

The metaverse

Laying the legal foundations



Laying the legal foundations of the metaverse

The metaverse offers us a vision of a powerful, collaborative immersion in digital content, blended with the real world or distinct.

Science fiction has envisioned the metaverse as a convergence of physical, augmented and virtual reality in which users can interact within a computer-generated environment. Commentators have noted the need to build persistence, interoperability, and scalability into the metaverse, as well as giving it the financial infrastructure to support economic transactions.

Businesses are starting to position themselves for this new environment. Brand protection is being extended into digital landscapes. Businesses are developing new digital products and services with the metaverse in mind.

But the metaverse's extraordinary potential is even greater – particularly for sectors dealing with physical assets, infrastructure or products – if we think of it as immersive 3D digital content layered into the real world. Mixed reality headsets and the growing enterprise applications for 3D augmented reality offer glimpses of transformative potential.

How the metaverse will be built, who will build it, how transactions will be governed and how it will be regulated all remain open questions. Like all tech innovations, this is not unregulated territory, but applying existing legal frameworks to new technology brings diverse challenges. Our **report** explores the legal challenges.

The challenges to realise this vision are enormous – but also exciting.

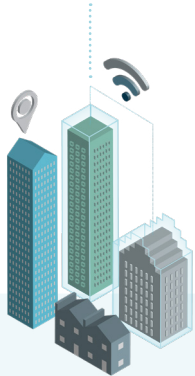


Cross-sector potential of the metaverse

Page 1/2

The Built Environment

Digital twins of individual buildings, a development, an urban district or even a whole city potentially offer the digital infrastructure to build out embedded digital content into the built environment. Architects and designers could collaborate with clients in 3D and construction sites could be layered through with digital tools. Potential investors or tenants could be walked around a building before it is built. Operational efficiency tools could be embedded into the spaces they are controlling and the data made visible. 2D visual urban planning tools could become 3D and interactive.



Financial Services

Payments and wider financial infrastructure and services will need to be extended into this new territory. One of the big questions is whether a new form of digital currency will be needed (blockchain-based cryptocurrency?) or whether fiat payments and payment structures will simply be extended into new metaverse contexts. Portable, verified, digital identities and self-sovereignty will be key to a seamless metaverse – an area of innovation that is already a focus in this sector.



Energy & Utilities

There is a push to digitalise the energy sector, including a plan to build a digital twin of the EU electricity grid. The data flows and connectivity needed to deliver these innovations could also create a backbone for metaverse applications. Existing examples of protometaverses include using a digital twin of a wind turbine to train engineers, or using information from a real asset to understand a fault, identify a broken part and then use a digital image of the broken part to produce a replacement.



Life Sciences & Healthcare

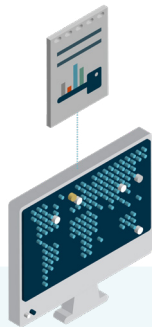
3D patient data is already gathered from scans, but typically has to be viewed in layers via a 2D screen. Metaverse 3D content would enable the data to be seen in 3D form, potentially layered over the patient themselves. Surgeons are already using such techniques to practise complex operations, and medical training in an immersive simulated environment is a developing field. Advanced digital industry systems for pharma manufacturing are being rebranded as the industrial metaverse.



Cross-sector potential of the metaverse

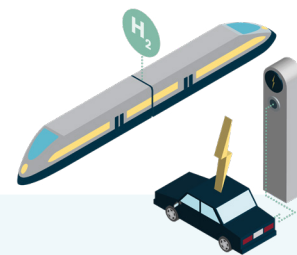
Tech, Media & Comms

To achieve the necessary scalability, the metaverse will mostly be built in the cloud. Edge architecture may well sit between the cloud and user hardware such as headsets or the digital interfaces of the future. 3D reality headsets and hardware, new content and content creation tools will all be needed. Superfast connectivity will be necessary to relay the content at a sufficient speed to ensure correct rendering of the digital content for users. Interoperability of platforms, data and software will be key and open standards will ensure all can participate. Time, innovation and creativity will be needed to deliver this vision. In the Interactive Entertainment subsector, the metaverse will transform gaming. Our **report** explores the legal challenges.



Mobility & Infrastructure

Mapping could move from being on the phone to being presented in someone's line of vision. Vehicles could shift to having a 3D virtual interface with sensory haptics instead of physical buttons, dials and switches. City mapping created for autonomous driving positioning and navigation tools could be repurposed as the digital infrastructure for metaverse cityscapes. The industrial metaverse is already starting to transform vehicle manufacture. Sales channels can extend to offering metaverse-enabled simulated test drives.



Retail and Consumer

Brands are already positioning themselves for a future world of 3D digital immersion, developing brand presence in digital space, and extending their brand protections accordingly. As a channel to market, connected 3D experiences with consumers could be transformative. Manufacture and supply chains are already being augmented with digital industrial systems. 2D augmented reality tools are already enabling consumers to try out products on a digital image of themselves or in a digital picture of their home. 3D metaverse capability to layer digital products onto real world people, or into real world spaces, will transform these applications.



What do you need to think about?

How will the metaverse be built?

The metaverse will sit on a web of contractual relationships covering tech procurement, cloud services, connectivity, digital transformation, strategic commercial partnerships, data flows, licensing of rights and digital supply chains. Cybersecurity will be critical. There will be a raft of associated digital and connected products. Investment and funding will support innovation and fuel scaling. Common, open standards and interoperability will be needed. Portable digital identities will enable people to move seamlessly from one provider to another, taking value and assets with them.

Can the metaverse be sustainable?

Increasingly, an environmental angle is being added to tech and digital regulation. Green cloud, green hardware, green software design are all growing themes in the digital world – driven by both a desire to do the right thing, and increasingly by legislation. In turn, green power purchase agreements and the growth of renewable generation infrastructure are essential to ensure the metaverse has sustainable foundations.

What tech will be used in the metaverse?

Virtual and augmented reality is key to accessing immersive digital content. The metaverse will also have artificial intelligence running through it. Blockchain infrastructure may be a core aspect from NFTs and cryptocurrency applications, to DeFi, DAOs and Web3 interactions. Next generation connectivity will have a transformative impact on the Internet of Things, integrated communications and digital twins to deliver real time, low latency data flows and interactions. The metaverse potentially offers an unprecedented convergence of technologies.

How will the metaverse be regulated?

It's tempting to think that regulation doesn't apply to new technologies and ideas. But regulation is often technology-neutral and typically applies to the substance of what is being done, not the form in which it happens. Digital regulation is extensive and is being updated and expanded. Data regulation is growing hugely at EU level. Financial regulation may bite. Environmental regulation is increasing. All of this will flow across the metaverse. Compliance could be complicated in a borderless context where the whole world is invited.

How to explore further

For the latest insights on the metaverse, you can visit our [key topic page](#). Our [Metaverse Report](#) with NewZoo offers an overview of the legal issues connected with the metaverse from three separate viewpoints: the user, the make-up of the metaverse and regulation. Our [Metaverse week](#) of events explored these issues further.



Transformation

We immerse ourselves in the global issues that are transforming the landscape of how we live, work and do business. Focusing on the transformation drivers that will have the biggest impact on our clients, we use this insight to help you thrive, ensure agility and strengthen the resilience of your business. We are at your side, working closely with you to bring value, share new products and apply digital solutions. Together we'll be ready for what's next.

osborneclarke.com/transformation

We were recently commended in the FT Innovative Lawyers Europe 2020 awards.

Decarbonisation

Carbon neutral imperatives are increasingly at the heart of business strategies. This will often require a radical rethink along your entire supply chain, from initial use of carbon all the way through to customer delivery. We will bring our expertise and track record to support you with every step along your decarbonisation journey.

Digitalisation

Businesses are fast being re-shaped to fully exploit the possibilities of digital technology, but timely delivery is vital. Our lawyers are experts in advising on delivering a digitalisation strategy: from procuring digital infrastructure and technology to implementing a data strategy, or responding to a cybersecurity crisis. We support you as you expand or transform your business through technology.

Urban Dynamics

The vast majority of businesses operate in and benefit from the urban environment. The extent to which you understand and engage with urban dynamics will have a significant impact on your continued success. We understand that the way in which cities are designed, built and managed offers extraordinary opportunities. Our legal advice is focused on helping you to realise these opportunities.



Contacts

If you would like to discuss how we can help with your metaverse ideas and immersive 3D digital concepts, please do not hesitate to contact our metaverse leaders, or your usual Osborne Clarke contact. Please click photo for full biography.



Julia Darcel
Counsel, France
T +33 1 84 82 45 42
julia.darcel@osborneclarke.com



Felix Hilgert
Partner, US
T +1 650 462 4034
felix.hilgert@osborneclarke.com



Tamara Quinn
Partner, UK
T +44 207 105 7066
tamara.quinn@osborneclarke.com



Konstantin Ewald
Partner, Germany
T +49 221 5108 4160
konstantin.Ewald@osborneclarke.com



Frank Hoogendijk
Senior Associate, Belgium
T +32 2 515 9370
frank.hoogendijk@osborneclarke.com



Olivia Sinfield
Partner, UK
T +44 20 7105 7480
olivia.sinfield@osborneclarke.com



Monika Gaczkowska
Senior Associate, Poland
T +48 503 972 783
monika.gaczkowska@osborneclarke.com



Nick Johnson
Partner, UK
T +44 20 7105 7080
nick.johnson@osborneclarke.com



Anna Williams
Partner, UK
T +44 20 7105 7174
anna.williams@osborneclarke.com



Rafael García del Poyo
Partner, Spain
T +34 91 576 44 76
rafael.garciadelpoyo@osborneclarke.com



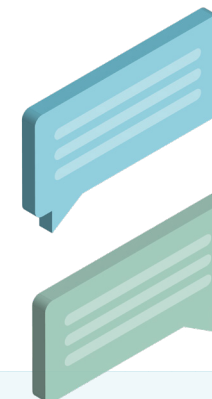
Chia-Ling Koh
Managing Director, Singapore
T +65 6350 4381
chialing.koh@osborneclarke.com



Tom Harding
Partner, UK
T +44 117 917 3060
tom.harding@osborneclarke.com



Gianluigi Marino
Partner, Italy
T +39 02 5413 1769
gianluigi.marino@osborneclarke.com



About Osborne Clarke

Osborne Clarke in numbers

1220+

talented lawyers

working with

320+

expert Partners

in

25

international locations*

advising across

8

core sectors

with insight into

3

Transformational trends

driven by

1

client-centred approach

Our locations around the world

Europe

Belgium: Brussels

France: Paris

Germany: Berlin, Cologne, Hamburg, Munich

Italy: Busto Arsizio, Milan, Rome

The Netherlands: Amsterdam

Poland: Warsaw

Spain: Barcelona, Madrid, Zaragoza

Sweden: Stockholm

UK: Bristol, London, Reading

USA

New York, San Francisco

Asia

China: Shanghai

India*: Bangalore, Mumbai, New Delhi

Singapore

Osborne Clarke is the business name for an international legal practice and its associated businesses. Full details here: osborneclarke.com/verein/

*Services in India are provided by a relationship firm

osborneclarke.com

© Osborne Clarke LLP November 2022
Publication number Q_2211161729Di

