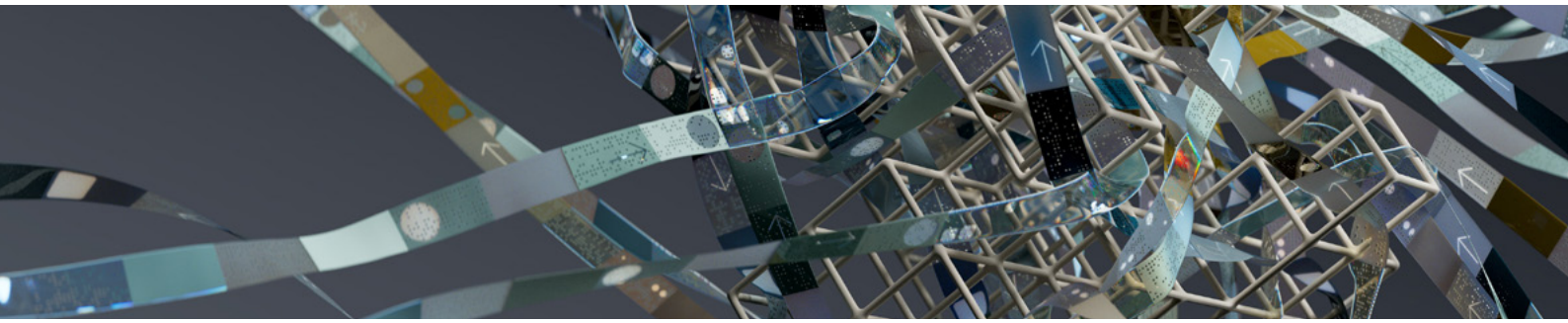
OPPORTUNITY #20

What if knowledge was effortlessly shared?

DEEPER THOUGHT

Shaped by advances in brain–computer interfaces (BCIs) and advanced machine intelligence, knowledge sharing becomes cross-disciplinary, cross-geographical and cross-generational, with ever increasing speed and minimal effort, shaping the future of knowledge.



MEGATREND
Future Humanity

TRENDS
Artificial Intelligence
Brain-Computer Interfaces (BCI)
Future of Purpose & Work
Quantum Technology

SECTORS AFFECTED
Agriculture & Food
Materials & Biotechnology
Automotive, Aerospace & Aviation
Chemicals & Petrochemicals
Communication Technologies & Systems
Consumer Goods, Services & Retail
Cyber & Information Security
Data Science, AI & Machine Learning
Education
Energy, Oil & Gas, & Renewables
Financial Services & Investment
Health & Healthcare
Immersive Technologies
Infrastructure & Construction
Insurance & Reinsurance
Logistics, Shipping & Freight
Manufacturing
Media & Entertainment
Metals & Mining
Real Estate
Travel & Tourism
Utilities
Government Services
Professional Services

WHY IT MATTERS TODAY

As demonstrated during the COVID-19 pandemic, interruptions to learning can occur and may do so again in the future. As generations come and go, our understanding of how knowledge is acquired and disseminated may also change.

Social media, messaging applications and video-conferencing tools were vital during the pandemic. Social media sites saw an increase of 61% in web traffic during the first three months of the pandemic and video-conferencing calls increased five-fold; as a result, social media platforms were seen to be complementary to learning with peers regardless of geographical location or time.[412] Yet, half of the children in a third of low-income countries did not participate in remote learning during COVID, which is concerning given that the percentage of 10-year-olds who cannot read or understand a simple story by the end of primary school is 53% in low- and middle-income countries and up to 80% in the poorest countries.[413]

In higher education and research institutions, journal articles are key to learning and the development of new knowledge. While the global research publication market contracted to nearly $27 billion in 2020 as a result of the pandemic, it is forecast to regain its pre-pandemic (2019) position of $28 billion by 2023.[414] The United States accounts for 40% of the global revenue in the scholarly publishing market, followed by the Asia Pacific region at 29%, Europe at 26.5% and the Middle East, Africa and other parts of the Americas at 4.5%.[415] Some 70% of journals worldwide cover science, technology and mathematics and 30% cover social science and the humanities.[416]

Related to article publications, on average, peer reviewers complete from five to – surprisingly – over a thousand reviews of draft articles in a year,[417] and 10% of reviewers are responsible for half of peer reviews.[418] Globally, the total time reviewers spent on peer reviews in 2020 amounted to 100 million hours or 15,000 years, and this work is rarely compensated financially.[419] Monetary estimates of the value of the time peer reviewers spent on reviews in 2020 amount to more than $1.5 billion for reviewers in the United States, [420] $600 million for those in China[421] and $400 million for those in the United Kingdom.[422]

In the workplace, despite technological advances in document and workflow management, more employees are finding it difficult to extract the knowledge they need from online individual or shared files or platforms; instead, many obtain it directly from colleagues.[423] Moreover, because of missing and/or poor-quality content, employees who find it difficult to obtain this information are more likely to rate the value of any information they obtain as inadequate.[424] Yet, online content and associated knowledge platforms continue to increase: the estimated value of the global knowledge-management market is expected to amount to $1.1 trillion by 2026, at a CAGR of almost 20%.[425]

THE OPPORTUNITY

The combination of technological advances in brain–computer interfaces (BCIs) and advanced machine intelligence, including quantum computing, restructures how individuals and societies collaborate and construct knowledge evolving into something that is cross-disciplinary, cross-geographical and even cross-generational. Our understanding of what constitutes knowledge and how knowledge is obtained will change in terms of both speed and breadth.

While digital realities and generative AI like ChatGPT from OpenAI[426] may enhance the efficiency of operations, programming, reporting, documentation and research, it is neuroscience and BCI that will fundamentally change how we approach education, higher education, research, careers, spiritual and cultural fulfilment and even tourism. Connected, people will be able to access and upload knowledge instantaneously and what will stand out is depth of knowledge and analysis: these will distinguish between those who are highly knowledgeable and those who are not.

BENEFITS

Increased agility and adaptability in addition to improved collaboration and innovation.

RISKS

Overemphasis on certain forms of knowledge due to unconscious bias, with the result that time and funding are diverted away from areas with greater potential. Increased access to information overload giving rise to mental health issues and poor decision making.

HALF OF THE CHILDREN

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