

Maccaferri's efforts aim at assisting India in building a green economy with sustainability at the core of its developmental infrastructure plan: Vikramjiet Roy

Mr Vikramjiet Roy, the Managing Director of Maccaferri Environmental Solutions Pvt. Ltd (MESPL) in India and the Regional CEO of the ISEAP Region (India, South-East Asia & Pacific) of the Officine Maccaferri group, is a first-generation entrepreneur and has close to three decades of experience in businesses – ranging from Industrial Products & Civil Engineering Solutions to Core Infrastructure & Environment Solutions.

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Mr Vikramjiet Roy, MD, Maccaferri India

NEW DELHI (Metro Rail News): Metro Rail News conducted an email interview with Mr Vikramjiet Roy, MD, Maccaferri India. In the interview, Mr Roy talked about various Rail projects in India.

Mr Vikramjiet Roy, the Managing Director of Maccaferri Environmental Solutions Pvt. Ltd (MESPL) in India and the Regional CEO of the ISEAP Region (India, South-East

Asia & Pacific) of the Officine Maccaferri group, is a first-generation entrepreneur and has close to three decades of experience in businesses – ranging from Industrial Products & Civil Engineering Solutions to Core Infrastructure & Environment Solutions. Having graduated in commerce from St. Xavier’s College, Kolkata and an associate member of ICWA, Mr. Roy possesses an experience of over 27 years.

Here are the edited excerpts: –

Q1. Please tell us about the USBRL project you are collaborating on with SRM – Rajinder Project for railways. How important is this project for the company’s portfolio?

The [USBRL project](#) will connect Kashmir valley with the rest of the country through railways. This makes it a project of national importance as it will help boost tourism. However, due to the valley’s topography and harsh weather conditions, the project has many civil-engineering challenges. In addition to this, the need for sustainable infrastructure has become necessary. Considering this, Maccaferri provided solutions for a flexible hybrid reinforced soil (RS) structure out of tunnel muck that directly supports the railway track, offers increased resistance to earthquakes, and is entirely sustainable. This is a first-of-its-kind solution constructed at this height. Furthermore, by reducing traditional construction materials and replacing them with locally available ones, we could lower the overall carbon emissions of this project by up to 80%.

Being a part of this project has significantly added to our

work portfolio. We are delighted to contribute our technical expertise in building this first-of-its-kind reinforced structure for a project of such national importance.

Q2. What other strategically important projects of Indian Railways that are you working on presently in single operations/collaborations? What is the status of various other projects on the order book?

For [Surat Metro Line Project](#), we are working with ITD Cementation to provide an effective alternative solution to replace filter media behind the retaining wall. The product used for this project is MacDrain- drainage geo-composite. Another significant project is the Jafrabad-Akbarpur section ground improvement and slope protection work for Northern Railways. We have used solutions like MacGrid EG- polypropylene biaxial geogrid, MacTex N – nonwoven geotextile, and Paralink- monoaxial geogrid. In addition, we are providing Reno mattress solutions using Paramesh and Gabion for Eastern [Dedicated Freight Corridor](#) in collaboration with GMR & DFFCIL. We are also working with TATA on their Ambala project.

Q3. Maccaferri is known for designing and manufacturing innovative, long-lasting and environment-friendly solutions for civil engineering. What are your major contributions towards carbon-friendly construction solutions? How are you conforming towards UN SDG goals towards reducing carbon emissions?

Maccaferri serves as a solution provider for enterprises

and governments adopting alternative construction materials that curb carbon emissions. Traditional construction materials such as concrete and steel significantly contribute to carbon footprints. With the government's increased emphasis on infrastructure development, reducing the use of these materials and replacing them with more sustainable, climate-resilient solutions is critical. We understand the importance of the Indian infrastructure sector and are committed to designing & developing innovative solutions that focus on sustainability and environmental preservation. One of the most effective ways to reduce construction-related emissions is to use prefabricated components for construction and recyclable/reusable building materials. Gabion and geosynthetics are examples of green construction materials. Geosynthetic materials in infrastructure development enable the use of local materials with low overall transportation costs, further reducing the carbon footprint.

In line with UN Sustainable Development Goals and India's commitment to becoming a net-zero emitter by 2070, Maccaferri's efforts aim at assisting India in building a green economy with sustainability at the core of its developmental infrastructure plan.

Q4. What are the major challenges faced during project work in tough terrains of the Himalayas or other hilly areas in the country? How is construction in these areas different from other sites and locations?

Construction on hilly terrain comes with many challenges. In a restricted hilly area, climatic conditions,

geological features and hydrological parameters vary considerably. In addition to this, construction works can have a significant impact on the landscape of a mountain region. If not done correctly, it can cause deforestation, erosion, water pollution, and damage to habitats. Considering all these factors, construction in hilly areas necessitates meticulous planning, careful selection of construction methods, and using climate-resilient materials for safe, economical and successful project completion. Furthermore, landslides, avalanches, debris flow, and high winds require special attention to prevent unwanted complications.

Q5. What are the major innovations and recent R&D for Rockfall protection, retaining structures, soil reinforcement, and railway erosion control systems?

Rockfall protection and erosion control are critical elements in infrastructure security and safety and people's livelihoods. With over 60 years of experience in rockfall protection systems and natural hazard mitigation, we offer a wide range of products to stabilize rock faces, soil slopes and snow masses, reducing risks and costs. One of our innovations, HELLOMAC, is an alert system that detects rockfall events such as boulders, stresses, sagging, etc. An alert signal is sent immediately on computers and smartphones via email, SMS or app. The device also permits to activation of local sirens and traffic lights. It can be placed in the remotest of locations, as it requires no maintenance and can send information through data transmission modes like satellites.

Our other products, like MacArmour and MacMat HS, provide durable solutions for rockfall mitigation. MacArthur is a safe and effective drapery that combines a homogeneous steel wire rope structure with double-twist wire mesh. It maximizes the serviceability of the protected infrastructure and reduces installation time and other risks associated with on-site activities.

Q6. In what ways Maccaferri is providing in-depth technical and Design support to provide real-world solutions for projects reducing project risks, cost and time for the clients? What is the strategy adopted for waste usage from tunnel construction, avalanche, erosion etc.?

Maccaferri offers environmental solutions for complex civil engineering works. Our products, services, and technology are appreciated and in demand by key infrastructure segments like the transport sector, water resource and water management arena, environmental sector and urban infrastructure development sector. Being an innovative solution provider, our services range from Design to execution, i.e. Design, supply, site supervision, technical support, installation, and consultancy. High quality, quick assembly, easy handling, cost-effectiveness, and the highest safety standards of our systems provide us with a competitive edge over conventional systems.

With expertise and a solid manufacturing base, we can tailor solutions to problems related to soil erosion. Selecting from a wide range of geomaterials, fabrics and materials, the combinations of products are almost endless and are suggested basis the nature of the cause.

Some products are Biomac® biodegradable biomass, MacMat® reinforced and unreinforced geomatics, MacWeb® cellular soil containment systems and the traditional double twist steel wire-based products; Gabions, Reno mattresses and wire mesh.

Q7. What are your business plans in India amidst the nation's effort to restructure its rail infrastructure across all verticals by 2030? How are you contributing to a developing freight management system in the country?

The government's economic packages play a significant role in making India "self-sufficient." Infrastructure is one of the pillars of 'Atmanirbhar Bharat'; various initiatives, such as the Bharatmala Project, the Paravatmala Project, and the Setu Bharatam Project, are on the go to improve road and rail connectivity. We are inevitably advocates of alternative construction materials and look forward to contributing techniques for sustainable development in ongoing and upcoming infrastructure projects. We enable the use of local materials with low overall and transportation costs, eventually reducing the carbon footprints and contributing to India's commitment to meet Net-zero targets. We recognize the importance of the Indian infrastructure and are working to develop better, more cost-effective solutions and technologies tailored to the Indian climate. India's infrastructure growth estimates are expected to rise year after year over the next decade. Our mission is to be a trusted partner to stakeholders, encouraging creativity, innovation, and the adoption of alternative solutions to complex civil engineering challenges with a focus on sustainability.

Q8. What would be your message to the youth willing to join the civil and construction industry, especially railways? What would be your message to our readers?

India has been at the receiving end of the growing climatic imbalance. The rising global temperatures in the country have led to severe heat waves, erratic monsoons, flash floods, tropical cyclones, and a compounding sea level rise. India needs to build a green economy with sustainability at the core of its developmental plans when 75% of infrastructure by 2050 is yet to be built. With the government committing to becoming carbon neutral by 2070, the responsibilities lie on the 'young India'. The new generation of civil engineers must prioritize sustainability and climate-resilient infrastructure for all upcoming construction development projects. There is an immediate need to focus on value engineering and [sustainable development](#) to improve the quality, dependability, and durability of the infrastructure built in India. The youth joining the civil and construction industry should prioritize sustainable development and follow a systematic approach to develop structures that meet infrastructure needs without affecting the environment.

Metro Rail News is a trusted platform dedicated to urban mobility solutions in India with vital and up-to-date information on infrastructure and growth. On behalf of Maccaferri, I want to encourage Metro Rail News readers to keep supporting the platform, which extensively writes about in-depth infrastructure topics, developments, and challenges.

