

“We need the industry to unite and figure out the most sustainable way to meet the enormous demand for energy and make peoples’ lives better at the same time”

Dr. Katharina Beumelburg
Chief Strategy & Sustainability Officer,
Schlumberger

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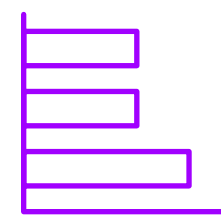
Navigating the energy transition

Each month, we speak to a different industry leader about their approach to innovation and emerging trends impacting the sector. For this edition, we have talked with Schlumberger's Dr. Katharina Beumelburg about her take on the state of play in the energy transition and her predictions for the game changers that lie ahead:



Drivers of decarbonization

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Data as key accelerator

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Capitalizing on the power of the ecosystem

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In conversation with Schlumberger's Dr. Katharina Beumelburg

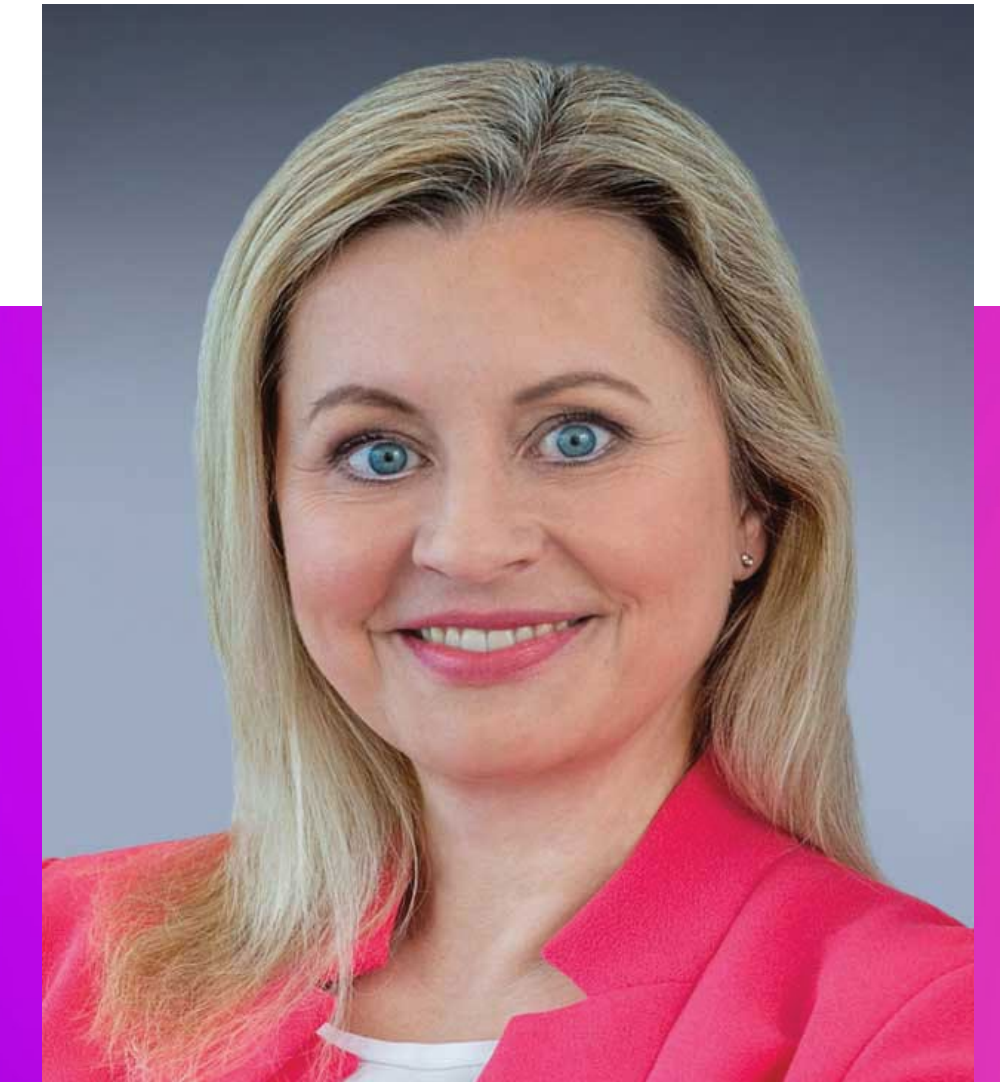
World leaders made a series of pledges at the [COP26](#) climate talks in Glasgow culminating in an agreement to strengthen emissions-cutting targets and reach net-zero by 2050. Yet in that same time frame the [global population](#) is expected to increase by more than 25% from 2020. It's clear there is commitment needed from global leaders and much work to be done to ensure our planet and people can live in harmony—and this is exactly what drives Dr. Katharina Beumelburg, Chief Strategy and Sustainability Officer at energy services company Schlumberger.

Before joining Schlumberger in May 2021, Beumelburg spent 16 years at Siemens where she held various senior leadership roles in its Gas and Power and Hydrogen Solutions businesses. Throughout her career, her passion for technology and innovation has not wavered. It's what led Beumelburg from Siemens to oilfield service giant Schlumberger, where she now focuses on evolving the industry so that it can meet the needs of a planet being overcome by climate change and a booming population.

"Seventy percent of all carbon emissions are energy related," points out Beumelburg. "That's why I'm motivated to bring about change. We need the energy industry to unite and figure out the most sustainable way to meet the enormous demand for energy and make peoples' lives better at the same time."

We sat down with Beumelburg to find out how Schlumberger is evolving to meet the needs of our planet, the role of data in accelerating that journey and why collaboration is the key to success.

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Dr. Katharina Beumelburg
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What one word describes you best?

Explorer.

I'm an explorer—because I believe that the current paths are not always the best ones. I bring teams together to align and find new, exciting paths and walk down them.

Can you tell us about your career journey to date?

One thing that has driven me my entire career, including through my Ph.D. in Robotics and Automation, is that I'm very excited about technology. Of all the jobs I had at Siemens, the one thing they had in common was that they were incredibly exciting, technology-wise. During my last few years at Siemens, I recognized how urgent the topic of climate change and decarbonization had become. That's what brought me to Schlumberger; it is a technology company that has unique capabilities to help decarbonize the energy system. I'm often asked why I joined the oil and gas industry when I'm so committed to decarbonization. And the reason is that I believe you need to be at the heart of the industry to be able to make a difference.

What is your current mandate at Schlumberger?

My role is about delivering a more sustainable oil and gas industry and helping Schlumberger build a more diverse portfolio focused on participating in the energy systems of the future. Since I truly believe that our energy system will include oil and gas for a long time to come, this role is very much about finding ways to help the company decarbonize the industry.

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Sustainability is top of mind for everybody, including the C-suite. How has that influenced Schlumberger's perspective?

The commitment to change in the industry is real, and it has been accelerating at pace in the past few years. Sustainability used to be about reports and documentation. Now, in every discussion you have with a customer, competitor, analyst or investor, sustainability and decarbonization play a key role. I think that's very encouraging. It's a tough change for a lot of industries, but it's encouraging that people are exploring new ways of working. I firmly believe that an enormous change has already occurred throughout the entire industry and obviously that needs to continue.

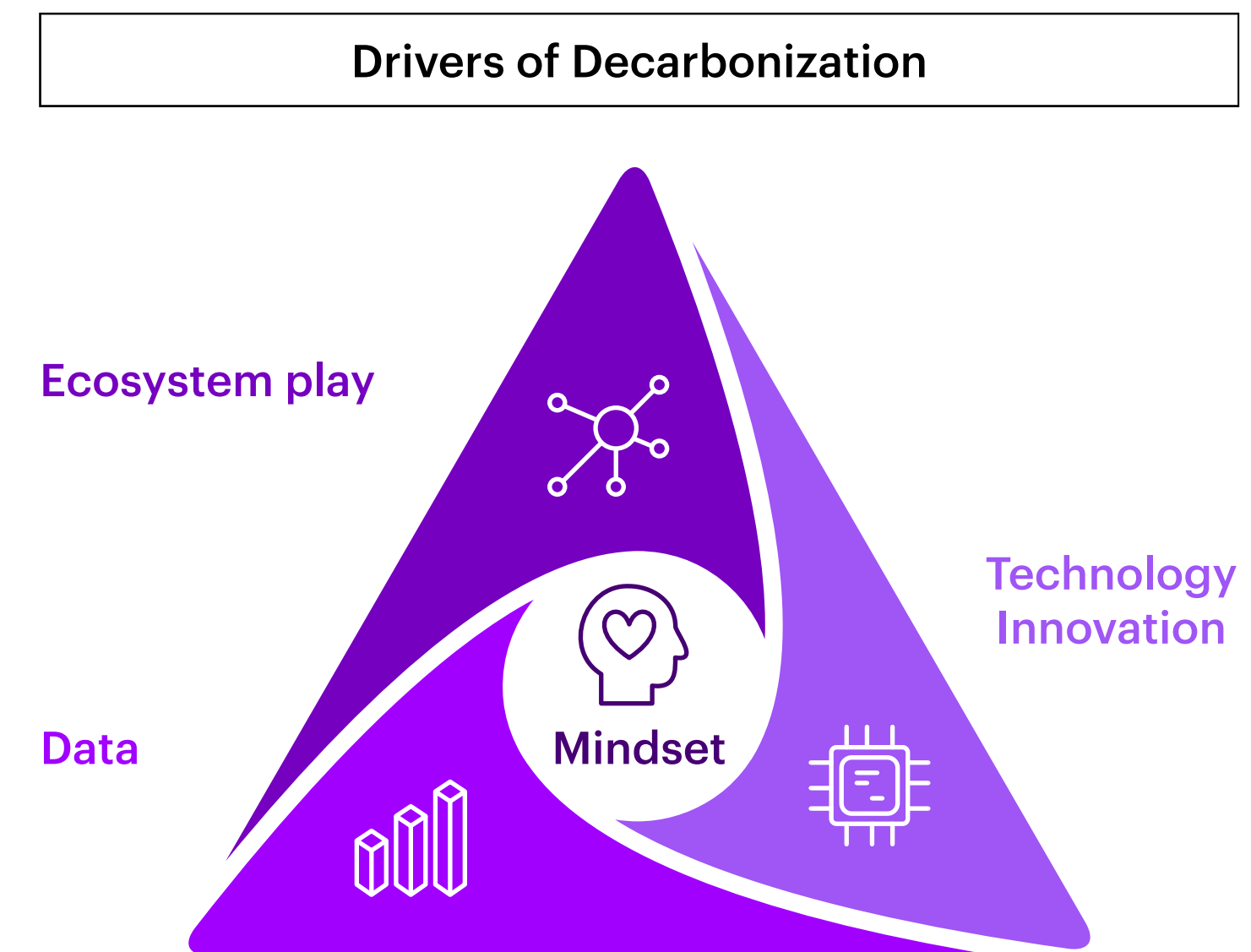
What will drive decarbonization? Is it more about the mindset shift, or is the focus rather on investments in technology, etc.?

Let's start with the mindset question. I believe a mindset shift has already happened within the industry. However, a shift is needed when it comes to the *perception* of the industry. At COP26 there were discussions around whether the oil and gas industry should even participate and be included in the pursuit of a solution, because it's such a "bad" industry. That view needs to change, because to deliver on change we need the oil and gas industry. We will not be able to deliver on the enormous growth in demand for energy that we see year over year without the oil and gas industry, for many years to come.

So, either we all totally change our lifestyles and living conditions, or we find new ways to live with fossil fuels but decarbonize the industry. The mindset shift requires everyone to recognize that we need to work with the industry.

A lot of new technology and innovation is required for overall change; that's part of the reason I joined Schlumberger. The concept of carbon capture and storage (CCS) will be crucial to meet global climate goals, because the easiest way to get to a balanced planet is to bring as much carbon back under the ground as we bring up. That's what the net-zero carbon commitments are about.

A lot of innovation has already happened. But if you look at the costs of making energy affordable, there's still a long way to go. We need more collaboration between different industry partners that haven't worked together before to create new playing fields that we can explore together.



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What role does data play in evaluating a company's performance when it comes to sustainability?

First of all, companies now recognize that ESG is linked to performance, not merely compliance—it's important for the entire stakeholder system. Any company starting its sustainability journey knows that organizing and standardizing data sets with integrity and transparency is key. But this can be very challenging. At Schlumberger, we spent years building a strong backbone of workflows to ensure we can measure and track improvements. But that's only the beginning. I think the value of data goes way beyond measurement. The digital enablement of an entire ecosystem is about finding all the key accelerators in our own data and workflows, but also in the workflows we have with customers and suppliers. We then need to further explore those accelerators.

Data plays a big role. We need to find ways to be transparent and demonstrate how we are becoming more sustainable, so that people know it's for real. We can then really show people, in a reliable way, how emissions are improving. On the other hand, we also need to become far more efficient. And data is one of the major tools that will help the industry and ecosystem achieve that efficiency.

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How do technology innovation and partnerships come together to help us achieve sustainability?

The intense focus on reducing greenhouse gas emissions has led to enormous innovation, and innovation is very much at the heart of Schlumberger. But there is still a lot that has to evolve and be built, and only partnerships and collaborations will help us get there fast enough. In the past, companies could innovate by themselves. Today, with the pressure of climate change, it's far more important that we live, work and innovate in ecosystems. Historically, every player had a special role to play, whether they were the service provider or product provider. In the existing ecosystem, these roles are no longer clear. That's what makes this whole partnership approach really tricky, because not only do we have companies working together that haven't before, in ways they haven't worked before, but we also need to clarify what the different business models are.

For example, in France we are in a [joint public-private partnership](#) with a group of partner companies and work with them on the hydrogen value chain. This partnership brings a lot of value, by scaling technologies and accelerating the decarbonization of multiple industrial sectors. But it's a new set up and that brings new challenges in terms of how we work together. It requires a lot of creativity and willingness to try new things.



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Ecosystems focusing on sustainability require all partners to be on the same page—do you agree?

Yes, I totally agree. Everybody has to figure out what they bring to the table. A lot of technology innovations come from startups that have great ideas and develop them fast. But those innovations need companies like ours—with an enormous global footprint and experience delivering at a high standard—to scale. It means conglomerates and startups somehow need to be on the same page because one is bringing the innovation and the other is bringing the capability to industrialize innovations. The situation may sometimes be reversed, which proves there must be a lot of flexibility and openness to trying new things.

You are the Chief Sustainability Officer at Schlumberger, as well as Chief Strategy Officer. Is that an ideal combination for you?

For me personally, yes. In the current situation, and in our industry, one without the other somehow doesn't make sense. Evolution for companies like ours requires sustainability to be top of mind to get to the Schlumberger of 2030.

All major strategic decisions—M&A, investments, divestments, capital allocation—must take into account

the consequences for our carbon footprint and our sustainability commitments. At Schlumberger, our net-zero ambition also includes a [Scope 3 commitment](#), which means we even focus on our customer emissions and other indirect emissions that occur in our value chain when we make portfolio decisions. Strategy and sustainability must be interlinked to move forward.

What inspires you most?

I'm motivated by wanting to make an impact and drive progress in the energy industry when it comes to climate change. I've been in the energy industry for a long time, since I joined Siemens, and I was most passionate about the energy sector because it's such an interesting and challenging arena. Later, I started thinking about what climate change does to our planet and the fact that 70% of all carbon emissions are energy related.

That's why I'm motivated to bring change to the industry. We need the energy industry to unite and figure out the most sustainable way to meet the enormous demand for energy and make people's lives better at the same time. We need to support the next billion people that need power, while also decarbonizing enough so that people like my daughter Charlotte, who is now six years old, will have a good life on our planet. That is what motivates me.

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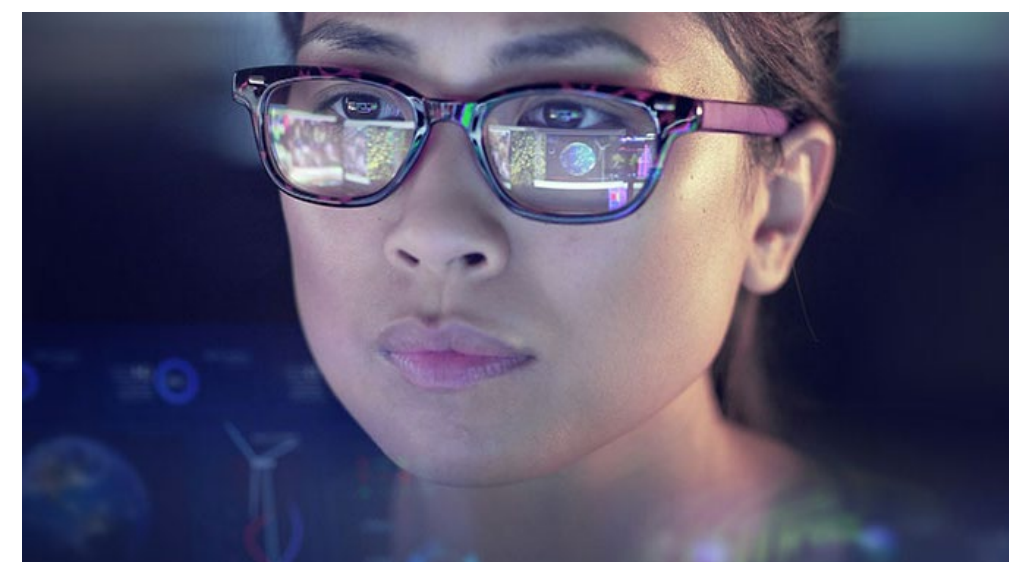
Insights

Perspectives from Accenture experts on topics related to this month's featured interview.



[3 ways to power sustainable change with your people](#)

How to strengthen your Sustainability DNA by empowering your people



[How to make ESG count](#)

Leaders must have a clear strategy to get the most out of measuring the business impact of sustainability



[Ecosystems unlock organizational agility and resilience](#)

How ecosystems help companies take advantage of unexpected opportunities

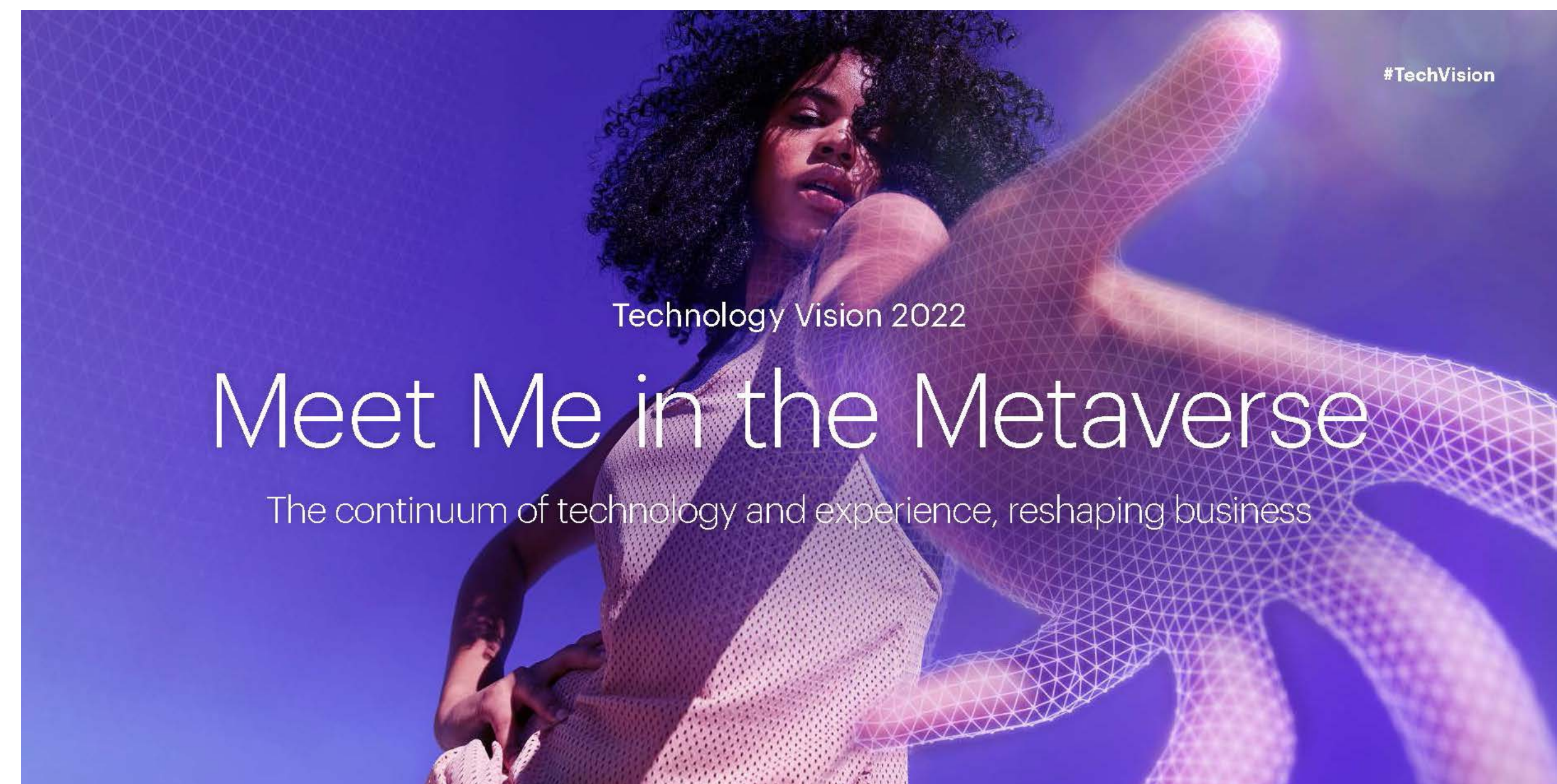
Spotlight

Technology Vision 2022: Meet me in The Metaverse

We are on the threshold of a new decade of digital transformation. The metaverse will transform how businesses interact with customers, how work is done, what products and services companies offer, how they make and distribute them, and fundamentally how they operate their organizations.

In this year's [Technology Vision 2022](#), we present a distinctive and broader perspective that goes well beyond the current prevailing wisdom: the "**Metaverse Continuum**". We see the metaverse as a continuum that spans the spectrum of digitally enhanced worlds, realities and business models.

It applies across all aspects of business, from consumer to worker and across the entire enterprise; from reality to virtual and back; from 2D to 3D; and from cloud and artificial intelligence to extended reality, blockchain, digital twins, edge technologies and beyond.



[Technology Vision 2022](#) highlights four important trends— building blocks of the Metaverse Continuum — that all businesses must address:

WebMe: Putting the me in the metaverse



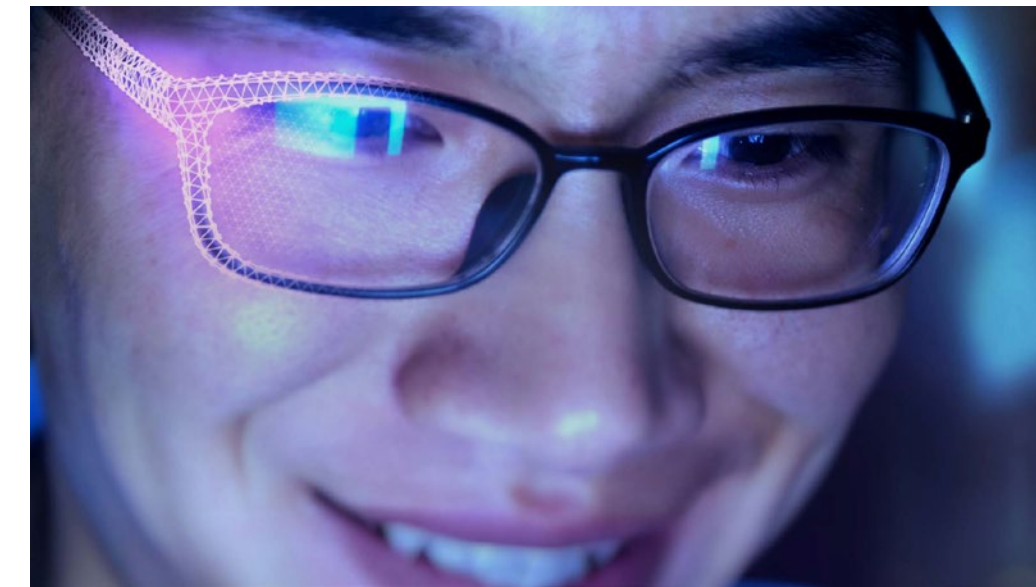
WebMe looks at how the internet is being reimagined. The last two years have spurred enterprises to explore new modes of digital experience and pushed people to live virtually to an extent they never expected. Now the metaverse is emerging, reconciling how the internet is designed with what we will demand from it going forward.

Programmable World: Our planet, personalized



But the value of new virtual worlds would be capped if not for parallel changes that anchor them in the physical one. Programmable World tracks how technology exists in our physical environments in increasingly sophisticated ways. It projects how the convergence of new technologies like 5G are changing the way businesses interact with the physical world. We'll soon be able to unlock an unprecedented level of control, automation and personalization.

The Unreal: Make synthetic, authentic



We're exploring the emergence of The Unreal—a trend where our environments are increasingly filled with machines that are passably human. “Unreal” qualities are becoming intrinsic to the AI, and even the data, that enterprises are using. But bad actors are using it, too—from deepfakes to bots and more. Like it or not, enterprises have been thrust into the forefront of a world questioning what's real, what isn't and if the line between those two really matters.

Computing the Impossible: New machines, new possibilities



Finally, we will reset the boundaries of traditional industries as we begin Computing the Impossible. The outer limit of what is computationally possible is being disrupted as a new class of machines emerges. Quantum, biologically inspired and high-performance computers are each allowing companies to tackle the biggest challenges in their industries.

In closing

Sustainability is at a critical and exciting juncture, traversing environmental, social and governance (ESG) interests. Ambitious goals were set during COP26, where countries and organizations around the world committed to accelerating efforts to meet emission targets. But achievement of the goals hinges crucially on the ingenuity of the players.

What will it take to get things moving quickly toward net-zero?

Decarbonizing the world's economy will largely be a matter of overhauling the global energy system. The necessary changes made to policies, technology, finance and business models will affect the way all individuals and all institutions produce and use energy.

Sustainability needs to be embedded within the framework of every organization and powered by digital transformation. Today's rapid acceleration to digital presents us with a breakthrough opportunity to create a more sustainable future.

Finally, innovation and bringing together all ecosystem players across industries is key to deliver robust, resilient, and low-carbon energy systems—so keep an eye out on critical minerals, long duration batteries, EV charging systems, hydrogen ecosystems and carbon management technologies, among others!

The insights provided by Schlumberger's Dr. Katharina Beumelburg as a true role model and personal friend in this edition of The Industrialist clearly strengthen the case for the energy transition. And Schlumberger is leading the energy industry forward by putting responsible environmental and social sustainability, as well as technology, at the core of how the company operates.

Best regards,



[Thomas Rinn](#)

Senior Managing Director,
Global Industrial Lead, Accenture



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