Governing AI in the Public Sector: Balancing Innovation, Privacy & Security in the Fifth Industrial Age

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Innovation Network Global

ING, the international expression of Innovation Network Canada, is a non-profit dedicated to commercializing and governing responsible tech

Builds and drives deep tech holistic innovation by bringing together:

- ✅ **Tech Companies**
- ✅ **End Users**
- ✅ **Commercialization Partners**
- ✅ **Funding Organizations**

Host of Dynamic Coalition on Emerging tech at the United Nations IGF

ING: Where Governance Meets Commercialization

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Providence Health Care

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PACE

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INDIGENOUS PHYSICAL ACTIVITY & CULTURAL CIRCLE

Imagine a world where AI silently decides:

Who gets access to **healthcare, jobs, and public services**

How governments **monitor and secure citizens**

Which decisions are **automated and irreversible**

… etc

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Do we understand how these decisions are made?

Can we guarantee that AI is fair, transparent, secure, and accountable?

Our choices determine the future of trust in government, privacy rights, and digital sovereignty

Without structured governance, AI's influence could lead to a future where privacy rights, digital sovereignty, and public trust are at risk

The Need for a New Governance Model

- **Emerging technologies (AI, blockchain, cybersecurity, quantum computing) are deeply interconnected**
- **Existing governance models** treat them **as silos**
- **We need a governance framework that evolves with technology**

What happens when an AI financial system, a blockchain-based ID platform, and a cybersecurity framework interact - but no one is ensuring they work together safely?

The Public Sector's AI Dilemma

Key AI Governance Challenges:

- ✅ **Bias & Fairness Risks – AI can discriminate in hiring, law enforcement, healthcare.**
- ✅ **Security Vulnerabilities – AI-powered cyberattacks, deepfakes, adversarial AI.**
- ✅ **Lack of Accountability – *Who is responsible when AI makes a mistake?***

Without governance AI in public decision making can create more problems than it solves – Governance is critical to ensuring public trust

Smart Cities Example: Risks of AI in Public Infrastructure

🏙️ Smart Streetlights

✓ AI-powered streetlights track traffic & environmental conditions

✓ Connected to emergency response & smart city networks

🚨 Risks:

- Hacking could disable city lighting, creating crime “dark zones”
- Surveillance misuse - citizen tracking without consent
- Security loopholes could expose critical infrastructure

To prevent these risks, governments rely on AI governance frameworks

ISO 42001: Strengths & Gaps

📜 ISO 42001: What It Covers

✓ AI policy & risk management
✓ AI transparency & accountability
✓ AI alignment with cybersecurity best practices (ISO 27001)

⚠ What's Missing?

❌ No bias, fairness, or explainability audits
❌ No human rights compliance
❌ No sector-specific AI governance
❌ No adversarial attack testing

ISO 42001 is a foundation but lacks AI system certification for ethical and security risks

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Dynamic Coalition Certification at the United Nations IGF

🌎 What Makes this AI Certification Different?

✓ Certifies AI systems, not just governance processes
✓ Bias & fairness audits
✓ Security & adversarial attack testing
✓ Alignment with global governance frameworks (UN SDGs, OECD AI, G20)

Bridges the gap between policy & real-world AI risks

Co-Leads:
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AI in Healthcare: PHIS Case Study

🏥 Personalized Health Information System (PHIS)

✓ Uses AI for diagnostics & patient tracking
✓ Integrates wearables & predictive analytics

⚠ Risks:

- Bias in medical AI predictions
- Privacy concerns in patient data sharing
- Cybersecurity vulnerabilities in hospital networks

✅ How Certification Helps:

✓ Bias-free health predictions
✓ Quantum-safe encryption for patient records
✓ Ongoing security & compliance audits

AI in healthcare must be safe, secure, and equitable

AI Security & Cyber Threats

💻 AI and quantum computing cybersecurity threats:

- 🚨 Deepfake misinformation & AI-powered fraud
- 🚨 AI-enhanced phishing & cyberattacks
- 🚨 Quantum computing threats to encryption
- 🚨 AI/Quantum hybrid threats

✅ Governance Solutions:

- ✓ AI resilience certification
- ✓ Continuous cybersecurity risk assessments
- ✓ Post-quantum security compliance
- ✓ Multi-technology governance models

Governments must stay ahead of AI security risks

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8 Practical AI Governance Strategies

Governments must:

1. **Establish AI governance structures (Chief AI Officer, AI Ethics Board)**
2. **Mandate AI certification before deployment**
3. **Require Privacy Impact Assessments (PIAs)**
4. **Ensure AI transparency & explainability**
5. **Conduct independent AI bias audits**
6. **Align AI with UN SDGs & OECD AI Principles**
7. **Prepare for quantum AI & adversarial risks**
8. **Educate the public on AI governance & security**

Proactive governance is the key to AI's success in the public sector

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Do we want AI to assist us, or do we want AI to govern us? The choice is ours, but only if we act now

Thank you!

Contact us!

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