

monenco

Newsletter

Winter 2022 No. 21

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Message From Market

Asset Management



Assessment of Asset in power transmission and Distribution with Focus on Artificial Intelligence (AI)

The state of the art offers Artificial Intelligence (AI)-driven image recognition that allows utilities to inspect equipment, flag anomalies, and determine which repairs to prioritize. Previously, utilities have used field crews and helicopters to inspect equipment manually, which is both more time-consuming and less accurate than AI-based solutions.

Utilities across the world, but particularly in natural disaster-prone, hard access and impassable areas, face daunting requirements to inspect and update equipment across their aging assets without causing cost of customer rates.

Because AI solutions are more cost-effective, we hope its technology will allow utilities to reduce operations and maintenance spending and re-allocate those funds to much-needed power transmission and distribution replacements and improvements. Our relationship with new technologies and AI will allow utilities to tremendously speed up, improve the accuracy and efficiency of their inspections and reviews, ultimately making the grid safer for everyone.

So, a partnership with consultant engineers and starts-up allows power industries to accelerate the remarkable progress has already started and achieved in other aspects.

Critically, this technology can improve our customers' reliability and cost profiles at a time when there are so many competing demands on a utility's balance sheet.

This partnership and new arrangement of teams will demonstrate and refine the impact and value of the technology in Power transmission and distribution networks.

Right now, the utilities are excited about this concept of pioneer consultant Engineers given its strong solution offerings and expertise in this space.

As the market continues to drive toward a digital transformation, Monenco look to be at the forefront of AI adoption to help utilities improve the speed and efficiency of the inspection workflow.

We are the consulting engineers with a plan to order to startup companies focused on AI-based improvements to some of the critical tasks that utilities face in maintaining high-reliability electrical systems.

Monenco aims to provide utilities with solutions for asset and maintenance management, infrastructure inspection workflow automation and digitization.



The company's offerings deliver AI-based digital solutions, GIS and LiDAR systems, work order systems integrations and scalable data management for making workflow processes more efficient.

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Migrating from Traditional Telecommunication Networks to New Generation Networks

With the advancement of technology, more and more companies are changing their way and increasing speed and adaptability to excel in today's competitive world. Replacing old systems with new ones helps reducing costs by improving scalability and efficiency at the same time. In such a situation, upgrading devices to IP (Internet Protocol) brings innumerable benefits. TDM (Time-Division-Multiplexing) network can be considered as a kind of multiplex system based on data transfer over time. In these networks, information is transferred to the digital systems in certain times. Traditional networks are based on TDM protocol. Migrating from TDM to IP is a step towards integrated communications that will converge the network infrastructure. This means that there will be no longer different networks for audio, video and data.

NGN (Next Generation Network) means new generation networks in which information such as voice, data and wired or wireless communication lines are transmitted in a single network structure. The advantages of using the new generation network architecture can be the possibility of gradual change in the network and its structure according to the trend of changes in technology and services and increasing needs, minimizing the impact of new technologies in providing existing services, centralized and advanced management and maintenance operations and there is no need for service detection mechanisms due to the separation of the control and service layers and the sharing all services and access systems from a single transmission network and the optimization of the use of network resources. According to the traditional solutions, TDMs are complex solutions that require high maintenance and costly cabling and have no potential for new developments, so organizations focus on migrating to the IP-based solutions to keep their data network synchronized on one platform. The most important goals of this project are to create a telecommunication network with high reliability, compliance with a fiber optic network, guarantee of telecommunication channels for the network protection system, guarantee of telecommunication channels, increase the quality of operation, reduce costs, avoid interruptions frequent calls, implementing an office automation, a monitoring system, video conferencing, etc., and finally eliminating the weaknesses of the telecommunication network and replacing the existing telecommunication system.

Khuzestan Petrochemical Special Economic Zone organization, as a member of National Iranian Petrochemical Company, intends to create an optical network in its area and provide various services in order to meet the communication needs of the centers covered by it and other organizations and petrochemical companies in Mahshahr Special Economic Zone.

In this regard, Monenco Iran Company, as a consultant, intends to provide the appropriate NGN network to select the best design and implementation method based on existing standards and taking into account all environmental considerations to increase the executive quality, reduce additional costs and achieve the mentioned goals.

Sample Projects



Copper Industry Complexes New Power Plants

Start date: 2022

Client: National Iranian Copper Industries Co.

Location: Iran

● **Description:** The National Iranian Copper Industries Company has three main plants in the Sungun of East Azerbaijan and ShahrBabak and Sarcheshmeh in Kerman province. The product of these centers is about 1.2 million tons of copper concentrate per year. Due to the high world price of copper and considering the fact that the employer needs constant and stable electricity to produce copper, they decide to build an owned power plant. Based on the valuable experiences of Monenco Iran, this consulting engineers assigned to engineering and comprehensive studies to develop a portfolio of power plant mix (thermal renewable) for copper industry complexes.



Data Exchange Platform and Services of Electricity Industry

Start Date: 2022
Client: TAVANIR Company
Location: Iran

● **Description:** In this project, Monenco is responsible for design, preparation of technical specification, tendering and selection of tenders to employ the central data exchange platform in Iranian electric power industry. The features of the project include but not limited to:

1. Helping the systems and software in the company and other subsidiaries to have access to the information of each other simultaneously and in real time.
2. Increasing the efficiency and effectiveness of the organization by simplifying business processes.
3. Providing information integrity which is important due to the variety of available systems in the company and the subsidiaries.
4. Facilitating the development and maintenance of the systems.
5. Improving communication with subscribers.
6. Improving supply chain and contractor relationships.
7. Keeping the practical software active which developed previously by domestic or international companies.
8. Reducing service responses time and improving the business process.
9. Supporting some extent changes at the process or organizational level.
10. Standardizing the existing software in Tavanir Company and other subsidiaries.
11. Improving return on investment.

Sample Projects



Gilan Area Electrical Dispatching Center (GILAOC)

Start date: 2021
Client: Gilan Regional Electric Company (GILREC)
Location: Iran

● **Description:** Due to factors like geographical distribution of electrical networks in a wide area, extensive cable system and rapid extension, operation of the network is challenging and complex. In order to reach the substations, the operation and maintenance (O&M) teams, in addition to doing a lot of time-consuming coordination, have to travel long distances to those substations, which prolongs the maneuvering time, and in cases of fault occurrences, results in more power outages. Therefore, it has been deemed as necessary to construct a modern SCADA system to assist O&M staff. Regarding this and based on the valuable experiences of Monenco Iran, the consultancy services of the project awarded to Monenco Iran.



Implementation of Submarine Fiber Optic Cable from Qeshm Island to the Motherland

Start date: 2022
Client: Hormozgan Regional Electric Company (HREC)
Location: Iran

● **Description:** Hormozgan Regional Electric Company (HREC) intends to implement submarine fiber optic cable from Qeshm island to the motherland in order to strengthen the telecommunication connection between Qeshm electricity network and the national network. In this respect and based on the valuable experiences of Monenco Iran, the consultancy services of the project awarded to Monenco Iran.



Construction of Flue Gas Desulphurization (FGD) Plant of Pelletizing Unit No.1 of GOL GOHAR Mining & Engineering Co.

Start date: 2022
Client: GOL GOHAR Mining & Engineering Co.
Location: Iran

● **Description:** This is the first flue gas desulphurization (FGD) project in Iran by ammonia absorption wet method which not only will prevent releasing of a very harmful air pollutant gas like Sox from the No. 1 Pelletizing Unit of GOL GOHAR, but also by converting it to very useful fertilizer, Ammonium Sulfate ((NH₃)₂SO₄), can help further prosperity of agriculture in Kerman and whole Iran. This consulting engineers is responsible for designing and engineering services.

Sample Projects



Developing Infrastructure and Next Generations of Technology in Iran's Smart Metering

Start date: 2022
Client: Tavanir Company
Location: Iran

● **Description:** Considering the first phase of FAHAM Project and completing the project, developing the AMI System and achieving all pre-defined benefits and objectives, the mentioned project was awarded to Monenco Iran. In this project by implementing FAHAM new ICT architecture and various smart metering solutions, the client will achieve wonderful results which will ultimately increase the ability of electricity distribution companies to manage customer consumption, reduce non-technical losses and fulfil demand response programs. Scada, ICT & Smart Solutions Division of Monenco Iran is responsible for providing engineering and consultancy services to the employer.



Technical Supervisory to TAVANIR Information and Communication Technology (ICT) Office

Start date: 2022
Client: Iran Power Generation, Transmission, and Distribution Company (Tavanir Co.)
Location: Iran

● **Description:** Given that Tavanir Co. is the leading company in managing the efficient, reliable, sustainable and inclusive supply and demand of electricity, this company, with the aim of integrating all ICT topics in one manageable format, selected Information and Communication Technology (ICT) Department of Monenco Iran as its consulting partner in all ICT-related domains.



TABAS Coal Fired Power Plant Project

Start date: 2021
Client: MAPNA GROUP (MAPNA Development 3)
Location: Iran

● **Description:** Tabas Power Plant is the first coal-fired power plant in the country that will be built in Tabas, South Khorasan Province. This power plant with a total capacity of 650 MW in two steam turbine units, each with a capacity of 325 MW, is one of the projects being implemented by Thermal Power Plants Holding Company in an area of 60,000 square meters. By building this complex and getting access to the latest technology of construction of coal power plants, it will be possible to use this technology in other industries of the country. Monenco Iran as a leading company in the field of power plant projects has been selected for engineering, design and consultancy services of this project.



Events

The Unveiling of the Artificial Intelligence Platform for the Purpose of the Predictive Maintenance in Gas Turbine Power Plant

- The unveiling of the artificial intelligence platform was done for the purpose of monitoring the predictive maintenance status of gas units in Qom Combined Cycle Power Plant. Using the latest neural network-based predictive troubleshooting algorithms located in the power plant control center, this platform provides failure warnings to the operator before they occur. In this respect and based on the valuable experiences of Monenco Iran, the consultancy services of the project awarded to Monenco Iran.



Receiving Appreciation from OETC CEO, OETC Chief Operating Officer and OETC HSE Senior Manager by Monenco Oman Managing Director

- Monenco Oman Managing Director Mr. Saeid Tamaddon and Monenco Oman HSE Officer at Nahadah Project have received Appreciation from OETC CEO, OETC Chief Operating Officer and OETC HSE Senior Manager for Achieving One Million Safe Man-Hours in "Construction of 400 kV Nahadah GS Project with Associated OHL".



Visit of Deputies and Heads of National Petrochemical Company from Monenco Iran



Synchronizing of P.V panels installation in Zagros 5 M.W solar power Plant with Monenco Iran supervision



Monenco Iran Attended the 12th Sharif Job Fair



Meeting between Iran Ambassador in Oman and Monenco Oman Managing Director



Signing a Memorandum of Understanding Between Monenco Iran and Petro Contract Navigators Group



Opening of the First Phase Hot Test) of Shiraz Metro Line 2



Monenco Iran Company and Petro Contract Navigators Group signed a memorandum of understanding with the subject

“Participation in providing research and study services, consulting, specialized evaluation, training, publications, engineering, designing, development of modeling and tools and supervision in asset management projects in general, and risk management and project management in the asset creation phase in particular inside and abroad.

Events

Power Industry, Challenges and Solutions

● Oman Sustainability Week is a national platform that aims to highlight Oman's Commitment to sustainability leadership through innovative strategies aligned with the UN Sustainable Development Goals. Monenco Oman Team who are proudly committed on Sultanate of Oman sustainable development Objectives & Oman Vision 2040 by providing an innovative consultancy service in various fields of energy, visited the exhibition and had productive negotiations with major stakeholders, policy makers, sustainability experts and industry leaders dated 16th March 2022 in order to commence mutual cooperation in near future.



Oman Convention & Exhibition Center, Muscat, Sultanate of Oman

Land Discharge of 2200-ton Cargo of Bushehr Petrochemical Reactors Without Using Crane

● The 2200-ton cargo of two petrochemical reactors of Bushehr discharged from the sea to land without using a crane and was delivered to the piers of phase 2 of the National Petrochemical Company. In this project Monenco Iran acts as the contracting managing and operating manager.



Holding the Second Meeting of Cigre Iran Technical Committee

● The second meeting of Cigre Iran Technical Committee was held with the presence of chairman and secretaries of the Cigre Iran Study Committees. In this meeting, Study Committees presented their activities of the last year and their plans developed for taking action in 2022.



Appreciation of the Efforts of Ms. Fatemeh Beheshti, HSE Supervisor of Monenco Iran

● During a meeting attended by Managing Director of Monenco Iran, the HSE expert of the Electricity Sector of MAPNA Group, Deputy of Financial and Administration and Deputy of Planning and System of Monenco, the efforts of Ms. Fatemeh Beheshti, the HSE supervisor of Monenco were appreciated and she was praised as the top HSE expert in the electricity sector.



Certificates and Appreciation Letters



Appreciation Letter from the CEO of the Export Development Bank of Iran

Monenco Iran FIDIC Affiliate Membership Certification



Membership Certification of Mir Management Consulting Company in Iran Management Consultants Association



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