











Anticipate scientific breakthroughs



Agenda

Introduction

- Introducing the GESDA Science Breakthrough Radar
- The Quantum Diplomacy Game in a nutshell

Seeing the future

Using the future to build the present

Debriefing

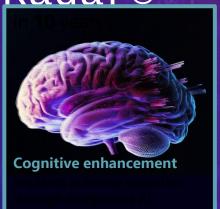
 Navigating a new area marked by science breakthroughs and geopolitical tensions



gesda

The GESDA Science Breakthrough

Radar®

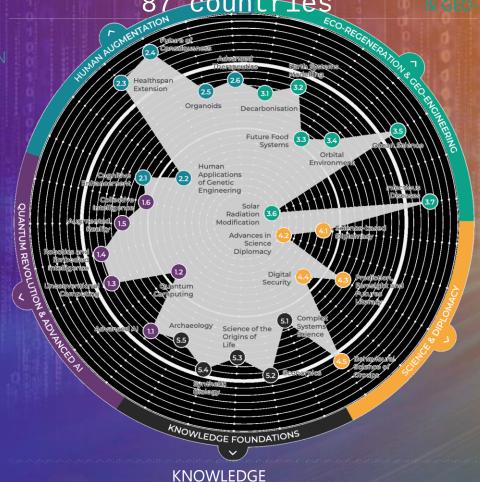


QUANTUM REVOLUTION & ADVANCED AI





2100+ scientists from 87 countries



FOUNDATIONS

ECO-REGENERATION & GEO-ENGINEERING



not science fiction but possible futures in 5, 10, 25

SCIENCE & DIPLOMACY





TREND:

1

Quantum Revolution & Advanced AI

- Quantum computing is coming of age. It is world of probabilities rather than clear cause and effect.
- > The ecosystem is getting bigger and stronger.
- Quantum computing hardware is developing, but still far away from scalable devices.
- > To date, no useful quantum advantage has been shown in practice, but progress has been faster than expected.





The Quantum Diplomacy Game

Collectively fostering international collaboration, education, and anticipatory governance in the emerging field of quantum technologies.

- Collaborative events with diplomatic community, including Swiss embassies around the world.
- Game embedded in Quantum Diplomacy events at institutions such as ITU, CERN, the World Bank.
 - Contributions to global forums like the International Quantum Forum
 - Complementing regional quantum ecosystem events like QISTcon.ph to advance Quantumbal dialogue on quantum diplomacy.





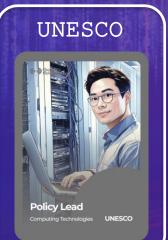


Anticipate scientific breakthroughs

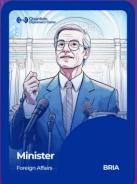




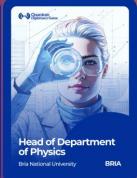










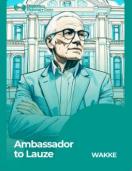






Wakke







Lauze



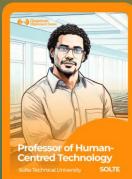






Solte







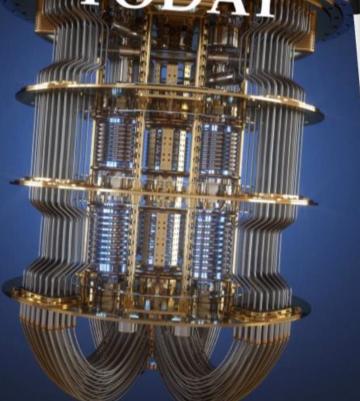




Seeing the future



THE WORLD TODAY



THE QUANTUM BREAKTHROUGH

The Quantum Breakthrough



Quantum computing is here, and it's going to transform the world.

uantum computing is a reality, and it's only going to get more powerful from here. At the end of last year, an international research in collaboration with Betude Cerporation, completed the first ever 100,000 qubit quantum computer at Lauze National University. The implications for where this achievement can lead in terms of applications are immense.

uantum computers will enable researchers and developers to study the most important questions the world faces today, which have previously been unpractical to solve with any classical computers. From modelling climate change to identifying new drugs in medical research to discovering new materials - there's no field of science that will be left untouched. Suffice to say, real-world

use cases of quantum computing have been highly anticipated.

The quantum race has only just begun. Lauze
National University's first 100,000 qubit quantum computer, is only inspiring other teams to
accelerate their efforts. In Bria, scientists are on-track
to launch the country's very own 120,000 qubit
quantum computer later this year. With Bria scientists
excluded from the development of Lauze's quantum
computer, Bria started its own national quantum
computing project. The result can only be for everyone's benefit: after all, competition breeds innovation, and the world will benefit from the fastest, most
powerful quantum computers to solve our most
pressing issues.



January 2034

The Quantum Breakthrough



Quantum Diplomacy (

SULTETIN

05.03.2034 • kr2.50 • 16 pages

Bria-based QCS to help build Solte's first quantum computer Global consultancy firm quantum computer that will

computer in collaboration and to identify which parts of with University, according to additional investment for a joint statement by QCS resilience-building. and the Solte Ministry of Technology.

developing a state-of-the-art computer.

QCS will help build a primarily be used to assess state-of-the-art quantum climate change modelling Solte Technical Solte's infrastructure require

QCS, which is based in Bria, is also working with QCS will directly work with Bria National University, the Quantum Research supporting the country's Group at the Solte Technical efforts to build a national University, with the aim of 120,000 qubit quantum



THREAT OF DEVASTATING **DROUGHT IN** WAKKE: UNITED NATIONS INTERNATIONAL **BRIA-LAUZE** BORDER STANDOFF: WHAT WE KNOW

INTERNATIONAL





Solte contracts QCS to build quantum computer



The Quantum Breakthrough





Researchers at Bria National University, have successfully identified a material that can trap greenhouse gas emissions and help keep climate







Solte contracts QCS to build quantum computer

January 2034

Februar

March 2034

The Quantum Breakthrough



Quantum c could help greenhouse emissions



The Wakke Reporter

INTERNATIONAL NEWS

CEASEFIRE AT BRIA-LAUZE BORDER TO CONTINUE AMIDST TALKS

5 MILLION AT RISK AS DROUGHT IN WAKKE

NAME AND POST OFFI OWN OWNER.

WORLD METEOROLOGICAL ORGANISATION: CARBON-MITIGATING TECHNOLOGY SHOULD BE SHARED AS A GLOBAL PUBLIC GOOD

The World Meteorological Organisation has urged Bria to share their greenhouse-mitigating technology as a global public good. The statement comes only months after Bria announced that the carbon emission-reducing material E32' will be licensed to Medormar Corporation.

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"The door is open; the solutions to our current climate crisis are available. We must act now - collaboratively and cooperatively - for the benefit of all of humanity. If we cannot work together, then we must take the necessary actions to secure humanity's future," the Director-General of the WMO was quoted as

The WMO's statements show support for grassroots movements that are using quantum computing to reverse-engineer Medormar's new material, since the Bria-based corporation has been accused of charging a high mark-up for using their technology. leaving E32' unaffordable to most nations.



originally engineer E32, it can be used to reverse engineer the material. Doing so in a jurisdiction where Medormar's patent does not apply would make an equivalent of the E32' material available to the world at large.

Medormar to open the licence available to all. However, the CEO of Medormar recently of the Manhetin Options expressed concerns about physicism cuptur indicated these calls, stating that the con gar our recoligable company must balance marmoderly related. ket and shareholder interests OF most above, Life we add wishood with the public good. and benefit earthur

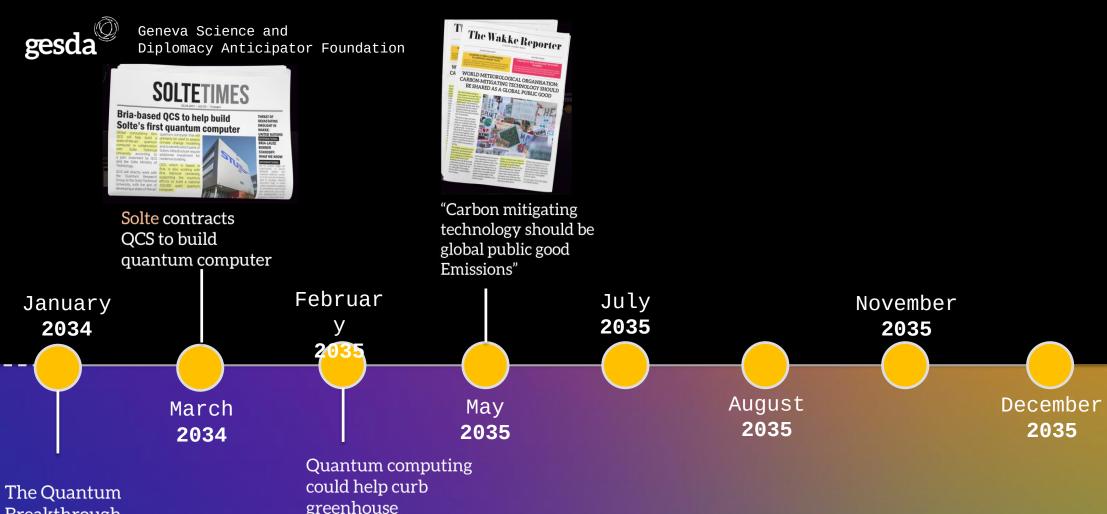


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December 2035

QuantumDiplomacy Game







greenhouse emissions











Solte contracts QCS to build quantum computer

January 2034

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March 2034

The Quantum Breakthrough



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LAUZE, SATURDAY, August 3, 2035

Helium price up by 600%, 'Bria export ban to

ECONOMY, PAGE 11

Bria blocks Solte scientists from research at

QCS Suspends Quantum Computing Operations in Solte

Leading quantum computing consultancy firm QCS announced on Monday that it will suspend all ongoing and future work in Solte effective immediately.



erations in other countries, infrastructure resilience. including Solte,

restricted good, banning Solte to assist in building a "considerable disappointall quantum computing-re- quantum computer, which ment" towards the recent lated exports from the na- would be used to model announcement by the Bria tion. As a result, Bria-based climate change and identify Minister for Foreign Affairs companies like QCS have which parts of Solte require & Trade. been forced to cease op- investment for increased

The move comes on the In March 2031, QCS signed With this project now likely heels of Bria classifying a commission agreement to be cancelled, the Govquantum computing as a with the Government of ernment of Solte expressed On soil moneyes that year

OWNERS AND ADDRESS OFFICE

If selectly respecting the

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December 2035







Solte contracts QCS to build quantum computer

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The Quantum Breakthrough



Quantum could hel greenhou emissions





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December 2035

QuantumDiplomacy Game





Solte contracts QCS to build quantum computer

January **2034**

March **2034**

The Quantum Breakthrough





"Carbon mitigating technology should be global public good Emissions"



2035

Quantum computing could help curb greenhouse emissions



controls on quantum-related good and services





Solte Quantum Project placed on hold

August

2035

November 2035

The Quantum Crisis

December

2035



The deadlock at the United Nations continues, with the UN General Assembly discussing the ongoing quantum computing crisis that



How did we get there?







Februar

Quantum computing

could help curb

greenhouse

Bria National University

emissions



Solte contracts QCS to build quantum computer

January 2034

> March 2034

The Quantum Breakthrough





"Carbon mitigating technology should be global public good Emissions"

May

2035

July 2035

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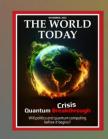
2035

November 2035

> December 2035

United Nations discuss ongoing crisis

The Quantum Crisis

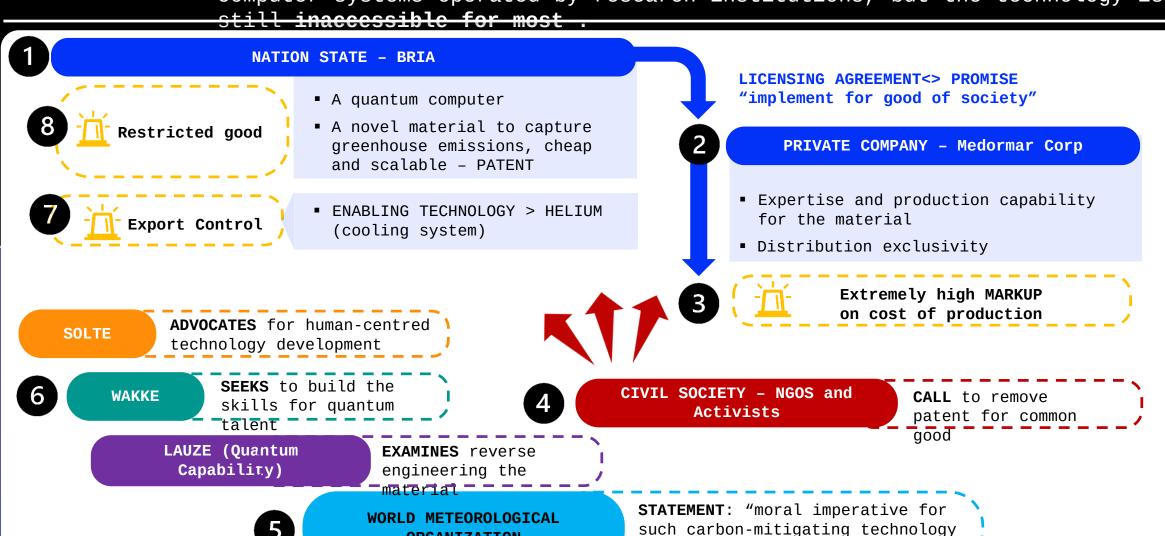


places export

Quantum computers can address complex computationally tasks, solving previously intractable problems. A few nation states have quantum computer systems operated by research institutions, but the technology is

to be shared as a Global Public

Good"



ORGANIZATION





Let's rewind to 2025







Use the future to build the present







Think creatively about the world you want to help create



Can you advance towards an agreement on...?

■ Intellectual property rights and regulation

How can we balance universal access with incentives for innovation?

Ethics & social license?

How do we build awareness and societal acceptance for quantum technologies?

Scientific and cultural cooperation
How do we manage tensions over access,
control, militarization, and dual-use
risks?

Hardware and supply chain access

How do we build resilient quantum computing infrastructure?

B Security & weaponization

How do we prevent the misuse of quantum computing by rogue actors or in military contexts?

Capacity building & brain drain

How do we build global capacity while preventing talent and data from concentrating in a few powerful countries?





Debriefing

- How should we govern technologies that have fundamental implications for our personal identity, autonomy, and responsibility? What are the social, ethical, political considerations?
- ▶ What is the role of diplomacy in directing the development of neurotechnology towards beneficial use cases and avoid exacerbating divides and power imbalances?
- > How to balance innovation with regulation? What would ideal regulation look like?
- ➤ Why is it important to think about long-term governance before science breakthroughs and their applications become widespread? How can we regulate before we know what a future technology might do?
- ➤ How can multilateral institutions become more anticipatory and proactive in the governance of emerging technologies? What is the interplay between national and international governance?
- What are the roles and responsibilities of the different stakeholders and communities (researchers, governments, industry, philanthropy and publics) in this process?
- How to protect researchers and operationalize the 'right to science' in the current geopolitical climate? While protecting citizens from the potential harms and risks G. Openacy Game Scientific innovations?

Navigating a new area marked by science breakthroughs and geopolitical tensions

Science anticipation

Identify and scope out the major scientific advances with the highest potential to reshape humanity and the planet, as GESDA does for five-, ten- and 25-year timescales.



Global action

Prototype early multilateral solutions and frameworks that maximise the benefits of future science advances and minimise their potential risks.

https://www.gesda.global/a-new-report-by-gesda-anticipatory-science-diplomacy-a-global-framework-for-action/

Citizen

Impact

Diplomacy

Academia

Honest brokering

Convene and connect diverse communities to discuss and align early on the implications and applications of emerging science, thus expanding the scope for action in the present.

Capacity building

Empower communities and leaders with the tools to anticipate, understand, harness and govern emerging science for the benefit of humanity.





