PRIMUS PARTNERS®
Solutions for Tomorrow

Web3 Use Cases to Watch Out for in 2025

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PREFACE

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Web3 represents a monumental shift in how users store data, execute transactions, and interact with digital systems. Over the past few years, Web3 has evolved to serve numerous use cases across industries such as finance, healthcare, agriculture, and supply chain management, among others. These applications have demonstrated the potential of decentralized technologies to address real-world challenges by enhancing trust, transparency, and efficiency. As businesses and governments alike continue to explore blockchain-based solutions, the momentum behind Web3 is growing at an unprecedented pace.

Looking ahead, 2025 is poised to be a breakthrough year for Web3. With advancements in blockchain scalability, tokenization, and emerging global regulatory clarity, we are likely to witness the rise of innovative use cases across financial as well as non-financial domains. 2025 will be a critical year as Web3 transitions from niche adoption to mainstream acceptance, unlocking new opportunities in areas such as digital identity, credentialing, and beyond. As these use cases mature, they will redefine how industries operate, creating more inclusive, decentralized, and efficient ecosystems.

Web3 is poised to transform various sectors in India, including agriculture, media & entertainment, transportation, supply chain management, and gaming, with a projected consolidated market size of over a trillion dollars. (projected to 2029).

Further, the global political landscape, including the recent 2024 U.S. elections, is also likely to significantly impact the global adoption of Web3. Donald Trump's election will bring about a change in regulatory priorities on digital assets, which will have a ripple effect worldwide, shaping the speed and scale of Web3's integration into existing systems. A regulatory framework that supports innovation while addressing concerns like consumer protection and security could further accelerate the growth of Web3.

This document aims to provide stakeholders with a comprehensive overview of Web3's non-financial applications, with a particular focus on India. It highlights how Web3 can address pressing challenges across key sectors like agriculture, healthcare, and logistics, underscoring India's unique position as a leader in the global Web3 ecosystem. By embracing Web3, India has the potential to drive inclusive growth, solve long-standing systemic issues, and position itself as a pioneer in the digital revolution.

EXECUTIVE SUMMARY

India, with its rapidly digitizing economy and expansive digital footprint, stands poised to leverage Web3 to address critical challenges, from increasing transparency in agriculture and supply chains to ensuring secure, verifiable credentials. The Indian government's initiatives, alongside state-level projects, reflect a growing recognition of Web3's power to enable efficiency, traceability, and enhanced governance. By employing the principles of public blockchains, tokens, and virtual digital assets, India can fully unlock Web3's potential, fostering inclusive growth, trust, and innovation.

This paper explores the vast potential of Web3 beyond its initial focus on financial applications. While blockchain and decentralized systems revolutionized finance, they are now showing transformative capabilities in non-financial sectors worldwide. The global shift toward decentralized and transparent systems has opened new pathways for Web3 applications in supply chains, healthcare, document verification, and more.

Web3 use cases can be categorised primarily into four key areas. They highlight specific Indian and global use cases, emphasizing the transformative impact of decentralized technologies on real-world challenges:

1. **Efficiency:** Streamlining processes in logistics, credential verification, and smart contracts to reduce costs and increase productivity.
2. **Traceability:** Enhancing transparency in supply chains and agriculture, mitigating fraud, and improving quality assurance.
3. **Digitization:** Transforming physical assets and documentation into secure, digital formats for greater accessibility and reliability.
4. **Tokenization:** Enabling new asset classes such as NFTs and digital tokens, democratizing investments, and unlocking economic opportunities.

Although numerous use cases have been adopted across various countries and states, significant challenges remain to make 2025 the breakthrough year for Web3. Some of these include the absence of a strong regulatory framework, equating Web3 with only speculative trading, and a lack of consumer trust and awareness. Tackling these issues will be critical to driving widespread adoption.

By fully harnessing Web3's potential, India can drive substantial economic and social impact, positioning itself as a global leader in digital innovation. The way forward involves creating an enabling ecosystem through policy reforms, regulatory clarity, and fostering industry-government partnerships.

01

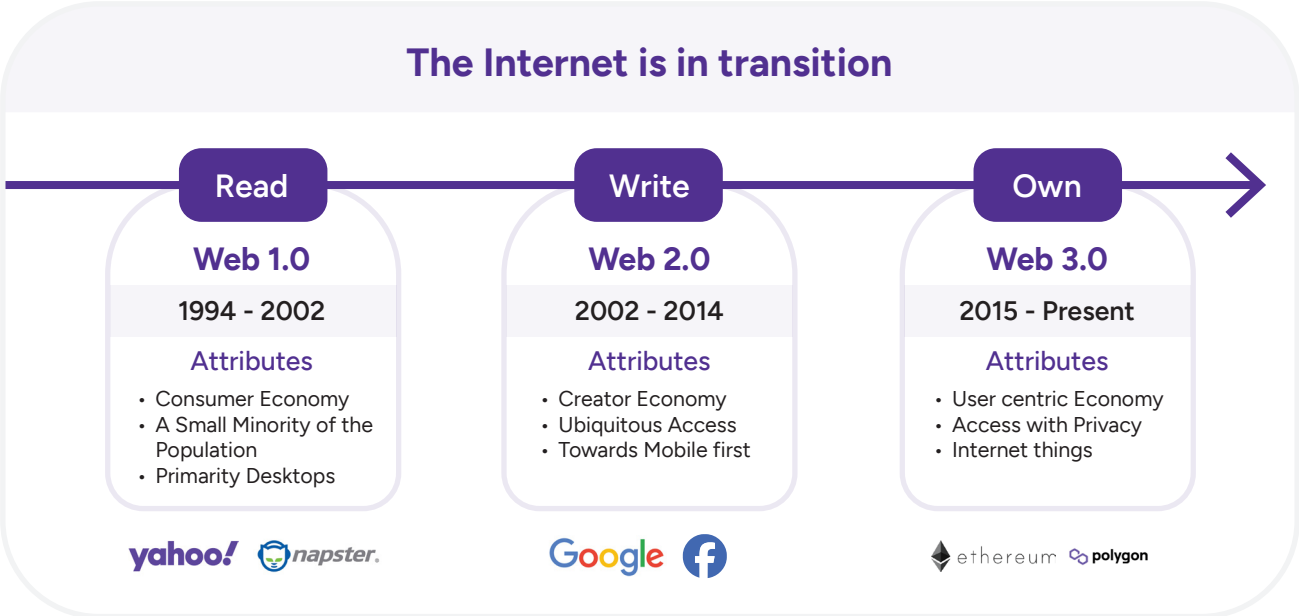
Web3:
Heralding a New Internet

Web1, the first iteration of the internet, was largely static, serving as a digital repository of information where users could only consume content. In Web1, users were only able to read data shared by certain companies. It was a one-way street with limited interaction, often referred to as the "read-only" web.

The advent of Web2 introduced dynamic, interactive platforms, transforming the internet into a "read-write" medium. Here, users could post and create content over the Web. However, Web2 came with significant challenges, such as centralized control, and privacy concerns, leaving users with limited control over their data.

Web3 represents a transformative evolution of the internet that shifts the paradigm from centralized control to decentralization, transparency, and user empowerment. It aims to create a more open and democratic web, where data and assets are controlled by individuals rather than centralized corporations. Web3 is built on principles of trustless interactions, verifiability, and uninterrupted access. The fundamental characteristics of blockchain, such as immutability, transparency, and the elimination of intermediaries, address many of the shortcomings of Web2.

Unlike the previous two iterations, Web3 enables users to own and control their data, participate in decentralized ecosystems, and engage in peer-to-peer interactions without relying on central authorities. The applications of Web3 extend beyond just finance, disrupting traditional practices across diverse industries such as healthcare, supply chains, agriculture, and digital identity. By addressing the shortcomings of earlier iterations, Web3 lays the foundation for a more equitable and resilient digital future.



"The Avalanche blockchain is dedicated to addressing real-world challenges by creating more efficient, transparent, and inclusive global systems. Our focus extends far beyond virtual digital assets, demonstrating the transformative potential of blockchain technology across industries. From enhancing supply chain traceability to enabling secure digital identities, Avalanche showcases how blockchain can drive meaningful innovation and solve pressing societal problems. It's time to view blockchain not just as a tool for financial transactions but as a foundational technology for building a more resilient and equitable future."

- Devika Mittal, Regional Head, Ava Labs

02

The Future of Web3:
Applications Beyond Trading

For several years, the narrative around Web3 was dominated by speculative trading. However, with time, Web3 has evolved to become an influential tool capable of transforming various industries across the globe. While initially, the primary focus of Web3 was on the way transactions were conducted, and assets were stored, by leveraging blockchain's core principles—decentralization, immutability, and transparency—Web3 offers a framework that can transform various aspects of industry and governance.

Efficiency & Automation

Web3 eliminates intermediaries and automates transactions using smart contracts, reducing errors and improving speed.

Traceability with Blockchain

Blockchain's immutable ledger enhances traceability, tracking transactions from origin to final destination.

IoT & Digital Twins

Web3 integrates with IoT & smart contracts to create digital twins—virtual replicas of physical assets.

Tokenization

Tokenization converts real-world assets into digital tokens on the blockchain, making them tradable and accessible.

The global Web3 market size is expected to reach US$ 87.09 billion by 2030 from US$ 10.43 billion in 2023, with the total Web3 revenue growing at a rate of 35.4% from 2024 to 2030.[1] Further, as the sector has matured, its potential applications have begun to extend to various sectors of the economy. Over the past few years, several notable trends have emerged that showcase the growing adoption of Web3:

Blockchain Integration in Supply Chains: Major corporations such as Wipro[2] have adopted blockchain solutions to improve supply chain transparency, traceability, and efficiency. The implementation will help safeguard the integrity and immutability of data exchanged across the industry supply chain.

Government Initiatives in Web3: Several countries such as Singapore, China and India, have begun integrating blockchain into public services, such as digital identity and land records, showcasing its potential to improve transparency, accountability, and efficiency in governance.

- Singapore implemented TradeTrust, a government initiative that uses blockchain to streamline and secure cross-border trade documentation. This has helped eliminate paper-based processes, saving costs and increasing sustainability.[3]
- In 2020, China implemented the Blockchain Service Network (BSN), an initiative aimed at supporting SMEs in China for blockchain adoption.[4]

Convergence of Web3 with Other Emerging Technologies: Web3 has increasingly been integrated with technologies like AI, IoT, and AR/VR.[5] Industries like retail and financial services are witnessing the impact of the convergence of these technologies. For example, blockchain-powered IoT systems are being used for real-time data tracking.

[1] *Web 3.0 Market: Global Industry Analysis and Forecast (2024-2030)*

[2] *Wipro Deploys Falcon Industrial Supply Chain Management Platform on Polygon PoS*

[3] *Trade Transactions*

[4] *China's BSN Blockchain: Everything You Need to Know*

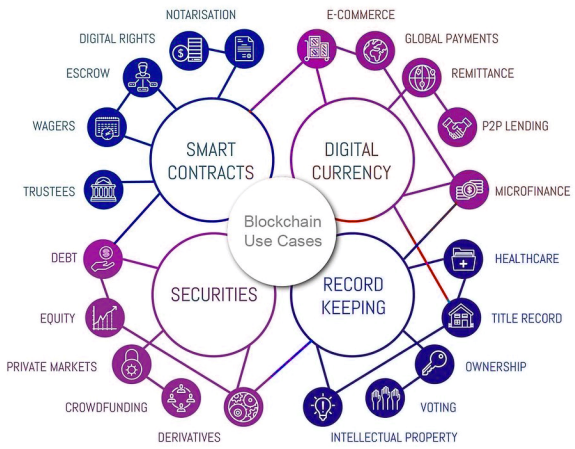
[5] *Immersive technology, blockchain and AI are converging — and reshaping our world*

Investments in Web3 Infrastructure: Big tech companies and startups alike are heavily investing in building Web3 infrastructure, such as decentralized storage, smart contract platforms, and blockchain development tools to make technology more accessible to developers and businesses. Platforms such as Polygon received more than $450 million in total funding, and 5ire, a blockchain-based network for interoperability and cross-chain transfers, received total funding of $221 million.[6]

Global progress towards regulations: Governments and international organisations are increasingly focusing on developing regulatory frameworks for Web3. This includes the European Union's MiCA (Markets in Crypto-Assets) regulation and the United States' announcement of a dedicated crypto task force for developing a clear regulatory framework for crypto assets. Similarly, Dubai launched the Virtual Assets Regulatory Authority (VARA) to oversee and regulate the Web3 ecosystem, ensuring a safe and transparent environment for virtual asset operations. These are some examples of the steps taken by different countries in recent years towards developing comprehensive regulations around virtual assets.

The growing evolution of Web3 use cases for diversified applications reflects a broader acceptance of the technology's potential by the general masses.

Use Cases of Web3



VDAs have developed into a reliable and robust infrastructure layer supporting a wide range of financial and non-financial applications.

The open-source nature of permissionless Web3 encourages young innovators to tackle globally relevant, real-world challenges without the burden of infrastructure-related obstacles.

Source: What is Blockchain as a Service?

6. *Web3 & Metaverse — The rise of the new Internet & the India opportunity*

"The growth of Web3 hinges on real-world applications that demonstrate its tangible value beyond financial speculation. At the Bharat Web3 Association, we have been actively working with member companies to identify, support, and scale impactful use cases that enhance efficiency, transparency, and trust across industries. This report highlights the critical role of Web3 in solving real-world challenges—from supply chains to governance—reinforcing India's potential as a global leader in decentralized innovation. By fostering collaboration between industry stakeholders, policymakers, and technology leaders, we aim to build a robust ecosystem where Web3 can drive economic transformation and long-term sectoral growth."

- Dilip Chenoy, Chairperson, Bharat Web3 Association

03

The Foundation of Web3:
Why Public Blockchains Matter Most

Public blockchains form the backbone of Web3, offering a decentralized, transparent, and inclusive infrastructure that enables its full transformative potential. While both public and private blockchains have distinct applications, it is essential to understand their differences and determine which use cases are better suited for each.

3.1. Public vs. Private Blockchains: How They Differ

The distinction between public and private blockchains is crucial to understanding the full potential of Web3. While private blockchains certainly offer the advantages of greater control and privacy, they do not fully realize the transformative benefits that public blockchains can provide.

Control in Private Blockchains: Private blockchains are often controlled by a single organization, where the control over who can participate and how transactions are validated rests with a central authority. This may undermine the trustless nature of blockchain. Further, private blockchains typically do not utilize native tokens or virtual digital assets (VDAs), which are essential for creating incentive mechanisms that drive network participation and security.

Scalability Issue with Private Blockchains: While permissioned or enterprise blockchains can operate without tokens in certain models, they are typically restricted to closed networks. These networks rely on participants with pre-existing contractual relationships, limiting their scalability and openness. As a result, they cannot be widely accessed or used on a global scale, unlike the internet or permissionless blockchain networks.

Incentive Mechanism in Public Blockchains to truly make it decentralized: Public blockchains, on the other hand, are heavily dependent on tokens or VDAs for their efficient functioning. Tokens act as the incentive mechanism for developers to build atop the blockchain, rewarding participants (miners or validators) who contribute to the network's security and functionality. This incentivization is crucial for maintaining the decentralized nature of the network. Further, tokens enable the creation of decentralized applications (dApps) and services that are accessible to anyone, fostering innovation and inclusivity.

Private blockchains, though more limited in decentralization, serve valuable roles in scenarios where privacy, regulatory compliance, and control are critical. For example, banks may use private blockchains to securely share transaction data without exposing it publicly. Similarly, healthcare providers can share patient records among authorized parties within strict privacy regulations.

However, while private blockchains offer controlled environments, public blockchains, where VDAs play a central role, enable the full potential of decentralization, offering open access, enhanced transparency and an immutable record of transactions, which are essential for building trustless systems that foster collaboration and innovation on a global scale.

3.2. Public Companies have shares; Blockchains have VDAs

VDAs derive their value from their utility, scarcity, and the trustless infrastructure they operate on. Their value is often tied to their specific roles, such as enabling transactions, rewarding network participants, or granting governance rights. The immutability and transparency of blockchain ensure that VDAs are secure and verifiable, while their programmability allows them to facilitate smart contracts, tokenization, and interoperability across platforms. As more use cases emerge, ranging from decentralized finance (DeFi) to gaming and digital collectables, VDAs will help unlock new economic opportunities and drive innovation in the digital economy.

Roles of VDAs in Public Blockchain

Incentivize Participants & Developers
VDAs incentivize talent to maintain and develop on top of blockchain by providing an equity-like reward structure

Signal the Market
The value of VDA is inherently tied to the confidence and uptake of a specific blockchain technology

Permit Traceability
VDA transfers record activity and create traceability on public chains, particularly those with multiple uses

"Traditional ride-hailing platforms, operate on centralized models that limit their ability to provide full transparency in pricing and operations. Drife is reshaping this landscape with a decentralized, blockchain-powered platform that ensures complete transparency, fairness, and accountability. By leveraging smart contracts, we enable fully automated and trustless fare calculations, eliminating biases and enhancing trust among drivers and riders alike. Blockchain's unique ability to decentralize operations and provide tamper-proof transparency is at the core of Drife's mission. No other technology achieves this level of openness and fairness, empowering users and creating a ride-hailing ecosystem built on trust, efficiency, and equity. Drife is not just a platform; it's a blueprint for how blockchain can solve real-world challenges and redefine industry standards."

- Firdosh Sheikh, Founder & CEO, Drife

04

Web3 and The Indian Perspective

India, with its diverse socio-economic landscape, presents unique opportunities and challenges for the adoption of Web3. As India continues to tread on the path of rapid digital transformation, the potential for Web3 to address real-world problems is becoming increasingly apparent. With 12% of the global Web3 developer pool,[1] and the country onboarding the most new crypto developers in 2024,[2] India is well-positioned to become a leader in the Web3 space.

In the rapidly evolving agricultural landscape, ensuring transparency and trust in the supply chain has become a critical priority for both producers and consumers. In the context of agriculture, blockchain and Web3 can help enhance traceability and ensure that the journey of produce from farm to table is transparent, thereby protecting both farmers and consumers. This is particularly significant in the case of India, where several cases of food adulteration are prevalent.

3rd biggest talent pool in the world; added 3.5 million developers in 2023

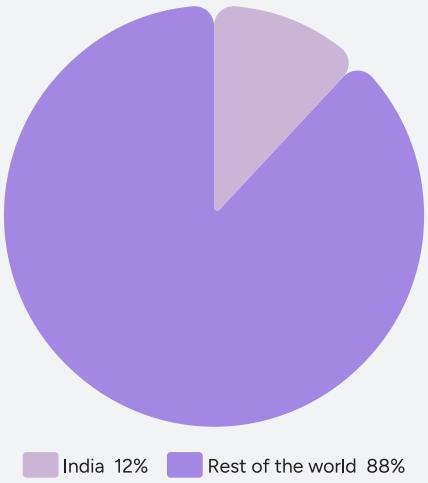
Contribution to Economy

$1.1tn	$200	8
contribution to India's GDP by 2032	billion market opportunity	million jobs to be unlocked

Web3 Startups & Investments

1000	$270
Web3 Startups; 5 Unicorns	million funding for Web3 startups

Global Web3 Developer Pool



Further, supply chains in India are often characterized by complexity and inefficiencies and stand to benefit immensely from the integration of Web3, which can help improve operational efficiency, and ensure regulatory compliance. Further, by enabling secure, decentralized identities, Web3 can facilitate access to services for millions of individuals, driving holistic inclusion.

The evolution of Web3 use cases in India mirrors the global trend, with the initial focus on financial applications gradually expanding to encompass a broader range of sectors. As the technology continues to develop, India has the opportunity to leverage Web3 not just to solve existing challenges but to develop new models of transparency, efficiency, and inclusivity.

[7] India's Web3 developer share surges to 12% globally, leads emerging markets: Report

[8] 2024 Crypto Developer Report

Jio Platforms and Polygon Labs Partner to Propel Web3 Adoption in India

In a landmark collaboration announced on January 15, 2025, Jio Platforms Ltd. (JPL), a subsidiary of Reliance Industries Limited, partnered with Polygon Labs to integrate Web3 and blockchain capabilities into its extensive digital ecosystem.

This alliance will enhance Jio's applications and services, leveraging Polygon's scalable and secure blockchain solutions to transform Jio's digital offerings. By integrating Web3, Jio aims to provide users with enhanced privacy, data ownership, and innovative services across various sectors, including telecommunications, entertainment, and e-commerce.

"Polygon Labs is at the forefront of Web3 innovation, providing scalable, secure, and efficient blockchain solutions that drive real-world adoption across industries. From Fortune 500 companies to emerging startups, our technology is enabling enterprises to build transparent, decentralized, and impactful digital ecosystems.

Leading businesses are leveraging Polygon to address pressing challenges and reshape industry standards. Reliance Jio is utilizing our blockchain to revolutionize the attention economy, incentivizing user engagement in unprecedented ways. Fox Media is strengthening digital trust by combating misinformation, ensuring transparency and credibility in news. Flipkart is enhancing e-commerce flexibility through transferable vouchers powered by Polygon's blockchain, creating a more dynamic and consumer-friendly shopping experience.

Beyond enterprise applications, Polygon is transforming global financial infrastructure. Our network facilitates instant, low-cost cross-border payments, eliminating intermediaries and enhancing financial accessibility. As a result, Polygon is emerging as the preferred settlement layer for fintechs and financial institutions. Additionally, major asset managers, including BlackRock, Hamilton Lane, and Apollo, are issuing money market funds on Polygon, harnessing blockchain's efficiency, security, and transparency to reshape traditional finance.

At Polygon Labs, we are not just advancing blockchain technology—we are pioneering its mainstream adoption, empowering businesses, and shaping the decentralized economy of the future. By bridging the gap between Web3 and real-world applications, we are unlocking new opportunities for economic growth, trust, and innovation on a global scale."

- Aishwary Gupta, Global Head of Payments, Polygon Labs

4.1. Measures Undertaken by the Central Government Departments

The Indian government has been proactive in recognizing the potential of Web3 to drive innovation, transparency, and efficiency across various sectors. Key central government departments, including the Ministry of Electronics and Information Technology (MeitY), the Centre for Development of Advanced Computing (C-DAC), and NITI Aayog, have initiated several programs and strategies to promote the adoption and development of Web3. Some of the measures are detailed in the table below:

इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी मंत्रालय MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY सत्यमेव जयते	**Vishvasya-Blockchain Technology Stack**[9] MeitY launched the Vishvasya-Blockchain Technology Stack to offer Blockchain-as-a-Service with a geographically distributed infrastructure designed to support various permissioned blockchain-based applications. **MeitY National Blockchain Strategy**[10] The MeitY National Blockchain Strategy has been formulated with the vision to create trusted digital platforms through shared Blockchain infrastructure; promoting research and development, innovation, technology and application development.
प्रगत संगणन विकास केंद्र सी डैक CDAC ज्ञानादेव तु कैवल्यम् CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING	**Centre for Development of Advanced Computing (C-DAC) National Blockchain Framework** C-DAC has identified blockchain technology as one of its mission areas. C-DAC's vision is to design and develop blockchain technology solutions to provide trusted & auditable shared infrastructure for cross-domain application development and large-scale deployment.[11]
भारतीय रिज़र्व बैंक RESERVE BANK OF INDIA	**RBI Hackathons for Blockchain**[12] Reserve Bank of India organised its third global hackathon – 'HaRBInger 2024' focussing on two pivotal themes of 'Zero Financial Frauds' and 'Being Divyang Friendly', which includes Token-based transaction anonymity.

Niti Aayog Blockchain Use Cases

NITI Aayog has recognized Blockchain as a promising Technology enabling features such as decentralization, transparency and accountability. It has executed various use cases in Blockchain and piloted them in association with various Government departments and Private agencies.

Niti Aayog Blockchain Strategy[13]

The Niti Aayog discussion paper titled "Blockchain: The India Strategy –Towards Enabling Ease of Business, Ease of Living and Ease of Governance" looks at NITI Aayog's own experiences in implementing blockchain systems in a variety of contexts.

9. Government launches Vishvasya-Blockchain Technology Stack

10. Rajeev Chandrasekhar Launches National Strategy on Blockchain

11. NATIONAL STRATEGY ON BLOCKCHAIN

12. RBI Launches Global Hackathon HaRBInger 2024 to Combat Financial Frauds

13. Blockchain The India Strategy Part I

4.2. Measures Undertaken by State Governments

State governments are also actively exploring blockchain technology and working on various projections for the promotion of this emerging technology or various applications.

States	Use Case Projects
 **Telangana**	**The Telangana Web3 Regulatory Sandbox** The Telangana government has been collaborating with Web3 startups over the past few years to foster the sector's development within the state. The Telangana government launched its Web3 sandbox to allow startups to test their products in a live environment and create a conducive environment in India for the sector to encourage startups and help them navigate the regulatory landscape.[14] **The Telangana Blockchain District** The Blockchain District, anchored by the Government of Telangana was launched in 2019 as a dedicated hub for blockchain startups, providing startups with access to funding, mentorship, and resources.[15] **Asset Tokenization Standards Framework** The Asset Tokenization Standard Framework aims to protect investors and consumers while allowing the industry to grow and innovate. The framework will provide a common set of rules and guidelines for tokenization.[16] **T-Block Accelerator** The T-Block Accelerator is a four-month-long program offering tech support and mentorship to startups working in the blockchain space. The initiative was launched in partnership with the International Institute of Information Technology (IIIT) Hyderabad and the Indian School of Business (ISB).[17]

[14] *Web3 Regulatory Sandbox launched by Telangana for startups to shape Web 3.0 policies and regulation*

[15] *Blockchain Framework*

[16] *TS to unveil asset tokenization standard framework*

[17] *Telangana aims to become India's Blockchain capital with T-Block Accelerator*

Maharashtra

Blockchain Adoption Strategy

The Maharashtra Information Technology Directorate is overseeing the Blockchain Sandbox, which was launched with an initial budget worth Rs 10 crore (about $1.4 million) for FY 2019-20, of which Rs 4 crore was directed towards ensuring blockchain technology's adoption.[18]

Gadchiroli Caste Certificates

The Gadchiroli district in Maharashtra, India has implemented a blockchain-based system to issue caste certificates to its residents.[19]

COVID 19 Test Certificates

Maharashtra government's Disaster Management Department has adopted Blockchain technology, in partnership with a startup Print2Block, to issue COVID-19 test certificates. The certificates are issued to people who test negative for COVID-19.[20]

Tamil Nadu

i-Tamil Nadu Technology (iTNT) Hub

The Tamil Nadu government inaugurated the i-Tamil Nadu Technology (iTNT) hub, a centre that will coordinate efforts to use technologies such as artificial intelligence, machine learning and blockchain to solve complex challenges. An initiative by the information technology (IT) department, the move is aimed at giving a major push for the growth of the sector in Tamil Nadu.[21]

Tamil Nadu Cricket Association (TNCA)

The Tamil Nadu Cricket Association announced a partnership with Giggr Technologies Private Limited to create a Web3 digital platform for the cricket ecosystem of Tamil Nadu in June 2022.[22]

Virtual Reality Lab - Meta Kalvi

Tamil Nadu got its first virtual reality lab

- Meta Kalvi, for education on metaverse for government schools.[23]

18. *Maharashtra Launches Blockchain Sandbox For E-Governance*
19. *Enhancing Trust and Transparency: Gadchiroli's Blockchain-based Caste Certificates*
20. *Maharashtra Govt Onboards Blockchain Startup Print2Block For Issuing Covid-19 Test Certificates*
21. *Tamil Nadu govt to launch iTNT hub to coordinate efforts to use technologies*
22. *TNCA inks MoU with Giggr to create Web 3.0 Digital Platform for cricket ecosystem*
23. *Meta Kalvi, Tamil Nadu's first virtual reality lab for education, Launched on Metaverse for government schools, Chennai*

The combined efforts of central and state government departments in India reflect a comprehensive approach to harnessing the transformative potential of Web3. Over time, these initiatives will pave the way for greater collaboration between the government, academia and the private sector, unlocking new opportunities for economic growth and helping the country become a global leader in Web3.

"At ChainCode Consulting, we transform traditional systems into transparent, efficient, and trustworthy ecosystems to address critical industry challenges. We aim to drive blockchain's mainstream adoption by delivering innovative solutions such as NFTtrace and Blockchain-as-a-Service (BaaS). These technologies enable tokenization, traceability, and security, paving the way for impactful use cases:

- *Supply Chains: Enhancing transparency and efficiency, ensuring trust from origin to delivery.*
- *Land Records: Revolutionizing property registration with tamper-proof, immutable systems.*
- *Citizen Services: Securing vital records such as education certificates, caste validations, and tax records.*
- *Travel Experiences: Personalizing journeys through NFT tickets and unique digital memorabilia.*

Blockchain's core strengths—transparency, immutability, and accountability—offer unparalleled potential to enhance governance, minimize fraud, and streamline operations. By embracing these capabilities, we aim to create a digital-first ecosystem that not only solves real-world problems but also empowers citizens, fosters trust, and drives inclusive economic growth."

- Alok Gupta, Founder, Chaincode Consulting

05

Web3 Use Cases to Watch Out for in 2025

This section explores the broad spectrum of non-financial applications of Web3, emphasizing their potential to enhance transparency, efficiency, and security across multiple domains. Some of the major use cases covered in the document include sectors such as:

Agriculture: Enhancing traceability and accountability in the agricultural cycle, ensuring quality and safety in the food supply chain.

Manufacturing

- **Logistics**: Optimizing logistics to streamline operations, reduce costs, and improve compliance with regulatory standards.
- **Transportation**: Tracking logistics, reducing paperwork, and enhancing the efficiency of transport networks.

Education

- **Document Verification**: Securing sensitive documents against fraud and tampering, easing the process of identity verification, and making it more reliable.
- **Academic Certificates**: Creating immutable records of academic achievements to ease the burdens of educational verification.
- **Credentialing**: Offering a verifiable and unforgeable record of professional qualifications that can simplify hiring processes and professional services.

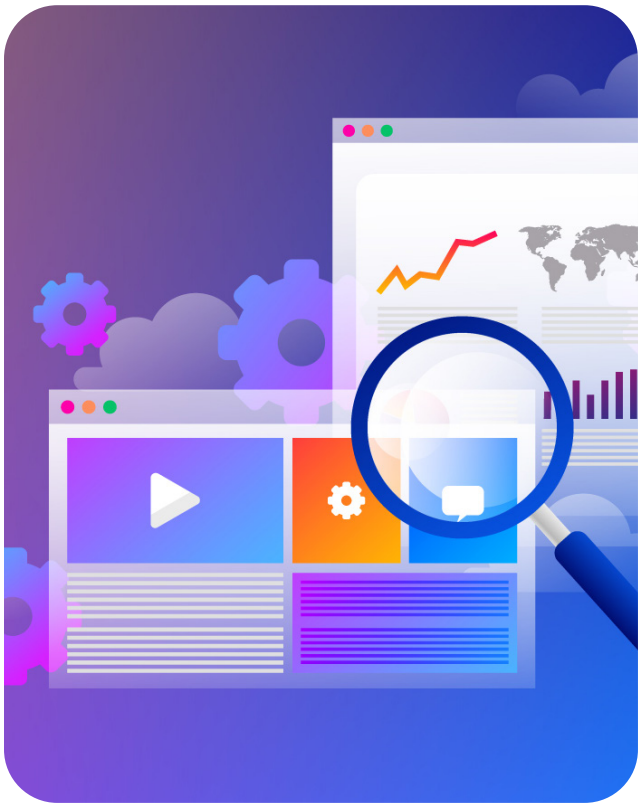
Real Estate

- **Property Transactions**: Simplifying and fractionalizing real estate transactions through tokenized ownership, reducing paperwork and increasing transparency.
- **Rental Agreements**: Enabling smart contracts for rental agreements, automating payments and ensuring compliance with terms.

Governance

- **Digital Identity**: Providing individuals control over their data while ensuring secure and efficient verification processes.
- **Land Registry**: Maintaining tamper-proof, transparent land records to reduce disputes and improve clarity around ownership.

The Web3 use cases anticipated to gain traction in 2025 can be broadly categorized into four areas: Efficiency, Traceability, Digitization, and Tokenization.



5.1. Efficiency

	Company (Sector)
	Ava Labs (Credentials)
Problem Statement	The majority of credentials issued today are paper-based, making them prone to tampering and manipulation. These documents lack tamper-proof security, leading to challenges in verifying their authenticity as there is no centralized or reliable source for verification. This opens the door to widespread fraud and identity theft, compromising trust and security for both issuers and recipients.
Solution Proposed	Document disbursed by any entity can be put on a chain for it to be perpetual, immutable and verified in a decentralised way. The issuer will issue the document using its CRM system. This document hash will be stored on the blockchain. This hash can be verified in real-time as and when the verifier wishes to check the legitimacy of the credential. The request will hit the blockchain network and create the necessary proof.
The Case for Blockchain Technology	**Security:** Blockchain's cryptographic methods ensure that certificates are secure and resistant to tampering. **Immutability:** Once issued, certificates cannot be altered or deleted, providing a permanent and verifiable record. **Transparency:** All stakeholders can access the same data, ensuring transparency and trust in the certification process. **Efficiency:** Automated processes reduce the need for manual verification, speeding up the issuance and validation of certificates. **Cost Reduction:** Eliminates the need for intermediaries and reduces administrative costs.
Blockchain/VDA Use	Ava Labs uses both public and private blockchains, depending on the scale and nature of the transactions.

	Company (Sector)
	Drife (Transportation)
Problem Statement	Currently, ride-hailing platforms suffer from a lack of transparency, security and efficiency. Decentralization removes the need for a central authority, ensuring fairer operations. Transparent and immutable transaction records build trust among users.
Solution Proposed	DRIFE uses blockchain to improve transparency, security, and efficiency in its ride-hailing platform. Blockchain's cryptographic security protects data and transactions. Smart contracts enable instant settlements, allowing drivers to receive earnings immediately after rides. Additionally, blockchain efficiently manages referral bonuses and ride-based incentives, ensuring drivers get their rewards.
The Case for Blockchain Technology	Blockchain is the ideal technology to achieve the vision of fairness and transparency. It enables both parties to view their transactions on-chain, ensuring complete visibility. For instance, if one charges ₹ 100 for a ride, displaying this transaction on the blockchain provides irrefutable proof of transparency, reinforcing a commitment to fairness.
Blockchain/VDA Use	Drife uses the Sui chain, and has its own native token called DRF. In Dubai, DRIFE offers multiple payment methods including VDAs, and uses blockchain to provide an advanced level of privacy and protection of user data, such as phone numbers.24

	Company (Sector)
	Jumbo Blockchain (Background Checks)
Problem Statement	Document signing and background checks are critical processes in various sectors. However, they come with their own set of challenges. In line with this, authenticity of education certificates also remains a major challenge across universities and organizations. The magnitude of the problem can be gauged by problems like security, authentication, integrity, authenticity, bias, and discrimination.
Solution Proposed	Jumbo Blockchain provides a platform for document upload, signing, and verification, leveraging blockchain technology to ensure security and reliability. It enables users to seamlessly sign and upload digital documents while safeguarding them on the Jumbo blockchain, offering significant advantages over traditional Web2 signing platforms. This solution empowers both organizations and individuals by providing a secure way to authenticate and verify the originality of documents with ease.
The Case for Blockchain Technology	Jumbo Blockchain based solutions provide various benefits over traditional methods that includes consumer accessibility, real time verification, cost, scalability, transparency and adaptability. It provides high transparency with an open accessible ledger and is highly scalable as digital verification can be done anywhere without physical limitations. It ensures immutability that makes tampering of the documents and facts next to impossible.
Blockchain/VDA Use	Jumbo Blockchain is a public chain. The solution uses its native token JNFTC is a VDA.

	Company (Sector)
	Whrrl (Agriculture)
Problem Statement	Farmers are often unable to obtain credit from traditional financial institutions due to a lack of formal documentation or a history of creditworthiness. As a result, they are often forced to rely on informal sources of credit, such as moneylenders, who charge high interest rates and offer unfavourable repayment terms.
Solution Proposed	Whrrl's WHR finance suite is a blockchain-integrated digital lending & trading platform that covers the entire life cycle of a farmer in the WHR financing vertical. By creating an integrated Blockchain platform of banks, warehouses, collateral managers and borrowers, Whrrl creates an ecosystem of immutable warehouse receipt finance with a single source of truth. This helps farmers obtain instant credit of loan against their crop deposits made in the affiliated warehouse. This avoids 'distress sale' of their produce and eliminates risks of lending against fake/duplicate warehouse receipts, multiple lending, ghost collateral lending etc. Further, the e-marketplace allows the farmers to trade their farm produce stored in warehouses without incurring the cost of loading, unloading, transportation, local market taxes etc.
The Case for Blockchain Technology	A solution covering all the post-harvest needs of farmers doesn't exist as of today. A deep tech integrated blockchain platform with warehousing, digital warehouse receipts, lending & marketplace, all at one place, is what makes Whrrl's solution unique & innovative. The technology helps create a single source of truth across the value chain thereby unlocking a huge swathe of capital that banks are otherwise unwilling to deploy. For the farmers it is a one-stop solution for all their post-harvest needs. Blockchain removes the risk of multiple lending against the same collateral by using tokenization. Earlier, this was a major fraud problem in the commodity finance industry. In just a single year, 2020, banks in Singapore lost $9 Billion due to multiple lending in the commodity finance business.
Blockchain/VDA Use	Whrrl's WHR financing suite is a private blockchain network of Banks, Crop Custodian Warehouses, and other players like inspection/certification agencies. The farmers deposit crops in the warehouse, the warehouse collects the data of crop deposits (weight, quality, variety, price, etc.), and this metadata is pushed onto the blockchain to create Asset Backed Non-Fungible tokens. These NFTS act as collateral for loans which are locked into smart contracts. When a farmer decides to borrow money against the stored crop, a pledge/lien is created across the blockchain, thereby eliminating the risk of delivery of a collateralized crop.

	Company (Sector)
	Zupple Labs (Academic Certificates)
Problem Statement	Educational institutions and employers face significant challenges in verifying the authenticity of certificates and credentials. Traditional paper-based and even digital certificates are prone to forgery, loss, and tampering, leading to widespread credential fraud. This undermines trust in the certification process and creates administrative burdens for institutions and hiring entities.
Solution Proposed	Legitdoc by Zupple Labs offers a blockchain-based solution to generate, store, and verify tamper-proof academic certificates and professional credentials. The platform ensures that each certificate is cryptographically secured and stored on a blockchain, making it immutable and easily verifiable by any third party. This not only enhances the security and integrity of the credentials but also streamlines the verification process, reducing administrative overhead and fraud.
The Case for Blockchain Technology	Blockchain technology is essential for the solution due to its inherent properties of immutability, decentralization, and transparency. Unlike traditional databases, blockchain ensures that once a certificate is recorded, it cannot be altered or deleted, providing a permanent and tamper-proof record. This level of security and trust cannot be achieved with other technologies, making blockchain the ideal choice for managing and verifying sensitive credentials.
Blockchain/VDA Use	Legitdoc uses a public blockchain to leverage its decentralized nature, ensuring maximum security and transparency. The solution does not use tokens or Virtual Digital Assets (VDAs), focusing solely on the integrity and verification of credentials.

The use cases mentioned above provide an overview of the ways in which blockchain aids services through efficiency. Web3 also has a diverse set of use case possibilities for public and private purposes to improve efficiency. These include:

- **Finance and Banking:** Faster, cheaper, and secure cross-border transactions by eliminating intermediaries (e.g., Ripple).
- **Energy and Utilities:** Allowing households with solar panels to trade excess energy on blockchain platforms.
- **Media and Entertainment:** Protect intellectual property and ensure creators receive fair compensation.

"Whrrl, India's pioneering blockchain-based lending platform, is revolutionizing agricultural finance through its innovative Web3-powered solutions. Combining social impact, scalability, and global reach, Whrrl has empowered over 60,000 farmers and 4,000 MSMEs, tokenizing commodities worth ₹6,600 crore and disbursing loans exceeding ₹200 crore. By leveraging blockchain, Whrrl has created a fraud-resistant, transparent financial ecosystem that addresses challenges like multiple lending and ghost collaterals while seamlessly integrating key stakeholders.

Building on its success in India, Whrrl is now rapidly expanding its presence across global markets, including the USA, Kazakhstan, Thailand, and South Africa. The expansion underscores the scalability of Web3 technology in addressing systemic challenges in agriculture on a global scale.

Whrrl's groundbreaking approach highlights the transformative potential of Web3 to drive sustainable and inclusive growth. As it ventures into new markets, Whrrl is setting a global benchmark for how decentralized technology can address real-world challenges, redefine agricultural finance, and create lasting economic impact across borders."

- Ashish Anand, Co-Founder, Whrll

5.2. Traceability

	Company (Sector)
	Ava Labs (Brand Loyalty Programmes)
Problem Statement	The current landscape of individual brand loyalty programs is hindered by siloed point systems, resulting in fragmented service experiences for customers. Additionally, the lack of integration leads to scalability challenges, as data remains fragmented and onboarding new brands becomes increasingly complex.
Solution Proposed	**Point Issuance:** A customer makes a purchase, and the transaction is recorded on the blockchain. The smart contract issues loyalty points to the customer's digital wallet based on the purchase amount. **Point Redemption:** The customer accesses their digital wallet to view their loyalty points balance. The customer selects a reward and initiates a redemption request via the user interface. The smart contract verifies the request and deducts the appropriate number of points from the customer's wallet. **Point Transfer:** Customers can transfer loyalty points to other users via the digital wallet. The smart contract verifies the transfer and updates the balances of both parties. **Program Management:** Businesses can use the management interface to set up promotional campaigns, tier upgrades, and point expiration rules. Analytics dashboards provide insights into customer engagement and program effectiveness.
The Case for Blockchain Technology	Blockchain technology enables seamless and transparent integration of data across different loyalty programs, creating a unified ecosystem. It allows for the creation of personalized rewards that users can trade on secondary marketplaces, empowering them with greater control over their spending and rewards. Additionally, smart contract-enabled brand onboarding ensures immutable data, fostering trust and efficiency in managing loyalty programs and partnerships.
Blockchain/VDA Use	Use of Avalanche backed subnets. These are customizable networks within the Avalanche ecosystem with its own set of rules and validators and can validate multiple blockchains.

	Company (Sector)
	Jumbo Blockchain (Counterfeiting)
Problem Statement	Counterfeiting remains a pervasive and costly issue across various industries, undermining brand integrity and consumer trust. This illegal activity leads to significant financial losses, estimated at billions annually, and poses serious health and safety risks. Despite advances in technology, counterfeiters continually evolve their methods, making detection and enforcement challenging. The global market for total counterfeit products sold stands at USD 4.5 trillion. The global market for supply chain management is expected to grow to USD 45.2 billion by 2027 with an expected CAGR of 9.4%.
Solution Proposed	The blockchain solution combats counterfeiting with secure and transparent product authentication across industries. Its immutable nature ensures traceability from origin to end, guaranteeing authenticity and minimizing market risks. This solution empowers end-users to verify authenticity effortlessly through a simple mobile camera scan. Distinguishing features include real time visibility of product expiry, option for the retailer to place back orders, AI engine for data analytics, and transparent geo location tracking.
The Case for Blockchain Technology	The blockchain solution provides various benefits over traditional methods that includes consumer accessibility, centralization, real time verification, cost, scalability, transparency and adaptability. It provides high transparency with an open accessible ledger and are highly scalable as digital verification can be done anywhere without physical limitations. It ensures full traceability from origin to end consumer with every transaction recorded on the blockchain.
Blockchain/VDA Use	Jumbo Blockchain is a public chain. The solution uses its native token JNFTC is a VDA.

	Company (Sector)
	Ava Labs (Supply Chain Tracking)
Problem Statement	The absence of real-time execution capabilities across functions limits the ability to respond quickly to market changes, leading to higher costs. Additionally, limited visibility and the presence of multiple systems and data silos across the supply chain hinders efficiency. The lack of automation for routine and manual tasks consumes significant employee bandwidth, reducing their capacity to focus on strategic, value-added decision-making.
Solution Proposed	Blockchain enables connecting all the systems in the value chain. Vendor, 3PL & manufacturer will be sharing immutable data on chain. Smart contracts can automate processes such as payments, verifications, and other contractual obligations based on predefined conditions. IoT devices can be integrated to feed real time data. APIs will fetch data from different systems like SAP, Oracle etc. All this data will provide real time visibility, transparency to all the stakeholders and hence improving efficiency of the process.
The Case for Blockchain Technology	Blockchain offers unique features that make it particularly well-suited for track and trace solutions in supply chain management. Here's why blockchain is required and why other technologies might fall short: **Key Features of Blockchain** Immutability **Blockchain:** Once data is written to the blockchain, it cannot be altered or deleted. This ensures that the history of a product's journey is permanent and tamper-proof. Decentralization **Blockchain:** Operates on a decentralized network, eliminating the need for a central authority. This ensures that no single entity has control over the entire supply chain data, increasing trust among participants. **Other Technologies:** Centralized systems require a trusted central authority, which can be a single point of failure and may not be trusted by all participants. Provenance **Blockchain:** Provides a clear and verifiable record of the origin and history of a product, helping to combat counterfeiting and ensuring product authenticity. **Other Technologies:** Tracking provenance is more challenging and less reliable with traditional systems, especially in complex, multi-stakeholder supply chains.
Blockchain/VDA Use	Private Avalanche Subnets

	Company (Sector)
	Intract (Backend Verification)
Problem Statement	The Web3 industry is faced with the problem of how to leverage airdrops as an incentive for projects to acquire real loyal users and for users to be fairly compensated for their contributions via VDAs. • On chain quests do not verify instantly, often requiring discord & community support • Sybil & airdrop hunter bots plaguing brand activation campaigns • Difficult to create quests that nudge repeat on-chain loyalty & high quality interaction, only quantity ensured right now in status quo • Difficulty in growing on-chain users for a project • Lack of transparency on which KOLs to partner with • Social quests (e.g. follow on twitter etc.) do not actually verify, anyone can bypass it
Solution Proposed	Intract is a platform that provides backend verification for tasks that are completed by a user in order to obtain rewards. For example, an airdrop may require a user to complete certain tasks to be eligible. Intract is the platform that can provide that verification. It helps web3 users explore new projects & engage with them to receive airdrops while helping web3 companies create a loyal user base.
The Case for Blockchain Technology	Since the platform validates tasks on a smart contract, it can only be executed on blockchain.
Blockchain/VDA Use	Intract does not use tokens or VDAs to function.

	Company (Sector)
	LW3 (Supply Chain Management)
Problem Statement	The absence of an affordable, reliable and transparent system to track the origin and lifecycle of products, particularly in industries like textiles, Agri-products, pharmaceuticals, handicrafts, etc., leads to issues such as counterfeiting, fraud, and unsustainable practices. Consumers are often unable to verify the authenticity and ethical sourcing of products, while businesses (especially MSMEs) face challenges in ensuring supply chain integrity and demonstrating compliance with sustainability standards.
Solution Proposed	LW3 offers a full-stack traceability and provenance solution that leverages blockchain technology and IoT integration to offer a Digital Product Passport service to businesses. This passport assigns a unique digital identity to each product, enabling verifiable origins and secure lifecycle tracking. This empowers consumers to make informed choices, supports businesses in maintaining ethical practices, and fosters a sustainable and trustworthy ecosystem.
The Case for Blockchain Technology	Blockchain's decentralized and immutable nature ensures the integrity and security of product information. Unlike traditional centralized databases, blockchain prevents unauthorized alterations, creating an auditable and tamper-proof record of a product's journey. This is crucial for establishing trust and transparency in industries where provenance and traceability are paramount. Additionally, blockchain's consensus mechanisms enable multiple stakeholders to participate in verifying and validating data, further enhancing the system's reliability.
Blockchain/VDA Use	LW3 uses a public blockchain and employs the use of NFT TOKEN / VDA.

	Company (Sector)
	Jumbo Blockchain (Batteries)
Problem Statement	There has been a surge in the demand for advanced batteries due to an increase in the electrification of personal transportation. However, the battery industry has its challenges with resource availability and sourcing, and environmental impact including waste disposal and value chain traceability. The industry depends heavily on recycling wherein tracking recyclable material and waste is a big challenge. There is no visibility on the reuse of the waste and monitoring of the circular ecosystem.
Solution Proposed	This industry-specific solution helps in end-to-end tracking of the entire circular ecosystem, from battery cell component production to material extraction from batteries for recycling. At every step, including batteries being used in the vehicles to refurbish and recycle material, every transaction is logged into Jumbo Blockchain, making the trace transparent and immutable. Every single cell component can be mapped to the last destination of extracting materials. This helps in tracking accurately how much recyclable material is being used and not treated as waste. This will also help the organization with green initiatives as the waste will be accurately managed.
The Case for Blockchain Technology	Jumbo Blockchain based solution provides various benefits over traditional methods that includes real time verification, cost, scalability, transparency and adaptability. It provides high transparency with an open accessible ledger and is highly scalable as digital verification can be done anywhere without physical limitations. It ensures full traceability of the circular eco system with every transaction recorded on the blockchain.
Blockchain/VDA Use	Jumbo Blockchain is a public chain. The solution uses its native token JNFTC is a VDA.

Web3 can enhance transparency and accountability by providing immutable, real-time records. These include:

- **Supply Chain Management:** Track the origin, journey, and authenticity of goods (e.g., food, pharmaceuticals, luxury items).
- **Sustainability:** Verify carbon credits, monitor emissions, and ensure ethical sourcing of materials.
- **Logistics:** Improve asset tracking, shipment status, and delivery verification.

5.3. Tokenization

	Company (Sector)
	Colours of India (NFT)
Problem Statement	Artists, artisans, digital creators and digital service providers can all benefit from an open and easy-to-access global creator economy. Unfortunately, many Indian creators do not know about the opportunities that exist with the advent of blockchain technology and Web3. Even the few who know, often find themselves at a disadvantage when competing against their international counterparts due to cultural biases, language barriers, knowledge gaps, etc., which remove any competitive edge in a global marketplace.
Solution Proposed	Colours of India works towards empowering artists and creators through the use of the blockchain and other Web3 technologies. Over the last 3 years, the mission has evolved into a two pronged one. 1. To educate, empower and enable Indian artists and creators in the Web3 space on a global platform by building a strong network, creating opportunities via collaboration and partnerships and through artist mentorship programs. 2. To serve as an educational vehicle to bridge the Web2 and Web3 gap and grow the ecosystem in India.
The Case for Blockchain Technology	The inherent trust built into the blockchain system enables buyers and sellers/ artists and collectors in the art market to transact directly without the need of an intermediary. The intent is to increase the velocity of money by increasing the sales of local artists in a global marketplace. Distribution of art through the blockchain will serve to establish India's presence as a creator of art / handicrafts/ content / digital services of a certain calibre in the global art market. This will further establish credibility for all future artists from India. Or in other words, this will create "provenance" for Indian art globally (much like the Dutch or Italian masters).
Blockchain/VDA Use	Colours of India is a blockchain agnostic organisation dedicated to supporting creators of VDAs and of the content that can exist as VDAs.

	Company (Sector)
	ANQ (DeFi)
Problem Statement	In the current financial landscape, there is a significant gap in providing inclusive and accessible wealth-generation opportunities for individuals who lack ready capital. Traditional financial systems (CeFi) may not cover a segment of users who can benefit from innovative solutions for payments, lending, savings, and investments. Furthermore, the decentralized finance (DeFi) ecosystem, while promising, remains complex and inaccessible to many. There is a pressing need for a platform that bridges the gap between CeFi and DeFi, offering seamless financial products that combine the benefits of both systems while enabling users to build wealth and access investment instruments effortlessly.
Solution Proposed	ANQ addresses these challenges by creating a next-generation financial services stack that integrates the best of CeFi and DeFi. Through its X Card, India's first bounty card, ANQ enables users to earn digital assets like Digital Gold as rewards for everyday transactions, turning routine spending into wealth-generation opportunities. Additionally, ANQ offers nQash, a unique loan product that allows users to collateralize their digital assets to access INR loans, effectively unlocking liquidity while managing risks. By leveraging blockchain technology and tokenization, ANQ empowers individuals with innovative financial tools, providing inclusive access to payments, savings, lending, and investments, particularly for users without ready capital.
The Case for Blockchain Technology	Blockchain is fundamental to ANQ's mission of bridging the gap between CeFi and DeFi and enabling inclusive wealth generation. Its decentralized and transparent nature ensures secure, tamper-proof transactions and the seamless integration of digital assets like Digital Gold. By leveraging blockchain, ANQ enables tokenization, which transforms everyday rewards and collateralized assets into liquid, verifiable, and tradable instruments. Smart contracts automate the lending process for nQash, ensuring efficient, transparent, and risk-managed issuance of loans against digital assets. Additionally, blockchain provides a trustless infrastructure, reducing reliance on intermediaries and enhancing access to financial instruments for underserved customers.
Blockchain/VDA Use	ANQ uses VDAs for tokenization.

	Company (Sector)
	Chaincode (Certificate Verification)
Problem Statement	Certificate Issuance for Railways The Railways require a unified certificate issuance system. The solution is to implement blockchain to ensure that the certificates are secure, tamper-proof, and easily verifiable.
Solution Proposed	Using blockchain to tokenize academic certificates enables a unified system for issuance and verification. This helps the Railways ensure secure, tamper-proof, and easily verifiable certificate issuance.
The Case for Blockchain Technology	Blockchain provides a transparent, secure environment that reduces fraud and ensures visible, verified transactions and records.
Blockchain/VDA Use	Chaincode uses both private and public blockchain, as well as the use of tokens/VDAs in its solutions.

	Company (Sector)
	Chaincode (E-Ticketing)
Problem Statement	IRCTC - E-Ticketing for Ashta and Tejas Trains The challenge was to develop a secure and tamper-proof e-ticketing solution for Ashta and Tejas trains that ensures rapid verification and allows passengers to share ticket details with photos on social media, creating memorable travel experiences. Additionally, the solution should enhance global branding, boost revenue, and reduce customer service costs.
Solution Proposed	The use of blockchain technology to tokenize e-tickets for Ashta and Tejas trains ensures secure, tamper-proof, and easily verifiable tickets. By leveraging tokenization, passengers can rapidly verify their tickets, seamlessly share them on social media with accompanying photos, and enjoy a memorable travel experience. This blockchain-based solution enhances the authenticity of the e-ticketing process, reduces fraud, and streamlines customer service operations. Additionally, the system strengthens global branding for IRCTC, boosts revenue through innovative ticketing features, and supports operational efficiency by reducing customer service costs.
The Case for Blockchain Technology	An immutable and decentralised ledger ensures that tickets cannot be altered or duplicated, providing passengers with verifiable and fraud-resistant e-tickets. The transparency of blockchain builds trust among users, while smart contracts automate ticket validation and management processes, enabling rapid verification and reducing the risk of human error.
Blockchain/VDA Use	Chaincode uses private and public blockchain types and employs the use of tokens/VDAs in its solutions.

	Company (Sector)
	Chaincode (Survey Programs)
Problem Statement	The challenge lies in automating and digitalizing survey programs to streamline the identification of outliers in a survey feedback. The goal is to achieve faster and more accurate results through the implementation of smart contracts.
Solution Proposed	Leveraging blockchain to tokenize ranking certificates ensures their authenticity and easy verification. This solution streamlines and fast-tracks the process of identifying outliers in survey feedback using smart contracts.
The Case for Blockchain Technology	Blockchain automates and secures surveys, enabling faster identification and verification of outliers.
Blockchain/VDA Use	Chaincode uses private and public blockchain types and employs the use of tokens/VDAs in its solutions.

	Company (Sector)
	Chaincode (Land Records)
Problem Statement	The Uttar Pradesh State Government aims to enhance and fortify the Chakbandi process. The challenge lies in integrating blockchain and AI/ML technologies to improve accuracy and efficiency in land consolidation processes.
Solution Proposed	Utilising blockchain to tokenize land parcels enhances the accuracy and efficiency of the Chakbandi process in Uttar Pradesh. This integration of advanced technologies such as Blockchain and AI/ML addresses the challenges faced in land consolidation.
The Case for Blockchain Technology	Blockchain provides quick, secure digital ownership and provenance with immutable records.
Blockchain/VDA Use	Chaincode uses private and public blockchain types and employs the use of tokens/VDAs in its solutions.

Web3 can unlock value by converting physical or intangible assets into digital tokens, enabling fractional ownership and liquidity. One can also find use cases in the following sectors:

- **Real Estate:** Tokenize properties to enable fractional ownership and simplify transactions.
- **Art and Collectibles:** Enable the trading of digital art and physical collectibles through NFTs.
- **Gaming:** Use in-game tokens for virtual goods, rewards, and economies.

> *"India has long been home to incredible schools of art and handicraft through the ages. Our rich artistic heritage deserves a global stage, and Web3 and blockchain make that possible. These technologies empower our artists and artisans through the ability to sell directly, get fair pay, and reach a worldwide audience—boosting both their livelihoods and India's creative economy."*
>
> - Angad B Sodhi, Co-founder, Colours of India NFT (COI NFT)

5.4. Digitization

	Company (Sector)
	Shemaroo (Media and Entertainment)
Problem Statement	In an era of increasing digital engagement, there is a significant gap in platforms that integrate entertainment, social interaction, and cultural experiences within a metaverse environment. Current digital ecosystems often lack seamless integration of Web3 and AI to create immersive, engaging, and diverse experiences for users. This limits the ability of users to access a comprehensive digital space that caters to various tastes, from Bollywood and gaming to wellness and professional collaboration. Furthermore, there is a need for a robust infrastructure to ensure secure and scalable experiences in a metaverse setting.
Solution Proposed	Shemaroo Entertainment Limited addresses these challenges with ShemarooVerse, an innovative public metaverse that redefines digital entertainment and social interaction. ShemarooVerse offers a rich array of features, including an expansive content library, Bollywood avatars, live concerts, immersive VR cinema, wellness zones, and interactive games. It also provides dynamic workspaces, devotional zones, and storefronts, creating a versatile environment for users.
The Case for Blockchain Technology	Blockchain is a foundational element for ShemarooVerse, ensuring secure, transparent, and decentralized interactions within its metaverse environment. By leveraging the NEAR protocol, ShemarooVerse ensures scalability and efficiency, critical for handling diverse user interactions and expansive digital assets. Blockchain enables true ownership of digital assets, such as Bollywood avatars, NFTs, and interactive content, giving users control over their experiences and enhancing trust in the platform
Blockchain/VDA Use	Shemarooverse was built on the secure and efficient NEAR protocol. Shemarooverse has also partnered with PWR Chain, a high-performance Layer 0 blockchain infrastructure focused on scalability, efficiency, and sustainability.

	Company (Sector)
	Flipkart labs (E-Commerce)
Problem Statement	As e-commerce evolves, consumers increasingly demand immersive and engaging shopping experiences that go beyond traditional online platforms. However, existing e-commerce models cannot often provide a truly interactive and visually compelling environment. Additionally, the integration of cutting-edge technologies like 3D, AR, and blockchain into shopping experiences remains limited, creating a gap in delivering personalized, futuristic, and immersive interactions that cater to modern customer expectations.
Solution Proposed	Flipkart Labs addresses these challenges through Flipverse, a metaverse space that enables Flipkart customers to shop in a photorealistic virtual destination via the Flipkart app. By leveraging advanced technologies such as 3D, Augmented Reality (AR), Web3/Blockchain, and Generative AI, Flipverse creates an engaging and immersive shopping experience. Customers can explore virtual storefronts, interact with products in a realistic environment, and enjoy a unique blend of entertainment and e-commerce. This innovation positions Flipkart at the forefront of the digital shopping revolution, offering differentiation and enhanced customer engagement in the e-commerce landscape.
The Case for Blockchain Technology	Blockchain is a critical enabler for Flipverse, providing the foundation for a secure, decentralized, and transparent shopping experience within the metaverse. By leveraging blockchain, Flipverse ensures that virtual storefronts and transactions are tamper-proof, fostering trust among users and merchants. Tokenization allows for the creation of digital assets, such as exclusive NFTs or product vouchers, which customers can own, trade, or redeem, enhancing the personalization and engagement of the shopping experience.
Blockchain/VDA Use	Flipkart's metaverse shopping experience, is built on the Polygon blockchain. Flipkart's Web3 properties also include FireDrops, an easy-to-use NFT platform for consumers, brands, and creators looking to explore new horizons of community building and experience the value of NFT and NFT utilities.

	Company (Sector)
	Bharat Box (Gaming)
Problem Statement	The Indian gaming ecosystem currently lacks platforms that effectively integrate culturally resonant narratives with cutting-edge Web3 technologies. As the global metaverse evolves, Indian consumers have limited access to gaming experiences that reflect their heritage, culture, and traditions. Additionally, there is a growing need for platforms that enable users to not only engage in immersive experiences but also derive economic value through play-to-earn models. Furthermore, brands and artists in India face challenges in collaborating seamlessly within the metaverse to create unique, culturally relevant content.
Solution Proposed	BharatBox addresses these gaps by creating a cultural metaverse hub that combines Indian narratives with state-of-the-art Web3 technology. The platform enables consumers to experience Indian heritage and culture in the metaverse while engaging in play-to-earn gaming opportunities. BharatBox also acts as a collaborative platform for brands and artists, fostering partnerships to create unique, immersive content tailored to Indian audiences. Through this innovative approach, BharatBox empowers users to connect with their culture, monetize their gaming efforts, and drive the growth of India-centric metaverse experiences.
The Case for Blockchain Technology	By leveraging blockchain, BharatBox ensures the authenticity and ownership of digital assets, such as in-game items and NFTs, which are integral to the play-to-earn model. This enables users to monetize their gaming efforts securely and transparently. The immutable nature of blockchain fosters trust and eliminates fraud, ensuring a fair and equitable environment for users, brands, and artists. Additionally, smart contracts streamline collaborations by automating transactions and revenue-sharing mechanisms for content creators. Blockchain's decentralization aligns with BharatBox's vision of empowering users with control over their assets and experiences, creating a sustainable, innovative hub that bridges Indian heritage with cutting-edge Web3 technologies.
Blockchain/VDA Use	Bharat Box uses The Sandbox, which operates on the Ethereum blockchain.

	Company (Sector)
	Metakraft (Virtual Reality)
Problem Statement	The evolving digital landscape lacks platforms that offer truly inclusive and accessible experiences within the metaverse. Many existing metaverse platforms are limited in their ability to empower individuals to fully connect, create, and collect assets in a way that fosters creativity and collaboration. Barriers such as complexity, exclusivity, and limited opportunities for user-driven content creation prevent broader participation and hinder the realization of the metaverse's full potential as a democratized digital space.
Solution Proposed	Metakraft addresses these gaps by creating a platform that empowers individuals with equal opportunities to Connect, Collect, and Create within the metaverse. By enabling seamless and immersive experiences, Metakraft fosters meaningful connections between users, facilitates the collection of unique digital assets, and provides tools for unleashing creativity. Through its commitment to inclusivity and accessibility, Metakraft ensures that everyone, regardless of their background or technical expertise, can actively participate and thrive in building the foundations of a new way of interaction in the metaverse.
The Case for Blockchain Technology	Blockchain ensures transparency and trust by enabling users to collect and own unique digital assets, such as NFTs, with verifiable authenticity. Its decentralized nature eliminates intermediaries, fostering a democratized environment where individuals can freely participate without barriers. Smart contracts automate transactions and asset management, streamlining user-driven content creation and collaboration. Additionally, blockchain enables interoperability and portability of assets across platforms, empowering users to seamlessly connect and thrive in the metaverse. By leveraging blockchain, Metakraft creates a secure, scalable, and user-centric digital ecosystem where inclusivity and accessibility are not just principles but tangible outcomes.
Blockchain/VDA Use	Metakraft uses the SKALE blockchain, which is a public blockchain designed for fast, secure, and user-centric Ethereum scaling.

	Company (Sector)
	MetaSpace (Virtual Reality)
Problem Statement	Current virtual reality platforms often lack decentralization, user control, and a comprehensive range of interactive experiences. Many existing platforms operate under centralized models, limiting users' ability to own and control their data and assets. Additionally, the potential of virtual reality to transform social interaction and digital ownership remains underutilized, creating a need for platforms that offer immersive experiences and decentralised governance.
Solution Proposed	MetaSpace redefines virtual reality by creating a decentralized 3D metaverse where users can fully control their experiences. The platform combines stunning graphics with diverse functionalities, allowing users to interact, play games, attend concerts, and sell or trade NFTs seamlessly. By giving users ownership of their data and assets, MetaSpace empowers individuals in a truly decentralized environment. This revolutionary platform not only transforms social interaction but also sets the stage for the future of virtual reality by merging entertainment, commerce, and community engagement in an innovative and inclusive digital space.
The Case for Blockchain Technology	Through blockchain, users can own, trade, and manage NFTs and other virtual assets with verifiable authenticity, ensuring true ownership and eliminating dependence on centralized entities. Smart contracts automate transactions, ticketing, and other processes, enabling seamless interactions within the metaverse. The decentralized governance model, powered by blockchain, ensures that users have a voice in shaping the platform, fostering a community-driven ecosystem. Additionally, blockchain's interoperability allows assets and identities to be used across different virtual environments, enhancing the overall metaverse experience.
Blockchain/VDA Use	Metaspace utilizes the Polygon blockchain, which is a public blockchain known for its scalability and low transaction fees.

Web3 facilitates the creation of digital ecosystems that are decentralized, efficient, and secure. The following sectors benefit from Web3's digitization properties:

- **Media and Entertainment:** Create decentralized content platforms that empower creators and prevent piracy.
- **E-commerce Metaverse**: Build immersive virtual shopping experiences where customers can explore products in 3D, interact with brands, and use blockchain-backed payment systems for secure transactions.
- **Real Estate Metaverse**: Enable tokenized ownership of virtual real estate, allowing users to buy, sell, and lease digital properties in virtual environments.
- **Heritage and Culture**: Use Web3 to create virtual spaces for preserving and showcasing cultural artifacts, offering interactive tours of heritage sites, and providing global access to India's rich cultural legacy.

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06

Way Forward

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Over time, Web3 has managed to transcend its initial association with financial applications, proving its potential to transform industries across the globe. Through decentralized, secure, and transparent systems, Web3 offers new pathways for addressing real-world challenges, from enhancing transparency in supply chains to securing critical data in healthcare and education. Further, government initiatives at both the national and state levels are laying the groundwork for Web3's integration into key areas such as agriculture, public services, and digital identity.

Today, India stands at the forefront of this transformation, uniquely positioned to harness Web3 to address its complex challenges. While there are multiple use cases that have been adopted across various countries and states, there are still significant challenges that need to be addressed if 2025 is to be the year of Web3:

Lack of Regulatory Frameworks: The absence of clear, well-defined regulations makes it difficult for businesses and individuals to adopt Web3 technologies confidently.

Association with Crypto and Trading: Web3 is often narrowly clubbed with crypto and trading, overshadowing its broader potential in non-financial applications. The underlying value and benefits of Web3 and blockchain are often undermined by speculative trading activities, leading to scepticism.

Lack of Consumer Trust: Concerns around fraud, security breaches, and misuse of data create significant barriers to widespread adoption.

Limited Awareness and Education: Many individuals and organizations lack a clear understanding of Web3 and its applications, limiting its adoption and potential impact.

For Web3 and its use cases to be adopted widely, these challenges must be addressed through the following measures:

Regulatory Framework: Establishing a robust and forward-looking regulatory framework will be critical to fostering trust, encouraging investment, and ensuring that Web3 technologies can thrive in a secure and compliant environment.

Consumer Protection: Clear policies and frameworks will help safeguard users by addressing risks such as fraud, data breaches, and misuse, ensuring that individuals and businesses can engage with Web3 confidently.

Awareness and Education: Promoting widespread education and awareness about Web3 technologies will empower individuals, businesses, and policymakers to understand its full potential and adopt it effectively.

Public-Private Partnerships: Encouraging collaboration between government and industry players to pilot and scale Web3 solutions across key sectors such as agriculture, healthcare, public services, and supply chain management.

By embracing public blockchains and incentive mechanisms like tokens, India can fully leverage Web3's potential, leading the way toward an innovative digital economy that is transparent, efficient, and inclusive.

The future of Web3 in India and globally is bright, yet it will require continued collaboration between governments, industry stakeholders, and the public to fulfil its potential. As the global digital landscape continues evolving, it will open new avenues for growth and innovation, strengthening not only economic resilience but also increasing trust and empowerment. With focused effort and thoughtful regulation, Web3 has the potential to drive significant social and economic impact, positioning India as a global leader in this emerging technology.

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