



# MANUFACTURING AND INNOVATION

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Our state-of-art manufacturing facilities coupled with strong research-backed process improvement drives our growth. Consistently refining both products and processes allows us to fully utilise the capabilities of our manufacturing facilities, ensuring timely delivery of products. With over 160,000+ touchpoints across India, we ensure material connectivity within 4-6 hours. Our investments in digital technologies, such as cloud computing and artificial intelligence, enable real-time visibility, collaboration, and optimisation across our supply chain network.



## ESG strategy

**Energy conservation • Water neutrality • Product stewardship**  
**Nature positive • Safe workplace • Sustainable supply chain**

### Key material topics

Climate Change

Occupational Health, Safety and Well-Being

End-of-life management of product and packaging

Product Stewardship

Technology, Innovation and digitisation

### Stakeholders impacted



Customers



Vendors



Employees

## Manufacturing and Innovation

# How we source

Our supply chain is designed to meet evolving customer preferences and increasing complexities. This approach gives us a competitive advantage and helps deliver superior value to customers. Our supply chain is designed to be a lean, agile, and reliable means for giving quality products at the right place, time and quantity and at optimum costs to enable customer delight.

### Approach to supply chain

Our approach to supply chain is holistic in nature as our demand forecasting mechanisms serve as the foundation of the entire process, utilising real-time and historical data, market intelligence, and advanced statistical models, including machine learning algorithms, to generate accurate estimates at the depot SKU level. We leverage machine learning to further improve our processes enabling us to achieve industry-leading forecast accuracy.

Cutting-edge planning solutions are integrated in the supply chain by aligning production, deployment, and procurement plans with demand, optimising material availability while minimising procurement and consumption costs.

Our planning process is seamlessly complemented by state-of-the-art execution, enabled by control towers providing real-time status updates and decision support for smooth service-to-market operations. We configure warehousing and logistics to handle scale and diversity effectively.



### Supplier evaluation

We follow a thorough stage-gate process to evaluate and onboard potential suppliers on various parameters. The evaluation covers quality, delivery, price competitiveness, legal compliance and critical ESG (Environmental, Social, and Governance) factors such as the comprehensiveness of environmental policies, implementation of management systems, and self-declaration on human rights issues.

### Supplier engagement

We ensure our suppliers adhere to regulations beyond local standards, with tailored processes reflecting criticality, practicality, and business engagement nature. Our goal is to shape and enhance sustainability and governance practices through the implementation of different stages of Awareness, Assessment, and Association. During the year we organised 'RAWCON' a gathering of all our key suppliers under one roof to align our vision and enable mutual value creation. This event was attended by over 150 vendors.



# How we manufacture

At Asian Paints, we constantly strengthen our manufacturing capabilities in the aspects of capacity, flexibility, scalability, safety and sustainability. Our comprehensive manufacturing processes ensure the timely delivery of quality products.

## Manufacturing excellence

Our focus on manufacturing excellence has enabled us to successfully transform our production processes and establish world-class facilities. With over a decade of manufacturing expertise to our name, we have seamlessly integrated all 8 of our decorative paint plants and contract facilities. We have extended support to our Indian and international subsidiaries ensuring safe, efficient, and reliable product delivery with empowered teams.

A total of 40 multi-disciplinary teams and 135 shift teams reinforce our principles of Manufacturing Excellence across our Company.

In this year, we have made tremendous progress in our manufacturing excellence journey:

**12,500**

**Kaizen ideas suggested and 7,000 implemented across our plants**

**6,000**

**Problem-solving initiatives were identified with 5,000 of them closed**

**80**

**Coach coachee pairs identified for team leader capability building**

**165+**

**Improvement projects across manufacturing facilities which led to cost savings**

**25**

**Awards received by manufacturing sites across various categories**

Our ongoing efforts to enhance our manufacturing excellence are supported by robust pillars that enable us to integrate and adopt best practices effectively.

## CASE STUDY

### Packed with Potential: Sriperumbudur

Our Sriperumbudur packing team successfully transformed their 5S and autonomous maintenance practices, selecting one packing machine as a model. They brainstormed, sought external support, and studied best practices from other plants to boost their productivity and morale. Improvements included enhancing ergonomics, changing spare parts, colour-coding pipes, and implementing visual aids.

With training and adherence to new standards, machine operations vastly improved within three months, leading to increased uptime, consistent output, and a happier workforce. This enormous success prompted the plant management to expand the model to other areas and spread the knowledge, facilitating transformation across various operations and bringing us one step closer to world-class standards.

Before



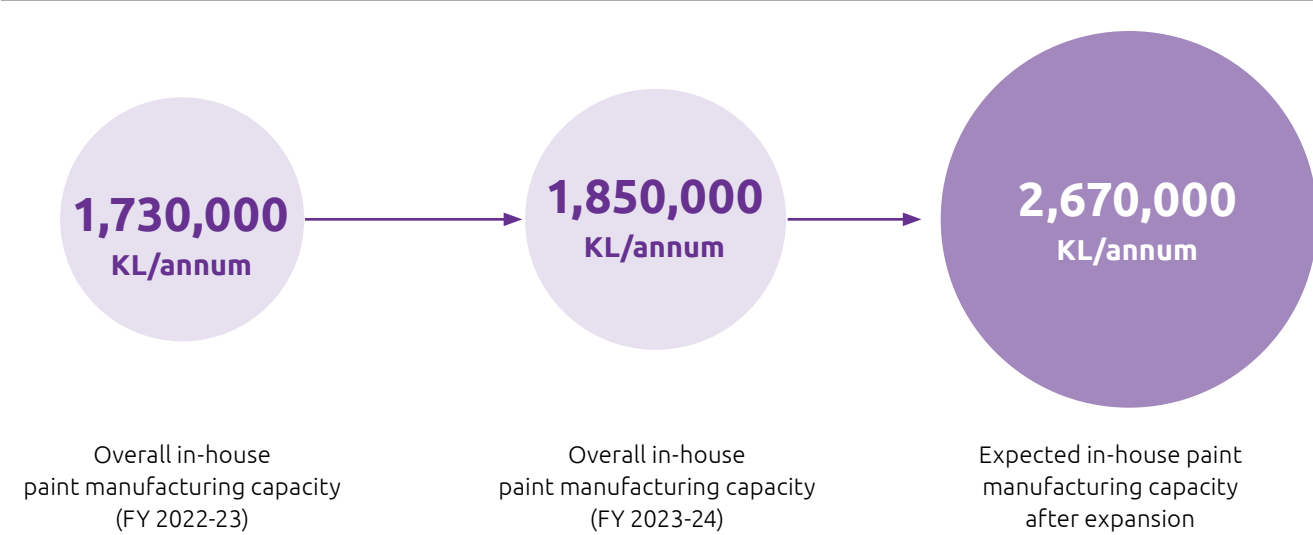
After



# Manufacturing and Innovation

## Decorative coatings

### Cumulative Installed in-house decorative paint capacity



## Highlights of our decorative paint manufacturing facilities

<p><b>Rohtak</b></p> <p>Established in <b>2010</b></p> <p>Capacity (per annum) <b>400,000 KL</b></p> <p>Rohtak, our flagship manufacturing facility is renowned for its expertise in pioneering new chemistries, launching innovative products, and embracing technological advancements.</p>	<p><b>Visakhapatnam</b></p> <p>Established in <b>2019</b></p> <p>Capacity (per annum) <b>300,000 KL</b></p> <p>Our Visakhapatnam plant is distinguished by its excellence in production, quality, and safety with prestigious accolades to back it up such as the British Safety Council's Sword of Honour and a five-star safety rating.</p>
<p><b>Ankleshwar</b></p> <p>Established in <b>1981</b></p> <p>Capacity (per annum) <b>130,000 KL</b></p> <p>As Asia's inaugural generative plant in Behaviour-Based Safety, our Ankleshwar facility meets diverse national demands under one roof.</p> <p>The plant is expanding and is set to become the largest SKU hub in our Company with an annual capacity of 250,000 KL and a wide SKU portfolio. We are adopting the latest manufacturing technologies to enable a seamless transition which safeguards our workforce and our operations.</p>	<p><b>Kasna</b></p> <p>Established in <b>1990</b></p> <p>Capacity (per annum) <b>100,000 KL</b></p> <p>Kasna plant plays a significant role in servicing critical markets of North and North East, delivering value across all parameters of manufacturing excellence.</p> <p>We completed the upgradation of our plants' paint production capacity to 100,000 KL from 80,000 KL during the year with zero safety incidents, ensuring uninterrupted service delivery.</p>

### Patancheru

Established in  
**1985**

Capacity (per annum)  
**80,000 KL**

Our Patancheru plant is known for its reliability and high Right First Time (RFT) rate, it caters to diverse markets nationwide with a wide array of SKUs and shades. It is also recognised for its flexibility and innovative spirit and plays a crucial role in new product development and commercialisation.

### Sriperumbudur

Established in  
**2005**

Capacity (per annum)  
**140,000 KL**

Our Sriperumbudur plant, spearheads advancements in technologies such as emulsion manufacturing and powder conveying and has recently received environmental clearance to expand its capacity to 200,000 KL per annum.

### Khandala

Established in  
**2013**

Capacity (per annum)  
**400,000 KL**

Our Khandala plant is one of our largest fully automated paint manufacturing facilities. It offers a diverse range of over 500 SKUs across 16 shade streams in both water and solvent-based paints. Additionally, it also has in house redispersible polymer (RDP) manufacturing facility.

We have successfully expanded the Khandala plant's water-based processing block, added another 100,000 KL capacity and transformed it into a 400,000 KL per annum manufacturing facility.

### Mysuru

Established in  
**2018**

Capacity (per annum)  
**300,000 KL**

Our Mysuru plant is a fully automated facility, featuring state-of-the-art material handling systems. We are expanding our Mysuru plant to serve the growing markets of southern part of the country. Doubling the paint production capacity from 300,000 KL to 600,000 KL, along with adding capacities for various intermediates and paints, establishing it as the world's largest paint manufacturing facility.

## Fortifying our leadership

During the year, significant progress has been made in strengthening our leadership within the industry. In addition to expansion at Khandala and Kasna, we have acquired land for new greenfield plant in Madhya Pradesh, slated to accommodate a capacity of 400,000 KL per annum. This state-of-the-art facility will be one of our largest automated paint manufacturing plants, with operations expected to commence within the next four years. Our commitment to innovation and backward integration is evident in the ongoing development of our VAM VAE manufacturing project as well as our white cement plant in Fujairah, UAE. These strategic endeavors, coupled with our capacity expansions, will not only enhance operational efficiencies but also uphold our steadfast commitment to delivering unparalleled quality.

## Adjacencies

### White Cement

White Cement (Portland cement) is commonly used as a hydraulic binder in cement-based putty and waterproofing products, providing binding strength to the inorganic matrix upon hydration with water. We are in the process of establishing in-house manufacturing capabilities which enables customisation of cement grades for diverse applications in the undercoat and waterproofing segments.

### Putty

To serve diverse markets with a bold service level promise, we have maintained and improved high-quality standards while enhancing procurement efficiency in FY 2023-24. A notable achievement in our manufacturing expansion was the establishment of our in-house Putty plant in Rohtak. Furthermore, our efforts to enhance formulation efficiency have played a key role in customising our offerings to meet diverse market demands while effectively managing overall costs.



## Manufacturing and Innovation

# How we innovate

At Asian Paints, the culture of innovation is deeply ingrained. We harness the power of technology and research to improve existing products and launch new ones. To lead the way, we have adopted backward integration for our core business and improved productivity through upskilling.

### Research & Technology

Asian Paints' Research & Technology (R&T) is a team of 240+ scientists driven by the purpose of bringing consistent breakthroughs in product innovation and strongly partnering with internal stakeholders for creating value for overall organisation. Throughout the year, scientists demonstrated their technical expertise by enhancing capabilities in nanotechnology, new resin chemistries, unique process capabilities, and sustainable technologies. To pioneer solutions for architectural, industrial, and other applications, we have secured patents and performed detailed life cycle assessments for select newly commercialised products.

Life Cycle Assessment at design level is being done for all new products in the premium and luxury category of water based paints.

**142**

Patents filed till date

21 additional filed in FY 2023-24

**72**

Patents granted till date

19 added in FY 2023-24

**5**

International research paper published in FY 2023-24

The initiatives taken by R&T team during the year have resulted in improved product performance by:

Design and scale-up of nanomaterial for various functional attributes

Spray capabilities for high solid re-dispersible polymers

Formulation of polyurethane dispersions for various applications

Powder coatings capable of curing at lower temperature

**24**

New products launched in Decorative Paints

**16**

New products launched in Industrial Paints

**21**

Breakthrough projects in FY 2023-24

**₹ 120.3 Crores**

Spent on Research and Development

**240+**

Scientists

### Delivering value at the right price: Project Anveshan

Building on the success of our previous breakthrough project 'Srijan,' we launched the 'Anveshan' project in FY 2023-24, with a quest for disruptive innovation in the areas of economical water based interior paints, functional water based interior paints in health and hygiene space, economical wood finishes with superior performance properties, high end exterior finishes and interior waterproofing product with enhanced warranty.



The Project Anveshan has yielded three flagship products:

- NeoBharat, a pioneering product in the value-for-money interior paints category
- Upgraded Damp Sheath Interior, the first waterproofing undercoat with a three-year warranty in the value-for-money category
- Flash, a distinctive wood polish offering superior grain filling and gloss



### Right First Time

We place a significant emphasis on delivering right the first time, ensuring that our products meet the highest standards of quality, every time. Our R&T team led the charge in ensuring that our design, processing, and product validation protocols were world-class, resulting in impeccable product quality that resonated with our customers.

### Backward integration

We made significant progress in our backward integration projects, achieving critical milestones in the year. Some of the notable accomplishments include substantial progress in the development of Vinyl Acetate Ethylene Emulsion (VAE) based polymers, with ongoing evaluations of prototypes for integration into products.

#### Project Samarthya

The project on backward integration of specialty additives, Project Samarthya yielded critical additives at attractive price points. This has reduced our vulnerability concerning the availability of critical additives and has also helped us to deliver enhanced performance properties in products at optimal price points.

The economically developed functional raw materials have also paved the way for enhancing product properties at unprecedented price points. In addition to advancing product performance, the knowledge base cultivated from our initiatives has strengthened our understanding of the relationship between structure-property relationship and process engineering.

### Characterisation of products

Our Physical Characterisation and Analytical Research (PCAR) team collaborated closely with the resin and product development teams to establish the characteristics of the raw materials, intermediates and products developed by applying modern in-house techniques during backward integration. Under this initiative, we were able to develop test methods for analysing and characterising additives, as well as gaseous analytes essential for VAE manufacturing.

### Sikshalaya – Asian Paints' Training Academy

Asian Paints' training academy, Sikshalaya, continues to maintain its focus on providing technical training and skill development for R&T employees. Six specialised courses in the fields of colour science, dispersion, statistical techniques, and microbiology are offered, and employees receive comprehensive training from external experts of global repute to enhance proficiency across various domains.

The certificate course on Paint Formulation and Characterisation has been particularly beneficial for lateral recruits and freshers from non-paint backgrounds. Overall, about 150 R&T employees have benefited from these programmes.





## Manufacturing and Innovation

### Exchanging ideas at the Alchemy Conclave

Aligned with our vision of sustainable growth, the conclave featured a case study on coatings converting sunlight into electricity. We hosted the inaugural session of Alchemy, a pioneering conclave inviting 2,119 aspiring scientists and included a conversation with Nobel laureate Dr. Frances Arnold and students from campuses worldwide. Alchemy serves as a dynamic platform facilitating idea exchange among industry leaders, academia, and budding scientists.

We witnessed the active involvement of students and working professionals from India and various foreign countries, representing diverse academic backgrounds such as BTech, MTech, MSc, and PhD in Chemical, Paint, and Polymer specialisations. After rigorous screening rounds, 10 teams were selected to present their cases to a distinguished jury panel which included Dr. Swaminathan Sivaram. Following an intense competition, six participants emerged as winners, and were awarded Ph.D. sponsorships and cash prizes.

### Testimonial

"I wish to express my profound gratitude for the enriching experience I had at Alchemy by Asian Paints, an event that left a lasting impression on me. Encountering knowledgeable scientists from Asian Paints and engaging in discussions with fellow participants was truly enlightening and validating. Every aspect of the event exceeded my expectations, leaving an indelible mark on me. I hold this experience dear and will cherish it for a lifetime."

- a PhD participant, from  
IIT Bombay



## Sustainability

Through our innovation and technological expertise, we spearheaded numerous initiatives across these sustainability parameters:

### Green Product certifications

Our Company's 4 products are certified by internationally renowned 'Green Seal', 258 products are CII GreenPro certified, and 47 products from our own 'Green Assure' certification.

### Carcinogenic, mutagenic and reprotoxic (CMR) substance reduction

We undertook specific projects to reduce the exposure of employees and customers to toxic substances which are classified as CMR.

### Greenhouse Gas emissions

We reduced our CO<sub>2</sub> emissions through formula optimisations.

### Renewable raw materials

We introduced raw materials from renewable resources that has increased the overall renewable content of paint.

## Technology at Asian Paints

During the year, we focused on business intelligence by emphasising on data-informed decision-making and reducing time for data collation through analytics. We strengthened our data analytics capabilities and upgraded our manufacturing data platform by incorporating the latest technologies to elevate the quality and efficiency of our processes.

**₹ 103.2 Crores**  
**Spend on Information Technology**

### Tech-enabled supply chain

We have employed analytics and technology across all our areas for data monitoring and insights, using control towers and dashboards. Through our initiatives such as material planning engines, we are enabling global optimisation to minimise procurement and consumption costs. We are also focusing on formulation optimisation and recommendation engines to enhance cost-effectiveness.

We have unlocked a spectrum of analytical possibilities which has empowered us to address crucial aspects of our operations.

#### 1 Diagnostic and descriptive

We have optimised power and fuel consumption to improve our sustainability efforts and lower operational costs. We have reduced cycle times and streamlined workflows through our manufacturing data platform. We have undertaken cross-plant comparison which facilitates horizontal knowledge sharing.

#### 2 Prescriptive

We have improved material addition accuracy and focused on precision across our manufacturing processes through a data file recommender supported by a prescriptive statistical model.

#### 3 Video analytics and Gen-AI

We use vision detection mechanisms to safeguard ourselves from potential fraud, ensuring that we are secured. We introduced a Chatbot based on Gen AI to integrate our Admin and Safety Manual.



#### 4 Automated demand fulfilment

Automation across our operations helps us in prioritising the selection and dispatching of critical SKUs. This has significantly enhanced our service delivery across the nation. This system has been deployed at key production sites, leading to improved efficiency and effectiveness in fulfilling critical orders.

#### 5 Data democratisation

We use data analytics and insights to make informed decisions.

We have conducted training sessions to develop data engineers to disseminate our practices across our plants leading to cost savings.

Data analytics is also used in quality assurance and predictive safety monitoring.



# Manufacturing and Innovation

## Brand management and customer acquisition

We conducted cost-effective customer acquisition campaigns across various channels using our exceptional digital marketing platform which led to a remarkable customer conversion rate. We have also launched brand portals for brand managers and designers to increase our visibility. Additionally, we bolstered our call centre operations to maintain a 99.9% uptime and implemented a Product Information Management (PIM) system to centralise all our digital assets into a single repository.

## Customers and channel partners

We made several advancements in the realm of recommendation engines and loyalty programmes. Our B2B recommendation engine underwent a major overhaul and significantly boosted recommendation-based sales. Additionally, we revamped our 'MyAwaaz' mobile application to include nudges for recommendations, enhancing user engagement.

Furthermore, we are currently working on developing new mobile applications to further enhance our customer experience. Read more on customer related apps in customer celebration on [+ Pg. 65](#)



Night view of our Ankleshwar plant

## Employees

In FY 2023-24, we prioritised the automation and streamlining of processes such as onboarding, offboarding, and asset allocation, leveraging tools like Autopilot for automated asset allocation. Additionally, we made investments towards learning platforms like LinkedIn to enrich the learning experience for our people.

During the year, our businesses transitioned to a cloud-based CRM system to increase efficiency and effectiveness in operations. This automation has empowered our sales teams and leadership team to make real-time data-driven decisions, leading to increased market opportunities, sales pipelines, and conversions.

## Influencers

We built a robust backend technology platform to facilitate seamless digital interactions with influencers such as contractors, painters, architects, and interior designers. Moving forward, this platform will enable our businesses to adopt a tech-first approach to influencer outreach activities, ensuring effective engagement with our key stakeholders.

## Cyber security

Security is a non-negotiable aspect of our operations. We employ top-tier tools and processes to protect our intellectual property and IT infrastructure. With advanced threat monitoring and prevention measures, we ensure early detection and mitigation of cyber-threats across our Group. Furthermore, we have introduced IT solutions catering to several of our stakeholders through focused initiatives.





# How we distribute

Our networking infrastructure and data platforms provide ease of business to all stakeholders, right from the factory staff to our customers. The continued partnerships with sustainable fleet solutions ensure we achieve this last-mile delivery responsibly.

## Logistics

Optimising logistics has become crucial over the years for enhancing customer satisfaction amidst evolving preferences. We focus on customer-centricity, employing lean, agile, and reliable methods to deliver quality products promptly and utilise demand forecasting for real-time and historical data, supported by advanced statistical models and machine learning algorithms, resulting in significantly reduced errors post-COVID. We are actively incorporating machine learning models to enable frequent demand sensing, enhancing inventory management and minimising stockouts, ultimately improving order fill rates. We have also deployed a more advanced

Order Fill Rate (OFR) tracking. Our dealer feedback indicates noticeable enhancements in material servicing, reflecting the effectiveness of automation in prioritising and dispatching critical SKUs across the country.

Furthermore, we have deployed a new inventory optimiser tool which has led to reduced inventory norms by approximately 5%, enhancing service levels. Direct material dispatch to customers without warehousing has yielded significant cost savings and faster delivery times, in FY 2023-24. Moreover, we are increasing regional distribution centres to further accelerate servicing for slow-moving items while reducing freight costs.

### CASE STUDY

#### OUR MULTI-MODAL APPROACH

We have collaborated with established logistics providers and new entrants to ensure a diverse range of innovative supply solutions with reliable support. Through strategic partnerships such as with Indian Railways, our multimodal finished goods dispatch has increased by over 30% compared to last year, resulting in significant savings in freight cost and a reduction of nearly 4,000 tCO<sub>2</sub>e emissions. We have also been leading from the front in collaborating with leading FMCG/ FMCD industries in the country for load pooling and reverse logistics synergies.

