

# Stainless Steel Focus

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## Cover story: **Viraj Profiles Ltd**

*Going from strength to strength p.26*



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# Viraj Profiles: Going from strength to strength

Way back in 2007, the Editor had the opportunity to take the short helicopter flight from Mumbai to see the Viraj Profiles operation in Thane, Maharashtra, at first hand. At that time, the company was fully focused on investing in its already impressive facilities to further expand and facilitate its product offering to customers, and had, for example, just recently invested in its own wire rod mill. The philosophy on which the company was founded has clearly not changed, and this year Viraj commissioned a fully automatic section rolling mill, the first of its kind in India. By all accounts, this will not be the last piece of news to emerge from the company.

**V**iraj has indeed come a very long way, within the space of just a few years, since it started its first melting shop with a small induction furnace producing utensil grade steel for the domestic Indian market in 1991.

Today, the company has a stainless production capacity of 528,000 tonnes, more than 9,000 employees, and an annual turnover of over US\$1.5 billion. It exports its products to more than 1,300 customers in over 6 continents, 90 countries worldwide, and is the largest exporter of stainless steel long products in India. The company produces more than 50,000 SKUs across various grades such as austenitic, ferritic, martensitic, and duplex, as well as electrode gra-

des, in various shapes and sizes. The company is ranked number one in forged flanges in the world.

***From domestic supplier  
to global leader***

Commenting on the company's rapid transition from a small domestic supplier to a leading global producer of stainless steel long products, Neeraj R Kochhar, CMD, Viraj Profiles told **Stainless Steel Focus**: "I attribute this success to our organizational values, and the commitment towards quality and our zest for technological upgradation. Though Viraj is an Indian company, we have always looked at the global scenario in order to keep ourselves at par with the



mer requirements has always helped us to stay ahead of our competitors. Also our integrated manufacturing system, having all the processes in-house, makes us less dependent on external factors. “Finally, quality is what characterises all our products and today I can proudly say that Viraj has carved a niche for itself based solely on quality.”

The first major steps towards becoming an important international player were taken in 1995 when Viraj started increasing its production capacity, diversifying its product grades and product range, and enhancing its production processes. Over the next five years, the company ventured into flanges and fittings, bright bars, wire, angles and channels, providing stockists and traders around the world the flexibility of ordering multiple products from a single source.

#### ***Investing in technological upgradation and harnessing its capacities***

By the mid-2000s, Viraj had extensive bar production facilities at its disposal. However, as the company explained to **Stainless Steel Focus** at the time, almost 50% of the market for bar is of a size range that is produced from wire rod. This meant that Viraj was obliged to send its billets for toll rolling

global market standards. Today our products enjoy leadership position in several product categories across the globe. More than 90% of our total products are already being exported to more than 90 countries. One of our biggest achievements came our way in the year 2008 when Viraj was ranked third largest producer of stainless steel long products in the world. And from then on there was no looking back.”

He further added, “Our ability to react quickly to market changes and custo-



**Mr Neeraj R Kochhar**  
**CMD Viraj Profiles**





## **Mrs Renu Kochhar MD Viraj Profiles**

into rod for a large proportion of its bar production. This led to the decision to make one of the hitherto largest investments at the company - its own wire rod mill - thus extending its product range, and at the same time allowing Viraj to meet its raw material requirements from in-house facilities and thereby significantly increasing its bar production capacity.

Commenting on the decision to set up its own wire rod mill, Renu Kochhar, Managing Director, Viraj Profiles, who also heads the sales & marketing department, told **Stainless Steel Focus**: "The decision was taken in order

to widen our product basket and to utilize the existing manufacturing capabilities to the fullest possible. Today, Viraj is one of the largest providers of the widest range of stainless steel products under one roof.

"Our wire rod division is well equipped with a fully automatic wire rod mill from Siemens, Italy, and solution annealing, soft annealing and pickling plants with high end automation facilities and proven quality standards. Our manufacturing facility is capable of producing wire rod in extensive size ranges of 5.5mm to 39.5mm. Our wire rod mill has a production capacity of 300,000 tpy."

Mrs Kochhar further added, "Viraj flanges are reputed and well known across the globe for their reliability and quality. Our flanges manufacturing facility encompasses an integrated forge shop which manufactures all types of pipe fittings including flanges, butt welding fittings (stub-ends) as per various specifications (ASME/ANSI, EN, DIN, AFNOR, AWWA, GOST, BS, JIS, AS, MSS, SA, UNI etc) as well as forged bars. We manufacture flanges in size ranges from 1/2in to 40in. Our CNC shop is one of the



biggest flange making CNC shops in India having a large number of machines providing high dimensional accuracy with an aesthetic appearance. The division is capable of producing wide ranges of products and is competent to meet the specific requirements of customers across diverse industries."

#### ***A stringent quality system***

Viraj has an established and stringent quality system with more than 90 approvals/certificates to date in accordance with various specific requirements and applications. These approvals and certifications enable customers to supply Viraj flanges to major end users across a variety of industries.



All these flanges are provided with different face type options, inter-alia flat face, raised face, large raised face, ring joint, tongue & groove face, male-female face type. The company's integrated operations include facilities for cutting, forging, ring rolling and machining with CNC lathes, CNC drilling (machining centre), high capacity forging press and mobile manipulator for making big diameter forged round bars.

It also has an in-house heat treatment shop and well equipped laboratory facilities for mechanical and metallurgical testing, PMI testing with X-ray and emission spectrometers as well as radiation contamination test facilities.

#### ***The latest developments - a new fully automatic section mill and Inland Container Depot***

The Group's commitment to its strategy of modernization of its facilities and increasing



Some of the main industries where the company's flanges are being used are: pipeline engineering, oil & gas (upstream & downstream), mechanical & plant engineering, marine, waste water, chemical & petrochemical, power industries (nuclear, natural gas, wind, solar), aerospace, food processing etc. The various types of flanges which Viraj manufactures are blind flanges, weld neck flanges, slip-on flanges, socket weld flanges, threaded flanges, lap joint flanges, orifice flanges and stub-end flanges.

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its production volumes is underlined by its latest investment - a new fully automatic section rolling mill, which has just been commissioned as previously reported in a recent issue of **Stainless Steel Focus**. Situated on an area covering some 10 hectares, this mill will no doubt provide Viraj with a significant advantage over competitors. Equipped with completely automated processes, the plant is the first of its kind in the country.



The plant, the company says, is quite unique in terms of facilities and has an integrated automatic pickling line, and an automatic labelling and packaging line. This new facility, with an annual capacity of 180,000 tonnes per annum, will be able to manufacture more than 700 different shapes and designs of angles, flats and bars. This is the first time that an automation process of this magnitude has been carried out in the stainless steel long products sector in India.

Viraj Profiles Ltd, the \$1.5bn leader in stainless steel long products, after its successful

operations at CFS, Nhava Sheva, has extended its logistics arm by setting up its Inland Container Depot - Vaishno Container Terminal, at Tarapur, Maharashtra. Set up with an investment of Rs900m, the Inland Container Depot (ICD) is located in Thane district, Maharashtra, at a distance of 150km from the Nhava Sheva Terminals and 128km from Mumbai Port Terminal, with a travel time of 4-5 hours, ensuring smooth transportation between ICD to Gateway Ports.

The western highway is one of India's busiest industrial corridors, and the facilities provide services resulting in efficiency and reduced costs, which are a big boon, providing much needed competitive advantage to businesses.

The Vaishno Container Terminal, apart from its proximity to Mumbai Port Terminal and Nhava Sheva Terminal, provides a customs clearance facility near the centre of production and consumption, reducing the clearance time considerably and doing away with the necessity of customs at gateway ports. Reduced demurrage, pilferage and logistics cost add to the facilities' attraction for commercial units. Import containers are unloaded, and can be retained at the depot, reducing empty container repositioning cost to zero. Export containers can be provided for dock loading/factory loading, reducing empty container transportation cost.

Neeraj R Kochhar, Chairman and Managing Director, Viraj Profiles Ltd, said, "Being associated with manufacturing for a long time, we realize how important it is for businesses to focus on their core activities and not get distracted by routine tasks, which can



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be very time consuming and expensive. As businesses get more globalized, competitiveness is key. With this belief, we have set up another inland container terminal (ICD), the Vaishno Container Terminal, at Tarapur, with an initial investment of Rs900m. Our mission is to provide a one stop shop in logistics and deliver operational excellence to the manufacturing units in and around the area. Providing a host of benefits like reduced customs clearance time, transportation and logistics cost, demurrage and pilferage, coupled with state-of-the-art equipment and trained manpower, the facility is one of the most advanced in the country. We are quite optimistic about the need for more such facilities across the country and will be exploring some more locations to open new container terminals, demonstrating our commitment to this sunrise industry.”

#### ***Focus on the environment***

The new section mill at Viraj, which has Level 2 automation processes, complies with the high environmental standards of modern stainless steel manufacturing. This applies equally to all other operations at the Viraj works, right from melting through to distribution of finished products. “In fact, caring for the environment has been a part of our corporate growth strategy. Some of the focus areas as part of our environment friendly approach are recycling management, energy management, sustainable water treatment facility etc”, the company says.

“Without compromising on quality, we use waste exchange extensively where the wa-

ste product of one process becomes the raw material for another process. The main area where we contribute with recycled material is in our melt shop, for which we import industrial and domestic recycled scrap from various countries in order to produce quality stainless steel material.”

In order to comply with the latest emission norms and to ensure zero discharge of fumes, the company has imported and installed new induction furnaces in the melt shop, which are equipped with ash collectors to collect the dust and conveyor belts for the charging process. For processes such as induction melting, AOD refining and continuous casting, the company operates its induction furnaces on a rotational basis, ensuring that they are maintained to perform at optimum levels to provide a better output of material quality and to minimize the consumption of energy, offering overall efficiency through reduced wastage and high utilization of resources. Automatic temperature control systems prevent overheating which directly saves energy requirement per cycle.

In the shot blasting process, in the profiles division, all the particles of dust generated are collected. The heavy particles with heavy iron content remain at the bottom and are removed manually. These are then charged again into the induction furnace to save costs and reduce wastage. Water used in the annealing and pickling process is recycled.

And finally, with its in-house logistics company, Viraj contributes directly to the control of pollution by using environment friendly fuel, and by stringent management of fleet schedules and continuous maintenance of vehicles, optimum fuel consumption is achieved.

#### ***Markets and market outlook***

The outlook for Viraj looks extremely promising. Around 26% of total long products production is accounted for by bright bars, according to the Indian Stainless Steel Development Assn, which also make up a significant proportion of Viraj’s output. And these bars are used in sectors which are expected to see good growth rates in the future, including the automotive sector, pump manufacturing, railways, the defence

sector, shaft manufacturing, the agricultural equipment manufacturing industry, the food processing industry, the oil and petroleum sector, and mining etc.

Domestic Indian consumption of stainless steel has grown manifold over the past couple of years, and has grown almost 10 times over the past 20 years. Important growth sectors in India, Viraj says, include infra-structural and architectural applications such as the modernization of airports, metro railways, modernized bus shelters, stainless steel wall cladding, household applications like stainless steel modular kitchens, furniture etc. What is very encouraging also, the company says, is that government institutions have also now realised the long term benefits of using stainless steel.

And, Viraj adds: "The potential growth of stainless steel in India is huge, considering the fact that per capita consumption at 1.9kg is much lower than the global average of 4.85kg".

A similar picture is apparent when it comes to production. Whilst China may dominate global production of stainless steel, the Indian market has also witnessed a healthy increase in its share of the total pie, and is currently ranked 4th largest producer after China, Europe and Japan.

Viraj did, however, indicate that future growth would not necessarily be totally unproblematic. "However, in order to fully expand its production capacity, the country needs to take care of certain issues like resistance to the use of stainless steel due to perceived high initial cost, endemic power shortages, high price volatility of nickel, an unre-

cognised sector producing cheap quality products, not enough availability of scrap in the country etc."

## **Capitalising on an extensive product range**

One of the main strengths of Viraj today, not least due to the continuous process of investment that we have outlined above, is its extremely broad product range, which covers, inter alia:

- sections and profiles (including angles, flats, channels and beams)
- bright bars (round, hexagon, square and flat, 3-600mm)
- wire rod and wire (rod: 5.5-39.5mm; wire: 0.09-15mm)
- fasteners (bolts and screws, nuts, SHCS, threaded rods etc)
- forged bars
- forged flanges

And as for the future, Neeraj R Kochhar concluded: "As far as our product portfolio is concerned, we are going to keep offering the same product categories, but yes, we are working on developing new sizes and specifications for some of our products. These developments are being done keeping in mind the requirement of our customers and they are being developed in constant consultation with them."

It would seem that the Viraj story has not yet come to an end. The company does not currently, it says, have any plans to launch new products or to invest in new ventures. But it is certainly not ruling this out in the future. Neeraj R Kochhar: "However, in the future we would surely explore other options considering market trends and demand patterns."

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