



The convergence of the technology and healthcare sectors

The following is a summary of a moderated discussion with KPMG's Mark Gibson (national sector leader, Technology, Media & Telecommunications) and Ash Shehata (national sector leader, Healthcare & Life Sciences). The conversation covered the impact of technology, NFTs, cyber security, and talent on the healthcare sector. It has been edited for length and clarity. The full conversation can be heard [here](#).

When you think about the intersection of technology and healthcare over the last year or two, what stands out the most?

> **Mark Gibson:** What stands out for me is the way technology has revolutionized all of the sectors, and healthcare probably as much as any. Look at where dollars are being invested. It's amazing how much of the technology spend today is focused on healthcare. And it's for a lot of reasons: reducing cost from the system, making things smoother and more efficient, giving patients quicker access to their physicians and the care they need—often from the comfort of their home, often on their phone or laptop. Things that many of us wouldn't have even thought about a few years ago are now commonplace because of that convergence of tech and the healthcare sector.

> **Ash Shehata:** This convergence between tech and healthcare and life sciences has been a long time coming; the integration of these two massive disciplines. When those physical doors closed, the digital doors opened. And I think everybody's turning to those digital doors. We'll really need to understand how the consumer fits into this and all of their preferences, which are now habits. How is that going to drive the industry forward?

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– Mark Gibson



Periods of geopolitical and economic uncertainty have been when some of the great advancements have happened in healthcare. Can you share your thoughts?

> **Ash Shehata:** Across healthcare and life sciences, we saw the era of the roaring twenties leading to a lot of geopolitical uncertainty and wars. But throughout that whole period, really throughout the whole 20th century, we saw amazing advances. The Hill-Burton Act led to a massive proliferation of hospital construction, which led to the delivery systems we have today, just like we saw roads and infrastructure being built. I think you're going to see the same kind of thing around vaccines and innovations.

If we play that forward today, we are facing those same challenges and opportunities. Instead of roads and bridges and buildings, we're going to see that digital infrastructure built. Out of finding that first vaccine, we're going to find ways to accelerate through technology and innovation and biotech. To me, it's our new dimension of innovation amid all the turmoil. When you add the impact of tech, we're going to see some amazing opportunities.

> **Mark Gibson:** What is remarkable about what Ash just said is the notion that it takes a significant event like a global pandemic to cause not only the acceleration of tech investment into the healthcare sector, but also the staying power. If this had been a one-week event, we all would have stayed home from work for a week. Maybe I would have done a remote doctor visit from my computer, but I would have gone back to the old behavior. The R&D plans for healthcare and biotech companies probably would not have changed.

But because the event was so significant, these changes are now permanent. The acceleration from where we were two years ago to where we are today is where we expected to be 5 or 10 years in the future. Those changes accelerated because of the use of technology in the sector. It's forever changed. We're not going back to the way it was.



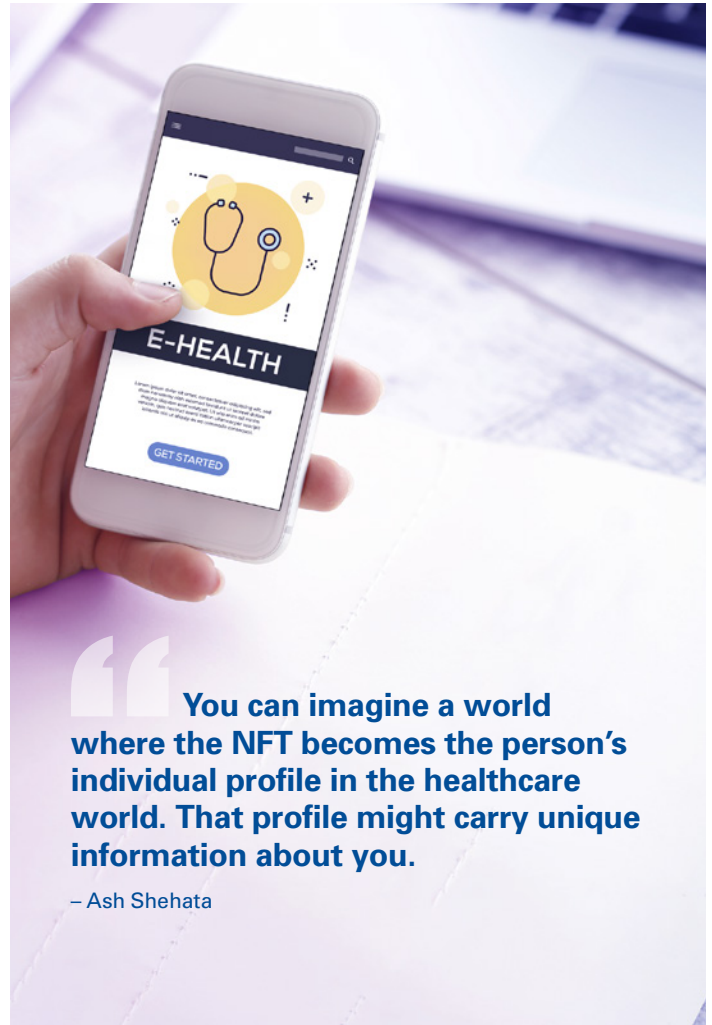
It's interesting when you think about NFTs in the context of healthcare and how they could be implemented.

>Ash Shehata: I think it is such an exciting area. You can imagine a world where the NFT (non-fungible token) becomes the person's individual profile in the healthcare world. That profile might carry unique information about you—your genome, your medical footprint, or your payment information. It will also be the avenue that gets you into the system to get access to services.

Then the banking partners will be much more viable. Our health savings account will be tied directly to our NFTs. And maybe I'll be able to take some of my compensation and turn into a crypto account that funds some of my health savings. So it is really happening, and it's happening at the municipal level. We've seen cities like Miami and New York start to move towards those payments. Why not move towards these technologies to enable the healthcare economy?

>Mark Gibson: I look at the tech sector and the way they're investing in blockchain and NFTs. It started out with banking and crypto. It's moved into the gaming sector. But we're all looking in the tech sector and how that's going to get monetized, where are the use cases—the metaverse, web3, blockchain. These things are really going to take hold.

Healthcare is rising to the top. It's on the short list for a lot of tech companies as they look to build products and develop solutions. How long have we been talking about portable medical records as a consumer? It seems like a case where the technology is going to converge nicely with the demand and there's going to be significant investment.



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Where do you see the potential for cyber security and data protection when it comes to the healthcare space?

> **Mark Gibson:** Technology can make things safer, but human beings are involved, and that's often where the vulnerabilities come. The other thing companies struggle with is finding talent in the cyber space, either in building preventative systems, building products that will prevent access to company and personal data, etc., but also building people that know how to play defense and respond to cyber attempts.

The hacking is only accelerating, so it's on the top of the risk profile for a lot of companies, not just in the tech sector, but across the board. But I do think technology is the solution as things digitize. There's so much investment into the sector around software products that will help protect and defend data.

Then to the comments Ash made about NFTs, I really think one of the benefits of that approach is they are inherently safer, and I think will be one of the things that accelerates.

> **Ash Shehata:** Healthcare and life sciences is that industry that really drives forward security and the policies. I spend a lot of time with boards and audit committees, and we are always identifying cyber risk and cyber security as a major area for healthcare and life sciences organizations. The expectation at the board level is only going to drive better technology and better capabilities. It's an opportunity for private equity and for the tech innovators to enter the space.

It's also an opportunity to help advance society because we are so dependent. We moved off trying to live on an island and secure our island to really living in a much more vibrant and capable community. But with that community comes more responsibility. My hope is that the industry steps up to that challenge and leverages the privacy and security we want to see.

> **Mark Gibson:** We see this come to life in the demand for the human talent that resides in tech companies and at KPMG. We're seeing huge demand from sectors like healthcare, banking, and retail to go into tech companies and raid their talent who have those cyber skills who have worked in the tech sector for years, and to bring them into a healthcare or life sciences organization. It's convergence at all these levels, but it's really at that human level as well.



What skills are at the top of the list for the healthcare space?

> **Ash Shehata:** I'm going to break it down into three areas:

1 Clearly there's talent for the advanced technology space, which would be capabilities like cyber and others.

2 There's also talent for what I call doing good in society. One of the areas is around health equity. We believe that technology is the ultimate enabler for health equity. We're seeing a lot of people step into this area wanting to enable tech to really help solve some of the modern problems of our society.

3 Then there are new capabilities. For example, strategic partnerships with 5G vendors, learning about it and building capabilities in the lab.

There's going to be a huge opportunity to raise the quality of talent in health tech. And I think it's going to be in those three areas: cyber, health equity, and in emerging areas like 5G.

> **Mark Gibson:** I was going to make the 5G point as well. We tend to talk about it from a telco and an automotive sector standpoint, but what we've really seen is this emergence of 5G in healthcare as well.

What would you say are the permanent changes when you think of tech's impact on healthcare?

> **Mark Gibson:** It really came to life for me at the Consumer Electronics Show this year. Was this a technology conference or a healthcare conference? Because it seemed like at least fifty percent of the things were healthcare related. There were health gadgets, apps and sensors and embedded personalization, and 5G that's driven by the consumer. To see the impact that healthcare had on that conference, you don't have to look any further to see the importance of healthcare and the tech sector today.

> **Ash Shehata:** It was exciting. We've been seeing that the healthcare economy has moved from focusing on sickness towards wellness. We hosted an impact forum and we had innovators, heads of state and government, and insurance and industry leaders. I was amazed at the focus on things like longevity, wellness, and mental health. All of those things are massive areas of growth. If we start to see average age move towards one hundred, we're going to need the technology industry to help us do that.

What do you think are going to be the big trends coming up in healthcare and life sciences?

> **Ash Shehata:** We're going to see two areas of emerging capabilities. First, I think we're going to see a continued massive march towards modernization, in finance, HR, and procurement. Core systems are in need of modernization and what's enabling that right now is the cloud. Moving those big enterprise systems to the cloud is going to happen over the next decade across healthcare and life sciences.

On the other side, I think we are going to see what I call the rise of the front office, the consumer, the connected device, and everything being connected to our core system. It's what I call combining the back office to the front office. Those things are starting to happen. We are going to see those things dramatically change the curve of innovation and more importantly, customer acceptance.

> **Mark Gibson:** There is so much happening around the things just mentioned. The other point I would circle back on is tech's role in health equity. For years we've been talking about healthcare costs and how we make the system more efficient. How do we drive out cost and deliver care to everyone in the population? And I think tech's role in helping the sector bring more equity will be something prominent going forward.

Digital confidence on the board of directors of healthcare companies is evolving. How do you think that confidence is going to be enabled?

> **Ash Shehata:** I'm seeing a lot of boards starting to enter the digital space. I'm seeing more and more tech innovators and retired tech executives participate on those boards. And they're asking some really good and tough questions. More tough questions come from those tech leaders because they see an industry that's already been transformed, and they're almost giving license to management and the rest of the board members to enter those discussions. I'm excited to see more and more of those leaders participate at the governance level, but I would say there's more work to be done. I would love to see more tech innovators enter this space.

> **Mark Gibson:** I think it goes both ways. We're seeing tech companies try to diversify their boards as much as they can and seeing the benefits across gender diversity, ethnic diversity, racial diversity, and industry diversity. A best practice clearly in all these is to build a diverse board to tackle the convergence we're talking about today.

Is there any particular point you want to circle back to?

> **Ash Shehata:** The one area I want to leave us with is how we can improve and engage the workforce broadly, leverage those tech entrepreneurs to come in and help improve the workforce options that healthcare has today. One of the highest burnouts we see in the industry is with clinical professionals. We need to bring technology into every process to alleviate some of the oppressive and difficult work that they have to go through every day. We want to see a future where all healthcare professionals can work at the top of their license.

I think there's an opportunity for a lot of modernization and new ways of thinking. We have to address the workforce issue or we're going to have a really tough time in the next several decades.

> **Mark Gibson:** I go back to the first thing that was about tech as a horizontal across sectors versus a vertical sector. I look to the day when, what we now call "tech" is no longer an industry because it's so horizontal across every industry and every sector. The direction we're going is that technology's role across every sector is critical, and the convergences we see are going to accelerate in the future.



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– Ash Shehata

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