FOREWORD

Sandy Hardikar
CEO, Network Science

"In this era of rapid business evolution, I am thrilled to present "Changing the World with Deep Tech Innovation." More than a collection of pages, this book is a journey through transformative ideas, showcasing the immense impact of Deep Tech in reshaping our world.

As a CEO and Deep Tech enthusiast, I've seen the profound changes these technologies bring, from AI transforming customer interactions to quantum computing revolutionizing data analysis. The stories here are not just narratives; they are blueprints of an emerging era, highlighting how Deep Tech is solving complex industry problems.

Each chapter reveals the endeavors of visionary leaders and innovative startups, demonstrating how bold dreams can become tangible realities. We delve into the nuances of culture, change management, and leadership, essential for leveraging AI effectively. This book is an inspiration and a call to action for leaders to embrace the challenges and opportunities presented by Deep Tech. It reminds us that within challenges lie possibilities to reshape business, society, and the environment.

I invite you to embark on this enlightening journey. Together, let's explore the realms of Deep Tech Innovation and forge a future that balances technological advancement with sustainability and inclusivity—a future we can all be proud of.

NETWORK SCIENCE

DAWN OF DEEP TECH

Witness the sunrise of a transformative era where Deep Tech reshapes our world's future.

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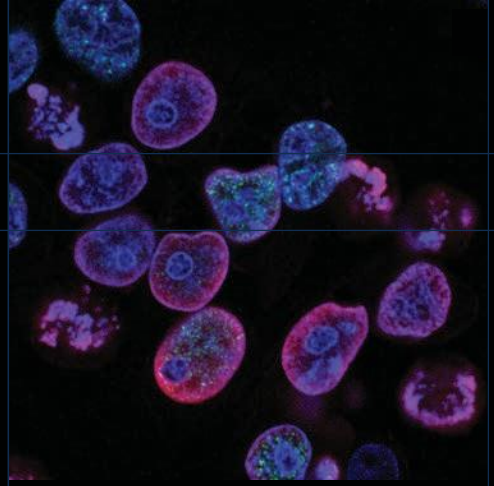
CHANGING THE WORLD WITH DEEP TECH INNOVATION

In the ever-evolving business landscape, a new wave of innovation is reshaping industries, societies, and our very way of life.

“Changing the World with Deep Tech Innovation” is a journey through the realms of cutting-edge technologies and the visionaries who are propelling us into a future of boundless possibilities.

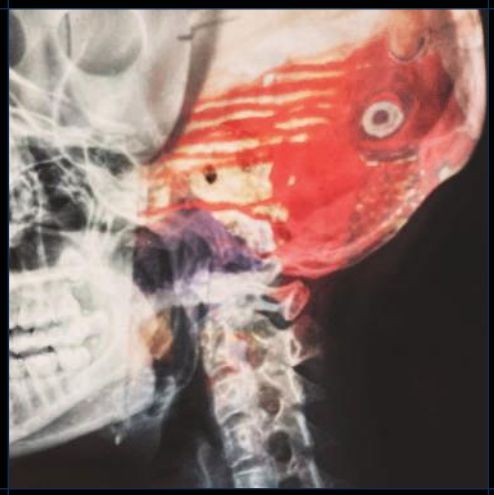
This coffee table book unveils the transformative power of Deep Tech, showcasing how it is revolutionizing sectors from healthcare to energy, and driving progress on a global scale.



INTRODUCTION

As the world’s premier Deep Tech Innovation Accelerator, Network Science has a front row seat witnessing how Deep Tech is changing the world. Join us on a journey exploring the innovators, adopters and the influencers that are shaping our future.

Witness the marvels of Deep Tech as you explore the astounding success stories. Delve into the world of autonomous vehicles, where self-driving cars navigate city streets with a precision that defies imagination. Experience the wonders of AI-powered medical diagnostics, where algorithms analyze medical images with a level of accuracy that enhances patient care to unprecedented levels. These are not just advancements in technology; they are glimpses into a future where the impossible becomes possible.



CHANGING THE WORLD WITH DEEP TECH INNOVATION

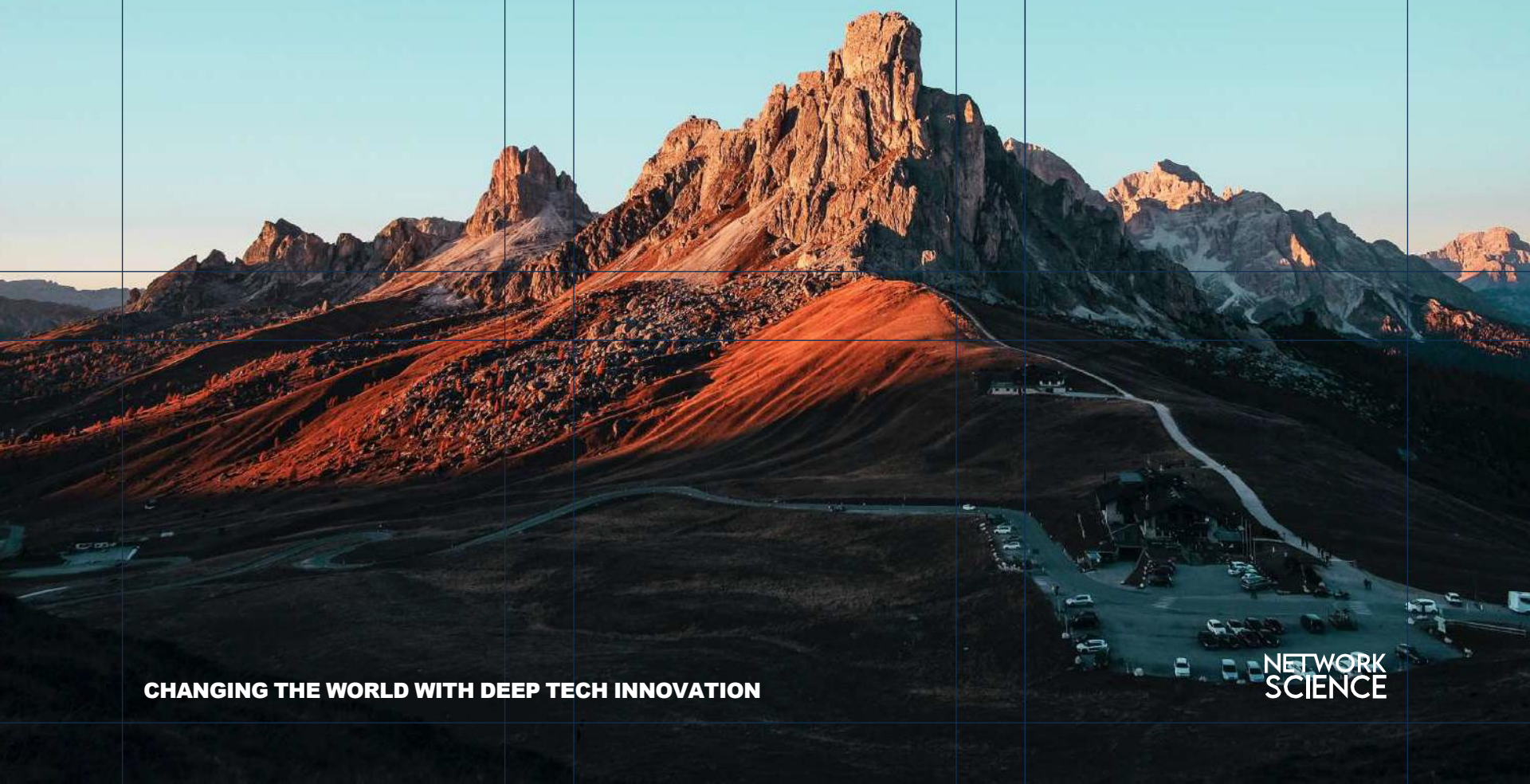
CHAPTER 1:

DEEP TECH IS A MOVEMENT

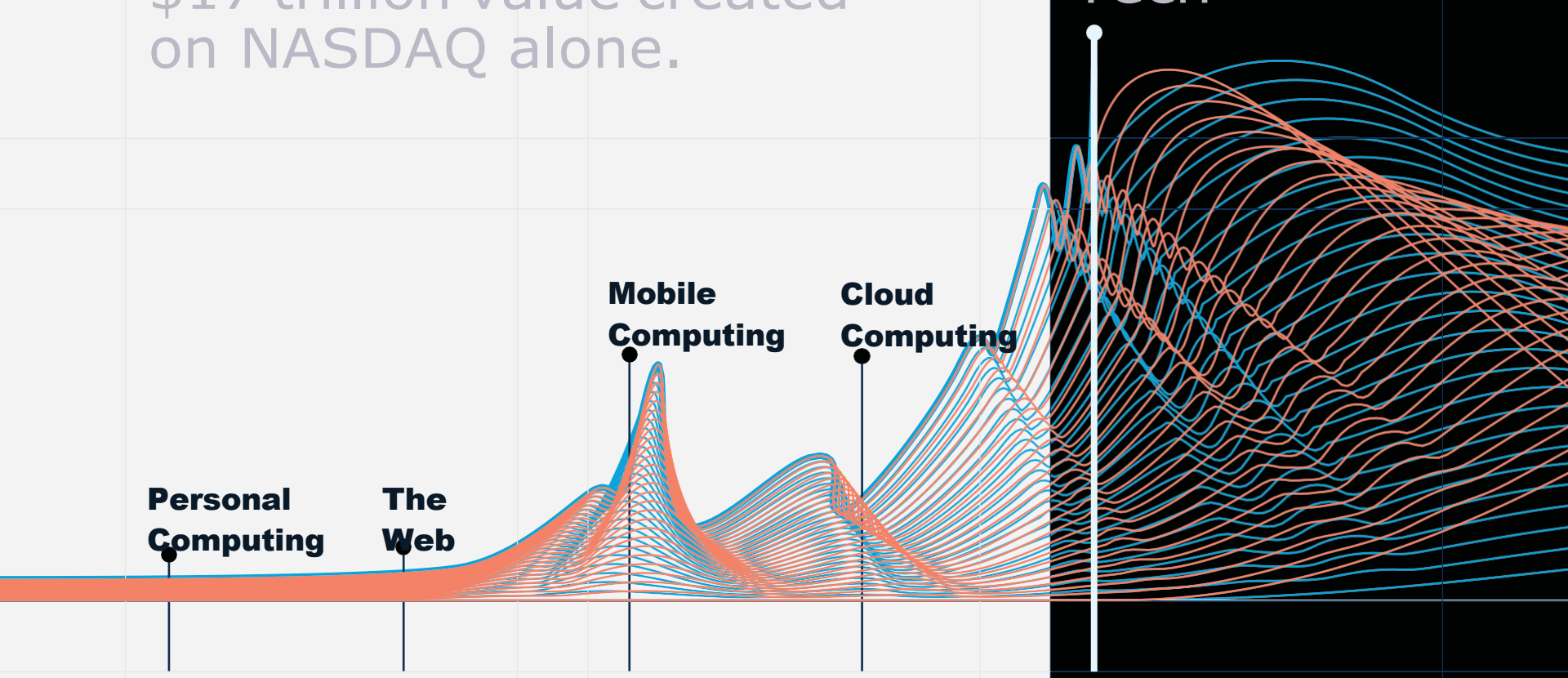
From Mainframes to Quantum Computing

No longer confined to the fringes of academic research or niche industries, Deep Tech is now driving monumental shifts across the entire landscape. **From the intricacies of quantum computing to the boundless potential of artificial intelligence, this movement is reshaping our understanding of what is possible.** The amalgamation of hardware advancements, algorithmic breakthroughs, and unprecedented processing power is propelling us towards a future where the unimaginable is not only envisioned but realized.

Deep Tech is now driving monumental shifts across the entire landscape.



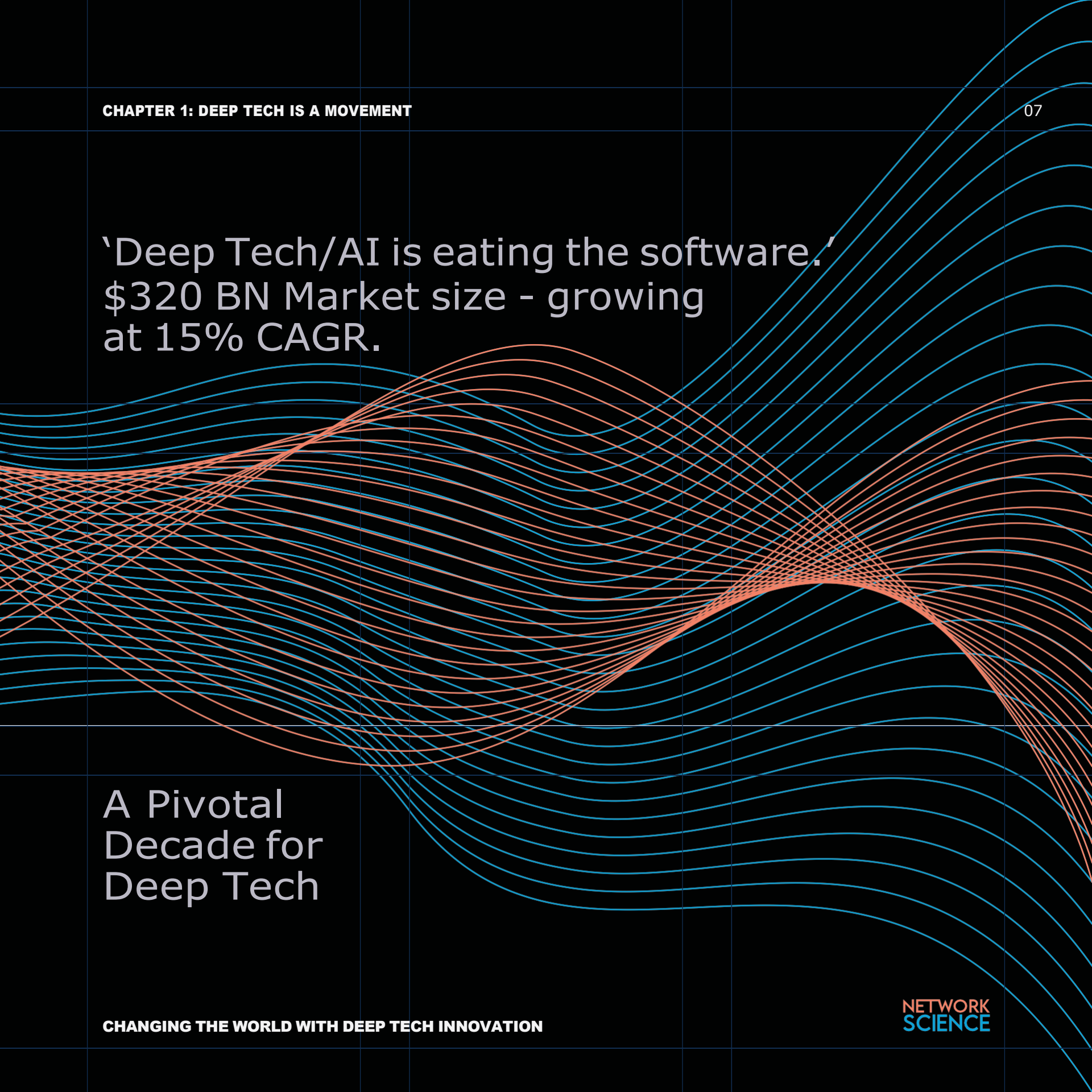
‘Software eating the world.’
$17 trillion value created
on NASDAQ alone.



1980s 1990s 2000s 2010s 2020s

CHANGING THE WORLD WITH DEEP TECH INNOVATION

‘Deep Tech/AI is eating the software.’
$320 BN Market size - growing at 15% CAGR.



A Pivotal Decade for Deep Tech

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As we stand on the cusp of a new era, it is evident that Deep Tech has transcended the realm of mere innovation; it has become a formidable movement in its own right.

Mark Sheppard

Industry 4.0 Thought Leader

Mark's career embodies versatility, with over twenty years in GE's diverse sectors, advising AI and Fintech startups, and leading a burgeoning Australian fitness and wellbeing venture. His expertise in fostering talent and robust processes shines in Industry 4.0's landscape, skillfully managing change and anchoring in solid commercial success for businesses at all scales.

1. Industry 4.0 promises increased automation and connectivity. Some argue that this may lead to job losses. How do you address concerns about the potential impact on the workforce within your organization?

Addressing job loss concerns in the era of Industry 4.0 involves a strategic shift. We focus on redefining roles rather than reducing them. Reskilling programs are integral, ensuring our workforce evolves alongside technology. By fostering a culture of continuous learning, we mitigate job displacement fears and empower employees to thrive in the digital era.

2. Embracing Industry 4.0 often requires significant financial investments. Have there been instances where the cost of implementing advanced technologies outweighed the expected benefits, and how did you navigate such situations?

In Industry 4.0, navigating cost-benefit dynamics is crucial. While investments are substantial, we've learned from instances where initial costs surpassed projections. Rigorous pre-implementation assessments now guide us. Flexibility in adapting our tech roadmap ensures we prioritize investments that yield tangible, long-term benefits and preventing unforeseen financial pitfalls. We also have encouraged businesses to undertake pilot "moneybox" projects, to learn from and then go on to fund future efforts.

3. With the rise of smart factories, there's a growing concern about cybersecurity threats. How do you assure stakeholders, especially customers, that your manufacturing processes are not vulnerable to cyber-attacks?

Smart factories demand robust cybersecurity measures. Proactively addressing customer concerns involves transparently showcasing our cybersecurity infrastructure. Regular audits, employee training, and collaborative initiatives within the industry signal our commitment to safeguarding not just our processes but also the entire supply chain from potential cyber threats.

4. Industry 4.0 emphasizes real-time data analytics. Have you ever faced resistance from employees who feel that this level of monitoring infringes on their privacy or autonomy?

Real-time data analytics can trigger employee privacy concerns. Our approach involves open communication about the benefits of data-driven insights, assuring employees that monitoring is focused on improving efficiency, and not infringing on personal autonomy. We emphasize transparency, anonymising data, and seeking input in shaping policies to address these concerns collaboratively. We place a lot of thrust on the adherence to local regulations.

Flexibility in adapting our tech roadmap ensures we prioritize investments that yield tangible, long-term benefits and preventing unforeseen financial pitfalls.

5. Collaborative robots, or cobots, are becoming more prevalent in manufacturing. Have you encountered challenges related to employee acceptance of working alongside robots, and how have you addressed potential job displacement concerns?

Introducing cobots necessitates managing employee apprehensions. We've encountered concerns about job displacement. Addressing this involves transparent communication about cobots enhancing, not replacing, human roles.

Upskilling initiatives reassure employees that their value lies in collaboration with technology, not in competition against it.

6. The implementation of Industry 4.0 technologies often requires upskilling of the workforce. How do you handle situations where some employees may be resistant to acquiring new technical skills, especially if it affects their job security?
Navigating resistance to upskilling involves a dual approach. We provide accessible training resources and emphasize the positive impact on job security. Establishing a supportive environment where learning is incentivized, rather than forced, fosters a culture where upskilling becomes a shared journey.

7. The concept of a "lights-out" factory, where operations are fully automated without human intervention, is gaining traction. How do you balance the pursuit of efficiency with the potential social and ethical implications of reducing the human workforce?
Balancing efficiency with ethical considerations in pursuing a "lights-out" factory involves careful workforce transition planning. We prioritize redeployment and reskilling initiatives, acknowledging the social implications. Emphasizing that human roles evolve rather than vanish aligns our pursuit of efficiency with a commitment to responsible automation.

8. Industry 4.0 emphasizes the integration of the supply chain through digital technologies. Have you faced any challenges or criticisms related to data sharing and transparency with suppliers and partners?
Some suppliers express concerns about transparency. We address this through collaborative platforms, ensuring shared data benefits all stakeholders. By establishing mutual trust, we've successfully navigated potential challenges in data sharing and transparency. As the industry matures, we will see more standardisation in data interchange and reuse. The power of "big data" is amplified when we can connect previously unconnected "islands of information:", andand we will see increased gains in analytics.

Aligns our pursuit of efficiency with a commitment to responsible automation.

9. Which are some top geographies that you see have really endorsed the Industry 4.0 revolution? Do you see a shift in paradigm in comparison to the 1st Industrial revolution?
Countries with a long history of industrial investment have been the industry 4.0 forerunners, with some fabulous projects in Germany, USA, China and South Korea. Geographies like Germany, the USA, and China stand out as Industry 4.0 frontrunners. However, the paradigm shift isn't uniform. Emerging economies are leapfrogging traditional industrialization phases, showcasing a distinct shift in the Industry 4.0 narrative compared to the initial industrial revolution.

10. As Industry 4.0 evolves, it brings about concerns related to standardization and interoperability among different technologies. How do you navigate the landscape of diverse technological solutions while ensuring a cohesive and integrated manufacturing process?
Navigating the diverse technological landscape involves a commitment to open standards. We advocate for industry-wide collaboration on interoperability. Embracing modular systems allows for flexibility while adhering to standardized protocols, ensuring a cohesive and integrated manufacturing process amid the evolving Industry 4.0 ecosystem.

From The Minds Of Network Scientists

CHANGING THE WORLD WITH DEEP TECH INNOVATION

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Aishwarya Porwal

Q. How do use tech in your daily work routine?

At Network Science, tech is the key. I kick off the day using advanced software to handle events smoothly scheduling international meetings, automating registrations. AI and data analytics help tailor events, and social media tools amp up our promotion game. Basically, tech's the go-to for making our Deep Tech events top-notch—efficient, precise, and innovative.

Anant Joshi

Q. Are regulatory bodies preventing adoption of DeepTech in different geographies?

As a director of a DeepTech company, navigating this intricate regulatory terrain involves engaging in ongoing dialogue with regulatory bodies in each geography. Collaboration is paramount. By working together and fostering a mutual understanding, we can shape nuanced regulatory frameworks for efficient adoption of DeepTech on a global scale.

Asavari Hardikar

Q. Is it time for sustainability to be the top agenda for a Board meet?

Our planet is our home and its riches have been exploited for far too long instead of being nurtured. Sustainability is hence a fundamental necessity and a top priority that should dominate the boardroom discussions. A proactive stance on sustainability isn't just a moral obligation; it's a strategic imperative for any forward-thinking company today.

CHANGING THE WORLD WITH DEEP TECH INNOVATION

Bipin Shashidharan

Q. How tech is creating the future for Sales?

Here's the kicker, though: people are getting a bit too comfortable. Studies tell us that 70% of sales professionals admit to becoming somewhat lazy because of smart tools.
So, the secret sauce is using these tools as a support system, not a crutch. They're fantastic for lead generation, but you've got to pair them with good old-fashioned research to truly ace the game!

Damian Konarik

Q. Why should CEOs be keen on Sustainable Tech?

Sustainability is the new cool. It's not just good for the Earth; it's fantastic for your brand, your bottom line, and your appeal to the tech-savvy, eco-conscious generation that's here to stay. Sustainable Tech isn't a fad; it's the future of tech. Embracing Sustainable Tech isn't just about being ethical; it's about dominating the market.

Durvesh Tamse

Q. What are your thought on Tech in sports industry and the future?

The intersection of technology and sports is creating an entirely new dimension for viewers and businesses. From augmented reality enhancing live sports, viewing/crunching data analytics transforming player performance, the possibilities are limitless. We're talking about creating immersive, personalized fan experiences, optimizing training and strategy, and opening new revenue streams.

CHANGING THE WORLD WITH DEEP TECH INNOVATION

Faizan Khan

Q. How are Robots shaping the future of our business?

It's an exciting journey, and aren't we seeing it already? Robots are becoming increasingly integral to our operations. They're not just about repetitive tasks anymore; they're taking on complex, high-precision work, and that's a game-changer. Robots are indeed shaping our business, but it's up to us to make sure it's in a way that aligns with our values and strategic goals.

Edd Williams

Q. Are CFOs and AI thinking differently on the investment strategies today?

As a CFO overseeing multiple Deep-Tech companies, I am witnessing the traditional role earlier rooted in historical data and strategic planning, is undergoing a monumental shift with AI integration. Predictive analytics and machine learning offer pivotal insights for anticipating future trends, demanding proactive C-Suite engagement. In this evolving landscape, the synergy between tradition and innovation is key to navigating and thriving in the era of AI.

Harnold Dmello

Q. How will people's interaction with smartphone evolve in the future?

People's interaction with smartphones is set to evolve dramatically in the future. The integration of augmented reality (AR) and virtual reality (VR) will create immersive experiences for gaming, education, and remote collaboration. Artificial intelligence (AI) and machine learning will make smartphones more intuitive and personalized, adapting to user needs.

CHANGING THE WORLD WITH DEEP TECH INNOVATION

Jeremiah Karnik

Q. What technologies are leaders on a look out for?

In today's fast-paced technological landscape, leaders across industries are eagerly anticipating the rise of groundbreaking technologies in the realm of Deeptech. From Artificial Intelligence and Machine Learning to Quantum Computing and Advanced Robotics, the leaders of tomorrow are keeping a watchful eye on these transformative forces.

Jignyasa Rikame

Q. Can you throw light on the Importance of data in Deeptech?

In the Era of Modern Technology, Data Emerges as a Significant Asset. It's not just information but also has the potential to predict and address future challenges. Every dataset has its own story to tell, which can reveal important insights for any significant business. Data Management is not only useful but essential for Success in the Deep Tech Industry.

Junuz Jakupović

Q. What is the future of AI and its ethical implications?

The foremost concern is the potential bias ingrained in algorithms. As AI learns from historical data, it risks perpetuating existing biases, amplifying inequalities. Processing vast amounts of data through AI raise concerns about how personal information is handled. Striking a balance between leveraging data for innovation and protecting individual privacy is a delicate challenge.

Kaustubh Gage

Q. How is AI making cryptocurrency a real thing?

AI-driven trading algorithms are becoming a staple in cryptocurrency markets. These algorithms use ML and deep learning to analyse market data, identify and predict patterns, and execute trades at high speeds. While not infallible, these predictions can be valuable for traders and investors. Also, another interesting trend that's coming up is the tokenisation through AI.

Mohnish Rathod

Q. How is Blockchain weaving its magic?

Imagine blockchain as a mesmerizing blend of ancient magic and cutting-edge technology, something like an alchemist's secret elixir. It's the kind of magic that turns digital ledgers into unbreakable spells, securing data with cryptographic enchantments. I Personally feel Blockchain is profoundly impacting the world by revolutionizing trust, security, and efficiency.

Nikhil Mahen

Q. As an innovator, what possibilities do you see with Quantum Computing?

The world is slowly reaching the limits of what we can do with our existing computing infrastructure. Faster speeds, incredible AI solutions, and a suite of applications to run businesses have brough day to day productivity much closer to its zenith. Or has it. To improve our processing speed, we need to shift our paradigm of computing from traditional or Classical to Quantum computing.

Parag Suvarna

Q. What do you think will be the future of Manufacturing?

In an era marked by the relentless march of technology, the future of manufacturing is on the cusp of a profound and extraordinary transformation.The integration of Deep Technology, including cutting-edge robotics, artificial intelligence, and the Internet of Things, combined with the immersive capabilities of Augmented Reality (AR) and Virtual Reality (VR), has opened an entirely new dimension in production.

Pooja Shokeen

Q. How is Deep Tech impacting privacy in healthcare?

Firstly, the drug discovery process is greatly accelerated. What took decades, few years back is now possible in months or years' time. Can we not say the life expectancies are increasing? Deep tech is enabling personalised treatment plans making the treatment journey for a patient very relaxing. Today, data privacy and confidentiality has become very critical to patients and DeepTech ensures nothing is left to chance.

Prashant Parihar

Q. Your thoughts on the ROI outlook for investments in Deep Tech?

As a Deep Tech consultant, I've witnessed firsthand how these investments can be transformative. One of my clients, a manufacturing company, implemented automation and AI-powered systems in their production line. In a matter of months, their efficiency soared, reducing costs by more than 50% and increasing output by >20%. The ROI was remarkable, not just in terms of dollars saved, but in terms of employee morale and company reputation.

Prerna Aggarwal

Q. Why every Industry vertical need DeepTech today?

Coming from the Sales domain, a lot of my time is utilised garnering the knowledge of various industry verticals and from leaders alike.
For the FMCG, manufacturing, services, BFSI Deep tech enables companies to develop innovative products, services, and solutions that can give them a competitive edge in the market. Deep tech can streamline the processes, optimize workflows, and improve operational efficiency. Deep tech can be used to create personalized and immersive customer experiences.

Rajesh Sahore

Q. What keeps CEOs up at night?

Being a CEO is like riding a rollercoaster in a tornado—exciting and unpredictable. Well, it's a merry-go-round of financial juggling, constant glances at the competition, weathering economic storms, deciphering the maze of regulations, and nurturing a diverse workforce, to name just a few. We're chasing innovation and battling digital demons, ensuring our supply chains don't go haywire, and guarding our precious reputation like a treasure chest.

Raju Chouthai

Q. What keeps CEOs up at night?

As a founder and having led global businesses in the past, I want to share my two bits with my fellow leaders who might be reading this. First off, we've got AI and Machine Learning, and they're getting crazy smart. Quantum Computing is on the horizon – imagine what could be done for complex problem-solving and encryption. It's like sci-fi stuff coming to life.

CHANGING THE WORLD WITH DEEP TECH INNOVATION

Sandhya Kini More

Q. How is technology making your work more efficient?

For individuals, the right technologies can save time, reduce stress, and allow us to focus on more meaningful and rewarding aspects of our work. One everyday technology I use is: Communication & Collaboration Tools -Email, instant messaging, video conferencing apps like Zoom or Skype, and file sharing services like Dropbox have transformed communication and collaboration.

Sanket Hudali

Q. Why a modern CMO must closely work with CTOs/CIOs?

A contemporary CMO must work closely with CTOs/CIOs because they are the architects of the technological framework that enables successful marketing strategies. The CTO/CIO brings expertise in implementing and leveraging Deep Tech solutions, which drive customer engagement, data analysis, personalization, and automation—key elements of modern marketing and brand building achievements.

Shailendra Soni

Q. Can you share your view on the importance of Leadership in the Data Talent landscape?

I can't stress enough on the importance of top bosses leading the charge in addressing the challenges and opportunities in building and retaining a skilled data workforce in their enterprises. They should make attractive policies to attract top talent, nurture a diverse team, and create an environment that fosters continuous learning. It should always be top -down.

Sundip Parikh

Q. Legacy vs new age ERPs - what should CEOs consider today?

To differentiate and do value addition to their product's other modules like CRM, Treasury Management etc. were added to their ERP enabling removal of other process related applications and computerizing other additional processes including MIS. Enabling the people working on ERP gives more power to take informed Business decisions.

Swapnil Bang

Q. Is Digital Twin the new reality?

Through the integration of data streams from sensors and diverse sources, Digital Twins offer a comprehensive and continuously updated snapshot of their physical counterparts. This not only enables real-time monitoring but also facilitates predictive maintenance, allowing organizations to pre-emptively address potential issues before they manifest in the tangible world.

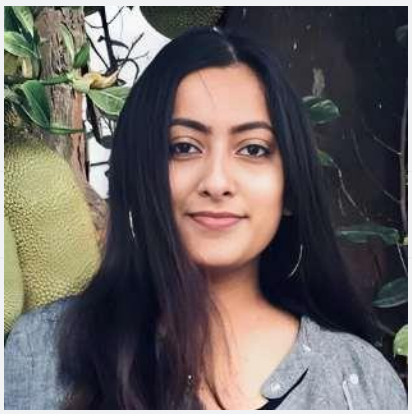
Trupti Hede

Q. Is the Industry adopting more of collaboration than competition using technology today?

Leveraging technology, we can create ecosystems where companies within and outside our industry work together, sharing resources, expertise, and data. This approach not only reduces redundancy and costs but also fosters innovation by tapping into a wider pool of knowledge and skills. Partnerships, rather than fierce competition, lead to sustainable growth and success.

Vasundhara Deb

Q. Is the Industry adopting more of collaboration than competition using technology today?



Recent research, as seen in the study 'Methodological and Quality Flaws in the Use of Artificial Intelligence in Mental Health Research: Systematic Review,' highlights challenges facing AI's role in mental health management. Significant shortcomings and a lack of transparency underscore the need to address issues for a solid foundation in knowledge generation and supportive tools for mental health.

Vidya Poojari

Q. What fears do leaders have while we bring technology to them?

Leaders often worry that adopting new technology will disrupt their existing ways of doing things, make their employees uncomfortable, and cost too much money. They're also concerned about the security of their data, whether the new technology will work well with their existing systems, and how long it will take for their teams to learn how to use it.

Network Science is dedicated to bringing Deep Tech (AI, ML, Robotics, IOT, Blockchain, AR, VR) to the world and to leave the world better than we found it.