



What will it take to enable the next stage of growth in India's chemical industry?

Chemical Business Outlook: Theme Presentation

24 April 2024









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get here?

The Indian Chemical industry is small by global standards but significant in key sectors and important for the manufacturing sector and economic growth of India

Overview – Chemical Industry

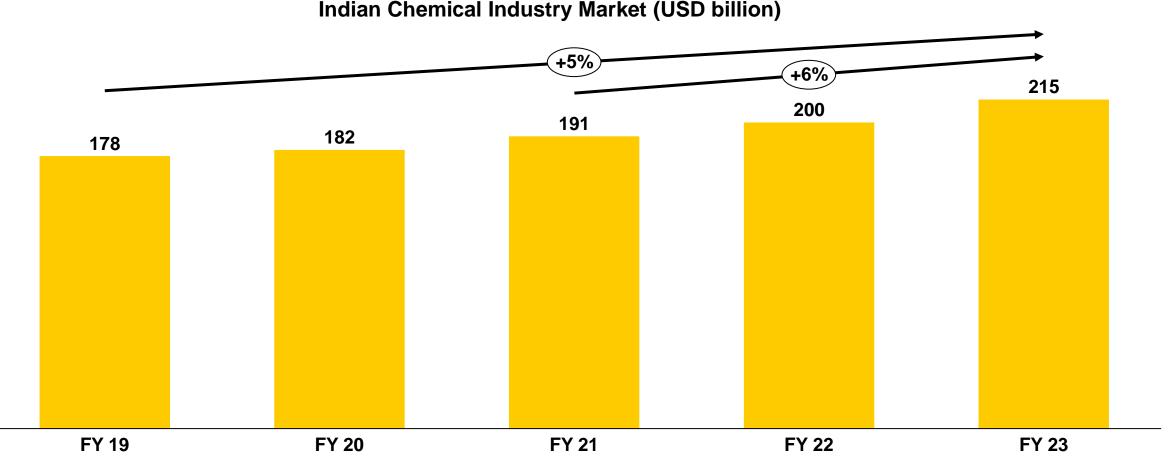
	Covers > 80,000 products , inevitable part of daily life ¹	Employs ~2 million people ¹	India contributes to ~3% of the global chemical sales ²
Chemical Industry	Ranks 6 th in the World and 4 th in Asia for Chemicals sales ²	3 rd largest consumer of polymers globally ¹	4 th largest producer of agrochemicals globally ¹
	2 nd largest manufacturer and exporter of dyes ¹	Weightage of ~8% - IIP ⁴	Contributes 1.3% to the National GVA ³
	Contributes ~9% to the manufacturing GVA ³	Contributes 1.4% to total FDI Equity Inflows ⁴	Contributes ~ 13% in India's exports ⁵

Note: Excludes Pharmaceutical industry

ING Source: 1-DCPC, 2-CEFIC 2020 Facts & Figures, 3- Ministry of Stats and Programme Implementation (At Current Prices, for FY 23 PE), 4- Department for Promotion of Industry and Internal Trade (FY 23), 5- Ministry of Commerce & Industry (FY 23)



Indian chemical industry maintain the steady growth despite COVID disruption & global supply chain issues; market size is around ~\$178 Bn in FY 19 and growing at 5% CAGR to become ~\$215 Bn in FY 23 *Chemical Industry Size – FY19-23*



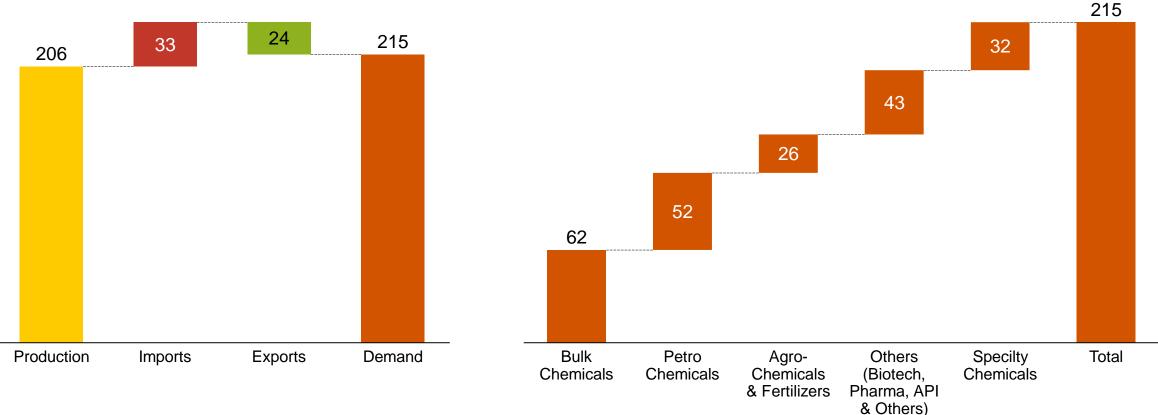
Note: Market size based on latest National Accounts Statistics Data



The FY23 size is estimated at ~\$215 bn with a potential to grow to ~\$300 bn by FY27

Chemical Industry Size – FY23

Indian Chemical Industry Market (USD billion) - 2023 Chemical Industry Market by Sub Segments, 2023 (USD billion)



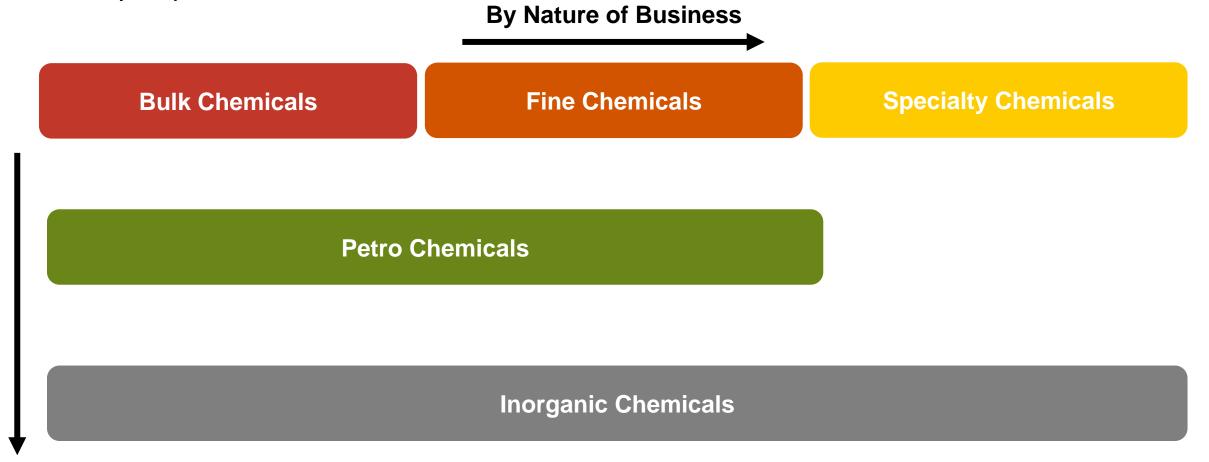
Note: Market size based on latest National Accounts Statistics Data



Based on its application & volume chemical industry broadly classify as Bulk, Fine and Specialty chemicals; based on its chemistry it broadly classified as Inorganic & Petro (Organic) chemicals

Chemical Industry – Major classification

By Nature of Chemistry





Bulk, Fine and Specialty chemicals have differing business characteristics

Bulk vs Fine / Specialty Chemicals

Parameters	Bulk Chemicals	Fine Chemicals	Specialty Chemicals
Composition	 Single pure chemical substances 	 Single pure chemical substances 	 Mixtures / Formulations
Manufacturing Type	 Dedicated plants 	 Multi-purpose plants 	 Multi-purpose plants
Scale of Operations	 High volume low price 	 Low volume high price (typically < 1000 TPA and > USD 5 / kg) 	 Low volume high price
Applications	 Multiple broad-based applications 	 Few applications 	 Specifically formulated for a particular application
Competitiveness Driver	 Feedstock and economies of scale 	 Expertise in specific chemistries, processes and unit operations 	 Formulation development and application expertise
Examples	 Petrochemicals ; Plastics and Synthetic Rubber ; Fertilizers ; Synthetic Fibers ; Other organic chemicals 	 Standard and Advanced Intermediates ; APIs for Pharma, Agrochemicals, Ingredients for Home and Personal Care, Aroma Chemicals, Electronic Chemicals ; Food Ingredients etc. 	 Additives and Catalysts ; Dyestuffs and Pigments ; Electronic Chemicals ; Home and Personal Care ; Construction Chemicals Food Additives etc.

Competitiveness in Fine Chemicals is driven by chemistry expertise and in Specialty Chemicals by application development – unlike Commodities which are driven by access to Feedstock and scale of operations

Hence the operating model and mindset for running a Specialty Chemicals business is different from a Commodity Chemicals business

Bulk vs Fine / Specialty Chemicals

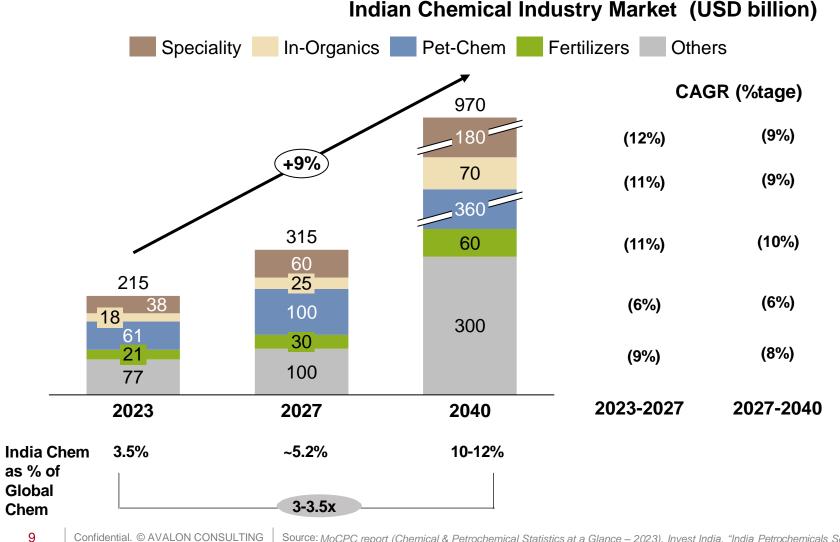
Aspect Specialty Chemicals Business Operating Model		Commodity Chemicals Business Operating Model	
Sales & Marketing	 Differentiated segments and service levels based on customer needs – high customisation and different grades Talk to product development / application development teams in customer organisations Direct to customer / low share of distributor led sales Value pricing mindset (show benefit to customer) 	 Standard offerings / minimal customisation Low cost to serve models / high share of distributor- led sales Talk to purchase team of customer organisations 	
Operations	 High no. of product grades / high no. of changeovers / shorter run-times / high flexibility required in production planning Capacity utilisation though important, not the key driver of success 	 Limited grades / somewhat rigid production planning / high utilisation / cost leadership / standardisation 	
Innovation and R&D	 Focus on differentiation / application development / new technologies 	Focus on cost optimisation / recipe improvements	
Admin & Governance	 Focus on a governance system that helps to manage growth and differentiate vs competitors 	 Focus on supporting a low-cost operations Focus on centralisation and streamlining functions Reduction in management layers 	







The FY23 size is estimated at ~\$215 bn with a potential to grow to ~\$300 bn by FY27 & India is expected to capture 10-12% share of global chemicals consumption and become a \$900-1000 Bn market by 2040 Chemical Industry Size – FY23 / FY27 / FY40



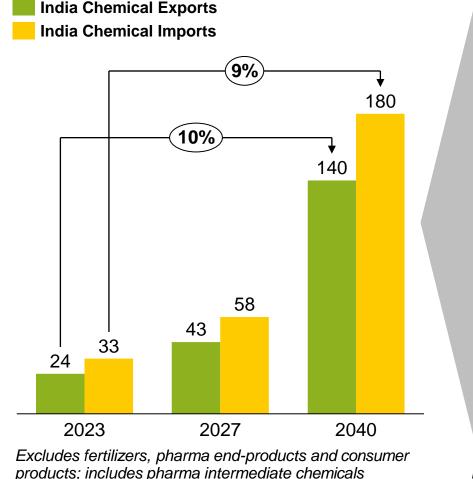
- By 2040, India's chemicals market is projected to reach **\$850-1000 Bn**, accounting for ~5% of India's GDP and 10-12% of the global chemicals market.
- Specialty chemicals, Inorganic, and Pet-chem forecast around 11% CAGR till 2027 with enduse sector GVA growth between 7-11%
- Factors like income rise, supply chain volatility, urbanization, green preferences, and China plus one may boost demand.



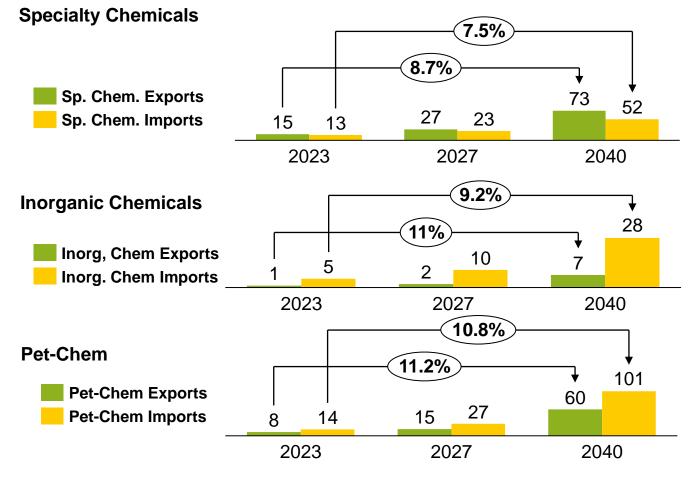
India's chemicals sector is expected to have trade deficit of \$40 Bn by 2040; Specialty Chemicals has potential to contribute ~\$20 Bn to net exports

India Chemical Trade Balance – FY23 / FY27 / FY40

India Chemicals – Trade Balance, \$ Bn



India Chemicals - Segment Wise Exports & Imports, \$ Bn



Percentages are CAGR for the period

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LTING Source: MoCPC report (Chemical & Petrochemical Statistics at a Glance – 2023), Invest India, "India Petrochemicals Scenario 2040" by EIL and IOCL, IHS Markit, UN Comtrade, Press search



India's chemical industry has been a global outperformer in demand growth & shareholder wealth creation; the strong starting point to become next chemicals manufacturing hub

Potential opportunities for India's chemical industry



- India's strongest pillar for chemical sector growth
- Net trade surplus with 16 specialty chemicals subsegments perform well
- Agrochemicals and Food & Feed ingredients offers immense growth potential growing at CAGR of ~8%-9%



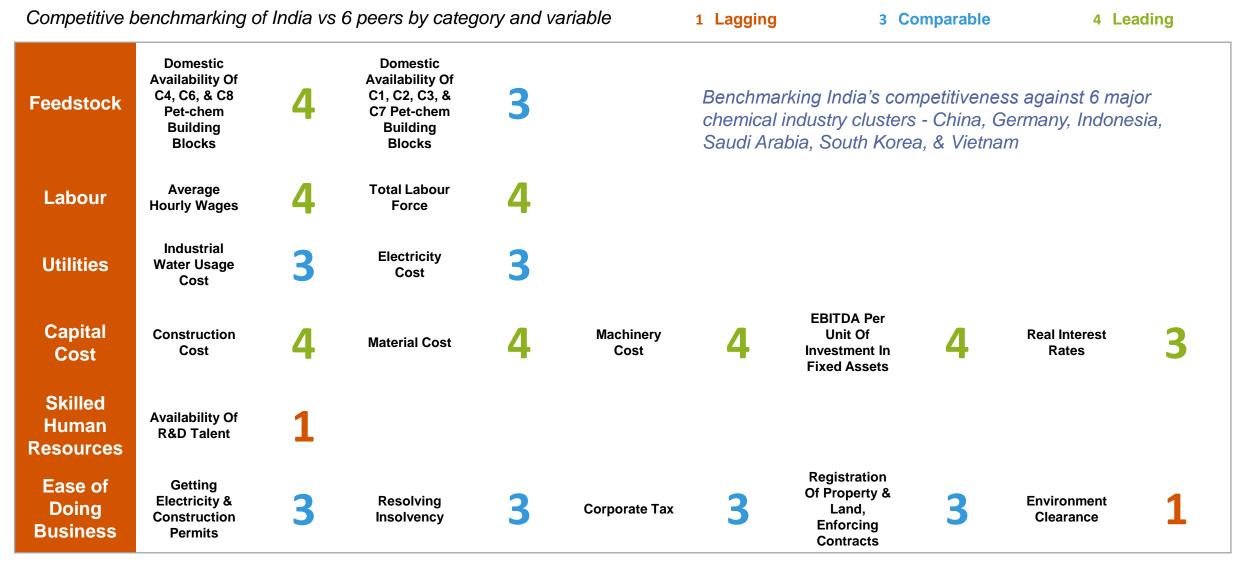
- Predominantly dependent on feedstock availability; required little processing compared to other segments
- Scarcity of raw material and high demand making India as an attractive market for inorganic chemicals
- Provide opportunity for building an at-scale business backed by high growth rate of end-use industries
- Fluorine, Sodium & Caustic expect the highest growth within the segment with CAGR of ~10%



- Opportunities are highly dependent on scale and vertical integration capabilities
- Backward integration at cracker level makes high market attractiveness & cost competitiveness
- Currently companies are better suited to focus on products where feedstock are easily available in the merchant market (E.g. C4, C6 & C8 derivatives)



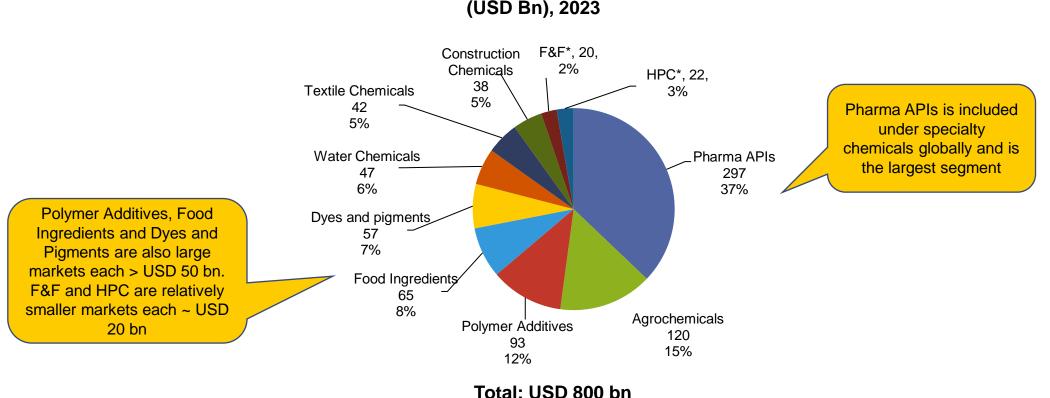
India offers unique competitiveness across most counts against chemical industry clusters around the globe





The global Fine and Specialty Chemicals is estimated at ~USD 800 bn in 2023 and is diversified across several sub-segments

Specialty and Fine Chemicals Market - Global



Global Fine and Specialty Chemicals Demand (USD Bn), 2023

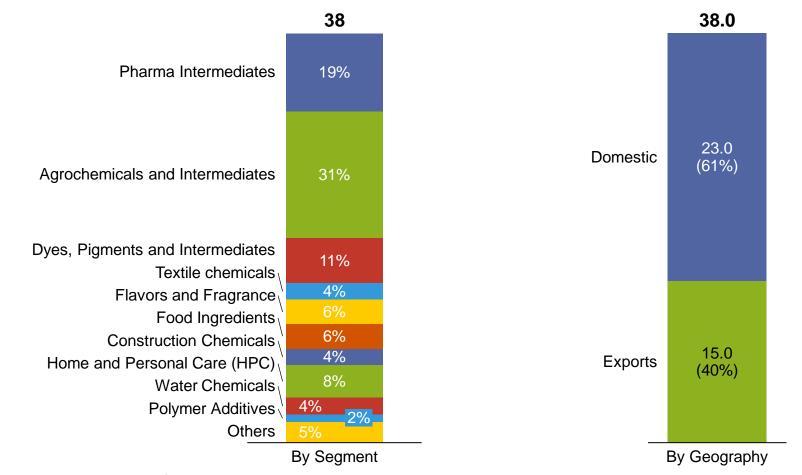
*F&F : Flavors and Fragrances ; HPC – Home & Personal Care

Note: The market size includes both captive consumption and outsourced – hence the merchant market will be smaller e.g., Pharma APIs have a certain share of captive production by formulation companies



The specialty chemicals size in India in 2023 is estimated at \$38 bn and has a significant share of exports. Pharma intermediates and agrochemicals are large segments, but the industry has several applications

Specialty and Fine Chemicals Market in India



Specialty and Fine Chemicals Market in India – 2023 (USD Bn)

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Summary of Avalon Study on Specialty Chemicals Sector

Specialty Chemicals business has shown above average EBIDTA margins and a healthy growth with diversity and depth across sub-sectors and an export focus

Specialty and Fine Chemicals Market in India – Key Characteristics

Consistent and High Profitability

Across our sample of 125 companies in 13 sub-sectors of Specialty Chemicals, the lowest average EBDITA margin has been ~14% in the period FY15-19. Top performers have an average EBIDTA margin typically > 20% over FY15-19 despite the rough winds faced by the economy

High Revenue Growth despite Economic Headwinds

The revenue growth of the top performers in this period has been > 15% - 3-4 times average inflation indicating both consistent volume growth and possibly pricing power

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Diversity and Depth Across Sub-sectors

The top 20 performers in terms of Average EBIDTA and Revenue growth are from a diverse set of sub-sectors indicating the diversity and depth of capability across Specialty Chemicals in India. The scale of the business does not seem to impact the ability to be a top performer

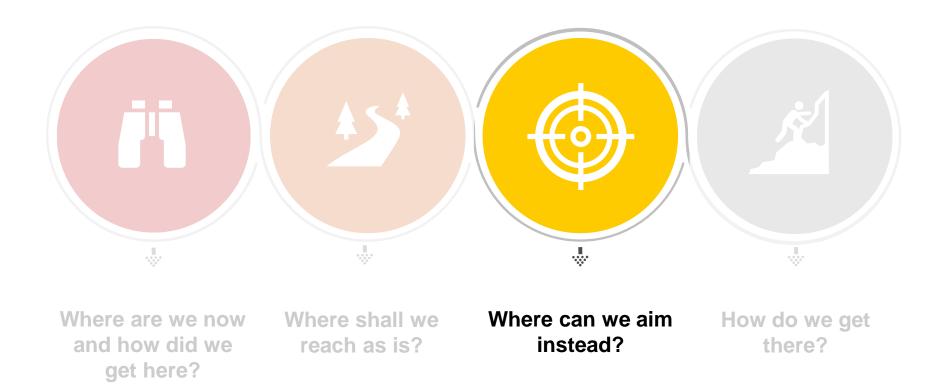


Export Oriented and Globally Competitive

Exports is a key driver of performance with top companies largely being export oriented signifying the global cost advantage of India (in many cases even over China)



ROADMAP

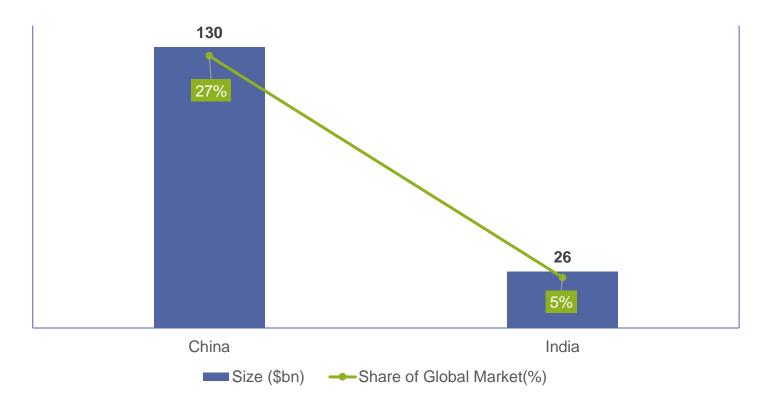




China is a much larger market relative to India with significant exports

Specialty Chemicals Market – China vs India

India and China Specialty Chemicals Market and Global Share - 2021





China has been the world leader in Fine and Specialty Chemical space, especially in Agrochemicals and Pharma Intermediates, driven by a strong ecosystem

Availability of starting material

China has an advantaged position on certain raw materials such as phosphate rock, fluorspar, and rare earths, along with strategic oil and coal reserves, enabling easy access to key RM



Investment friendly Govt policies

The Chinese Govt. has implemented a slew of investment friendly govt. policies, providing significant incentives, reducing red-tape and successfully inviting investments, especially Pharma and Agrochemicals in the last two decades

Plug and Play Infrastructure

Dedicated chemical zones, with govt. backed logistics support (Road/ Rail), power and water treatment facilities, etc., have resulted in investments by large fine chemical companies across the country in places like Suzhou, Changsha and Beijing



However the last few years have witnessed a shift of production from China to India – driven by changes in Chinese manufacturing focus and policy. This has accelerated post COVID

Shift Away from China Towards India

- China's manufacturing policy has undergone a shift over the last few years – the focus is now on high value addition and innovation and domestic consumption rather than on exports
- There is also a high focus on the following
 - Strict implementation of environmental control norms
 - Shifting of chemical plants into integrated Chemical Parks
- Moreover, the relative weakening of Indian currency compared to China has also played a role
- As a result, there has been ~2000 Chemical plant shutdowns in China since 2015 and a 15% YoY decline in overall chemicals exports
- MNC customers are viewing India as an alternative to China and in many cases prioritizing India above China from a risk-management perspective – accelerated post COVID
- Asia and APAC continues to be a large market with high growth hence focus on manufacturing in Asia

Key Segments with Indian Dominance

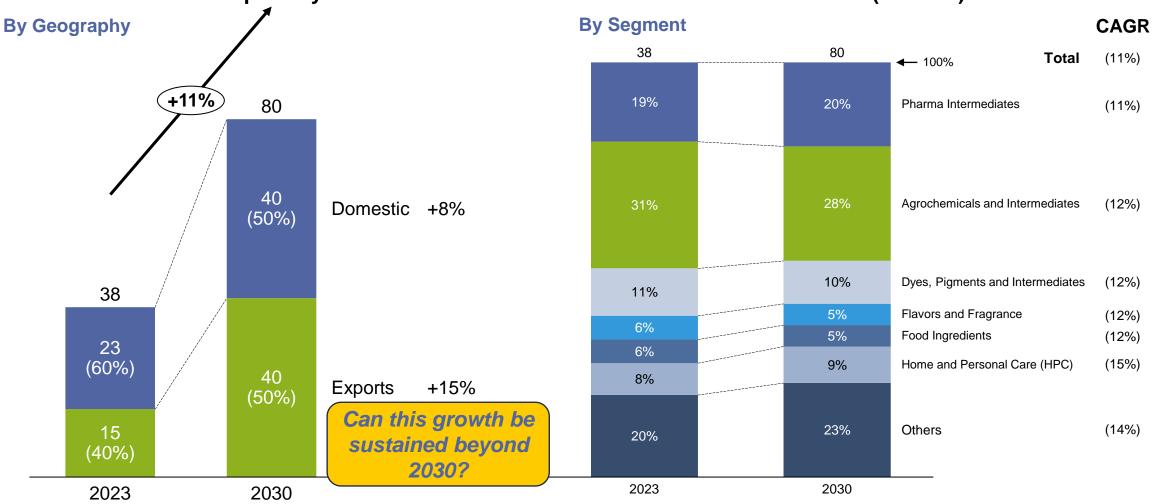
- Specific segments have witnessed a strong shift towards India away from China over the past few years
 - Pharma API (lesser in intermediates)
 - Dyes and Pigments : India produces 30% of the global demand and has emerged as the preferred destination especially for specific segments like – Pthalo Pigments, Synthetic Food Colors etc.
 - Flavors and Fragrances India caters to 40% of the global demand for F&F ingredients ~ USD 4 bn out of the global market of USD 10 bn
 - Growth of India production in these segments is significantly higher – 15% in F&F and 12% in Dyes and Pigments
- Indian players have shown an ability to excel based on key success factors like : Differentiated process and technical customisation ; *Ability* to produce high no. of variants and churn new products – especially relevant for F&F, HPC and Food Ingredients ; Competitive RM sourcing and overall cost competitiveness

Indian players success has been driven by differentiated processes, ability to cater to large no. of variants and overall cost competitiveness



Thus, there exists a significant potential for growth and the specialty chemicals business in India can more than double in size and touch ~USD 80 bn by 2030 driven by exports (~15% CAGR)

Future Potential – Specialty Chemicals Business in India



Specialty Chemicals Potential Business Growth in India – 2030 (USD Bn)



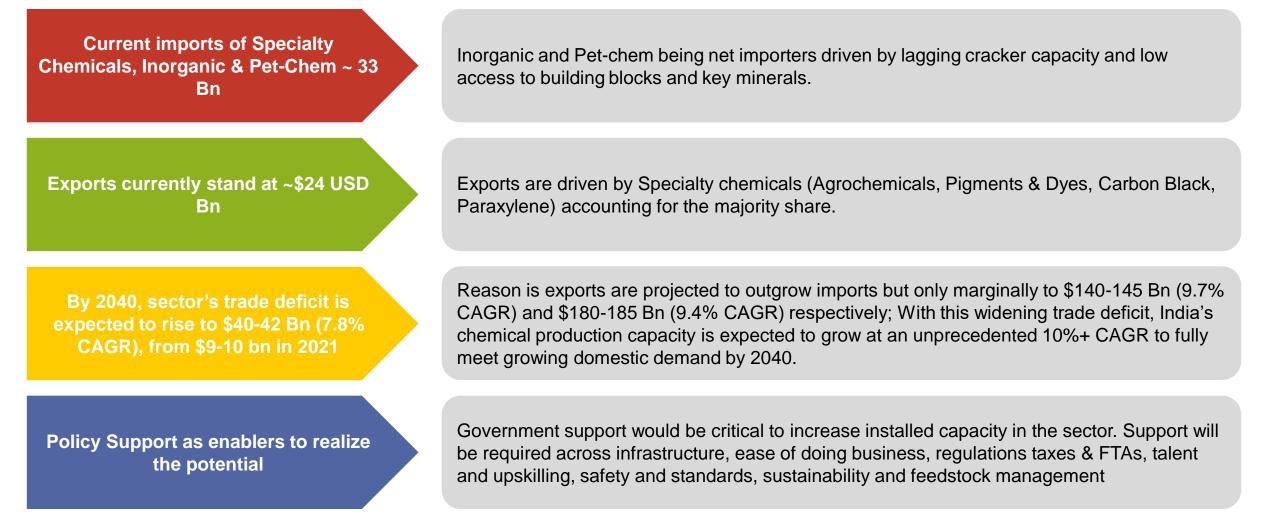
ROADMAP





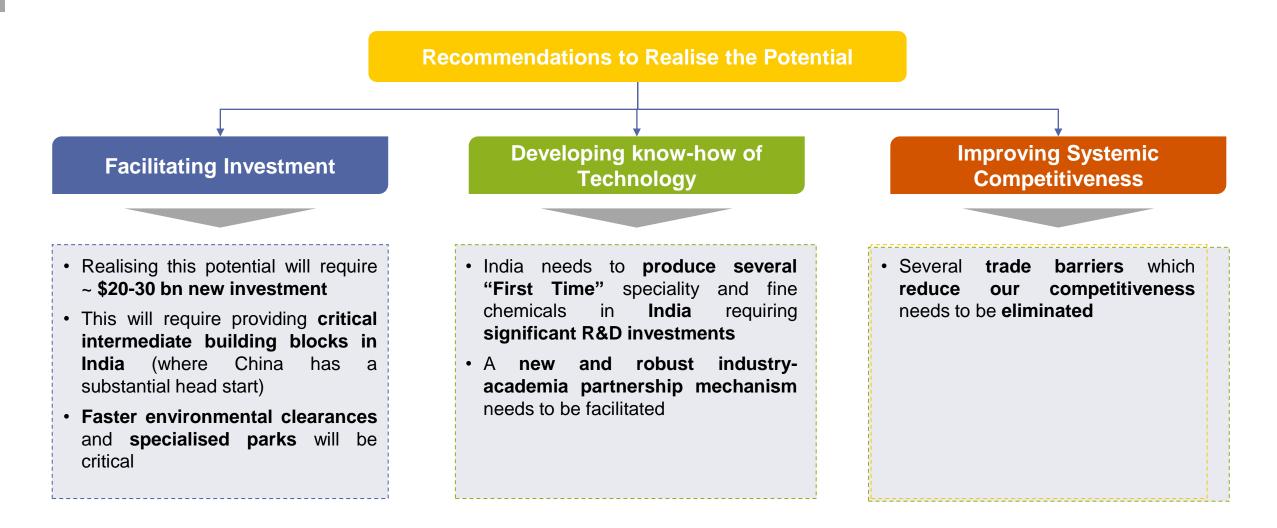
India has improved its business environment in last decade, yet more work is needed in property registration, tax payment, contract enforcement, and environmental clearances to achieve its full potential by 2040

Government Policy Enablers for Indian Chemical Industry





Our recommendations to realize this potential cover three areas – Facilitating Investment, Developing Know-how and Technology and Improving Systemic Competitiveness





Facilitating Investments – Specific Recommendations (1/2)

Recommendations

Facilitate creation of Chemical Parks in multiple States

Specific Actions

- Parks with plots tailored for specialty and fine chemicals needs
- All Common facilities like CTP, Power, water, common infrastructure, etc.
- Facilitate global partnerships as required

 Facilitate Investments in specific intermediate building blocks – HCN, Phosgene and Hydrazine Hydrate (as examples)

- Identify specific products which are not globally traded easily but are critical to facilitate downstream value addition
- Have targeted PLI and fast track EC for these specific projects

Reduce time required for setting up new facilities

Allow faster registrations and clearances for companies which meet globally accepted impact assessment initiatives

Allow early construction in IDCs

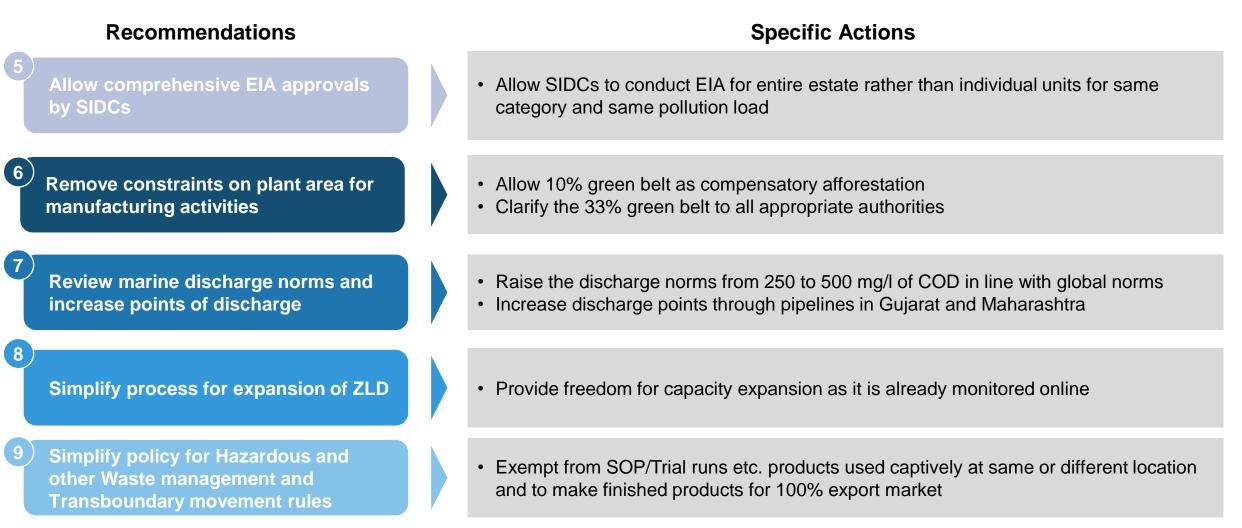
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• Allow construction, post filing EC, where no public hearing applicable





Facilitating Investments – Specific Recommendations (2/2)





Developing Know-how and Technology - Specific Recommendations

Incentivise R&D and Innovation

- Weighted Tax deduction of 200% for R&D spends for next 5 years
- A special incentive of 5% of sales for first two manufactures of 'First Time' products not produced in India for last 10 years using indigenous know-how or technology

Facilitate Technology Upgradation

 Amended Technology Upgradation Fund Scheme to be replicated for specialty chemicals





Improving Systemic Competitiveness - Specific Recommendations (1/2)



• A ladder-up structure implies minimum or lowest duty on raw materials and a step wise increase in duty rates along the value chain to facilitate local value addition

Chemical Category	Proposed Tariff Structure
Building Blocks	0 - 2.5%
Basic Chemicals/ Precursor to Intermediates	7.5 - 10%
Intermediate Chemicals	10 - 12.5%
Downstream Chemicals	12.5 - 20%

Increase the Duty Drawback Rate

 Increase the duty drawback rate to 3.75% to facilitate use of domestically produced raw material for exports of finished goods



Improving Systemic Competitiveness - Specific Recommendations (2/2)

Include chemicals coverage in RoDTEP Scheme

- Include chapters 28 and 29 in the ambit of RoDTEP
- Exports under Advance Licenses to be eligible for RoDTEP
- RoDTEP benefits to be extended to exports from SEZ/EOU

Duty exemptions on products sold from SEZs to DTA

• Allow supply of products from units in SEZs to DTA at nil duty to allow competing against supply from countries with FTAs



Government support through polices & initiatives are critical for the India's diversified chemical industry to realize it full potential

Government Policy Enablers for Indian Chemical Industry

Government support across seven enablers could help achieve 2040 aspirations



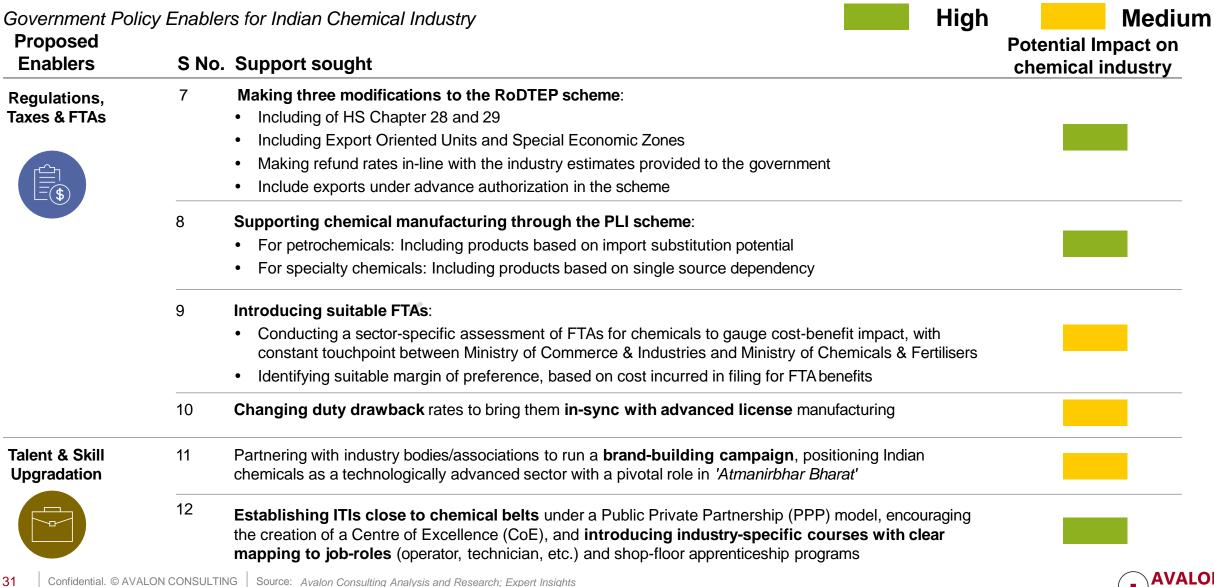


Support sought by the industry from government policy intervention & its impact (1/3)

Proposed Enablers	-	rs for Indian Chemical Industry High Support sought	Potential Impact on chemical industry
Infrastructure	1	Establishing a national PCPIR Strategic Decision-making Body (SDB), with the objective of marketing chemical parks, attracting foreign investment, awarding suitable incentives and tracking progress.	
	2	Setting up a PCPIR-level Operating Park Council (OPC), with the objective of establishing and maintaining shared infrastructure (to enable plug-and-play operations), screening investments, leasing and facilitating land management, etc.	
	3	Developing Paradip as a model PCPIR by building supportive plug-and-play utilities, providing land leasing options, developing residential infrastructure, etc.	
	4	Allocate dedicated area in strategically important ports (e.g., JNPT, Dahej, Paradeep, etc.) in proximity to chemical parks within major chemical producing states (e.g., Gujarat, Maharashtra, Odisha)	
		Support increase in chemical zones beyond PCPIRs under state jurisdiction (e.g., GIDC, MIDC, etc.)	
Ease of Doing Business	5	Introducing a provision for deemed EC if clearance is delayed beyond the stipulated time-frame of 270 days.	
		Clubbing the EAC & EIAA to form a single committee (could reduce the time to obtain an EC by 60 days)	
	6	Allowing companies to initiate construction activities on-site where public hearing is not applicable, at the risk of the developer.	
		Modifying green belt regulations to allow their development outside the chemical park within the same district (this could enable optimized land usage and operational simplicity in chemical parks).	



Support sought by the industry from government policy intervention & its impact (2/3)



Support sought by the industry from government policy intervention & its impact (3/3)

Proposed		rs for Indian Chemical Industry High	Potential Impact on chemical industry
Talent & Skill Upgradation	13	Incentivising R&D and innovation in the Chemicals industry through:	_
		 Reinstating previous R&D incentive of weighted tax deduction of 200% for the next 5 years, given the current scenario of 'China plus one' 	
		 Introduce "First in India" scheme with minimum support of 5% of sales for first 2 manufacturers to develop indigenous technology to manufacture "new" products 	
1	14	Enabling interface between the industry and academia through consulting projects (to ensure the curriculum is in line with evolving industry needs).and supporting CSR funds to be deployed for this purporting CSR funds to be deployed for this purporting consulting the second	se
Safety & Standards	15	Establishing an independent Central Indian Safety Board (CISB), with an incident investigation committee, robust incident reporting mechanisms etc. and fast-tracking of GHS adoption	
	16	De-criminalization of industry executives in safety incidents without suitable investigation of root-cause	
ustainability	17	Partnering with industry bodies/associations to run an awareness-building program focused on waste management compliance, hazardous waste management (circularity), by-product handling, etc.	
	18	Establishing an independent National Sustainability Board (NSB) under the MoEFCC, with the mandate implement the National Chemical Policy, ensure adherence to waste management; Incentivizing companies	
		adhering to 'Responsible Care' initiative, be a thought leader on sustainable practices, etc.	
Feedstock Management	19	Raising import duty on case-by-case basis for imported building blocks (~7.5% for Ethylene) to make it financially viable for national oil companies to set up crackers in India	
	20	Providing Viability Gap Funding (VGF) to support investments in merchant crackers and ensure sufficient supply through allocation to downstream players	
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Our Values – The Avalon EDGE

ENTREPRENEURSHIP

Enterprising ownership to transform ideas into pragmatic and profitable solutions

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DEDICATION TO EXCELLENCE

Commitment to premier quality and highest standards in everything we do



GREAT VALUE CREATION

Focus on delivering maximum client impact through innovation and collaboration

E.
Re

ETHICAL APPROACH

Respect, fairness and transparency in all our interactions

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