

## Building with APLomb

Once upon a time, in a kingdom called Steelia, there were strong and durable buildings built with the finest structural steel tubes. A wicked sorcerer named Rusticus cast a spell on the kingdom and weakened the steel tubes, causing the buildings to collapse. The people of Steelia were unable to defeat Rusticus and his magic, until a wise wizard named Galvanus appeared. Galvanus explained that coating the steel tubes with zinc would protect them from rusting and make them stronger. The people of Steelia followed his advice and saved their kingdom. The buildings were once again strong and sturdy, and the people lived happily ever after.

Before you think you have begun reading Access Fantastica instead of Access India, it must be confessed that the above introduction was created entirely by Artificial Intelligence. Specifically, by ChatGPT, which took the world by storm when it was released recently to the public. The prompt, driven more by curiosity than anything else, was simply “how would you begin an investment note on structural steel tubes”, and this first paragraph above is what it produced, instantaneously. Pretty exciting how AI is developing. But the focus for this note isn’t super-exciting AI, or even exciting YouTube, but a humble and unexciting steel tube. As boring as it can get. But sometimes boring is great, especially in the context of long-term wealth creation.

In a developing country like India where construction is pivotal for future growth, building materials are key. Only ~35% of the population stays in India’s urban areas versus ~65% for China. With the nuclearization of families, rising per capita income and improved standard of living in urban centers, the construction of housing complexes, malls and commercial offices are likely to increase. But is construction in India efficient?

The industry currently uses a mixture of Thermo-Mechanically Treated (TMT) bars and reinforced concrete (RCC). But TMT bars are produced from recycled steel, which suffers from quality issues. RCC has its own challenges. For example, RCC takes 24 days per slab for laying and curing. Every year, the National Green Tribunal bans construction activities in winter due to the rise in pollution levels. RCC works routinely grind to a standstill due to this, and work can stop for up to 3-5 months. RCC structures are also 100% cast in-situ, and it is estimated that the dust from such construction contributes ~18%-38% to the country’s overall pollution. The average ground water consumption with RCC construction in India is a ridiculous 25,000 Liters per square meter. As a consequence, ground water for construction has been banned in certain parts of the country, which in turn has resulted in projects being delayed 6 to 9 months or more.

As every entrepreneur worth her/his salt would say, “there’s just got to be a better way”. How about the following? Zero ground water consumption. Zero-dust construction. Savings of up to 16 days per slab. Better cash flows for financing. Extra carpet area. A super structure that can be readied 65% faster. Project completion on time, with no extra cost. About a year’s worth of interest cost - saved. In short, ensuring that every aspect that matters in construction today, viz. speed, quality, cost and environment, is addressed. Seems too good to be true? Enter structural steel tubes.

The process with conventional long steel products involves transforming metal sheets and fabricating them into boxes to make pillars. Structural steel tubes on the other hand, are ready columns which can be directly utilized. Being hollow from the inside means they bear a superior weight-to-strength ratio, minimizing the overall weight of structures by ~10%. Tensile strength is very high, as is durability and corrosion resistance (remember the wise wizard Galvanus?). Proponents of this technology believe it is a gamechanger. It is prevalent across the world too, and is why some countries seem to complete construction at breakneck speed. Conventional RCC construction takes ~2.5 to 3 years for an entire building. Using structural tubes means the all-steel superstructure is made in the factory, brought to the site, and then simply assembled.

Are there specific use-cases which will benefit? Plenty. Most modern structures like airport terminals, malls, metros, smart cities, green buildings and warehouses use structural steel tubes extensively. The Indian government plans to

start 100 additional airports by 2024. It also plans to invest ~USD 2.5bn in upgrading existing airport infrastructure in the country, especially in smaller cities, over the next 3 years. Over 25 cities in India will have operational metro rail networks in the coming years and around ~USD 30bn+ worth of projects are expected to be commissioned in the next 4-5 years. Other models such as rapid rail and light rail will also witness growth. India's logistics sector too is expected to attract strong investment on the back of exponential growth in e-commerce, online shopping and revival in economic activity. E-commerce is estimated to grow at a CAGR of ~25%, reaching USD 200 bn by 2027. But India's logistics sector is relatively inefficient, with its logistics cost to GDP at ~13-14%, while BRICS countries (ex-India) are at ~11%, US is at ~9.5% and Germany is at ~8%. This has propelled the need for significant investment in the warehousing space to scale up its storage capacity from ~253 mn sq ft in FY20 to ~379 mn sq ft in FY23E. Sophisticated warehouses are massive and technologically advanced (with high usage of structural steels now replacing conventional equipment) leading to reduced logistics cost.

Is there a way to invest in this boring-yet-exciting opportunity? Global steel consumption is ~1500-1800 mtpa (million tons per annum). Of this, ~10% is used in structural steel tubes. The comparable slice of the pie is just 4% in India, of a total ~100 mtpa steel industry. So it is small, and there is substantial room to grow. But interesting here, is that the market leader, APL Apollo, India's largest producer of branded structural steel, commands a 55% market share, while the nearest competitor only has ~9%. APL Apollo's growth over the last ten years has been ~20% CAGR versus just 5% for the industry, and it has replaced old, conventional products like RCC columns, with its focus on innovation, new technologies, and new markets. The company targets to achieve a market share of ~60-75%, with volumes of ~4 mtpa by 2025. Is this possible?

In the past 35 years, APL has gone from manufacturing highly commoditized zero-value add products to now having a portfolio where ~50% of their products are not just substantially value-additive but also have near-zero competition. Innovation has become the name of their game. When APL started producing structural steel tubes, the industry primarily produced round and circular products, which were mainly used for the transportation of water, oil, and gas. APL was the first to introduce square and rectangular tubes, which had better load-bearing capabilities and aesthetics compared to round pipes. Today the company's products include square and octagonal tubes, hexagonal and D-shaped tubes, elliptical tubes, reflector tubes, fencing shaped tubes, and zinc and galvanized coated tubes – quite a mouthful, and so the company has come a long way! Going forward, the company is launching heavy structural tubes (500x500mm) which is a first-time product for the Indian construction industry – aimed at accelerating the verticalization of buildings in India. There are just 3 other players globally who offer this. APL has also started producing color-coated tubes – which are one-of-its-kind products anywhere in the world. It is setting up a unit that will provide a 3 mm color coating to pipes. It will be the only unit in the world providing this coating thickness, thereby significantly enhancing the useful life of the product.

Currently, the company's heavy steel tubes make up ~6% of its overall sales volume, but as infrastructure activities increase and stakeholders in the construction sector become more aware of the benefits of using steel tubes, APL expects this portion to increase to ~20-25% of its portfolio in the next five years.

APL is also the lowest-cost producer in India with the highest operating margins. This stems from the following reasons: i) Pan-India presence with plants in the North, West, South and Central India, which leads to significant saving in freight costs. ii) Backward integration: APL now downsizes the standard HRC (hot rolled coil) width from 2mm to 1.2-1.4mm, which are more relevant for manufacturing high-value products. Earlier, APL was getting these customized HRCs from Tata Steel and JSW Steel at a much higher price and these products were also made available to competitors. But now with its own cold roll milling, APL not only saves on the process cost, but has also created an entry barrier as both Tata Steel and JSW Steel now manufacture only standard 2mm width HRC sheets. Why? Because APL – previously its largest HRC customer – is out of the equation. And APL's peers lack the balance sheet strength to carry out backward integration. iii) APL has been a pioneer in adopting and bringing new technologies such as DFT (Direct Forming Technique). In conventional technology, the pipes are first made round (in shape) and then subsequently given another shape, i.e., square, hollow, rectangle, etc., which increases the conversion cost. In Direct Forming Technique, as the name suggests, the final shape comes directly. In DFT, the entire rolling process is

automated, which takes only 1-2 hours, whereas in the conventional method it takes between 8 hours and 2 days as the entire line must be changed manually. Such product customization has helped APL create a large and diversified client base since it can meet different requirements.

An interesting case study is worth mentioning here. One of the sub-contractors for Bengaluru (*aka* Silicon Valley of India) Airport had a requirement of hollow sections sized 350 mm x 250 mm X 10 mm to be sourced from their list of preferred suppliers for constructing the terminal building. But none of the suppliers were able to manufacture the required sizes considering their capability and capacity constraints. The sub-contractor almost decided to import these sizes from China with a 60-day lead time which would have no-doubt increased costs. Just before that decision, they chose to check with APL - who were able to provide the required sizes and quantity within just 7 days of issuing the purchase order, thanks to their DFT technology.

APL's RoCE has been steadily increasing, and is now ~35%, which reflects the company's ability to deploy capital into higher value-add products. Net debt to equity is down to 0.1x from 0.9x in FY19. Net working capital in the last couple of years has come down from over a month to just ~3 days - which is the best in the industry - made possible by taking the tough decision of moving to a cash-and-carry model rather than offering loose credit terms. Adequate supplies to dealers across the country (in-time & on-demand) means APL has ~2-3x turnover vs competitor products. The company has also doubled capacity every three years without taking on debt. Going forward, the expectation is to fund ~USD 100m capex for the next couple of years entirely through internal accruals (~90% is already incurred). APL has 11 plants in India, ~800 dealers and distributors, presence across ~2000 towns and cities, and a footprint of ~50,000 retailers and ~200,000 fabricators. Despite this unprecedented reach, there are several micro markets where volumes can be further expanded. The company has also streamlined its supply chain, reducing delivery time from 15 days a few years ago to ~4 days now - with a target of 24 hours soon.

Are there risks? A slowdown in the economy or government spending on infrastructure, a fall in steel prices which could result in temporary inventory losses (because the company is simply a converter), slower growth in the real estate market, slowdown in steel demand across building and construction segments - are some risks. But we believe that the risk reward is favorable. The company trades at ~35x FY24E P/E and ~24x FY24E EV/EBITDA, and has re-rated in the past 18 months on the back of steady growth and repayment of debt, and is now in the top 5 holdings of our concentrated ~22-stock portfolio. With an improving RoE and RoCE profile (significantly higher operating leverage), higher growth driven by constant efforts towards market creation, and steady increase in market share (to reach >60% in the next 3-4 years) means they are likely to continue building with aplomb.

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Data sources: publicly available media articles and reports, internal.

Prior Editions of Access India Equity Insights:

1. cARPU diem - Jan 2023 ([link](#))
2. All's Well That Trends Well - Nov 2022 ([link](#))
3. 'Foods' for Thought - Oct 2022 ([link](#))
4. EV Wonder - Sep 2022 ([link](#))
5. Forest or Trees - Aug 2022 ([link](#))

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Asia Pacific & Europe	Middle East & Africa	Middle East & Israel	Americas
Nikhil Iyer <a href="mailto:nikhil.iyer@ask-capital.com">nikhil.iyer@ask-capital.com</a>	Chandrashekhar Kekane <a href="mailto:ckekane@askinvestmentmanagers.com">ckekane@askinvestmentmanagers.com</a>	Mithun Shrinivas <a href="mailto:mithun.shrinivas@askinvestmentmanagers.com">mithun.shrinivas@askinvestmentmanagers.com</a>	Mahesh Ramasubramanian <a href="mailto:mahesh.r@ask-capital.com">mahesh.r@ask-capital.com</a>

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