

Under the patronage and presence of Sheikh Rashid bin Hamdan bin Rashid Al Maktoum,
Supreme President of Hamdan bin Rashid Al Maktoum Foundation for Medical and Educational Sciences



جائزة التميز والإبداع الهندسي
EXCELLENCE AND CREATIVE
ENGINEERING AWARD

جمعية المهندسين
society of engineers



الامارات
uae

YEAR BOOK

2024

THIRD EDITION



جائزة التميز والإبداع الهندسي
EXCELLENCE AND CREATIVE
ENGINEERING AWARD



HIS HIGHNESS SHEIKH MOHAMED BIN ZAYED AL NAHYAN
PRESIDENT OF THE UNITED ARAB EMIRATES



جائزة التميز والإبداع الهندسي
EXCELLENCE AND CREATIVE
ENGINEERING AWARD



HIS HIGHNESS SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
VICE PRESIDENT AND PRIME MINISTER OF THE UAE AND RULER OF DUBAI



جائزة التميز والإبداع الهندسي
EXCELLENCE AND CREATIVE
ENGINEERING AWARD



HIS HIGHNESS SHEIKH MANSOUR BIN ZAYED AL NAHYAN

UAE VICE PRESIDENT, DEPUTY PRIME MINISTER AND
PRESIDENT OF THE PRESIDENTIAL COURT



جائزة التميز والإبداع الهندسي
EXCELLENCE AND CREATIVE
ENGINEERING AWARD



SHEIKH RASHID BIN HAMDAN BIN RASHID AL MAKTOUM
SUPREME PRESIDENT OF HAMDAN BIN RASHID AL MAKTOUM
FOUNDATION FOR MEDICAL AND EDUCATIONAL SCIENCES

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EXCELLENCE AND CREATIVE ENGINEERING AWARD

The Excellence and Creative Engineering Award comes within the framework of the UAE's 2071 vision, which considers innovation as one of the national priorities, and within the efforts to achieve a diverse knowledge-based economy led by competent Emiratis, ensuring sustainable prosperity by keeping pace with the continuous development in the engineering sector and adopting and implementing innovative projects and ideas.

The UAE Society of Engineers, by organizing the "Excellence and Creative Engineering Award," celebrates excellence and honors the efforts of institutions and individuals who positively impact various engineering sectors in the UAE. The award acknowledges the outstanding contributions and achievements in the engineering sector by those who have driven progress achieved leadership and excellence in the field and were able to transform challenges into opportunities for sustainable growth and advancement.

Opening
Submission
1 JULY 2024

Closing
Submission
22 NOVEMBER 2024

Judging
Ends
22 JANUARY 2025

Awards
Ceremony
5 FEBRUARY 2025

OBJECTIVES



Highlighting the importance of national engineering work.



Stimulating national engineering competencies for development, creativity and leadership.



Raising the spirit of competition, creativity, leadership and excellence in various fields of engineering work to keep up with the pace of the continuous global growth wheel.



Spreading and encouraging a culture of excellence, creativity and innovation in all engineering projects.

AWARDING CEREMONY



The 3rd edition ceremony attended by Sheikh Rashid bin Hamdan bin Rashid Al Maktoum, Supreme President of the Hamdan bin Rashid Al Maktoum Foundation for Medical and Educational Sciences, Eng. Abdulla Yousef Al Ali, President of the UAE Society of Engineers, and Eng. Rashad Bukhash, Chairman of the Higher Committee. They honored the winners of the Excellence and Creative Engineering Award, during a ceremony organized by the UAE Society of Engineers at the Mohammed bin Rashid Library. The award celebrated the pioneers in the engineering sector, who presented creative designs and projects based on innovation and the application of best practices and contributed to creating a qualitative shift in engineering creativity, which has become a unique and distinctive feature of the UAE.



The ceremony was also attended by Shaikha Dr. Nahla Ahmed Al Qassimi, Vice President of the UAE Society of Engineers and His Excellency Prof. Ebrahim Al Hajri, President of Khalifa University, Dr. Ali Al Muwaijei, Vice President of Governance, Compliance, and Enterprise Agility, DEWA, Prof. Dr. Fadi Aloul, Dean of the College of Engineering, American University of Sharjah, Dr. Riad Saraiji, Dean, Head of Healthy Buildings Research Center at Ajman University as well as members of the UAE Society of Engineers board of directors, ECEA judging committee, and numerous officials from public and private sector.



The award ceremony began with the UAE national anthem, followed by a video about the award and its objectives, after which Eng. Abdulla Yousef Al Ali, President of the UAE Society of Engineers, delivered his speech, in which he expressed his sincere thanks and appreciation to Sheikh Rashid bin Hamdan bin Rashid Al Maktoum, Supreme President of the Hamdan bin Rashid Al Maktoum Foundation for Medical and Educational Sciences, for his support and encouragement of the award, which serves to support initiatives seeking to achieve national visions and enhance the cultural face of our beloved UAE.



In his speech, Eng. Abdulla emphasized that engineers receive unwavering support from the wise leadership, which motivates exceptional engineers across all fields to excel and innovate. This commitment enhances comprehensive development and aligns with the goals of the "Year of Community" in creating a better future for everyone.



During the ceremony, 27 winners were honored in the Legal Personality category, representing engineering offices, institutions, companies, and departments. Additionally, recipients from the Individual Awards category were recognized for their creativity. The event also acknowledged the award sponsors, with Intelligent Group as the "strategic sponsor" and OBERMEYER Middle East as the "category sponsor".



PRIZE INFORMATION

Individuals Categories

First, second and third place winners received a certificate and the award trophy.



LEADING PERSONNEL AWARD

• A certificate and the award trophy.



OUTSTANDING ENGINEER AWARDS

- **First Place Winner:** financial reward of 30,000 AED
- **Second Place Winner:** financial reward of 15,000 AED,
- **Third Place Winner:** financial reward of 7,500 AED,



RISING ENGINEER AWARDS

- **First Place Winner:** financial reward of 20,000 AED,
- **Second Place Winner:** financial reward of 10,000 AED,
- **Third Place Winner:** financial reward of 5,000 AED,



OUTSTANDING STUDENT AWARDS

- **First Place Winner:** financial reward of 10,000 AED,
- **Second Place Winner:** financial reward of 5,000 AED,
- **Third Place Winner:** financial reward of 3,000 AED,

Legal Personality Categories

First, second and third place winners received a certificate and the award trophy.



PIONEERING ENGINEERING PROJECT AWARDS



ENGINEERING CONSULTANCY COMPANIES AWARDS



ENGINEERING SERVICES COMPANIES AWARDS



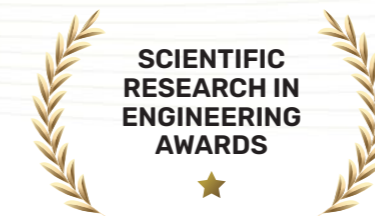
CONSTRUCTION COMPANIES AWARDS



INDUSTRIAL COMPANIES OR CORPORATIONS AWARDS



START-UP ENGINEERING COMPANIES AWARDS



SCIENTIFIC RESEARCH IN ENGINEERING AWARDS



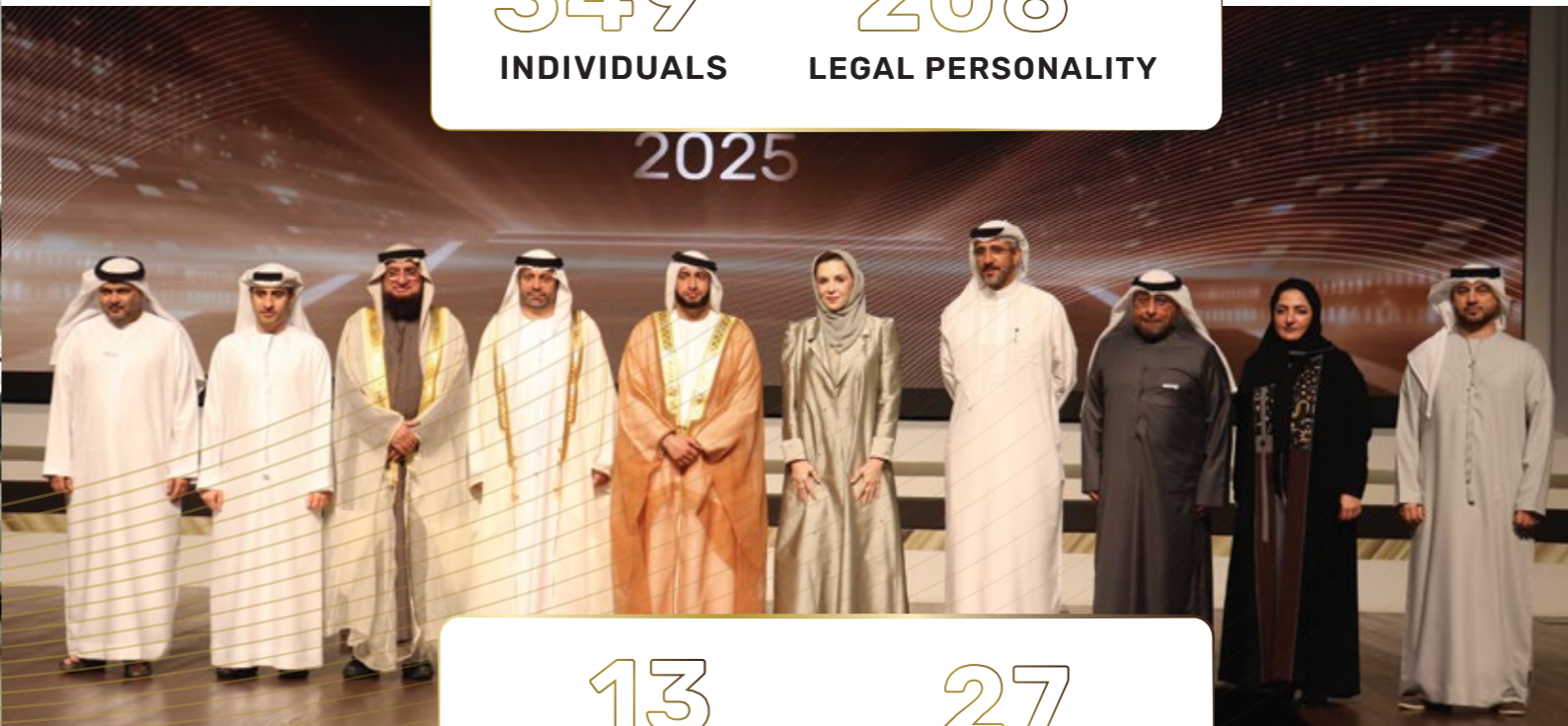
HIGHLIGHTS



349 INDIVIDUALS **208** LEGAL PERSONALITY



3RD EDITION **557** NOMINATED PROFILES



13 CATEGORIES **27** WINNERS





Eng. Abdulla Yousef Al Ali

President of the UAE Society of Engineers

Sheikh Rashid bin Hamdan bin Rashid Al Maktoum,
The Supreme President of the Hamdan bin Rashid Al Maktoum
Foundation for Medical and Educational Sciences.

Your Excellencies and Honorable Guests,

Representatives of government and private entities,

Our media partners,

Ladies and Gentlemen,

Peace be upon you and the mercy of Allah and His blessings.

It is an honor for us to have **Sheikh Rashid bin Hamdan bin Rashid Al Maktoum, the Supreme President of the Hamdan bin Rashid Al Maktoum Foundation for Medical and Educational Sciences**, grace the ceremony honoring the winners of the Excellence and Creative Engineering Award in its third edition. His commitment to recognizing outstanding individuals and sharing in their joy over this achievement is a testament to his belief in the importance of the engineering sector and its strategic role in sustainable development. Nations are built by the hands and minds of their engineers, who bear the responsibility of shaping the future through innovative and sustainable solutions, contributing to enhancing the UAE's position as a leading global hub for trade, industry, and investment.

Distinguished guests,

In line with the UAE Society of Engineers' responsibility to promote a culture of excellence, creativity, and innovation, and to foster a spirit of competition and leadership in various engineering fields, we launched the Excellence and Creative Engineering Award in 2022. This initiative aims to highlight the best innovative national engineering practices and models, and we continue our journey toward excellence with you for the third consecutive year.

With **His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE**, May God protect him, has declared 2025 as the "Year of Community," this strategic step aims to build a cohesive and prosperous community. This declaration provides a roadmap for a more stable and prosperous life while reinforcing the values of cooperation and solidarity.

In this context, engineering is a fundamental pillar supporting the country's economy regarding development and progress, as well as its effective role in improving the quality of life for citizens and residents. Engineers thus receive unlimited support from wise leadership, encouraging excellence and creativity, which enhances comprehensive development and supports the goals of the "Year of Community" in building a better future for all.

I extend my deepest gratitude and appreciation to our visionary leadership, which places great importance on fostering a spirit of competition, innovation, and excellence across various fields. Allow me, **Sheikh Rashid bin Hamdan bin Rashid Al Maktoum**, to extend my sincere thanks and appreciation to you for what you have provided and continue to provide in terms of support, encouragement, and support, especially for the award. I also thank you for your journey full of giving that has contributed to enhancing the UAE's position on the map as the most advanced and growing countries.

I must also acknowledge our creative engineers who have worked diligently to present us with remarkable engineering feats, setting them apart as unique and distinguished. My sincere congratulations to them and to all who participated in the thirteen award categories. Thanks to your efforts and the contributions of innovators in various fields, the UAE has achieved its leadership and distinction, and it will continue to move forward toward achieving further successes.

Finally, I am pleased to extend my gratitude to all the entities from government and private institutions that supported the award, particularly our strategic partners and sponsors: Intelligent Group and OBERMEYER. Special mention goes to our media partners for their prominent role in conveying media messages to the public. Thank you all.

Before concluding, allow me once again to extend my sincere thanks and appreciation to you all, and to congratulate the winners of this year's edition of the award, wishing those who were not lucky to be among the winners of the next edition.

Thank you and peace be upon you, the mercy of Allah, and His blessings.

JURY COMMITTEE



Dr. Riyadh Al Muhaidib



Dr. Abdulla Al Zarouni



Shaikha Dr. Nahla Al Qassimi



Dr. Rashed Alshaali



Dr. Mustafa Al Sheriani



Dr. Fouad Abou Chacra



Dr. Abdul-Rahim Sabouni



Dr. Jihad Awad



Mohamed Korym

Information

All information and materials provided by participants or winners in the award are under their responsibility such as personal information and data provided by the participating company, organization, or by the individual in the award, and the UAE Society of Engineers is not responsible for the shared information.

Confidentiality

Any individual or entity not directly involved in the award process will not have access to any of the information or documents linked to applications for the Excellence and Creative Engineering Award categories. Maintain extreme confidentiality about all information and materials.

INDIVIDUAL CATEGORIES WINNERS



LEADING PERSONNEL



HE Qasim Sultan Al Banna



OUTSTANDING ENGINEER



Dr. Ameena Saad Al Sumaiti
Associate Professor
Khalifa University



Dr. Eng. Meiaad Alsaadi
Chief Artificial Intelligence
Officer | Ministry of Interior



Agnes Koltay
CEO | Koltay Facades
Engineering Design



RISING ENGINEER



Reem Muhsen Mohammed
Senior Road Engineer
Department of Municipalities &
Transport | Abu Dhabi Municipality



Fatima Humaid Alsuwaidi
Project Manager
Ministry of Culture



Majid Juma Hejazi
Senior Engineer - Water Network
Maintenance | Dubai Electricity
and Water Authority



OUTSTANDING STUDENT



Ghaya Farid Al Harmoodi
University of Sharjah



Fatema Saleh Al Marzooqi
Khalifa University



Ahmad Ghandi Al Qawasmi
The American University
of Sharjah

LEADING PERSONNEL AWARD

HE Qasim Sultan Al Banna



Having a distinguished career spanning a period of over forty years, **HE Qasim Sultan Al Banna** rose through the ranks of the Dubai Municipality in the United Arab Emirates. Starting from the level of Assistant Engineer in 1960, he was promoted to Assistant Director of the Technical Sector, and progressed successively to the posts of Deputy Director, Acting Director, and Director General of the Municipality from 1993 to 2006.

As a result of his effective leadership that transformed Dubai into an efficient metropolis, the United Nations Centre for Human Settlements (UNCHS) awarded its Scroll of Honor to HE Qasim Sultan in 1994 and in 1998 he was appointed the first Goodwill Ambassador for the UNCHS in the Arab region. In 2005 HE Sultan was also awarded the University of Alexandria Honorary Award for Regional Leadership.

The Dubai Municipality's high performance standards have also been recognized through other international awards including those of the Arab Towns Organization in the fields of environmental protection and conservation of historic buildings, an Australian award in waste management, the "Pioneer Award 1999" awarded to Dubai Municipality in New York by "International Council for Caring Communities", and the Great International Cannes Prize granted by the Mediterranean Network for Water and UNESCO in 2001.

In addition to his duties as Director General of Dubai Municipality, HE Sultan performed numerous other tasks involving government policies and operations. He served in Boards of Directors of several organizations and associations and effectively contributed to non-governmental activities including his chairmanship of the "Al Ahli" sports and cultural club in Dubai.

OUTSTANDING ENGINEER CATEGORY



Dr. Ameena Saad Al Sumaiti

Associate Professor | Khalifa University



Dr. Ameena Al-Sumaiti is a highly accomplished scientist with passion and vision for research, innovation, entrepreneurship, and future foresight aiming to drive positive impact in UAE and worldwide. Listed among the top 2% of scientists in the world in 2022, 2023 and 2024 for research standardized citation, she is an expert in the fields of sustainability renewable energy, Hydrogen, operation research, smart city planning, transportation networks, water-energy nexus, data analytics, AI applications, Cyber-Physical Systems, Hydrogen, energy policy, energy economics and other aspects of energy, technology, and advanced sciences.

She is a fellow of the Arab American Frontiers and an alumna of National Experts Program, representing "Advanced Sciences and Research" sector, contributing to economic growth. She was on the shortlist of a national talent search. She received her Doctorate degree in Electrical and Computer Engineering from the University of Waterloo (Canada). She was a visiting professor at The Massachusetts Institute of Technology (USA), and is currently with Khalifa University as an Associate Professor and leading the Smart Operation Research Lab.

She received more than 90 awards, recognitions, and local and international fellowships, and has made significant contributions to society. She has 8-electronic newsletters, 11 book chapters, 121 journal articles, 55 conference articles and 2 competition reports among other strategic reports.

Dr. Al-Sumaiti is a senior IEEE member, member of UAE Thinkers and a member of Sustainability Champion Society. Currently, she serves as an editor of Discover Journal by Springer Nature, as Associate Editor of Journal of Umm Al-Qura University for Engineering and Architecture, editorial board member of International Journal of Intelligent Engineering and Systems. Also, she served as guest editor of other journals.

Dr. Ameena is certified by McGill Executive Institute. She is also certified as Scrum Master including Certification on Agile Leadership Essentials, Agile Leadership for Organizations, Agile Leadership for Teams.

Dr. Eng. Meiaad Rashed Alsaadi

Chief Artificial Intelligence Officer | Ministry of Interior



Dr. Eng. Meiaad Rashed Alsaadi is a distinguished Emirati professional who has made significant contributions to the fields of artificial intelligence, engineering, and smart service quality management. Currently serving as the Chief Executive Officer for Artificial Intelligence at the Ministry of Interior, UAE, she leads transformative initiatives to integrate cutting-edge AI technologies into national security and public service operations.

Dr. Alsaadi's academic background is a testament to her dedication and expertise. She holds a Bachelor's degree in Network Engineering, a Master's degree in Engineering Management, and a Doctorate in Business Administration with a specialization in Smart Service Quality Management. This unique combination of technical and managerial expertise has enabled her to bridge the gap between innovative technologies and their practical application in public administration and security.

Her professional journey began at Fujairah Municipality, where she worked as a Software Engineer. Later, she transitioned to the Ministry of Interior as a Network Engineer, advancing to become the Head of the Database Section. Her career trajectory reflects her ability to excel in diverse technical and leadership roles, earning her the trust and responsibility to oversee the ministry's AI-driven transformation.

She received more than (15) awards, and (13) medals and decorations, including (5) Medals of Professional Excellence and (2) First Class Appreciation Medals, and obtained (3) intellectual properties.

As a visionary leader, Dr. Alsaadi has introduced forward-thinking strategies such as the establishment of a pioneering AI Leadership Center.

Agnes Koltay

CEO | Koltay Facades Engineering Design



Agnes Koltay, the founder of Koltay Facades, is widely recognized as a trailblazer in the niche yet essential industry of facade engineering. Her company, established and headquartered in Dubai, has achieved impressive milestones since its inception of 2011, working on some of the most iconic projects in the United Arab Emirates, including the Museum of the Future, the Address Sky Views with its Glass Slide, The Opus, the Natural History Museum and many more.

When Agnes founded Koltay Facades in 2011, she entered a saturated and highly competitive market. Dubai and the broader Middle East construction sector were dominated by well-established engineering and construction firms with extensive local and international networks. Starting from scratch in this environment posed a formidable challenge. Agnes – who holds master's degrees both in Architecture and in Façade Engineering, and is an active member of RIBA, and fellow of SFE– not only established a new brand in a market known for high expectations, complex iconic structures and fast paced timelines; but gained reputation to highly technical, unbiased, professionally sound and practical.

As a woman leading a technical company in a traditionally male-dominated industry, she had to navigate perceptions and biases that could have easily deterred a less passionate entrepreneur. Yet, she saw these hurdles as opportunities to distinguish her business through technical excellence and an innovative approach to facade engineering. The team she has been leading is sharing the passion towards engineering excellence.

From 2016, the company has expanded its presence into the Far East market with a second office in Singapore, where it participated in several high profile project, including the currently on-site New Science Center. Koltay Facades have worked with several world-famous architects such as Zaha Hadid Architects, Foster + Partners, Grimshaw Associates, Killa Design, Mecanoo, UN Studio, SOM, etc and many of the most significant UAE property developers, such as Emaar, Damac, Aldar, Omniyat, Miral, Eagle Hills, Dubai Properties, Azizi, etc.

RISING ENGINEER CATEGORY



Reem Muhsen Mohammed

Senior Road Engineer | Department of Municipalities and Transport - Abu Dhabi Municipality



Eng. Reem Mohsen Mohamed has extensive experience in project management, having earned a bachelor's degree in Civil Engineering and a Master's degree in Engineering Management from UAEU, graduating with distinction and honors, which reflecting her academic excellence. Additionally, she holds a Certified Professional Engineer (CPE) credential from the American Society of Professional Engineers with distinction.

Eng. Reem is recognized as one of the prominent leaders in the Future Leaders Program for 2024. She was also selected as a member of the Change Pioneers Team at the Department of Municipalities and Transport and as a member of the AI Enablement Program 2025. In addition to that, She is a graduate of the second cohort of the Abu Dhabi Government Academy for Public Sector Competencies, earning distinction, and she has completed the Leadership Development for Engineers Program at Rice University. Moreover, Eng. Reem is the first engineer at the Abu Dhabi Municipality to complete the Technical Inspection for Bridge and Roadway Structural Certification from the U.S. Department of Transportation in Chicago. She has leveraged these distinguished experiences to lead the evaluation of over 900 structural assets in the Emirate of Abu Dhabi with high efficiency and professionalism.

Eng. Reem has managed a series of research studies and innovative projects in collaboration with leading universities and research centers in the country, totaling more than 17 innovative projects. Notably, her Smart Bridge Monitoring Project was selected as one of the top innovative projects at the Distinguished Projects Ceremony in 2023. Her other initiatives have focused on utilizing recycled materials as sustainable solutions and developing new specifications for high-performance materials. These projects significantly contribute to improving resource efficiency, reducing environmental impact, and lowering construction costs while ensuring the highest standards of quality in future projects. In addition to her innovative projects, she manages several leading capital projects in the infrastructure sector and participates in various technical committees at the Abu Dhabi Municipality.

Eng. Reem has achieved exceptional milestones in skill development and continuous learning, completing over 737 hours of training and more than 50 training courses.

Fatima Humaid Alsuwaidi

Project Manager
Ministry of Culture



Fatima Alsuwaidi earned a bachelor's degree in Architecture Engineering from the University of Sharjah, during her study, along with her teammates, they won the First Prize in the 7th Regional Undergraduate Research Award 2019 organized by Abu Dhabi University under the patronage of the UAE Ministry of Education. Fatima furthered her academic pursuit with a master's degree in Conservation Management of Cultural Heritage from the same university. Notably, she was the first in her cohort to graduate from this program.

Fatima's contributions to the field extend beyond academic achievements. She has secured second place in the COVID-19 Grounds of Hope Memorial Student Design Competition 2020 and received the Career Excellence Award in the category of Youth from the Ministry of Culture.

Fatima is an active member of several esteemed societies within the UAE and has served on various committees, including the UAE Society of Engineers, Society of Architectural Heritage, Technical Committee of Modern Heritage, and the Technical Committee of Intangible Heritage at the Ministry of Culture.

Fatima actively participates in a diverse range of lectures, training programs, forums, and workshops both locally and internationally, constantly expanding her knowledge and skills,

She has also participated in the "Challenges in the Preservation of the Architectural Heritage of the 20th Century: themes and experiences" Excellence PhD course Program hosted by Politecnico di Torino, Torino, Italy. Fatima is currently undergoing the 2025 International Course on the Conservation of Modern Heritage (MAC25) organized by the INTACH Heritage Academy in collaboration with the Getty Conservation Institute and CEPT University in India.

One of Fatima's most significant contributions is her leadership of the " UAE Modern Architectural Heritage Initiative." Through tireless efforts and collaborative work, Fatima played a crucial role in advocating for the recognition and preservation of modern architectural heritage within the UAE.

Majid Juma Akram Hejazi

Senior Engineer - Water Network Maintenance
Dubai Electricity and Water Authority



Majid Juma Hejazi has consistently demonstrated exceptional performance and innovation in his professional journey, marked by remarkable contributions to DEWA and Dubai's sustainability goals. A key milestone in his career includes securing the first-place award in the "Distinguished Field Employee" category of DEWA's Nujoom Awards. This recognition underscores his leadership and dedication to achieving excellence in fieldwork, particularly during crises.

Majid played a pivotal role in handling the severe floods in February 2024. Leading the water maintenance team, he implemented rapid and effective solutions to mitigate the impact of flooding, earning accolades from His Highness Dubai's Crown Prince and other senior officials.

His innovative use of AI-driven robotics and smart technology in water network maintenance has led to significant reductions in operational time, water loss, and costs. Notably, his initiatives in leak detection and robotic repairs have saved DEWA millions in just two years.

Beyond technical excellence, Majid has actively contributed to national and global events, such as Expo 2020 and COP28, where he ensured seamless operations under high-pressure conditions. His notable participation in the sustainability agenda, including the "Leaders of Change" program, showcases his commitment to environmental stewardship and innovative solutions.

Majid is also a leader in knowledge-sharing, mentoring engineers, and conducting workshops on advanced technologies. His diverse qualifications, including a Master's in Engineering Management, Master's program in Future Energy Systems & Technology from University of California, Berkeley, and his certifications in AI, project management, and renewable energy, highlight his drive for continuous learning and leadership in the field.

OUTSTANDING STUDENT CATEGORY



Ghaya Farid Al Harmoodi University of Sharjah



Ghayah Fared Al-Harmoodi holds a Bachelor's degree in Nuclear Engineering with honors. She is distinguished by her remarkable academic achievements and outstanding contributions in the fields of energy and youth. She completed her training at the Barakah Nuclear Power Plants and participated in COP28 as a host country co-coordinator within the Nuclear4Climate initiative. She was also one of the speakers at the International Youth Nuclear Congress.

Ghayah actively contributes to youth and community initiatives. She was one of the youngest members in the Youth Councils, an initiative by the Federal Youth Authority, and a member of the Social Media Pioneers Association. She has held various leadership roles, including Treasurer of the American Nuclear Society in the UAE, President of the Student Council at the University of Sharjah, and Teaching Assistant at the College of Mechanical and Nuclear Engineering in the same university.

Ghaya worked with her colleagues on implementing a graduation project that contributed to extending the lifespan of a small fast nuclear reactor compared to the original reactor using Monte-Carlo Serpent code. This was achieved by using thorium fuel in addition to uranium, which enhances the reactor's efficiency while maintaining safety features.

Ghayah is a multi-talented individual, she is an author with three publications, a pianist, a graphic designer, a debater, and a short film producer and has won awards in each and every field. She has represented the UAE in Saudi Arabia as part of the Arab Youth Empowerment Program, in Spain through the Leadership Preparation Program, and in the United States under the Ambassadors of Diplomacy Program.

Ghayah aspires to promote innovation and sustainability in the peaceful nuclear energy sector and strives to make a positive impact in the field. She is also committed to encouraging youth and passionate individuals to engage in community initiatives, aligning with the UAE's vision.

Fatema Saleh Al Marzooqi

Khalifa University



Fatema Almarzooqi is an Aerospace Engineering student at Khalifa University, recognized for her passion for aviation, leadership, and community engagement. She has won numerous awards, including the Golden Community Service Excellence Award and recognition on the President's List.

Her professional experience includes an internship at Sanad Group, where she gained expertise in aircraft engine component inspection and repair. She also participated in the Inspection Robotic Arm project launch in Hamburg, Germany, in collaboration with Lufthansa Technik Middle East and Khalifa University. Additionally, she is currently working on a CubeSat mission project with Hong Kong PolyU, focusing on Earth observation.

Fatema's leadership is evident in her role as President of the American Institute of Aeronautics and Astronautics Khalifa University Chapter (AIAA KU), where she organized aerospace-related events and industry visits. In addition, as the President of KU's Volunteering Club, she led over 400 volunteers in major events.

On an international level, she represented the UAE in the National Ambassadors Program in the USA and attended the NPU International Summer Camp in China. Additionally, she was a student mentor in COP28's "Community of the Future" project, guiding students in developing sustainable solutions.

In addition, she was an active member of the international AIAA Design, Build, and Fly (DBF) 2023-2024 competition for seven months as part of the manufacturing team, contributing to the development of three remote-controlled aircraft prototypes. She received in-depth training in composite materials, such as carbon fiber and glass fiber, which enabled her to assist in fuselage construction. Her primary focus was on crafting the wings, tail, and control surfaces. Additionally, she actively participated in team meetings and brainstorming sessions, proposing ideas and strategies to improve manufacturing processes and aircraft design.

Ahmad Ghandi Al Qawasm

The American University of Sharjah



Ahmad AlQawasm is an 18-year-old engineering student at the American University of Sharjah, known for his passion for innovation, engineering, sustainability, and technology. At 13, he built a 3D printer from scratch, followed by creating a bionic arm and an electric skateboard.

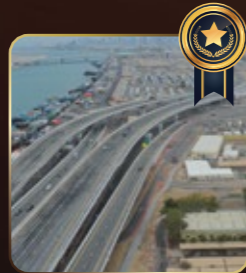
He has received multiple prestigious awards, including NASA's Space Design Competition, the Dubai Customs IP Award, and the Sharjah Sustainability Award, showcasing his exceptional talent on local and international stages.

Ahmad is also the founder and CEO of 3DLux, a company focused on revolutionizing the fashion industry with 3D printed clothing and accessories, allowing customers to create unique fashion art pieces. His work combines 3D printing and cutting-edge engineering with sustainable design solutions.

Ahmad continues to lead innovative projects, inspiring others to push the boundaries of engineering and sustainability.

LEGAL PERSONALITY CATEGORIES AWARDS

PIONEERING ENGINEERING PROJECT AWARDS



**BEST MEGA
PROJECT**
Improvements Of Al
Shindagha Corridor
Phase 2D - Double Deck
Road On Corniche Street



**BEST MEDIUM
PROJECT**
Ghiath



**BEST SMALL
PROJECT**
Automation of Condition
Evaluation of Road
Pavement Network

ENGINEERING CONSULTANCY COMPANIES AWARDS



KEO



M E A MIMAR
ENGINEERING
CONSULTANTS



Obermeyer Middle
East GmbH

ENGINEERING SERVICES COMPANIES AWARDS



High Power Services



NDT International



Bin Dasmal
Engineering
Technologies &
Management Co.
L.L.C. (BETAM)

CONSTRUCTION COMPANIES AWARDS



Royal Advance Electromechanical

INDUSTRIAL COMPANIES OR CORPORATIONS AWARDS



Binghalib Group of
Companies



Astrea Furniture &
Décor Factory



Cool Pro

START-UP ENGINEERING COMPANIES AWARDS



Protium Technologies

SCIENTIFIC RESEARCH IN ENGINEERING AWARDS



Cyber-Immune Line
Current Differential
Relays



Improved Bald Eagle
Search Optimization
With Deep
Learning-Based
Cervical Cancer -
Detection and
Classification



From Heritage to
Sustainability: The
Future of the Past in
the Hot Arid Climate of
the UAE

PIONEERING ENGINEERING PROJECTS CATEGORY

2D - Improvements Of Al Shindagha Corridor Phase Double Deck Road On Corniche Street Project



The project commenced on 23rd April 2019 and have completion date by 18th Oct. 2021, is the continuation of the infinity Bridge from Deira side and over Corniche Street and DM Wharfage all the way till they connect with Al Khaleej Street with an approximate length of 1.2 km.

Al Shindagha project bridge is designed with 12 lanes in both directions, with a total width of 53.4m and a total length of 1.8km. The main structure includes 24 continuous girder bridges, of which 3 are cast-in-place structure, the remaining 21 are prefabricated segmental bridges, a total of 1901 segmental beams. The main bridge section has a total of 1170 beams with a width of 13m, and the ramp bridge section has a total of 731 beams with a width of 8.2m to 11.7m; the structural forms are all semi-cantilever and semi-span-by-span composite systems.

Different from the traditional bridge construction method, the short-line method precast segmental construction technology, and the precast construction technology adopts a new model of green construction, intelligent construction and standardized construction. Industrialize the traditional construction projects to improve production efficiency and construction quality. This project uses bridge launching gantry for the assembly and erection of bridge segments. Its advanced technology, economical rationality, and standardization of production flow have greatly promoted the level of local construction industrialization in the UAE.

This method with line control technology, short-line method segment precast technology, segment erection technology, cast-in-place wet joint construction technology, bridge launching gantry technology, temporary prestressing design and construction technology and organizational design are controlled, and all aspects of the project are closely linked With the cooperation, a single construction record was created in which a single mold bed prefabricated a segment in 1.0 days, and a bridge launching gantry erected a span bridge in 2.5 days.

The implementation of this construction method has been recognized and praised by the client (Dubai Road Transport Authority RTA), the consultant (Parsons) and all sectors of society. The construction technology has attracted attention in the industry and brought good social and economic benefits.

Ghiath



Dubai Police has pioneered "**Ghiath**," an advanced smart patrol vehicle that represents a groundbreaking era in modern policing and law enforcement. Designed to revolutionize operations, Ghiath integrates state-of-the-art technologies, including Artificial Intelligence (AI), the Internet of Things (IoT), and predictive systems, delivering unparalleled efficiency and operational readiness.

Engineered for proactive policing, Ghiath features real-time data analysis, comprehensive 360-degree surveillance, and drone integration to enhance situational awareness and accelerate response times. Its innovative design incorporates 3D-printed components, ensuring sustainability and adaptability to future needs. Equipped with exceptional capabilities, Ghiath operates seamlessly across diverse environments and conditions, significantly reducing response times and boosting operational efficiency.

Beyond its technical superiority, Ghiath fosters community trust through its innovative design and reliable performance. Recognized internationally, it has won prestigious accolades such as the Edison Award and the UAE Ideas Award, cementing Dubai's position as a leader in developing smart policing solutions.

Automation of Condition Evaluation of Road Pavement Network



The continuous enormous development in the last two decades in city of Dubai in terms of population, infrastructure and road network led us in challenge in how to maintain the assets, sustainability, optimize and ensure the quality, rideability, maintenance program of the pavement assets. Based on the Vision of Roads & Transport Authority in the city of Dubai (RTA), which says; "The World Leader in Seamless and Sustainable Mobility", and the Mission which states; "We provide seamless and safe travel with innovative, sustainable mobility solutions and services to make every journey in Dubai a world class experience". Since both vision and mission of RTA aligned with Dubai Government strategic goals, we adopted the use of latest smart technology to survey the road network in Dubai and use effective methodology and maintenance program to preserve the road network assets and increase its service life and achieve sustainability.

Smart Pavement Survey Technology & Roads Assets Condition:

The use of AI and 3D technology in Laser Crack Measurement System (LCMS-2) helped us to detect precisely and quantify 19 types of pavement distresses with different severity levels and demonstrate the pavement conditions of all Dubai city network. In addition, road rutting and International Roughness Index (IRI) were included in the survey. Moreover, LCMS-2 lasers, HD cameras and 3D captured images rated 97% accuracy compared to human survey method which consume time and required more resources. With LCMS-2 we reduced the time consumed to conduct the task and human errors by survey 18762 km of Dubai city road network in only 5 months with efficient report, maintenance plan to maintain the current and future Pavement Quality Index (PQI).

Big Data Analysis in Pavement Management System (Agile Assets Software):

Based on big data and IoT technology, and the output of smart road survey technology by using LCMS-2, the analysis was done on distress types and its measurement that deducted by lasers and captured 3D images.

ENGINEERING CONSULTANCY COMPANIES AWARDS

KEO



A highly integrated and agile creative AEP/PMCM enterprise where innovation is a way of life. KEO, together with its Allied Practices, is an independent, multi-disciplinary firm recognized for excellence performing professional services as a trusted partner for 60+ years.

From shaping iconic skylines to crafting sustainable communities, KEO serves clients and builds legacies for a better tomorrow. Its core values of agility, empathy, advocacy, pragmatism, dedication and integrity guide the expertise of its 2,600+ perceptive problem solvers who help clients shorten the distance between inspiration and realization. Highly talented multinational professionals operate across two continents in 10 offices, bring deep expertise to every project.

From initial design and planning to construction and project management, KEO's one-stop-shop approach simplifies the client experience. This approach is very attractive to clients who want to avoid the difficulty of coordinating with multiple firms.

Our achievements have not gone unnoticed, as evidenced by our consistent recognition in global rankings:

- KEO has been ranked the #1 Firm in the Middle East for the 4th consecutive year: Building Design, WA 100 2024.
- In the same survey, KEO was also ranked #2 for Project Management, #3 for Construction Management, #2 in Market Sector for Mixed-Use Projects and #5 in Master Planning.
- Ranked by ENR for 21 consecutive years in the Top 225 International Design Firms.
- Ranked by ENR for 21 consecutive years in the Top 20 International PM/CM Firms.

Strategy and Vision

Our independent separately branded practices that sit under the KEO Group are core to our integrated delivery model but also have the mandate to create centers of excellence in specialized fields and operate independently as service delivery practices. This allows them to benefit from the KEO's resources and infrastructure, such as technology, back-office operations, and talent pool, while the enabling the leadership of these practices to be nimbler and more entrepreneurial in their approach to the market.

In late 2024 we launched OPTIMA a Facilities Management allied practice delivering innovative and customized FM Solutions to enhance the maintenance and operation of their investments.

M E A Mimar Engineering Consultants



Mimar is a leading professional design practice offering consultancy services across core disciplines, including Urban Design & Master Planning, Architectural Design, Interior Design, Structural Engineering, Electromechanical Engineering, as well as Site Supervision & Project Management.

Mimar was established in 1997 and expanded its operations to the United Arab Emirates in 2002 under the names "Mimar Emirates" and "MEA Mimar." Offices were established in Abu Dhabi, Dubai, Sharjah, and Ajman. Our network further expanded to include "Mimar Egypt" in 2008, "Mimar Libya" in 2009, "Mimar Iraq" in 2010, and "Mimar Saudi Arabia" in 2019. Represented by more than 700 highly skilled Architects, engineers, & specialists.

Over the years, Mimar has collaborated with a diverse range of clients as the lead project consultant. Our expertise in core disciplines has positioned us at the forefront of design innovation, enabling us to deliver creative yet functional solutions.

Mimar's design team is distinguished on all levels, consistently delivering innovative solutions characterized by effective and integrated coordination. This excellence is reflected in the numerous local and international awards Mimar has received over the years, recognizing its outstanding achievements in design and engineering.

Our success is also rooted in extensive experience across a diverse range of completed projects and buildings, coupled with our unwavering commitment to developing exceptional and talented professionals.

Obermeyer Middle East GmbH



OBERMEYER Group is an international consultancy firm founded in Munich in 1958, with its Middle East and North Africa (MENA) headquarters in Abu Dhabi established in 2006.

The group operates 32 offices in nine (9) countries, with over 1,200 employees globally and approximately 230 employees in the Middle East.

At OBERMEYER Middle East GmbH (OME), we are leaders in providing design, supervision, and project management consultancy services across diverse sectors, including urban master planning, infrastructure, transportation, architecture, engineering, MEP (mechanical, electrical, plumbing), and energy efficiency. Our approach integrates advanced construction technologies, with a strong focus on innovation and sustainability. We deliver our services with exceptional expertise, earning the trust and confidence of our clients and stakeholders.

OBERMEYER Infrastructure's main area of expertise is the overall planning of complex infrastructure projects across the entire spectrum of transport route construction and inner-city projects involving both above ground and underground transport and property development projects. This range of services includes property planning and sectoral planning throughout different service phases, as well as support with the implementation of construction management services. Planning services for the environmental engineering sector as well as certification and specialist support with specific topics round off this range of services.

A one-stop shop for interdisciplinary planning.

The challenge of modern complex construction projects lies in instructing and coordinating all the trades involved right across the board. Which is why the overall planning aspect is an elementary component of the corporate strategy of the OBERMEYER Group. The individual companies and the highly specialist departments in those separate companies not only enable property developers to engage in qualified sectoral planning but also accompany complex projects from the initial study through to final completion.

ENGINEERING SERVICES COMPANIES AWARDS



High Power Services



High Power Services specialized in delivering exceptional solutions for commercial and residential projects. Established in 2017, they have built a reputation for exceeding expectations through a comprehensive range of services, including construction, interior design, operations & maintenance, facility management, landscaping & irrigation, hospitality, and manpower supply.

HP Services mission is to provide innovative, high-quality, and reliable services that meet the unique needs of every client. they are committed to upholding the highest standards of professionalism, ensuring every project is executed with precision, care, and attention to detail.

Focusing on innovation, excellence, and client satisfaction, they strive to set new benchmarks in the industry. At High Power Services, they emphasize building long-term partnerships rooted in trust, integrity, and mutual success.

Operation and Maintenance

HP Services is one of the few companies that can provide services in terms of operation and maintenance in an integrated and exceptional manner, starting from simple services to complex and highly complex services, due to the company's highly experienced and professional team and the state of art equipment and technological means available to meet all the requirements of the clients.

Maintenance and Management

HP Services has proven its ability and excellence to operate more than 11 data centers in Dubai with a total capacity of more than 600+ racks with high efficiency. Through a professional and qualified team in the _eld of maintenance and management of information centers and given the availability of all the expertise and capabilities of the company, makes it a source of confidence for many governmental and private institutions.

Utilities Management Services

HP provides a wide range of services related to environmental health and safety. HP guarantees its customers the provision of distinguished expertise and high skills to provide its services with tangible efficiency.

NDT International



NDT International is a leading engineering services company based in the UAE, renowned for its specialized expertise in facade works. With a strong commitment to quality and safety, the company provides a diverse range of services designed to improve the aesthetics, functionality, and longevity of building facades. NDT International has earned a reputation as a trusted partner for developers, architects, and facility managers across the UAE. The company's key services include facade renovation, facade inspection, glass and aluminum supply and installation, and facade cleaning by rope access, all of which are designed to ensure optimal performance and visual appeal of building exteriors.

NDT International specializes in facade renovation, offering comprehensive solutions that range from tile replacement to more advanced modifications such as cladding upgrades and curtain wall installations. Facade renovation is essential to maintaining the structural integrity and aesthetic value of a building, and NDT International ensures each project is completed with precision and care. Whether it's replacing outdated or damaged tiles with modern cladding systems or upgrading cladding to sophisticated curtain walls for improved insulation and visual appeal, the company's team delivers high-quality results. This service is not only about enhancing a building's appearance but also about improving its energy efficiency and safety standards, making the facades more durable and sustainable for the long term.

Facade Inspection is another crucial service offered by NDT International. Using tools such as drones, infrared thermography, and ultrasonic testing, NDT International identifies potential risks such as cracks, corrosion, water infiltration, and other structural weaknesses. Detailed inspection reports are provided to clients, offering an in-depth analysis of the facade's condition. This proactive approach allows for early detection of issues and helps prevent more costly repairs in the future. Regular facade inspections conducted by NDT International ensure compliance with safety regulations, mitigate risk, and maintain the aesthetic and structural integrity of buildings.

The company sources premium materials from trusted manufacturers and provides tailored solutions for both new construction and renovation projects. The services include the supply and precise installation of high-quality aluminum frames and glass panels for facades, windows, and curtain walls. With a focus on durability, performance, and aesthetic design,

BETAM



A vital entity within the renowned Bin Dasmal Group, has built a legacy of over four decades in delivering excellence in civil and MEP services. Recognized for its innovative and sustainable approach, **BETAM** has firmly established itself as a leader in the industry, seamlessly combining client-focused solutions with a commitment to environmental responsibility. The company's ISO certifications—ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018—underscore its adherence to the highest standards of quality, environmental stewardship, and occupational health and safety.

BETAM delivers turn-key residential, commercial, and industrial projects with a focus on quality, reliability, and timely execution. Our comprehensive services include system audits, repairs, replacements, and calibration to ensure optimal performance across all MEP domains. Specializing in Water Supply & Drainage, designing and installing systems that exceed local authority standards and require minimal maintenance throughout the project's lifecycle. In Electrical, our skilled team, with over 15 years of local expertise, ensures safe and precise installations. For Air Conditioning, we deliver cooling solutions designed for maximum efficiency through detailed heat load and airflow calculations, combined with optimized duct and insulation planning.

BETAM's offerings are tailored to align with modern sustainability and energy-efficiency goals. From identifying cost-effective energy conservation measures to pioneering Circuit Level Monitoring (CLM) systems, we provide customized solutions like smart metering to optimize water and power consumption. Notable projects such as the Nakheel Palm Tower showcase how granular energy data enhances operational efficiency and achieves substantial energy savings.

Our expertise extends to complex retrofitting, as demonstrated in the HVAC System Renovation & Replacement of 166 Villas in Al Safa, Dubai. Despite challenges like live tenant environments, spatial constraints, and maintaining property integrity, BETAM successfully delivered advanced energy-efficient systems with minimal disruption.

Supported by a dedicated team of project managers, engineers, and skilled professionals, BETAM exemplifies excellence in delivering innovative, sustainable solutions that consistently exceed client expectations.

CONSTRUCTION COMPANIES AWARDS



Royal Advance Electromechanical



In an industry where precision and experience are of great value, Royal Advance electromechanical is a name that has grown synonymous with trustworthy practices and leadership in experience, established in 2006 in the UAE and globally.

As a subsidiary of the Trojan Construction Group, a part of Alpha Dhabi Holding – a conglomerate of businesses transformed into platforms of potential progress and prosperity – we pride ourselves being member of the group of companies surrounded by sound leadership and innovation.

We are at the forefront of leadership innovation in the electromechanical business, providing quality services to our valued clients throughout a steadfast commitment to excellence, along with comprehensive solutions with an international outlook.

As an applied engineering and contracting firm that keeps providing MEP services for over two decades – by tapping its diverse business areas in MEP contracting, trading, facility management for hard services, energy, power and MEP modular systems – We have proven through the test of time to be the best partner to overcome the most challenging tasks.

We have 4,800+ specialists working for our mechanical, electrical, low current, solar, STP, and prefab modular services. We have the capability, qualification, and experience to design and execute projects of various types: from high-rise buildings, both residential and commercial, to shopping malls, health care, universities, schools, hotels, mass housing villa compounds, palaces, military projects, factories, mixed use, as well as answering all required infrastructure services from water to sewage to electrical power stations and cable pulling.

Our driving force is the endless strive to achieve and offer services of the highest quality – complete with the latest engineering technologies and designs, following international standards, with optimum methods of installation and operation of MEP services.

Our strict protocols ensure the best results including periodic checks, training staff, regular inspections, and so much more.

Our ethos is to undertake each project as a challenging mission to prove our commitment to our values.

INDUSTRIAL COMPANIES OR CORPORATION'S AWARDS



Binghalib Group of Companies



The Binghalib Group offers comprehensive solutions across manufacturing, engineering, trading, and services, with specialized expertise in electrical, mechanical, automation, and software domains. With a network of 16 independent companies spanning the UAE, Qatar, USA, and Canada, the Group has positioned itself as a leading player in its industry.

As the first 100% Emirati company to develop and launch its own satellite, "Ghalib," and recognized as an Industry 4.0 Digital Leader by the Ministry of Industry & Advanced Technology, Binghalib is committed to driving innovation. The Group's focus on cutting-edge technologies has reinforced its leadership in areas including electrical switchgear, Industrial automation, energy management, system integration, control valves manufacturing, instrumentation, and cybersecurity in the region.

Binghalib has consistently set the standard for technological advancements. Pioneering the integration of IoT in industrial automation almost 15 years ago—well before the technology's regional introduction—the Group has continued to push boundaries. From providing state-of-the-art solutions for government utility command centres to manufacturing advanced industrial radio devices for communication, Binghalib remains at the forefront of transformative industry solutions. The Group is also actively exploring opportunities in AI and industrial robotics to further enhance its offerings.

The Binghalib Group's mission is to expand beyond regional dominance and establish itself as a global leader in industrial technology. Through continuous expansion, strategic acquisitions, and a relentless pursuit of innovation, the Group remains focused on earning the trust and satisfaction of its customers while maintaining an unwavering commitment to quality.

In line with its commitment to operational excellence, Binghalib has implemented a Management System that adheres to ISO 9001:2015, ISO 14001, and ISO 27001 standards. Additionally, the Group upholds its responsibility towards the environment, employee safety, and public health, following strict Corporate HSE policies and promoting sustainability and green initiatives across all its operations.

The Binghalib Group continues to shape the future of industrial technology, delivering impactful solutions and driving sustainable growth on a global scale.

Astrea Furniture & Décor Factory



Astrea Furniture & Décor Factory (AFDF), a fully Emirati woman-owned company and a proud division of the globally recognized Astrea Group, is a leader in construction, engineering, design, logistics, commodities, services, joinery, and furniture manufacturing, proudly contributing to the UAE's vision of global leadership in these fields.

AFDF specializes in delivering comprehensive solutions by seamlessly integrating design, manufacturing, logistics, and installation, ensuring unmatched quality, precision, and efficiency in every project.

Aligned with national initiatives such as 'Make it in the Emirates' and the National In-Country Value (ICV) Program, AFDF is committed to enhancing local industrial competitiveness by promoting high-quality, locally manufactured products. Currently pursuing the prestigious 'Made in the Emirates' certification, AFDF reaffirms its dedication to showcasing Emirati craftsmanship and advancing the UAE's industrial ecosystem on a global stage.

As part of the Astrea Group, which boasts a solid regional reach and active engagement across the Middle East (including GCC), Africa, Europe, USA, Canada, and Asia, AFDF benefits from the group's extensive contributions across construction, commodities, trading, services, and joinery and furniture manufacturing. This multi-sectoral strength enables the group to deliver integrated, innovative solutions tailored to client needs across diverse markets.

Under the visionary leadership of an Emirati woman, the group embodies the UAE's commitment to empowering national talent, advancing inclusivity, and fostering innovation. AFDF has a proven track record of delivering bespoke interior solutions for luxury hospitality, corporate offices, and private residences. Its portfolio includes the complete renovation of the Al Maha Resort, instrumental in the property being recognized as the #1 Most Luxurious Hotel in the Middle East and Asia.

Honored with the Excellence and Creative Engineering Award, AFDF continues to set benchmarks for innovation, sustainability, and progress. The company acknowledges the UAE leadership and the Ministry of Industry and Advanced Technology for fostering entrepreneurship, global scalability, and a nurturing ecosystem that enables companies like AFDF to thrive locally and internationally.

Cool Pro



COOL PRO Duct Solution is a leading company in the air conditioning industry, dedicated to providing its customers with innovative, high-quality, cost-effective, and environmentally responsible products. The company is committed to exceptional customer service, ensuring legendary support through a strong focus on customer satisfaction. We are leading manufacturer of HVAC Duct systems and the premier service provider for central air conditioning solutions across the UAE. COOL PRO Duct Solution aims to create a better, safer, and healthier environment by delivering quality solutions in the workplace. This is achieved using robotic machines instead of human labor, which enhances production flexibility, improves accuracy, consistency, and product quality, reduces waste and increases yield, lowers labor turnover and recruitment challenges, and helps reduce the spread of viruses.

With years of experience and expertise, COOL PRO Duct Solution is equipped to manage large-scale and fast-paced projects, establishing itself as a reliable partner for all HVAC duct fabrication needs. The company offers a comprehensive range of HVAC products, including: Rectangular GI Duct, Pre-Insulated Duct, Round Duct, Black Steel Duct, Stainless Steel Duct and Fire Rated Ducts.

In recent years, the company's team has worked diligently to develop and expand its fabrication capabilities by adding new product lines, such as: Air Outlets, VAV (Variable Air Volume), NRD (Noise Reduction Dampers) and Sound Attenuators.

This continued development ensures that COOL PRO Duct Solution meets evolving industry demands and provides customers with a full range of high-quality HVAC solutions.

COOL PRO Duct Solution is fully committed to ensuring that the interests of its customers are central to the quality services provided. Recognizing the importance of customer satisfaction in a competitive environment, the company strives to supply products that meet assured levels of quality. This commitment has been instrumental in achieving key certifications that validate the company's dedication to excellence:

START-UP ENGINEERING COMPANIES AWARDS



Protium Technologies



Protium Technologies is a deep-tech company revolutionizing sustainability through cutting-edge solutions in biotechnology, renewable energy, and water treatment. Operating primarily in the UAE and UK, Protium addresses critical environmental and industrial challenges by developing scalable, impactful, and commercially viable innovations.

Protium operates through multidisciplinary departments under a unified umbrella, each contributing to a shared objective of advancing sustainability and creating transformative solutions.

Protium Solar specializes in solar energy integration, including agrivoltaic PV farms, conventional solar PV systems, and thermal solar energy solutions. The division has developed an innovative agrivoltaic solar array design with seasonal tracking and a water-cooled/washed system, tailored for the UAE's extreme climate.

Currently, Protium Solar is constructing a 40 kWh agrivoltaic solar farm at the University of Sharjah. This pilot project, the first of its kind in the Middle East, showcases the potential of agrivoltaic systems to support both sustainable energy production and agricultural resilience.

Protium Water focuses on water conservation, treatment, and recycling. Its HVAC wastewater collection initiative at SRTIP has successfully recycled over 5 million gallons of water since September 2022. The division has also developed innovative hydrogel solutions for wastewater treatment and flood recovery.

Protium Bio drives advancements in biotechnology through its work in bioreactor design and construction, microorganism cultivation, genetic analysis, and enzyme engineering. The division has developed an innovative tubular photobioreactor, engineered to operate efficiently in harsh climates like the UAE.

Protium Bio has also isolated native extremophile microalgae strains that are ideal for carbon sequestration and the production of high-value molecules, including pharmaceutical compounds. The division is currently constructing a pilot photobioreactor plant at the American University of Ras Al Khaimah (AURAK) to scale this technology. Additionally,

Protium Coral is dedicated to coral reef restoration, focusing on the recovery of ecosystems impacted by bleaching and environmental stress. By combining engineering expertise with biological innovation, Protium Coral develops sustainable solutions to enhance coral resilience and regeneration. The division has designed innovative concrete structures for coral reef restoration in the Arabian Gulf.

SCIENTIFIC RESEARCH IN ENGINEERING AWARDS

Cyber-Immune Line Current Differential Relays

By: Ahmad Mohammad Saber , Amr Youssef , Davor Svetinovic ,
Hatem H. Zeineldin , and Ehab F. El-Saadany



Industrial advancements in information and communications technology facilitated the widespread use of line current differential relays (LCDRs) for protecting critical transmission lines due to their fast, sensitive, selective, and secure performance. Despite their advantages, LCDRs' reliance on vulnerable communication networks to swap current measurements makes them vulnerable to cyberattacks.

In this article, a scheme is proposed to protect LCDRs from direct-false-tripping (DFT), fault-masking (FM), and sympathetic-tripping (ST) cyberattacks, which have not been studied together before for transmission-level LCDRs. The proposed scheme utilizes a deep neural network (DNN), trained offline on features extracted from only the measurements available for LCDRs. The trained DNN model can then be implemented within LCDRs. Unlike the previous solutions, which only differentiate between faults and DFT cyberattacks, the proposed scheme actively differentiates between authentic and manipulated LCDR measurements to detect and mitigate possible cyberattacks. The performance of the proposed scheme is evaluated using the IEEE 39-bus benchmark system. Our results show that the proposed scheme can accurately detect different forms of DFT, ST, and FM cyberattacks while maintaining the LCDR's protective characteristics.

This paper contributions is to introduce a novel scheme for detecting cyberattacks on LCDRs, including fault-masking and sympathetic tripping cyberattacks Also the proposed scheme requires no additional measurements than those available for LCDRs through the local measurements. The performance of the proposed scheme has been evaluated under cyberattacks and faults of different parameters; under varying operating conditions and system dynamics; under uncertainty stemming from measurement noise. The proposed scheme was verified in real time using OPAL-RT real-time simulator.

Incorporating domain knowledge can enhance the design of the DNN, as power system protection systems have specific constraints and requirements not found in other applications. By integrating these constraints, such as voltage and current limits, the DNN becomes more resilient to adversarial attacks.

Improved Bald Eagle Search Optimization With Deep Learning-Based Cervical Cancer Detection and Classification

By: Dr. Mohamad Khairi Ishak



The research paper, "Improved Bald Eagle Search Optimization with Deep Learning-Based Cervical Cancer Detection and Classification," presents a novel approach for the automated detection and classification of cervical cancer (CC) using advanced deep learning and optimization techniques. The adoption of such advanced AI-driven solutions aligns with the UAE's commitment to leveraging cutting-edge technologies to enhance its healthcare system and improve early cancer detection outcomes.

Cervical cancer (CC) is the fourth most popular cancer affecting women worldwide. Mortality and incidence rates can be consistently enhancing, particularly in emerging countries, because of the lack of screening services, lack of awareness, and restricted qualified experts. CC has screened utilizing human papillomavirus (HPV) test, Papanicolaou (Pap) test, histopathology test, and visual inspection after application of acetic acid (VIA). Intra- and Inter-observer variability can take place in the manual analysis method, resulting in misdiagnosis.

Previous studies have exploited either deep learning (DL) or machine learning (ML) approaches, the preceding one could not be efficient as it needs segmentation and attaining hand-crafted features that utilize critical stage. Artificial Intelligence (AI) based computer-aided diagnoses (CAD) methods are generally explored for identifying CC for enhancing the standard testing method.

This works offers an Improved Bald Eagle Search Optimization with Deep Learning based Cervical Cancer Detection and Classification (IBESODL-CCDC) algorithm. The drive of the IBESODL-CCDC algorithm lies in the automated classification and detection of CC. In the presented IBESODL-CCDC technique, a contrast enhancement process takes place to enhance the image qualities. In addition, the IBESODL-CCDC technique utilizes a modified LeNet model for the feature extraction model. For CC detection, the IBESODL-CCDC technique applies an attention-based long short-term memory (ALSTM) network.

From Heritage to Sustainability: The Future of the Past in the Hot Arid Climate of the United Arab Emirates

By: Dr. Muna Salameh, Dr. Basim Touqan

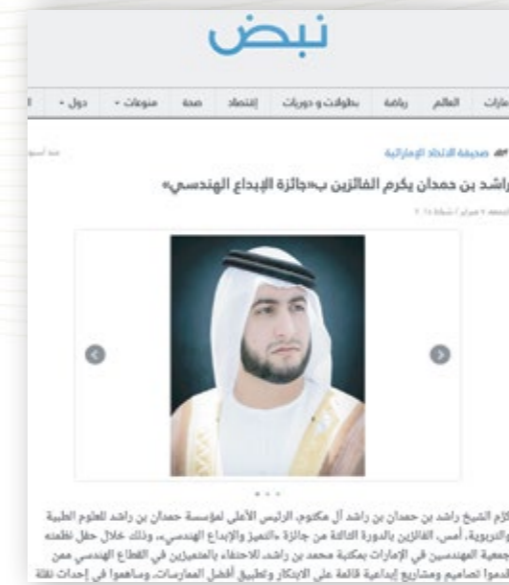
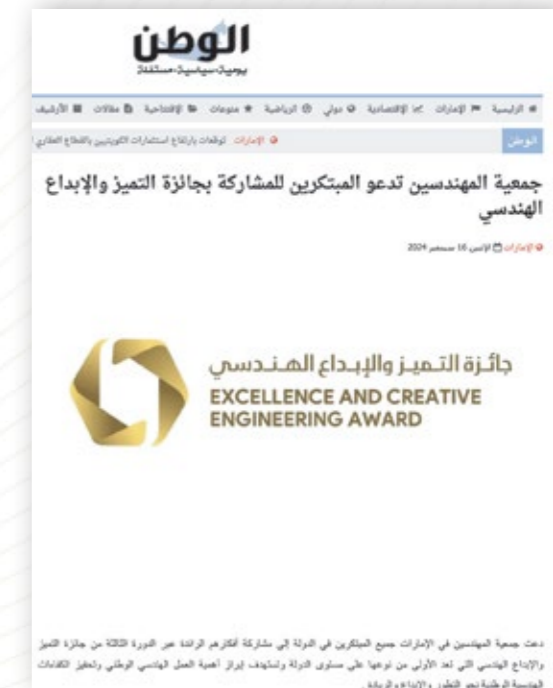


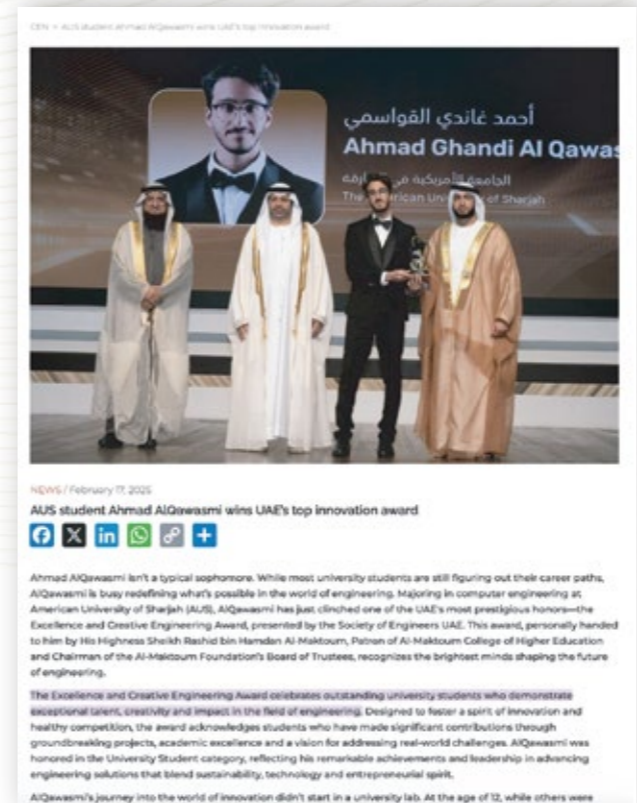
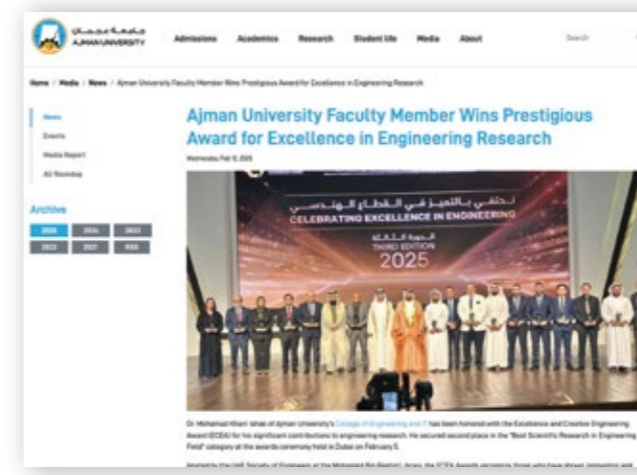
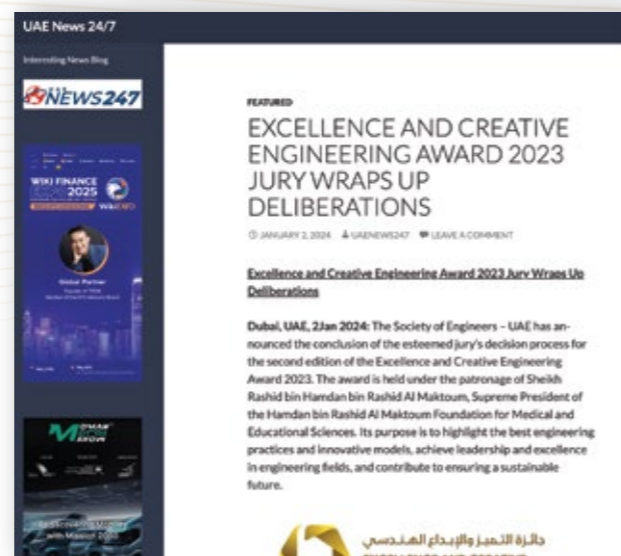
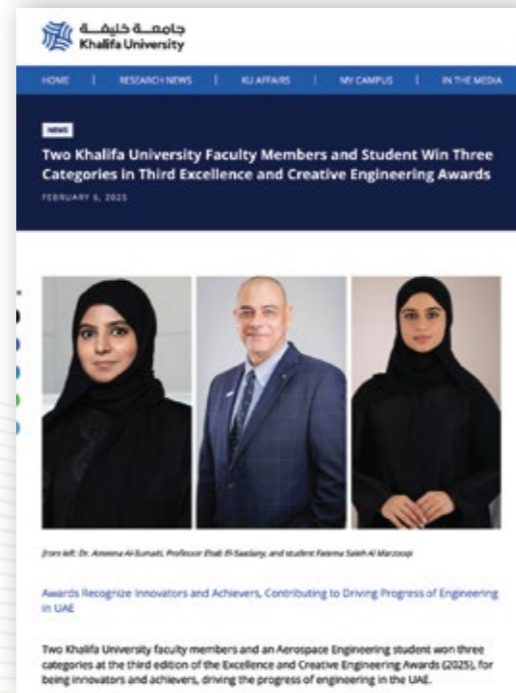
Achieving future energy objectives and promoting social, economic, and environmental sustainability can be inspired by heritage and historic structures, which make up a sizeable component of the existing building industry. Heritage architecture and urban sites are known for their capability of positive interaction with the climate to provide better thermal conditions, beside their capability of strengthening cultural identity and improving the economic sector for the related sites. Thus, the main purpose of this research is to highlight the positive sustainable effects (social, economic and environmental) for a proposal of conserving and reconstructing a vernacular heritage architecture site in Ajman in the hot arid climate in the UAE. The research used a qualitative methodology based on multicriteria descriptive schemes beside ENVI-met software.

The research's findings presented the capability of the conserved heritage area to strengthen the social and cultural identity and improve the economic sector. Moreover, the results demonstrated that the conserved heritage district had a better microclimate and predicted mean vote for outdoor thermal comfort compared to the basic case heritage district prior to rehabilitation and another modern district. The conclusion promotes heritage conservation in hot arid climates and encourages the preservation of vernacular architecture and traditional sites to achieve the sustainable goals for creating sustainable cities that can mitigate climate change.

The research methodology includes qualitative analysis for the heritage area in Ajman, one of the United Arab Emirates, before and after the suggested development and rehabilitation. The research's main objective was to determine whether heritage preservation can be used as positive investment for the three pillars of sustainability in the urban contexts, which has constructive effects on social, environmental, and economic factors in addition to cultural ones. To do this, the study required the use of various methods and evaluation indicators, to be chosen depending on the objective to be achieved, whether for economic, social, and environmental assessment. This multicriteria methodology is advantageous for choosing the technique to be used according to the assessment measures such as data collection from journals, site visits, municipality records, etc.

MEDIA COVERAGE





STRATEGIC SPONSOR



انتلجنت جروب
Intelligent Group

Intelligent Group is a global leader evolving from a local manufacturer of electrical products to an integrated provider of infrastructure solutions; With a large number of staff, engineers, foremen's, electricians, jointers and electrical technicians.

Our main trading sectors: wire, cable, accessories, electrical products, engineering and construction. With a strong presence in many different countries, 31 production facilities spread across African and Asian countries including Egypt, Algeria, Saudi Arabia, Qatar .

A vital part of our mission is to ensure the development and prosperity of the societies in which we operate. We are facilitating the global transition towards a sustainable energy future, where we have established energy projects. In line with the 2030 sustainability strategy, we aim to expand and enhance our positive impact and provide energy services to a growing customer base, in Egypt, the United Arab Emirates and abroad.

In recent years, we have dedicated ourselves to becoming a specialized first show contractor known for comprehensive proposals, pricing accuracy and excellence in fast track delivery, design and construction methods.



Vision:

We envision becoming one of the leading companies by 2023 by creating unparalleled opportunities for clients by serving them with reliable and stable power considering an Economic and Efficient way.

CATEGORY SPONSOR

 **OBERMEYER**

OBERMEYER Group is an international consultancy firm founded in Munich in 1958, with its Middle East and North Africa (MENA) headquarters in Abu Dhabi established in 2006.

The group operates 32 offices in nine (9) countries, with over 1,200 employees globally and approximately 230 employees in the Middle East.

At OBERMEYER Middle East GmbH (OME), we are leaders in providing design, supervision, and project management consultancy services across diverse sectors, including urban master planning, infrastructure, transportation, architecture, engineering, MEP (mechanical, electrical, plumbing), and energy efficiency. Our approach integrates advanced construction technologies, with a strong focus on innovation and sustainability. We deliver our services with exceptional expertise, earning the trust and confidence of our clients and stakeholders.



Vision:

To be the leading architectural and engineering consultant in the Middle East, recognized for our innovative designs, sustainable solutions, and commitment to excellence in all aspects of our work.

ORGANIZERS

The Society of Engineers – UAE was formally organized on April 03, 1979, by the Ministry of Labour and Social Affairs – Ministerial Decree No. 33 1979 to facilitate the increasing demands for professional expertise and accreditation of the engineers in the UAE.

The society is a semi-government sector and a non-profit organization that strives to provide great services to its 78,000 members. Society of Engineers – UAE joined the Arab Engineers Federation in 1984, the World Federation Engineering Organization in 1985, and the Gulf Engineering Union in 1986.

As the Society of Engineers – UAE celebrates its 46 years of exceptional service to the public, we have accomplished outstanding achievements in accrediting engineering certifications, regulating professional practices, standards, and specifications, and developing the skills and qualifications of all engineers in the UAE by our accreditation committee.



Mission:

Upgrading and activating the engineering role to build an architectural, industrial, and commercial renaissance.



Vision:

Towards the best engineering practices in the United Arab Emirates.



Membership types:

1. Active members: for UAE citizens of the UAE under the registration rules of SOE.
2. Affiliated members: for resident of the UAE under the registration rules of SOE.
3. Registered members: for Diploma holder after completing higher secondary school degree.
4. Student membership: for the students of the bachelor's degree at the universities in the UAE.

For registration to SOE memberships:

An integrated electronic system was developed for membership of SOE with a distinctive electronic card bearing the new logo for the SOE, through our website www.soenuae.ae or contact membership@soenuae.ae .

STRATEGIC

EXHIBITIONS & CONFERENCES

Strategic is one of the leading exhibitions, conferences, and event organizers. The group operates across different sectors spearheaded in four sectors - real estate, investment promotion, wood industry, and government achievements, with each of their exhibitions playing a leading role in its field.

Since its establishment in 2000, the company has operated to international standards, underpinned by strong, clear business principles and ethical values.

Their commitment to social, economic, and environmental responsibility is fundamental to their business. They see corporate responsibility and sustainability as core in their plans for growth and development. They are on a constant journey to promote corporate responsibility.

Strategic has several offices in multiple countries, including the Arab Republic of Egypt and the Kingdom of Saudi Arabia, as well as representative offices in various countries such as Mexico, India, Russia, China, Pakistan, and Turkey, where the company has successfully organized events.



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