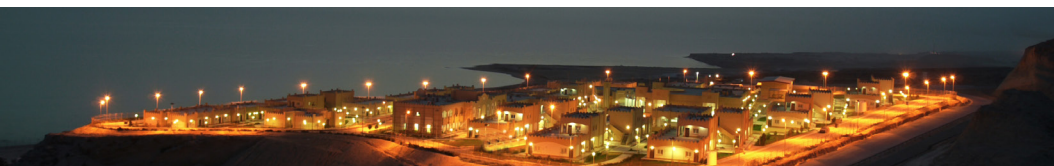


# 7/ NAVROOD 7/ Profile

November 2017

Over 36 years of excellence in rendering professional contracting services to enhance national infrastructures and enrich people's lives





- 1981

Established and began rendering contracting services in the road sector
- 1992

Got involved in its first project in oil and gas sector – Tabriz Petrochemical Complex
- 2000

Awarded a contract to build a 52 km cross-country gas pipe-line
- 2002

Awarded a contract to build an entire plant – Ethane Crack-ing Plant, 9<sup>th</sup> Olefin Complex
- 2008

Awarded a contract to deliver its first EPC project in the Oil & Gas sector, worth in excess of USD 284 Million
- 2008

Extended the scope of activities to render full mechanical works, including A/G Piping, Equipment Installation, ...
- 2015

Awarded a contract to implement its first Railways EPC project



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Navrood is a **100% private joint stock** Iranian EPC contractor which was established in **1981**. In the beginning, Navrood started its endeavor in road construction. Later in 1992, Navrood entered the Oil & Gas sector by executing the site preparation, civil works, and underground piping works of Tabriz Petrochemical Complex. The next milestone in Navrood activities was the year 2002, when Navrood as the leader of NST<sup>1</sup> joint-venture was awarded a PC contract to develop the ethane cracking plant in the 9<sup>th</sup> Olefin Complex, Assaluyeh, which at the time was the biggest

1 Navrood Co., Steam Co., and T.E.G consortium

Olefin complex in the world. In 2007, Navrood, as the leader of NASR<sup>2</sup> consortium, got involved in an EPC contract worth more than **USD 284 million** to construct the tanks and non-industrial buildings for the 12<sup>th</sup> Phase of south pars gas field development project in Assaluyeh area.

Navrood has also executed cross-country gas pipelines in some of the most challenging terrains and environments, including mountainous regions, utilizing its versatile fleet and technical know-how to deliver the project not only

2 Navrood, Ariya Pishro-Gharn, Steam, and Radira Companies

on time, but also with the highest technical and safety standards.

So far, Navrood has successfully completed more than **80** projects, involving:

- Participation in the construction of **12** phases out of the total 24 phases of South Pars gas field development project;
- Participation in construction of **4** petrochemical complexes;
- Construction of more than **1500 km** of roads and high-

ways;

- Building more than **100 km** of cross-country gas pipelines; and so on.

During the years, our unwavering **commitment** to our clients and our contractual obligations, our excellent **HSE** track record, and our pursuit for uncompromised **quality** has earned Navrood not only a national reputation for commitment, quality, and professional conduct, but also many recognitions and awards.

Navrood has Grade **1** in **Oil and Gas**, Grade **1** in **Roads & Trans-**

**portation**, Grade **1** in **Buildings**, and Grade **1** in **Installation and Equipment**, which is the highest possible grade a registered Iranian contractor would attain, as evaluated by the Management and Planning Organization of Iran, a governmental body in charge of evaluating Iranian contractors. Navrood has also Grade **2** in **Water and Water Resources**, and Grade **5** in **Mining and Industry**.

Today, as a **multi-disciplinary** company, Navrood utilizes its strong financial capability, its extended and versatile machinery and equipment fleet, its organizational skills, and the technical

know-how of its experienced managers and personnel to render its professional services for Engineering, Procurement, and Construction of complex projects in a vast variety of sectors such as oil and gas refineries, petrochemical complexes, oil and gas pipelines, water transport pipelines, roads and highways, railways, airports, infrastructures, and so on. As such, major Iranian clients in charge of national mega projects consider Navrood as a capable and reliable partner to develop their prime projects and to realize their strategic objectives.







A message from  
Managing Director

From the very beginning, our main objective was to deliver on our client’s trust by striving for the highest technical standards, to deliver premium quality, to provide a safe working environment for everyone, to respect and protect the environment in which we operate, and to engage in an ethical practice.

During the years, and with the help of an efficient organization and our top notch managers, engineers, specialists, and personnel, we are delighted that we could manage to deliver on our early promise, and to exceed the clients expectations.

We are determined to preserve our competitive edge in an increasingly changing environment and face new challenges by:

- Implementing an integrated management system in all our

projects, and embodying the transparent flow of information among all stakeholders;

- As a project based organization, adhering to the latest standards for the successful management and implementation of projects, such as PMBoK;
- Emphasizing on the paramount importance of our HSE and Quality Assurance / Control departments and practices in all of our projects, to ensure the quality of the work, and to

guarantee the safety of everyone involved;

- Empowering our project management office (PMO) and our project planning and control department, to ensure that our projects are on track, and that we are in compliance with our strategic direction;
- Utilizing cost control procedures in all projects to ensure their compliance with corresponding budgetary requirements;

- Implementing value engineering to generate added value for our clients, and for the project;
- Utilizing our expertise and good reputation among financial institutions to arrange for the financing of projects, when required; and
- Facilitating the growth of our most valuable asset – our personnel – by providing ongoing training programs.

As we move forward, we are

confident that based on our core principles, our vast experience, and our commitment to excellence we could face any new challenges head on, and as always, exceed the expectations of our respected clients.

Ali Shieh-Beygi  
Managing Director



Construction Grades  
By Management and Planning Organization of Iran

1

- Oil & Gas
- Roads and Transportation
- Buildings
- Equipment & Installation

2

Water and Water Resources

5

Mining & Industry



EPC Grades  
By Industrial Management Institute

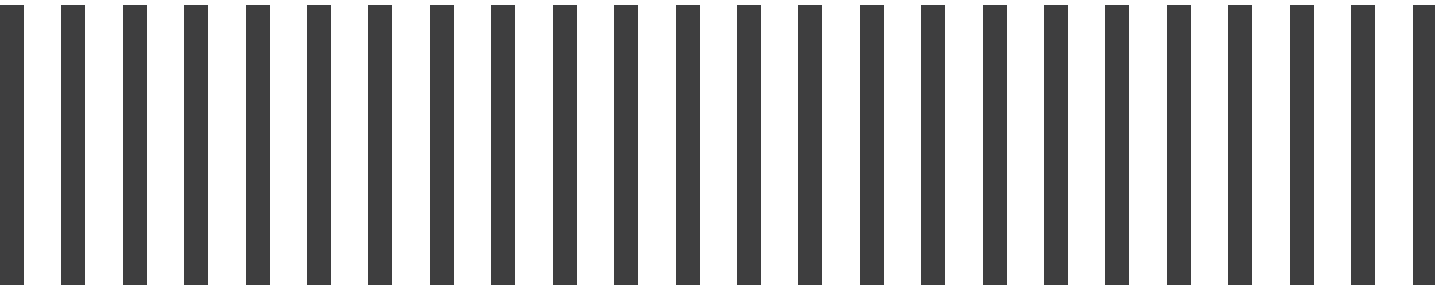
Oil, Gas, and Petrochemical Sector

D<sup>+</sup>

Industrial and Mining Sector

D<sup>+</sup>

† D<sup>+</sup>: Handling projects of up to € 270 million





ISO Certificates

- ISO 9001 : 2015 – Management System
- ISO / TS 29001 : 2010 – Quality Management System for Oil & Gas
- ISO 14001 : 2015 – Environmental Management System
- OHSAS 18001 : 2007 – Occupational Health & Safety Management System
- HSE-MS – HSE Management System
- ISO 10002 : 2014 – Customer Satisfaction Management System
- ISO 10006 : 2003 – Project Quality Management System



Product Quality Certificates

- Concrete Verification Compliance  
In accordance with European standards **EN 206-1**, **BS 8500**, and **ISO 13315**
- Hot Mix Asphalt Verification Compliance  
In accordance with European standards **EN 13108** Family, and **EN 12697** Family

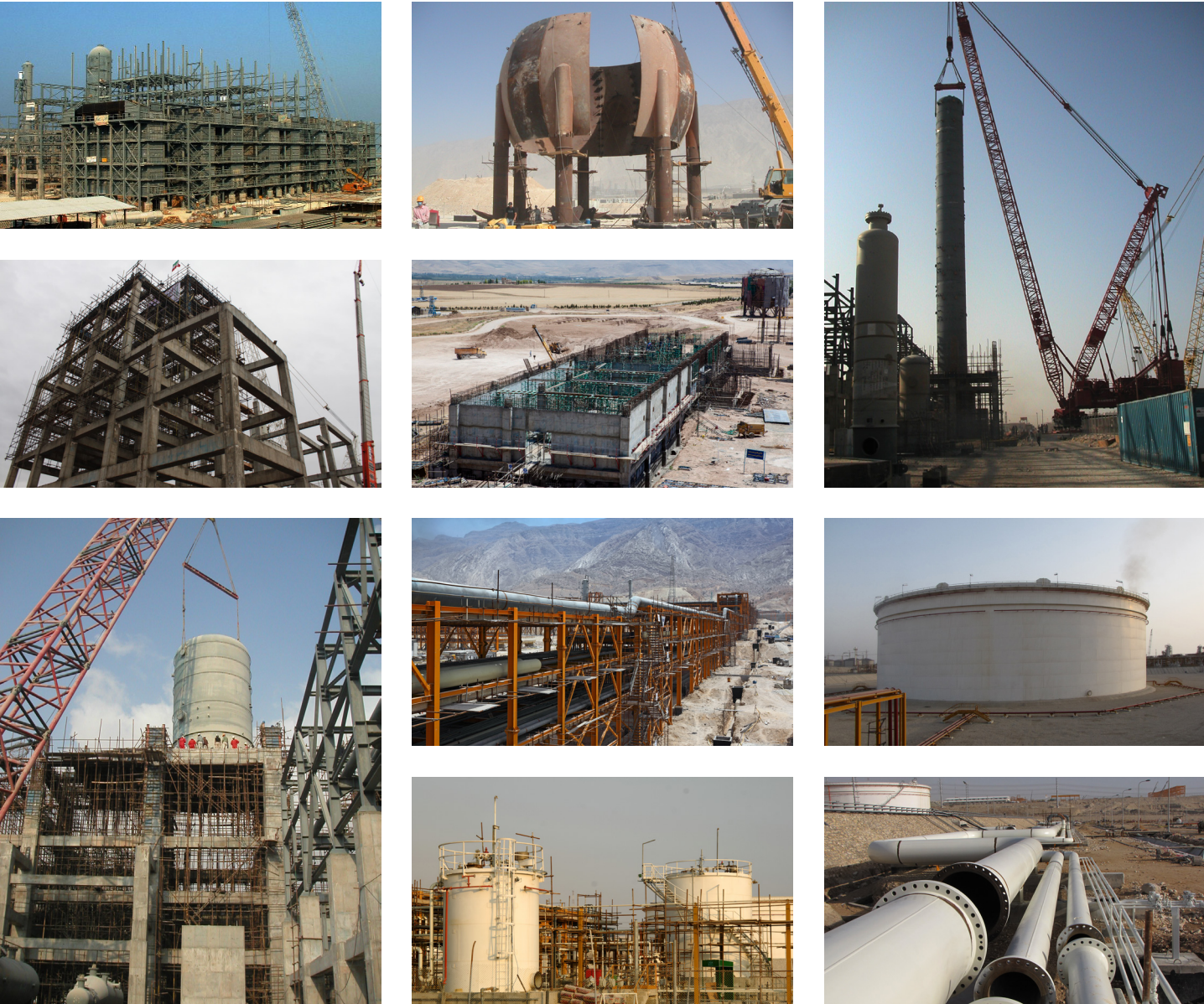




Oil & Gas Sector

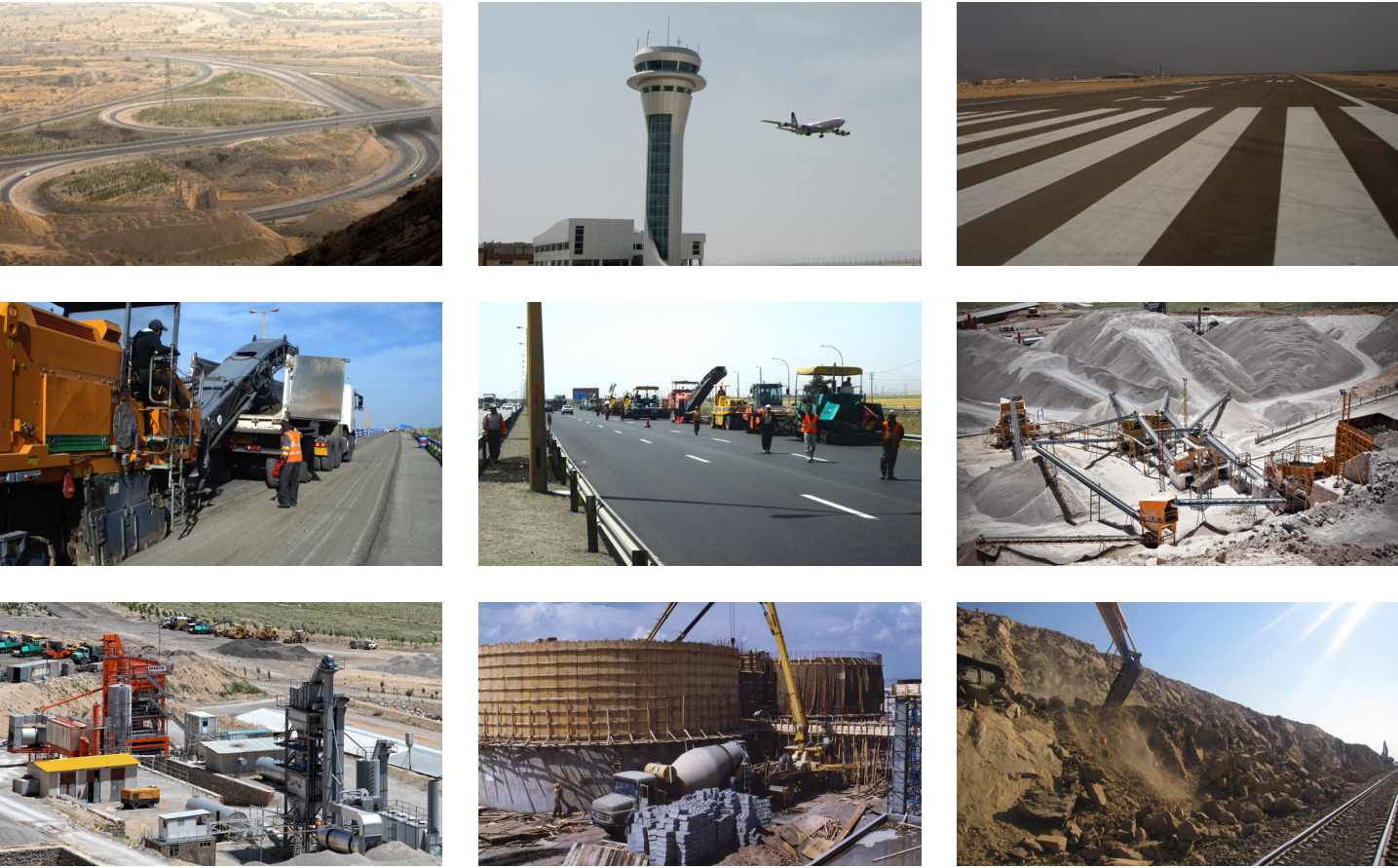
EPC + F contracting services in different sectors

- Refineries & gas plants
  - Petrochemical complexes
  - Cross-country pipelines
- Civil works
  - Mechanical works
  - Heavy structures
  - Industrial & non-industrial buildings
  - U/G & A/G piping
  - Heavy equipment installation
  - Storage tanks
  - Pump Stations
  - Compressor stations, ...



Roads & Transportation Sector

- Roads and highways
- Railways
- Bridges and infrastructures
- Ports & airports



Water Sector

- Pipelines
- Water reservoirs
- Dams & irrigation canals
- Water & sewage treatment plants



Affiliations

- Middle East Bank  
One of the founders, and a shareholder



- Pasargad Bank  
Shareholder

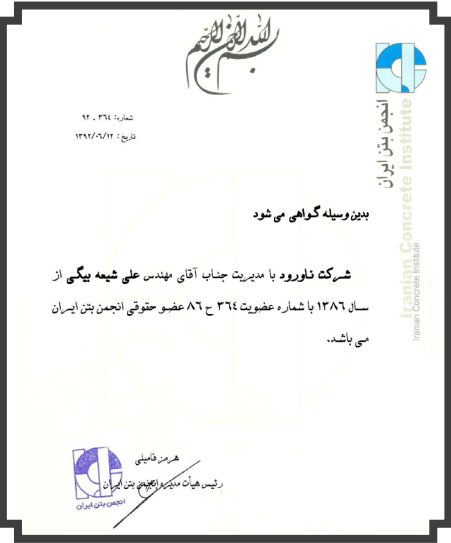
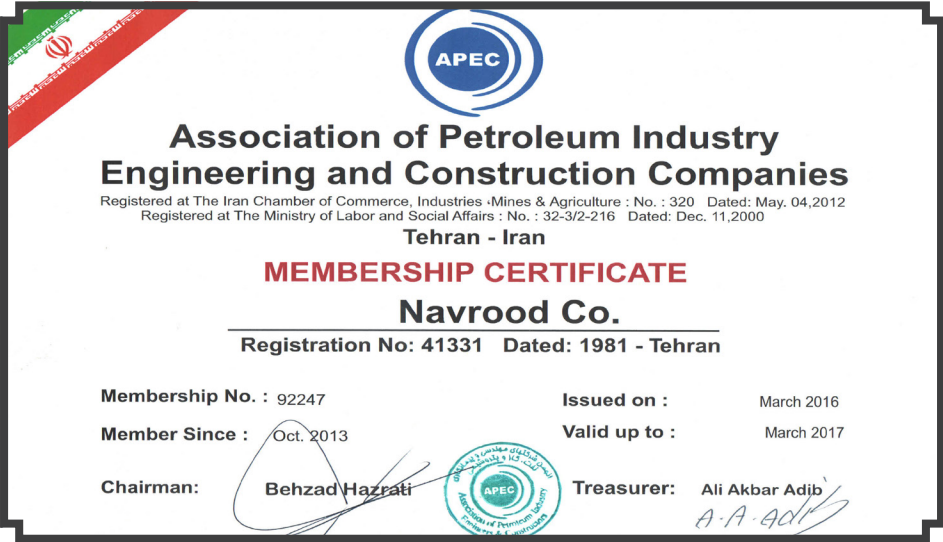


- Namavaran Mohandesi International Investment Co.
  - ❑ Founded by 72 construction companies, including Navrood.
  - ❑ A share holder, and a board member



Memberships

- APEC (Association of Petroleum Industry Engineering and Construction Companies)
- Construction Companies Association
- Road Construction Companies Association
- International Consultants and Contractors Association of Iran
- Iranian Concrete Institute





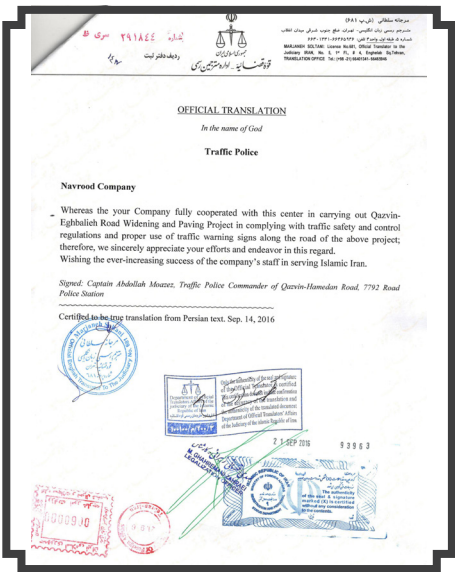
Some Accomplishments

2015

### Safety Award

#### Ghazvin – Eghbaliyeh main road extension

for the safe execution and for close cooperation with highway police during the execution of the project

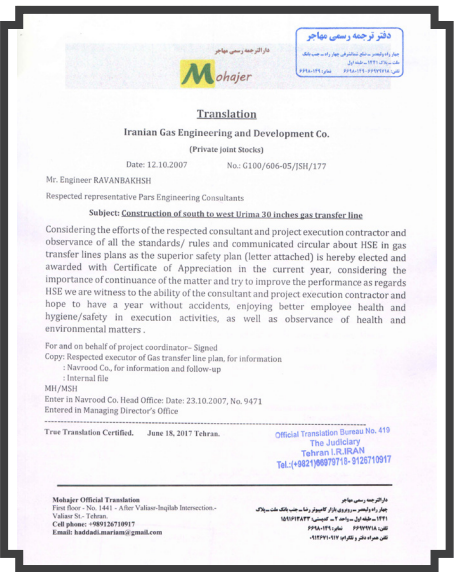


### Safety Award

#### EPC1, Phase 12, South Pars Gas Field Development

for our role in selection of Phase 12 as the **superior HSE project** in South Pars Gas Field Development, achieving the record of **17.5 million** man-hours **without lost time injury**

2014



### HSE Award

#### Orumiyeh Gas Pipeline

for Navrood’s role in selection of project as the **superior HSE project**

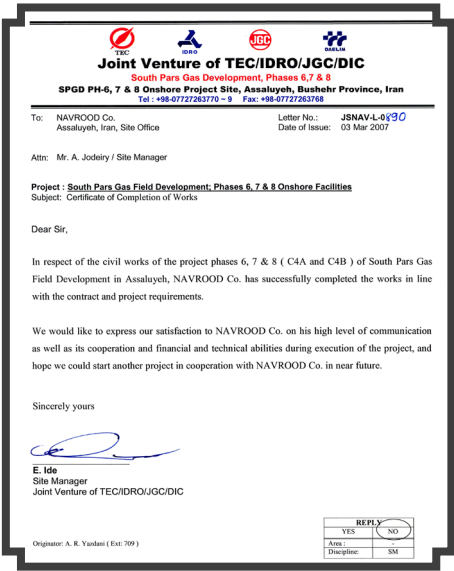
2007

2007

### Achievement Award

#### C4A Package, Phases 6, 7, and 8, South Pars Gas Field Development

Recognizing Navrood’s high level of **communication**, its **cooperation**, and its **financial** and **technical** capabilities



2010

### Achievement Award

#### Phases 17 & 18, South Pars Gas Field Development

for setting a new national record in installation of the plant’s steel structure pipe racks, achieving an average of **1800 tons per month**.



### Safety Award

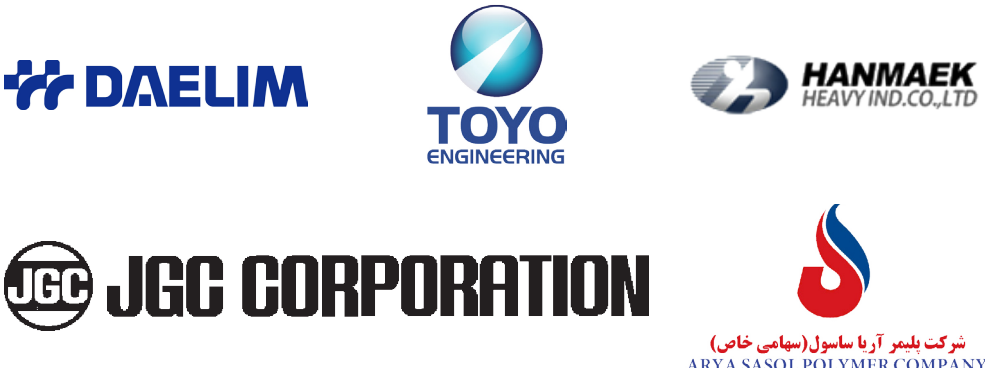
#### C4A Package, Phases 6, 7, and 8, South Pars Gas Field Development

for achieving **15 million** man-hours **without lost time incident**

2005



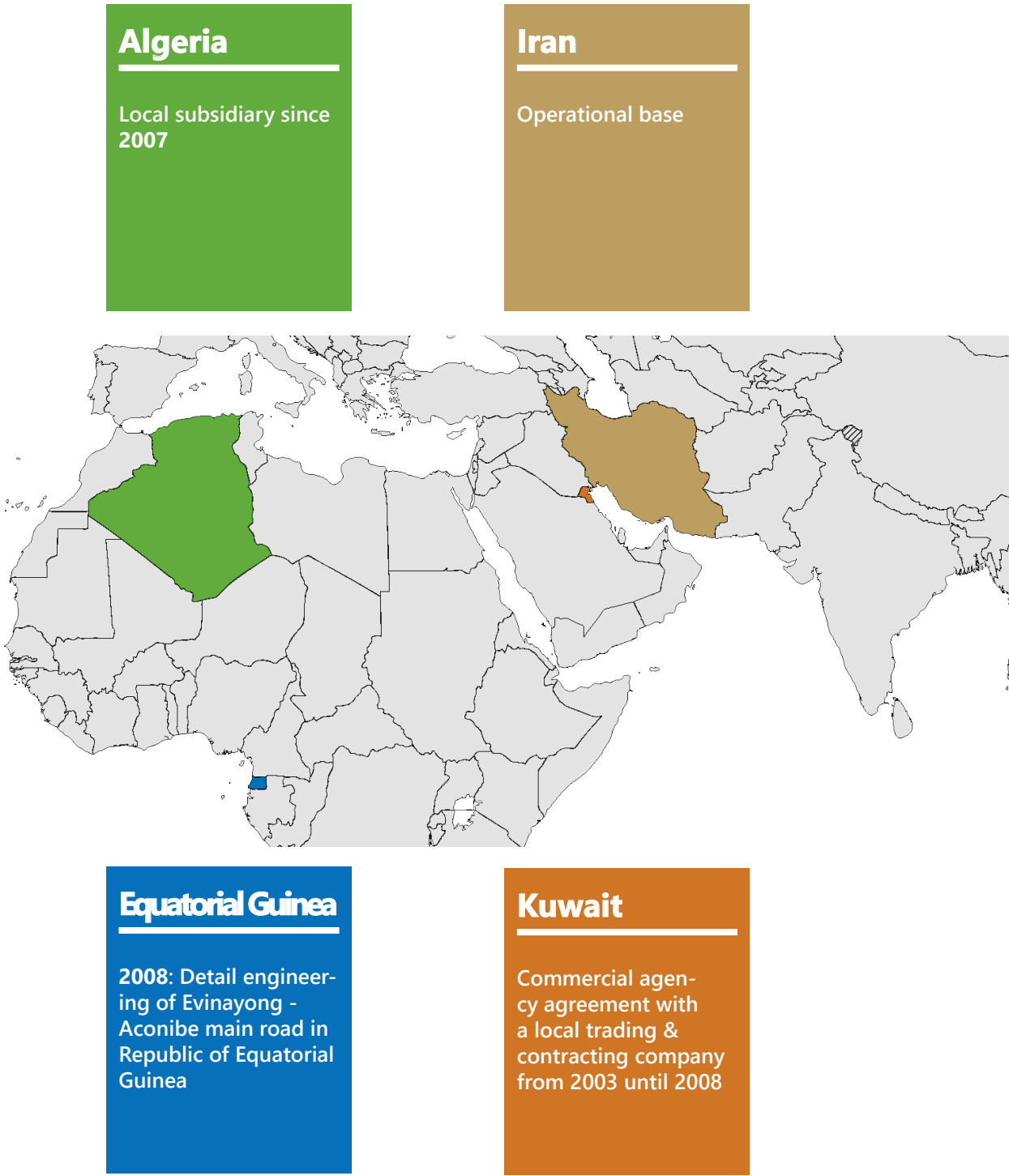
Foreign



Domestic

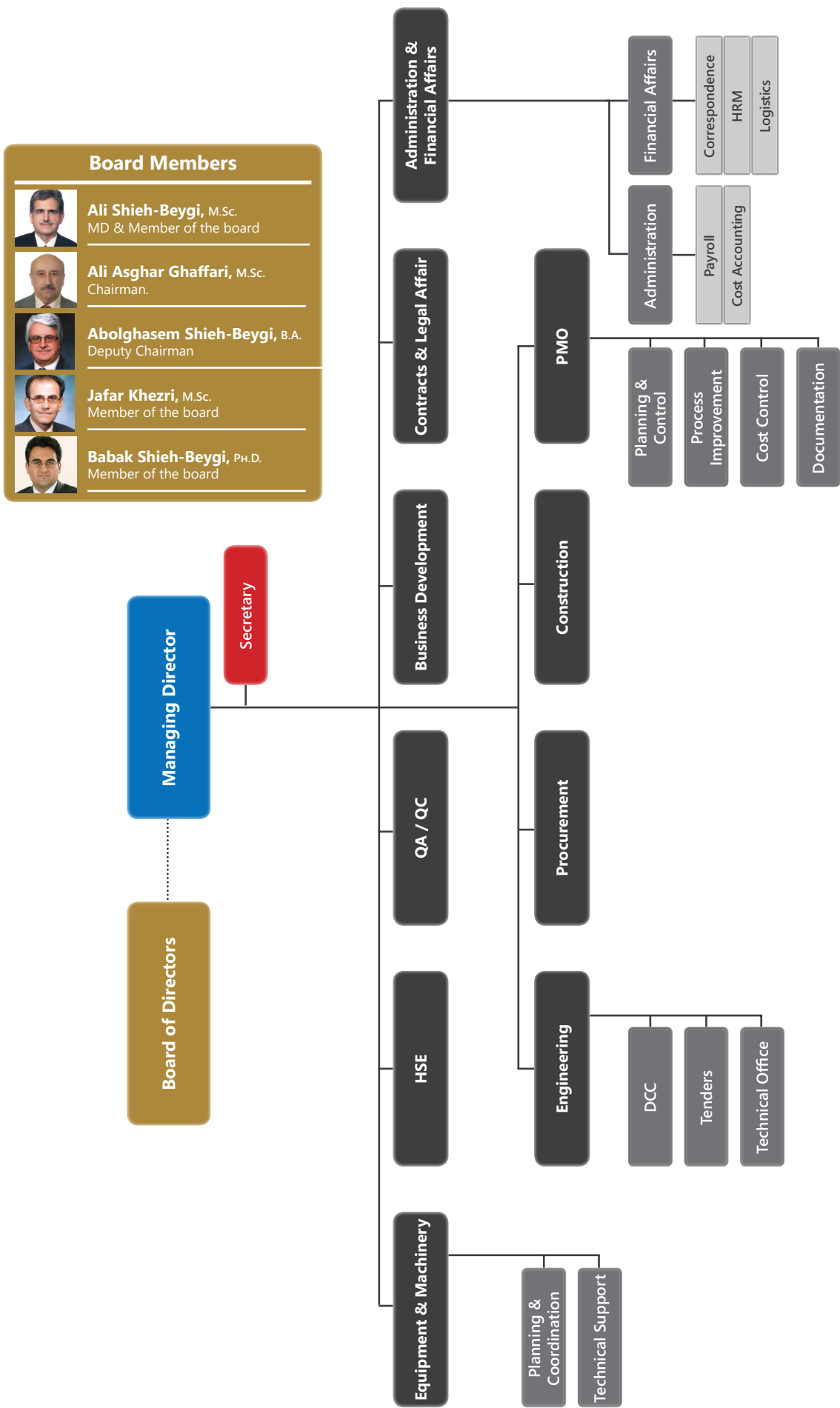


Navrood’s presence

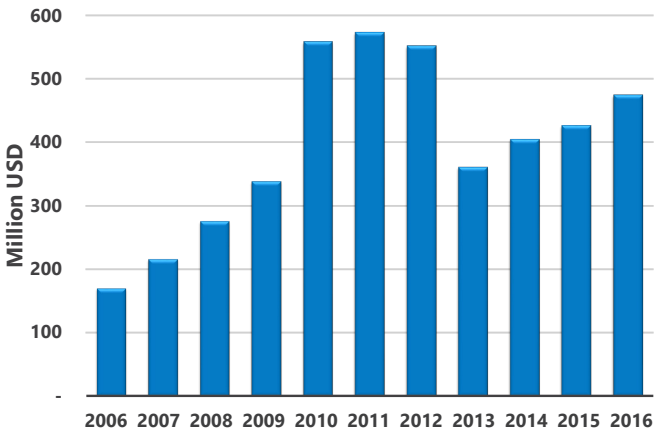




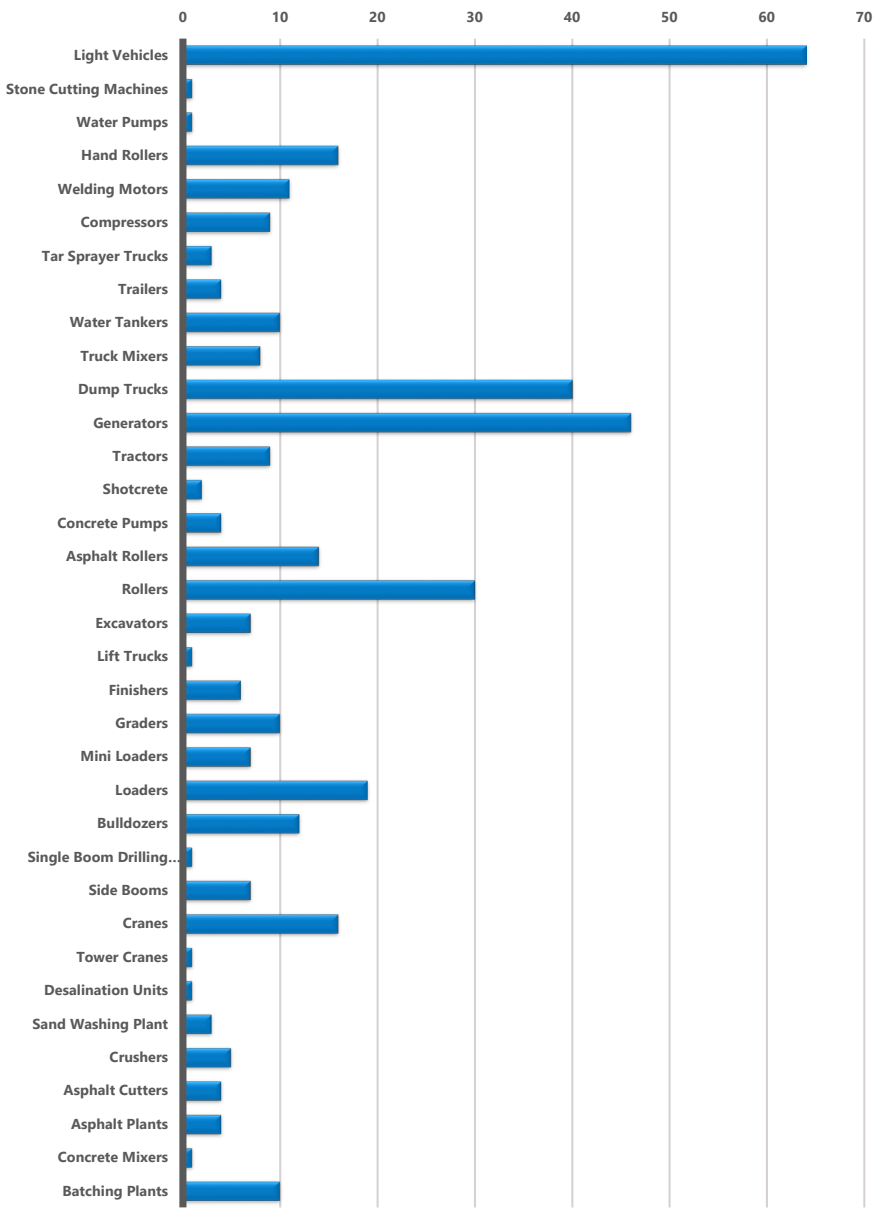
Top chart



Annual Turnover




Machinery & Equipment





Current

1



Project: **Paving of the Methanol Plant**

Client: **Boushehr Petrochemical Company**

Amount: **USD 2.3 million**

Start date: **May 2017**

Duration: **5 months**

Progress: **21%**

2



Project: **Marganlar – Poldasht Road Upgrade**

Client: **Maku Free Zone Organization**

Amount: **USD 2.3 million**

Start date: **February 2017**

Duration: **12 months**

Progress: **36%**

3



Project: **Construction of Tabriz – Ahar highway, lot 3**

Client: **Roads and Urban Development Administration, East Azarbayejan**

Amount: **USD 7.1 million**

Start date: **April 2015**

Duration: **12 months**

Progress: **69%**

4



Project: **Engineering, procurement, and construction of Sistan – Isfahan railway double tracking**

Client: **Islamic Republic of Iran Railways**

Amount: **USD 34 million**

Start date: **February 2015**

Duration: **18 months**

Progress: **95%**

5



Project: **Construction of Khaje – Varzaghan highway, lot 2**

Client: **Roads and Urban Development Administration, East Azarbayejan**

Amount: **USD 25.5 million**

Start date: **June 2014**

Duration: **36 months**

Progress: **34%**

Completed

90+ projects to date  
in excess of USD 1.7 billion

1



Project: **Construction of water treatment facilities, Boushehr Petrochemical Complex**

Client: **Boushehr Petrochemical Company**

Contract Amount: **USD 4.4 million**

Actual Amount: **USD 8.8 million**

Duration: **8 months**

Start date: **April 2016**

End date: **August 2017**

2



Project: **Construction of north-side and south-side retaining walls, Boushehr Petrochemical Complex, Site 2**

Client: **Boushehr Petrochemical Company**

Contract Amount: **USD 2 million**

Actual Amount: **USD 1.7 million**

Duration: **5 months**

Start date: **April 2016**

End date: **January 2017**

3



Project: **Remaining Civil works of Mahabad B1, LLDPE/HDPE Petrochemical Complex**

Client: **Mahabad Petrochemical Company**

Contract Amount: **USD 2.7 million**

Actual Amount: **USD 2.5 million**

Duration: **7 months**

Start date: **August 2014**

End date: **September 2015**

4



Project: **Remaining Civil works of Lorestan B1, LLDPE/HDPE Petrochemical Complex**

Client: **Lorestan Petrochemical Company**

Contract Amount: **USD 4.1 million**

Actual Amount: **USD 11.5 million**

Duration: **7 months**

Start date: **February 2013**

End date: **August 2013**

Oil & Gas – Last 10 years



Completed

Oil & Gas – Last 10 years



Project: **Civil works, Buildings, and U/G piping works of Mahabad B1, LLDPE/HDPE Petrochemical Complex**  
Client: **Mahabad Petrochemical Company**  
Contract Amount: **USD 23.9 million**  
Actual Amount: **USD 29.2 million**  
Duration: **20 months**  
Start date: **April 2010**  
End date: **February 2013**



Project: **Installation of the main pipe rack, South Pars Gas Field Development Project – Phases 17 & 18**  
Client: **Hanmaek Heavy Industries**  
Contract Amount: **€ 2,750,000**  
Actual Amount: **€ 2,821,333**  
Duration: **10 months**  
Start date: **August 2009**  
End date: **June 2012**



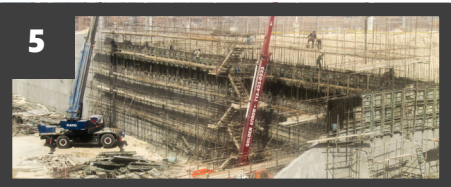
Project: **Civil works, Buildings, and U/G piping works of Lorestan B1, LLDPE/HDPE Petrochemical Complex**  
Client: **Lorestan Petrochemical Company**  
Contract Amount: **USD 23.1 million**  
Actual Amount: **USD 41.1 million**  
Duration: **20 months**  
Start date: **August 2009**  
End date: **November 2012**



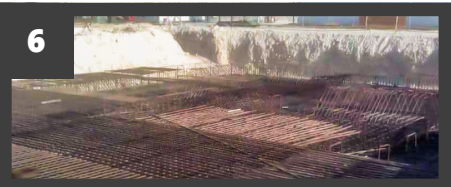
Project: **Procurement and construction of non-industrial buildings, phases 22, 23, and 24, South Pars Gas Field Development Project**  
Client: **Petro Sina Oil & Gas Co.**  
Contract Amount: **USD 18.4 million**  
Actual Amount: **USD 18.4 million**  
Duration: **18 months**  
Start date: **February 2011**  
End date: **December 2015**



Project: **A/G piping over the main pipe rack, the remaining civil works and U/G in Area 7, installation of flares and flare equipment – Phases 17 & 18**  
Client: **IPMI**  
Contract Amount: **USD 17.1 million**  
Actual Amount: **USD 14.4 million**  
Duration: **16 months**  
Start date: **May 2010**  
End date: **August 2012**



Project: **Construction of the retaining walls, South Pars Gas Field Development Project – Phase 19**  
Client: **Petropars Iran Company**  
Contract Amount: **USD 4.0 million**  
Actual Amount: **USD 4.1 million**  
Duration: **4 months**  
Start date: **October 2012**  
End date: **September 2013**



Project: **Civil works and U/G piping in different areas, South Pars Gas Field Development – Phase 14**  
Client: **Neyr-Perse**  
Contract Amount: **USD 15.0 million**  
Actual Amount: **USD 20.9 million**  
Duration: **11 months**  
Start date: **October 2012**  
End date: **March 2015**



Project: **Construction of the boiler foundations, pedestals, and installation of anchor blots – Phases 17 and 18**  
Client: **IPMI**  
Contract Amount: **USD 371,632**  
Actual Amount:   
Duration: **10 months**  
Start date: **May 2009**  
End date: **April 2010**



Project: **Construction of the main pipe rack foundations, pedestals, and installation of anchor blots – Phases 17 and 18**  
Client: **IPMI**  
Contract Amount: **USD 1.9 million**  
Actual Amount: **USD 3.0 million**  
Duration: **6 months**  
Start date: **May 2009**  
End date: **April 2010**



Project: **Construction of the boiler foundations, pedestals, and installation of anchor blots – Phases 17 and 18**  
Client: **IPMI**  
Contract Amount: **USD 371,632**  
Actual Amount: **USD 326,638**  
Duration: **4 months**  
Start date: **May 2009**  
End date: **April 2010**



Project: **Engineering, procurement, and construction, pre-commissioning, and commissioning of Tanks and non-industrial buildings (EPC1)**  
Client: **Petropars Iran**  
Contract Amount: **USD 285 million**  
Actual Amount: **USD 316 million**  
Duration: **34 months**  
Start date: **April 2008**  
End date: **December 2014**



Project: **Construction of Orumiyeh south – north 30 inch gas pipeline**  
Client: **Iranian Gas Engineering and Development Company**  
Contract Amount: **USD 13.2 million**  
Actual Amount: **USD 15.6 million**  
Duration: **18 months**  
Start date: **August 2006**  
End date: **December 2008**



Project: **Civil works (C4A, Unit 102 & 109) and Building Works (C4B – Packages 1 & 2) – Phases 6, 7, and 8 – Onshore facilities**  
Client: **Toyo Engineering Corporation**  
Contract Amount: **USD 30.0 million**  
Actual Amount: **USD 30.0 million**  
Duration: **24 months**  
Start date: **January 2004**  
End date: **June 2007**

Oil & Gas – Last 10 years



Project: **Construction of ethane cracker plant, 9<sup>th</sup> Olefin Complex, on a turn-key basis**  
Client: **Arya Sasol Polymer Company**  
Contract Amount: **USD 50.3 million**  
Actual Amount: **USD 58.6 million**  
Duration: **24 months**  
Start date: **August 2002**  
End date: **December 2005**

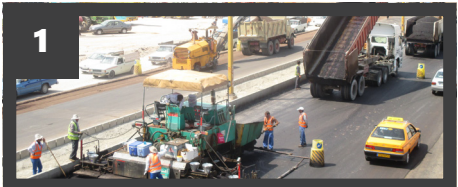
Completed



Completed

Projects Overview

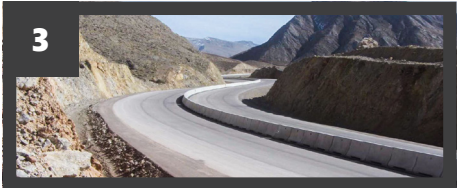
Road & Transportation – Last 10 years



Project: **Renovation of Ghazvin – Eghbaliyeh main road**  
Client: **Ministry of Road and Transportation – Ghazvin Province Regional Office**  
Contract Amount: **USD 2.9 million**  
Actual Amount: **USD 4.4 million**  
Duration: **18 months**  
Start date: **July 2014**  
End date: **August 2015**



Project: **Construction of Haresabad – Abarkooh main road**  
Client: **Ministry of Road and Transportation – Isfaahan Province Regional Office**  
Contract Amount: **USD 2.2 million**  
Actual Amount: **USD 3.0 million**  
Duration: **6 months**  
Start date: **May 2011**  
End date: **November 2012**



Project: **The remaining works pertaining the construction of Taft – Abarkooh – Soormagh highway, Lot 4**  
Client: **Ministry of Road and Transportation**  
Contract Amount: **USD 27.6 million**  
Actual Amount: **USD 34.5 million**  
Duration: **18 months**  
Start date: **February 2011**  
End date: **April 2014**



Project: **Detail engineering of Evinayong – Aconibe main road in Republic of Equatorial Guinea**  
Client: **Ministry of Road & Transportation – Republic of Equatorial Guinea**  
Contract Amount: **€ 750,000**  
Actual Amount: **€ 750,000**  
Duration: **3 months**  
Start date: **November 2008**  
End date: **January 2009**



Project: **Construction of Abarkooh – Shoorjestan mines access roads, Lot 1-B**  
Client: **IMIDRO**  
Contract Amount: **USD 8.8 million**  
Actual Amount: **USD 14.1 million**  
Duration: **24 months**  
Start date: **June 2009**  
End date: **December 2011**

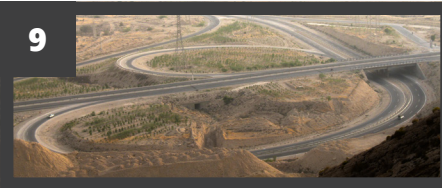


Project: **Construction of Abarkooh – Jarghooyeh main road (3 separate contracts)**  
Client: **Road & Transportation Office – Yazd Province**  
Contract Amount: **USD 4.0 million**  
Actual Amount: **USD 4.7 million**  
Duration: **22 months**  
Start date: **July 2008**  
End date: **August 2012**

Projects Overview



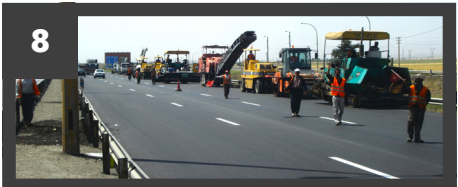
Project: **Construction of access roads, South Pars Gas Field Development Project – Phases 9 and 10**  
Client: **OIEC**  
Contract Amount: **USD 4.3 million**  
Actual Amount: **USD 5.1 million**  
Duration: **4 months**  
Start date: **July 2008**  
End date: **December 2009**



Project: **Construction of Taheri – Jam three-way interchange, Boushehr province**  
Client: **POGC**  
Contract Amount: **USD 2.4 million**  
Actual Amount: **USD 4.1 million**  
Duration: **12 months**  
Start date: **April 2007**  
End date: **August 2010**



Project: **Remaining works pertaining the control tower, buildings, and the landscaping of Persian Gulf International Airport**  
Client: **Pars Special Economic Energy Zone**  
Contract Amount: **USD 5.1 million**  
Actual Amount: **USD 6.3 million**  
Duration: **12 months**  
Start date: **June 2006**  
End date: **June 2007**



Project: **Renovation and paving of Karaj – Ghazvin expressway**  
Client: **Ministry of Road and Transportation**  
Contract Amount: **USD 32.4 million**  
Actual Amount: **USD 39.5 million**  
Duration: **36 months**  
Start date: **March 2008**  
End date: **March 2011**



Project: **Construction of Taft – Abarkooh – Soormagh main road, lot 4, Taft ring-road and Bidestan variant**  
Client: **Ministry of Road and Transportation**  
Contract Amount: **USD 18.8 million**  
Actual Amount: **USD 23.1 million**  
Duration: **30 months**  
Start date: **September 2006**  
End date: **February 2013**



Project: **Civil works pertaining construction of the urban roads, and recovery and preparation of Pars Special Energy and Economy Zone lands**  
Client: **Pars Special Economic Energy Zone**  
Contract Amount: **USD 26 million**  
Actual Amount: **USD 53.4 million**  
Duration: **24 months**  
Start date: **March 2003**  
End date: **November 2007**

Road & Transportation – Last 10 years



Project: **Construction of the control tower, technical block, fire-fighting building, and the apron; Persian Gulf International Airport, Assaluye**  
Client: **Pars Special Economic Energy Zone**  
Contract Amount: **USD 9.2 million**  
Actual Amount: **USD 11.4 million**  
Duration: **9 months**  
Start date: **May 2004**  
End date: **December 2005**

Completed



Featured

Projects





Renovation and paving of Karaj–Ghazvin expressway, Lot 1

“  
As one of the busiest  
routes in Iran, the main  
challenge of the project  
management team was  
to keep the traffic safe  
and uninterrupted at all  
times.  
”

One of the main challenges in this project was to keep the traffic safe and going in one of the busiest expressways in Iran, while adhering to the tight schedule of the project, and ensuring a safe environment for everyone involved.

To that end, Navrood set up an effective communication line between the project team and inner-city organizations operating in

the area, and put in place a rigorous HSE plan to ensure the safety of all stakeholders.

Moreover, two state-of-the-art asphalt plants were deployed — 200 tons/hr and 160 tons/hr each — to ensure an uninterrupted supply of high quality pavement material, and an extended fleet of modern machinery and equipment were utilized to support the work force.



Project Profile

Project: **Renovation and paving of Karaj–Ghazvin expressway**  
Client: **Ministry of Road and Transportation**  
Location: **Alborz Province, Iran**  
Start date: **March 2008**  
End date: **March 2011**  
Amount: **USD 32.4 million**

**Scope description:**  
Renovation and paving of lot 1, 85.5 km long, 30 m wide (6 lanes), including all pertinent works such as sub-base, base, paving, road surface marking, installation of road signs, bridges, and so on.

- Key figures:**
- Hot mix asphalt: 976,000 tons
  - Guardrail: 40 km
  - Concrete pouring: 101,000 m<sup>3</sup>
  - Shotcrete: 10,000 m<sup>2</sup>
  - Bridges: 62 bays





Construction of Taft – Abarkouh – Soormagh main road, Lot 4

In 2006 Navrood was awarded a contract for the construction of the 4<sup>th</sup> lot of Taft – Abarkouh – Soormagh highway, the Taft ring road, and the Bidestan variant.

Taft – Abarkouh – Soormagh highway is one of the biggest highway projects in Yazd Province. Lot 4 – 31 km long – passed through rough, rugged terrain and involved over 4.5 million cubic meters of cut & fill work, over 170,000 m<sup>3</sup> of explosion work, 181 sets of bridges in different sizes, having 17 spans

over 10 m long, more than 75,000 m<sup>3</sup> of concrete pouring and so on.



Project Profile

Project: **Construction of Taft – Abarkouh – Soormagh highway, Lot 4 (2 contracts)**  
Client: **Ministry of Road and Transportation**  
Location: **Yazd Province, Iran**  
Start date: **September 2006**  
End date: **April 2014**  
Amount: **USD 46.4 million**

**Scope Description:**  
Construction of lot 4 of Taft–Abarkouh–Soormagh highway, 31 km long, and 4 lanes wide, the Taft ring road, and the Bidestan variant.  
It involved all pertinent works such as earth works, sub-base, base and base, pavement, guardrails, road signs, and infrastructures.

- Key figures:**
- Excavation: 3,212,692 m<sup>3</sup>
    - 943,652 m<sup>3</sup> in soft soil
    - 2,221,087 m<sup>3</sup> in hard soil
    - 47,953 m<sup>3</sup> in rock
  - Explosion: 170,850 m<sup>3</sup>
  - Fill: 1,408,529 m<sup>3</sup>
  - Sub-base: 157,210 m<sup>2</sup>
  - Base: 142,780 m<sup>3</sup>
  - Pavement: 83,792 tons
  - Concrete pouring: 75,800 m<sup>3</sup>
  - Formwork: 123,100 m<sup>2</sup>
  - Rebar: 1306 tons
  - Bridges: 181 sets (with 17 spans over 10 m long)





Construction of Persian Gulf airport

### Project Profile

Project: **Construction of control tower, technical block, fire fighting building, aprons, runway, and landscaping (2 contracts)**

Client: **Pars Special Economic Energy Zone (PSEEZ)**

Location: **Assaluye, Iran**

Start date: **May 2004**

End date: **June 2007**

Amount: **USD 14.3 million**

**Scope description:**

Construction of control tower (35 m high); VIP building, technical blocks (1000 m²), and the firefighting building (2000 m²) — including all related mechanical and electrical works, runway; apron (67,000 m²); and parts of the landscaping.

**Key figures:**

- Pavement: 100,000 tons
- Concrete pouring: 45,000 m³
- Rebar: 2,500 tons
- Formworks: 140,000 m²
- Steel structure: 80 tons
- Landscaping: 80,000 m²

In the early 2000, Assaluye was about to become the energy hub of Iran, and there was an urgent need to upgrade the city airport to meet new demand generated by its strategic role in Iran’s overall development plan.

Within that context, in 2004 Navrood was awarded a contract to construct a new airport for the city, named “Persian Gulf Airport”. The scope of work involved the construction of control tower, technical block, fire fighting building – including all related mechanical and electrical works of the buildings involved, aprons, runway, and the landscaping.

Navrood’s commitment to the safe and on time delivery of this strategic project earned it several awards and recognitions from PSEEZ (Pars Special Economic Energy Zone).

“  
The concrete shaft of the control tower – 35m high, two stories – was executed in just 9 days, utilizing the sliding formwork technique.  
”







Assaluye roads and highway

From the early days of Assaluye’s journey on the path to becoming one of the major economic zones in Iran, Navrood had a prominent presence in its development projects at different sectors.

One such area was the construction of more than 100 km of its urban roads, and over 12 km of its highways, which had a major impact on the efficient transportation of goods and people between the widespread industrial complexes in the area, such a refineries, petro-chemical complexes, and all other establishments in the city.

The construction work involved some challenging terrain, such as impassable quagmires – for which special ground stabilization methods such as quick lime were

employed – or the mountainous and rugged regions.

During the course of their execution, more than 200 different equipment and machinery were deployed to ensure successful and on-time completion of these strategic projects.

The projects also involved the construction of infrastructures, superstructures, interchange bridges, several big bridges, and buildings.

The commitment of Navrood to the quality of work, to the safe execution of projects, to the protection of the environment, and to their on-time completion earned us several recognitions and awards from the Pars Special Economic Energy Zone.



Project Profile

Project: **Several different road construction projects (4 contracts)**  
Client: **Pars Special Economic Energy Zone (PSEEZ)**  
Location: **Assaluye**  
Start date: **2002**  
End date: **2012**  
Amount: **USD 38 million**

**Scope description:**  
Construction of more than 100 km of urban roads, and a 12 km highway via different contracts

- Key figures:**
- Urban roads:
    - Embankment: 4,000,000 m<sup>3</sup>
    - Concrete pouring: 50,000 m<sup>3</sup>
    - Sub-base & base: 600,000 m<sup>3</sup>
    - Asphalt: 300,000 tons
    - Rebar: 1000 tons
    - Concrete curb: 150 km
    - Bridges: 35 sets
  - Highway:
    - Embankment: 1,000,000 m<sup>3</sup>
    - Excavation: 4,000,000 m<sup>3</sup>
    - Explosion: 2,000,000 m<sup>3</sup>
    - Rebar: 2,000 tons
    - Formwork: 160,000 m<sup>2</sup>
    - Concrete pouring: 100,000 m<sup>3</sup>
    - Bridges: 50 sets
    - Asphalt: 150,000 tons





Engineering, Procurement, and construction of Sistan–Isfahan railway double tracking

In 2015, a consortium consisting of Navrood company, Pasiloo Consulting Engineers, and Iran Khak Consultants, led by Navrood, was awarded a contract for the engineering, procurement, and construction of Sistan – Isfahan double tracking railway project, in order to increase the capacity of the existing track. The new track will be constructed on the vicinity of the existing one, and is designed to increase the load bearing capacity from 25 tons of axle loads to 30 tons, and to sustain a track speed of 160 km/h.

Considering the fact that the existing track is operational, extra safety measures have been put

“  
Despite the economic hardship of 2015 and the subsequent delay in payments, Navrood managed to keep the project on track using its internal financial resources  
”

in place to ensure the safety of passing trains and all other stakeholders.



Project profile

Project: **Double tracking of Sistan–Isfahan railway based on an EPC scheme**  
Client: **Islamic Republic of Iran Railways**  
Location: **Sistan–Isfahan, Iran**  
Start date: **February 2015**  
Status: **Ongoing**  
Amount: **USD 34 million**

**Scope description:**  
Engineering and track design, procurement of all related material including rails, concrete sleepers, ..., and construction of the track involving sub-base, base, ballast, track laying, etc.

- Key figures:**
- Track length: 42 km
  - Cut: 760,000 m<sup>3</sup>
  - Fill: 620,000 m<sup>3</sup>
  - Rebar: 1,700 tons
  - Formwork: 42,000 m<sup>2</sup>
  - Concrete pouring: 33,000 m<sup>3</sup>
  - Piling: 1,347 m-l
  - Ballast: 130,000 m<sup>3</sup>
  - Sub-ballast: 75,000 m<sup>3</sup>
  - Concrete sleepers (30 tons): 67,000 pieces
  - Turnouts: 18 sets
  - Rail: 4,800 tons





Construction of ethane cracking plant, 9<sup>th</sup> Olefin Complex

In 2002, the NST (Navrood, Steam, and T.E.G consortium) joint venture, led by Navrood, was awarded a contract to construct the ethane cracking plant of the 9<sup>th</sup> Olefin Complex in Assaluye on the turn-key basis.

Navrood, as the leader of the joint venture, provided a reliable communication channel among all stakeholders for an effective and transparent flow of information, put in place an effective quality management system, set up a well organized and resourced HSE unit,

“  
**11 million man-hours without lost time incident**  
”

worked out the detailed plans for daily, weekly, and monthly progress reports, and organized effective cost control procedures to ensure on time and on budget completion of work.



**Project Profile**

Projects: **Construction of ethane cracking plant, 9<sup>th</sup> Olefin Complex, on a turn-key basis**  
Client: **Arya Sasol Polymer Co.**  
Location: **Assaluye, Iran**  
Start date: **August 2002**  
End date: **December 2005**  
Amount: **USD 50.3 million**

**Scope description:**  
Construction of the entire plant, pertaining all related works such as civil and U/G piping works, steel structures, buildings, equipment erection, A/G piping, tanks and spheres, furnaces, electrical, instrumentation, insulation, painting, and pre-commissioning activities.

**Key figures:**

- Excavation: 120,000 m<sup>3</sup>
- Concrete pouring: 52,000 m<sup>3</sup>
- Rebar: 6,000 tons
- Formwork: 150,000 m<sup>2</sup>
- Piling: 74 piles, each
  - 19.2 m high
  - 1.5 m wide
- U/G & A/G piping: 690,000 inch-dia
- Steel structures (fabrication & installation): 3,300 tons
- Equipment erection: 5,000 tons







Engineering, procurement, construction, pre-commissioning, start-up and performance test of tanks and non-industrial buildings (EPC1)

“ Recognition award for our role in selection of Phase 12 as the superior HSE project by surpassing 17.5 million man-hours without lost time injury ”

In the early 2008 another milestone in Navrood’s track record was about to happen, when the NASR consortium (A consortium from Navrood, Arya Pishro Gharn, Steam, and Radira companies) was awarded a contract to implement the storage tanks and non-industrial buildings of the phase 12 of South Pars Gas Field Development on an EPCC (Engineering, Procurement, Construction, Pre-Commissioning, Start-up, and Performance Test) basis.

It was the first mega plant that was entirely constructed by Iranian contractors under the looming

sanctions, and Navrood – as the leader of NASR consortium – is proud to be part of the elite team that made it happen.

A highly experienced and qualified management team was set up, and an efficient organization was devised to ensure a safe operational environment, strict quality assurance and control measures, and efficient communication line between all stakeholders.

The plant was officially become operational in February 2015, producing and transporting 3 billion cubic feet of gas/day.



Project profile

Project: **Engineering, procurement, construction, pre-commissioning, start-up and performance test of tanks and non-industrial buildings (EPC1)**

Client: **Petropars Iran**

Location: **Assaluye, Iran**

Start date: **May 2008**

End date: **February 2015**

Amount: **USD 285 million**

**Scope description:**

The scope of work mainly comprised of the main buildings, condensate tanks, fire station, diesel storage, chemical storage, sub-stations, camps, water treatment plants, desalination units, drainage network, pavement, and so on.

- Key figures:**
- Concrete pouring: 50,000 m<sup>3</sup>
  - Formwork: 200,000 m<sup>2</sup>
  - Rebar: 5,000 tons
  - Steel structure (fabrication & installation): 3,000 tons
  - Condensate storage & export unit: 4 floating roof storage tanks, each
    - 80 m diameter, 26 m high
    - Capacity: Over 100,000 m<sup>3</sup>
  - Firefighting tanks each 36 m wide, and 20 m high
  - U/G & A/G piping: 150,000 inch-dia
  - Camps: 50,000 m<sup>2</sup>
  - Non-industrial buildings: 24,000 m<sup>2</sup>
  - 14" water transport pipeline: 10 km
  - Water desalination units: 2, each having a capacity of 2500 m<sup>3</sup>/day
  - Water treatment units: 3, two having a capacity of 2500 person/day, and one for 3000 person/day
  - Drainage network: 153,000 m<sup>2</sup>
  - Landscaping: 100,000 m<sup>2</sup>
  - Paving: 4,500 m<sup>2</sup>





Installation of the main piperack, phases 17 and 18

In 2008, Navrood was awarded a contract from IPMI to execute the foundations of the main pipe rack area (Area 7) in phases 17 & 18. Following its successful conclusion, Navrood entered another contract in 2009 with Hanmaek Heavy Industries — the fabricator of the gas plant’s steel structure pipe racks — for their installation. It involved all the major pipe racks of the gas plant, both inside and outside the battery limit, including the mountainous terrain of the flare area.

Considering the tight schedule and the technical challenges ahead, Navrood utilized an experienced management and planning team, equipped with all required tools and machinery including heavy cranes of up to 80 tons, and as such was able to install the main structure in less than 6 months,

“ On average, Navrood managed to install 1,800 tons of steel structure per month, and set a new national record, despite the fact that half of the work was carried out in tough mountainous terrain of the flare area ”

setting a new national record. Despite the hazardous nature of the work, due to the strict HSE procedures put in place from the very beginning, Navrood managed to complete the project without any major incidents.



Project profile

Project: **Installation of the main pipe rack, phases 17 and 18, South Pars Gas Field Development**  
Client: **Hanmaek Heavy Industries**  
Location: **Assaluye, Iran**  
Start date: **August 2009**  
End date: **January 2013**  
Amount: **€ 2,982,100**

Scope description:  
Installation of 10,000 tons of steel structure, pipe racks, and related fittings such as ladder handrail, platforms, etc. on a turn-key basis.

Key figures:  
• Steel structure (installation): 10,843 ton  
• Handrail: 55 ton  
• Ladder & stairs: 37 ton  
• Grating: 206 ton





Civil works and U/G in Area 7, A/G piping over the main pipe rack, installation of flares and flare equipment

“ Over 300,000 man-hours without lost time incident ”

In 2010, Navrood was awarded another contract by IPMI to render the remaining civil works and U/G piping works in Area 7, to do the A/G piping works on the main pipe rack, to install the flares, and to install the flare area equipments.

Even though the onset of international sanctions had a profound impact on the delivery schedule of project’s main items such as pipes, flare area equipments, and the such, Navrood did all its efforts to deliver the project with minimum disruption and delay.



Project profile

Project: Civil works and U/G in Area 7, A/G piping over the main pipe rack, installation of flares and flare equipment  
Client: IPMI  
Location: Assaluye, Iran  
Start date: May 2010  
End date: August 2012  
Amount: USD 17.1 million

Scope description:  
A/G piping over the main pipe rack and the flare area, installation of the flares and flare area equipments, remaining civil works and U/G piping works in Area 7 (main pipe rack area)

- Key figures:
- Excavation: 21,553 m<sup>3</sup>
  - Concrete pouring: 4,747 m<sup>3</sup>
  - Rebar: 390 ton
  - Installation of flare area equipment (including the burner equipment): 800 ton
  - A/G piping: 220,000 inch-dia
  - Pipe support (fabrication & installation): 500 ton







Civil works, U/G piping, and paving works of Lorestan B1, LL-DPE/HDPE Petrochemical Complex

In 2009, Navrood signed a contract to execute the civil works and U/G piping works of Lorestan B1, LL-DPE/HDPE Petrochemical Complex.

Considering the tight schedule and the fact that project was on the fast track, Navrood put in place an effective line of communication between the stakeholders to ensure the timely flow of information required for the construction works. Navrood also mobilized its extensive machinery and equipment fleet – including 2 batching plants, 15 truck mixers, 10 cranes,



“Uninterrupted concrete pouring in the storage silo ceiling, 1,214 m<sup>3</sup> in total, 20 m above the ground, in just 15 hours”

etc. – and its experienced management team and workforce to ensure the timely completion of work.



Project profile

Project: **Civil works and U/G piping of Lorestan B1, LLDPE/HDPE Petrochemical Complex**

Client: **Lorestan Petrochemical Company**

Location: **Khoramabad, Iran**

Start date: **August 2008**

End date: **November 2012**

Amount: **USD 27.2 million**

Scope description:

Excavation and earth works, industrial and non-industrial buildings, access roads, installation of buildings’ HVAC and electrical systems, heavy concrete structures and pipe racks, pavements, U/G piping, and so on.

Key figures:

- Excavation: 203,000 m<sup>3</sup>
- Piling (1.2 m & 1.5 m dia): 6,594 length-meter
- Concrete pouring: 73,000 m<sup>3</sup>
- Rebar: 9,000 tons
- Formwork: 172,000 m<sup>2</sup>
- U/G piping: 35,000 inch-dia
- Steel structure (installation): 3,000 tons
- Camps and industrial buildings: 20,000 m<sup>2</sup>







Construction of 30” gas pipeline from south of Orumiye to the north

In 2006, Navrood was awarded a contract to construct a 48 km cross-country 30” gas pipeline, from south to north of Orumiye.

The line started at the end of Miyandoab – Orumiye 30” gas pipeline, and was connected to the existing line via hot tapping procedure, and consequently ended in the vicinity of the first gas reduction station in Orumiye,

Despite the fact that the pipeline passed through rugged mountainous terrain, valleys, and under some rivers (collectively over 1 km), by implementing a rigorous safety plan and quality control procedure, Navrood managed to deliver the project safe, and in accordance with the highest technical standards. As such, the project was recognized as the

“ In one of the most treacherous terrains in Iran, Navrood not only managed to execute the project in accordance with the highest technical standards, but also was acknowledged for its role in selection of the project as the superior HSE project ”

superior HSE project by the Iranian National Gas Company and earned Navrood several recognitions and awards..



Project profile

Project: **Construction of 30” Orumiyeh South–North gas pipeline**  
Client: **Iranian National Gas Co.**  
Location: **Orumiyeh, Iran**  
Start date: **September 2006**  
End date: **December 2008**  
Amount: **USD 13.2 million**

- Scope description:
- Construction of 30” gas pipeline, from south to north of Orumiye, 48 km long.
  - Cathodic protection
  - Construction of all related facilities such as gas pressure reduction stations, cathodic protection posts, etc.
  - Construction of access roads
  - Commissioning

- Key figures:
- Excavation in rocky terrain: 2,000,000 m<sup>3</sup>
  - Channel construction in rocky terrain: 100,000 m<sup>3</sup>
  - Technical buildings: 2,600 m<sup>2</sup>
  - Pipe-laying under river: 1 km (in total)
  - Stations: 3







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