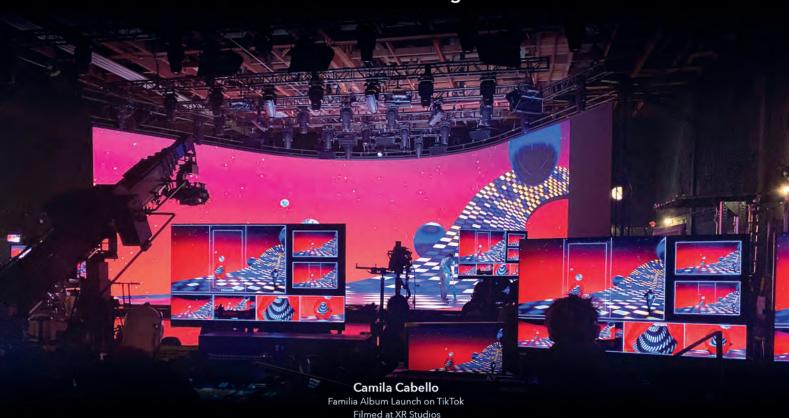


MEGAPIXEL®

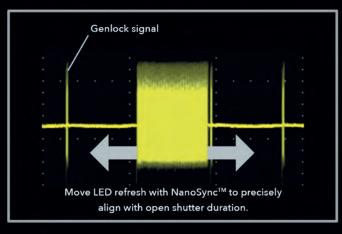
A vibrant virtual world deserves the industry leading color accuracy of the HELIOS® LED Processing Platform.





Camera Friendly

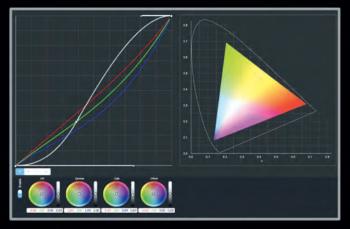
LED tile sync to rolling shutter cameras





Color Accurate

Native high bit depth color grading for LED tiles

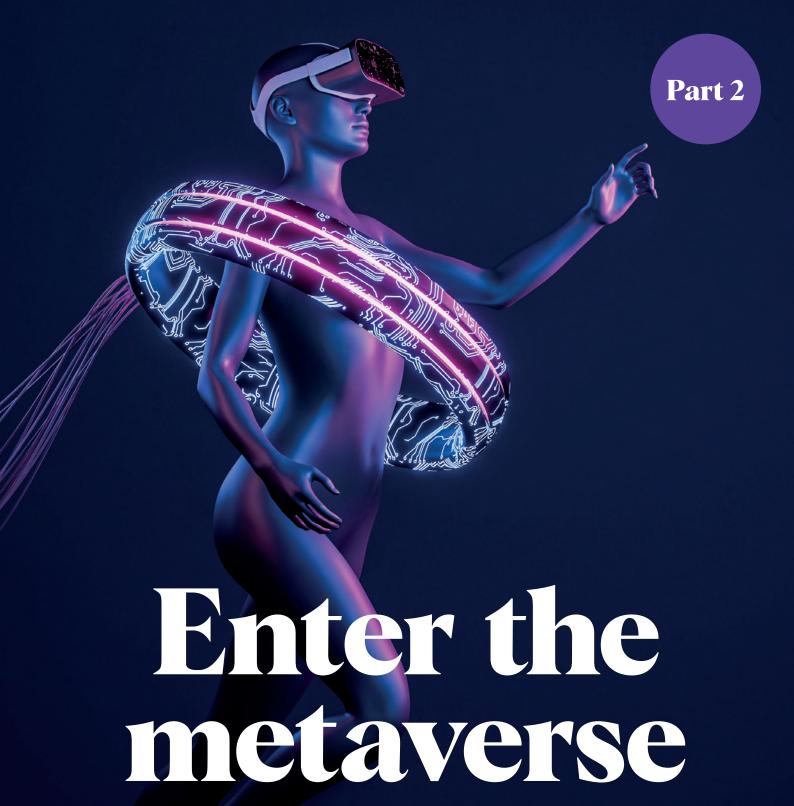




Native 8K

Full 8K LED processing in only 1RU





The industry experts share a look at what's to come for the viewer – who will surely play a more active role in productions. Finally, they tell us just how close we are to realising a new era of filmmaking

INTERVIEW. Lee Renwick



JAMIE ALLAN
Media, entertainment & broadcast
industry lead FMFA Nyidia



MARCUS BRODERSEN
CEO. Pixotope



JEREMY HOCHMAN *Founder,* Megapixel VR



DAVID LEVYDirector business development, alobal solutions. Arri



CARL NOBLEPro video creative lead, Scan



ALANNA ROAZZI-LAFORET Co-founder. Decrypt Studios



PAUL SALVINI
Global CTO, DNFG



We established how the metaverse may shape production in part one, but how will the role of the consumer develop? CARL NOBLE: We are already seeing a change in the way content is consumed.

change in the way content is consumed. While we're at an impressive stage now, advances in VR, AR and XR are only going to continue to create more interactive and immersive content.

As advancements in technology – such as real-time rendering and cloud connectivity – grow, seeing what can be done on a larger scale will dictate not just the quality of content being conveyed, but how it is being delivered, and how we immerse ourselves in these experiences.

PAUL SALVINI: I'm most excited about the opportunities for the kind of high-end content that DNEG creates to be explored and interacted with in different ways. Imagine being able to walk through



"The content will allow the viewer to participate at a level that is appropriate for them. We are already seeing interesting examples of this in game streaming platforms" London's Soho as it was in the fifties, or explore any one of the amazing worlds we've created for other productions in the past. The delivery of interactive experiences related to films could be a great extension to today's linear storytelling. Of course, many new kinds of actions regarding that content will also be possible.

JEREMY HOCHMAN: With hundreds of cameras providing constant 360° capture, you can imagine a new form of media in which the viewer navigates the camera at any moment. In a way, this is like video games today – but there will also be a need for various levels of engagement. Certain audience members may want to constantly drive the camera, whether wearing a headset or having a controller in hand. Others will want to simply sit back and enjoy. So, I can imagine

different versions of content, similar to the director's cut of a movie, in which a variety of perspectives give scenes alternative meaning.

MARCUS BRODERSEN: The initial change is that the experiences and content will be more interesting and relevant, regardless of how it's consumed. Secondly, it will meet the viewers' demands for quicker turnaround time on production, with live or near-live content creation. In the longer term, the content will allow the viewer to participate at a level that is appropriate for them. We already see interesting examples of this in game streaming platforms, and that type of crossover will have a natural place in VP-based content. We will eventually have ways of consuming content that are better than a flat screen. Then, the content will blend with our physical environment.



DAVID LEVY: Increased immersion will naturally be more impactful on consumers, and create higher yields of lasting influence on an individual's behaviour and decision making.

For many, the experience might conjure images from *Ready Player One*, where individuals need headsets, haptic jumpsuits and a funky treadmill – but I don't think this would lead to the adoption companies like Meta hope for. The need for expensive, complicated hardware will mean only small numbers of consumers can access the full experience the metaverse has to offer. Initially, a lot of content will still be consumed on personal devices and home entertainment systems.

ALANNA ROAZZI-LAFORET: At Decrypt Studios, what we have been most pleasantly surprised to see is all the

real human interactivity at our metaverse installations. Our recent movie premiere, for example, wasn't like watching a movie on a streaming service, which is an entirely passive experience. It was far more akin to visiting a real movie theatre, with conversations going on in the lobby beforehand. We were all there, through our avatars.

How close are we to a realised metaverse? What is still needed?

JAMIE ALLAN: We already have the capabilities to build complex, shared virtual worlds in which we create content. But for consumers to access fully immersive virtual worlds, we still require advancements on the technology side. Networks and compute capacities need to be improved, to handle the processing and delivery of the experience. Also, creators and platforms need to open

up to more interoperability between the emerging leaders, who will provide frameworks for consumer digital worlds.

That being said, we are already seeing glimpses of what will become the norm for multiplatform delivery of content and different experiences using the same IP – albeit still within a single virtual space.

ROAZZI-LAFORET: There are a lot of micro developments happening in the technology that is taking us there. For example, metaverses are just beginning to build physics engines into their platforms, which will make it all look and feel more real. Applications are also being built which will bring IRL functionality, like banking and shopping, into metaverse platforms. It will take time, but not as much as we think.

NOBLE: There are still questions to be asked around the delivery. Speaking from the perspective of the technology to power creation, there were two key aspects that had been holding its arrival back for a while. Firstly, the processing power and graphics technology required to not only enable the creation of digital worlds, but enhance the quality of the

"The need for expensive, complicated hardware will mean only a small number of consumers can access the full experience the metaverse has to offer" experience. Secondly, the quality of the virtual worlds being built to a level that provides something close to a convincing real-world simulation.

With some of the groundbreaking developments in computer processing and graphics technology recently, it's hard to argue that we haven't just reached those levels needed. Now, the challenge of the metaverse is constructing these expansive virtual worlds. With the tools already in the hands of the creators, it's exciting to imagine what's going to come next.

HOCHMAN: One important shift is that the general public is now open-minded enough to not consider certain forms of consumption too weird for interest. I'm excited about augmented reality and mixed reality. While virtual reality has its place, I'm not convinced a person will enjoy wearing a headset all day long.

Large LED displays are a perfect technology for an immersive reality, because you can view it in person,

"While virtual reality has its place, I'm not convinced a person will enjoy wearing a headset all day long"

without anything on your face. The Weather Channel is doing some incredible things with XR right now, and I see this becoming more commonplace. That includes everyday life and broadcast, rather than only top-tier entertainment.

BRODERSEN: Media production technology exists on an exponential progress curve. So, the question is, how far along the curve have we come? Many of our predictions – in areas such as real-time ray tracing, LED volume-based production and AI-based processing – were off by years. This indicates that we might be further along our curve then we initially thought. In the short term, we will see additional jumps in capabilities that put all of our predictions to shame.

That being said, there are still plenty of hard problems to solve.

LEVY: There needs to be some decisions made around Web3. Will the next iteration of the internet see tighter controls, or will it be democratised and decentralised? This will fundamentally influence how the metaverse develops.

The digital divide also needs to close. No matter where you are in the world, or which country you are from, everyone should have the same access.

I believe sustainability could be a huge driving force for acceleration, too. If meaningful, one-to-one interaction could be successfully replicated in the metaverse, it could greatly reduce or reshape the need to travel.

