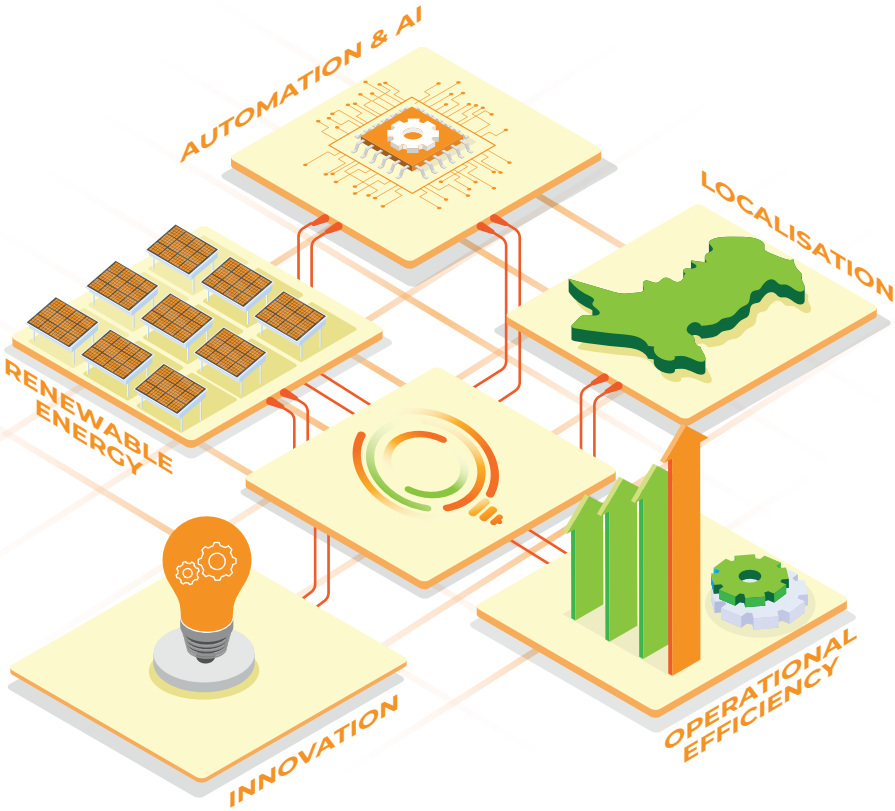
POWERED BY KE

EPIC

Energy Progress & Innovation Challenge



Your Ideas, Our Platform.

www.innovation.ke.com.pk

MESSAGES FROM

Moonis Alvi,
Chief Executive Officer

EPIC 2025 represents K-Electric's broader commitment to shaping the future of energy through purposeful innovation. As the energy needs of Pakistan grow in complexity, we must look beyond conventional approaches and create space for ideas that can deliver scalable, long-term impact. EPIC is not just about finding solutions—it's about building the ecosystem that will sustain them.

This initiative is a strategic investment in the ingenuity of our people. By fostering innovation at every level—from emerging startups to seasoned researchers—we aim to cultivate solutions that are rooted in local context and responsive to Pakistan's unique energy challenges. Through EPIC, we are driving progress that is homegrown, sustainable, and built to serve communities across the country.

Sadia Dada
Chief Distribution &
Marcomms Officer

Progress is powered by bold ideas and shared purpose. The Energy Progress & Innovation Challenge (EPIC) is not just a platform—it's a movement pioneered by K-Electric to spark transformation in the energy sector through innovation, collaboration, and impact.

EPIC brings together bright minds from across Pakistan—academia, industry, and startups—to solve real-world energy challenges many of which are unique to our society. It's about turning ideas into action, improving access, reliability, and sustainability for the millions we serve.

By investing in innovation today, we're shaping a more inclusive and resilient energy future for tomorrow.

ENERGY PROGRESS & INNOVATION CHALLENGE (EPIC)

Building on the remarkable success of KE's 7/11+ Innovation Challenge, K-Electric launched Energy Progress & Innovation Challenge (EPIC), a groundbreaking initiative aimed at driving innovation and progress in the energy sector. This programme underscores KE's commitment to sustainability by empowering entrepreneurs, startups, researchers, and academia to develop localised, cutting-edge solutions for the power sector's most pressing challenges.

Kicked off in March 2025, the challange received over 250 applications. Participants proceeded through rigorous pitching to reach Grand Finale where 10 projects will compete for prize money and the opportunity to scale up their solution.

CHALLENGE STATEMENTS

1. Demand Forecasting Automation Using AI
2. BESS Utilization for Managing System Dynamics Under Growing RE Integration
3. Pre-emptive Transformer Level Failure Detection
4. PV Impact Analysis
5. Smart Monitoring of Transmission Lines: Enhancing Grid Reliability
6. Underground MV Cable Health Indexing
7. Real-Time Fleet Tracking & Visibility for Power Utilities
8. Proactive Energy Theft Detection
9. Tamper-Proof PMT-Based Load Shedding Solution
10. Open Innovation: Driving Transformation in the Power Sector

COLLABORATING WITH THE BRIGHTEST MOST PASSIONATE MINDS ACROSS PAKISTAN

OUR ESTEEMED JURY

Amir Iqbal
CEO,
Sindh Engro Coal Mining Company

Inam ur Rehman
President,
Disrupt.com

Jehan Ara
Founder & CEO,
Katalyst Labs

Maha Qasim
Founder & CEO
Zero-Point Partners

Nadeem Shaikh
Founder and
Managing Partner, Neem

Shehryar Hydri
Managing Director,
Endeavor Pakistan

Shehryar Omar
CEO,
Petroleum Institute of Pakistan

Syed Azfar Hussain
Project Director,
National Incubation Center Karachi

Sheikh Imran-ul-Haque
Former MD,
Pakistan State Oil

Shaista Ayesha
CEO,
SEED Ventures

Tara Uzra Dawood
Founder & Chairperson,
LADIESFUND Energy

PANEL DISCUSSION

POWERING PROGRESS: LOCAL INNOVATION FOR PAKISTAN'S ENERGY FUTURE

Nadeem Shaikh
Founder and
Managing Partner, Neem

Shehryar Hydri
Managing Director,
Endeavor Pakistan

Shehryar Omar
CEO,
Petroleum Institute
of Pakistan

Sadia Dada
Chief Distribution &
Marcomms Officer

Sheikh Imran-ul-Haque
Former MD,
Pakistan State Oil

Syed Azfar Hussain
Project Director,
National Incubation Center Karachi

MODERATOR

EPIC
Energy Progress & Innovation Challenge

OUR JOURNEY

MARCH 03, 2025
Challenge Announced

MARCH 04 - APRIL 18, 2025
Universities And Startups Roadshows

20 LOCATIONS

APRIL 18, 2025

250+ Applications Received

MAY 05, 2025
Cohort-1 (Top 30) Announced

TOP 10

MAY 13, 2025
Competitive Pitches for Top 10 Finalists

MAY 25, 2025
Top 10 Finalists Announced

FINAL JURY TOP 10

ANNOUNCEMENT OF WINNERS

JUNE 11, 2025
Final jury with top 10 present to external jury & announcement of winners

www.innovation.ke.com.pk

TOP-10 TEAMS

NED University of Engineering and Technology

Development of an Ai Based Transmission Loss Prediction Model

Founders/Researchers: Engr. Shariq Shaikh, Sohaibuddin, Muhammad Waleed, Mubashir Ali

Challenge Statement: Open innovation: Driving transformation in the power sector

Stage of Development: Prototype is ready based on IEEE 14 bus transmission network

Mentors: Imran Rana

NED University of Engineering and Technology

Development of an Optimized Ai Model for Accurate Forecasting of Electricity Demand

Founders/Researchers: Engr. Shariq Shaikh, Sohaibuddin, Muhammad Waleed, Mubashir Ali

Challenge Statement: Demand forecasting automation using AI.

Stage of Development: Prototype is ready based on IEEE 14 bus transmission network

Mentors: Khurram Abdullah

Thingsty

Ai-powered Early Warning System for Transformers Using Lorawan-enabled Sensors

Founders/Researchers: Ather Nadeem, Aqib Maqsood

Challenge Statement: Smart Monitoring of Transmission Lines – Enhancing Grid Reliability

Stage of Development: Early stage

Mentors: Aziz ur Rehman Bozdar

Thingsty

AI-Driven Transformer Fault Prediction Using LoRaWAN Sensor Network

Founders/Researchers: Ather Nadeem, Aqib Maqsood

Challenge Statement: Pre-emptive Transformer-Level Failure Detection

Stage of Development: Initial stage

Mentors: Kashif Iqbal Ghazi

Government College University Faisalabad

An Automation of Demand Forecasting Using Artificial Neural Network

Founders/Researchers: Dr. Abdul Rauf Bhatti, Dr. Arslan Dawood Butt
Challenge Statement: Demand Forecasting Automation Using AI
Stage of Development: NA
Mentors: Khurram Abdullah

Mehran University of Engineering and Technology, Jamshoro

Smart Health Monitoring and Protection System for Distribution Transformer.

Founders/Researchers: Dr. Mahesh Kumar, Dr. Amir Mahmood Soomro
Challenge Statement: Pre-emptive Transformer Level Failure Detection
Stage of Development: Tested on a locally made 2 KVA transformer
Mentors: Kashif Iqbal Ghazi

UBIT, University of Karachi

AI-Powered Real-Time Fleet Tracking and Visibility System for Power Utilities

Founders/Researchers: Syed Taha Jameel, Rimsha Masood, Saman Aslam, Zoya Ali
Challenge Statement: Real-Time Fleet Tracking & Visibility for Power Utilities
Stage of Development: Polit Project (Proof of Concept)
Mentors: Moiz Ishaq

National University of Computer and Emerging Sciences, Chiniot-Faisalabad Campus

Forecasting the Future: Edge AI-Based Transfer Learning for Smarter Demand Management

Founders/Researchers: Muhammad Sajid Iqbal
Challenge Statement: Demand Forecasting Automation using AI
Stage of Development: A forecasting model has been finalized and deployed on an edge device (Raspberry Pi 4B)
Mentors: Khurram Abdullah

Mehran University of Engineering and Technology, Jamshoro

Design and Development of Prototype Machine Learning (ML) & Artificial Intelligence (AI)-Driven Model for Health Indexing Testing and Online Monitoring System of Underground MV Cable

Founders/Researchers: Dr Nayyar Hussain Mirjat, Dr Mahendar Kumar, Dr Shoaib Khatri, Shazor Ali Ghouri, Engr Muswari, Engr Ghulam Qadir Depar.
Challenge Statement: Underground MV Cable Health Indexing
Stage of Development: Testing phase
Mentors: Arshad Sabri

National University of Sciences and Technology

An IoT Based Smart Tamper Proof Load Shedding Solution Using the PMT Nodes with LoRa Mesh Communication for Transformer Control

Founders/Researchers: Abdul Hadi, Syed Abdul Haseeb Ali
Challenge Statement: Tamper-Proof PMT-Based Load Shedding Solution
Stage of Development: Initial Stage/ Research Stage
Mentors: Arshad Sabri

COHORT I

EPIC Cohort 1 included 30 projects comprising of 20 academic/student and 10 startup projects. They are

Superior University: AI-Powered Geospatial Demand Forecasting System
Government College University Faisalabad: An Automation of Demand Forecasting Using Artificial Neural Network
NUST PNEC: AI-driven Automated Demand Forecasting System
NUST PNEC: Hybrid AI-Framework for Segmented Demand Forecasting
NEDUET: Optimized AI Model for Accurate Forecasting
FAST NUCES: Forecasting the Future - Edge AI-Based Transfer Learning for Smarter Demand Management
National Textile University: Nowcast Load Forecasting in Electricity Distribution Systems
NEDUET: Development of an AI Based Transmission Loss Prediction Model
SSKIC IoBM: Run-of-River Hydro Turbines Designed for Low-Flow Water Sources
International Islamic University: Indigenous Development of Nanogenerator-Based Micro Power Supplies for Sustainable Energy Harvesting in Pakistan
Superior University: Advance Transformer Health Prediction System
Mehran University of Engineering and Technology: Design and Implementation of IOT and ML based Prototype Model for Power Transformer Condition Monitoring
Mehran University of Engineering and Technology: Smart Health Monitoring and Protection of Distribution Transformer
Mehran University of Engineering and Technology: Design and Development of Prototype ML & AI-Driven Model for Proactive Theft Detection System
University of Karachi: AI-Powered Real-Time Fleet Tracking and Visibility System for Power Utilities
LUMS: Real Time Fleet Tracking and Task Management
NEDUET: Real Time Transmission Line Monitoring System Using Data Driven Approach
University of Engineering and Technology: A Predictive Approach for Transient Instability Prediction in Transmission Lines using AI
NUST PNEC: Tamper-Proof PMT Based Load Shedding
Mehran University of Engineering and Technology: Design and Development of Prototype Machine Learning (ML) & Artificial Intelligence (AI)-Driven Model for Health Indexing Testing and Online Monitoring System of Underground MV Cable
NovaGrid AI: A P2P Solar Energy Trading Platform
Nubit Software: Smart Electricity Tracking System
Eager Engineers: Efficient and Cost-Effective Cleaning Solutions
ICEE: Implementing Future Fuel in the Present Era - Green Hydrogen
Enent: 3-Phase Load Balancer
NanoDrop: Clean and Safe Drinking Water Solution
Thingsty: Predictive Maintenance Solution Using Lorawan-Enabled Sensors
Thingsty: AI-Assisted Energy Theft Detection System
Thingsty: Real-Time, IoT-Powered Smart Monitoring System
Thingsty: IoT-Enabled Digital Health Indexing System

MENTORS

Name	Designation
Khurram Abdullah	Head of Strategy & Governance • Distribution Strategy & Support
Ali Imran Chaudhry	Head of Transmission Operations
Arshad Sabri	Head of Planning & Engineering
Aziz ur Rehman Bozdar	Deputy Director GSPM
Moiz Ishaq	Chief of Supply Chain
Humayun Saghir	Head of Distribution Operations
Kashif Iqbal Ghazi	Head of Distribution Projects
Imran Rana	Senior Director Communications, Insights & Innovations

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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

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

Visit us at: innovation.ke.com.pk