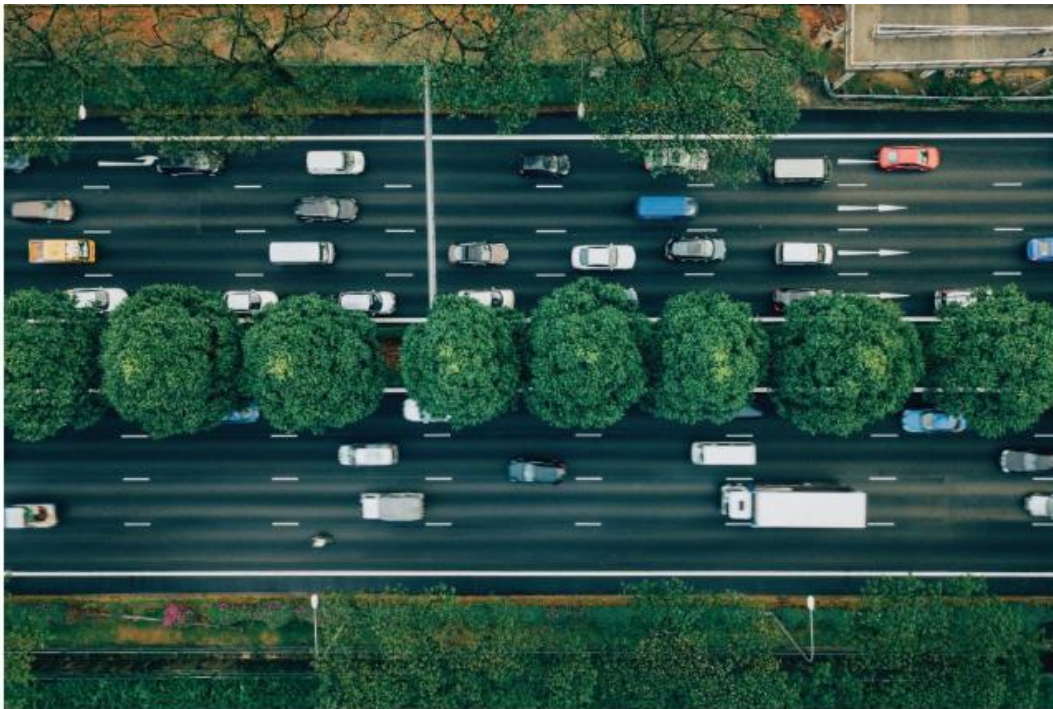


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GUEST COLUMNS

Deep Tech Trends to Look Out for in 2019

What it all means from an investment perspective

BY HSIEN-HUI TONG

Big data, blockchain, and artificial intelligence (AI) are deep tech buzzwords that are sure to get the attention of potential investors. However, any savvy venture capitalist (VC) or investor knows they have to dig deeper to separate hype from commercial viability.

A typical VC investing in a general tech startup will say: "Here's my money, if you can show me this return within this period of time." There are countless benchmarks for business and financial models for a typical startup, but this is not the case for investments into deep tech, where both models are uncertain, and there are few benchmarks, if any.

Deep tech investment requires the consideration of multiple hurdles such as regulatory compliance, corporate and social inertia, technological rigor, and long product gestation periods. For this reason, even if deep tech has become a hot topic

in recent years, investors should remain careful about separating the wheat from the chaff.

AI as a specialized problem-solver

AI has been a recurring item in deep tech, and things will be no different this year. However, there is now a greater awareness of the limitations and challenges of building a general AI.

Most AI companies try to do too many things in too many industries, simply because they can. While these companies may have started with the intention of building products, they inevitably trend towards becoming consulting firms, working on data specific to their clients. Often, they fail to work with a sufficient number of clients in a particular industry to build a deployable product.

2019 will be the year for AI companies

that are narrowly focused on specific processes to solve industry pain points to win big in the market, such as AIDA and Taiger. If an AI startup tells you their target audience is everyone, it usually means their revenue will likely be highly skewed on the service side, making them unable to scale and an unattractive investment to VCs.

Blockchain assumes its next form

Recent discussions about blockchain have centered around its convergence with AI and the Internet of Things to form the backbone of the next generation of the internet. But this is unlikely to be a significant area of investment in 2019, as we are still far from this reality, tech-wise.

While not as snazzy as initial coin offerings and cryptocurrencies, blockchain startups addressing specific industry problems will pique our interest in the coming



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year, such as claims processing, chain of custody, trade documentation, rights management, and social enterprises (e.g., refugee management systems).

Again, solving a specific problem for a niche industry is critical in differentiating high potential blockchain companies from the rest. We will be looking at blockchain applications that do not go up against the technological barrier of scalability, but solve challenging problems that involve a smaller number of stakeholders.

The doctor will see you now

HHealth technology remains a tough one to crack because of the complex interactions between regulators, the healthcare industry, research community, and end consumers. On the regulatory side, startups in this area are burdened with the challenge of securing Food and

Drug Administration (FDA) approvals, tightened regulations of the CE marking by the European Union, and a myriad of ethical dilemmas.

Medical professionals are also wary of new technologies on the market, not because they fear for their jobs, but because of the potential impact on the quality of care and possible liabilities that might arise from adopting these technologies.

Products that assist and augment the role of medical professionals will see better traction in 2019. Such products include the convergence of AI with medical devices to help practitioners quickly pinpoint areas of concern in an x-ray or pathological sample, or one that enables the monitoring of patient vitals in real-time.

Healthtech is likely to remain highly localized due to data privacy laws; thus, concerns over scalability and speed of growth should be considered.

We don't need roads where we're going, yet

Similar to healthtech, autonomous vehicles (AVs) represent the convergence of multiple technologies with numerous regulatory, trade union, and consumer mindset hurdles to overcome. True AVs with Level 5 or full automation are unlikely to be a

reality for at least another five to 10 years due to the sheer technological and infrastructure obstacles involved.

At the platform level, AVs are not likely to be an area of focus in 2019. Instead, the intermediate stage occupied by teleoperations, namely remote-controlled vehicles, is expected to see increased growth because they are deployed in labor-intensive industries (e.g., ports) or hazardous areas (e.g., mining).

Component technologies that can enhance existing sensors, energy storage, navigation, and decision support are likely to become more important, as they can be used for existing vehicles and infrastructure.

Harnessing deep tech for niche problems

This will be an interesting year as deep technologies mature. Global economic issues and the implementation of new policies by the United States Committee on Foreign Investment are making overseas investment in U.S. startups more challenging, presenting opportunities for Asian startups and investors in the categories above.

As investors, we have to remain fully aware of each technology's limitations and not get caught up in the hype, no matter how attractive a deal may appear.



ABOUT THE AUTHOR

As the Head of Venture Investing at SGIInnovate, Hsien-Hui oversees investment efforts, which target high-potential, deep technology startups working on areas such as artificial intelligence, autonomous vehicles, medtech, and blockchain. Prior to joining SGIInnovate, he was the Managing Partner, Asia Pacific for Wassax Ventures. He has also served as the CEO of the National University of Singapore Society (NUSS) and Vice President at Staples. Hsien-Hui graduated in 1998 from NUS with a Bachelor of Engineering.

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