



**Monenco Iran**  
Consulting Engineers

# Annual Report 2010

# Management Team



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# Monenco Iran at a glance

## Introduction:

Monenco Iran Consulting Engineers Co. (Monenco Iran) a leading Consulting Engineering Company in Iran was founded in 1973 as a joint venture between the private sector of Iran and Montreal Engineering Co. of Canada.

Monenco Iran a pioneer in energy industries has experience of engineering, designing and consulting over 39000 MW of power generation capacity, 11 Oil & Gas complexes, more than 19000 KM transmission lines, around 9000 MVA substations, 28 national and regional dispatching centers, 25 telecommunication systems & master plan and 24 mining & geology projects.

Thermal power plants, Renewable, Cogeneration & Dispersed Generation, Rehabilitation & Retrofitting, Oil & Gas infrastructure, System & Energy Studies, Electrical Power Transmission, Communication, Dispatching and Mining are Monenco Iran main fields of activities. Competence and proficiency are the cornerstones of Monenco Iran success.

## Services:

- Feasibility Studies (technical, economical, environmental and social)
- Conceptual, Basic & Detailed Design
- Overall & Interface Engineering
- Design Review and Endorsement
- Tender & Material Requisition Preparation & Bid Evaluation
- Execution and Implementation Management of Projects/Plans
- Construction, Maintenance and Operation Supervision
- Factory & Site Test Supervision
- Retrofitting, Rehabilitation & Repowering Investigation
- Energy Systems & Integrated Networks Studies
- Master Plans Development
- Providing Technical Standards and Guidelines Definition
- Engineering Processes Control and Optimization
- Technical Training and Knowledge Transfer



## Achievement:

### 1. International market penetration

One of Monenco Iran goals to provide engineering consultancy services internationally started during year 2010. In this regard, Monenco Consulting Engineers (MCE) in Oman was established as a hub in the Middle East to better manage and supervise the projects awarded in the region. Also recent establishment of MCE in Nigeria is added value to the company to better provide distinguished services in Central African region.

Having agency representative around the globe and partnership with more than 60 international companies all around the world, we penetrated the markets in East Asia, South America and Europe.

### 2. Expansion of services;

- Hydro power plant
- Design of various cooling systems
- Design of Mixed bed and pre coating Condensate Polishing Plants (CPP)
- Carbon Capture Storage and CO2 injection to oil wells
- CDM (Clean Development Mechanism)
- Virtual realization
- EDMS (Electronic Document Management System)
- Design and consultancy for 765 kV transmission line
- Design and consultancy for HVDC transmission line
- Global gas flaring reduction
- Rehabilitation and retrofitting of old power plants
- Desalination plants
- Infrastructure electricity market
- Day ahead spot market pricing
- Airport power supply and telecommunication master plans
- Energy efficiency auditing
- Laser scanning in transmission lines route selection
- Asset management in power system
- Life cycle assessment in power network development and operation
- Smart Grid
- Home Automation



### **3. Certificates and Awards**

- Acknowledgement of Monenco Iran for excellence in the service sector and receipt of the EFQM 2010 (Iranian National Productivity and Excellence Award)
- Dedication of the Knowledge Management award to Monenco Iran in the first national KM symposium
- Excellence award to Monenco Iran for standardizing the design of combined cycle power plants for MAPNA Group
- Award for the most published papers in the past 25 years to Monenco Iran by the Energy Ministry Deputy
- Appreciation letter to Monenco Iran for the publication of "Introduction on Design of Thermal Power Plants" book by the Ministry of Culture and Islamic Guidance
- 17 appreciation letters from the clients in the field of power generation, transmission & distribution and substations

### **4. Standardization**

- Standardization of the basic and detailed design of combined cycle power plants
- Standardization of 765 kV transmission line for the Ministry of Energy

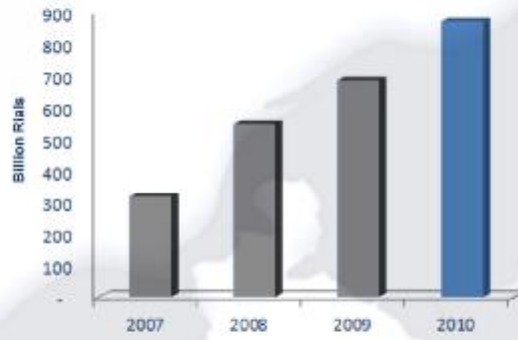
### **5. Transmission and Distribution Projects**

- Monenco is the sole national consultant of power network Telecommunication systems
- Value of EPC projects that Monenco has been involved for the engineering and consultancy in the field of Power transmission and distribution this year is estimated 1'500'000'000 USD
- Monenco has been awarded the design of main Electrical Power Dispatching Center of Iran which is one of 20 biggest in the world

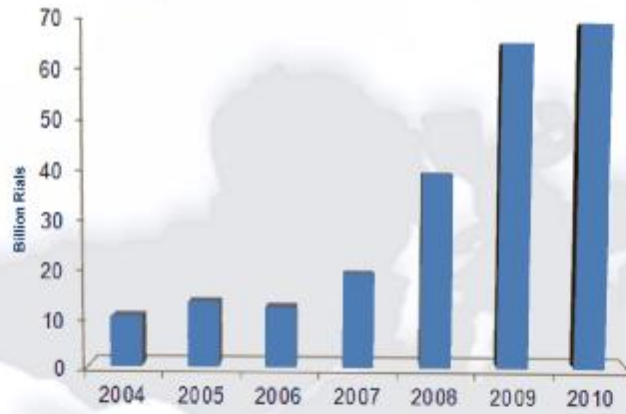
### **6. Power Generation projects**

- Monenco Iran is the sole designer of Thermal Power Plants in Iran
- Value of EPC projects that Monenco has been involved for the engineering and consultancy in the field of Power Generation this year is estimated 14'000'000'000 USD

### Contracts Value



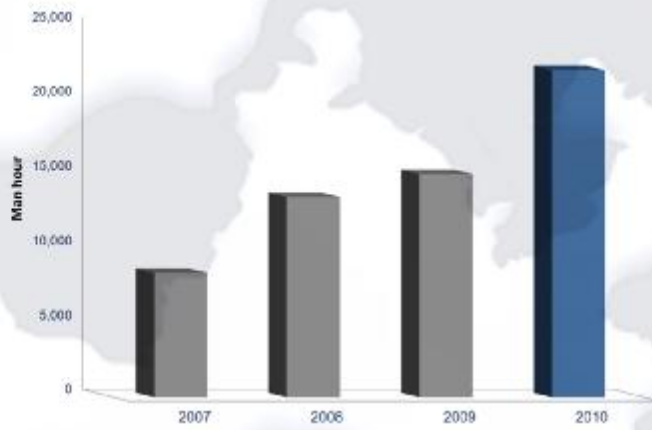
### Profit Growth



### Revenue Growth



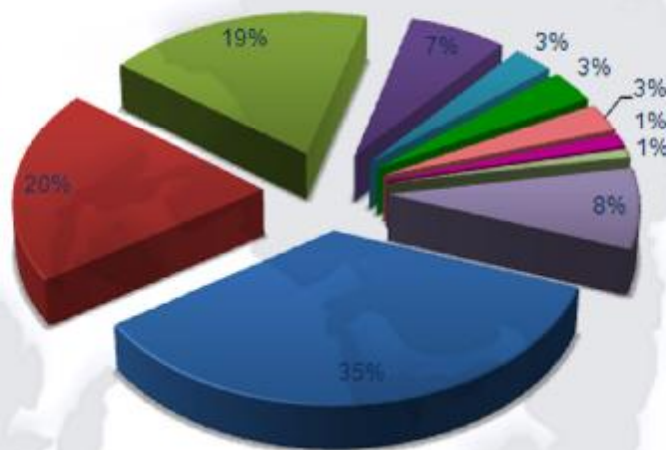
Training Man / Hour



Composition of Experts in Monenco Iran, 2010

Total : 762

- Electrical Engineers
- Mechanical Engineers
- Civil Engineers
- Industrial Engineers
- Management
- Chemical Engineers
- Computer Engineers
- Accountants
- Economics
- Others





## Managing Director Statement



Year 2010 passed, fortunately the world economic crisis has also, phased out. While More or less left side effects in different countries with various cultures and consumption habits.

Energy sector and in particular power sector was more affected and so many countries decided to stop or postpone their development projects.

While Monenco Iran faced these circumstances, its development plan did not change. Due to Monenco Iran expertise as well as quality of services, this company was able to follow its predefined goals and strategies.

Fortunately the result was positive. It means that in a situation that many companies lost many projects and as the consequence released some staffs and experts, Monenco Iran increased its sale by 20 percent, and established its own branches in Oman and Nigeria, while keeping its presence in the Middle East and Africa, expanded its services to the South East Asia.

Monenco Iran as the designer of main Iranian dispatching centre, which is one of the 20 biggest of this kind in the world, was awarded the first Iranian 765 KV line and was selected as the main power and telecommunication consultant for Imam Khomeini Airport expansion projects.

Presence of Monenco Iran in Mapna group which undoubtedly is one of the main EPC contractors in Iran and the Middle East provided valuable support to Monenco Iran to deploy new engineering tools and software and as a result Mapna could patent a 33 months record for completion of a complete combined cycle power plant.

Now, Monenco Iran is proud to say that 2010 was a successful year for its activities and this success encourages this company to be more optimistic about upcoming years.

Locating in a nice country like Iran, having a reputable mother company like Mapna, benefiting from skillful and talented personnel and managers, there is no doubt that the future will be for Monenco Iran.

# Transmission & Distribution



**Faramarz Ghelichi**

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Obtained his B.S. in Electrical Engineering from Ferdowsi University. He is specialist in H.V. Transmission Lines. From 1992 to 1997, he has worked in Moshanir Consulting Engineers Company as Project Engineer, Site Manager and Project Manager. In 1997, he came to Monenco Iran Consulting Engineers Company and since 2007, he has been appointed as Transmission and Dispatching Deputy.

The division of Power Transmission & Distribution handles projects in power transmission, networks, substations, transmission lines, dispatching centers and telecommunication networks in all voltage levels. We design:

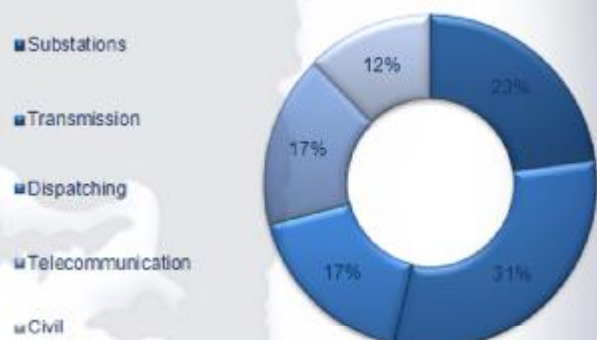
- Extra high voltage transmission lines and substations
- Power transformers and shunt reactors
- Integrated protection and control systems
- SCADA and telecommunication
- Dispatching centers
- Distribution networks
- Substation automation and distribution networks
- Power supply to industrial complexes
- Network and system studies

The Division of Transmission and Dispatching has designed more than 19000 kilometers transmission line up to the highest voltage level in vast areas and conditions and more than 9000 MVA substations from 33 kV up to 400 kV including power transformers.

**Share of Profit for T&D**



**Revenue Breakdown for T&D**





## Selected projects in this sector are;

Engineering Services and Site Supervision for Asaluye - Isfahan 765kV Transmission Line

Start date: 2010 - Completion date: 2015

Project Status: ongoing  
Client: Iran Power

Development Company  
Location: Asaluye - Isfahan  
Services:

Engineering Services, Design, Construction and Site Supervision of 765kV Transmission Line (around 710 km)

Project Importance:  
When long transmission line with high capacity of transmission is needed, transmission loss becomes a major factor of design so using extra high voltage transmission line would be inevitable.

One of the key concerns in transmission of electricity is power loss in transmission lines (called line loss or transmission loss), dissipated as heat due to the resistance of the conductors. The smaller the surface area of the conductors the smaller is the loss to heat dissipation. High voltages require less surface area, resulting in reduced line loss. With high-voltage lines, the voltage can be stepped up at the generating station, transmitted through the transmission grid to a load center, and there stepped down to the lower voltages required by distribution lines. Asaluye - Isfahan 765kV transmission line as the highest voltage of transmission ever constructed in Iran has proved engineering capabilities of Monenco Iran as the sole technology owner in the Middle-East.



Iran National Dispatching Center

Start date: 2010

Completion date: 2013

Project Status: ongoing

Client: MAPNA

Main client: Iran Grid Management company

Location: Tehran

Services:

Engineering Services and Supervision of Construction, Procurement, Installation and commissioning of main and back up centers of Iran National Dispatching

Project Importance:

Considering intensive frequency of grid as a major factor of showing balance of power generation/consumption, grid frequency control was considered as main task of Iran National Dispatching Center.

National Dispatching Center is responsible of planning and controlling the generation and transmission networks to tune power generation / consumption according to transmission facilities and capabilities. Main tasks of this center are:

- Yearly, monthly, weekly, daily and instantly forecast of power consumption
- Stability control of generation and transmission networks
- Economically optimum utilization of generation and transmission resources
- Regional dispatching centers control

To stabilize grid frequency, national dispatching center controls generation of large power plant units. National dispatching center, by installation of SCADA systems in large power plants controls load of each generation unit to stabilize the power grid frequency.



Master Plan and Detailed Design of Imam Khomeini International Airport Electrification and Communication Infrastructure

Start date: 2010

Completion date: 2011

Project Status: ongoing

Client: Sahn Boustan

Consulting Engineers  
Main client: Ministry of Roads and Transportation

Location: Tehran

Services:

Engineering Services, Current Facilities Studies, Master Plan, Demand Estimation, Detailed Design, Tender Documents, EPC Bid Evaluation

Project Importance:

From Communication Infrastructures to Airport Electrification, including also airport complex design made this project so interesting to reveal different Monenco departments' team work.

Area of the project is about 14,000 Hectares of Imam Khomeini International Airport lands, for which pre-planned development programs should be considered in design and master plan of the project.





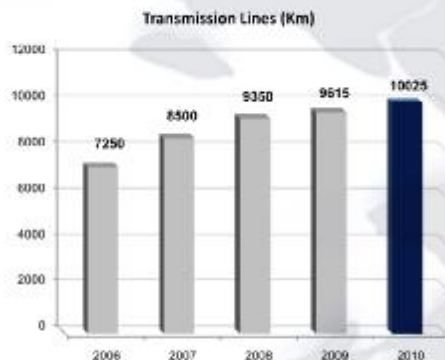
## Transmission Lines and Distribution Networks

Transmission Lines Department has performed many projects in difficult and hard to access areas.

We have completed many projects at various voltage levels up to 765 kV. More than 19000 kilometer transmission lines of any kind are designed and engineered by us.

Some of important projects are:

- Site Supervision on Ahar (Haris) - Magrey 400kV
- Supervision of Shahrekord - Farrokhsahr 63kV transmission line
- Shahrekord 63kV line and 400kV Substation
- Farsan - Dashtak 63kV transmission line construction supervision
- Consultancy services for preparation of laws and regulations for construction of 765kV transmission lines
- Engineering consultancy services and construction supervision of Assaluye-Isfahan 765kV transmission line
- Master Plan of Imam Khomeini Airport power supply
- Site supervision of Daran 400kV,63kV transmission lines
- Site supervision of Shahrekord-Shahrekord2 400kV,63kV transmission lines
- Consultancy services for engineering design of Mehran - Dehloran 230kV transmission line & Mehran-Azar 132kV transmission line in Ilam
- Engineering services and supervision for 63/230kV, Sumeh Sara - Siahkadeh
- Engineering services for PLC systems, 400, 230kV- Isfahan



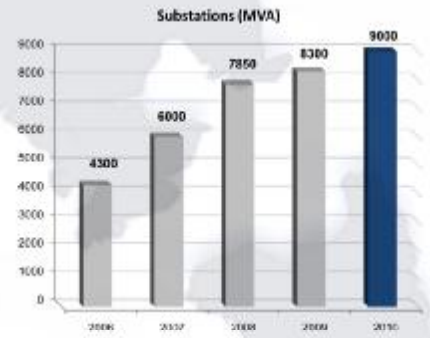
## Substations

The department is in charge of engineering, design and design review of high voltage and medium voltage substations and distribution networks of all voltage levels from 33kV up to 400 kV substations and switchgears of any capacity.

Power transformers and shunt reactors are part of our common practice in this department.

**Some of important projects are:**

- Consultancy services and Supervision on DCS, 20/63kV
- Consultancy services and Supervision for Saipa, Kashan 20/63kV Substation
- Consultancy services for 132kV substation, 2 line transmission, National Iranian Drilling Company
- Design, Supervision and consultancy services for 30/33kV substation, Bafgh Steel co
- Engineering services for Nizwa substation in Oman
- Engineering services for 132/33kV substation, South Pars phases 17 &18
- Engineering services for Al-Kamil substation in Oman
- Engineering services for Rusayl substation in Oman



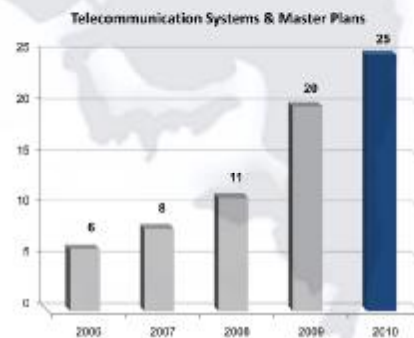
**Telecommunication**

In this department, we do engineering of power line carrier (PLC), Tele protection systems and wireless networks such as land mobile radio systems, spread spectrum and microwave links and of course in fiber optics systems and cables. We have finished many projects applying the latest world class techniques satisfactorily. All power networks' requirements to data, voice and video transfer are satisfactorily supplied by us.

All engineering works at different stages of projects such as feasibility study, data acquisition and processing, site survey, present status report, design review, tender documents, technical specification, bid evaluation, etc is handled perfectly by our team.

**Some of important projects are:**

- Procurement of cables, Karoun 3-Tiran & Karoun 3-Chelsotoun (OPGW)
- Equipment procurement engineering services & supervision of installing OPGW cable on 230kV Astara-Pouneh-north of Rasht - Gilan transmission lines
- Imam Khomeini Airport Telecommunication Network
- Design and site supervision for Fiber Optic line, 230kV, Shahzand-Khoramabad
- Engineering services for radio network, Sistan & Balouchestan
- Design of safety and control system for Tehran natural Gas network
- Fiber Optic Network of Mazandaran
- Consultancy services for long distance terminal





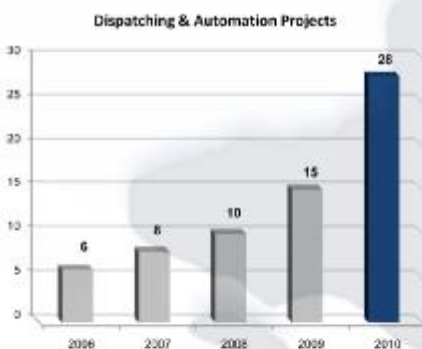
## Dispatching and Automation

The department of Dispatching and Automation has the responsibility to design, design review, tender documents preparation and all other engineering works related to dispatching centers and automation of substations and power plants control rooms.

Design and engineering of National Dispatching Center and many Regional Dispatching Centers are done and completed by this department. Department of Dispatching and Automation also has the responsibility for DMS systems and has done many projects in the field of Distribution Automation Systems. One other field of activities of this department is related to PMS systems. Monenco Iran is responsible for engineering of Isfahan Refinery extension project and this department is in charge of its PMS system.

### Some of key projects are:

- Engineering services for DTS system, CAOC covered centres
- Engineering services and supervision for National Dispatching centre
- Engineering Services for SCADA, Yazd 2
- Engineering Services for Dispatching centers, Marvdasht, Abadeh, Kazeroun, Boushehr
- Engineering services for SCADA, Tehranpars Dispatching centre



## CIVIL

Gaining experience in different fields of design and consultancy, Monenco Iran also offers civil services for industrial facilities. Our services cover the entire lifecycle of projects; from consulting and engineering to construction management and site supervision.

Civil and Structure projects in year 2010;

### Engineering services and site supervision on construction of:

- Technical Training Complex of MAPNA Group in Fardis
- Industrial workshop for manufacturing Generators for MAPNA Generator Engineering and Manufacturing Company
- Main building and warehouse in Fardis
- Main dispatching building in Tehran
- Back up dispatching building and auxiliary buildings in Zanjan



# Power Generation



## Mahmood Makhdoomi

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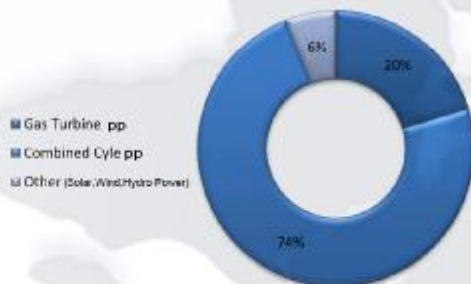
He obtained his B.S. in 1992 and M.S. in 1995 in Electrical Engineering from Sharif University of Technology and University of Tehran respectively. From 1992 to 1996 he has worked in Ghods Niroo Consulting Engineers as Head of MODEC Software group. From 1997 to 2005, as Head of Control and Dispatching Department, he has been in Niroo Research Institute. He has been Managing Director of Ofogh Consulting Engineers and SURENA Company in 2006-2007 and 2007-2009 respectively. Since 2009, he has been in Monenco Iran as Power Generation Deputy.

Monenco Iran develops customized all-inclusive solutions for power generation and offers services for related governmental entities, private investors, public utilities and industrial bulk consumers. Our in-depth familiarity with all influencing factors and execution phases also provides a sound basis for optimization of design, procurement and construction supervision and also assessment of existing plants.

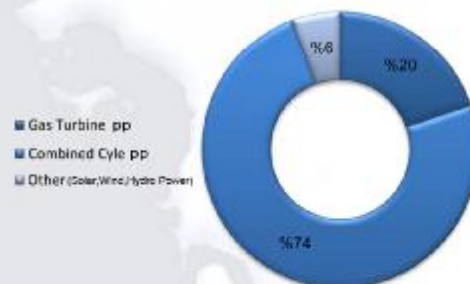
Monenco Iran has been involved in more than 39000 MW power generation projects. In fact we have contributed in design and engineering of 68% of total Power Generation Capacity of Iran.

Monenco Iran is sole technology owner of complete power plant design in Iran. In year 2010 alone, we have been involved in about 6500 MW power generation projects, in Iran and the Middle East.

Revenue Break down for Power Generation



Profit Breakdown for Power Generation



## Gas Turbine Power Plants

Currently a significant share of electrical power in Iran is generated through gas turbine power plants and this share is growing rapidly. Monenco Iran has long experience of offering engineering design and consultancy services for gas turbine power plants.

In addition to the projects executed in the last 36 years, the followings are some of projects awarded during 2010;

#### **Desalination Plant, HRSG and GIS Substation**

**Client:** Kish Water & Power Co.

**Project Type:** Desalination Plant and Power Distribution

**Duration:** 16 Months

**Capacity:** Desalination Plant (MED type) 8000 M3/d  
Heat Recovery Steam Generator (HRSG) 60 Ton/h  
3 set of GIS Substation 132/20 kV

**Scope:** Monenco Iran has been assigned to prepare tender documents, select contractors & negotiate for contracts, and also, to supervise the construction, erection & commissioning.

**Description:** The plant is located in Kish Island, a free zone in the south of Iran. In the plant, HRSG converts the thermal energy wasted by four sets of turbine Hitachi 25MW into steam, which being used in the process of generating potable water from sea water. Since, different industries and also tourism industry are going to be prospered in the zone; this plant could provide the future demanded water for more industry needs.

Besides, GIS substations could suitably distribute the electricity power in the zone.

#### **MAPNA Training center and power plant simulator**

**Client:** MAPNA Customer Services Division

**Project Type:** Feasibility study, Engineering & Consulting Services

**Duration:** 8 Months

**Area:** 7000 m2 (Building), 1000 m2 (Warehouse), 2200 m2 (Landscape)

**Scope:** Monenco Iran launches a benchmarking scheme for comparing and contrasting the excellent training centers in terms of equipments; and selects commensurate equipment for MAPNA Group's future center and determines the way of arranging equipments. Also, it should estimate the total cost of erecting and implementing the center and purchasing the equipments.

**Description:** Since MAPNA Group has been run its own power plants, recently, it needs to train its employees and upgrade their knowledge and skill on how to operate, maintain and repair parts and equipments. Therefore, this project will result in providing the prototypes of power plant's equipment, purchasing a power plant simulator, and also, in determining needed spaces, equipments and their arrangement for the mentioned center.

This center is located in Karaj City which is close to Tehran, the capital of Iran.

#### **Mahshahr Gas Turbine Power Plant**

**Owner:** Iran Power Development Co.

**Client:** MAPNA Power Plant Construction and Development Co. (MD-1)

**Project Type:** Thermal Power Plant

**Duration:** 20 Months

**Capacity:** 648 MW (4 GTG \* 162)

**Scope:** Monenco Iran provides detail design & overall engineering of civil, mechanical and electrical documents related to buildings and yard area

**Description:** The plant is located near Mahshahr City (Seaport) – in the south of Iran- which will be developed to a combined cycle plant, in the future.

#### **Hormozgan Gas Turbine Power Plant**

**Owner:** Iran Power Development Co.

**Client:** MAPNA Power Plant Construction and Development Co. (MD-1)

**Project Type:** Thermal Power Plant

**Duration:** 20 Months

**Capacity:** 648 MW (4 GTG \* 162)

**Scope:** Monenco Iran provides detail design & overall engineering of civil, mechanical and electrical documents related to buildings and yard area

**Description:** The plant is located near Hormozgan City– in the south west of Iran- which will be developed to a combined cycle plant, in the future.



## Combined Cycle Power Plants

Due to economical and environmental concerns, there is general tendency towards constructing combined cycle power plants or converting gas turbine power plants into combined cycle ones, to increase efficiency. Monenco Iran is a pioneer company in offering engineering and consultancy services for different modules of combined cycle power plants.

### Yazd BOO Combined Cycle Power Plant

**Owner:** JAM Energy Development Co.

**Client:** MAPNA Combined Cycle Power Plant Construction and Development Co. (MD-2)

**Project Type:** Thermal Power Plant

**Duration:** 36 Months

**Capacity:** 968 MW (4 GTG \* 160 + 2 STG \* 160)

**Scope:** Monenco Iran provides Basic Design, Detail Design, Vendor Design Review, 3D Modeling, Overall Engineering and Site Services

**Description:** The plant is located near Yazd City – in the middle of Iran - beside existing power plant. This Power Plant is implemented by investment of private sector based on BOO Scheme. Produced power will be sold to the national authority and transfers via electricity grid for urban and industrial demand in the middle of Iran.

Project will be completed through 2 phases. In the first phase, 2 GTG and 1 STG with common utilities will be installed and second phase includes other 2 GTG and 1 STG.

Also for the first time Monenco Iran decided to use 3D Modeling as a tool for integrated design and other related tasks in this project.

### Jandar Combined Cycle Power Plant

**Owner:** Public Establishment for Electricity Generation and Transmission (PEEGT)

**Client:** MAPNA Combined Cycle Power Plant Construction and Development Co. (MD-2)

**Project Type:** Thermal Power Plant

**Duration:** 39 Months

**Capacity:** 484MW (2 GTG \* 162 + 1 STG \* 160)

**Scope:** Monenco Iran provides Basic Design, Detail Design, Vendor Design Review, 3D Modeling, Overall Engineering and Site Services

**Description:** The plant is located in Syria, near Homs City - beside existing power plant.

Since in this project some facilities of existing power plant such as fuel oil resources and fire fighting pump house is used, interface engineering is a major challenge in this project.

For the first time Monenco Iran designed the process of supplying water from three deep wells located outside power plant and pumped to the outdoor and indoor raw water storage tanks. MONENCO Iran send a professional team overseas to supervise construction based on engineering documents designed in headquarter office. All main and extra engineering services were expected to be completed in 12 months and Monenco Iran could meet the plan in this short duration.

### Yazd Farab Combined Cycle Power Plant

**Owner:** Farab Co.

**Client:** MAPNA Combined Cycle Power Plant Construction and Development Co. (MD-2)

**Project Type:** Thermal Power Plant

**Duration:** 31 Months

**Capacity:** 484MW (2 GTG \* 162 + 1 STG \* 160)

**Scope:** Monenco Iran provides Basic Design, Detail Design, Vendor Design Review, Overall Engineering

**Description:** The plant is located near Yazd City – in the middle of Iran - beside existing power plant. The type of cooling system is Heller tower with peak cooler.



### **Standardization of Basic Design for Non-Power-Generating Zone of CCPP**

**Client:** MAPNA Engineering and Construction Division

**Duration:** 12 Months

**Project Type:** Standardization of Basic Design

**Scope:** MONENCO Iran is assigned to standardize basic design for Non-Power block of CCPP.

**Description:** Monenco Iran is assigned to standardize basic documents in Balance-Of-Plant area to Facilitating and Expediting of design and engineering process for new similar projects.

### **Value Engineering and basic design of NIYAM (Standardizing Power Plants) – Phasell**

**Client:** MAPNA Engineering & Manufacturing Division

**Duration:** 8 Months

**Project Type:** Standardization of Basic Design

**Scope:** MONENCO Iran provides standard documents for Power Block of a Combined Cycle Power Plant.

**Description:** Monenco Iran is assigned to standardize basic documents and propose a new arrangement of a combined cycle power plant by using value engineering methodology. The project is aimed to find optimum arrangement by adjacent gas and steam turbine Hall.

### **Feasibility Studies of Qeshm Combined Cycle Power Plant**

**Owner:** Hirbodan Co. & Oman Oil Co. S.A.O.C & Modaber Co.

**Client:** Hirbodan Co.

**Project Type:** Thermal Power Plant

**Duration:** 3 Months

**Capacity:** 500 MW

**Scope:** Monenco is assigned by Hirbodan Co. to conduct feasibility study and preparing bankable financial report for Qeshm Combined Cycle Power Plant.

**Description:** The plant is located in Qeshm Island, a free zone in Persian Gulf in the south of Iran. Capital for project implementation is provided cooperatively by the resources of Iran and Oman. Two options for produced electricity are available: Transforming the electricity to the national grid of Iran or exporting to Oman.

Power Plant will be constructed beside the sea and type of cooling system is once through.

### **Feasibility Studies of Qom Combined Cycle Power Plant**

**Owner:** Modaber Co.

**Client:** Rey Niroo Co.

**Duration:** 3 Months

**Project Type:** Thermal Power Plant

**Capacity:** 1000 MW

**Scope:** Monenco is assigned to conduct feasibility study and preparing bankable financial report for Qom Combined Cycle Power Plant.

**Description:** The plant is located near Qom city - beside existing power plant. This Power Plant will be implemented by investment of private sector based on BOO scheme.

Produced power will be sold to the national authority and transfers via electricity grid for supplying demands of urban and industrial consumption in the northwest and middle of Iran.



## Renewable/Green Energies

Monenco Iran actively participates in eco-friendly and clean energy projects for new and renewable energy generation from water, wind and sunlight. We are well aware that protecting and preserving the environment is both a social responsibility and a crucial element to sustainable development.

The renewable energy generation in Iran is increasing with a significant rate and this can be seen as an emerging market for Monenco Iran.

### Hydro Power

Hydro power is experiencing a lower rate of growth compared to the other renewable energies. On the other hand, small hydro power plants and retrofitting of large scale hydro power plants has a higher growth rate. In year 2009, Monenco Iran started participating in this market. Monenco has signed the contract for Consultancy Services for feasibility studies, engineering designs and preparation of tender documents for small and medium Hydro-Power Plant at Dadinkowa Dam in Nigeria. Also Monenco has bid for retrofitting of Masjed Soleiman Hydro project. The result is pending.

### Wind Energy

Wind brings a clean energy with use of infinite source that has economic benefits as well, due to automatic operation of the plant. There have been feasibility studies for wind power generation in most of the countries around the world which shows promising potential for this method of power generation in some areas.

Monenco Iran has entered this market in 2009. The awarded projects are promising. Feasibility study for establishment of a product line of 1.5MW wind power and the engineering service for 500MW wind farms in 7 locations are the ongoing projects in this field.

In year 2010, by technology transfer from most reputable European firms, Monenco Iran became capable of full micro-siting and wind farm design using Wind Pro software.

### Solar Energy

Sunlight is a clean energy that decreases emission of greenhouse gas, with little restraint in terms of installation. In year 2009, Monenco Iran finished basic design of Iran first Integrated Solar Combined Cycle Power Plant in Yazd. This project will go to detail design, procurement and construction. Together with our group, we are proud to take on that task. In year 2010, to better serve clients, Monenco Iran focused on engineering design and supervision of photovoltaic systems and started its work through some rural electrification projects. Engineering Services for Rural Electrification Using Photo-Voltaic Systems is one of our recent projects in this field.

Monenco Iran perceives solar power generation a promising opportunity and aims to expand its involvement in this market.





### Distributed Generation

Distributed/Dispersed Generation is the oldest power generation approach that employs small-scale technologies to produce electricity close to the end users of power.

Nowadays innovative distributed generation technologies can provide lower-cost electricity and higher power reliability with less environmental consequences. In the field of dispersed generation, Monenco Iran was awarded the following projects in 2010:

- Consultancy Services for Feasibility Studies for CCHP of Khark Power Plant, Orumieh Cement Factory and Sharif University Energy Science and Technologies Research Center
- Consultancy services for development plan of small scale generators for Saba company

### Rehabilitation & Retrofitting

Steam power units more than 25 years in operation are facing serious threats in view of their remaining lifetime. Even in case of proper operation & maintenance, the aging of power plants leads to higher cost mainly due to

- Deterioration of original performance (output & efficiency)
- Loss of availability by increased number and duration of forced outages

Steam power plant rehabilitation is a cost effective method to regain competitive electricity production cost of older power plant units.

The results of a successful rehabilitation are reduced electricity production cost achieved by output increase, heat rate improvement, availability enhancement while at the same time extending lifetime and complying with stricter environmental standards.

These targets are reached by a complete plant approach using plant/system engineering and project management tools.

Monenco Iran is providing rehabilitation of steam power plant as a solution for national utilities and Independent Power Producers (IPPs) to improve the plant economy and to keep the production cost effective.

One of Monenco newly awarded project in this field is Loushan Power Plant for alternate fuel of steam boiler.





## Oil & Gas



### Omid Hamlehdar

Hamlehdar.Omid@monenco.com

Obtained his B.S. in Mechanical Engineering from K.N.T University of Technology and his M.S. in Process Integration from University of Manchester. From 1998-2000 and 2002-2003, he has worked for SAIPA Industrial Group and from 2000 to 2002 for Iran Khodro Industrial Group. From 2003 to 2006, he has been in Mahab Ghods Consulting Engineers Company as Design Engineer & Surge Analysis Expert. As Procurement Engineering Manager, he has worked for Iran LNG Company since 2006 for three years. It was 2009 when he joined Monenco Iran company as Oil & Gas Deputy.

In a country with an old history of oil industry and a remarkable demand and investment growth in oil and gas exploration and production, Monenco Iran provides whole scope of services including multi-disciplinary engineering services, consultancy services and procurement services in this field of industry.

Furthermore, the environmental issues due to global warming and also the declined rate of oil extraction from old oil fields of Iran has made Monenco Iran able to undertake wide range of studies in this regard and make its own share of contribution to resolve global issues by offering NIOC, National Iranian Oil Company, the latest methods of Carbon Capture Storage and CO<sub>2</sub> injection to oil wells.

The major projects that Oil & Gas department of Monenco Iran has been involved this year, are as follow:

#### **Esfahan Refinery Upgrading Project (ERUP)/Package C:**

**Owner:** National Iranian Oil Engineering and Construction Co. (NIOEC)

The existing refinery consists of two trains with a nominal capacity of 100,000 BPSD and the future capacity shall be 360,000 BPSD.

#### **Utility project of gas refinery phases 15 & 16 south pars gas fields development plant:**

**Owner:** Pars Oil & Gas Co. (POGC)

This project involves the engineering of utility along with design review, detail design of civil and foundation, detail design of all disciplines for unit 123, 3D modeling in PDMS and site supervision. Steam generation, Cooling, Fire fighting, Nitrogen and Oxygen, sea water storage and desalination, polishing water, sewage treatment, chemical treatment and power supply system are all the units included in this utility project.

#### **Construction of two Gas Pressure Reduction Stations**

**Owner:** MAPNA Turbine Engineering and Manufacturing Co. (TUGA)

Reduction stations are with the following specifications:

- Pressure reduction: 1000 – 500 psi      Capacity: 13000 Nm<sup>3</sup>/h
- Pressure reduction: 500 – 60 psi      Capacity: 3000 Nm<sup>3</sup>/h

#### **Electrical and thermal energy audit in Petrochemical and Gas Treatment Plants of South Pars Phases**

**Owner:** Pars Oil and Gas Co. (POGC)

Monenco is responsible for the determination of the bottlenecks in energy waste and providing the optimum solution, conceptual design and economic evaluation of the selected solutions and preparation of business plan.





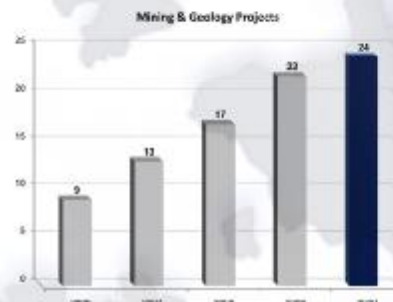
## Mining & Geology

Merging of coal and energy in a single business unit addresses the global demand for energy solutions in various forms such as coal mines and geothermal plants, with the consultancy services to support this.

Considering the nature of the projects, Monenco Iran provides geology studies and analysis for other projects such as substations, Power Plants and so on.

Monenco works with the clients to plan new mines or improve the operations of existing mines with a primary focus on safely achieving optimum output and return on investment.

One of the in hand projects is the consultancy services on the exploration of Babaali2 and Galali2. This project is including revision, completion and removal of the explored data and geology, topography and geophysics and Monenco acts as MC.



## System & Energy Studies



**Mojtaba Noroozian**

Noroozian.Mojtaba@monenco.com

Received his Ph.D. from Royal Institute of Technology of Sweden, his M.S. from University of Manchester and B.S. from Sharif University of Technology all in Electrical Engineering. From 1994 to 2006, he has worked in ABB Power Technologies as Power System Specialist, Dynamic Power Flow Controller and Project Manager. From 2007 to 2009, he has worked in Geam Electric as Research and Development Manager. Since 2009 he has been working in Monenco Iran as Manager of Energy & System Studies Center.

Enjoying Monenco Iran's extensive experience in power industry and having skillful technical experts, "System and Energy Study Center" aims to perform system studies in the field of power production, transmission and distribution of electrical energy as well as energy consultancy to large industries and electrical railways.

At present, Monenco Iran's System & Energy Study Center outstanding projects on study of power plants in island mode, energy saving studies and feasibility study of conventional power plant and renewables for energy industries. We are also involved in assisting industries for improving managerial structures and developing strategic plans.

**Monenco was awarded the following projects in 2010;**

- Application of FACTS devices in Iran National Grid
- Restructuring of Power Industry in Iran
- Island simulator design & supervision manufacturing
- Supervisory services on the system studies for the design of harmonic filter of Shemsh steel plant
- Gheshm island power plant feasibility study
- Supervision of manufacturing of a Static Var system
- Detailed design of rules & tools for day-ahead Spot Market Pricing



# Research & Development



## Ramin Khoshkho

Khoshkho.Ramin@monenco.com

Received his Ph.D. from University of Joseph Fourier of France, M.S. and B.S. from University of Tehran all in Mechanical Engineering. From 1990 to 1998, he has worked in MATN Co. (Electric Power Research Institute) as Senior Mechanical Engineer and Manager of Mechanical Department. From 1998 for two years, he has been Vice President of Power Generation Research Center, and in year 2007 he was appointed as R&D Manager of Monenco Iran.

Research and Development (R&D) in Monenco Iran aims to apply new ideas in energy industries in order to enhance the efficiency, reliability and productivity. We meet the present and future demands of industries, while helping clients to make a better use of available resources to reduce the environmental impact and maintenance costs by developing the systems and products. This section has successfully completed the Investigation of "Structural and Fluid Dynamics Analysis of Turbine V94.2 Air Intake and Exhaust Systems" in 2010.

### R&D ongoing projects:

- Designing a test rig to test 25 MW gas turbines
- Designing a test rig to test centrifugal compressors used in gas pipelines
- Environmental study and suggesting multi-pollutant reduction system in power plants
- CO<sub>2</sub> Capture via Oxy-Fuel in Thermal Power Plants
- Simulation of CCGT including IGCC (Integrated Gasification Combined Cycle) fed coal
- Investigation of Fuel System and Damage Analysis of Gasoline Pump in Tishreen Power Plant
- Technical and Economical Investigation on Thermal Power Plant Pollution reduction
- Comparative study on the Net Cost of Electrical Transmission Line Projects in Iran and Worldwide

### R&D duties:

- Developing technical software for study, design, engineering and system rehabilitation of plants
- Establishment of new technology and know how within the engineering group
- Conducting technical and economical studies in order to maximize efficiency of systems and to minimize costs
- Improvement of plant performances, development of engineering and design of equipment and parts for manufacturers using achieved technical know how of new design, engineering and solution for optimization of plants
- Modifying the procedures of operation, maintenance, protection and utilization of plants in order to increase the output of the plant
- Preparation of technical specification of renewable and green energy power plants
- Creating new methods to control more efficiently the air, water and solid pollutants and to reuse and recycle wastes

### R&D goals:

- Know how transfer of the new technologies to the design disciplines of Monenco and enabling them to identify the important projects and allocate financial support to them
- Communication with academic and research centers inside and outside the country in order to define and execute necessary research projects
- Define approach to apply the latest technology



# Engineering Capability



## Alireza Afsar

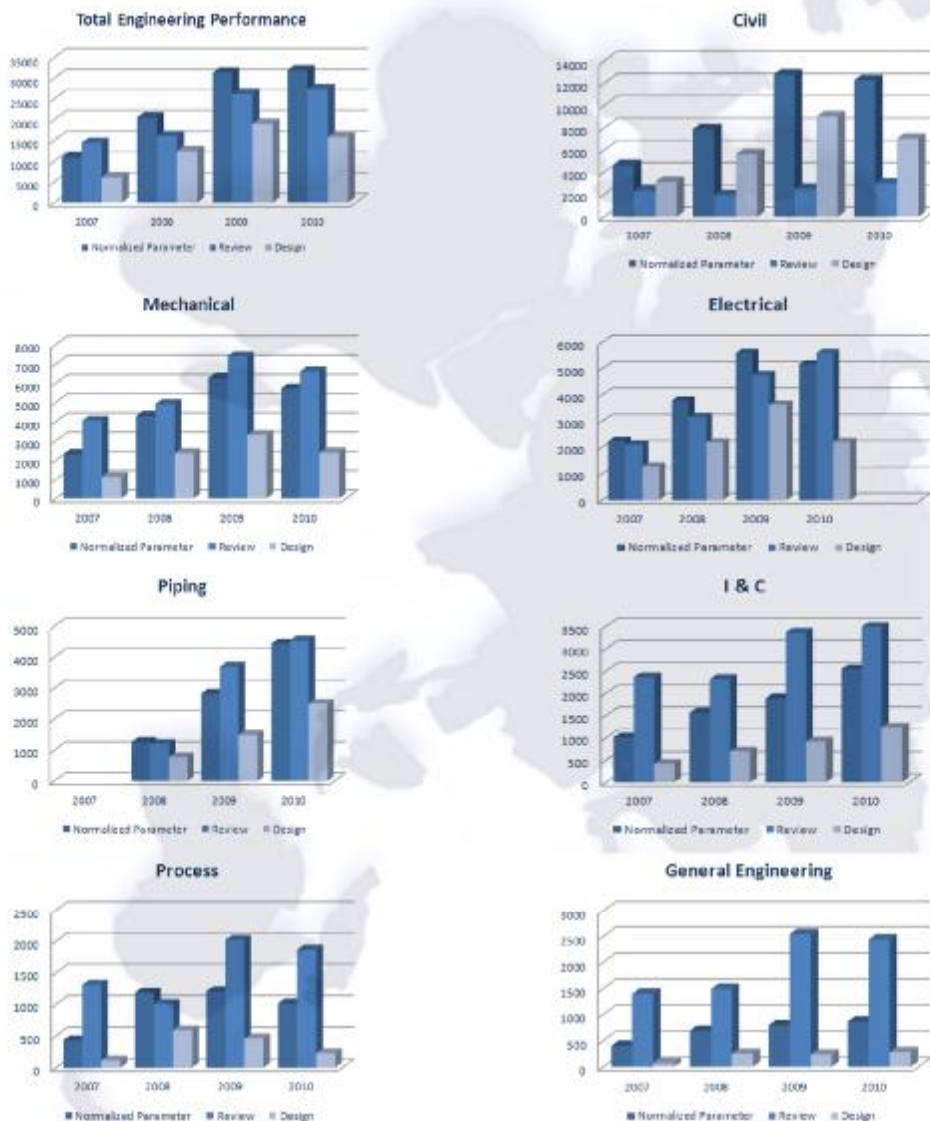
Afsar.Alireza@monenco.com

Obtained his B.S. in Mechanical Engineering from University of Tehran. He started to work in Khaneh Sazi Iran Co. in 1995 as supervisor. From 2000, he has worked for seven years in Moshanir Consulting Engineers as Mechanic and Process Expert. Since 2007 he joined Monenco Iran as Project Manager of Combined Cycle Power Plants and it was 2010 he was appointed as Engineering Deputy of the Company.

Engineering capabilities are the core competency of Monenco Iran. Professional engineers equipped with latest software, tools and systems, together with multi-disciplinary matrix organizational structure, increased Monenco Iran design output drastically in the past few years.

Also by outsourcing management of specific engineering services, we were able to build in-house capacity for new jobs as well as enhancing the expertise.

Following diagrams show engineering capability growth of the company based on the number of design documents issued in year 2010;





# Quality & Productivity



## Maysam Roshanjooy

Roshanjooy.Maysam@monenco.com

Obtained his M.S. in Industrial Engineering from Isfahan University of Technology and his B.S. in Applied Mathematics from University of Science and Technology. From 2004 he started to work in Yakhsaran Co. as Manager of Quality Assurance. After four years, in 2008, he joined Monenco Iran and in 2010 he was appointed as Manager of Quality and Productivity.

Monenco Iran ethical code is based on this guiding principles: consistent customer satisfaction, outstanding quality of service, personal commitment, responsibility, availability, and a rigorous recruitment policy with emphasis on human qualities. The loyalty of Monenco Iran clients over the years has continually encouraged it to maintain and enrich these fundamental values.

Monenco Iran is a market leader with an ambitious, sustained and wholly self-financed development strategy. Monenco Iran greatest pleasure is helping its clients' progress, and progressing with them.

## Integrated Management System (IMS)

Monenco Iran has implemented ISO 9001:2008 standard as its Quality Management System (QMS). Monenco Iran has upgraded its management system from QMS to IMS by implementing ISO 14001:2004 and OHSAS 18001:2007 standards. New IMS policy is as follow:

- Quality and productivity improvement of projects' execution
- Promoting the technical services and consultation know-how
- Focus on the customer satisfaction increase
- Commitment to preserve & protect occupational health and safety of employees
- Protect the environment by proper use of natural resources and recycling constantly
- Provide the opportunity to the employees to upgrade their qualifications
- National and regional market Development

### Main activities:

- 1- Documentation of the procedures & work instructions required by OHSAS 18001:2007 & ISO 14001:2004 including:
  - HSE objectives
  - Identification and preparation of HSE related regulations and procedures
  - Risk assessment procedure
  - Environmental aspects evaluation procedure
  - Communication procedure
  - Operation control procedure
  - Emergency preparedness and response procedure
  - Instruction for the Health and safety of personnel
  - Fire fighting instruction



- 2- Conducting periodic medical examinations for employees and analyzing the results
- 3- Evaluating the workplace hazards such as:
  - Ergonomics
  - Thermal environment
  - Non-ionizing radiation like light, magnetic and so on
  - Energy sources like noise
- 4- Providing training courses related to hazard identification
- 5- Revising the process key indicators
- 6- Review and improve the design process by focusing on quality control in order to improve the quality of design
- 7- Review and improve the customer satisfaction management system

**Productivity & Excellence:**

Nowadays, most companies use Excellence Models in order to have a sustainable future. One of the famous Excellence Models is EFQM Excellence Model and Monenco Iran has implemented the latest version.

Monenco Iran applied for the Iranian National Productivity and Excellence and was awarded for the second time.

**Main improvement projects of Monenco Iran are:**

- Review of key performance indicators based on EFQM excellence model, process map and personnel performance assessment
- Design and implementation of personnel satisfaction system in order to motivate personnel and increase their productivity
- Review and design of new process map based on EFQM Excellence Model and ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 standards

**Customer satisfaction:**

Monenco adopts a process approach when implementing its Quality Management System, to enhance customer satisfaction by meeting customer requirements.

Customer satisfaction plays a major role in continuity and sustainability of any business. We designed and implemented "Customer Satisfaction Management System" to collect feedbacks from customers and meet their requirements. In 2010, Customer Satisfaction Management System was revised and improved. As a result in 2010, customer satisfaction score increased by 8% in power generation projects and by 12.5% in transmission and distribution projects.





## Planning & System



### **Mehrnaz Ansarimehr**

Ansarimehr.Mehrnaz@monenco.com

Obtained her B.S. in Applied Mathematics in 1993 from Iran University of Science and Technology. As Cost & Proposal Engineer and then as PDMS Administrator, she has worked five years in OIEC group. In 2000 she joined Petropars Company as Project Planner & Controller. From 2001 to 2003, she has worked in Cyber Space/Jamesazan Tarh as Senior Project Planner & Controller. Holding the same position, she has passed four years in Darya Pala Energy Company. Since 2007, she is a Monenco Iran employee and in 2010 she was assigned to be Planning & System Deputy.

Company's drastic growth during past 4 years needs comprehensive efforts in planning & system development. The necessary developments were in fields such as information technology management, knowledge management, strategic management, systems design and implementation, publications, strategic business planning, business development, enterprise and projects planning and control.

### **Information Technology Management**

Monenco Iran increasingly found the need to integrate the large number of systems in order to support enterprise-wide business processes in 2010. This integration involved challenges of technical, organizational and project management. The systems and main interactions between them were recognized and each system deeply analysed the workflow structures, sharing information, reporting systems, new electronic document management system were improved. Electronic Document Management System was developed in order to track and store projects' generated documents, within Ms SharePoint Server. Transition for ISMS (Information Security Management System) and ITIL (Information Technology infrastructure Library) was implemented. 3D projects are being supervised and consulted by 3D modeling group using sophisticated software. In order to have better communication between the headoffice and the international offices we have designed a shared environment.

### **Knowledge Management**

As Monenco is a knowledge base company and equipped with expert human resources and latest knowledge of design, Knowledge Management project was defined in Monenco Iran. Throughout this project, explicit knowledge was identified and acquired. Our Knowledge is shared within a comprehensive ICT infrastructure. Knowledge sharing culture is one of the most important elements in an effective knowledge management implementation system. Knowledge retention is gained by defining different levels of security for accessing all kind of organizational knowledge. Knowledge of engineering and design is gained through procedures, instructions and guidelines, lessons learned of finished projects and latest innovation and technologies. Monenco Iran was dedicated a Knowledge Management award in the Third Knowledge Management conference.

## Strategic management

Following strategies will bring us competitive advantages and make us a pioneer consultant company in the Middle East. To align all departments with company's main strategies, Development Plan is defined for each upcoming year and each deputy has to follow every tasks assigned to them in order to help the company to achieve its goals. Monenco Strategies and goals are revised every 5 year by considering internal strength and weaknesses and external threats and opportunities.

## Systems Design and Implementation

Based on the strategy of systems enhancement and integration, main systems were improved and installed in 2010. The correspondence and finance and administration systems were replaced with the web based Office Automation system and enterprise resource management system, respectively. Accordingly the related processes and organizations were analyzed and adapted. The library management system was installed to provide online access to latest editions of standards and technical books.

## Publications

The first volume of the "Introduction on Design of Thermal Power Plants" was Written by Monenco hands-on experts and published in 2010 which provides the readers with understanding of the components, calculations, and subsystems of the various types of gas turbine, steam and combined cycle power plants. The book was appreciated in the Iran's summer Book Festival and met unexpected demands from engineers and students. The second volume of the aforementioned book was also written and will be published in 2011 as well as the two other books titled; "ISO 15926 Introduction and Solutions" and "Design of Transmission Lines".

## Business Planning and Development

In Order to achieve a successful international presence, considering the experience gained in 4 decades and the technical capabilities, Monenco decided to concentrate on the strategic international penetration. Business development group has done survey and studied the market opportunities of the Middle East, East Asia, Europe, South America and Africa regions. Nowadays Monenco is not only an Iranian engineering consultancy company but also a distinguished one worldwide.

### Contact:

Ahmad Massoudi  
International Business development Manager  
Massoudi.ahmad@monenco.com



# Global Presence

Another key strategy of Monenco Iran was to expand the business into international power generation, transmission and energy market. In such quest Monenco Iran did feasibility study on potential markets and identified target strategies and markets. With seasoned leadership Monenco Iran made significant inroads worldwide. In 2010, Monenco achievements in penetrating the new international markets were fantastic. Our global knowledge network provides a comprehensive source of know - how so wherever the project is, customers benefit from the comprehensive know – how and broad experience of a team of highly qualified professionals of Monenco, operating around the world. We aim to be our client's first choice of partner throughout the life-cycle of their business and to exceed client expectations by offering innovative, responsiveness, cost effective solution and technical excellence. Monenco teams up with local companies to expand its outsourcing capabilities and provide added service to customers. Whatever the alliance and partnering requirements of a project, Monenco Iran is well placed to work out relationships that suit them. Long-term collaboration with reputable companies in field of engineering consulting enabled us to expand the activities in targeted markets. Active international marketing for only one year, enabled Monenco to deliver world class management consulting, total solutions, design and supervision for projects and establish offices in the Middle East and Africa regions.





### **Pooya Ansarimehr**

MCE Oman - Managing Director  
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Website: oman.monenco.com  
Tel/Fax: +968-24496321  
Mobile: +968 99 10 2882

Obtained his B.S. and M.S. both in Electrical Engineering from Sharif University of Technology in 1994 & 1998 respectively. In 1997 he started to work in Niroo Research Institute and was assigned as Head of Power System Operation Department for 9 years. It was 2007 when he joined Monenco Iran as Planning and System Deputy and in 2010 he was nominated to be Managing Director of MCE Oman.

## **Monenco Iran in the Middle East**

We are investing and working in the Middle East to become a leader in providing integrated planning and energy solutions for a new sustainable future. As regional demand and economy expanding at rapid pace, with decades of experience, strategy for diversification will greatly enhance Monenco Iran footprint in the region as well as revenue source.

A member of the Gulf Cooperation Council (GCC) and with a population of over two and half million people, Oman has seen significant development over the past decade Monenco is proud to have contributed to this growth by opening its very first international branch in Oman as a hub in the Middle East under name of Monenco Consulting Engineers (MCE).

MCE was founded as joint venture between Monenco Iran Consulting Engineers Co. (Monenco Iran) and Atlas International Engineering Consultants Co a pioneer Consulting Company in Oman active in Energy, Water and Infrastructure sector.

Within 5 years, MCE will become a premier consulting company in Oman and Arabian countries in the fields of Power, Energy and Infrastructure industries, while becoming a distinguished consulting company in the Middle East.

We strive for excellence in:

- Delighting our clients with on-time and high-value solutions
- Continuous improvement by integrity, teamwork and innovation
- Capacity building equipped with transfer and management of knowledge
- Acquiring strong market position by taking the lead in quality and productivity
- Expressing our responsibility for the world by considering green technologies and sustainable development

MCE is a premier engineering consultancy firm with an outstanding reputation in the fields of Power Generation, Transmission & Distribution, Oil & Gas and Water.

MCE mission is to exceed client expectations by offering innovation, responsiveness, cost effective solution and technical excellence and lead the industry by instilling pride in our people, creating value for our stakeholders while considering sustainable development and environmental issues.

### **Some of our in hand projects in 2010 in the ME are as follow:**

#### **Oman**

1. Consultancy Services for New Al Kamil 132/33kV Grid Station project
2. Consultancy Services for New Nizwa University 132/33kV Grid Station project
3. Consultancy Services for Design and Construction Supervision Services for Construction of 33 KV Switchgear Substation at RUSAYL
4. Consultancy Services for Design of Architectural Concept of MEDC Offices in QURIYAT, AMERAT & A'SEEB
5. Power Quality Improvement of Modern Steel Mills

#### **Syria**

1. Engineering Services for Jandar Combined Cycle Power Plant
2. Engineering Services for Tishreen Combined Cycle Power Plant





### **Siamak Khalaj**

MCE Nigeria - Managing Director  
Khalaj.Siamak@monenco.com  
Obtained his B.S. in Electrical Engineering in 1997 from Iran University of Science and Technology. Since then he joined Monenco Iran and has been working for the company for 14 years. He is head of Power Transmission Group and in 2010 was promoted to be Managing Director of MCE Nigeria.

## **Monenco Iran in Africa**

To expand high quality consultancy services all around the world especially where fast infrastructural development is a need, to feel better clients' needs wherever they are, Monenco Iran established Africa first office in Nigeria.

In year 2010, as first step to enter the Africa market, Monenco Iran was awarded contract of engineering services for hydro-power plant at Dadinkowa dam. Beside that Monenco Iran was chosen to evaluate EPC bids for Nigeria Federal Ministry of Power.

## **Monenco Iran in East Asia**

The East Asian Countries as a group make an appealing market in energy sector. These developing countries produce projects in power generation, mining, oil & gas and so on every year.

In 1967, ASEAN (Association of South East Asian Nations) was established in Bangkok between the countries; Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei Darussalam, Vietnam, Laos and Myanmar and Cambodia.

Monenco business strategy toward East Asia has been to establish a strong presence in energy sector as a leading engineering company.

Our marketing effort has been successful as we have been shortlisted for a project in Vietnam for "Support ERAV in the Implementation of Technical Coded (Grid Code and Distribution Code)". In this project the client is the Ministry of Industry and Trade-Vietnam and our main competitors are KEMA International (USA), PPA Energy (UK).

In order to penetrate the East Asian market, Monenco's goal is to open an office in Malaysia in year 2011. This will initiate with a joint venture with our Asian partner and eventually will turn to an office to represent our company and to participate in projects in that region.

# Financial Statements



## Elham Sadeghian

Sadeghian.Elham@monenco.com

Obtained her B.S. in 1995 from Bahonar University and her M.S. in 1995 from K.N.T University both in Electrical Engineering. From 1999 to 2007 she has worked in Electric Power Research Center while from 2006 she has been Head of Electric Department. Since 2007 she has been working in Monenco Iran and from 2010 she was appointed as Administration Deputy of the company.

### Income Statement ( Profit/Loss ) on 20 March 2011

	<b>1388</b> ( On 20 March 2010 )	<b>1389</b> ( On 20 March 2011 )
	Rials	Rials
Services Income	376,671,094,290	442,700,324,948
Services Finished Price	-220,853,535,464	-300,899,085,216
Gross Profit	155,817,558,826	141,801,239,732
General and Administrative Costs	-70,189,845,680	-53,354,372,040
Other Operational Income (net)	163,000,000	70,000,000
	-70,026,845,680	-53,284,372,040
Net Profit	85,283,774,866	88,516,867,692
Other non operative income	2,765,441,036	4,000,000,000
Profit Before Tax	88,049,215,902	92,516,867,692
Tax on Income	-21,506,780,468	-22,141,716,923
<b>Net Profit</b>	<b>66,542,435,434</b>	<b>70,375,150,769</b>
Net Profit	66,542,435,434	70,375,150,769
Accumulated Profit in the beginning	27,714,734,414	64,418,575,084
	-21,089,087,371	-700,000,000
Accumulated Profit in the beginning-modified	6,625,647,043	63,718,575,084
Profit Distribution	73,168,082,477	134,093,725,853
<b>Appropriation of Profit:</b>		
Legal Reserve	-3,359,678,506	-3,359,678,506
Dividend	-5001000000	-6724308673
Board Bonus	-388888887	-388888887
<b>Accumulated Profit</b>	<b>64,418,515,084</b>	<b>123,620,849,787</b>







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