

www.themachinist.in

Volume 20 Issue 1 • January 2025 • Rs 75

# **EMPOWERING LIVES** THROUGH SUSTAINABLE **WATER SOLUTIONS**

From revolutionising water solutions in rural India to leading sustainable innovations globally, Shakti Pumps embodies resilience, innovation, and a commitment to empowering lives through eco-friendly water management.

### BEST BRANDS IN METAL CUTTING & FORMING

CELEBRATING INNOVATION AND EXCELLENCE

#### **FUTURE FORWARD**

FROM HUMBLE **BEGINNINGS TO GLOBAL ASPIRATIONS** 





## CONTENTS



#### **COVER STORY**

Empowering Lives Through Sustainable Water Solutions....... 54



#### **SPOTLIGHT**

We are actively investing in technologies such as Hydrogen Internal Combustion Engines and Hydrogen Fuel Cell .... 60



#### SUPPLY CHAIN

Revolutionising Pharma Supply Chains: Advanced Solutions for Safe and Secure Transit...... 90





INDUSTRIAL AUTOMATION

Pioneering Sustainability & Operational Excellence-----

36



## INDUSTRIAL REAL ESTATE

Driving the Future of Warehousing and Industrial Real

40



## DESIGN & ARCHITECTURE

Reimagining Vehicle Architecture for a Dynamic Future ------ 94



#### **SAFETY**

The Hidden Cost of Neglect: Why CNC Fire Safety Is a Must -----



# PIONEERING SUSTAINABILITY & OPERATIONAL EXCELLENCE

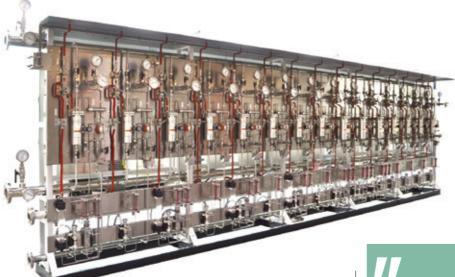
Axis Solutions Pvt. Ltd., led by Managing Director Dr. Bijal Sanghvi, specialises in industrial automation with tailored solutions for sectors like Oil & Gas, Petrochemicals, and Power Plants. Dr. Sanghvi focuses on innovative strategies as the company navigates global markets and integrates transformative technologies to foster a sustainable and efficient industrial landscape.



xis Solutions Pvt. Ltd. specialises in industrial automation and control systems, offering customised solutions for industries like oil and gas, petrochemicals, refineries, power plants, coal, mining, and chemicals. By combining advanced technologies with local expertise, the company addresses global market demands effectively.

Under Managing Director Dr. Bijal Sanghvi's leadership, Axis Solutions delivers products like Analyzer Shelters, Continuous Emissions Monitoring Systems (CEMS), and Steam and Water Analysis Systems (SWAS), all designed to ensure efficiency, compliance, and reliability in challenging environments.

For power plants, their solutions focus on emissions monitoring and efficiency tailored to regional grid needs, while for coal, mining, and chemical industries, they provide precise process control and environmental monitoring systems. Dr. Sanghvi highlights their localised strategy, which involves in-depth market research, strategic partnerships, and regional support teams, enabling their successful



expansion into emerging markets in EMEA.

One of Axis Solutions' key offerings is its water analyzers, which play a crucial role in industrial water treatment plants and public sector projects to provide clean drinking water. Dr. Sanghvi explains, "Our water analyzers measure critical parameters like pH, chlorine, and turbidity with unmatched accuracy and reliability. To enhance their effectiveness, we integrate AI and cloud computing, enabling real-time data access and remote monitoring. These technologies allow us to predict maintenance needs, optimise processes, and ensure seamless operations."

The integration of advanced technologies like AI and cloud computing extends beyond water analyzers to other product lines. "AI helps us improve predictive analytics and process optimisation across our solutions," notes Dr. Sanghvi. "For example, in high-stakes industries like oil & gas, AI-driven analytics optimise operations, while cloud-based platforms facilitate realtime data management. This combination not only enhances performance but also ensures our solutions remain future-ready," he adds.

Sustainability is another cornerstone of Axis Solutions' strategy, particularly in industries traditionally seen as highly polluting. Dr. Sanghvi shares, "Our Continuous Emission Monitoring Systems (CEMS) and Analyzer Shelters are designed to monitor and reduce emissions, helping industries comply with environmental regulations. Additionally, our air quality monitoring solutions and advanced process analyzers enable precise control and optimisation, reducing waste and improving resource efficiency."

In terms of innovation, Axis Solutions continues to set industry benchmarks. "We've introduced advanced gas analysis systems featuring real-time monitoring capabilities and enhanced calibration," Dr. Sanghvi states. "Our latest Steam and Water Analysis Systems (SWAS) come with improved sensors for greater reliability, and our weather stations now provide highresolution data integration. These innovations reflect our commitment to staying ahead of the curve," he added.

Our strategic focus for the next 5 to 10 years is on expanding into emerging markets while deepening our integration of AI and cloud computing. We aim to leverage these technologies to enhance our offerings, improve customer support, and drive operational excellence.

Looking ahead, Axis Solutions has a clear vision for the future. "Our strategic focus for the next 5 to 10 years is on expanding into emerging markets while deepening our integration of AI and cloud computing," explains Dr. Sanghvi. "We aim to leverage these technologies to enhance our offerings, improve customer support, and drive operational excellence. By aligning with industry trends and continuously innovating, we are well-positioned to lead the market," he concludes.

