

Saudi Arabia
Centre for the
Fourth Industrial
Revolution

**Quarterly
Newsletter**
Q3 2026

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01

Connecting Ideas, Shaping Futures

Welcome to the latest edition of C4IR Saudi Arabia's newsletter, a quarterly overview of the Centre's work across the emerging and frontier technology landscape.

During Q3 2026, the Centre brought together national and international stakeholders through the [Quantum Forum 2026](#), held as part of [World Quantum Day 2026](#) under the theme **"Shaping the Quantum Workforce."** The Forum brought together government, academia, industry, and the private sector to discuss quantum research, talent and investment, practical applications, organisational readiness, and the role of quantum technologies across sectors including finance, healthcare, and manufacturing.

Throughout the quarter, the Centre continued to connect expertise, inform national priorities, and support the translation of emerging technologies from research and ideas into practical applications. Through its priority projects, strategic initiatives, and collaboration with national stakeholders and the wider C4IR Network, the Centre contributed to conversations that can help shape how emerging technologies are understood, developed, and applied in the Kingdom of Saudi Arabia.

This edition brings together expert perspectives, key developments, and insights from across the Centre's work, reflecting our continued role in bringing stakeholders together, sharing knowledge, and supporting the responsible adoption of emerging and frontier technologies across sectors.



“As we all know, technology alone will not build a quantum economy. We need scientists to advance research, engineers to turn science into solutions, entrepreneurs to create new businesses, and leaders who understand where quantum can create real value.”

[Dr. Talal AlSedairy](#)

Chairman, C4IR Saudi Arabia

Learn more:



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World Quantum Day: The Quantum Forum 2026

Following the [Quantum Journey Exhibition](#), which welcomed more than **1,700 visitors** in April, the [Quantum Forum 2026](#) brought World Quantum Day 2026 to a close under the theme **“Shaping the Quantum Workforce.”** Hosted by C4IR Saudi Arabia in partnership with **King Abdulaziz City for Science and Technology (KACST), King Salman Science Oasis, and the Institute for Advanced Studies and Cooperation**, the Forum brought together national and international voices from research and industry.

The programme explored quantum research, talent and investment, practical applications, organisational readiness, and the role of quantum technologies across finance, healthcare, security, manufacturing, and workforce development. Sessions also considered how quantum research can move towards application and what organisations need to prepare for the quantum era.



Prof. Daniel Loss

Chair Professor and Director of the Interdisciplinary Research Center for Advanced Quantum Computing, King Fahd University of Petroleum and Minerals

“There are two aspects to quantum computing: one is to make a quantum computer, and the other is to use a quantum computer once it has been made. And to engage in such an enterprise requires very deep and profound and complete knowledge of the basics.”

The Forum also marked two Research Collaboration Agreements between KACST’s National Centre for Quantum Technologies and Imperial College London and Pasqal, strengthening cooperation in quantum research and supporting the development of quantum capabilities in the Kingdom.

The Saudi Quantum Computing Association also introduced its Arabic Dictionary for Quantum, an initiative to make quantum terminology more accessible to Arabic speakers and enrich Arabic-language scientific content in the field. Together, these initiatives reflected the broader focus of the Forum on building the knowledge, connections, and capabilities needed for a quantum economy.



Amal Alshareef

Acting Managing Director, C4IR Saudi Arabia

“Progress in this field depends not only on technology, but on people, on partnerships, and on the readiness to act early.”

The Forum brought together a day of insights and initiatives centred on people, partnerships, and practical pathways for Saudi Arabia’s quantum future.

Building on the themes explored at the Forum, the Centre organised the “Quantum Readiness Accelerator Workshop” as part of the Quantum Economy Project, bringing together expert groups across finance, energy, telecommunications, and health to explore a practical question: Where can quantum technologies create real value for Saudi Arabia? The workshop focused on priority applications, their potential impact, and what it will take to move from opportunity to adoption.



| Where Ideas Converged



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Panels



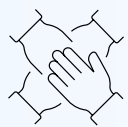
26

Speakers



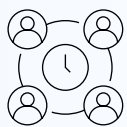
100+

Attendees



11

Partners &
Sponsors



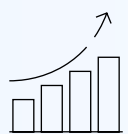
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Media Mentions



1.21M

Social Media
Impressions



1.44M

Social Media
Reach



40

Digital Content
Pieces



3

Announcements

03 | Executive Perspective

Building Quantum Readiness in Saudi Arabia



Dr. Saad AlOwayyed

General Manager, Quantum Technologies Institute, KACST, and Project Lead, Quantum Economy Project, C4IR Saudi Arabia

Dr. Saad AlOwayyed shares his perspective on Saudi Arabia's progress toward quantum readiness, the capabilities needed to build a future quantum workforce, and the collaboration required to translate quantum technologies into practical applications.

From readiness to implementation

Saudi Arabia's quantum ecosystem is moving from **a foundational, exploratory phase into an infrastructure-driven testing environment**. As the first nation to pilot the World Economic Forum's Quantum Economy Blueprint, the Kingdom has adopted an evidence-based approach to quantum readiness, moving beyond theoretical discussion toward practical testing and policy development.

Over recent years, this progress has developed from scattered initiatives into **a mission-led alliance**. The formation of the National Quantum Alliance, the "Quantum Valley" initiative led by Aramco, RDIA, KACST and SDAIA, and the launch of the Middle East's first commercial Quantum Computing as a Service platform mark important milestones. The latter is a 200-qubit neutral-atom system developed through Aramco's partnership with Pasqal.

Building the quantum workforce

Developing the workforce will require capabilities that extend beyond traditional physics and engineering. Three priorities stand out: **quantum-hybrid algorithm design, domain-specific translation, and post-quantum cryptography (PQC)**.

Saudi Arabia will also need software engineers able to integrate classical supercomputers with quantum processing units, alongside "quantum translators" who can connect quantum technologies with challenges in fields such as logistics, petroleum engineering, and chemistry.

This requires education to become more interdisciplinary. Integrating quantum concepts across **physics, computer science, mathematics and engineering**, supported by dedicated tracks and real industry use cases, can help prepare students to contribute directly to the emerging quantum workforce.

Connecting research with application

For quantum adoption to move beyond isolated pilots, government, academia and industry will need to work through a **shared, mission-oriented framework**. The National Quantum Computing Hub provides one model by connecting academic researchers with private-sector challenges.

Industry can contribute real-world data and targeted investment, while government can support adoption through regulatory sandboxes and long-term risk-mitigation funding. Together, these mechanisms can strengthen the pathway from research to application.

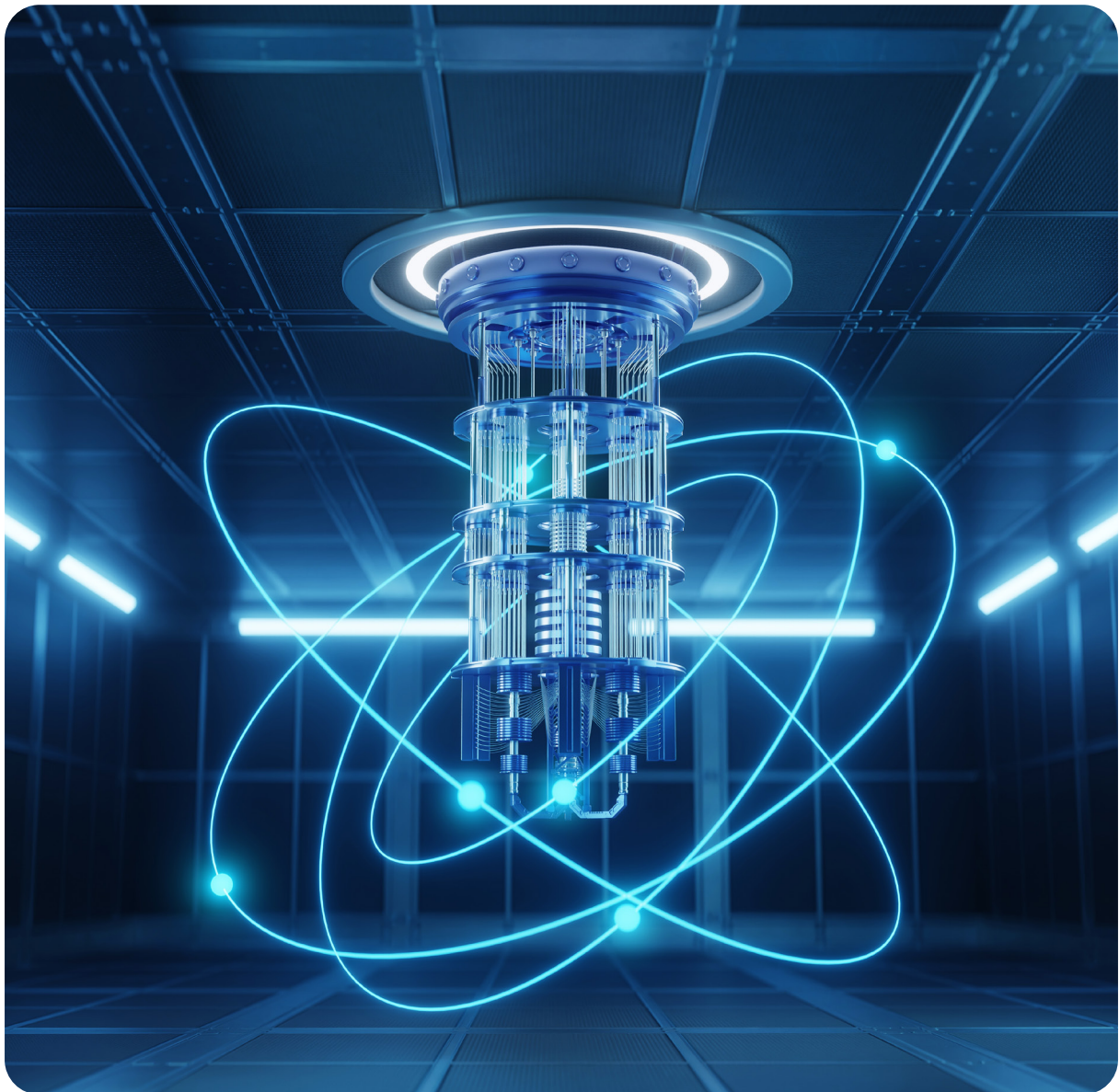
Learn more

- [1. Towards Saudi Arabia's Quantum-Enabled Future: Piloting the World Economic Forum's Quantum Economy](#)
- [2. Blueprint Piloting the Quantum Economy Blueprint: Lessons from Saudi Arabia](#)

Looking ahead

Over the next five years, the focus should remain on **human capital development, strategic workforce planning and localizing high-value use cases**. Priorities could include regional logistics optimization, post-quantum cryptography and complex materials simulation.

By developing local capabilities around clearly defined national challenges, Saudi Arabia can build a **sustainable talent pipeline** and strengthen its position within the global quantum economy.



From Quantum Innovation to Real-World Impact



David Mitlyng

CEO & Co-Founder, Xairos

David Mitlyng shares his perspective on the transition of quantum technologies from research environments to real-world applications, and the opportunities for building resilient quantum-enabled infrastructure.

From the laboratory to deployment

Moving quantum technologies into real-world deployment requires more than proof-of-concept demonstrations. Mitlyng highlights the importance of miniaturized, ruggedized and plug-and-play systems that can integrate with existing infrastructure, allowing organisations to adopt quantum capabilities without replacing their current networks.

Which industries are likely to see the earliest impact?

Telecommunications and defence are leading the way. 5G and future 6G networks require increasingly precise synchronization, while defence agencies need alternative positioning, navigation and timing solutions for GPS-denied environments. Financial markets and smart power grids are also likely to follow as demand grows for more accurate and secure timing.

Securing critical infrastructure

Xairos is developing quantum time transfer as an alternative to GPS-based timing, addressing vulnerabilities such as jamming, spoofing and interference. By using entangled photons, the technology can provide precise and secure timing while helping detect attempts to intercept or manipulate the signal.

Quantum technologies could therefore introduce a new layer of resilience for critical infrastructure, helping protect systems against cyber and electronic warfare threats.

What capabilities will be needed to bring quantum technologies to scale?

Scaling quantum technology requires talent that can bridge theoretical physics and system engineering, bringing together quantum optics, hardware design, software development and security expertise. Professionals who can integrate and maintain quantum-enabled systems within traditional networks will also be essential.

How important is international collaboration?

Critical infrastructure and space are inherently global, making collaboration essential. Public-private partnerships, joint testbeds and shared regulatory standards can accelerate responsible deployment, while collaboration with international hubs such as C4IR Saudi Arabia can connect academic and industry expertise.

Looking ahead

Mitlyng is particularly focused on the convergence of entanglement distribution and quantum sensing, alongside the move toward commercial quantum networks. These systems could eventually support secure timing, quantum key distribution and interconnected quantum sensors, laying foundations for more resilient global infrastructure.

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Frontier Technologies in the News

Global News

Fortune: “Inside Big Pharma and VC’s Big Bet on AI”

As of January 2026, Isomorphic Labs had yet to move an AI-designed drug into clinical trials, though rival Insilico Medicine already had candidates in trials in China. At the World Economic Forum in Davos, Demis Hassabis said the company hopes to have AI-designed drugs in clinical trials by the end of the year, as it works to shorten drug discovery from a decade to “weeks or months.” Company president Colin Murdoch has separately told Fortune that oncology candidates are the priority for the first trials, with the firm “staffing up” and making “good progress” internally.

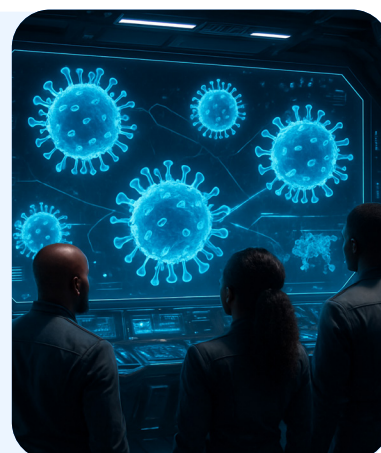


Oracle Newsroom: “Quantinuum and Oracle Partner to Accelerate Hybrid Quantum Compute Adoption on Oracle Cloud Infrastructure”

Quantinuum and Oracle announced a multi-year strategic partnership to bring quantum computing to Oracle Cloud Infrastructure, deploying Quantinuum’s Helios quantum computer inside a US-based OCI AI data center to enable hybrid quantum-AI workloads. The two companies aim to support enterprise, AI lab, academic, and research applications spanning drug discovery, materials science, financial modeling, and large-scale optimization.

Phys.org (Science journal): “Sixteen AI-Designed Viruses Offer a New Route Against Drug-Resistant Bacteria”

In a world first, a Stanford-led team created 16 viable viruses that do not exist in nature and were designed by AI, published in the journal Science, potentially aiding the fight against drug-resistant superbugs by allowing researchers to design customized viruses that kill resistant bacteria. A commentary in the same issue, from Johns Hopkins biosecurity researchers, called the findings a source of “urgent biosafety and biosecurity questions,” while the study’s authors noted they excluded all viruses capable of infecting humans, animals, or plants from the AI’s training data.





News Across Saudi Arabia

Aramco Newsroom: “Aramco and Pasqal Launch Saudi Arabia’s First Quantum Computer and Middle East’s First Commercial Quantum Computing as a Service Platform”

Aramco, in partnership with Pasqal, officially inaugurated the Kingdom’s first quantum computer and unveiled the first commercial Quantum Computing as a Service platform in the Middle East, located at Aramco’s data center in Dhahran. The 200-qubit neutral-atom system targets high-value workstreams including port logistics optimization, CO₂ storage optimization, well placement, and rig scheduling, while building the Kingdom’s quantum workforce.

Arab News: “Saudi Arabia Strengthens Position Among Leading AI Nations: Report”

A joint Microsoft-Accenture report named Saudi Arabia a leading case study in integrating AI into national economic and security strategy through sovereign investment, technology partnerships, and quantum computing initiatives. Stanford University’s 2026 AI Index Report ranked the Kingdom first worldwide in AI security, privacy, and cryptography, and in women’s empowerment in AI.

Fastmarkets: “Middle East Position in Critical Minerals Markets Continues to Strengthen: FMF 2026”

Saudi Arabian Mining Company (Ma’aden) formed a strategic joint venture with US rare earth miner and refiner MP Materials and the US Department of War to develop a rare earths refinery in Saudi Arabia. The announcement came ahead of the Future Minerals Forum in Riyadh, as GCC nations increasingly leverage their mineral resources and geographic position to diversify global critical minerals supply chains.

05

Join Us in the Future

Upcoming Activities

As we look towards the final quarter of 2026, C4IR Saudi Arabia will continue to create opportunities for knowledge exchange through its Industry 5.0 Webinar Series.

Industry 5.0 Webinar Series

The next three webinars will explore how technology, geopolitics, and evolving threat landscapes are reshaping economic resilience and competitiveness.

October

C4IR Saudi Arabia × C4IR Qatar:
Resilient SMEs: Thriving Through
Regional Disruption



October

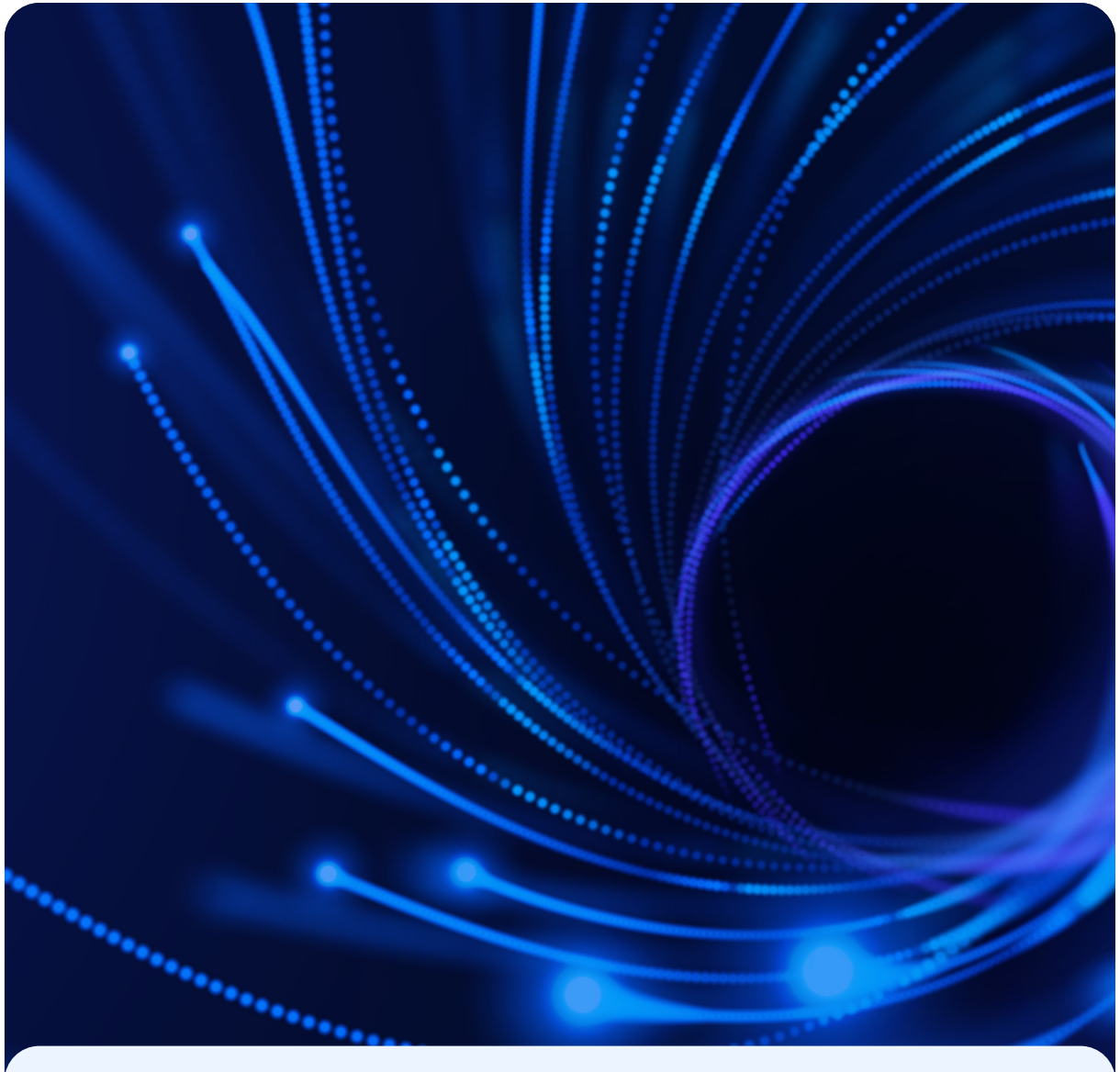
Digital Resilience: Cybersecurity, AI &
New Threat Landscape



December

How Industry 5.0 Redefines Economic
Competitiveness





Call out

Have an interesting fact, innovation, or idea to share? Or would you like to collaborate with us? Get in touch at: communications@c4ir.sa

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