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REPORT

into the future:

can telcos
monetize the
metaverse?

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unlocking-revenue-
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contents

so, what is the metaverse?

individual presence – everyone can participate as individuals without a limit on the number of concurrent users

persistent – the metaverse is a consistent, continual living experience for participants in real time

synchronous and live – scheduled and self-contained events take place just as in real life, such as the Ariana Grande live experience on Fortnite

fully functioning economy – people and firms will create, own, invest in and gain reward for "work" that produces "value" recognized by others

experience spans the digital & physical worlds – the metaverse will involve private and public networks and experiences, on open and closed platforms

interoperable data, digital items and assets, content and more – all can be used or appear in metaverses other than where they originate

user-generated content (UGC) & experiences – an unprecedentedly wide range of contributors, from individuals to communities or commercial organizations will create content

TM Forum, 2022 (source: Matthew Ball's essays and book The Metaverse and How It Will Revolutionize Everything)

a metaverse is not only...but also

a virtual world – virtual worlds and games have existed for decades, with some populated by representations of "real" humans in real time; this is only one dimension of the metaverse

a virtual space – digital content experiences like Second Life are often seen as proto-metaverses because they don't involve game-like goals or skills but are persistent with almost synchronous content updates, with real people represented by avatars

virtual & augmented reality (VR/AR) – both are ways of experiencing a virtual world or space

a digital, virtual economy – games like World of Warcraft have long had functioning economies where real people trade virtual goods for real money or perform virtual tasks in exchange for it, but today's digital world is like a mall where each store trades in its own currency, requires proprietary ID cards and has unique units of measurement

an online game – the game Fortnite has many elements of the metaverse as it mashes up intellectual property, requires a consistent identity which spans multiple closed platforms and is a gateway to myriad experiences; the metaverse could have game-like goals, include games and involve gamification, but it is not a game oriented around specific objectives

a UGC platform – like YouTube or Facebook, the metaverse offers the opportunity for businesses to "own" a customer, controlling APIs and data, unit economics, etc.

Unlocking New Revenue Potential with XR

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By Akash Mittal

A new digital economy is emerging, where the power rests in users' hands. In this network of 3D virtual worlds, people can completely immerse themselves in working, interacting, playing, and shopping online.

Welcome to the Metaverse

There's enormous potential within the metaverse — particularly when it comes to extended reality (XR). From retail to travel and sports to healthcare, the metaverse offers opportunities across a multitude of industries. **And as the next generation of internet becomes real, one industry is uniquely positioned in the heart of this change: telcos.**

The Opportunity

Driven by the convergence of NFTs, blockchain, digital twins, simulation, visualization and more, the technological backbone of the metaverse is becoming a reality. In 2020, $26 billion was spent specifically on XR technologies, while spending is forecast to increase nearly twentyfold in 2026, to a predicted $460 billion, according to a Mordor Intelligence report.

How Can Telcos Unlock New Revenue Streams with XR?

Since Augmented Reality (AR) and Virtual Reality (VR) require high bandwidth and low latency to achieve experiences that are as close to real-time as possible, telcos' 5G and multi-access edge computing (MEC) networks are the foundation for creating unparalleled

XR experiences. Telcos are not only network providers — they are also media and entertainment companies, with multiple assets in media streaming, advertising, and content management.

For these reasons, they have a unique opportunity to help their customers get in on the ground floor, helping to differentiate themselves from their competitors.

Below are just a few — not all — examples of how telcos can support their clients across industries by creating an XR solution.

Media & Entertainment

Attending concerts, playing games, watching movies in a cinema — there's no shortage of opportunities for XR in the media and entertainment space. At the same time, in this creator economy, users are looking to generate content and stream anywhere, which are perfect use cases for 5G networks.

Telcos can be the next metaverse experience providers for consumers in use cases such as movies, concerts, and gaming and can create new offerings by augmenting their streaming portfolios with VR.

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Retail
From IoT solutions to automating warehouses through dedicated network infrastructure, telcos power the retail industry of today. A new metaverse offering can help telcos support the retail industry through more innovative solutions - a virtual retail presence, digital twins of warehouses and 3D customer service.

An XR solution could also help telcos augment their own customer service experience. This can mean creating 3D storefronts to be a more inclusive brand for customers who cannot reach retail stores.

Additionally, consumer interest in NFTs has skyrocketed over the last year. By working with retailers to create an XR experience, telcos can give retail customers a place to wear their new NFT coat as well as build up a community around the brand.

Travel & Hospitality
Often travel customers' biggest hurdle to overcome is decision fatigue. By working with travel agencies, telcos can help them create experiences that allow their customers to temporarily visit destinations of their choice, helping them provide a better customer experience and ultimately increase revenue.

Not just for private companies, an XR solution can also help tourism bureaus advertise their own cities — whether it's showing off their greatest attractions or just giving people a glimpse of a day in the life of their region.

Education & Learning
As the education industry has increasingly taken on a hybrid model of both remote and in-person learning, XR gives educators the ability to take learning outside of the classroom. Whether it's taking kids back to the Mesozoic Era to see dinosaurs or helping budding culinary enthusiasts learn to cook, XR offers a plethora of opportunities to various types of educational institutions.

Heavy Industries (Energy & Gas, Manufacturing)
XR isn't just for B2C clients — it can be helpful connecting and training teams. In the energy and gas industry, this could mean creating a digital twin of an oil rig where employees can take hands-on operational training courses using the rig to test and experiment — without the fear of negative consequences. For telcos, private 5G is an enormous opportunity and the industrial metaverse can help telcos address service revenue beyond infrastructure deployment.

How Can Telcos Make These Solutions Real?
It starts by working with a trusted partner like EPAM that can act as your guide to exploring this new realm of opportunity and unlocking its long-term potential.

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Creating an XR solution for your customers is a must for any telco hoping to keep up with the competition.

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How EPAM Can Help

Our expertise extends across all areas core to the metaverse — we can help bring you from business strategy and the right connected immersive experiences to solution development, implementation and optimization.

Telecom and media offerings

EPAM's consultants and engineers have helped global telcos create new offerings, innovative experiences and solutions centered around revenue growth and cost optimization. Our 5G and MEC playbook can help telcos with ideation including POCs and scale offerings that address first-to-market opportunities.

Digital Twins

Evolving into a new era of virtual replicas, digital twins are a unique virtual version of a product, person or space from the real world continuously updated from real-time data. The applications to this technology are vast, from healthcare to manufacturing to automotive.

From simple recreations of the "real" item to interactive experiences that control or react to their environment, EPAM leverages its extensive data and analytics expertise to develop data-rich platforms that drive real-time data solutions.

AR & VR

Augmented realty (AR) and virtual reality (VR) enable users to communicate and interact with each other in real time. What's more, interactive layers can be applied to add sensory elements that create a more immersive experience.

We have unrivaled experience in building virtual worlds — from designing game play to developing digital economies. Through our product and platform engineering heritage to holistic experience design and beyond, EPAM helps its global customers solve real business challenges via these immersive technologies and outcomes-based partnerships.

Blockchain & NFTs

The possibilities of blockchain are unparalleled. A decentralized digital ledger, this technology enables public and immutable digital records of transactions. It's also the basis for a vision of the metaverse, as blockchain opens the door to create virtual worlds and games collaboratively and without central authority. Now climbing in ubiquity, NFTs are non-fungible digital tokens that contain distinct values and data that are unique — in essence, a smart contract validated on the blockchain.

We help our customers harness the power of blockchain by first assessing and ideating business opportunity. Our teams leverage deep engineering expertise to build agnostic NFT marketplaces or NFT-based platforms where any digital or physical assets can be converted.

Creating an XR solution for your customers is a must for any telco hoping to keep up with the competition. By entering the metaverse at full force, you can unleash a cascade of new business.

Since 1993, EPAM Systems, Inc. (NYSE: EPAM) has leveraged its advanced software engineering heritage to become the foremost global digital transformation services provider – leading the industry in digital and physical product development and digital platform engineering services. Through its innovative strategy; integrated advisory, consulting, and design capabilities; and unique 'Engineering DNA,' EPAM's globally deployed hybrid teams help make the future real for clients and communities around the world by powering better enterprise, education and health platforms that connect people, optimize experiences, and improve people's lives.

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