



the 2019

innovations dialogue.



**DIGITAL INNOVATIONS AND THE
GLOBAL SECURITY LANDSCAPE**

SESSION 1

Lim May-Ann mayann@trpc.biz @eilonwy



UNIDIR
UNITED NATIONS INSTITUTE
FOR DISARMAMENT RESEARCH

Welcome to the future?

dual- or multiple-use technologies

speed + scope = dimension + complexity

危机

wei

ji

danger

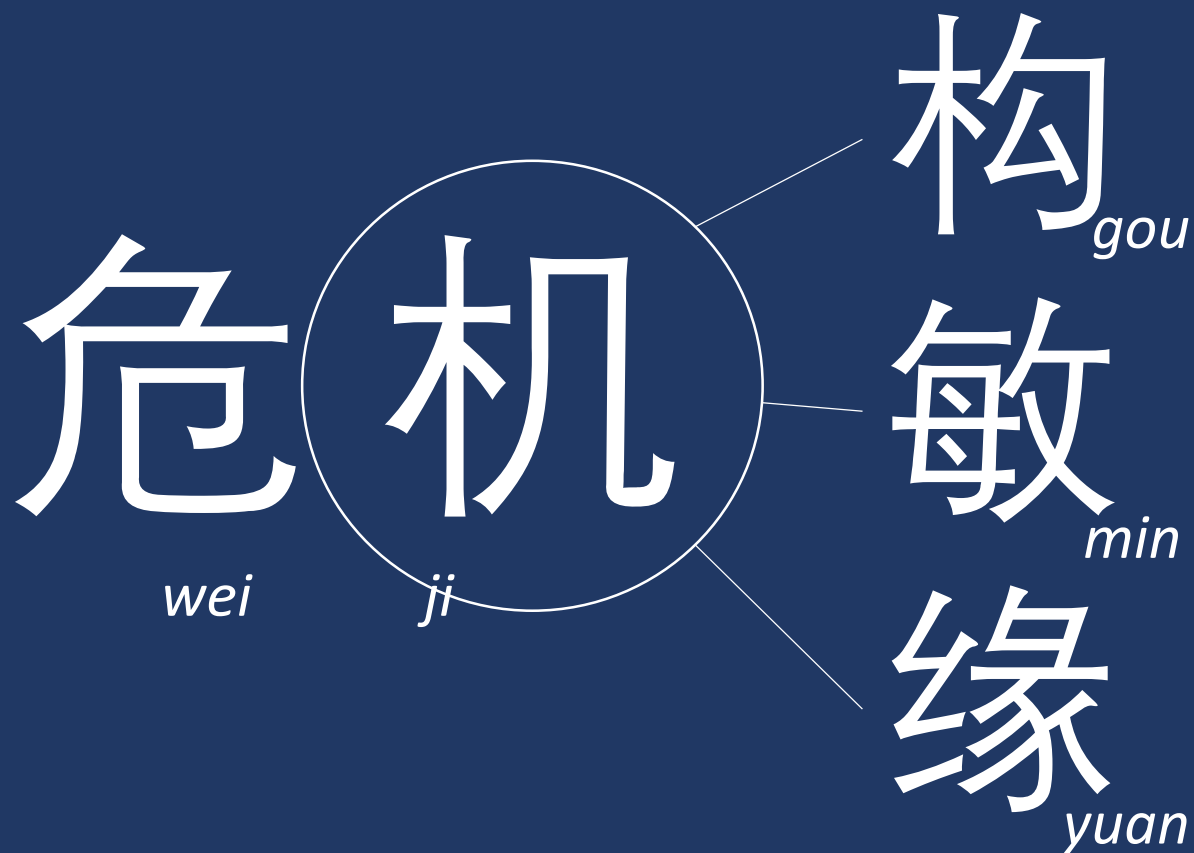
opportunity

crisis

Welcome to the future?

dual- or multiple-use technologies

speed + scope = dimension + complexity



The technology's characteristics

Our agility and ability to
reconcile the policy tensions

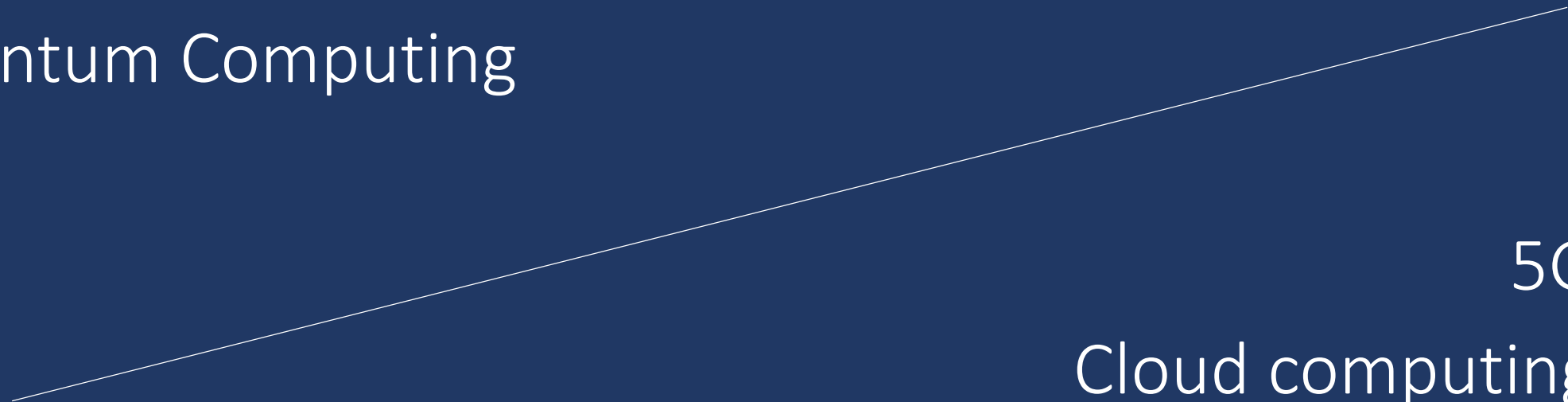
Increasing our chances of
success

What's new?

Internet of Things (IoT)

Distributed Ledger Technology (DLTs) “blockchain” “bitcoin”

Quantum Computing



5G

Cloud computing

Edge computing

Open Source/Crowdsourcing

What's new? What's evolving (or needs to)?

Internet of Things (IoT)

Distributed Ledger Technology (DLTs) "blockchain" "bitcoin"

Quantum Computing

机构

government // private sector // academia // civil society

机敏

5G

Cloud computing

Edge computing

Open Source/Crowdsourcing

机构 IoT

Tech characteristics:

- Proliferation - connected everything
- Miniaturization
- Surveillance and tracking
- Connected everything – talking to each other – networked and smart city – “single point of failure” / “system is only as strong as its weakest link”

Who's in the room? Who else is working on this?

Private sector – logistics companies, telcos (eSIMs), anything requiring tracking, “bad actors”

Govt – Smart Cities – bus routes and congestions, lights and energy conservation

Civil society - rights

Policy tensions

Surveillance and security vs personal privacy; convenience vs security

national security council vs data privacy board vs consumer protection groups vs human rights groups

IoT Policies and Regulations

- Is wardriving illegal? In some (not all) jurisdictions considered illegal access to computer networks; could constitute criminal trespass [legal]
- eSIM and telco lock-in – is this a competition issue? See telco mobile number retention precedence [telco regulators, carriers]
- Radio spectrum allocation and frequency use and harmonization - range vs bands, regional/global harmonization and coordination [telco regulators, carriers, civil society eg ham-radio operators]

机构 DLT

Tech characteristics:

- dual- and multiple-use technology
- Replicability vs the myth of immutability
- Unexplored potential/resource requirements

Who's in the room? Who else is working on this?

Private sector – financial services industry, cryptocurrency, record-creators, trust systems, “bad actors”

Govt – financial regulators, land administrators, innovations board

Civil society – consumer protection, “the blind side” of environmentalists, iGen

Policy tensions

Private sector vs public sector – private benefit vs public good e.g. stability of financial system, AML
“Blind side” – luddites, environmental groups and the iGen

DLT Policies and Regulations

- Cryptocurrencies: allow or disallow? [financial regulators vs business – [link](#)]
 - Tax
 - Currency manipulation
 - Consumer protection
 - AML/CFT
- Who else is thinking about DLT applications?
 - Real-estate (Georgia), voting, digital identity, food safety (tracking), receipts (JP) and payments, digital evidence (UK)

机构 Quantum Computing

Tech characteristics:

- Unexplored potential/resource requirements – intangibility, unknowability
- Complete decryption capability
- Teleportation/ instantaneous and universal record change possibility

Who's in the room? Who else is working on this?

Private sector – big tech, “bad actor\$”

Academia – STEM folk

Govt – innovations board, “horizon-scanners”

Civil society – unknown?

Policy tensions

Precautionary principles vs “permissionless innovation”

Technology ethics and motives

Quantum Computing Policies and Regulations

- “Common sense” and fiction in books/movies/tv (Frankenstein, The Fly)
- “Don’t be evil” vs “Permissionless (“genius”?) innovation”
- “Precautionary principle” / humanitarian and rights groups

Tension 危机

1. Multiple-use technologies – What are they being used for? Who has access to them? (Free Dorothy – TwitterFridge)
2. Ownership of technologies - private sector ownership / profit-maximization? (Project Maven, Project Dragonfly)
3. Ethics of behavior (atom-bomb redux?) – “permissionless innovation”, “exploratory research” vs common “good” and “precautionary principles” (FB)
4. Sheer proliferation of the technology (platform economy, SuperApps, competition, IP and ownership and profitability)

Where are
points of
reconciliation?
Collaboration?
Co-opetition?
If any?

How do we deal? Mile markers (to date)

new approaches | new regulations & standards | new relationships

How do we deal? Mile markers (to date)

new approaches | new regulations & standards | new relationships

Governments – new structures

TH – Ministry of Digital Economy and Society

SG – Horizon Scanning Centre, GovTech

CA – Digital Gov Minister

AU – Digital Transformation Agency

Academia – new think tanks

Centre for Long-Term Cybersecurity

Future of Humanity

Centre for Study of Existential Risk

How do we deal? Mile markers (to date)

new approaches | new regulations & standards | new relationships

Governments

- new regulations (“guidelines”)

Multiple – Privacy regulations

Competition authorities – what is “fair”? “Level-playing field”? Right to profit from innovation vs protecting consumers? (IP)

- new standards

EU – Ethical Guidelines for Trustworthy AI

SG – MAS Fairness, Ethics, Accountability, and Transparency (FEAT) Principles of AI and Data Analytics in Finance

“Open-source” – standard-making bodies – ISO, IEC, IEEE, GSMA,

How do we deal? Mile markers (to date)

new approaches | new regulations & standards | new relationships

New Relationships

Multi-disciplinary approach

- Ethics committees – gov + pte sector + acad
- Data collection – gov + pte sector
- Funding new tech – pte sector + acad

机缘

Who's in the room? Who else is working on this? Increase your chances/opportunities for solving/resolving tensions

机缘 – chance; luck – increasing our chances for making successful policy


- Be relieved – the world is small – you’re probably not the only one tackling the issue (the world is also round; 24/7 help)
- Befriend – Who else is thinking about this? Unlikely allies and friends across world, across the country, across the city, across the corridor
- Be open – to new and different collaboration possibilities with non-traditional partners (with esoteric names)

Welcome to the future。

dual- or multiple-use technologies

speed + scope = dimension + complexity

危机



构
敏
缘

The technology's characteristics

Our agility and ability to
reconcile the policy tensions

Increasing our chances of
success



the 2019

innovations dialogue.



**DIGITAL INNOVATIONS AND THE
GLOBAL SECURITY LANDSCAPE**

SESSION 1

Lim May-Ann mayann@trpc.biz @eilonwy



UNIDIR
UNITED NATIONS INSTITUTE
FOR DISARMAMENT RESEARCH