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OPINION



Geetanjali Vikram Kirloskar is the **Chairperson and Managing Director of Kirloskar Systems Pvt. Ltd.** A visionary business leader with deep roots in Indian industry, she champions innovation, sustainability, and inclusive growth. Drawing on her vast business experience, she shares her perspective in this article on how India can transform its manufacturing sector into a global powerhouse.

Indian Manufacturing – The Challenge and The Opportunity

Today, the Indian manufacturing sector, at \$600 billion, accounts for 17% of a \$3.5 trillion economy.

If Indian manufacturing addresses its challenges, growth opportunities are enormous. Economists and planners agree that the manufacturing sector must rise to 25% of the economy if India is to reach its target of a \$30 trillion Viksit Bharat economy by 2047, making it a \$8 trillion economy behemoth by then. Over the shorter term, the target is for the Indian economy to reach \$10 trillion by 2035. Even if manufacturing's share of the Indian economy rose to 20% by then, it would be a \$2 trillion economy - a decade growth opportunity of more than 200%.

There are four areas in the manufacturing sector that it should focus on if it were to transform its challenges to harness the opportunity.

The first is that Indian manufacturing must become more productive and produce better quality goods cost-effectively, enabling it to capture a higher share of private final consumption. The Japanese approach to Total Quality Management (TQM) and Kaizen are proven methods, and a grassroots movement to incorporate such practices across India's manufacturing, from large set-ups to SMEs, would yield dramatic results. Given my role as a catalyst in enhancing the India-Japan partnership, I would be glad to nurture such an initiative.

The second area is for Indian manufacturing to expand its expertise and focus on the higher-value added sectors of the Stan-Shih Mmile curve- developing new concepts, products, and designs by focusing on R&D and improving branding, marketing, distribution and service. By enhancing quality and productivity, developing new products and designs, and using more effective marketing means that Indian manufacturing can reverse its falling share of consumer spending in India and capture shares in global markets.

A third issue that the manufacturing sector must address is in the area of human resources. At the worker level, manufacturing in India would get a tremendous fillip if vocational studies after high school are given a higher social status through a high-intensity awareness program and the entry of high-quality private and private-public initiatives in vocational training. A case study in this area would be that of Germany.

At the engineering, scientific, and management levels, it is essential to raise awareness of manufacturing as a high-growth, cutting-edge, high-opportunity area, thus attracting the best minds and talent to manufacturing and enabling India to become an advanced manufacturing country.

Finally, to fulfil the dream of a Viksit Bharat by 2047, Indian manufacturing must be future ready by investing in developing the next generation of manufacturing sectors - semiconductors, advanced materials, space engineering, robotics, drones, aeronautics, defence, energy systems, including green hydrogen and modular nuclear and advanced machinery. Movement is visible in many of the above areas, but more must be done to become a global player in a few sectors.

To conclude, while Government initiatives and support are important, the essential fuel that will drive the manufacturing revolution in India is the entrepreneurial and innovative spirit of its SME and start-up sectors and an expansive, global vision of its corporate sector. The next ten years will be the litmus test for us to live up to the challenge and the opportunity.

CHANGESPEAKE

CHANGESPEAKE is a series of conversations featuring individuals who, through their beliefs and passion, are shaping the contours of an inclusively developed India@100. We hope the series will motivate others to emulate these best practices and also build their ability to open new frontiers for the country. Doing so will help accelerate change and build the momentum that India needs to reach its ambitious goals for 2047.

“The next decade will be defined from the demand side and not from the supply side. Building designs along with innovative income generating products, running on solar, will transform the way Decentralized Renewable Energy is being scaled.”

— Harish Hande



Harish Hande is the **Founder and Chief Executive of SELCO Foundation**, a pioneering organization driving sustainable energy solutions for underserved communities in India. A Ramon Magsaysay Award recipient, Harish is a globally recognized social entrepreneur and thought leader in renewable energy. In this interview, he shares insights into SELCO's grassroots impact and his vision for a solar-powered future that is inclusive, equitable, and transformative for India.

What key moments or insights have shaped SELCO's journey in becoming a pioneer in bringing affordable solar energy to underserved communities in India?

SELCO always focused on the needs of the end user. The needs of the end user were broken up into multiple paths. For example, some of them would look at solar energy as livelihood option, some would look at solar energy as a saver of electricity and some would look at solar energy as convenience. Along with this SELCO would also work with local financial institutions to tailor make financial products that suited the cash flow of the end user. For example, a Paddy farmer would make payments one a yearly basis and a teacher monthly. The uniqueness of combining the technical product and financial product from an end user's perspective proved a long-term sustainable model for SELCO. The models that SELCO had created were not from the supply side and were always mostly from the end user's perspective.

You are often called the 'Solar Man of India' and have championed solar energy not just as a technology, but as a tool for social equity. What has been the impact on the ground?

I am not sure if that title is fair at all, because numerous people across the country have worked very hard in the sector of solar and sustainability. We have been one of the organizations in the journey of India's solar. We believed that Decentralized Renewable Energy (DRE), provided true empowerment to the marginalized by providing doorstep energy, livelihood, and other opportunities. It equalized the field in many ways. It opened avenues of new livelihood application, it lowered the transaction costs of essential services like health and education. Such an implementation thought process, has opened up

numerous options for people in the remote parts of Meghalaya to the tribal populations of Odisha. Local ownership and innovations have proved that one need not have to move to urban areas of prove one talent or increase opportunities of better life.



Receiving the Ramon Magsaysay Award is a significant honor. How has this recognition shaped your mission? and how do you see your work evolving as we march towards India@100?

Again, unfortunately awards glorify individuals. SELCO has always pushed for inclusive opportunities, one of the critical parameters as we march for India@600. Decentralized Renewable Energy (DRE) will unlock the immense potential of the 600 million people who live in the semi-rural and rural areas. Different development models that are long term sustainable will make India the hub of knowledge for rest of the developing world. The diversity of India, in terms of segments, terrains, climate, offers the world a one stop solutions window for all their challenges. India @100 should be a goto model for all the development programs in the world – SELCO would like to play a critical part in that vision.

Given your extensive experience in SELCO with solar energy, what emerging trends or technologies in the renewable energy space do you think will define the next decade, and how can India stay ahead of the curve in adopting them?

The next decade will be defined from the demand side and not from the supply side. Building designs along with innovative income generating products (running on solar) will transform the way DRE is being scaled. There will be transformational change in the way medical devices are designed. With the availability of DRE, different medical devices will be designed for resource poor areas, making it accessible and affordable.

Because of DRE, new type of services will be available at the last mile – like teleservices for tribal communities in Odisha or Jharkhand. Foldable dental chairs running on DRE can provide doorstep dental services to the poor in the remote Islands of Majoli, Assam. The opportunities are immense. Small scale farmers and other SMEs will be able to adapt to rising temperatures by redesigning workspaces and installing cooling technologies, all using DRE. New ways to increase the yields of small holding farmers to inclusive livelihood opportunities for marginalized sections of the communities.

As AI continues to evolve, how do you see its role in transforming the way solar energy is deployed and managed, especially in rural or off-grid areas?

AI will increase opportunities for better solutions and in fact will increase the opportunities for the poor for respectable livelihoods (and not take away jobs)

What advice would you offer to young engineers and entrepreneurs who aspire to build sustainable and socially impactful ventures in today's rapidly evolving landscape?

To all youngsters work with least amount of resources in the most difficult areas. One needs to immerse in the problem statements. Do not rush into conclusions because of the backgrounds one comes from.

I HAVE A DREAM

I HAVE A DREAM is a fireside chat series that invites sector experts to reflect on how their sectors have progressed over the years and what they want India to be by its 100th year. This series also builds context for further conversations between stakeholders on issues that are key to the country's future.

“I told our women I am going to Davos where they'll be talking of trillion of dollars, what do you advise I go and tell them? They told me tell them that with community capital, we have set up the 1st Rural Women's Bank.”

— **Chetna Gala Sinha**, Founder and Chairperson of Mann Deshi Bank and Mann Deshi Foundation



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I HAVE A DREAM

Inspiring Fireside chat series with visionaries building India's tomorrow

India@100: Shaping an Inclusive Future Through Social Innovation



Ms Chetna Gala Sinha
Founder and Chairperson
Mann Deshi Bank and Mann Deshi Foundation

Mr Rajan Navani
Chairman, CII Council on India@100
Chairman & Managing Director
Jetline Group of companies
Founder & CEO, Jetsynthesys



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In a recent episode of *I Have a Dream*, themed "India@100: Shaping an Inclusive Future Through Social Innovation," **Ms. Chetna Gala Sinha, Founder and Chairperson of Mann Deshi Bank and Mann Deshi Foundation**, shared her insights on the transformative potential of rural women entrepreneurs in India. She highlighted that these women are not only contributing to the economy but are playing a pivotal role in reshaping it through enterprise, innovation, and leadership.

Ms. Sinha underscored the importance of unlocking capital for women entrepreneurs as a key driver of inclusive growth. She emphasized that investing in women leads to stronger communities, improved health and education outcomes, and a more resilient economy.

In this compelling conversation, Ms. Sinha offers her perspective on how social innovation can empower underserved communities and accelerate inclusive

development—contributing meaningfully to the vision of a more equitable and resilient India as it approaches its centenary.

[Watch the episode](#)

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