APAR Industries adopts a comprehensive approach to research and development (R&D), focusing on innovation and technological advancement to maintain its competitive edge

says **Mr. Kushal Desai**
Chairman and Managing Director - APAR Industries Limited

in an interview to *Electrical Line*

Q-1. What are the key factors driving demand for APAR, and how do you see the market evolving in the next 5 years?
Ans. The demand for APAR Industries is driven by several key factors:

- Renewable Energy Transition: The global shift towards renewable energy is generating strong demand for projects like wind and solar, with nearly 50% of the global electricity mix expected to come from renewables by 2030.
- Transmission Expansion: The Central Electricity Authority (CEA) aims to add over 191,000 km of transmission lines and 1,270 GVA of transformation capacity by 2032. Plans include increasing inter-regional transmission capacity from 119 GW to 168 GW by 2032.
- Infrastructure Development: Current Indian Government is spending massive amount of money for infrastructure development like highways, ports and other forms of infrastructure which will generate demand for the cables and industrial lubricants.
- Public Transportation: Public transport is undergoing a massive transformation. New-aged high-speed trains like Vande Bharat and electric vehicles both at Inter-state and Intra-state route are increasing day by day. This will be creating a massive demand of electric harnesses for these public transportations.
- Telecom: High speed internet usage has been increasing over the years, and which is expected to increase further with the BharatNet Project. With further evolvement in Artificial Intelligence (AI), the need for data centres is expected to increase further creating further demand for telecom cables in years to come.

Market Evolution Over the Next 5 Years:

The world is shifting from conventional (fossil fuel) to renewables energy such as solar, wind and nuclear. Over 100 countries have already pledge to triple its renewable energy capacity and double the global rate of energy efficiency by 2030.

- Based on the National Electricity Plan 2024, India has set a target of increasing Renewable Generation Capacity to 613 GW by 2032. With the growth in electricity infrastructure lagging other clean energy technologies, gridshave become a major bottleneck in the energy transition. Currently, at least 3,000 GW of renewable power projects—1,500 GW of which are at advanced stages—are waiting in grid connection queues.
- As per the IEA, to achieve net zero emission, there is the need for massive capital outlay. It estimates that around $ 4.5 trillion is required to be invested into renewable energy by 2030 and new 50 million miles of transmission lines are required.
- With the emergence of generative AI (gen AI), demand for data centre is set to rise even higher. Demand for data centre is expected to triple by 2030. This will create further demand for energy infrastructure space (Source: McKinsey report – https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ai-power-expanding-data-center-capacity-to-meet-growing-demand)

Q-2. How does APAR approach research and development, and what investments are being made to stay ahead in terms of technology and innovation?
Ans. APAR Industries adopts a comprehensive approach to research and development (R&D), focusing on innovation and technological advancement to maintain its competitive edge. The company has made significant investments in R&D, which are pivotal for developing new products and enhancing existing ones.

R & D Approach and Investments

- Establishment of Advanced Facilities: The APAR Testing and Research Centre (ATRC) Dadra and Nagar Haveli supports product innovation through rigorous testing.
- Continuous Innovation: APAR anticipates market demands to create disruptive products, maintaining leadership in polymers and specialty oils.
- Investment in Technology: Investments in advanced equipment for Thermoplastic Elastomers (TPE) and Thermoplastic Vulcanizates (TPV) enable rapid product development.
- Sustainability Focus: APAR develops biodegradable transformer oils and eco-friendly materials, aligning with global sustainability trends.
- Market-Oriented Development: Active participation in industry trends ensures R&D aligns with customer needs.

Future Outlook

APAR's strategic focus on R&D is expected to yield significant benefits over the coming years:

- Increased Product Offerings: Ongoing investments will lead to more premium products for sectors like renewable energy, automotive, and construction.
- Enhanced Competitive Edge: By focusing on innovation and sustainability, APAR is well-positioned to tackle future challenges and seize global opportunities

Q-3. Can you discuss APAR's manufacturing capabilities, including production capacity, facilities, and supply chain management?
Ans. APAR Industries has developed a strong manufacturing framework to support its diverse product range, including conductors, telecom cables, specialty oils, automotive lubricants, and polymers. Key strengths include significant production capacity, advanced facilities, and efficient supply chain management.

Manufacturing Capabilities
Facilities:

- APAR operates nine facilities in India and one in Sharjah, UAE, adhering to strict quality standards.
- Major plants in Gujarat utilize advanced technologies like Electron Beam accelerators and Continuous Vulcanization (CCV).
- The Athola plant manufactures various conventional conductors, while the Rakholi plant specializes in HTLS/OPGW/CTC products.
- APAR has set up an additional line for the processing of aluminium rod for the production of conductors and cables.
- The Rabale and Silvassa plants excel in specialty oil production.
- The Jharsuguda and Lapanga plants focus on high-quality aluminium and alloy conductors.

Advancements:

- APAR is adopting Industry 4.0 practices to automate processes and enhance productivity through IoT and Robotics.
- Investments in E-beam lines and CCV lines for high-voltage cables further strengthen production capabilities.

Q-4. What are APAR's growth plans and expansion strategies, both domestically and internationally, and how do you see the company evolving in the next decade?
Ans. As countries commit to renewable energy, there will be a need for extensive transmission and cable infrastructure. APAR has a strong presence across the entire energy infrastructure spectrum, from generation to transmission and distribution. This transition represents a multi-decade opportunity, and we are confident in sustaining our growth trajectory while delivering enduring value to our customers.

With increasing power demand, there is a global need to replace and add transmission lines. APAR holds a leadership position in aluminium alloy conductors and transformer oil, further enhancing its growth potential. Digital transformation is accelerating, with data demands per smartphone expected to rise. The advent of AI and cloud computing is increasing opportunities for telecom solutions worldwide.

Domestic Expansion: Recently, APAR expanded its aluminium rod manufacturing capacity to meet growing market demand. It has also invested in capacity additions for continuous transposed conductors, which are expected to replace the PICC form of conductor due to a mandate from the CEA. Additionally, APAR acquired land near its cable facility to enhance its cable operations.

International Expansion: APAR has established subsidiaries in Saudi Arabia and Brazil. Currently, nearly 35% of APAR's products are exported globally, and the company aims to significantly increase its market share in the US, particularly for cables and conductors.

Sustainability Focus: APAR's commitment to sustainability is evident in its product development strategies, including biodegradable transformer oils, medium voltage covered conductors, and eco-friendly materials like molten metal that align with global environmental standards.

Future Outlook: The outlook remains robust as the energy infrastructure sector evolves with rising electricity demand, including renewables. APAR is well-positioned to lead this transformation with its strong portfolio of premium products across all business verticals, capturing a significant share of this multi-decade opportunity.