REDUCE PI Industries

Scale-up of new patented molecules will be crucial

Emkay
Your success is our success

Agri Input & Chemicals ▸ Initiating Coverage ▸ **April 20, 2024**

TARGET PRICE (Rs): 3,500

PI's CSM revenue grew at a CAGR of 27% over FY20-23, a large part of which was driven by top molecule pyroxasulfone (~30% CAGR). After considerably strong growth over the last 3-4 years, Kumiai Chemicals (innovator) has cut its sales CAGR for pyroxasulfone (AXEEV) to ~5% over FY24-26. Thus, we believe the growth rate of pyroxasulfone will slow down from FY25. While the domestic agchem & pharma business is likely to see a steady run-up, we believe there is need for scale-up of newer patented molecules (vs. off-patented) in the CSM business, for maintaining PI's historical growth guidance of 18-20% (on the higher base of FY24). We expect PI to clock a relatively slow revenue/EBITDA/PAT CAGR of ~11%/6%/2% over FY24-26E. We initiate coverage on PI Industries with a REDUCE and TP of Rs3,500 (30x FY26E EPS).

PI Industries: Financial Snapshot (Consolidated)

Y/E Mar (Rs mn)	FY22	FY23	FY24E	FY25E	FY26E
Revenue	52,995	64,920	79,441	87,856	98,011
EBITDA	11,424	15,421	20,726	21,469	23,386
Adj. PAT	8,437	12,295	17,040	16,694	17,766
Adj. EPS (Rs)	55.6	81.0	112.3	110.0	117.1
EBITDA margin (%)	21.6	23.8	26.1	24.4	23.9
EBITDA growth (%)	12.9	35.0	34.4	3.6	8.9
Adj. EPS growth (%)	14.5	45.7	38.6	(2.0)	6.4
RoE (%)	14.7	18.5	21.3	17.5	15.9
RoIC (%)	21.4	28.4	35.4	29.4	27.3
P/E (x)	67.3	46.2	33.3	34.0	32.0
EV/EBITDA (x)	47.9	34.7	25.7	24.4	21.9
P/B (x)	9.3	7.9	6.5	5.5	4.7
FCFF yield (%)	0.3	2.1	0.6	1.7	1.8

Source: Company, Emkay Research

Pyroxasulfone's growth rate to slow down, in sync with innovator's guidance

In line with Kumiai's guidance, we believe pyroxasulfone's growth rate will slow down from FY25E. However, the molecule will grow, on increased acceptance in more number of crops/registrations for different combinations and tight control over the supply chain. Pyroxasulfone is going off-patent in USA (a >65% market) in H2CY25 which will eventually invite more generic players in the market and thus put pressure on price. It will take 2-3 years for pyroxasulfone to completely go off-patent in USA, and there is a high likelihood of a major pricing impact starting FY28 (prices would start moderating from FY25). It will become essential for PI to improve volumes/market share in this period to offset the pricing impact which will in turn be contingent on Kumiai's guidance.

Scale up of new patented molecules could change the growth trajectory

We believe growth of newer patented molecules (vs. off-patented/proprietary) in the non-pyroxasulfone CSM portfolio is essential for PI to maintain its overall revenue growth guidance of ~18-20% (on the higher base of FY24). PI launches 4-5 patented/non-patented molecules every year in its CSM portfolio. Incremental growth in CSM in FY24 has come from off-patented molecules which would entail a relatively lower margin. Given PI's track record, there is possibility of scale-up in any patented molecule of its portfolio; however, we would await volume/revenue visibility on any such molecules. We have built in ~20% CAGR for the non-pyroxasulfone CSM business over FY24-26E.

Domestic agchem and pharma business to grow steadily

Domestic agchem is expected to deliver steady growth, led by newer product launches and portfolio diversification. The business has not seen any material growth over the last few years due to erratic monsoons and elevated channel inventory build-up; but we expect ~8-10% CAGR (on a lower base) in domestic agchem revenue. PI has acquired two businesses on the pharma front, viz Therachem and Archimica, which have their portfolio in pre-clinical/generic pharma CSM. These acquisitions will aid in de-risking Company's core portfolio away from agchem in the longer term.

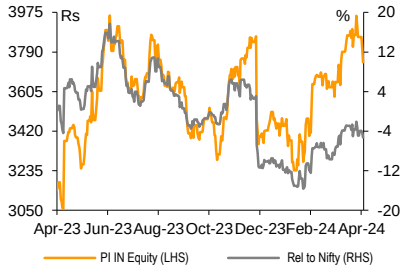
Target Price – 12M	Mar-25
Change in TP (%)	**NA**
Current Reco.	REDUCE
Previous Reco.	NR
Upside/(Downside) (%)	(5.6)
CMP (19-Apr-24) (Rs)	3,715.0

Stock Data	Ticker
52-week High (Rs)	4,040
52-week Low (Rs)	2,997
Shares outstanding (mn)	151.7
Market-cap (Rs bn)	562
Market-cap (USD mn)	6,796
Net-debt, FY24E (Rs mn)	-35,038
ADTV-3M (mn shares)	-
ADTV-3M (Rs mn)	1,400.1
ADTV-3M (USD mn)	16.8
Free float (%)	-
Nifty-50	22,148
INR/USD	83.5
Shareholding, Dec-23	
Promoters (%)	46.1
FPIs/MFs (%)	20.4/23.2

Price Performance

(%)	1M	3M	12M
Absolute	2.6	7.5	23.4
Rel. to Nifty	2.0	6.9	(0.6)

1-Year share price trend (Rs)



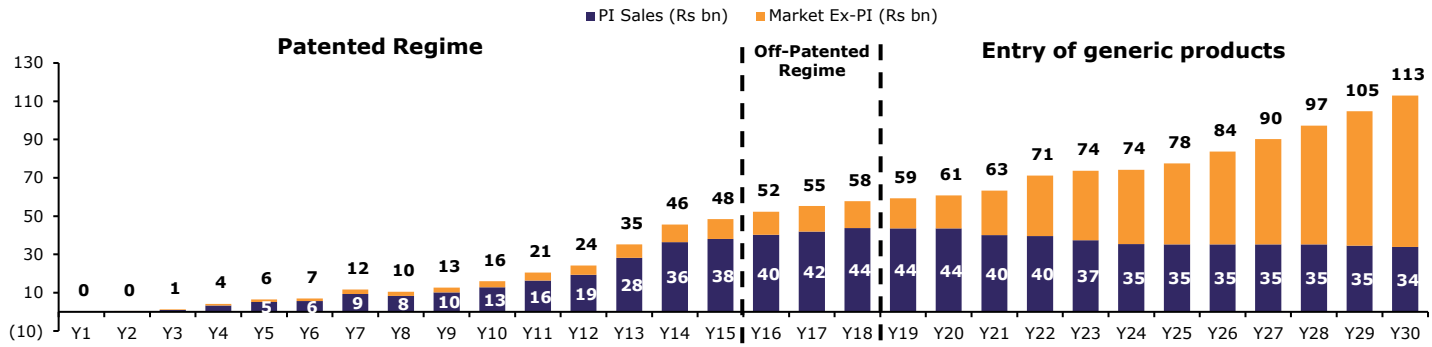
Meet Vora
meet.vora@emkayglobal.com
+91 22 6624 2474

Meet Gada
meet.gada@emkayglobal.com
+91 22 6612 1235

Table of Contents

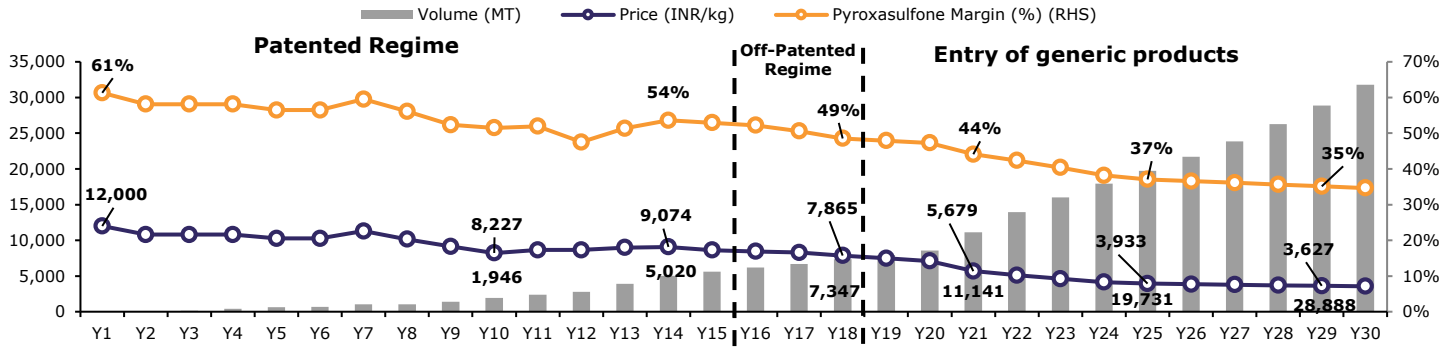
Story in Charts

Exhibit 1: Our understanding of PI's journey for Pyroxasulfone over the next few years (Y14 = FY24)



Source: Industry, Emkay Research

Exhibit 2: Our understanding of the impact on Pyroxasulfone volumes, price and margin over the next few years (Y14 = FY24)



Source: Industry, Emkay Research

Exhibit 3: FY26E EPS sensitivity at gross margin highlighted in Ex.11

FY26E EPS		Volume (MT)				
		5,000	6,000	7,000	8,000	9,000
Price (Rs/kg)	7,000	118	133	148	163	178
	6,300	107	120	132	145	158
	5,600	95	106	117	127	138
	4,900	84	92	101	109	117
	4,200	75	82	89	95	102

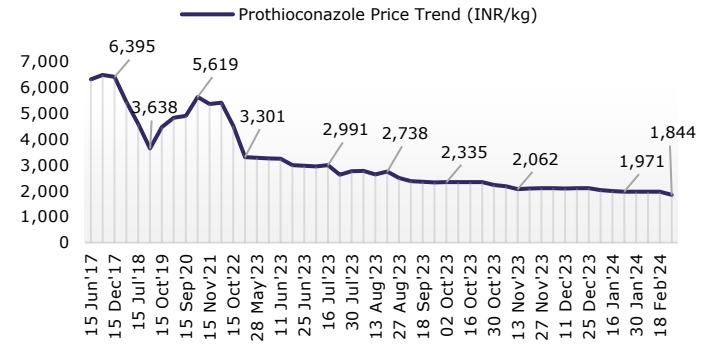
Source: Emkay Research

Exhibit 4: PI's Mar-25E Target Price variation at 30x Mar-26E EPS

Mar-25E TP		Volume (MT)				
		5,000	6,000	7,000	8,000	9,000
Price (Rs/kg)	7,000	3,535	3,989	4,442	4,896	5,349
	6,300	3,202	3,588	3,975	4,362	4,748
	5,600	2,863	3,181	3,500	3,819	4,138
	4,900	2,518	2,768	3,018	3,268	3,518
	4,200	2,261	2,460	2,658	2,857	3,055

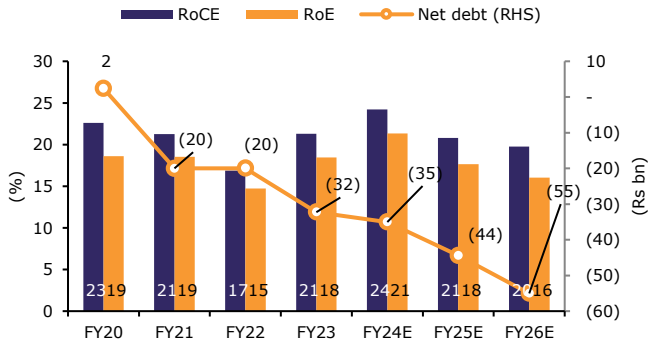
Source: Emkay Research

Exhibit 5: Prothioconazole – Price trend (INR/kg)



Source: Company, Emkay Research; gone off patent in 2017

Exhibit 6: Surplus cash to drag return ratios



Source: Company, Emkay Research

Investment Thesis

PI Industries is one of the leading agrochemicals and custom synthesis & manufacturing (CSM) player globally. Based on its three decade-old strong relationships with global innovators, the company has emerged as the most trusted partner of choice for some innovators. PI's extensive expertise in the CSM business has leveraged its position, given: i) its process improvement capabilities – PI spends ~3-4% of its revenue on R&D and is not dependent on any technical assistance; ii) low-cost manufacturing ability – PI with its technological muscle has improved its gross margin over the years, from 41%-48%; iii) age-old relationships with global innovators, which are its customers, has helped PI navigate through the weak agrochemical market in FY24. EBITDA has grown 10x in 10 years, over FY13-24E which is a milestone.

PI's strong relationships with innovators has enabled it to capture 18-20% growth in the CSM business over the last few years. However, this has also been accompanied by strong concentration of top molecule pyroxasulfone which has led to exponential growth. We believe pyroxasulfone will reach the peak of its life cycle over the next few years (as enumerated in Exhibit 1), and the rate of growth will slow down starting FY25E. Innovator Kumiai has also reduced its forecast to ~5% CAGR over FY24-26E (vs. ~30% CAGR over FY20-23). Pyroxasulfone is going off-patent by H2CY25 in USA, which is a major market, and would thus eventually lead to entry of generic players and steep price correction (we expect major price correction in FY28). While the registrations for formulations would be done in other markets and other crops, these will nevertheless be accompanied by pricing pressure.

Going forward, it will be essential for PI to grow volumes in sync with accelerated price correction, for maintaining absolute contribution from the molecule. The actual volume delivery/forecast will however be directed by Kumiai. In our view, it will be difficult for PI to maintain its historical guidance of 18-20% growth in CSM, on account of the higher base in FY24 coupled with slowdown in pyroxasulfone growth. Also, we observe that incremental growth in the CSM business in FY24 has come from off-patented molecules, which are likely to entail a relatively lower margin profile. No off-patented molecules can grow to a size similar to pyroxasulfone revenues and thus, we believe that PI will have to scale up its patented portfolio. Further, for PI to offset the pyroxasulfone related revenue slowdown with its other molecules, there will arise a question of growth vs. margin sustainability.

Generally, in high-growth chemical companies, a large part of the OCF is reinvested in capex, thus leading to substantially low free cash flow generation. However, as regards PI, the company's robust OCF generation of ~Rs30bn for the last 3 years has not seen any huge outlays in capex (excluding acquisitions). It is only from FY24 that management has guided for Rs8-9bn of capex (probably for setting up MPPs for incremental volume growth required in pyroxasulfone). PI has surplus cash net of debt of Rs33bn, as on 31-Dec-2023, that has become a drag for the company and its return ratios. We believe return ratios would improve only on inorganic acquisitions/organic capex by PI in the medium term.

We expect PI's revenue/EBITDA/PAT to register ~11%/6%/2% CAGR over FY24-26E. We have built-in 20% CAGR for the non-pyroxasulfone CSM business and ~5% CAGR for pyroxasulfone; also, we await a strong contribution from other patented molecules. We like the company's business model and balance sheet strength; however, we believe these have been priced in and would turn constructive on the stock at lower levels, while we await meaningful contribution from newer patented molecules. We initiate coverage on PI Industries with a REDUCE recommendation and TP of Rs3,500/share, valuing the stock at 30x its Mar-26E EPS.

Key Risks

Higher than expected growth in pyroxasulfone: Kumiai is in the process of undertaking multiple registrations for formulations/combinations of pyroxasulfone which could further protect the patented regime for this product. The manufacturing process is fairly complex and supply-chain control is tight, which could delay entry of new players to scale and establish market share. Also, we could see further acceptance in more crops/geographies which could lead to strong growth in the overall market, thus leading to improved volumes for PI as well.

Inorganic acquisitions: PI is sitting on a significantly high cash balance and generating considerably strong OCF every year; however, such cash is not being aptly used currently, in our view, and is a drag on return ratios. If PI does further acquisitions in the pharma/agchem space utilizing such cash, the overall return profile of the company could improve.

Exhibit 7: Specialty chemical companies – Peer valuations, a comparison

Peers (Domestic)	Ratings	P/E (x)			EV/E (x)			RoE (%)		
		FY24E	FY25E	FY26E	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E
SRF	ADD	53	37	29	26	19	16	13	16	18
PI Industries	REDUCE	33	34	32	26	24	22	21	17	16
Gujarat Fluorochemicals	SELL	92	55	35	44	30	21	7	11	16
Deepak Nitrite	ADD	41	34	26	27	23	17	17	18	20
Aarti Industries	BUY	61	34	27	27	18	15	8	14	15
Navin Fluorine International	REDUCE	62	37	31	41	25	20	9	18	19
Anupam Rasayan India*	ADD	82	45	26	30	24	16	5	8	13
Atul	NR	43	34	27	26	20	17	8	10	11
Vinati Organics	NR	54	40	32	37	28	22	14	16	18
Clean Science & Technology	NR	58	45	32	42	32	23	21	23	27
Fine Organic Industries	NR	34	33	29	24	23	21	23	20	19
Galaxy Surfactants	NR	30	25	22	19	16	14	15	16	16
Laxmi Organic Industries	NR	61	39	30	28	20	16	6	10	12
Rossari Biotech	NR	31	25	21	16	13	11	14	16	17
Neogen Chemicals	NR	86	48	36	35	23	17	6	10	12
Sudarshan Chemical Industries	NR	48	29	21	17	13	11	9	13	16
Camlin Fine Sciences	NR	130	17	11	16	9	7	1	11	15

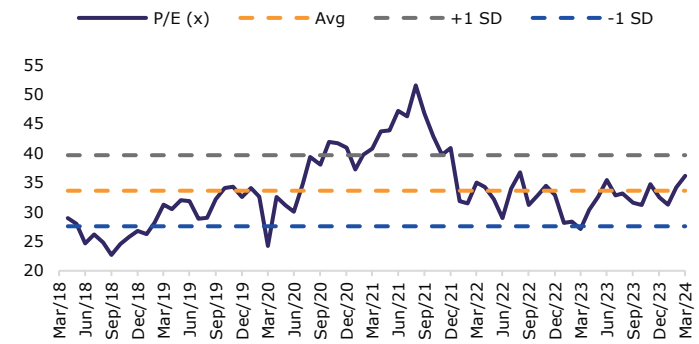
*Source: Bloomberg, Emkay Research; Note: *Standalone*

Exhibit 8: Agrochemical companies – Peer valuations, a comparison

Peers (Domestic)	Rating	P/E (x)			EV/E (x)			RoE (%)		
		FY24E	FY25E	FY26E	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E
UPL	NR	33	34	32	26	24	22	21	17	16
Coromandel International	NR	N/A	17	11	13	8	7	1	8	11
Bayer CropScience	NR	20	17	15	12	10	10	20	20	19
Sumitomo India	NR	31	27	25	22	20	18	28	29	29
Rallis India	NR	57	41	33	43	31	25	14	17	18
Dhanuka Agritech	NR	35	27	21	17	14	12	9	11	13
Sharda Cropchem	NR	24	21	18	17	15	13	21	21	20
Insecticides India	NR	N/A	18	11	15	6	4	0	8	12

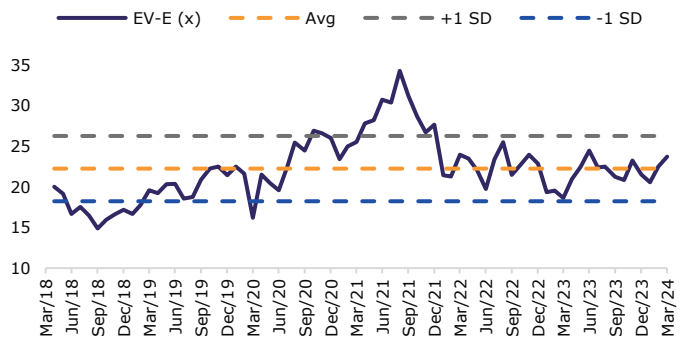
Source: Bloomberg, Emkay Research

Exhibit 9: One-year forward P/E



Source: Bloomberg, Emkay Research

Exhibit 10: One-year forward EV/EBITDA



Source: Bloomberg, Emkay Research

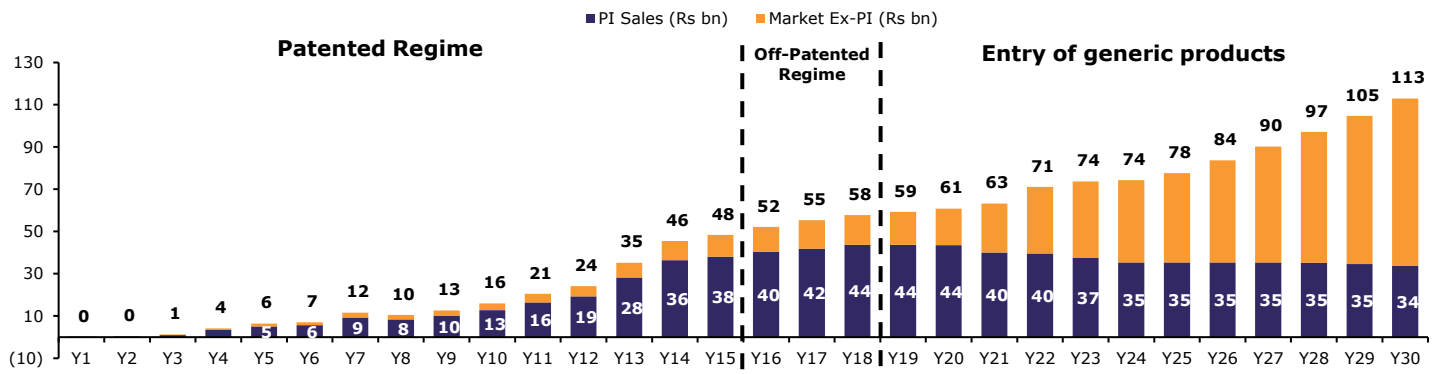
Pyroxasulfone – Growth rate to slow down

Pyroxasulfone Technical is one of the key patented molecules for PI which has contributed to ~43%/47% of the revenue in FY23/FY24E (~55%/61% of the CSM Business in FY23/FY24E). The revenue CAGR for this product has been ~30% over FY20-23; however, we expect ~5% CAGR over FY24-26E (in sync with the innovator's guidance). Pyroxasulfone was developed by Kumiai Chemical, which is the innovator and patent holder for this molecule across geographies. Kumiai has tied up with PI to manufacture and sell the molecule at the early stage of its life cycle; thus, PI has witnessed strong growth in revenues of this molecule over the last few years. The market size for this product is expected to cross USD700mn by FY26.

Based on our workings, we believe that the rate of growth in pyroxasulfone will slow down for PI from FY25E (however, the molecule will see growth till then over next few years). This molecule has further growth potential in terms of: 1) increased acceptance in more number of crops, and 2) increased registrations in the form of formulations for different combinations. However, the technical itself is going off-patent in USA in the second half of CY25 which will evidently invite more generic players in the market. The supply chain of pyroxasulfone is very tightly controlled by Kumiai, i.e. in terms of control of MTP (pyrazole intermediate used to make this molecule), registrations, inventory, etc., and it is highly complex to make the intermediate as well as the active ingredient. This could lead to a slightly elevated time-period of 2-3 years, for it to go completely off-patent and delay the entry of newer generic players in near term.

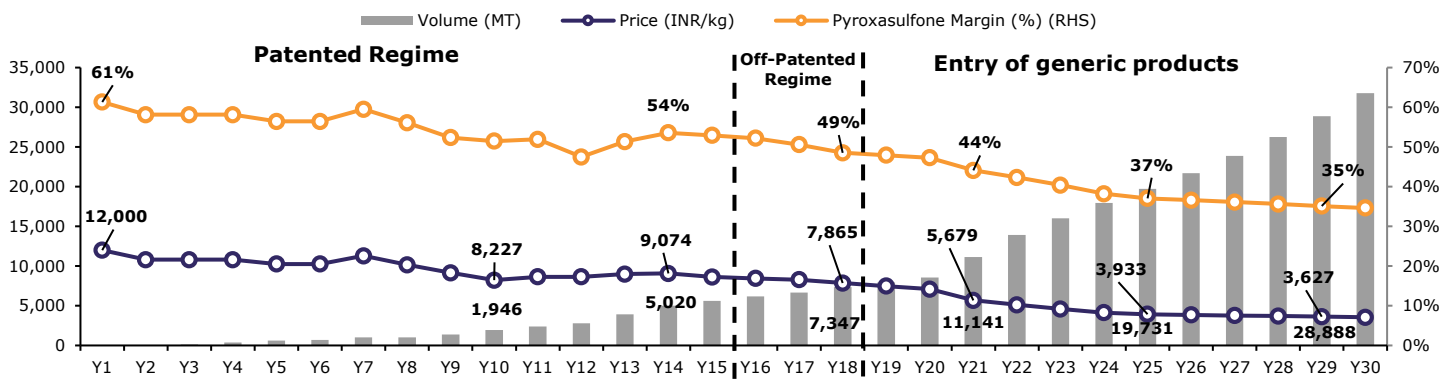
We believe that revenue of pyroxasulfone for PI would peak over the next few years and start tapering thereafter, once entry of generic players begins exerting pricing pressure. Over the next few years, volumes will grow with moderate pricing decline, and once pricing pressure starts accelerating, PI will attempt to accelerate volumes in order to maintain its absolute contribution. However, after at least 5-6 years, PI would reach a point where pricing pressure would be more than volume growth; thus, while the overall market would see growth, the market share would come down because of competition from generic players. This would also lead to overall margins course-correcting themselves more towards generic molecules.

Exhibit 11: Our understanding of PI's journey for Pyroxasulfone over the next few years (Y14 = FY24)



Source: Industry, Emkay Research

Exhibit 12: Our understanding of the impact on Pyroxasulfone volumes, price and margin over the next few years (Y14 = FY24)

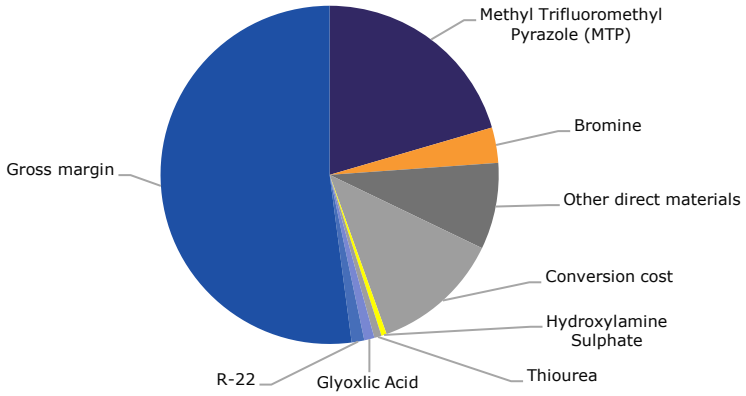


Source: Industry, Emkay Research

Pyroxasulfone margins at peak; backward integration to support, but off-patent led pricing impact to put pressure

Pyroxasulfone is manufactured in a multi-step formulation process with key raw material inputs like methyl trifluoromethyl pyrazole (MTP), difluorochloromethane (R-22 Gas), hydroxylamine sulphate, bromine, glyoxylic acid, thiourea, etc. Certain materials like toluene and acetonitrile are used as scrubbers which are then recovered and reused. The key intermediate to manufacture pyroxasulfone (MTP) is made by PI as well as sourced from innovator Kumiai Chemical (thus, the supply chain is fairly controlled). Other raw materials are either imported or sourced locally within India.

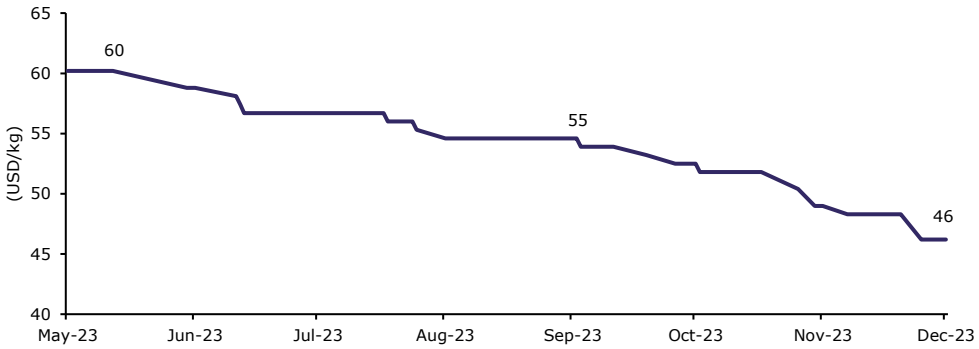
Exhibit 13: Cost breakup of pyroxasulfone based on our calculations



Source: Industry, Emkay Research

Per our calculations, pyroxasulfone has been a margin accretive product for PI, with product gross margin being higher than the company-level gross margin; gross margin for Kumiai has been in the 22-25% range. Over FY26-28, once pyroxasulfone goes off-patent in USA, we believe the prices of the molecule will start correcting, with the first major correction by FY28E (we have noted a similar pricing impact in several other molecules that have gone off-patent over the last few years). Prices for certain off-patent molecules with market size greater than USD1-1.5bn fell 25-30% in the near term, post patent expiry. Chlorantraniliprole (CTPR), an insecticide that went off-patent in CY22, is a classic example, wherein prices fell from USD55-60/kg in May-23 to USD40-45/kg in Mar-24.

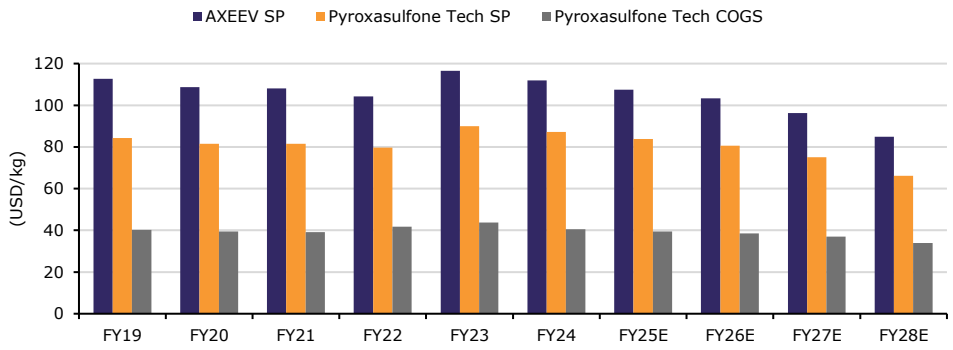
Exhibit 14: CTPR prices on continuous decline, with increase in number of registrations



Source: Industry, Emkay Research

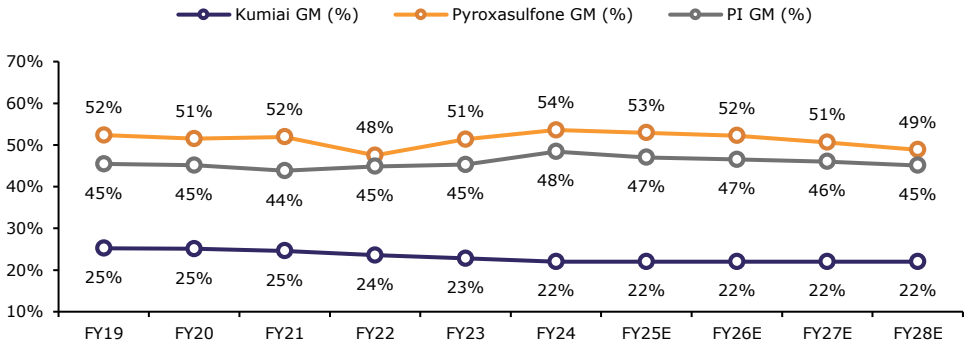
Such a correction in the price of an active ingredient (pyroxasulfone) is likely to be followed by correction in the price of the intermediate (MTP). PI will be relatively safeguarded from the pricing impact, up to the extent it is sourcing MTP from outside; however, there could be a possible impact on gross margins, up to the extent it is backward integrated in MTP. Also, Kumiai's role in price determination becomes a key risk, even if there is a contractual formula or agreement, as PI will be the first one to take the hit (innovator generally squeezes the maximum margin possible during the patented life cycle). Such scenarios may come into play post patent expiry in USA and Argentina, we expect the first major pricing impact in FY28 (supply chain being controlled will delay the post-patent impact). Hence price of pyroxasulfone/MTP and overall gross margins are a key monitorable for the next few years.

Exhibit 15: Pyroxasulfone pricing for Kumiai, PI, and actual COGS, based on our calculations



Source: Industry, Emkay Research; Note: SP = selling price

Exhibit 16: Pyroxasulfone's gross margin (GM) comparison with innovator and manufacturer



Source: Industry, Emkay Research; Kumiai GM (%) FY ended 31-Oct

Pyroxasulfone was formulated as a *pre-emergence* herbicide for managing grass and small-seeded broadleaf weeds. It exhibits high pre-emergence efficacy and sustains residual activity longer than its counterparts, maintaining significant residual effects up to two months post-application and leading to better productivity & higher crop-yield. It shows good selectivity for corn, soybeans, wheat, sugarcane and cotton, while there are other crops that can be treated using this pyroxasulfone with low impact on the environment.

Pyroxasulfone has been highly effective against weeds that have acquired resistance to glyphosate, particularly in genetically modified (GMO) crop fields of USA, Brazil, Australia, and China. There have been >130 cases reported on herbicide resistant weeds in the USA, leading to high demand for herbicides with higher efficacy and longer residual activity. This led Kumiai to enter US markets for pyroxasulfone with increased acceptance, leading to revenue CAGR of ~30% for PI over FY20-24E.

The strategy used to market was to alert farmers to use GMO crops (tolerant to glyphosate) *plus* glyphosate (killing most plants that grow along with the crop) *plus* pyroxasulfone (suppressing growth of resistant weeds), thus solving a major problem for farmers across USA, especially for soybean. Today USA (including LATAM) account for ~2/3^{rds} of the overall market for Pyroxasulfone. This molecule will go off-patent in USA over the next 3-4 years and, USA being the largest market, will see pricing impact after the entry of generic players.

Pyroxasulfone sensitivity analysis

We have worked out sensitivity to our FY26E EPS, based on our assumptions for pyroxasulfone's volumes, realisations and the related gross-margin impact. Basis our workings:

- Pyroxasulfone volumes have grown, from 3,000 MT to 5,000 MT in exports over the last three years (FY22-24). Going forward, we believe there will be a trade-off between volume and price, for maintaining absolute contribution from this molecule.
- While pyroxasulfone is going off-patent in the second half of CY25 in USA, we believe the pricing impact will be staggered, over FY26-28E, before we see steep correction in price. We expect volumes to grow at a slower pace initially, and accelerate once we start seeing steep correction in price due to increased acceptance.
- Typically, the price of molecules corrects ~25-30% immediately after they go off-patent and generic players enter the market. We expect ~20-25% fall in pyroxasulfone prices for PI, from its current realization of ~Rs7,000/kg (USD90/kg). The price correction will be gradual, over FY26-28E, considering the controlled supply chain accelerates once generic players enter the market.
- Coupled with the fall in price for the pyroxasulfone a.i. (active ingredient), the intermediate MTP will also face price erosion, of ~20-30% over a similar time period, and overall COGS decline of ~6-8%, leading to relatively less steep gross-margin erosion for pyroxasulfone at ~45-50% (vs. >50% currently, based on our calculations).
- Overall company-level gross margins will vary, subject to scale up and development of newer molecules, coupled with mix from the domestic agchem, non-pyroxasulfone CSM business as well as the pharma business.
- Our sensitivity analysis suggests PI's earnings will be more sensitive to pyroxasulfone's volumes and realization going into FY28E (will peak out over FY26-28E), given its higher contribution to earnings. Any change in the overall gross profit of pyroxasulfone will directly impact the company's EPS and our TP (Exhibits 19 & 20).

Exhibit 17: FY26E pyroxasulfone revenue sensitivity

Revenue (Rs bn)		Volume (MT)				
		5,000	6,000	7,000	8,000	9,000
Price (Rs/kg)	7,000	35.0	42.0	49.0	56.0	63.0
	6,300	31.5	37.8	44.1	50.4	56.7
	5,600	28.0	33.6	**39.2**	44.8	50.4
	4,900	24.5	29.4	34.3	39.2	44.1
	4,200	21.0	25.2	29.4	33.6	37.8

Source: Emkay Research

Exhibit 18: FY26E pyroxasulfone gross margin sensitivity

Gross margin (%)		Cost of manufacturing (Rs/kg)				
		3,400	3,230	3,069	2,915	2,624
Price (Rs/kg)	7,000	51%	54%	56%	58%	63%
	6,300	46%	49%	51%	54%	58%
	5,600	39%	42%	45%	48%	53%
	4,900	31%	34%	37%	41%	46%
	4,200	19%	23%	27%	31%	38%

Source: Emkay Research

Exhibit 19: FY26E EPS sensitivity to gross margin highlighted in Ex.11

FY26E EPS		Volume (MT)				
		5,000	6,000	7,000	8,000	9,000
Price (Rs/kg)	7,000	118	133	148	163	178
	6,300	107	120	132	145	158
	5,600	95	106	117	127	138
	4,900	84	92	101	109	117
	4,200	75	82	89	95	102

Source: Emkay Research

Exhibit 20: PI's Mar-25E Target Price variation at 30x Mar-26E EPS

Mar-25 TP		Volume (MT)				
		5,000	6,000	7,000	8,000	9,000
Price (Rs/kg)	7,000	3,535	3,989	4,442	4,896	5,349
	6,300	3,202	3,588	3,975	4,362	4,748
	5,600	2,863	3,181	3,500	3,819	4,138
	4,900	2,518	2,768	3,018	3,268	3,518
	4,200	2,261	2,460	2,658	2,857	3,055

Source: Emkay Research

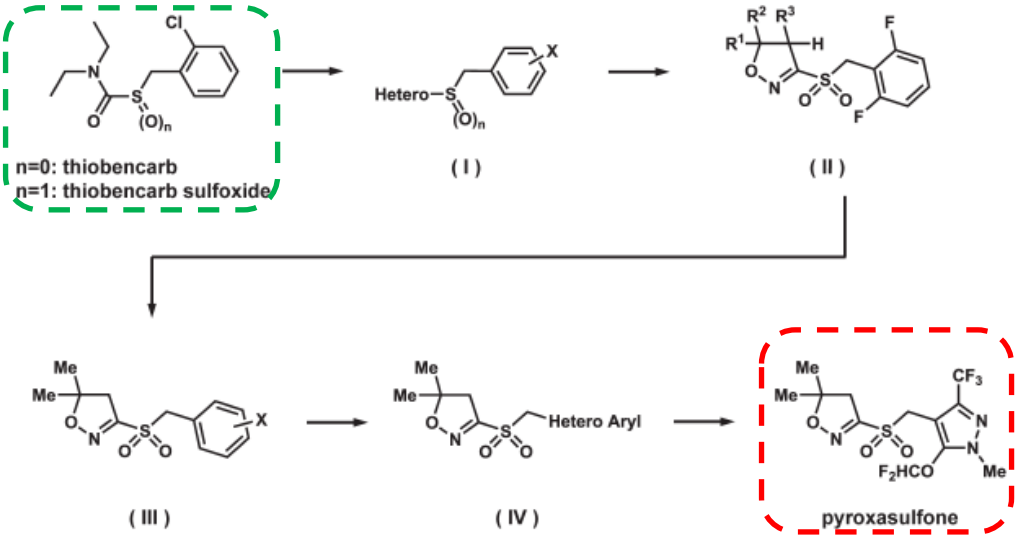
Pyroxasulfone – A broader overview

Development of Pyroxasulfone

Thiobencarb, a pre-emergence rice herbicide developed by Kumiai was used as a precursor to develop pyroxasulfone. Thiobencarb requires a dosage of 1,500-7,500 grams of active ingredient (g.a.i.) per hectare for controlling weeds, though it gets decomposed under many environmental conditions, leading to innovation of pyroxasulfone.

Pyroxasulfone was formulated as a *pre-emergence* herbicide to manage grass and small-seeded broadleaf weeds. It exhibits high pre-emergence efficacy and sustains residual activity longer compared with its counterparts, maintaining significant residual effects up to two months post-application and leading to better productivity and higher crop-yield.

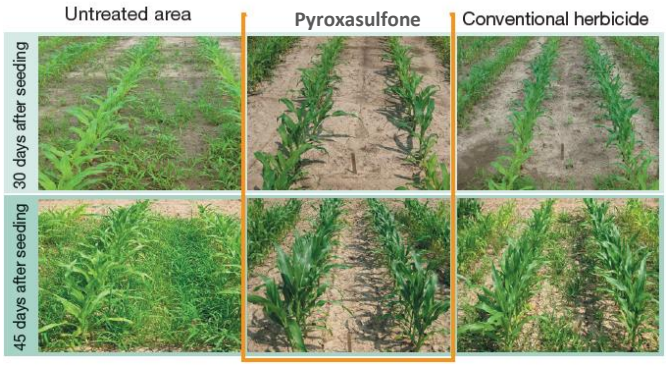
Exhibit 21: Stages of development of pyroxasulfone



Source: Industry

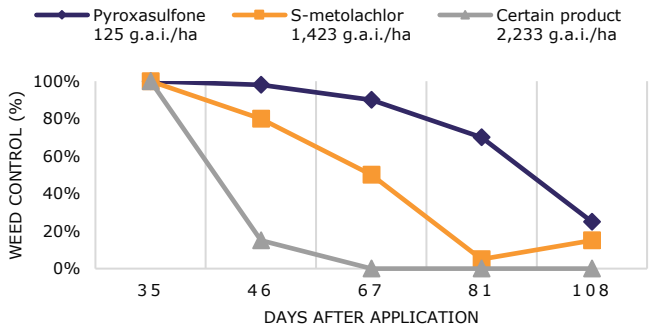
It shows good selectivity for corn, soybeans, wheat, sugarcane and cotton, while there are other crops that can be treated using pyroxasulfone, with low impact on the environment. Application rates of pyroxasulfone range from 100-300 g.a.i./ha, which is about 1/10th of the conventional soil-applied herbicides. Not only does this alleviate the labor required for applying agricultural chemicals, it also mitigates environmental burdens and reduces CO_2 emissions associated with transportation.

Exhibit 22: Difference in treatment vs other herbicides



Source: Industry

Exhibit 23: Weed control efficacy over time, post application



Source: Industry, Emkay Research

Comparison with other pre-emergence herbicides

Researchers Nakatanu Masao and Yamaji Yoshihiro conducted several screening trials, early stage safety assessment studies, and carried out on-field trials in USA for the molecule in comparison with S-metolachlor and glyphosate. These tests were conducted on various types of soil textures in eastern USA. Loamy silt is the most common type of soil texture found across the eastern states of USA and the northern states of India which are more agri-driven.

The efficacy of pyroxasulfone in these areas stood at 166 g.a.i./ha vs 1,423 g.a.i./ha for S-metolachlor. For calculating the effective cost of use, we assume the current selling price of pyroxasulfone technical at ~Rs12,000/kg and that of S-metolachlor at Rs600/ltr. The effective cost of use per acre is Rs800 and Rs350 for pyroxasulfone and S-metolachlor, respectively. With pyroxasulfone coming out of the patented regime in USA by mid CY25, we expect the cost of use to fall down 30-40%, leading to wider acceptance due to lower cost coupled with better effectiveness against grasses and broadleaf weeds increasing the overall yield of the crop.

Exhibit 24: Effective pre-emergence application rates – Comparison, by soil texture

Soil particle size	Coarse	Medium		Fine
Soil texture	Sand Loamy	Loam Silt	Sandy clay/loam Silt clay	Sandy clay/Silt clay
Pyroxasulfone (g.a.i./ha)	125	166	209	250
S-metolachlor (g.a.i./ha)	1,070	1,423	1,787	2,140
Pyroxasulfone cost/ha (Rs)	1,500	1,992	2,508	3,000
S-metolachlor cost/ha (Rs)	642	854	1,072	1,284
Pyroxasulfone cost/acre (Rs)	607	806	1015	1215
S-metolachlor cost/acre (Rs)	260	346	434	520

Source: Industry, Emkay Research

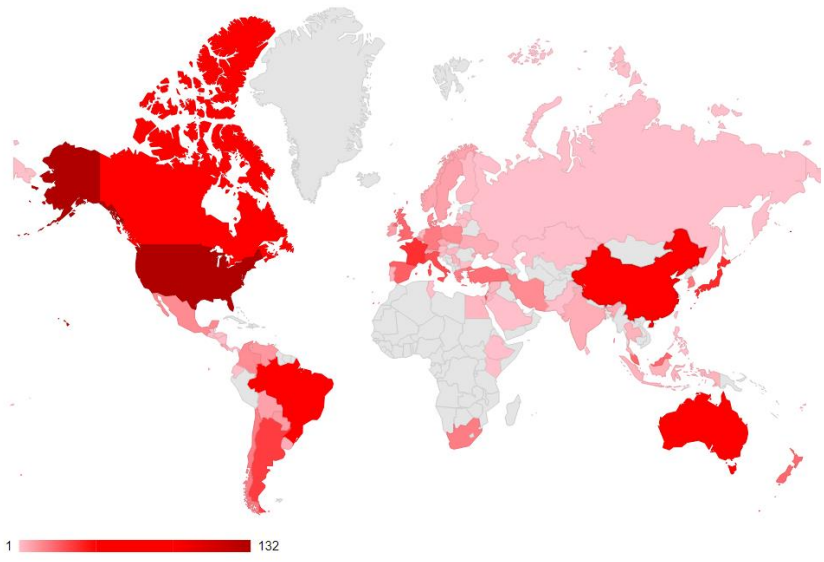
With acetochlor and metolachlor banned in the European Union and S-metolachlor facing a potential ban due to its suspected endocrine-disrupting properties, pyroxasulfone could see an expanded application range through combinations/formulations, thus driving increased demand.

Highly effective against glyphosate-resistant weeds

Presently, over 80-90% of soybeans and corn in USA is cultivated using glyphosate, a broad-spectrum herbicide that effectively eliminates most plant species, along with GMO crops engineered for glyphosate tolerance. This farming method was implemented in the 1990s; however, the 2010s saw the emergence of glyphosate-resistant weeds that posed a significant challenge. Pyroxasulfone has been highly effective against weeds that have acquired resistance to glyphosate, particularly in GMO crop fields of USA, Brazil, Australia, and China.

More than 130 cases have been reported on herbicide resistant weeds in USA, thus leading to high demand for herbicides with higher efficacy and longer residual activity. This led Kumiai to enter the US markets for pyroxasulfone, leading to revenue CAGR of ~37% for PI over FY20-24E. The strategy used to market was to alert farmers to use GMO crops (tolerant to glyphosate) *plus* glyphosate (killing most plants that grow along with the crop) *plus* pyroxasulfone (suppressing growth of resistant weeds), thus solving a major problem for farmers across USA, especially for the soybean crop.

Exhibit 25: Total number of reports on herbicide-resistant weeds



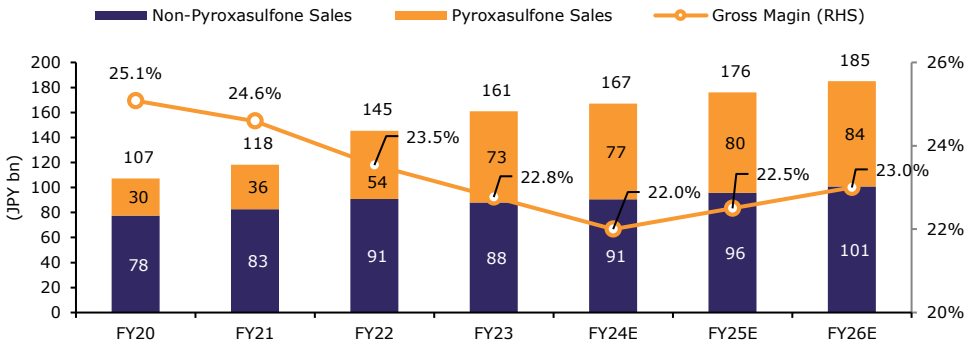
Source: Industry, Emkay Research

Kumiai to lead the story ahead

Kumiai Chemical Industry (Kumiai) was initially established as Ihara Agrochemical Co. Ltd. for manufacturing agricultural chemicals for farmers in 1949. In 1960, it started domestic production of active ingredient (a.i.) Asozin, gaining 80% market share for the sheath blight control market. Later in 1969, it launched a rice herbicide a.i. named thiobencarb, which led to development of a.i. pyroxasulfone in the 2010s. Kumiai holds a proprietary portfolio of 20 active ingredients, of which 10 are herbicides, 8 fungicides, 1 insecticide and 1 a plant growth regulator. Being the innovator and the R&D arsenal, Kumiai claims to have development probability of 1 in 7,500 for developing a new agrochemical, while the industry average stands at 1 in 160,000.

Outside Japan, one of its products – AXEEV (a.i. Pyroxasulfone) – experienced a notable surge in shipments to USA, driven by heightened demand owing to its exceptional herbicidal efficacy and favourable market conditions in soybean and corn. This led to overall sales CAGR of 14% over FY20-23, with pyroxasulfone growing at 35% p.a. over the same period, while its non-pyroxasulfone business has remained steady, clocking 4% CAGR.

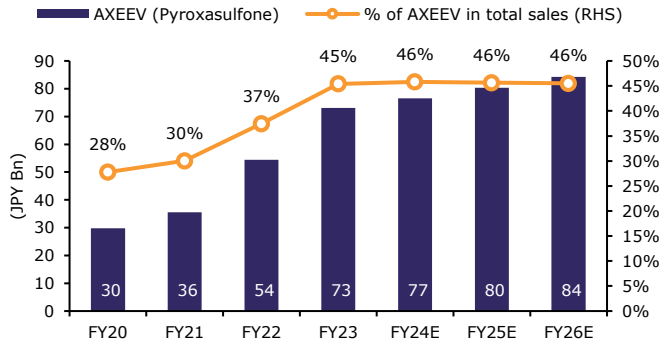
Exhibit 26: Revenue growth from Kumiai driven by AXEEV (Pyroxasulfone)



Source: Kumiai, Emkay Research; Note: Japanese FY ending 31-October

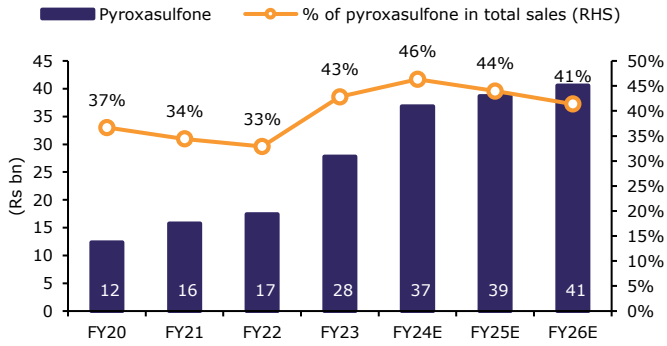
The mix of AXEEV for Kumiai and the mix of pyroxasulfone for PI have both shown a similar trend in contribution to their overall business revenue. Kumiai in its presentation has guided for maintaining similar contribution for FY26, while we believe the PI management will focus on expanding its non-pyroxasulfone CSM business.

Exhibit 27: Pyroxasulfone entails ~45% of Kumiai's business



Source: Company, Emkay Research; Note: FY ending 31-Oct

Exhibit 28: Pyroxasulfone forms ~46% of PI's business



Source: Company, Emkay Research

The Pyroxasulfone chemistry and process patent were filed by Kumiai across different countries back in the 2010s; these have come near expiry or already expired in a few countries, thus leading to entry of generic players. Certain geographies like Australia and China have started observing a 10-15% pricing cut till date. Further, these would go off-patent in USA and other geographies over the next few years, leading to a gradual price correction over its life cycle.

Exhibit 29: Patent expiry in key geographies

Country	Patent Validity
USA	Mid CY25
China	CY22
Argentina	Expiry soon; Currency depreciation leading to lower volumes
Brazil	2030
Australia	Expired
India	Not applied

Source: Company, Emkay Research

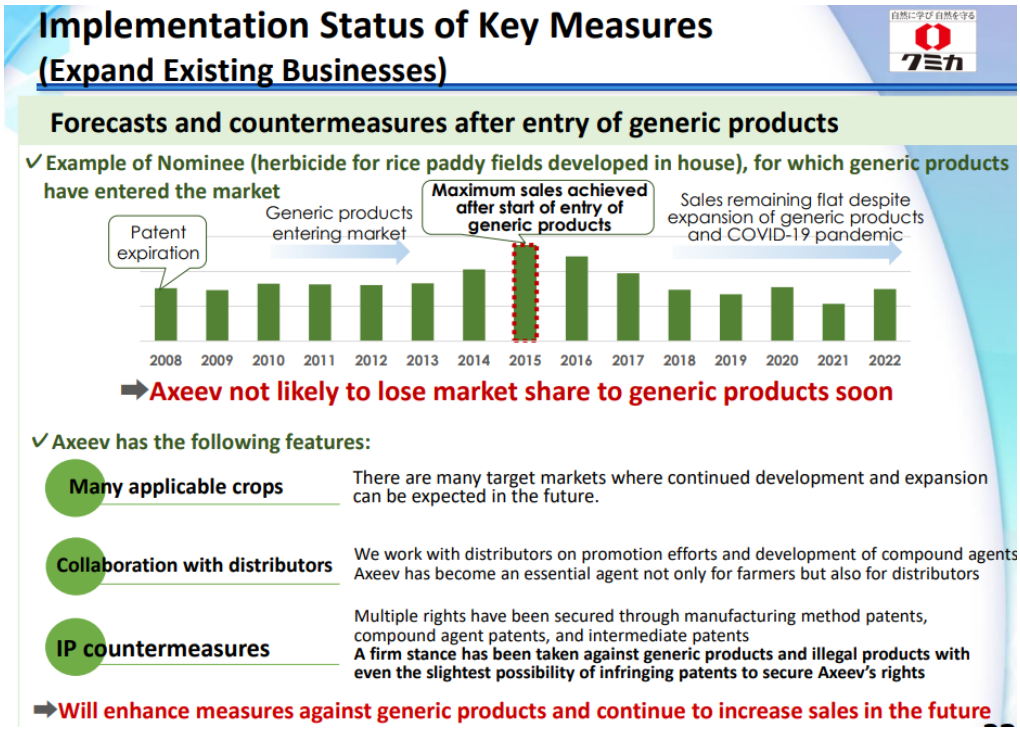
In Dec-23, Kumiai in its next 3-year plan, guided to slower growth, of 4.8% p.a. (FY23-26E) in pyroxasulfone revenue. While a rise in pyroxasulfone sales is expected, adjustments in inventory levels at the distributer level are anticipated in certain countries, along with price adjustments, to counter the competition from generic products. This could lead to contraction of gross margin for Kumiai and pose a possible pricing pressure risk for PI.

Kumiai in its Dec-22 presentation highlighted that strong measures—such as data protection to low-cost market entry of generic products until CY25 in USA and CY30 in Brazil—are in place. Kumiai has ensured that test data of the original product is protected through regulations and cannot be viewed, thus getting roughly 20-25% more of the overall patent validity time for market retention, while other producers will take time for accurate testing and incur substantial costs on tests and research. Such data related regulations and the time-period of data protection vary from country to country.

Kumiai in its presentation also shared evidence of sales of another patented product – bispyribac-sodium (Branded as Nominee), which got off-patent in CY08. Its sales remained moderate when generic products entered the market and reached the peak in 5-7 years post-expiry. We understand that there was further capacity addition thereafter, leading to price competition. Also, there can be genetic mutations in the crop which will reduce efficacy of the pesticide.

This implies that pyroxasulfone sales volume will increase once it goes off-patent in USA by mid-CY25, with a gradual-to-steep fall in pricing due to heavy competition in technical and formulations. Notably, the level of product acceptance across the farming community will play a significant role in determining the price. We believe that volumes will improve dramatically, as pyroxasulfone is one of the better and more effective alternative to other environment and human health harming pesticides. Also, this acceptance will be driven by a sharp price decline rather than other regulatory efforts.

Exhibit 30: Sales history of off-patent a.i. bispyribac-sodium, developed in 1996



Source: Company

The Chinese landscape

In China, the patent for pyroxasulfone expired in Feb-22. By Sep-23, only Shanghai Qunli Chemical Co. Ltd. had secured registration for its production. However in Oct-23, Shandong Yonghao revealed plans to establish a capacity of 1,000 MTPA, followed by Rainbow Agro's announcement of a capacity of 2,000 MTPA in Dec-23. The entry of three Chinese players for manufacturing pyroxasulfone has intensified market competition. We believe the initial capacity utilization will be for domestic market consumption, while affecting competition in USA due to its acceptance. Current market size for pyroxasulfone technical is ~5000-6,000 MTPA, while capacity additions are more than 15-20 KTPA globally.

Exhibit 31: Rapid capacity additions vs demand growth will impact pricing post patent expiry

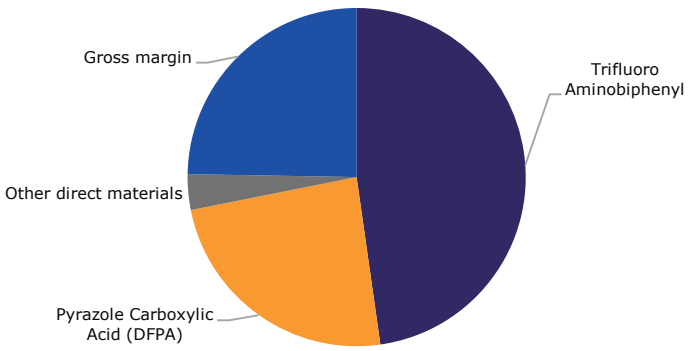
Company	Location	Capacity (MTPA)
Rainbow Agro	Shandong Weifang Binhai EDZ	2,000
Zhanhua Goalsun Fine Chemical	Shandong Zhanhua EDZ	2,000
Anhui Jiuyi Agriculture	Hefei, China	600
Inner Mongolia NAB Agrochemicals	Wuda Industrial Park	500
Liaoning Cynda Agricultural Science	Huludao Industrial Area Chemical Park	50

Source: Industry, Emkay Research

Incremental CSM revenue coming from off-patented molecules which could be margin dilutive, in our view

PI has, of late, added new molecules to its portfolio that are off-setting the revenue decline from its older portfolio. We believe Pichola Xemium (fluxapyroxad a.i.), with market size of USD500mn, is one such product that is one of the largest for BASF (whose innovative fungicide technologies PI markets) and has gone off-patent recently (it still being proprietary). We understand that PI is non-backward integrated in this molecule and buys intermediates from external sources. Thus, this could possibly be dilutive for company-level margins. Going forward, we believe PI will need to draw up a prudent strategy for growth versus margin profile, if it continues scaling up off-patented molecules.

Exhibit 32: Fluxapyroxad is sold at USD85-90/kg, at a relatively lower gross margin



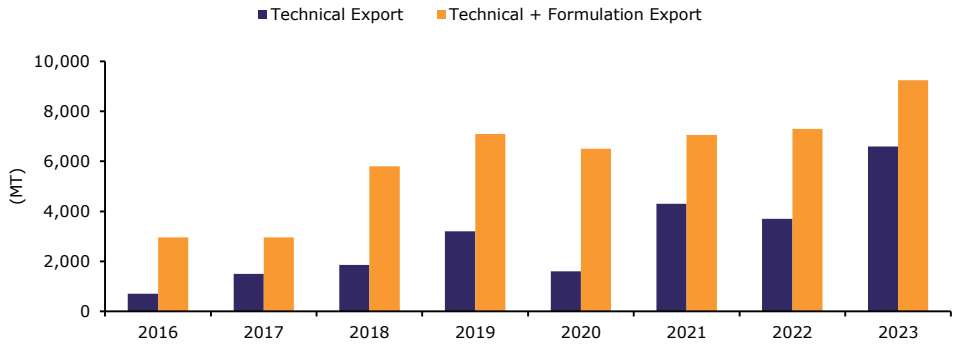
Source: Company, Emkay Research

#Case Study: Prothioconazole

Prothioconazole is a successfully commercialized fungicide with global sales of USD1.3bn (~50 KTPA) as of CY23. Prothioconazole is widely used in plantation of wheat, soy, rapeseed, rice, peanut and sugar beet, with excellent control effect for almost all cereal fungal diseases. It was developed and launched by Bayer in CY04. Bayer's compound patent expired in CY15 in most countries, including China, where its vulcanization process patent also expired in CY18.

Global sales of prothioconazole saw a V-shaped recovery, from FY15 to FY21. Sales started to decline immediately after the patent expiry in CY15, making a clear bottom after 3 years before starting to bounce-back to the CY15 levels in the next 5 years. Originally, Germany was the largest exporter of this molecule at ~ 1,500-2,000 MT, but in CY23, China exported ~2,200 MT of prothioconazole. The South/North American subcontinent has been the largest market for this product over the years.

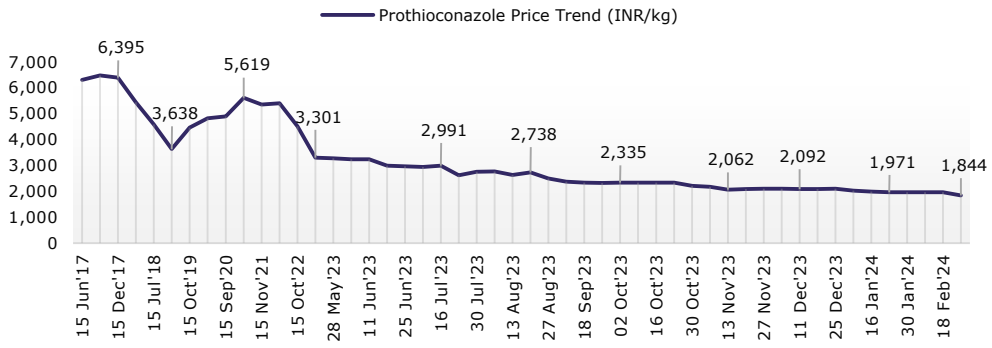
Exhibit 33: Export of Technical and formulations of prothioconazole



Source: Industry, Emkay Research

Following the expiration of the compound patent for prothioconazole in China, Chinese companies have initiated and escalated efforts in product registration, production planning, and marketing for prothioconazole. A total of 57,000 MTPA capacity has been announced in China for the technical grade, and projects are progressing rapidly. China has the advantage of the complete industrial chain of prothioconazole, which can be replicated with any other active ingredient going off-patent in the near future. With gradual increase and production run of the new capacity CY17 onwards, the price of prothioconazole technical started to constantly decline, down 76% over Jun-17.

Exhibit 34: Prothioconazole – Price trend (INR/kg)



Source: Industry, Emkay Research

Along with A.I.s, market demand for key intermediates has also been growing. With the growing upstream demand for prothioconazole, companies have focused on investments in raw materials for prothioconazole, to promote a cost effective strategic development.

In the context of pyroxasulfone, it is important to note that prices will decline to ~50% of the current level eventually, with capacity additions and entry of generic players over the next few years. New capacities coming in will lead to higher marketing efforts and farmer acceptance leading to higher volumes and exports from China. PI, which has been acting as a contractor for Kumiai for manufacturing pyroxasulfone, will face moderate revenue growth over the next few years which will eventually peak out, followed by a larger price impact.

New Growth Drivers in AgChem – Molecule Innovation and entering Distinctive Chemistries

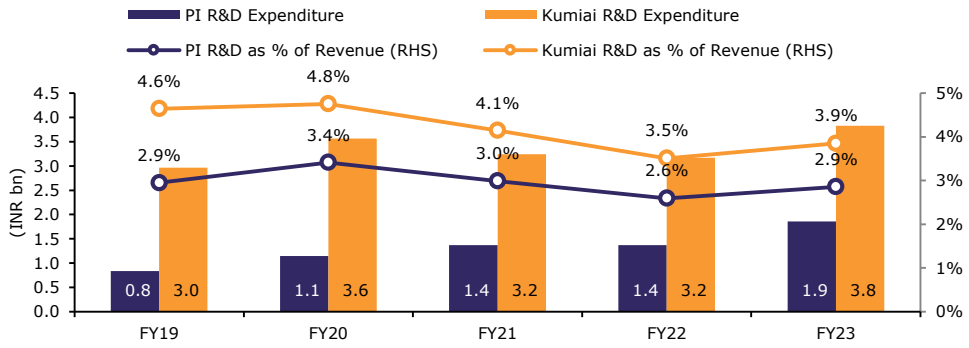
PI's R&D capabilities will guarantee steady growth of the existing business, supported by: 1) achievements in molecule innovation resulting in multiple new patents; the company is seeking partners for two promising molecules; 2) being the 1st Indian company to receive approval from ISO for insecticide 'Pioxaniliprole'; 3) commencement of a pilot plant for flow chemistry, enhancing asset turnover/FCF and providing capacity for several new molecules, along with endeavors in other distinctive chemistries such as fluorination and phosgenation.

Foray into molecule discovery and innovation

PI has been strengthening its offerings not just on the chemistry front but also on molecule discovery and innovation. PI has now 5 state-of-the-art R&D labs, at Udaipur, Hyderabad, Jaipur, Italy and Alabama. Over 155 patents in total have been filed as on date of which 11 were filed in 9MFY24. In its 1QFY22 presentation, PI highlighted discussions regarding two molecules (one fungicide and one broad-spectrum insecticide) for which it attempting to develop partnerships with global innovators. The revenue prospects from such opportunities will only be determined on the market launch of the molecules. This strategic move, though, has the potential to place the company in a distinctive position, alongside global innovators, thus positively influencing its chemistry-led synthesis and manufacturing business.

European innovators such as Bayer and BASF have traditionally looked to Japanese R&D companies for the launch of new molecules, emphasizing more on their strengths in marketing and distribution. Their reliance on leveraged balance sheets has limited their capacity to invest in R&D. PI stands to create a distinctive offering if its discovery services yield successful outcomes, thus enabling it to generate royalties from the launch of new molecules.

Exhibit 35: R&D comparison of a CSM player versus an innovator



Source: Company, Emkay Research; Note: Kumiai's FY ending 31-Oct

Notable investments have been directed towards personnel in the R&D domain, evidenced in the establishment of a dedicated team called CReAgro. Particularly, the former head of Bayer CropScience's chemistry R&D division now leads this initiative in Germany. The total number of scientists has grown, from 228 in FY21 to 473 in FY23.

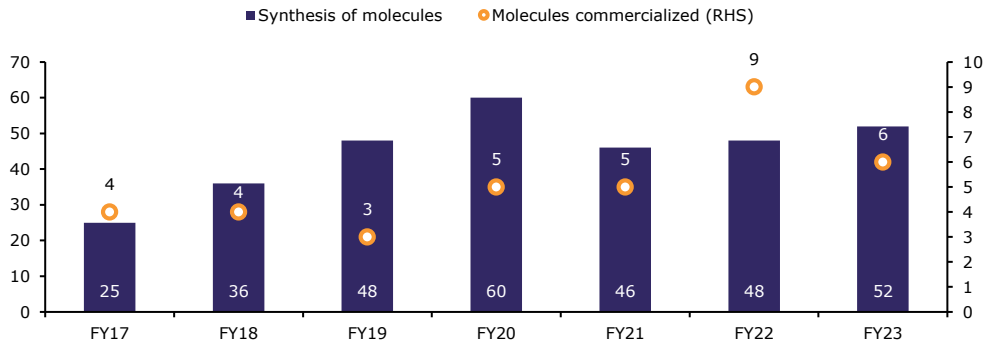
Exhibit 36: PI has built a new team 'CreAgro' for new molecule development in agrochemicals

Name	Designation	Joining	Education	Past experience summary
Dr Alexander Klausener	CSO	NA	PhD	Executive committee, Head of Research, Bayer CropScience Head of global fungicides chemistry in Bayer CropScience
Dr Sunil K Mandal	VP – R&D	Jan-19	PhD	AGM, Syngene International Principal Scientist, Jubilant Chemsys
Rohit Saxena	Gen. Mgr. – Product Innovation	Jun-15	PhD, Organic Chemistry	Assistant Director, Jubilant Drug Discovery and Development
Abhijit Sharma	Head HR	Sep-15	PGDBM	Manager, HR, Dr. Reddy's Laboratories

Source: Industry, Emkay Research

- **Diversifying chemistry capabilities.** PI is enhancing its chemistry toolkit by developing expertise in innovative capabilities such as phosgenation and fluorination, which demonstrate promising applications not only in agrochemicals but also in pharmaceuticals. Additionally, PI has established a robust foundation in Suzuki coupling, pyrazoles, and various other chemistries, including UV-induced halogenation, Wolf-Kishner reactions, and oxime formation. Moreover, PI has recently discussed the utilization of enzyme-based synthesis for a molecule in the pilot phase, along with implementation of improved solvent recovery capabilities.
- **Focus on improving FCF.** Investments in flow chemistry present an opportunity for PI to decrease capital expenditures while enhancing reaction times. Moreover, this initiative enables the feasibility of processes that are not achievable in a batch process. PI introduced a pilot plant for flow chemistry in FY23.
- **New molecule commercialization accelerating.** Management is targeting launch of six new molecules in FY24, with two already under commercialization in the MPP plant, which is being commissioned. Growth visibility on the base business remains high, with Management targeting >20% growth in the existing CSM business over the next 3-4 years, basis the current pipeline and a robust set of enquiries.

Exhibit 37: PI has entered into molecule innovation and commercialised 6 molecules



Source: Industry, Equity Research

Exhibit 38: PI has presence across the value chain, starting from discovery of molecules to marketing and distribution

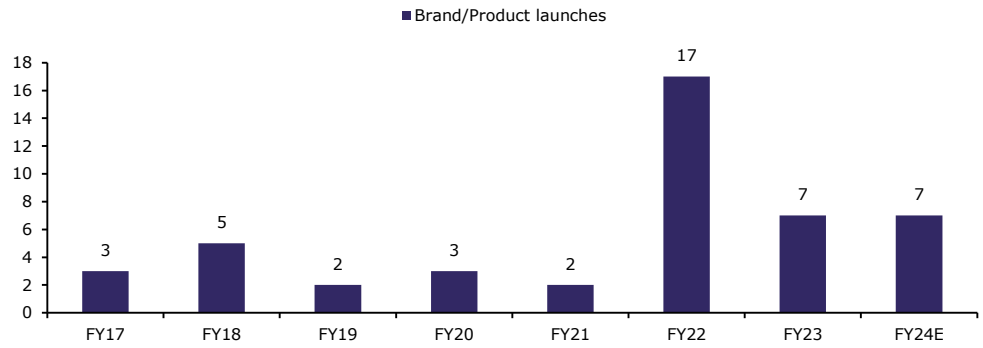
	Discovery	Development	Scale up	Evaluations & trials	Regulatory services & registrations	Manufacturing	Marketing & distribution
Global players							
Bayer	Innovator						
BASF	Innovator						
Syngenta	Innovator						
Dupont	Innovator						
FMC	Innovator						
UPL					Generic		
Indian players							
Crystal					Generic		Generic
Insecticides					Generic		Generic
Sharda					Generic		Generic
Rallis					Branded generic		
Dhanuka					In-licensing & Generic		In-licensing & Generic
PI Industries	Unique partnership led model (CRAMS & licensing)						
SRF		CRAMS	CRAMS			CRAMS	

Source: Company, Emkay Research

Domestic Agchem – Expect steady performance

Domestic agchem revenue CAGR stood at 17.5% over FY20-23, improving from Rs9bn in FY20 to Rs14.6bn in FY23 on the back of strong brand/product launches. We expect a moderate growth of ~8-10% p.a. over FY24-26E to Rs16bn (in sync with the historical growth rate, considering the higher base). We believe such growth will be led by product AWKIRA (in-licensing brand for pyroxasulfone), which will contribute incremental revenue growth with deeper penetration in the domestic market. Additionally, PI is likely to benefit from the ramp up of its recent product launches.

Exhibit 39: Brand/product launch momentum growing



Source: Company, Emkay Research

Going forward, we believe that due to prediction of an above-average monsoon for CY24, there will be moderate growth in FY25E revenue, considering the lower base of FY24, given high dependency on rainfall for irrigation. The domestic product portfolio is skewed towards kharif crops, viz. rice, cotton, soybean and chilies. PI also has a large portfolio of horticulture-related products. Due to its kharif-focused portfolio, PI experiences seasonality, wherein the first half of the year accounts for ~60% of agchem revenue compared with the second half of the year.

In 1961, PI ventured into the agrochemical sector by launching its domestic agri-inputs manufacturing and distribution business. This involved producing and distributing formulations (such as agrochemicals, specialty fertilizers, and plant nutrients) under proprietary brands in the market. PI is currently listed among the top-5 agrochemical distribution companies in India.

This segment is closely connected with the CSM business, as most formulations distributed by PI in the domestic market are products discovered by global innovators with whom it works with. PI is continuously seeking out innovative molecules with potential in the domestic market. When such products are found, the company enters into exclusive in-licensing agreements with the innovators to distribute them in India, utilizing its extensive nationwide distribution network of >10,000 channel partners serving over 70,000 retailers through more than 28 stock points.

Pivoting from the generic business to developing branded in-licensing and co-marketed products

The aim of in-licensing is to secure exclusive marketing rights for the innovator's molecule that has robust domestic potential. This involves establishing exclusive agreements with the innovator company; as per such agreements, PI will undertake domestic registration of the patented molecules in its own name. This grants PI the rights to market and distribute the product within the country. The company also conducts other crucial activities, such as efficacy and toxicity studies, trials, etc. Depending on the contractual terms, PI may either import technical/bulk formulations from the innovator or opt to manufacture the product at its own facilities in India. Such agreements typically pertain to early-stage patented molecules, enabling PI to harness benefits across a substantial portion of the molecule's life cycle, thereby allowing it to realize maximum benefits for most of the molecule's duration.

In certain cases, PI also participates in co-marketing partnerships with local peers. Further to this, PI receives molecules through reverse-sharing agreements with peers, enabling the company to exchange pivotal products with its counterparts for establishing a strong market presence and preference for the product. Peers acquire the product from PI, with the company maintaining registration under its own name.

Therachem and Archimica acquisition to re-accelerate pharma interest

In Jul-20, the company secured Rs20bn with the aim to venture into the pharmaceutical sector via inorganic means. Subsequently in Jul-21, PI initiated a Stock Purchase Agreement (SPA) to acquire the API business of Ind-Swift Laboratories (ISL) through a slump sale. Nevertheless, by Nov21, ISL terminated the deal (The acquisition could have generated an additional revenue of Rs20bn by FY25E). Since then, PI Industries had been actively looking out for diversification into pharmaceutical assets, for de-risking its Agro CSM business.

Definitive agreements of PI Health Sciences (PIHS), PI's wholly-owned subsidiary

Therachem Research Medilab LLC (TRM) – Acquiring its wholly-owned subsidiaries in India and assets in USA

- TRM is a pioneering provider of innovative solutions driven by chemistry, focusing on medicinal chemistry research and process development, particularly specializing in the Rare Disease field.
- TRM caters to nearly 10 companies in preclinical and clinical stages, i.e. under patent process only, and no generic products.
- The R&D team works closely with listed biotech/biologics companies of US and Asia-Pacific pharma companies, in developing their product pipeline. It mainly supplies basic building blocks to its customers.
- It had consolidated revenue of USD33mn (100% CDMO) and EBITDA of USD14mn (EBITDAM: 42%) in FY22. During FY22, TRM saw commercialization of molecules; hence its revenue grew by more than 2x over FY21. It also has some fixed-term contracts (1-3 years) with certain customers.
- Total purchase consideration was USD50mn plus USD25mn performance-linked pay-outs over the next 6 years. It was valued at Mar-22 EV/EBITDA of 3.57x. Company is currently operating at 40-50% utilization, so capacity will not be a constraint for growth.

Plahoma Twelve GmbH – Acquiring 100% stake in Archimica S.p.A. ("Archimica")

- Archimica, headquartered in Italy, is a distinguished manufacturer of small molecule niche APIs and operates as a Contract Development & Manufacturing Organization (CDMO). It serves over 60 customers in more than 40 countries.
- Archimica owns 24 DMFs, of which 12 products are currently active. It also has a GMP manufacturing facility for APIs and Intermediates across wide therapeutic and substance classes, such as Oncology, Anti-Ulcer, and Anti-Arthritis.
- It clocked consolidated revenue of USD45mn (20% CDMO; 80% API) with EBITDA of US7mn (EBITDAM: 16%) for the year ended Dec-22.
- Total purchase consideration was EUR34.2mn. It was valued at Dec-22 EV/EBITDA of 5.3x. In Archimica, PI will be retaining its leadership and team.
- It is currently operating at 50% utilization, thus PI might do some strategic capex, based on the business understanding.

The two companies have three R&D centers in different countries – TRM in India and USA, while Archimica has in Italy. They have clients for each center, as some customers want development in USA, while others want it in India and some in Europe; along with this, its Hyderabad center will be complementary for all 3 centers.

Current focus for these acquisitions is scaling up revenue rather than focusing on margins. We can expect doubling of revenue in the next 3-4 years. PI has planned for USD10-15mn capex p.a. for the pharma division, over the next 2 years.

Similarities in pharmaceuticals and agrichemicals

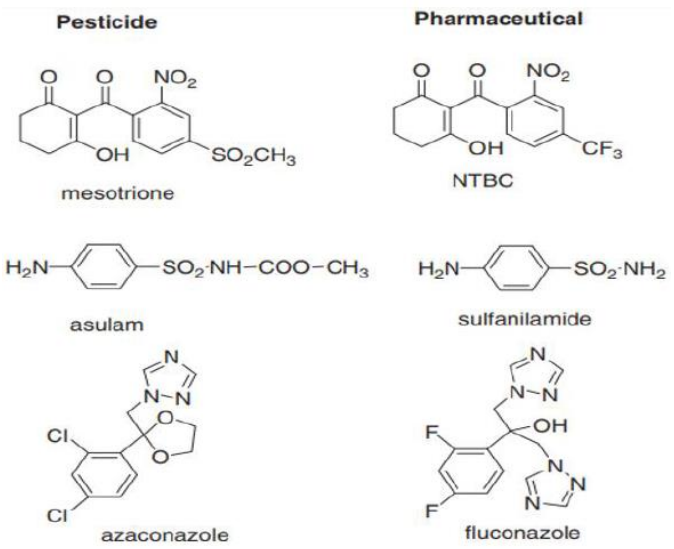
The development and registration processes for pharmaceuticals and pesticides exhibit similarities due to their shared nature as chemical compounds. Likewise, their manufacturing processes bear resemblances owing to their chemical composition. It has been observed that molecules initially developed for pesticides can serve as valuable foundations for medical formulations aimed at treating specific diseases. Agricultural chemical companies benefit from economies of scale, enabling better cost control due to higher volume supplies. Despite facing stringent compliance standards, such as those outlined by the US Food and Drug Administration (USFDA), pharmaceutical companies navigate these challenges with diligence. Notably, compliance is an area where pharmaceutical innovation has already made significant strides.

Exhibit 40: Pesticides that have applications in pharma

Pesticide (Class)	Can treat disease like
Endothall (Herbicide)	Malaria
Glyphosate (Herbicide)	Malaria
Acetyl CoA inhibitors (Herbicide)	Heart Disease, cancer and anti-inflammatory
Epothilone (Fungicide)	Hypertension
Imdazolinones (Herbicide)	Hypertension
Sulfonyl Ureas (Herbicide)	Cancer
Triazolopyrimidines (Fungicide)	Cancer

Source: Industry, Emkay Research

Exhibit 41: Pharma and agri molecules have several similarities



Source: Company

Synergies in place for the pharma acquisition

PI has consistently impressed with its expertise in chemistry, its globally compliant manufacturing facilities, robust intellectual property compliance, and adeptness in engaging with international clients. Such strengths have enabled PI to establish a custom synthesis manufacturing business worth Rs33bn, surpassing that of Divis (at Rs28bn), the largest player in pharma CSM. Over the years, PI has made substantial investments in its research and development capabilities, particularly in the pharma API and intermediate businesses.

We believe synergies for PI would come from four areas:

- **To improve products yields and market share.** PI's exceptional expertise in chemistry has the potential to enhance processes and yields for existing APIs, thereby enhancing margins within the current business. This would also bolster its competitiveness in global markets, ultimately resulting in improved market share.
- **To speed up commercialization of own R&D pipeline.** PI has successfully cultivated its own pipeline of intermediates and APIs, poised for imminent commercialization following the acquisition of a globally-compliant asset, which is presently operating below its full capacity. Additionally, PI is in the process of repurposing its Isagro plant in Panoli for its pharmaceutical endeavors, with a focus likely on intermediates.
- **To leverage existing client base.** PI has established partnerships with European companies like Bayer and Japanese firms with substantial presence in both pharmaceuticals and agrichemicals. Similarly, Therachem and Archimica maintain relationships with numerous pharmaceutical companies across different countries.
- **To improve delivered margins.** Margins depend on several factors, including current process yields, scale, capacity utilization, and backward integration. With the aspects emphasized earlier, we anticipate EBITDA margins to increase from the current range of ~25-30%. Certain top pharmaceutical API companies achieve EBITDA margins as high as 35-40%.

Exhibit 42: PI's core competencies in agrichemicals would help it grow in pharmaceuticals

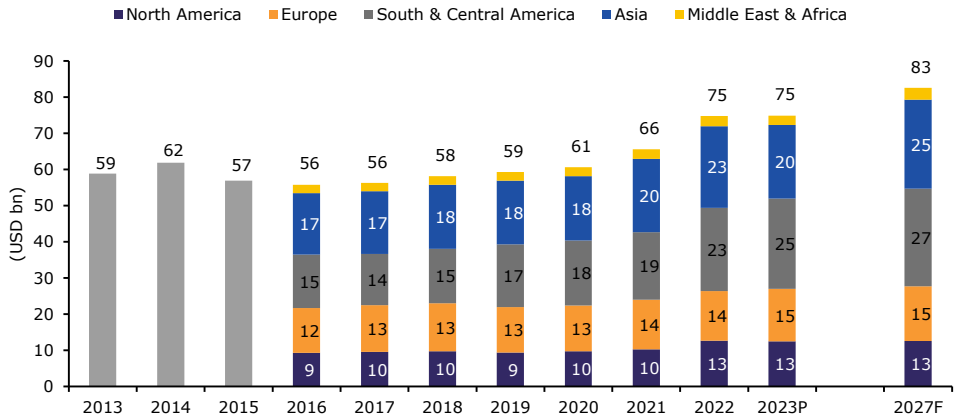
Competencies	Description
Non-compete business model and respect for IP	(a) Non-compete business model with global innovators; in-licensing model for domestic business helps both, the innovators and PI (b) Currently in-licensed molecules account for more than 65% of domestic business and are likely to go up gradually (c) In the long history of ~20 years of being in the CSM business, PI has not been accused of any potential IP violations
Strong track record in execution and capabilities	(a) Experience of commercializing more than 30 molecules, including some highly complex ones (entailing 10-12 steps) (b) Solid pipeline of more than 20 molecules, which are in various stages of commercialization (c) 3Cs: Cost, Compliance and Capacities (global standard) are well taken care of
Experience in chemistry and process engineering	(a) In-house capabilities and immense experience in process research, plant engineering, efficient manufacturing and product registration. (b) Command over multiple complex chemistries makes it suitable for complex intermediates and AIs (c) Impeccable standards on the environmental safety and emission standards of global innovators
Long-term relationships with clients	(a) Strong relationships with innovators (>18), including a mix of Japanese, European and US clients (b) Customer trust on timely deliveries, quality control and ability to manage various volatilities (c) Well rated with sustainability ratings, such as Ecovadis (Gold) and Responsible Care
Cost advantage	(a) With substantial scale-up on process capabilities, PI has a better cost advantage than other domestic players (b) PI is also working on continuous processes and flow chemistry which would improve overall asset turnover driving cost efficiencies (c) A large set of PI's competitors are based out of developed countries, wherein PI and other Indian players have a clear cost advantage

Source: Company, Emkay Research

Agrochemical Market Landscape

The global agricultural chemicals industry, which includes herbicides, insecticides, fungicides, nematicides, and soil health products, has grown from less than 100 a.i. (representing less than USD10bn in annual sales in 1960) to more than 600 a.i. (generating USD75bn in CY23), and is expected to grow at 2.5% p.a. over the next 4 years (over CY23-27) to USD90bn by CY30. Such growth will be largely a factor of bigger market molecules going off-patent by CY25-30 and the demand for which is expected to increase with cost benefits for farmers. South & Central America has surpassed Asia, to become the biggest market for agrochemicals, and is still growing, with deeper penetration by marketing companies and farmer understanding. The Asian market, especially India, where per-capita consumption of agrochemicals is way less than the world average, will be one of the key countries that drive growth. Looking at the broader crop treatment market as of CY23 and which includes fertilizers and seeds, the market size is set to increase to ~USD230bn and clock CAGR of slightly below 3% through to CY30. Fertilizers represent about ~44% (~USD101bn) of the overall market, with seed sales accounting for ~23% (~USD54bn) and the agrochemical market accounting for about 33% (~USD75bn).

Exhibit 43: Market trend for the agri chemicals market



Source: Industry, Emkay Research

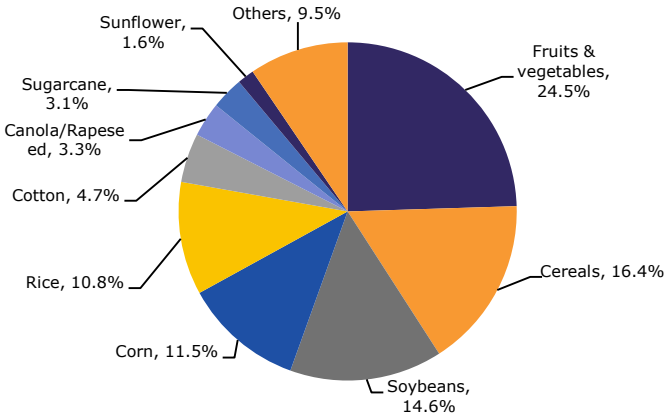
Strong growth outlook despite near-term headwinds

Key growth drivers include global population expansion, the challenge of maximizing productivity on existing agricultural land, the rise of the middle class in emerging economies driving increased demand for protein and grain, and the expanding utilization of crops like corn and soybeans in biofuel production. However, growth rate of the agrochemical market is expected to be tempered by ongoing challenges such as patent expiration and the subsequent entry of generic producers, akin to trends observed in the pharmaceutical sector. Notably, due to limited opportunities for new land cultivation, the US agrochemical market is likely to experience CAGR of 5%, reflecting heightened input usage by US farmers to enhance yields from existing acreage, and quicker adoption of new products and formulations.

Innovation is the main driver, as also a cost center

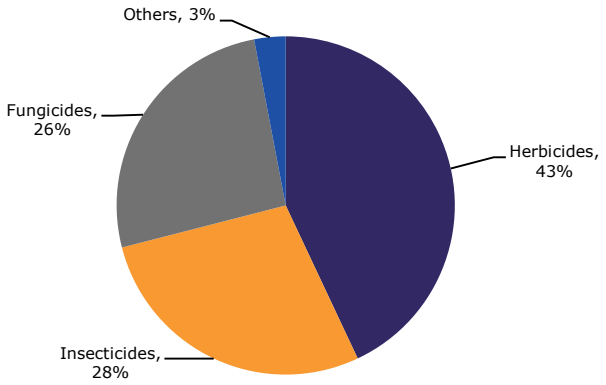
The market is turning oligopolistic, with 75% of global agrochemical sales clocked by Syngenta, BASF, Bayer, Corteva, and FMC. The major reason for this oligopoly is the increase in the time and cost of ushering a novel a.i. through the regulatory approval process, which has gone up from nine years (from discovery, through development and registration) and USD180-185mn to more than 11 years and close to USD300mn. The importance of R&D pipeline productivity and financial resources for developing a new a.i. is evident in the historical trend. In the 1980s and 1990s, the market saw over 120 new AIs introduced each decade, but from 2000 to 2010, only over 100 were launched globally. The pace further slowed from 2011 to 2020, with fewer than 40 new A.I.s being introduced. This trend indicates an impending patent expiration cliff for many A.I.s, highlighting the significance of R&D productivity for future market growth, both overall and for individual companies. Hence, it is not surprising that a typical agrochemical company allocates 7-10% of its sales to R&D.

Exhibit 44: Global agrochemical market, by crop



Source: Industry, Emkay Research

Exhibit 45: Global agrochemical market, by product



Source: Industry, Emkay Research

Herbicides market

The herbicide market contributes ~43% to the overall market size (USD32bn), which is a factor of glyphosate prices and volumes, while insecticides and fungicides have equal share. Notably, glyphosate and glufosinate stand out as prominent products within the herbicide category. However, glyphosate is encountering heightened scrutiny globally, leading to the imposition of restrictions and bans by several countries. The herbicide market was valued at USD35bn in CY23. South America commands the largest regional share of the herbicide market, accounting for 43%, with Argentina, Brazil, and Chile emerging as the primary consumers. The global average consumption per hectare rose to 2.6kg in 2022 from 1.8kg in 2017.

Insecticides market

The demand for insecticides has surged due to heightened insect activity and the expansion of agricultural land in Brazil. Additionally, chlorantraniliprole (CTPR), effective against caterpillars, has recently become off-patent in CY22, thus leading to increased usage. The global average consumption of insecticides, standing at ~920 gram/hectare, is on the rise due to escalating pest populations and the imperative for enhanced yield productivity. According to the Food and Agriculture Organization (FAO), pests cause an estimated 40% loss in global crop production annually, which is around USD70-80bn.

Fungicides market

Fungicides hold significant market shares in USA, Europe, and parts of Asia. With fungal attacks posing a substantial threat to yields across various crops, there has been a notable rise in the average per-hectare usage of fungicides. Specifically, consumption increased from 1.4 kg/ha in 2017 to 1.6 kg/ha in 2022.

Exhibit 46: Top-20 agrochemical companies

Syngenta Crop Protection	Rainbow Chemical
Bayer CropScience	Wynca Chemical
BASF	Lianyungang Liben Crop Science
Corteva	Hubei Xingfa Chemicals
UPL	Nutrichem
FMC	Fuhua
ADAMA	Lier Chemical
Sumitomo Chemical	Kumiai Chemical
Nufarm	Hebang
Jiangsu Yangnong	Nanjing Red Sun

Source: Industry, Emkay Research

Industry Risk and Revolution

Twin headwinds of evolution and regulation

Agrochemical companies are investing significant resources in discovering and developing new A.I.s due to two main reasons: the persistent pressures of evolution and stringent regulations. Prolonged use of pesticides can lead to resistance in plants and insects, thus reducing the effectiveness of pesticides over time. Additionally, such chemicals can inadvertently harm beneficial organisms like pollinators and soil microorganisms. Moreover, many agrochemicals pose risks to human health, either through residue on agricultural products or contamination of soil and water. Consequently, the industry faces increasingly tight regulations on toxicity, which lengthens the time and increases the cost required to register a new active ingredient, slowing down its introduction into the market.

Bio-based solutions capture market share

The agrochemical industry has increasingly turned to biotechnology for addressing concerns related to resistance development and regulatory challenges. This shift has led to the emergence of bio-based crop protection products, utilizing biological ingredients or microorganisms as starting materials. From USD100mn in 1993, this segment has experienced significant growth, reaching around USD8bn in sales, and comprising almost 11% of the overall agrochemical market. While major agrochemical companies have contributed to this growth through internal development, partnerships, and acquisitions, the market remains fragmented with numerous small to medium-size participants, unlike the more consolidated synthetic-chemical segment.

Compelling advantages

Bio-based agricultural products offer several advantages over conventional synthetic chemical alternatives. They provide different modes of action, helping to overcome developed pest resistance. They have less environmental impact and are more targeted, reducing harm to humans and wildlife. Additionally, they improve soil health, sustain beneficial microorganisms, and attract pollinators, thus optimizing yields. Field demonstrations have shown their efficacy, both alone and in formulations with traditional chemical products. While early adoption was slowed by cost concerns, advancements in fermentation technology are improving scale and lowering production costs. Meanwhile, the cost of conventional chemical products continues to rise. In 2017, patent applications for biological pesticides (173) exceeded those for conventional chemical pesticides (117) for the first time, indicating a growing interest in bio-based solutions.

Expanding in organics and beyond

Early adoption of bio-based crop protection products was primarily seen among organic farmers due to their limited options for pesticides, seed treatments, and fertilizers while maintaining organic certification. Today, organic farming remains the primary market for bio-ag products, representing about 15% of total produce sales in USA, with potential for further growth driven by consumer demand. Organic farming is expanding beyond fruits and vegetables into cereal and row crop markets, with significant increases in corn and soybean acres. Despite representing only a small portion of overall harvested acres, the trend suggests a double-digit CAGR for organic acres. Additionally, there is a growing trend of incorporating bio-based ingredients in non-organic farming practices, often alongside conventional crop protection and nutrition products.

Growth industry wrapped inside a mature market

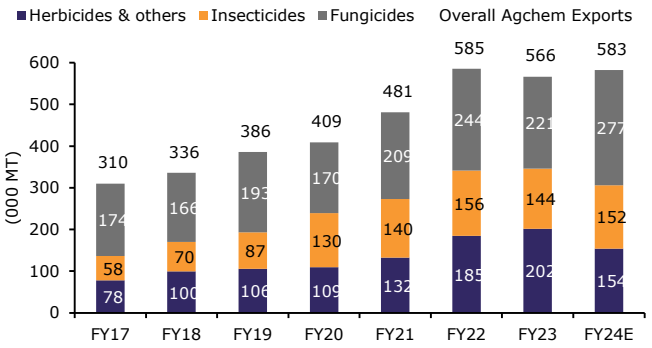
Outlook for the bio-based crop inputs market is highly promising compared with the conventional ag-chem market. While conventional ag-chem growth is expected to align with US GDP rates, primarily due to higher prices, the bio-based agri input market is projected to experience low to mid-teens growth over the next five years. If bio-based products gain traction in the ~USD100bn fertilizer market and provide viable alternatives for the large volume herbicides market facing stringent regulatory pressures, industry growth rates could surpass current expectations.

Indian Agchem manufacturers witnessed China+1 benefits

India is the #4 producer in the global agrochemical market, with market share of ~13-15%. In FY23, the Indian market size was estimated at approximately Rs765bn. Among various categories, insecticides dominated with a significant 40% share, followed by fungicides at 34% and herbicides at 23%. Projections suggest that the overall market is poised to witness a CAGR of ~6.0-6.5% by FY28, driven by escalating exports and domestic consumption.

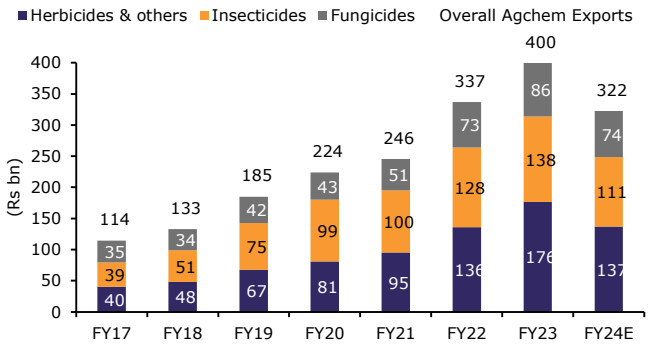
Post Covid-19, the surge in agrochemical exports from India can be attributed to higher formulation prices and adoption of the China+1 strategy (Exhibit 4). From FY20 to FY22, export volumes grew 20% YoY, from 409KT to 585KT, and then faced normalcy for FY23 and FY24 on account of higher channel inventory and destocking. Similar trends were witnessed on the value front as well. In FY24, the prices have corrected sharply by nearly 20-25% across all molecules, leading to lower exports in value terms. Although such challenges are expected to persist in the foreseeable future, indications of a reversal and restoration of stability are emerging. These include heightened demand for technical products, rising global agricultural commodity prices, and the strategic disposal of high-cost inventory, all of which have instilled a sense of relief and optimism among manufacturers, paving the way for improved performance in FY25.

Exhibit 47: India agrochem export volumes YoY



Source: Industry, Emkay Research

Exhibit 48: India agrochem export revenue YoY



Source: Industry, Emkay Research

Custom Synthesis and Manufacturing Industry

Custom synthesis and manufacturing (CSM) services involve manufacturing of chemical compounds (patented/off-patented) exclusively for the customer. Product categories encompass technical grades, active ingredients, intermediates, and specialty chemicals utilized across various industries, such as agrochemical, pharmaceutical, construction, personal care, textiles, paints, and coatings. Large innovator/drug marketing companies choose these services when they necessitate the exclusive large-scale production of a specific molecule meeting their purity criteria and other specified requirements.

CSM services offer advantages to companies aiming for cost reduction and competitive operations within a business landscape marked by escalating regulations, diminishing product approval processes, and swiftly evolving technology. These services aid companies in augmenting their manufacturing capacity and flexibility without requiring significant capital investments.

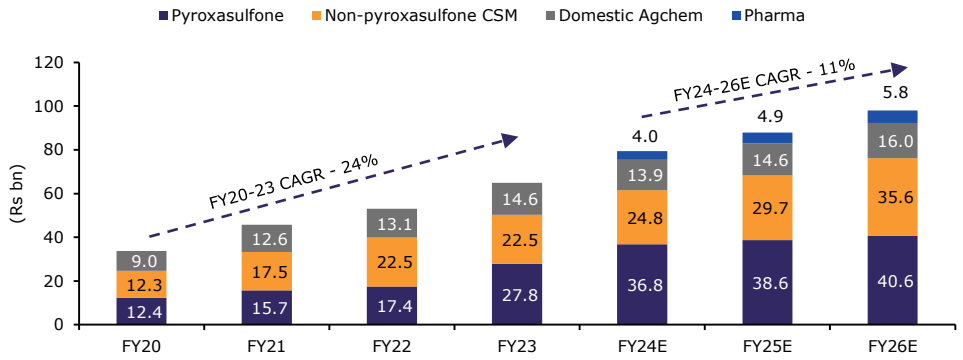
The Global Specialty Chemicals CSM industry expected to witness decent growth

Market size of the global CSM service industry for specialty chemicals is estimated at ~USD245bn, as of FY21. It registered CAGR of 7.9% during FY15-21 and is expected grow 8.5-9.5% till FY27 to USD400-425bn. Such growth will be driven by the growing global specialty chemicals industry, rise in commodity prices, increase in demand for outsourcing of manufacturing to emerging markets, and enhanced focus on R&D versus manufacturing by innovators.

Financial Analysis

We expect PI to report revenue CAGR of 11% over FY24-26E, primarily led by scale up of new molecules in its non-pyroxasulfone CSM portfolio and normalization of the current destocking phenomenon, coupled with pharma business contribution. Sales of pyroxasulfone to Kumiai will see a relatively moderate ~5% CAGR over FY24-26E, as guided by Kumiai in its three-year plan on inventory and price corrections.

Exhibit 49: Revenue CAGR to be 11% over FY24-26E



Source: Company, Emkay Research

We expect non-pyroxasulfone CSM revenues to grow at ~20% CAGR over FY24-26E (considering scale up of existing and new molecules). Domestic agchem revenues to grow at ~5% in FY25E on macro headwinds and 10% in FY26E on lower base in FY25E. Pharma revenues to grow in-line with management's guidance of doubling/tripling over next few years (though relatively smaller pie of the overall business).

Exhibit 50: Segmental revenue growth break-up (YoY)

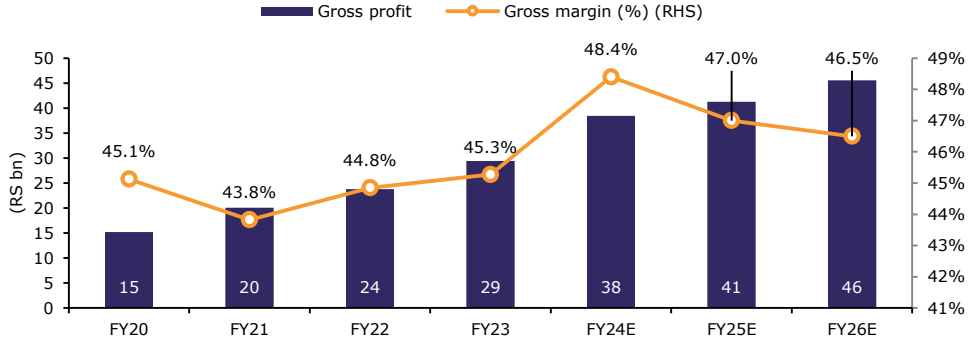
Segmental Revenue	FY20	FY21	FY22	FY23	FY24E	FY25E	FY26E
Pyroxasulfone	43%	27%	11%	59%	32%	5%	5%
Non-pyroxasulfone CSM	21%	42%	29%	0%	10%	20%	20%
Domestic Agchem	-6%	39%	4%	12%	-5%	5%	10%
Pharma						23%	17%
Total Revenue	**19%**	**36%**	**16%**	**23%**	**22%**	**11%**	**12%**

Source: Company, Emkay Research; Note – Pharma division acquired in FY24

Gross margin in FY24E was higher on account of favourable product mix (concentration of pyroxasulfone was higher), operating leverage and one-time adjustments for recovery of goods in transit. Gross margin is likely to moderate over FY25-26E, on gradual price correction in pyroxasulfone and incremental growth in revenue from generic products.

Gross profit will jump from Rs29bn to Rs38bn from FY23 to FY24E of which Rs410mn was due to recovery in goods lost in transit. Subsequently, gross profit is expected to grow at 7% in FY25E and 10% in FY26E due to addition of newer CSM products and expansion of the current portfolio. This gross margin moderation of ~2% over FY24-26E will also lead to EBITDA margin moderation by similar number (there will be higher operating expenses in pharma).

Exhibit 51: Gross profit CAGR estimated to be 9% over FY24-26E, with margins at 46.5%

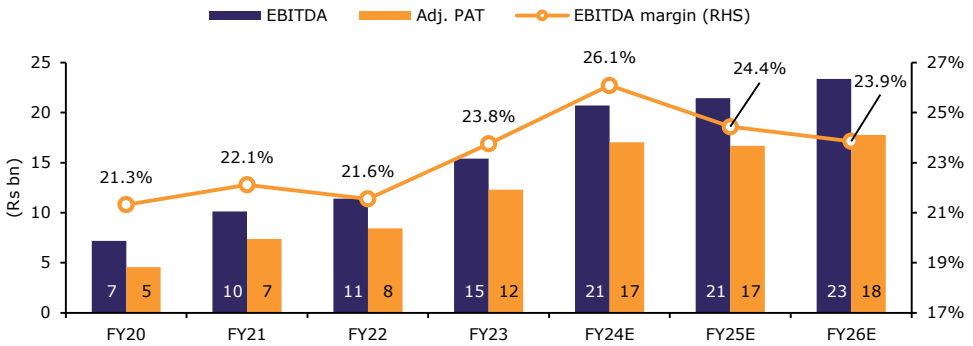


Source: Company, Emkay Research

We expect PI to register a relatively lower EBITDA CAGR, at ~6% over FY24-26E, on possible margin pressure due to correction in pyroxasulfone prices in Australia, USA and Argentina, and higher other overheads (development cost of the pharma business leading to higher SG&A expenses). FY25E/26E PAT is likely to be further impacted by higher taxation compared with benefits in earlier years (~20% vs. 13% for FY24).

Employee cost has always remained above 9% of the revenue over the years, with higher focus on R&D (above-average employee cost versus other specialty chemical players; only below Navin Fluorine's). We have considered savings of 25-30bps over FY26E, given acquisition synergies coming into play over time.

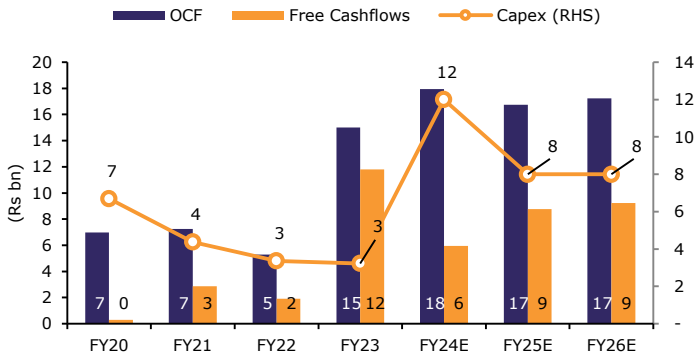
Exhibit 52: EBITDA CAGR expected at 6% over FY24-26E



Source: Company, Emkay Research

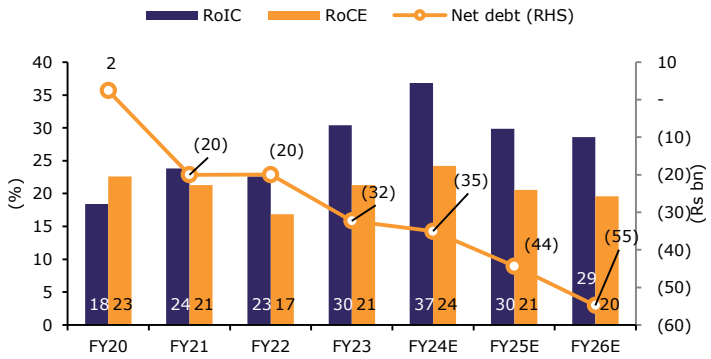
Working capital had shot up in FY22 on higher inventory levels (to avert supply chain disruptions and meet customer supply schedules / continued operations) which has now moderated and we expect working capital to remain stable. As a result, OCF/EBITDA is coming down and settling in the health range of the 70s.

Exhibit 53: Consistent OCF generation of >Rs10bn over next 3 years



Source: Company, Emkay Research

Exhibit 54: Surplus cash to drag down return ratios



Source: Company, Emkay Research

PI's RoCE profile started improving from FY22 (however it is significantly below RoIC) post the QIP, with incremental sales of pyroxasulfone, while the other businesses remained steady till FY24E. In FY23, PI generated cash yield of 9% p.a., while we expect 8% yield for FY24E and 7% yield FY25E onwards. With better than normal operating cash-flows kicking in, the cash pile has been continuously growing. Considering PI's margin profile, such yields should be improved if the company explores capital allocation opportunities for FY25E and FY26E.

PI had to cancel its acquisition of Ind-Swift Laboratories for a consideration of Rs15.3bn which has now led to a large cash pile-up on its books. Surplus cash is creating pressure on company-level return ratios, in our view. This is clearly visible from RoIC profile of ~30% and RoCE profile of ~20% which is a drag and requires strict capital allocation plans either by organic or inorganic means. In early FY24, PI invested ~Rs8bn towards acquiring two companies further to its venture into the Pharma CSM business. PI has also guided for Rs8-9bn annual capex towards R&D, maintenance and new MPPs for the next three years.

Company Overview

PI was established in 1946, under the name of Mewar Oil & General Mills Ltd, and is currently a prominent player in the agrochemical and life sciences sectors, with a differentiated business model prioritizing technology and intellectual property protection. The company serves its global customers across the value chain, encompassing custom synthesis and manufacturing, and in-licensing for distribution of agri-inputs in the domestic market. These two verticals synergize effectively, allowing the company to capitalize on its robust R&D capabilities and expansive nationwide distribution network. The company has a strong workforce of 3,354 employees as of FY23 and operates 5 formulation facilities and 15 multi-purpose plants (MPPs) with Distributed Control Systems (DCS) across 4 manufacturing locations. The company has also installed Asia's biggest Remote Input/Output System (RIO), which is a combination of technologies of Yokogawa, Japan and Turck, Germany.

Exhibit 55: PI's manufacturing locations

Manufacturing Locations	State
Udaipur	Rajasthan
Panoli GIDC (Unit-1)	Gujarat
Panoli GIDC (Unit-2)	Gujarat
Sterling SEZ, Jambusar	Gujarat

Source: Company, Emkay Research

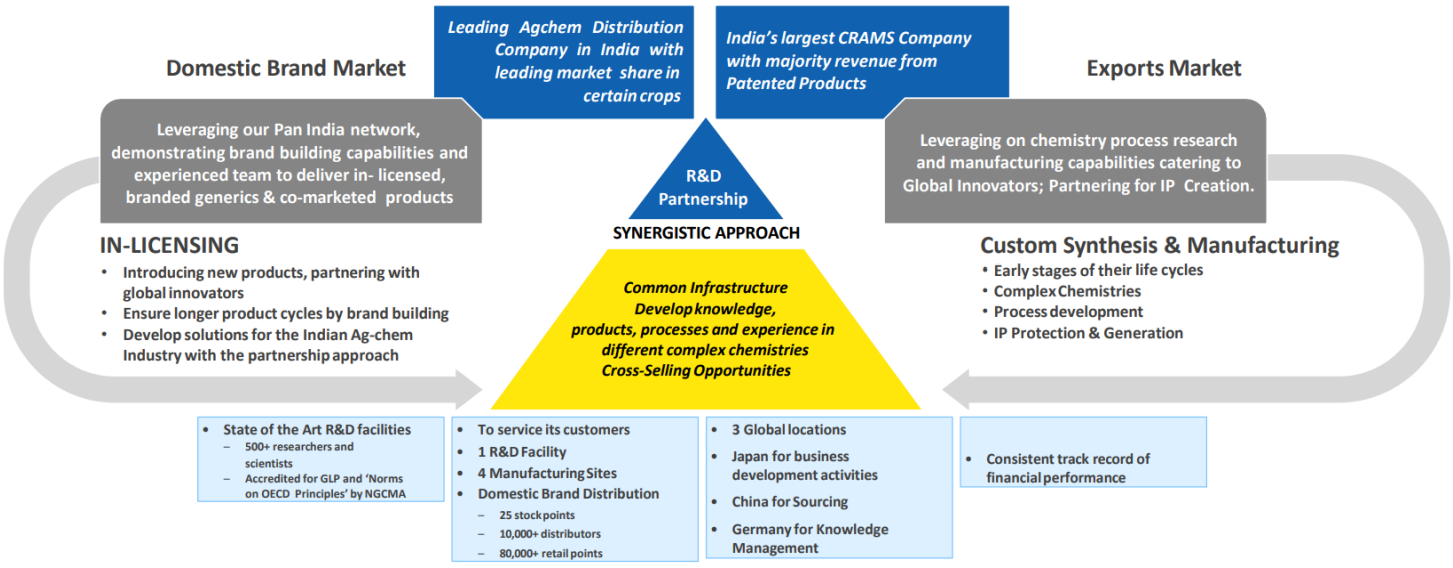
The company has a world-class NABL-certified R&D facility at Udaipur and a new research center at IKP Hyderabad, both collectively hosting a team of over 470 scientists and researchers (>120 PhDs), supported by advance R&D pilot plants and kilo labs. The company's steadfast dedication to R&D has cultivated collaborative partnerships with over 20 global innovators, fostering mutually beneficial relationships.

Further, the company has forged a robust pan-India distribution network, encompassing over 10,000 channel partners and more than 80,000 retailers, with 25 Stock Points. This extensive network forms the cornerstone of PI's branded agri-inputs distribution operations.

The company has, over a long period, been actively pursuing diversification initiatives. PI aims to broaden its current product range by intensifying its emphasis on Biologics and positioning itself as a specialist in horticulture. In addition to its core operations, the company is venturing into related fields, such as pharmaceuticals and other specialty chemicals, capitalizing on its robust R&D capabilities. In line with this strategy, PI has acquired 2 pharma companies and established a comprehensive pharmaceutical research center in Hyderabad, India.

Moreover, the company remains proactive in pursuing additional M&A opportunities to expand its presence in the non-agrochemical sector, leveraging its current capabilities to bolster its business. With ample financial resources, PI is well-positioned to execute significant acquisitions, boasting of approximately Rs30bn in funds as of Dec-23.

Exhibit 56: PI's business model built on the principles of respect for IP and long-term relationships



Source: Company

Exhibit 57: PI's timeline

1946	•Incorporated as Mewar Oil & General Mills Limited
1961	•Started AgChem formulation and marketing business
1976	•Started first Technical Manufacturing Plant
1992	•Changed name to PI Industries and opened new manufacturing unit in Panoli GIDC, Gujarat
1993	•Company got listed on BSE
1996	•Started Custom Synthesis and Manufacturing
2001	•Became first company in the AgChem space to implement SAP; also received ISO certification
2004	•Established subsidiary PI Life Science Research
2010	•Divested its Polymer Compounding Business
2011	•PI gets listed on the NSE
2012	•Established new manufacturing site at Jambusar, Gujarat
2015	•New formulation site set up at Panoli, Gujarat
2016	•Solinnos Agro Sciences - a JV with Mitsui Chemicals Agro, Japan •New R&D Centre at Udaipur •2 MPPs commissioned at Jambusar, Gujarat
2017	•PI Kumiai - JV with Kumiai Chemicals, Japan
2020	•Successful completion of QIP of Rs20bn •New manufacturing unit commissioned
2021	•Successfully integrated Isagro (Asia) Agro Chemicals Pvt •B2C business of Isagro demerged to Jivagro as a horticulture specialist
2022	•Piloted drone application in the Domestic Agri Market
2023	•Ventured into life sciences, CDMO and Pharma API through acquisition of Therachem Research Medilab LLC & Archimica SpA

Source: Company, Emkay Research

Exhibit 58: Current board of directors

Name of Director	Designation	Qualification	Experience/Expertise
Mayank Singhal	Vice Chairperson & MD	Engineering & management graduate	20 years of experience in the chemicals, intermediates and agrochemical industry
Rajnish Sarna	Joint MD	CA	30 years of expertise in business development, strategy, CRM, Operations, Finance, Risk Management, IR, etc
Arvind Singhal	NED, Non-ID	N.A.	40 years of experience in mining & mineral processing, agrochemicals & specialized chemicals, & electronic metering system. Also, Joint MD in PI for 22 years
Narayan Seshadri	NED, Non-ID	CA	Partner of KMP, of its business advisory practice in India
Shobinder Duggal	ID	Executive MBA from IIMD Lausanne, Switzerland	Experience with Nestlé and Voltas; Proficient in Finance
Lisa Brown	ID	Registered Trade Market Attorney; Law degree from University of Derby	20 years of experience in industrials, technology and consumer sectors
Pia Singh	ID	Business graduate from Wharton School	20 years of experience in business management
TS Balganesh	ID	Ph.D. Medical Microbiology from University of Calcutta; Post-doctoral research at Brookhaven National Lab, USA and Max Planck Institute, Germany; Honorary Ph.D. from Swedish University	

Source: Company

MD – Managing Director, NED – Non-Executive Director, ID – Independent Director, CA – Chartered Accountant

PI Industries : Consolidated Financials and Valuations

Profit & Loss

Y/E Mar (Rs mn)	FY22	FY23	FY24E	FY25E	FY26E
Revenue	**52,995**	**64,920**	**79,441**	**87,856**	**98,011**
Revenue growth (%)	15.8	22.5	22.4	10.6	11.6
EBITDA	**11,424**	**15,421**	**20,726**	**21,469**	**23,386**
EBITDA growth (%)	12.9	35.0	34.4	3.6	8.9
Depreciation & Amortization	2,018	2,265	3,078	3,280	3,642
EBIT	**9,406**	**13,156**	**17,647**	**18,190**	**19,744**
EBIT growth (%)	12.3	39.9	34.1	3.1	8.5
Other operating income	0	0	0	0	0
Other income	1,014	1,590	2,114	1,971	2,622
Financial expense	128	371	260	260	260
PBT	**10,292**	**14,375**	**19,502**	**19,901**	**22,107**
Extraordinary items	0	0	0	0	0
Taxes	1,890	2,148	2,535	3,284	4,421
Minority interest	0	0	0	0	0
Income from JV/Associates	35	68	73	77	81
Reported PAT	**8,437**	**12,295**	**17,040**	**16,694**	**17,766**
PAT growth (%)	14.3	45.7	38.6	(2.0)	6.4
Adjusted PAT	**8,437**	**12,295**	**17,040**	**16,694**	**17,766**
Diluted EPS (Rs)	**55.6**	**81.0**	**112.3**	**110.0**	**117.1**
Diluted EPS growth (%)	14.5	45.7	38.6	(2.0)	6.4
DPS (Rs)	**5.0**	**7.5**	**7.7**	**7.7**	**7.7**
Dividend payout (%)	**9.0**	**9.2**	**6.8**	**7.0**	**6.5**
EBITDA margin (%)	21.6	23.8	26.1	24.4	23.9
EBIT margin (%)	17.7	20.3	22.2	20.7	20.1
Effective tax rate (%)	18.4	14.9	13.0	16.5	20.0
NOPLAT (pre-IndAS)	**7,679**	**11,190**	**15,353**	**15,188**	**15,795**
Shares outstanding (mn)	151.7	151.7	151.7	151.7	151.7

Source: Company, Emkay Research

Balance Sheet

Y/E Mar (Rs mn)	FY22	FY23	FY24E	FY25E	FY26E
Share capital	152	152	152	152	152
Reserves & Surplus	61,052	71,833	87,712	103,246	119,852
Net worth	**61,204**	**71,985**	**87,864**	**103,398**	**120,004**
Minority interests	0	0	0	0	0
Deferred tax liability (net)	875	213	213	213	213
Total debt	**2,678**	**0**	**0**	**0**	**0**
Total liabilities & equity	**64,757**	**72,198**	**88,077**	**103,611**	**120,217**
Net tangible fixed assets	23,024	24,518	31,065	35,785	40,143
Net intangible assets	1,501	1,537	4,327	4,327	4,327
Net ROU assets	0	0	0	0	0
Capital WIP	1,145	1,324	3,699	3,699	3,699
Goodwill	828	828	3,618	3,618	3,618
Investments [JV/Associates]	448	313	872	872	872
Cash & equivalents	**22,649**	**32,272**	**35,038**	**44,342**	**54,768**
Current assets (ex-cash)	29,144	24,833	31,581	34,820	38,728
Current Liab. & Prov.	13,154	12,599	18,505	20,234	22,320
NWC (ex-cash)	**15,990**	**12,234**	**13,077**	**14,586**	**16,407**
Total assets	**64,757**	**72,198**	**88,077**	**103,611**	**120,217**
Net debt	(19,971)	(32,272)	(35,038)	(44,342)	(54,768)
Capital employed	64,757	72,198	88,077	103,611	120,217
Invested capital	**40,515**	**38,289**	**48,468**	**54,698**	**60,878**
BVPS (Rs)	403.5	474.5	579.2	681.6	791.1
Net Debt/Equity (x)	(0.3)	(0.4)	(0.4)	(0.4)	(0.5)
Net Debt/EBITDA (x)	(1.7)	(2.1)	(1.7)	(2.1)	(2.3)
Interest coverage (x)	0.0	0.0	0.0	0.0	0.0
RoCE (%)	**17.0**	**21.5**	**24.7**	**21.0**	**20.0**

Source: Company, Emkay Research

Cash flows

Y/E Mar (Rs mn)	FY22	FY23	FY24E	FY25E	FY26E
PBT	10,292	14,375	19,502	19,901	22,107
Others (non-cash items)	1,986	1,079	1,224	1,568	1,279
Taxes paid	(1,751)	(2,558)	(1,779)	(3,168)	(4,282)
Change in NWC	(6,154)	3,094	(843)	(1,509)	(1,821)
Operating cash flow	**5,287**	**15,014**	**17,948**	**16,753**	**17,224**
Capital expenditure	(3,431)	(3,974)	(14,790)	(8,000)	(8,000)
Acquisition of business	(241)	135	(559)	0	0
Interest & dividend income	1,014	1,590	2,114	1,971	2,622
Investing cash flow	**(1,104)**	**(4,962)**	**(15,370)**	**(6,029)**	**(5,378)**
Equity raised/(repaid)	0	0	0	0	0
Debt raised/(repaid)	(597)	(2,678)	0	0	0
Payment of lease liabilities	0	0	0	0	0
Interest paid	(128)	(371)	(260)	(260)	(260)
Dividend paid (incl tax)	(758)	(1,137)	(1,161)	(1,161)	(1,161)
Others	(290)	(645)	0	0	0
Financing cash flow	**(1,773)**	**(4,831)**	**(1,421)**	**(1,420)**	**(1,420)**
Net chg in Cash	2,410	5,221	1,158	9,304	10,426
OCF	5,287	15,014	17,948	16,753	17,224
Adj. OCF (w/o NWC chg.)	(867)	18,108	17,106	15,244	15,403
FCFF	1,856	11,040	3,158	8,753	9,224
FCFE	2,742	12,259	5,013	10,465	11,587
OCF/EBITDA (%)	46.3	97.4	86.6	78.0	73.7
FCFE/PAT (%)	32.5	99.7	29.4	62.7	65.2
FCFF/NOPLAT (%)	**24.2**	**98.7**	**20.6**	**57.6**	**58.4**

Source: Company, Emkay Research

Valuations and key Ratios

Y/E Mar	FY22	FY23	FY24E	FY25E	FY26E
P/E (x)	67.3	46.2	33.3	34.0	32.0
P/CE(x)	54.3	39.0	28.2	28.4	26.5
P/B (x)	9.3	7.9	6.5	5.5	4.7
EV/Sales (x)	10.3	8.2	6.7	6.0	5.2
EV/EBITDA (x)	47.9	34.7	25.7	24.4	21.9
EV/EBIT(x)	58.2	40.7	30.2	28.8	26.0
EV/IC (x)	13.5	14.0	11.0	9.6	8.4
FCFF yield (%)	0.3	2.1	0.6	1.7	1.8
FCFE yield (%)	0.5	2.2	0.9	1.8	2.0
Dividend yield (%)	0.1	0.2	0.2	0.2	0.2
DuPont-RoE split					
Net profit margin (%)	15.9	18.9	21.4	19.0	18.1
Total asset turnover (x)	0.9	0.9	1.0	0.9	0.9
Assets/Equity (x)	1.1	1.0	1.0	1.0	1.0
RoE (%)	**14.7**	**18.5**	**21.3**	**17.5**	**15.9**
DuPont-RoIC					
NOPLAT margin (%)	14.5	17.2	19.3	17.3	16.1
IC turnover (x)	1.5	1.6	1.8	1.7	1.7
RoIC (%)	**21.4**	**28.4**	**35.4**	**29.4**	**27.3**
Operating metrics					
Core NWC days	110.1	68.8	60.1	60.6	61.1
Total NWC days	**110.1**	**68.8**	**60.1**	**60.6**	**61.1**
Fixed asset turnover	1.8	1.9	1.9	1.7	1.6
Opex-to-revenue (%)	23.3	21.5	22.3	22.6	22.6

Source: Company, Emkay Research

GENERAL DISCLOSURE/DISCLAIMER BY EMKAY GLOBAL FINANCIAL SERVICES LIMITED (EGFSL):

Emkay Global Financial Services Limited (CIN-L67120MH1995PLC084899) and its affiliates are a full-service, brokerage, investment banking, investment management and financing group. Emkay Global Financial Services Limited (EGFSL) along with its affiliates are participants in virtually all securities trading markets in India. EGFSL was established in 1995 and is one of India's leading brokerage and distribution house. EGFSL is a corporate trading member of BSE Limited (BSE), National Stock Exchange of India Limited (NSE), MCX Stock Exchange Limited (MCX-SX), Multi Commodity Exchange of India Ltd (MCX) and National Commodity & Derivatives Exchange Limited (NCDEX) (hereinafter referred to be as "Stock Exchange(s)"). EGFSL along with its [affiliates] offers the most comprehensive avenues for investments and is engaged in the businesses including stock broking (Institutional and retail), merchant banking, commodity broking, depository participant, portfolio management and services rendered in connection with distribution of primary market issues and financial products like mutual funds, fixed deposits. Details of associates are available on our website i.e. www.emkayglobal.com.

EGFSL is registered as Research Analyst with the Securities and Exchange Board of India ("SEBI") bearing registration Number INH000000354 as per SEBI (Research Analysts) Regulations, 2014. EGFSL hereby declares that it has not defaulted with any Stock Exchange nor its activities were suspended by any Stock Exchange with whom it is registered in last five years. However, SEBI and Stock Exchanges had conducted their routine inspection and based on their observations have issued advice letters or levied minor penalty on EGFSL for certain operational deviations in ordinary/routine course of business. EGFSL has not been debarred from doing business by any Stock Exchange / SEBI or any other authorities; nor has its certificate of registration been cancelled by SEBI at any point of time.

EGFSL offers research services to its existing clients as well as prospects. The analyst for this report certifies that all of the views expressed in this report accurately reflect his or her personal views about the subject company or companies and its or their securities, and no part of his or her compensation was, is or will be, directly or indirectly related to specific recommendations or views expressed in this report.

This report is based on information obtained from public sources and sources believed to be reliable, but no independent verification has been made nor is its accuracy or completeness guaranteed. This report and information herein is solely for informational purpose and shall not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Though disseminated to all the clients simultaneously, not all clients may receive this report at the same time. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient.

EGFSL and/or its affiliates may seek investment banking or other business from the company or companies that are the subject of this material. EGFSL may have issued or may issue other reports (on technical or fundamental analysis basis) of the same subject company that are inconsistent with and reach different conclusion from the information, recommendations or information presented in this report or are contrary to those contained in this report. Users of this report may visit www.emkayglobal.com to view all Research Reports of EGFSL. The views and opinions expressed in this document may or may not match or may be contrary with the views, estimates, rating, and target price of the research published by any other analyst or by associate entities of EGFSL; our proprietary trading, investment businesses or other associate entities may make investment decisions that are inconsistent with the recommendations expressed herein. In reviewing these materials, you should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest including but not limited to those stated herein. Additionally, other important information regarding our relationships with the company or companies that are the subject of this material is provided herein. All material presented in this report, unless specifically indicated otherwise, is under copyright to Emkay. None of the material, nor its content, nor any copy of it, may be altered in any way, transmitted to, copied or distributed to any other party, without the prior express written permission of EGFSL . All trademarks, service marks and logos used in this report are trademarks or registered trademarks of EGFSL or its affiliates. The information contained herein is not intended for publication or distribution or circulation in any manner whatsoever and any unauthorized reading, dissemination, distribution or copying of this communication is prohibited unless otherwise expressly authorized. Please ensure that you have read "Risk Disclosure Document for Capital Market and Derivatives Segments" as prescribed by Securities and Exchange Board of India before investing in Indian Securities Market. In so far as this report includes current or historic information, it is believed to be reliable, although its accuracy and completeness cannot be guaranteed.

This report has not been reviewed or authorized by any regulatory authority. There is no planned schedule or frequency for updating research report relating to any issuer/subject company.

Please contact the primary analyst for valuation methodologies and assumptions associated with the covered companies or price targets.

Disclaimer for U.S. persons only: Research report is a product of Emkay Global Financial Services Ltd., under Marco Polo Securities 15a6 chaperone service, which is the employer of the research analyst(s) who has prepared the research report. The research analyst(s) preparing the research report is/are resident outside the United States (U.S.) and are not associated persons of any U.S. regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a U.S. broker-dealer, and is/are not required to satisfy the regulatory licensing requirements of Financial Institutions Regulatory Authority (FINRA) or required to otherwise comply with U.S. rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account.

This report is intended for distribution to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the U.S. Securities and Exchange Act, 1934 (the Exchange Act) and interpretations thereof by U.S. Securities and Exchange Commission (SEC) in reliance on Rule 15a 6(a)(2). If the recipient of this report is not a Major Institutional Investor as specified above, then it should not act upon this report and return the same to the sender. Further, this report may not be copied, duplicated and/or transmitted onward to any U.S. person, which is not the Major Institutional Investor. In reliance on the exemption from registration provided by Rule 15a-6 of the Exchange Act and interpretations thereof by the SEC in order to conduct certain business with Major Institutional Investors. Emkay Global Financial Services Ltd. has entered into a chaperoning agreement with a U.S. registered broker-dealer, Marco Polo Securities Inc. ("Marco Polo"). Transactions in securities discussed in this research report should be effected through Marco Polo or another U.S. registered broker dealer.

RESTRICTIONS ON DISTRIBUTION

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. Except otherwise restricted by laws or regulations, this report is intended only for qualified, professional, institutional or sophisticated investors as defined in the laws and regulations of such jurisdictions. Specifically, this document does not constitute an offer to or solicitation to any U.S. person for the purchase or sale of any financial instrument or as an official confirmation of any transaction to any U.S. person. Unless otherwise stated, this message should not be construed as official confirmation of any transaction. No part of this document may be distributed in Canada or used by private customers in United Kingdom.

ANALYST CERTIFICATION BY EMKAY GLOBAL FINANCIAL SERVICES LIMITED (EGFSL)

The research analyst(s) primarily responsible for the content of this research report, in part or in whole, certifies that the views about the companies and their securities expressed in this report accurately reflect his/her personal views. The analyst(s) also certifies that no part of his/her compensation was, is, or will be, directly or indirectly, related to specific recommendations or views expressed in the report. The research analyst (s) primarily responsible of the content of this research report, in part or in whole, certifies that he or his associated persons1 may have served as an officer, director or employee of the issuer or the new listing applicant (which includes in the case of a real estate investment trust, an officer of the management company of the real estate investment trust; and in the case of any other entity, an officer or its equivalent counterparty of the entity who is responsible for the management of the issuer or the new listing applicant). The research analyst(s) primarily responsible for the content of this research report or his associate may have Financial Interests2 in relation to an issuer or a new listing applicant that the analyst reviews. EGFSL has procedures in place to eliminate, avoid and manage any potential conflicts of interests that may arise in connection with the production of research reports. The research analyst(s) responsible for this report operates as part of a separate and independent team to the investment banking function of the EGFSL and procedures are in place to ensure that confidential information held by either the research or investment banking function is handled appropriately. There is no direct link of EGFSL compensation to any specific investment banking function of the EGFSL.

[1] An associated person is defined as (i) who reports directly or indirectly to such a research analyst in connection with the preparation of the reports; or (ii) another person accustomed or obliged to act in accordance with the directions or instructions of the analyst.

[2] Financial Interest is defined as interest that are commonly known financial interest, such as investment in the securities in respect of an issuer or a new listing applicant, or financial accommodation arrangement between the issuer or the new listing applicant and the firm or analysis. This term does not include commercial lending conducted at the arm's length, or investments in any collective investment scheme other than an issuer or new listing applicant notwithstanding the fact that the scheme has investments in securities in respect of an issuer or a new listing applicant.

COMPANY-SPECIFIC / REGULATORY DISCLOSURES BY EMKAY GLOBAL FINANCIAL SERVICES LIMITED (EGFSL):

Disclosures by Emkay Global Financial Services Limited (Research Entity) and its Research Analyst under SEBI (Research Analyst) Regulations, 2014 with reference to the subject company(s) covered in this report-:

1. EGFSL, its subsidiaries and/or other affiliates and Research Analyst or his/her associate/relative's may have Financial Interest/proprietary positions in the securities recommended in this report as of April 20, 2024
2. EGFSL, and/or Research Analyst does not market make in equity securities of the issuer(s) or company(ies) mentioned in this Report
   Disclosure of previous investment recommendation produced:
3. EGFSL may have published other investment recommendations in respect of the same securities / instruments recommended in this research report during the preceding 12 months. Please contact the primary analyst listed in the first page of this report to view previous investment recommendations published by EGFSL in the preceding 12 months.
4. EGFSL, its subsidiaries and/or other affiliates and Research Analyst or his/her relative's may have material conflict of interest in the securities recommended in this report as of April 20, 2024
5. EGFSL, its affiliates and Research Analyst or his/her associate/relative's may have actual/beneficial ownership of 1% or more securities of the subject company at the end of the month immediately preceding the April 20, 2024
6. EGFSL or its associates may have managed or co-managed public offering of securities for the subject company in the past twelve months.
7. EGFSL, its affiliates and Research Analyst or his/her associate may have received compensation in whatever form including compensation for investment banking or merchant banking or brokerage services or for products or services other than investment banking or merchant banking or brokerage services from securities recommended in this report (subject company) in the past 12 months.
8. EGFSL, its affiliates and/or and Research Analyst or his/her associate may have received any compensation or other benefits from the subject company or third party in connection with this research report.

Emkay Rating Distribution

Ratings	Expected Return within the next 12-18 months.
BUY	>15% upside
ADD	5-15% upside
REDUCE	5% upside to 15% downside
SELL	<15% downside

Emkay Global Financial Services Ltd.

CIN - L67120MH1995PLC084899

7th Floor, The Ruby, Senapati Bapat Marg, Dadar - West, Mumbai - 400028. India
Tel: +91 22 66121212 Fax: +91 22 66121299 Web: www.emkayglobal.com

OTHER DISCLAIMERS AND DISCLOSURES:

Other disclosures by Emkay Global Financial Services Limited (Research Entity) and its Research Analyst under SEBI (Research Analyst) Regulations, 2014 with reference to the subject company(s) -:

EGFSL or its associates may have financial interest in the subject company.

Research Analyst or his/her associate/relative's may have financial interest in the subject company.

EGFSL or its associates and Research Analyst or his/her associate/ relative's may have material conflict of interest in the subject company. The research Analyst or research entity (EGFSL) have not been engaged in market making activity for the subject company.

EGFSL or its associates may have actual/beneficial ownership of 1% or more securities of the subject company at the end of the month immediately preceding the date of public appearance or publication of Research Report.

Research Analyst or his/her associate/relatives may have actual/beneficial ownership of 1% or more securities of the subject company at the end of the month immediately preceding the date of public appearance or publication of Research Report.

Research Analyst may have served as an officer, director or employee of the subject company.

EGFSL or its affiliates may have received any compensation including for investment banking or merchant banking or brokerage services from the subject company in the past 12 months. . Emkay may have issued or may issue other reports that are inconsistent with and reach different conclusion from the information, recommendations or information presented in this report or are contrary to those contained in this report. Emkay Investors may visit www.emkayglobal.com to view all Research Reports. The views and opinions expressed in this document may or may not match or may be contrary with the views, estimates, rating, and target price of the research published by any other analyst or by associate entities of Emkay; our proprietary trading, investment businesses or other associate entities may make investment decisions that are inconsistent with the recommendations expressed herein. EGFSL or its associates may have received compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company in the past 12 months. EGFSL or its associates may have received any compensation or other benefits from the Subject Company or third party in connection with the research report. EGFSL or its associates may have received compensation from the subject company in the past twelve months. Subject Company may have been client of EGFSL or its affiliates during twelve months preceding the date of distribution of the research report and EGFSL or its affiliates may have co-managed public offering of securities for the subject company in the past twelve months.

SESHADRI KUMAR SEN

Digitally signed by SESHADRI KUMAR SEN
DN: c=IN, o=Personal, pseudonym=133421651129256467AME3LY655Z5MEZ, 2.5.4.20=1217a0ac22644d6a490a50ef35978ca2cbcf94e39548b678bafc1f29f6e1ced7, postalCode=400011, st=Maharashtra, serialNumber=07837cb61a11364e9d2229a78d0af55d5d599551e83b808ee76a10dbb491f06e, cn=SESHADRI KUMAR SEN
Date: 2024.04.20 08:46:03 +05'30'