

Graphene composites also contribute to lightweight footwear construction while maintaining structural integrity and flexibility. Reduced shoe weight directly supports faster movement, lower fatigue, and improved athletic efficiency. At the same time, graphene-enhanced midsoles can improve energy return and responsiveness during dynamic movement. Graphene efficiently transfers heat, it can help regulate internal shoe temperature and reduce heat build-up during prolonged physical activity. This opens new possibilities for advanced comfort-oriented footwear systems. Researchers and global footwear brands are now exploring bio-based graphene composites and environmentally responsible manufacturing methods that combine high performance with circular design principles.



Leading footwear Brands are actively exploring graphene and related nanomaterial technologies for future product development. **inov-8:** The British brand, in collaboration with the University of Manchester, remains a pioneer, introducing the world’s first graphene-enhanced rubber outsoles and midsoles. **Flux & Versarien:** These companies are collaborating to develop shoes using Graphene-Wear™ technology to enhance endurance and reduce wear.

Safety Footwear: Companies like **Steel Blue** have utilized graphene in safety boots to improve durability and slip resistance. Under Armour is exploring intelligent performance footwear where conductive materials such as graphene may play a major role.

Graphene is expected to become one of the key materials shaping the next generation of footwear soles. Its ability to combine strength, flexibility, lightweight performance, thermal management, and durability positions graphene as a transformative material for the future of the global footwear industry.



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Mr. Prashanta Kumar Nanda, Head of Department (FDP), FDDI Kolkata, is a seasoned academician and industry professional with nearly three decades of experience across footwear design, manufacturing, and education. He has demonstrated expertise in driving organizational transformation, business process re-engineering, and developing market-oriented academic initiatives aligned with industry needs.



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Navigating Forex Risks in the Footwear Industry



The footwear industry operates in a highly interconnected global ecosystem, with significant exposure to foreign exchange (forex) fluctuations arising from international exports, imports of raw materials, global supply chains, and cross-border banking transactions. Effective treasury management has therefore become a critical component for safeguarding margins, enhancing financial efficiency, and ensuring long-term business stability.

To support footwear manufacturers, exporters, and industry stakeholders, comprehensive treasury advisory solutions are being developed to help organizations manage forex exposure, optimize banking relationships, strengthen internal controls, and establish robust financial risk management frameworks.

Forex Risk Management Policy & SOPs

Forex Risk Management Policy & Standard Operating Procedures (SOPs): A structured forex risk management framework enables organizations to effectively manage export receivables, import payables, hedging approvals, and treasury operations. Advisory support in developing comprehensive policies and SOPs helps footwear companies establish disciplined processes, improve governance, and enhance transparency in forex-related activities.

Treasury Audit & Control Review

A detailed assessment of treasury operations, banking arrangements, forex execution practices, and internal controls helps identify process gaps and mitigate financial risks. Such reviews enable footwear companies handling multiple export transactions and international collections to strengthen operational efficiency and treasury governance.

Foreign Exchange Hedging Advisory

With exposure to USD-INR volatility and fluctuations in the cost of imported inputs such as leather, rubber, chemicals, components, and packaging materials, footwear businesses require effective risk mitigation strategies. Exposure-based hedging advisory helps companies protect profit margins, improve cash flow visibility, and manage uncertainty in global markets.

Bank Margin & Cost Optimization

Efficient treasury management also involves optimizing banking costs. Support in evaluating forex pricing, negotiating competitive exchange margins, obtaining improved pricing structures, and identifying hidden transaction costs helps businesses reduce financial overheads and enhance profitability.