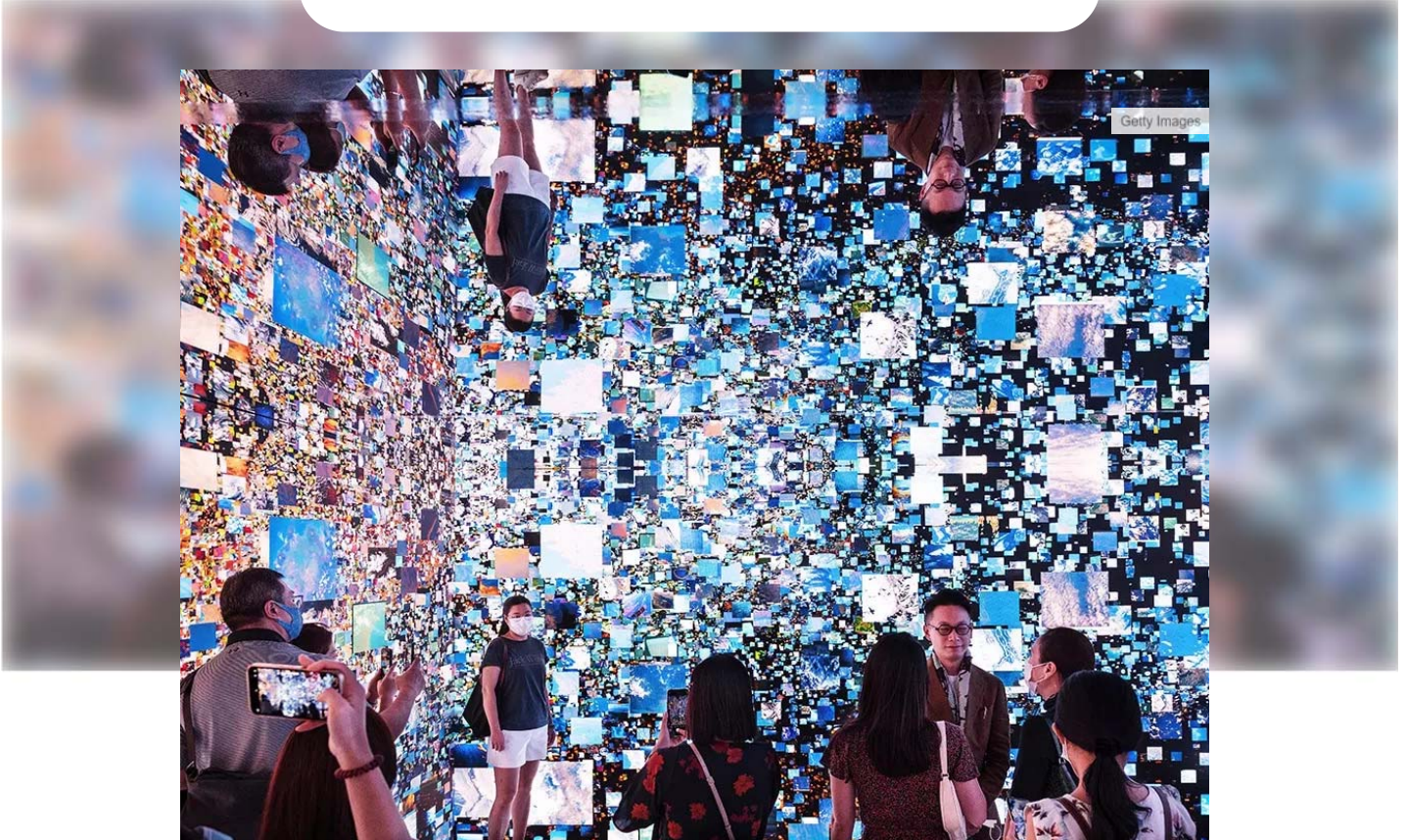


# As Indian IT eyes its metaverse moment, big battle for talent looms

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Visitors at the immersive art installation titled 'Machine Hallucinations Space: Metaverse' by Refik Anadol in Hong Kong on October 08, 2021.

## Synopsis

Metaverse projects present a massive global opportunity for IT-services companies to transform enterprises from 2D to 3D, physical to virtual interactions. The biggest challenges will be to build deep domain expertise, access talent, and reskill stretched teams working on digital-transformation projects. Service providers will also be scouting for startups with niche metaverse-development capabilities.

If mavens and geeks at India's USD227 billion IT-services sector need something to look forward to, they need not have to wait. Even as they are busy delivering digital-transformation projects, **metaverse** has emerged as the next big play. The changing and expanding landscape is clearly visible when they don their augmented reality headgear and see avatars not just playing games, but shopping, banking, running factories, and more.

A honcho at one of the top six technology-services companies says, "We already have customer queries around 'metafying' retail stores, studios, and shopping experiences, and these conversations are converting into new business." He wished not to be named as "it's very early and we don't want to share what we are doing".

Investment bank Goldman Sachs see it as an astronomical USD8 trillion opportunity and it will help IT companies expand their offerings to deep tech like artificial intelligence, data analytics, and augmented reality (AR), virtual reality (VR), and mixed reality (MR). While consultancy PwC puts it at a more conservative, yet mega, USD1.5 trillion business by 2030, **Gartner** predicts that by 2026, one-fourth or 25% of the world's Internet users will spend at least an hour a day in the metaverse for shopping, learning, social interactions, and so on. Prashant Garg, partner - tech consulting at EY, says by 2024 transactions on the metaverse are expected to reach around USD800 billion, with 300 million users globally.

Meta CEO **Mark Zuckerberg**, who is among the most bullish about the new wave, sees in the metaverse the future of the Internet. People will live their lives (like today, working a few hours on the Internet every day) in the metaverse. Their avatars are stored on cloud servers. Metaverse will be the place where they will transact via cryptocurrencies, be it to buy land, art, and non-fungible tokens (NFTs) or to test driving cars and learning new skills.

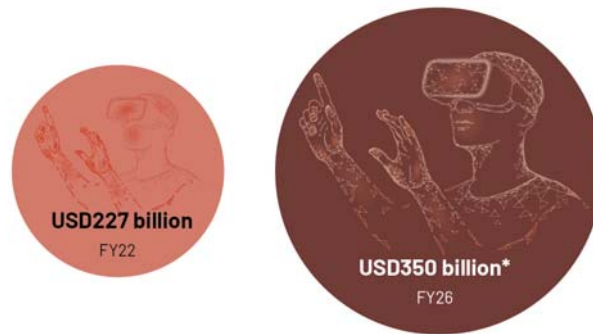
So, what is the promise that this new wave holds for Indian IT? Transforming enterprise experiences from 2D to 3D, and physical to virtual interactions, presents a huge opportunity. That's why TCS, Wipro, Infosys, Mindtree, HCL Technologies, and others are firming up their metaverse plans. But there will be challenges as well, especially in building domain expertise and teams in a new arena. On the one hand this will entail sourcing fresh talent, and on the other, teams already stretched working on digital transformation will have to be reskilled. Naturally, startups with niche metaverse-development capabilities will be ripe for the picking.

### **Building metaverses**

Before such fantasies take off, someone has to build it. That is where the tech-services companies come in. They will have to plan new hiring and re-skill thousands of coders to cater to the needs of global clients. Gaurav Vasu, founder and CEO of market-intelligence company UearthInsight, points out that companies are already working on projects around AR, VR, MR, which are the key to metaverse platforms. In the next few years, 8%-10% of the business could come from similar various building blocks of the metaverse. According to industry body Nasscom, the tech-services industry is expected to be over USD350 billion by 2026.

## Indian IT and metaverse opportunity

IT-services revenue



\* estimate

Source: Nasscom; Unearthinsight

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“Businesses have always wanted to mass-customise physical and digital experiences, bring in elements of collaboration, game play, and presence in these experiences,” says Ananth Krishnan, chief technology officer at TCS, which is exploring industrial use cases, especially within a company or a value chain. It is also training associates in tools to create metaverse experiences.

Mindtree’s chief technology officer Aan Chauhan says the company is exploring potential go-to-market partnerships in the metaverse space. “We are also building on internal use cases to leverage the metaverse for better collaboration and engagement.”

Mindtree offers a range of AR, VR, and MR solutions across industries and claims expertise in areas such as computer vision, machine learning (ML), and deep learning. “We are working towards building a practice that can stitch together our existing capabilities into the metaverse ecosystem,” adds Chauhan.

Subha Tatavarti, chief technology officer, Wipro, says metaverse projects represent “the next wave of investment in Internet and allied technologies”. Enabling 3D worlds, location, and context-aware interactions on a global scale will need computing, storage, and network capabilities that are orders of magnitude greater than what’s used today. As a result, making metaverse a reality will require investments in developing and deploying new technologies and applications.

Tatavarti sees opportunity on two fronts. The first is in building a new generation of hardware, software, networking technologies that help it scale. The second is in developing and managing the content and applications to realise it. “Wipro intends to operate in both these areas,” she says.

### Monetising 3Rs

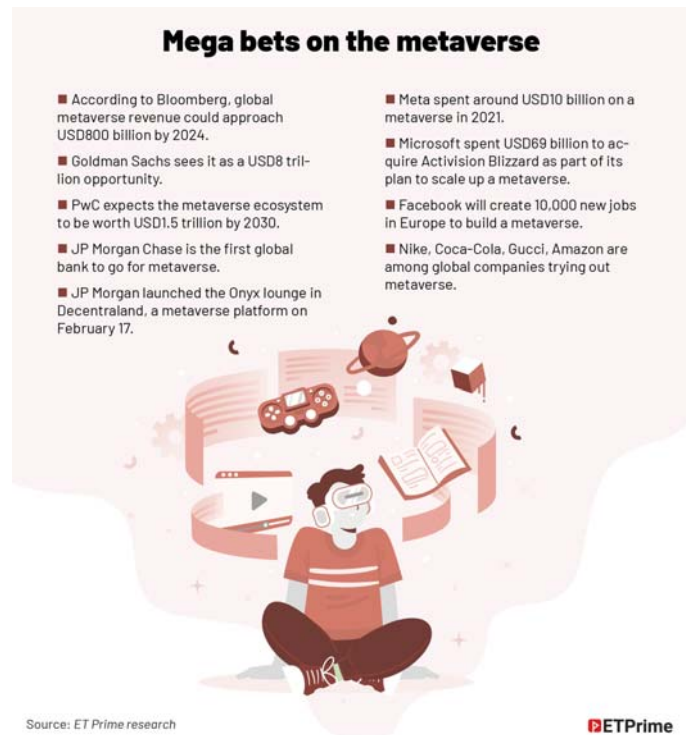
While companies are already building parts of metaverse projects in silos, over time these will become a large part of the metaverse-

delivery practice. Sachin Alug, CEO of tech-staffing firm NLB Services, sees a significant push towards 3R development — AR, VR, XR — in the next two decades. For companies, the idea is to “monetise digital interactions”, says Alug, besides enhancing user experience.

On February 17, **JP Morgan** became the first bank to open a lounge in a virtual world named Decentraland. It said the metaverse will influence every sector and market, generating an estimated yearly revenue of USD1 trillion.

That may indeed come true, as companies ranging from Coca-Cola to AB InBev and P&G are experimenting with metaverses. Nike is setting up virtual stores and looking for virtual material designers of footwear and other virtual-design roles. In December 2021, it acquired RTFKT, a digital-design studio producing trainers that can be worn across online environments. **Gucci**, Louis Vuitton, and Burberry are also expanding their metaverse presence. At the other end of the spectrum, banks and manufacturing companies are also eyeing metaverse presence.

South Korean banks Hana and Woori have launched their branches in metaverse. The UK’s digital bank, Mercobank, is creating a metaverse for customers to access banking in a manner that simulates real life. In metaverse, Amazon sees the solution to the missing link of e-commerce — the touch-and-feel experience. For example, shoppers will be able to see what furniture looks like in their rooms before buying.



“Demand will soar for those who specialise in building 3R worlds that integrate various experiences and make them actionable. That’s why programmers, design specialists, engineers, and developers will be

at the helm of the metaverse,” says Alug. No wonder **Facebook** is hiring 10,000 in Europe for its metaverse project.

Arnab Basu, advisory leader and partner at PwC India, foresees an explosion in demand for metaverse specialists in the next two to three years. For example, he says, auto companies will engage developers to create test drives for cars in the metaverse, while e-commerce companies will bring buyers closer to real-life buying experience, as Amazon is planning to do. “These are platforms for the next level of social and business interactions.”

### **Talent must think 3D**

Compared to 2D Internet (the Web pages of today), the metaverse will “spell a paradigm shift in the visual depth of user experience by using 3D virtual worlds,” says Chauhan of Mindtree. The creation of these persistent and continuously rendering environments will require the use of 3D rendering engines such as Unreal and Unity to create an immersive experience for users. The development and validation of these virtual worlds will also require tools and skill sets that are different from those used in traditional software development. The current lack of standards in this space may initially pose integration and interoperability challenges.

Moreover, asset and account management will require integration with a range of underlying distributed-ledger infrastructure and protocols to ensure interoperability and a seamless user experience across virtual worlds. From a performance point of view, the need for high-bandwidth networks (5G) and efficient user-interface hardware will be key to a smooth and high-quality user experience. A multi-tiered security model (user, asset, environment) will be essential to provide users with a secure metaverse experience.

### **"These are platforms for the next level of social and business interactions."**

— *Arnab Basu, advisory leader and partner, PwC India*

Mindtree has kick-started cross-selling resources, both experienced and freshers, to train them in tech needed for metaverse implementation. It has set up a core team to incubate the practice and is exploring partnerships with tech leaders and startups to develop market offerings.

Wipro's Tatavarti says developing metaverse solutions will involve teams with a range of skills — software developers, 3D designers, creative directors, storytellers, producers, spatial-computing engineers, blockchain developers, and metaverse moderators and operators. While coders will be expected to shine in C#, C++, JavaScript, Python, Rust and more, as metaverse also “gamifies” experiences, “there will be a definite preference for those who have worked on Unity and Unreal”, says Alug.

Jyoti Bowen Nath, managing partner at talent-consulting company Claricent Partners, adds, “These are not straitjacketed roles. As the talent pool is limited, IT companies will eye talent at startups or even gaming ventures.”

While companies are making early bets, the shortage of engineering talent could limit the inroads they make, at least in the short run. Many of the top-tier firms are grappling with high double-digit attrition as digital-transformation projects have seen a spike over the last 18 months. In fact, driven by acceleration in digital adoption, the industry will post its highest ever growth in a decade, of 15.5% in FY22, according to Nasscom.

However, the shortage of engineering talent will open up opportunities and demand for services companies, startups, and even gig workers. Also the challenge will be to build deep domain expertise in apps for metaverse, AR/VR, security, social commerce, and more. Citing gaming as an example, Yugal Joshi, partner at Everest Group, says virtual gaming is a USD200 billion market but tech-services providers do not get much of this spend. Most tech-services businesses come from sectors such as BFSI, manufacturing, and retail.

**Making metaverse work**  
Few key things to look at for various stakeholders



For IT-services companies	For users	For developers
<ul style="list-style-type: none"> <li>■ Build deep domain capability in 3D Internet</li> <li>■ Initially revenue and margins will be similar to digital-transformation tasks</li> <li>■ Build on existing strengths</li> <li>■ Focus on areas such as BFSI, manufacturing, and retail, where in-house skills are available</li> <li>■ Scout for startups and niche buyouts to access capability</li> </ul>	<ul style="list-style-type: none"> <li>■ Adapt from 2D internet to metaverse (3D internet)</li> <li>■ Cope with distorted sense of time &amp; space</li> <li>■ Evaluate access costs &amp; benefits of 2D versus 3D web</li> <li>■ Transactions will have to be as per local laws</li> <li>■ Be aware of personal data, security, privacy issues</li> </ul>	<ul style="list-style-type: none"> <li>■ Need skills in 3D content creation and spatial computing</li> <li>■ Implementing blockchain on 3D</li> <li>■ Scaling and storage</li> <li>■ Creating transaction platforms within metaverse</li> <li>■ Integrating new currency-payment systems (mostly cryptocurrencies)</li> </ul>

Source: Industry sources; ET Prime research

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Indian IT-services companies are more likely to play in these industry segments, which are leveraging metaverse solutions for their new businesses. Companies like the USD25 billion TCS expect to play a larger role in industrial, manufacturing, and banking metaverses.

With their use of 3D virtual worlds, metaverse platforms represent a paradigm shift in the visual depth of user experience. Indian IT has to capture more than a foothold in this field, or it may end up playing catch-up with global rivals like Accenture and nifty startups, only to see them run away with the high-value deals.