### Altrazen Engineering Virudhunagar-125

15 August, 2025

NEWSLETTER

Latest Updates in Electrical Engineering

Battery Swapping lets EVs quickly change an empty battery for a full one in minutes. It saves time, keeps vehicles running longer, and can lower costs. Popular in two- and three-wheelers for delivery and taxi services, it's also starting in fleet cars. Success needs many swap stations, common battery types, and low running costs. In India, it's growing fast in busy cities with government support.

# Quantum Computing Nears Industrial Scale

IBM and Google are tackling quantum scalability, aiming for million-qubit systems using advanced error correction techniques. Usable quantum systems could arrive in a few years or take decades, depending on breakthroughs.

## India Spotlight – POWERGRID–PEC Centre of Excellence

A ₹17-crore centre in Chandigarh will modernize electrical education with cutting-edge labs for e-mobility, cybersecurity, and smart grid research.

#### Lightweight High-Voltage Cabling & Connectors

Reduce EV weight, improve efficiency, and enable faster charging by minimizing energy losses. Using aluminum alloys, advanced insulation, and compact high-current connectors, they enhance safety and thermal performance. Key in next-gen EV platforms, these solutions support higher voltages (800V+) and longer ranges while lowering manufacturing costs.



#### Evapolectrics Electricity from Moisture

Scientists in Hong Kong and Singapore have developed a device that converts heat from evaporating moisture into electricity, opening doors for self-powered wearables and sensors. Current efficiency is 0.1%, with potential for major improvements.







