



7/11⁺

INNOVATION CHALLENGE

2022



MESSAGES FROM



Tauseef H. Farooqi
Chairman, NEPRA

As a regulator we have a tremendous responsibility towards society that extends beyond the creation of affordable, accessible, and reliable energy supply. We must also support the community, through constant innovation and development. Under our Power with Prosperity, Power with Safety, Power with Equality, Power with Security and Power with Unity plans we have uplifted and transformed the socio-economic landscape of Pakistan aligned with UN's SDG to impact over 21 million lives, create over 41,000 jobs while promoting work-place safety, diversity and inclusion and security. Innovation is imperative for positive change, and we must continue to strive for a better and brighter future.



Moonis Alvi
Chief Executive Officer, KE

K-Electric is one of Pakistan's most innovative utility companies making substantial improvements since privatization through investments and automation of its infrastructure. Deeply embedded in the very fabric of this great city, KE continues to positively contribute towards Karachi's sustainable and innovative growth. Through KE's 7/11+ Innovation Challenge, we aim to create operational excellence, enhance customer experience, and optimize our supply chain and logistics to energize the city's future in a sustainable and customer-centric way.



Naz Khan
Chief Strategy Officer, KE

K-Electric's 7/11+ Innovation Challenge is a move to embrace innovation not just as a corporate social responsibility but as a strategic priority. At KE, we believe the emerging utilities landscape, post-CTBCM, will require organizations like ours to go beyond the organizational boundaries and knowledge-bases to pilot and deploy the best ideas for the benefit of society at large. The Innovation Challenge has enabled us to do just that by synergizing with some very talented individuals from start-ups, universities, and academia to create advanced solutions that will no doubt positively contribute to both KE and Karachi's progressive development.

KE 7/11+ INNOVATION CHALLENGE

The KE 7/11+ Innovation Challenge is a first of its kind event in Pakistan's utility market designed for entrepreneurs, startups, businesses, researchers, and university students from all across the country to accelerate innovation in the energy sector.

The focus is on key themes of the **United Nations Sustainable Development Goals (SDGs)**. Specific Challenge Statements identified by KE in the areas of customer experience and operational excellence.

Kicked-off in February 2022, the challenge received 300 applications. Participants proceeded through rigorous pitching, capacity-building and personalised mentoring to reach Grand Finale where 10 Finalists will compete for prize money and the opportunity to scale up their solution.



GOAL 7

Access to affordable, reliable, sustainable & modern energy for all



GOAL 11

Sustainable, inclusive, safe & resilient cities & communities



PLUS

Innovate using Technology to bring Enterprise Agility in Utility Functions

CHALLENGE STATEMENTS



COLLABORATING WITH THE BRIGHTEST MOST PASSIONATE MINDS ACROSS PAKISTAN



OUR ESTEEMED JURY



Farhan Anwar
Faculty, Habib University



Seher Abbas
Co-Chair, Karachi Hub
Women in Energy
& IFC



Sheikh Imranul Haq
Energy Expert,
Former MD/CEO,
PSO



Shehryar Hydri
Managing Partner,
Deosai Ventures



Shaista Ayesha
CEO, SEED Ventures



Naz Khan
Chief Strategy Officer, KE



Naeem Zamindar
Founder, Neem Financials

CHIEF GUEST, PANELISTS, AND SPEAKERS



Tauseef H. Farooqi
Chairman, NEPRA



Afia Salam
Environmental Journalist



Wasif Rizvi
President, Habib University



Dr. Athar Osama
Managing Partner, INNOVentures
Global (Pvt) Ltd



Syed Moonis A. Alvi
Chief Executive Officer, K-Electric



Naz Khan
Chief Strategy Officer, K-Electric



OUR JOURNEY



FEB 24, 2022

CHALLENGE ANNOUNCED

MAR 7-22

UNIVERSITIES AND STARTUPS ROADSHOWS

20 LOCATIONS

300

Total applications received

APRIL

APRIL

1ST ROUND OF COMPETITIVE PITCHES



APRIL 22

COHORT-1 ANNOUNCEMENT

MAY-JUNE

12 CAPACITY BUILDING SESSIONS



JULY 4

2ND ROUND OF COMPETITIVE PITCHES & 14 FINALISTS ANNOUNCED

JULY-SEPT

MENTORING & ONBOARDING



NOV 24

FINAL JURY WITH TOP 10 PRESENT TO EXTERNAL JURY & ANNOUNCEMENT OF WINNERS

PKR 3 Million
1ST PKR 1.5 Million
2ND PKR 750,000
3RD PKR 750,000



INNOVENTURES GLOBAL



TOP-10 TEAMS



EZBIKE

A fast, convenient, and sustainable electric bike sharing service

Founders/Researchers: Syed Mohammad Hadi, Ali Moeen

Challenge Goal 7: Efficient, modern, sustainable energy for all

Stage of Development: Solution ready for pilot and deployment

Mentors: Ayesha Akhtar and Ali Aslam



EZGEYSER (KYTHERTEK SMC (PVT.) LTD.

Internet of Things startup aimed at solving energy efficiency and other problems for Consumer and Industrial market segments

Founders/Researchers: Ashar Bazeed Saeed, Malik Naveed Akhtar

Challenge Goals 7 & 11: Efficient modern sustainable energy for all and sustainable cities

Stage of Development: Solution ready for piloting

Mentors: Humza Khan and Muhammad Ali



LORAWAN (NUST PNEC)

A meter reading retrofit device using Low Range Wide Area Network (LoraWAN) that snaps onto a traditional meter and captures readings

Founders/Researchers: Daniyal Ahmed, Hammad Safeer, Najeeb Iqbal, Muhd. Mustaqim

Challenge Statement 9: Meter reading automation

Stage of Development: Prototype ready to productise and pilot

Mentors: Kamran Kamil and Moiz Ishaq



NOVEL INSULATOR (NUST CEME)

A Novel insulator design, to solve tripping issues in high voltage transmission lines

Founders/Researchers: Dr. Imran Akhtar, Dr Zafar Bangash, Fahad Rafi Butt

Challenge Statement 4: Pre-emptive fault prevention

Stage of Development: Concept/design ready for prototyping

Mentors: Kashif Iqbal Ghazi and Imran Chaudhry



OPTIMALOAD (UET PESHAWAR)

A transformer load balancing and load prediction system

Founders/Researchers: Muhammad Bilal Khan, Dr Gul Muhammad Khan Wagma Farid, Mansoor Khan

Challenge Statement 4: Pre-emptive fault prevention

Stage of Development: Prototype ready to productise and pilot

Mentors: Bilal Mirza and Zakir Ali Rizwe



ORKO (PVT.) LTD.

A SAAS based operating system for EV charging stations with station owner & consumer apps

Founders/Researchers: Muhammad Talha Khan, Kashif Ali Khan, Ali Mojiz

Challenge Statement 8: Real-time information management

Stage of Development: Solution ready for pilot and deployment

Mentors: Abdul Samad and Naveed Afzal



POWER DISTRIBUTION IMPROVEMENT (LUMS)

Power Distribution System Improvement through dynamic GIS-based grid asset management

Founders/Researchers: Huzaifa Rauf, Dr. Naveed Arshad, Owais Khan

Challenge Statement 6: Predictive demand planning

Stage of Development: Concept/design ready for co-development

Mentors: Faisal Mairaj, Farqud Raza and Humza Khan



SMART TRANSFORMER HEALTH (NUST PNEC)

Smart Transformer Health Monitoring system that allows both status and health monitoring and provides early warnings for emerging faults

Founders/Researchers: Dr Syed Sajjad Haider Zaidi, M Khizar Abbas, Dr Bilal Muhammad Khan, S M Ali Minhal, Shehzad Haider & Muhammad Abdullah

Challenge Statement 1 & 4: Efficient fault detection and pre-emptive fault prevention

Stage of Development: Prototype ready to productise and pilot

Mentors: Ebrahim Hoosain and Talha Qureshi



THINGSTY (PVT.) LTD.

A SaaS platform for rapid assembly and launching of branded IoT applications for smart homes, commercial, and industrial applications

Founders/Researchers: Ather Nadeem

Challenge Theme: Plus - Technology for enterprise agility

Stage of Development: Product ready for piloting

Mentors: Haseeb Uddin Sheikh and Sohaib Qadir



VTOL DYNAMICS (PVT.) LTD.

A drone based aerial geospatial solution provider for aerial and land survey solutions

Founders/Researchers: Naved Ali, Syed Azmat Ullah, Abdul Mateen Siddiqui

Challenge Statement 1 & 4: Efficient fault detection and pre-emptive fault prevention

Stage of Development: Solution ready for development

Mentors: Haroon Abdullah and Faizan Hashmi

COHORT I

KE 7/11+ Cohort 1 included 30 participants comprising of 18 startups and 12 academics/students. They are:

CarVan - Community-based carpooling platform

Davaam Life - A company that builds solution to cut down single use plastic

DroneServ - A one-stop drone services solution

Energy Informatics Pakistan (LUMS): Energy Monitor - A data analytics solution provider

Energy Monitor (LUMS) - Transition from digital to smart metres

ezBike - A fast, convenient, and sustainable electric bike sharing service

FAST Islamabad - Pluggable software service resolving faults in distribution lines

IMAL ENGINEERING - Industrial monitoring and automation engineering solutions

IVS - A Waste Management system that produces energy through Wind-Powered Aeration

KU Leuven - Electricity demand forecasting using machine learning and AI

KytherTek SMC Pvt Ltd (EzGeyser) - IOT startup, creating solutions for energy efficiency

LUMS: Digital to Smart Meters - Transforming digital meters to smart meters

LUMS: Power Distribution Improvement - Dynamic GIS Based Grid Asset Management System

NUST Islamabad - Energy Efficiency Kit for agriculture and industrial applications

NCA - Innovation of compact vehicles

NED - Trusted smart metering using blockchain and IOT technology

NUST-CEME - A Novel insulator design, to solve tripping issues in high voltage transmission lines

NUST-PNEC - A meter reading retrofit device using Low Range Wide Area Network (LoraWAN)

NUST-PNEC - Smart Transformer Health Monitoring system

Orko (Pvt.) Ltd. - Electric Vehicle charging station and battery swapping application

OptimaLoad - A transformer load balancing and load prediction system

PakVitae - Pure drinking water solution in urban, peri-urban, and rural areas

SAVVY ENGINEERS (Pvt.) Ltd. - Plastic waste recycling through filament for 3D printers

Setpak - Energy generation using biogas and bio-energy technologies

SZABIST - Customer-Input based Meter Reading Automation

Tezz WiFi Services - Voucher based internet access for public spaces

Thingsty - A SaaS platform for rapid assembly and launching of branded IoT applications

Vertex Technology - Solutions for embedded systems, solar, and wind energy applications

VTOL DYNAMICS (PVT.) LTD. - A drone based aerial geospatial solution provider

Zaheen Systems - Provider of drones with special protective arrangement

THE MENTORS:

Name

Adnan Ali Shaikh

Ali Aslam

Ali Imran Chaudhry

Ayesha Akhtar

Bilal Mirza

Ebrahim Hoosain

Faisal Mairaj

Faizan Ahmed Hashmi

Farqud Raza

Hafiz Noman

Hammad Ahsan

Haroon Abdullah

Haseeb Uddin Sheikh

Humza Khan

Kamran Kamil

Kashif Iqbal Ghazi

Latifullah Khan

Mehnaz Aaly Abbas

Moiz Ishaq

Muhammad Taimoor Khan

Muhammad Ali

Naveed Afzal

Nawshad Alam

Owais Hassan Khan

Sohaib Qadir

Talha Qureshi

Wania Rafi

Zakir Ali Rizwe

Designation

General Manager, Meters & AMI

Deputy General Manager, Distribution Strategy

Director, LDC System Operation

General Manager, Business Development

Director, Project Implementation

Head, Transformers & Switchgears

General Manager, LDC System Operation

Manager, SCADA

General Manager, SCADA

Head, Planning & Engineering

General Manager, Business Development

Deputy General Manager, Distribution Strategy

Head, IT Strategy & Planning

Director, Corporate Strategy

Deputy Director, Project Operational Technology

Head, Distribution Projects

Head, Generation Planning

Head, Supply Chain Excellence

General Manager, Procurement

Head, HSEQ Distribution

Deputy General Manager, Business Finance

General Manager, Revenue, Compliance & Performance

Director, Generation

Head, Grid System Operations

Deputy General Manager, Distribution - IBC

Head, Distribution - IBC

Manager, K-Solar

Deputy Director, Internal Audit



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7/11⁺ INNOVATION CHALLENGE

INNOVATION@KE

If you have reached the end of this booklet the right way, then you would have seen the groundbreaking work being done by amazing innovators - founders, researchers, and students - to support transformation of the electric utility industry in Pakistan. We hope you will be inspired by this work and support our efforts to create an innovation eco-system around this industry.



KE House, 39-B, Sunset Blvd, Phase II. Defence Housing Authority, Karachi



Visit us at: innovation.ke.com.pk

