

ICM HPQC Fund is a sub-fund of a Singapore-based VCC fund investing in Seed to Series C rounds of infrastructure, hardware and software companies enabling the future of computing – high performance compute and quantum technology.

Follow as we uncover trends and developments in the High Performance & Quantum Computing (HPQC) universe. In our latest issue, we discuss...

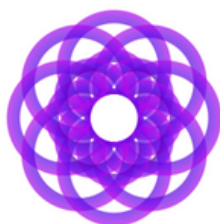
- An update on our portfolio
- Are Data Centres the New Compute Unit?
- A snap coverage of the most recent moves in sector

PORTFOLIO UPDATES

Q-CTRL two record-setting demonstrations which redefine what can be achieved with long-range entanglement generation. These results showcase a novel approach to boosting the performance of quantum computers by combining error suppression techniques with error detection, a central building block of quantum error correction. This is important because quantum computers have the potential to solve problems that today's best computers can't—but

they're extremely fragile and easily thrown off by tiny errors. Most approaches to fixing these errors need lots of extra hardware, making quantum computers bulky and hard to scale. Q-CTRL's breakthrough shows we can make quantum computers

more powerful and reliable without needing a ton of extra parts. That means faster progress toward real-world uses in areas like drug discovery, finance, and national security. Read Q-CTRL's announcement [here](#).



Q-CTRL

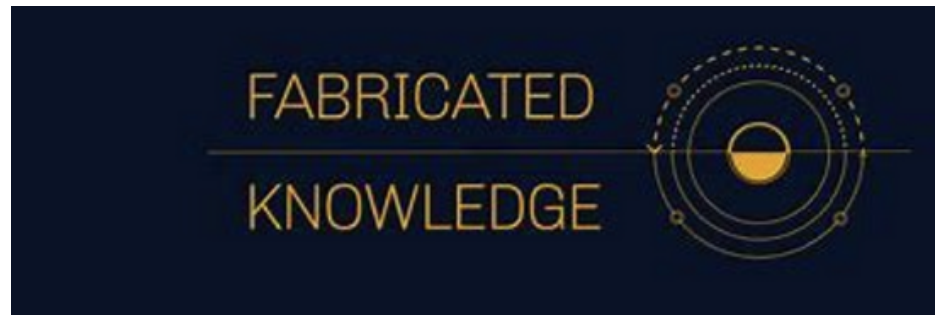
Q-CTRL has won the 2025 EdTech Breakthrough award for the second year in a row with its Black Opal product which helps organisations accelerate their quantum readiness and gain a strategic edge. Read the announcement [here](#).



REVISITING FABRICATED KNOWLEDGE'S THEORY THAT DATA CENTRES ARE THE NEW COMPUTE UNITS:

In April last year Fabricated Knowledge published a great [article](#) on Data Centres as the new Unit of Compute. It argued that scaling laws now apply to the system as a whole (the data centre) rather than any individual component (GPUs, CPUs etc). The analysis talks about how Nvidia has been clear that this is their approach and explains some of their architectural moves like disaggregating compute and memory.

Fabricated Knowledge explores the general logic that would apply to



improving the performance of this new unit of compute, like how you would try to move chips as close together, use cheaper materials like copper for as long as possible before shifting to optics, and the increasing cooling requirements as a result of server racks that produce more and more heat.

This is important from an investment perspective because it becomes not just about technology but also about how it fits into the wider system. This has implications on the technology itself and also the timing. For example, if Nvidia are trying to get as much out of their GPUs using current technology, then co-packaged optics may come into play later than expected

even if the technology is mature. It also explains why Nvidia continues to dominate the market despite many competitors achieving better performing hardware - it's not enough to have a higher performing data centre component anymore, the whole system needs to be considered.

This drives us to think about investments outside the compute itself including in cooling, power delivery and energy systems, Optical Circuit Switches (OCS) and virtualisation (how distributed can these systems be).

As we think about the data centre as the unit of compute, it's not a stretch to think about the next unit of compute being clusters of large data centres. Although this is still many years away, we are already seeing early-stage companies optimising for this new unit.

FLASH SNAP: QUICK LINK ROUNDUP OF THE LATEST PLAYS (IN CASE YOU MISSED THEM)

- The Youtuber **3Blue1Brown** released a video called “But what is quantum computing?” which beautifully explains one of the most important algorithms in quantum computing, Grover’s Algorithm. We recommend a watch [[YouTube](#)].
- **McKinsey** released its latest report on data centre demand where it estimates capital investments to support AI-related data centre capacity could range from \$3 trillion to \$8 trillion by 2030. [[McKinsey Quarterly](#)]
- **Morgan Stanley** corroborate McKinsey’s estimates, forecasting a total spend of \$3 trillion through 2028 with most of the spend going toward Generative AI workloads. They also estimate >110 GW of power is needed through 2028 and at \$2-3/watt this could require power plant investments of ~\$210-330B. [[Morgan Stanley](#)]
- **Exponential View** discusses the geopolitics of compute with Lennart Heim, a researcher at RAND. They cover why sheer model capability is no longer the only important thing and why control over compute may define who leads in AI. [[Exponential View](#)]
- **Epoch AI** published GATE which models the trajectory of AI and Automation including projected compute demands and the impacts on economic growth. Its results show that the next 5 years will be when the largest scale up of compute demand for AI will happen and also suggests that the feedback loop between AI automation and investment will cause economic growth to accelerate by 2-20x the historical base rate. [[Epoch AI](#)]
- **Cerebras Systems** has broken inference speed records by achieving 2,500 tokens per second with Llama 4 Maverick, outperforming **Nvidia** Blackwell's recent benchmark of 1,000 tokens. [[Business Wire](#)]
- **Apple's** silicon design team is developing chips for smart glasses, AI servers, and advanced Macs, with glasses processor production planned for late 2026 or 2027. [[Yahoo Finance](#)]

FLASH SNAP: CONTINUED...

- **Groq** opens EMEA's largest AI compute centre in Saudi Arabia. [[Middle East AI News](#)]
- **AMD** and Saudi Arabia's **Humain** agree 500MW compute deal across the UK and US. [[Data Center Dynamics](#)]
- Saudi Arabian AI venture **Humain** buys 18,000 Nvidia GB300 chips, “several hundred thousand” more on the way. [[Data Center Dynamics](#)]
- **Semiconductor Engineering** discusses the challenges and opportunities will cooling chips. [[Semiconductor Engineering](#)]

C O M E A N D S E E U S T H I S
M O N T H A T :

The image shows a promotional graphic for VIVA TECHNOLOGY. It features the word "VIVA" in large, bold, multi-colored letters (purple, blue, green, yellow, orange). To the right of "VIVA" is the text "JUNE 11-14 2025 PARIS". Below "VIVA" is the word "TECHNOLOGY" in large, bold, black letters.

COME AND SEE US THIS
MONTH AT:



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