

Prospects

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The point of view

The metaverse reborn

Take a moment to imagine yourself deep in a new digital era, a three-dimensional world in which virtual and augmented reality merge to create novel and totally immersive experiences. Four years ago, the metaverse was making a comeback; two years ago, in 2022, it was all the rage. Since then, the ChatGPT whirlwind has blasted through the virtual landscape. Now the metaverse is once again considered old hat, relegated – along with its old friend Second Life – to the scrap heap of promising new developments that failed to live up to expectations. Yet its industrial incarnation could well give it a second wind.

Euphoria

The metaverse, which harnessed the power of cutting-edge electronics to create highly immersive virtual spaces, promised a flourishing meta-economy worth **\$12.5 trillion**, according to Goldman Sachs. **This new creative economy**, focused entirely on consumers and their avatars, **was based on the premise that 33% of the digital economy would migrate towards these kinds of new environments of this type**, and that they would grow at a rate of 25% a year.

This was a godsend for the digital giants, which naturally bought into this vision on a massive scale. These new virtual platforms – designed to be programmatic, infinite, even never-ending – opened up huge opportunities to gather information. In these environments, our digital doppelgangers are designed to generate enormous amounts of biometric, health and location data. In fact, estimates put the amount of data at 300 times that collected by today's smartphones.

In 2021, Meta injected \$10 billion into Reality Labs, its virtual reality laboratory. Meanwhile, Chinese tech giant Tencent has invested comparable amounts, attracted by a metaverse market projected by Morgan Stanley to be worth \$8 trillion.

In 2023, despite a significant decline in interest in virtual universes, particularly those based on decentralised models, Microsoft shelled out some \$75.4 billion to acquire video game giant Activision Blizzard with the aim of revolutionising immersive 3D experiences.

Disillusionment

This initial burst of enthusiasm for universes focused primarily on consumers **undoubtedly stoked unrealistic expectations**, often fuelled by marketing hype and reflected in practice by a myriad of unpalatable virtual experiences for which no real use, market or economic foundation exists.

Disappointingly low adoption of immersive hardware and software, combined with the rise of artificial intelligence (AI), has forced industrial-scale digital players to radically change their priorities when it comes to the development and rollout of the metaverse.

The Chinese press recently reported further workforce cuts, this time at tech giant Alibaba's metaverse unit. At its height, the unit, established in 2021, had some 300 employees. Its aim was to put China at the forefront

of the global race to revive virtual worlds. This fresh setback followed a decision by TikTok's parent company ByteDance to restructure its virtual reality division.

Repositioning

Yet these latest developments do not herald the demise of the metaverse. Rather, they indicate that global players are repositioning the value chain around a core technology stack that has been rethought for more targeted, more accurately valued markets. While it's certainly true that Alibaba is scaling back its ambitions in the metaverse, the Chinese conglomerate continues to highlight its commitment to harnessing the long-term potential offered by immersive environments.

Meanwhile Apple, from its base in Cupertino, California, is betting on mixed reality¹ as it attempts to nudge these universes into the era of spatial computing with its Vision Pro headset. The mixed reality market is forecast to grow rapidly over the next five years at the expense of metaverses based purely on virtual reality.

The metaverse still has high disruptive potential: far from being confined to the realm of consumer entertainment, it is also playing a part in the digital transformation of industry.

What we are witnessing with the metaverse is **a far-reaching transformation of production chains**, as recently reiterated by S&P Global in a research paper dated October 2024².

Rebound

The research, carried out in partnership with Siemens and based on a survey of 907 organisations involved in industrial metaverse projects, reveals that 62% of respondents have upped their investment in this area since 2023.

This trend is particularly pronounced among large corporations with strategic objectives such as increasing their revenue, boosting their ability to innovate and reducing their operating costs.

While the industrial metaverse seems to be gaining ground among industrial giants, it is also interesting to note that **its appeal among smaller companies shows no sign of flagging**.

Integration

Beyond the realm of abstract concepts, **the metaverse is underpinned by a raft of existing technologies** such as digital twinning, mixed reality, the Industrial Internet of Things and edge computing³ – all, of course, nurtured and fed by AI. These various constituent parts are already helping shape the future of industry.

As all these technologies become increasingly interoperable, the metaverse is becoming a transformative integrator. Now viewed as a platform for combining technologies, **the industrial metaverse is today understood as a unified digital ecosystem aimed at improving the entire industrial manufacturing chain**.

Competitiveness

Renault is an excellent corporate case study in this regard. The French automotive manufacturer has created a large-scale metaverse aimed at transforming its industrial system to make it better able to stand up to fierce competition.

Éric Marchiol, Renault Group's Head of Industrial Metaverse and Quality, recently said in the media that Renault was aiming to pit itself against "Chinese titans underpinned by virtually brand new production facilities". The performance of Renault's metaverse is mainly down to its ability to capture proprietary data, standardised at scale, from across all sites and equipment worldwide.

¹ A combination of virtual reality and augmented reality where users can simultaneously interact with both virtual and real objects inside the same environment.

² [Industrial Metaverse Research Study, 451 Research Discovery Report, S&P Global, October 2024](#)

³ Edge computing is a distributed computing model that brings enterprise computing applications closer to the relevant data sources. This can offer considerable advantages for companies such as faster analytics, improved response times and more available bandwidth.

This gives Renault a competitive edge that its Japanese, American, German and even Chinese competitors would struggle to replicate.

Gains

Since its launch in 2019, this digital twin of Renault's deep production chain has supported more than 300 projects in areas "ranging from quality to supply chain, maintenance and energy".

The auto maker says it has saved in excess of **€700 million thanks to its industrial metaverse** and is banking on a further €300-400 million in additional savings.

Siemens, which in 2023 announced plans to invest €500 million to make its Erlangen site in Bavaria a global nucleus for technology activities focused on the industrial metaverse, is pursuing a similar strategy to Renault.

By integrating technologies such as AI, digital twinning and robotics, the German group has already succeeded in creating some of the world's most advanced factories as well as generating significant productivity and energy efficiency gains.

Taken together, these innovations have **boosted the Erlangen factory's productivity by 69%** and lowered its energy consumption by 42%.

Looking ahead

The success of these leaders in pioneering a new industrial revolution should logically encourage other European manufacturers to create their own digital ecosystems in support of their production facilities. Following in the footsteps of Renault and Siemens, they could harness the metaverse's transformative potential to integrate technologies, stimulating lasting innovation with very high potential to generate savings and gains.

Despite the many challenges that will always face any project at each and every manufacturing site, whether in terms of governance, interoperability, technical expertise or resistance to change, the metaverse is well and truly alive and kicking. Its potential is being mined in the background of our day-to-day lives as consumers. Better still, it is advancing, establishing itself in industry and coming to the rescue of a Europe whose declining industrial base urgently needs to regain its competitive edge on the global stage. ■

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