that the project can come online as scheduled.



Get More Info...

Sustainable Human Development & Social Responsibility

Creating spaces for living & working, building dams to produce hydropower and irrigate farmlands, transportation systems to link people means that Kayson operates in an environment where it is constantly surrounded by people, in urban and rural areas throughout Iran as well as overseas. We see our company as a member of communities in which we work, and we support them accordingly. We integrate the local community into our daily work as much as possible. Indeed, the entire Kayson family operates according to the conviction that we have to become a part of the community we serve in order to be successful. By community we mean the people who live and work close to our projects and who are affected, in one way or another, by what we build.

Kayson people view themselves as guests and partners in these communities and therefore consciously assume a long-term responsibility to people who live there. Accordingly, all of our project management teams pursue a clear policy of community involvement and take an active interest in community happenings. No matter where Kayson is executing a project, a key success factor is good relations with local residents and neighbors. For this reason, our operational units organize site visits and other informational events where local residents, end-users and other stakeholders can learn about the company's projects. In some cases, a public relations expert is hired to liaise exclusively with the community.

Since its inception, Kayson's fortunes as a company and its impacts on society have been inextricably linked. This simple idea of interdependence between business and society remains at the heart of our company. What has changed, however, is the size and scope of our Company and with it our social responsibilities.



Building a Better World for Future Generations

