

CONTRIBUTORS



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Rashmi has been a evangelist of vegetarian food for years now; she's won the 'World Gourmand Cookbook Award' and authored 40 culinary books as well as hosted TV shows. A prolific columnist, she is currently researching her next TV show and 41st book. Follow her culinary adventures on Instagram @rashmiudaysingh



Rupali Dean

Recognised as the 'Best Food Writer in the Country' by the Indian Culinary Forum, WACS and the Ministry of Tourism, Rupali enjoys writing about food and travel. A trained hospitality professional, she travels the world for work—and for passion! Find her culinary escapades on Instagram @rupalidean



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Founder of Kalinga Stories, a cuisine-related start-up, Madhulika is a celebrated food columnist who also writes on wellness, health, lifestyle, and environment. A part-time farmer-in-the-learning, she has been on the expert panel of MasterChef India Season 4. Catch her on Instagram @dash.madhulika



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A Mumbai-based entrepreneur, travel show host, and web3 marketing advisor, Rahul is ever curious and passionate about emerging technology. He also runs a boutique gifting and gizmos company, as well as a travel and experiences company. An adventure sports junkie, you'll find him scuba diving when he's not working. Follow him on Instagram @rahul.jagtiani



Airport technology and passenger movement are big businesses. Airports and carriers alike are all striving for the slickest transit possible—emerging technology is the answer

/by RAHUL JAGTIANI



ith technology evolving at breakneck speed,

the aviation sector has made remarkable strides in recent years by enhancing safety, efficiency, and customer experiences. Airlines and airports have embraced digital technology like mobile apps and self-service kiosks to provide seamless services, while data analytics and cutting-edge satellite communications enable real-time coordination among air traffic controllers, pilots, and ground personnel.

Despite this rapid progress, the aviation industry is ripe for disruption. Artificial Intelligence (AI), blockchain, Web3 and the Metaverse are unlocking innovative solutions to usher in a new era of transformation.

BLOCKCHAIN: **ENHANCING TRUST**

Blockchain, a distributed ledger technology, holds the potential to transform the aviation sector by ensuring secure and transparent transactions. Blockchain is already overhauling incumbent business models across sectors. For example, it enables end-to-end tracking of goods in supply chains and verifies the authenticity of products. It streamlines transactions and reduces fraud risks. It timestamps content ownership in media, providing permanent records for legal purposes.

The aviation industry's current landscape is fragmented, impeding the efficient and seamless exchange of data. Consider the intricacies of baggage handling, involving numerous stakeholders such as airport authorities, regulatory bodies, airlines, and insurance companies. These entities



are compelled to share passenger data in various scenarios—weather-related delays, technical complications with aircraft, or missed flight connections—exacerbating the risk of lost luggage.

"With blockchainbased solutions, the aviation sector now has the technological infrastructure to address these challenges within this complex, siloed ecosystem of industry players. This paves the way for increased transparency and traceability on a unified operating platform," says Ralf Usbeck,

DID YOU KNOW

DigiYatra, India's decentralised mobile ID platform, employs facial recognition for effortless airport entry, security check, and paperless boarding. It streamlines processing, minimising wait times and enhancing boarding efficiency.

CEO, Chain4Travel, a Switzerland-based company that launched the Camino Network, a blockchain which allows businesses to build decentralised applications (dApps) for travel-related products and services.

WEB3: EMPOWERING PASSENGERS

If Web1 was the early 'readonly' version of the internet and Web2 is the present state, characterised by Big Tech wielding control over our data, then Web3 is the next evolutionary phase. Powered by blockchain's decentralised infrastructure, this new iteration embodies tokenised real-world assets and unlocks several possibilities for ownership of our digital identities.

Web3 introduces novel business models that resolve shortcomings in the aviation sector. Through tokenisation, traditional non-refundable air tickets can be converted to NFT tickets, enabling travellers to resell them on secondary marketplaces and recoup their initial expenses.

"While the benefits for passengers are obvious, this creates new revenue opportunities for airlines



as well. Through smart contracts, airlines can earn a royalty each time a ticket is resold on a secondary marketplace, alleviating the financial impact of unused tickets and streamlining market inefficiencies," opines Facundo Martin Diaz, co-Founder, TravelX, a blockchain company that's pioneering NFTicket distribution for airlines.

METAVERSE BRIDGING REALITIES

The Metaverse, an

emerging virtual universe, offers a peek into the future of the internet, combining physical and digital realities. Airports are creating 'digital twins'—virtual replicas overlaid with real-time data. They enhance collaborations across stakeholders, offer live insights into passenger flow, and identify bottlenecks.

Aircraft manufacturers like Airbus and Boeing are exploring Metaverse-based production processes and supply chain enhancements. Airlines are adopting it to augment customer experiences by featuring digital avatars of flight attendants, offering immersive showcases of premium lounges and first-class cabins.

Al- OPTIMISING EFFICIENCY

AI, fuelled by advanced Machine Learning and Deep Learning algorithms, has emerged as a pivotal tool for optimising flight networks and driving operational efficiency. The integration of AI across various industries such as healthcare, banking, and e-commerce has coincided with the increased availability of computing power and specialised hardware.

Leading carriers are now harnessing the power of AI models to effectively mitigate the risks of flight delays and cancellations. Leveraging its ability to amalgamate relevant data from diverse sources such as flight booking systems as well as weather and

commodity-related indexes, AI facilitates precise route planning and accurate fuel consumption calculations, resulting in substantial cost savings. As sustainability takes centre stage, AI assumes a vital role in curbing the environmental footprint as well.

The aviation industry stands at the cusp of a transformation, brimming with possibilities offered by these cutting-edge technologies. However, surmounting current challenges across the policy and regulatory landscape is imperative to propel the industry forward.

