

Regional Resilience in Era of Global Production Networks

Evidence from Ottawa's Digital Economy

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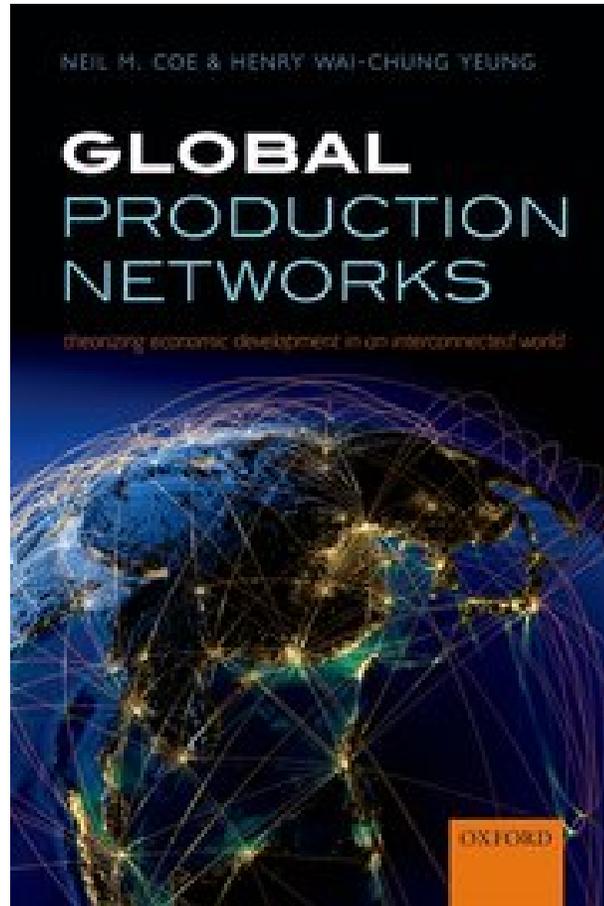
Creating Digital Opportunity
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Innovation Policy Lab

At the Munk School of Global Affairs



Global Production Networks



Global Production Network (GPN) theory understands regional economic development as a process of “strategic coupling” between globally oriented firms and regions with particular advantages or assets

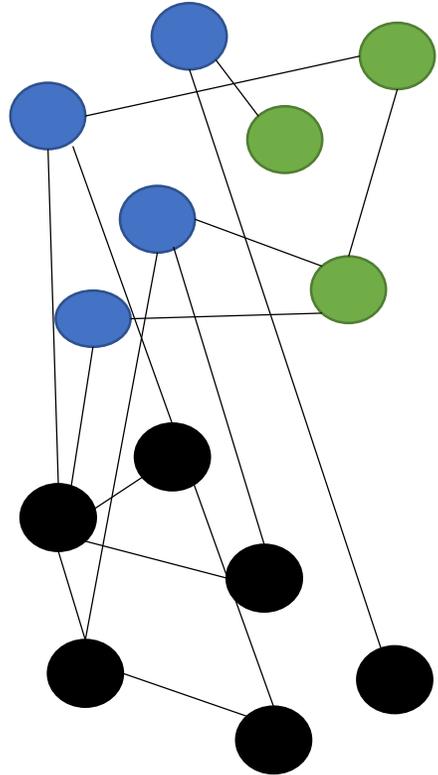
Coe and Yeung 2015

A Framework for Understanding Regional Resilience in Era of Global Production Networks

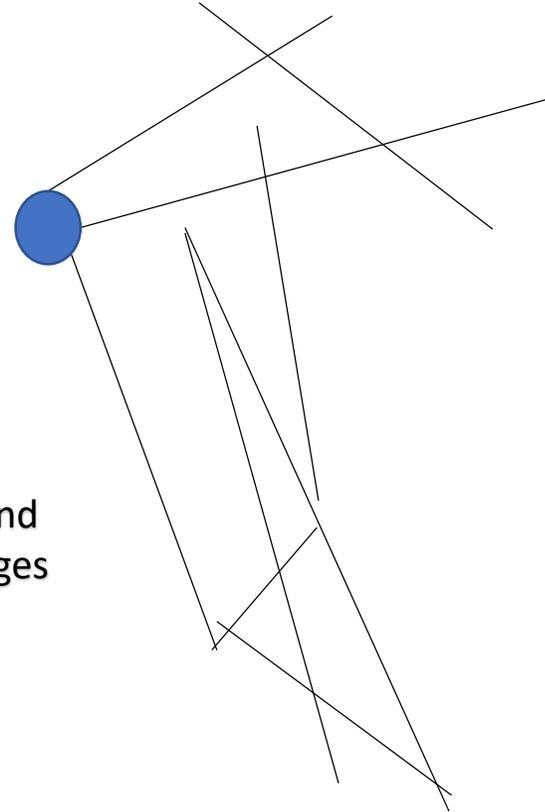
Global Production Network

Lead Firms

Consumers



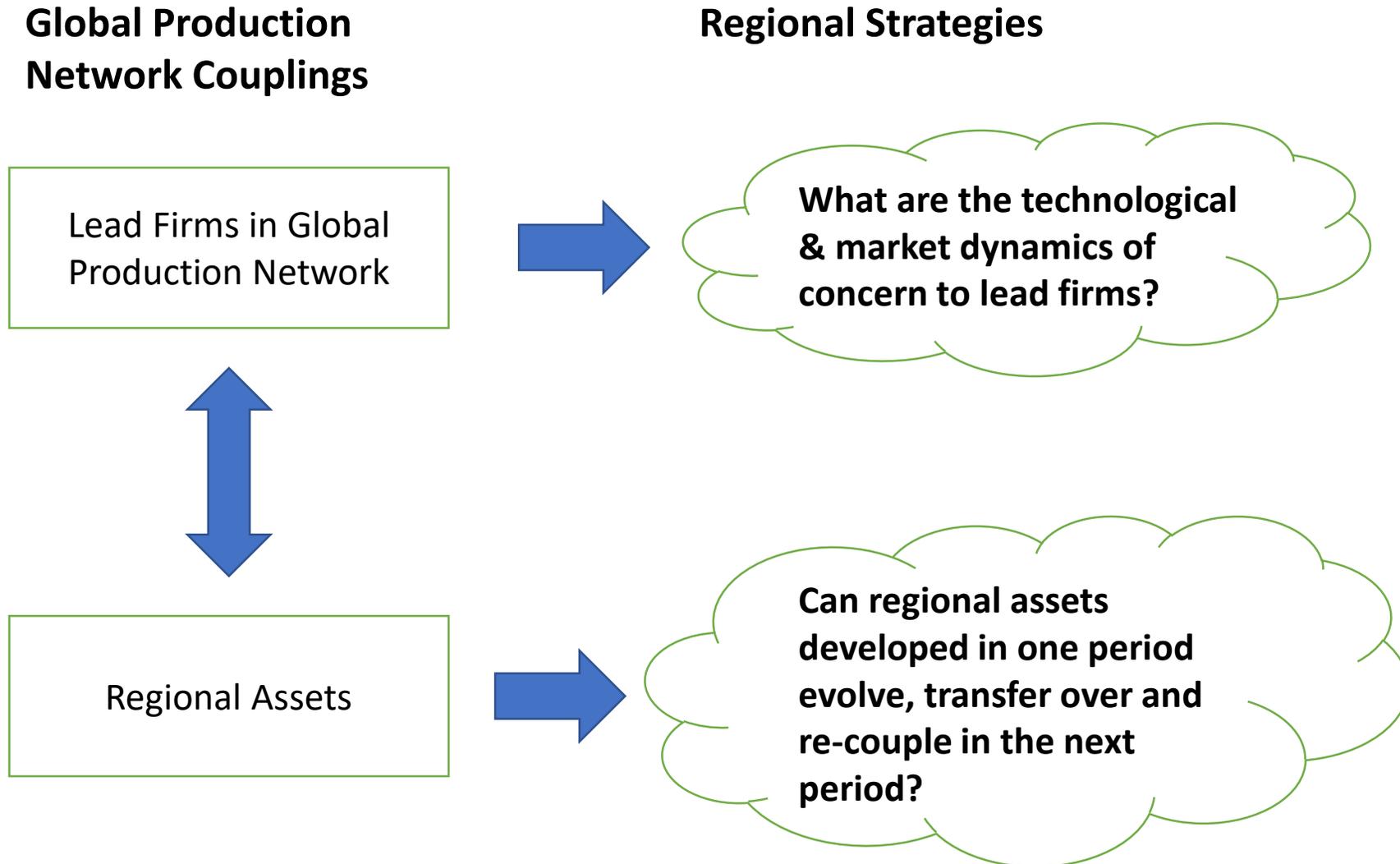
Technology and
Market Changes



Regional Assets

- R&D Capabilities
- Talented Employees
- Capital
- Institutional Supports
- Cost Advantages

A Framework for Understanding Regional Resilience in Era of Global Production Networks



Ottawa Remains a Node in Communications Tech Sector

Major Multinationals Establishing or Expanding R&D Facilities Post-Nortel



Software-Oriented & Start-up Firms



Technological & Market Dynamics

Cloud Computing

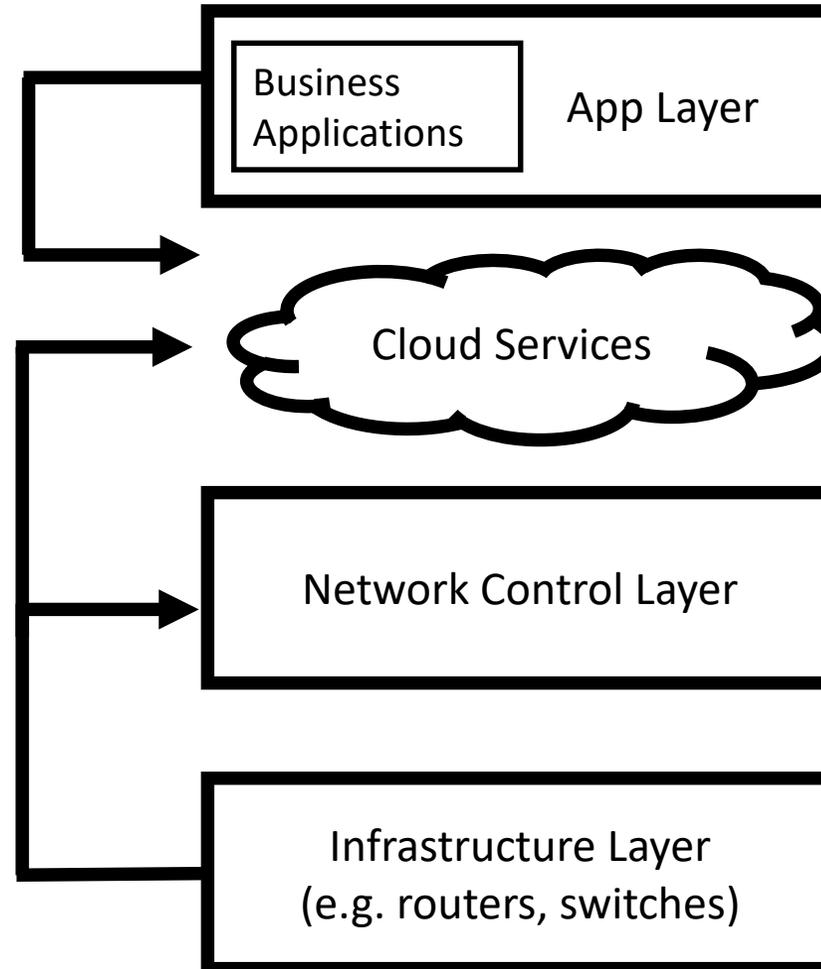
Software as a Service

Virtualization Platforms & Services

Next Generation Networking

Network Function Virtualization

Software Defined Networking



Ottawa's Regional Assets

Access to Talent Pool the Key Reason Lead Firms locate in Ottawa

- Specialized skills in internet networks, transferable to a variety of emerging and fast growing ICT sub-sectors
- MNCs find that Ottawa R&D teams can surmount technical challenges much faster than expected

Concerns and Challenges

- Ottawa as R&D “branch plant”?
 - Vulnerable to decisions made by foreign MNCs
 - Value capture limited to high-tech salaries rather than build-up of indigenous firms
 - Too focused on R&D rather than commercial ventures

Strategic Coupling Initiatives

Centre of Excellence for Next Generation Networks

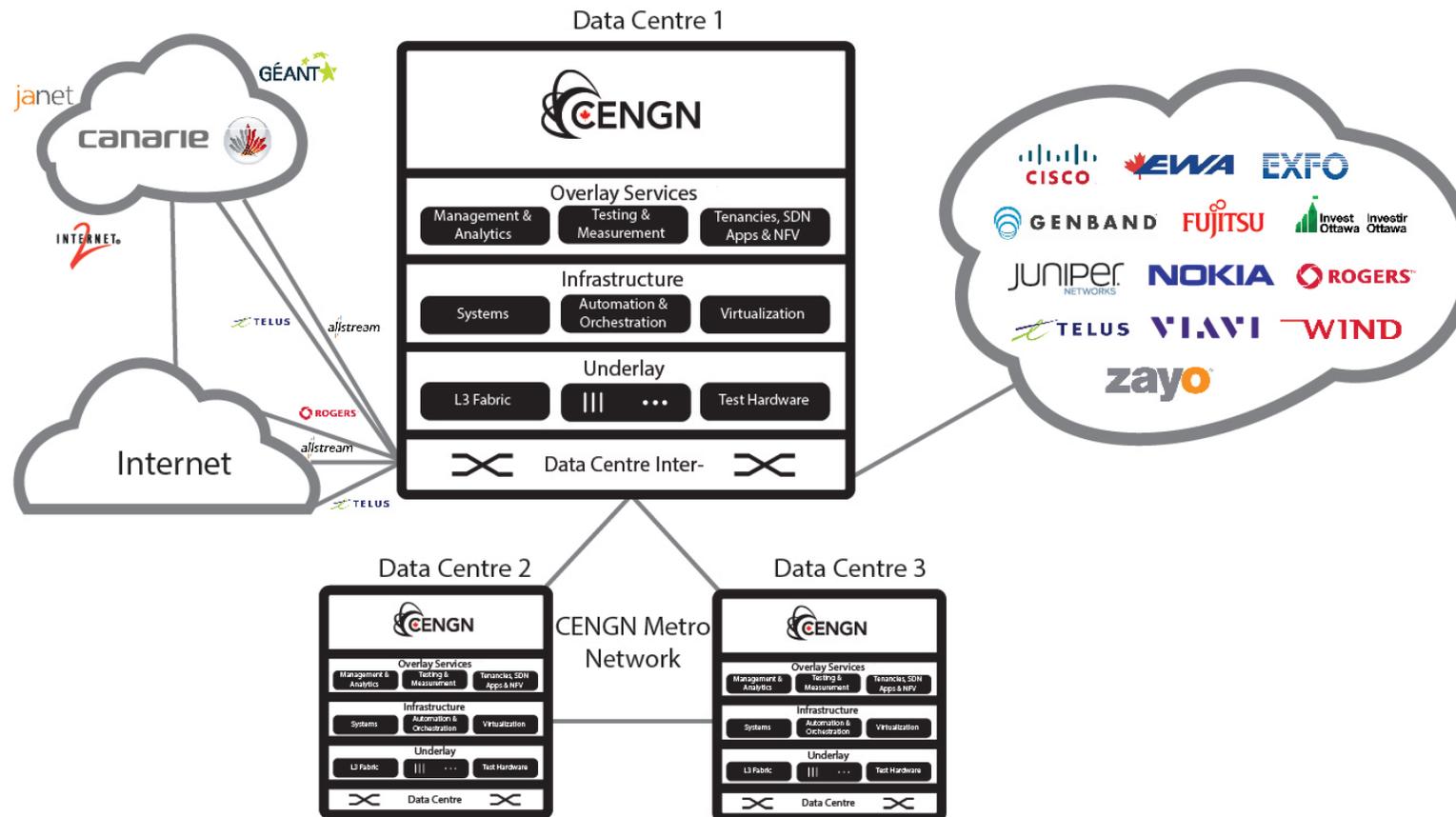


National Centre of Excellence headquartered in Ottawa

Key Issues

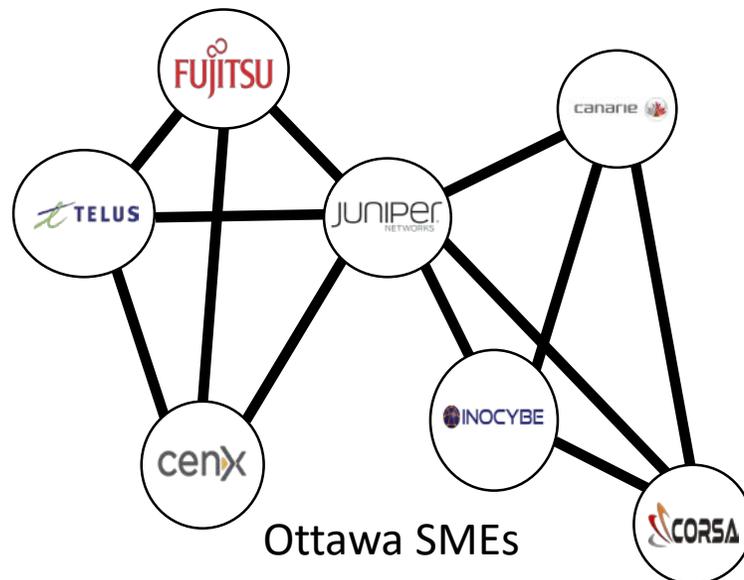
- Internal competitions for R&D mandates within MNCs
- New Technology Trends
 - Software Defined Networking
 - Network Function Virtualization
 - Internet of Things

1) Multi-vendor Physical and Virtual Platform





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- 2) Matching new companies with problems defined by lead firms





- 1) Multi-vendor Physical and Virtual Platform
- 2) Matching new companies with problems defined by lead firms
- 3) Training Employees & Students





Global Production Network Couplings

Lead Firms in Global Production Network



Regional Assets

Regional Strategies

Attract R&D mandates related to IoT, SDN, NFV

Link new companies with lead firm problems

Strengthen R&D Infrastructure and Regional Talent

Strategic Coupling Initiatives



Investment Management firm founded by Terry Matthews
(founder of Mitel, Newbridge Networks)

Incubator and Angel Investor

Strategy to build companies based on market demands articulated by
lead business firms (e.g. Mitel, Fujitsu, British Telecom)

Strategic Coupling Initiatives



Partnership between Invest Ottawa & Wesley Clover, funded by “Canadian Accelerator and Incubator Program”



Connect “foundation of talented executives” with startups to “stay and build” companies in Ottawa

Focus on enterprise software solutions

- cloud

- software as a service

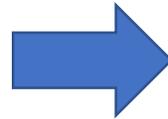
- virtualization platforms and services



Global Production Network Couplings

Regional Strategies

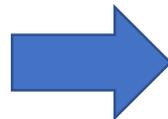
Lead Firms in Global Production Network



Business enterprise "lead users" of cloud computing



Regional Assets

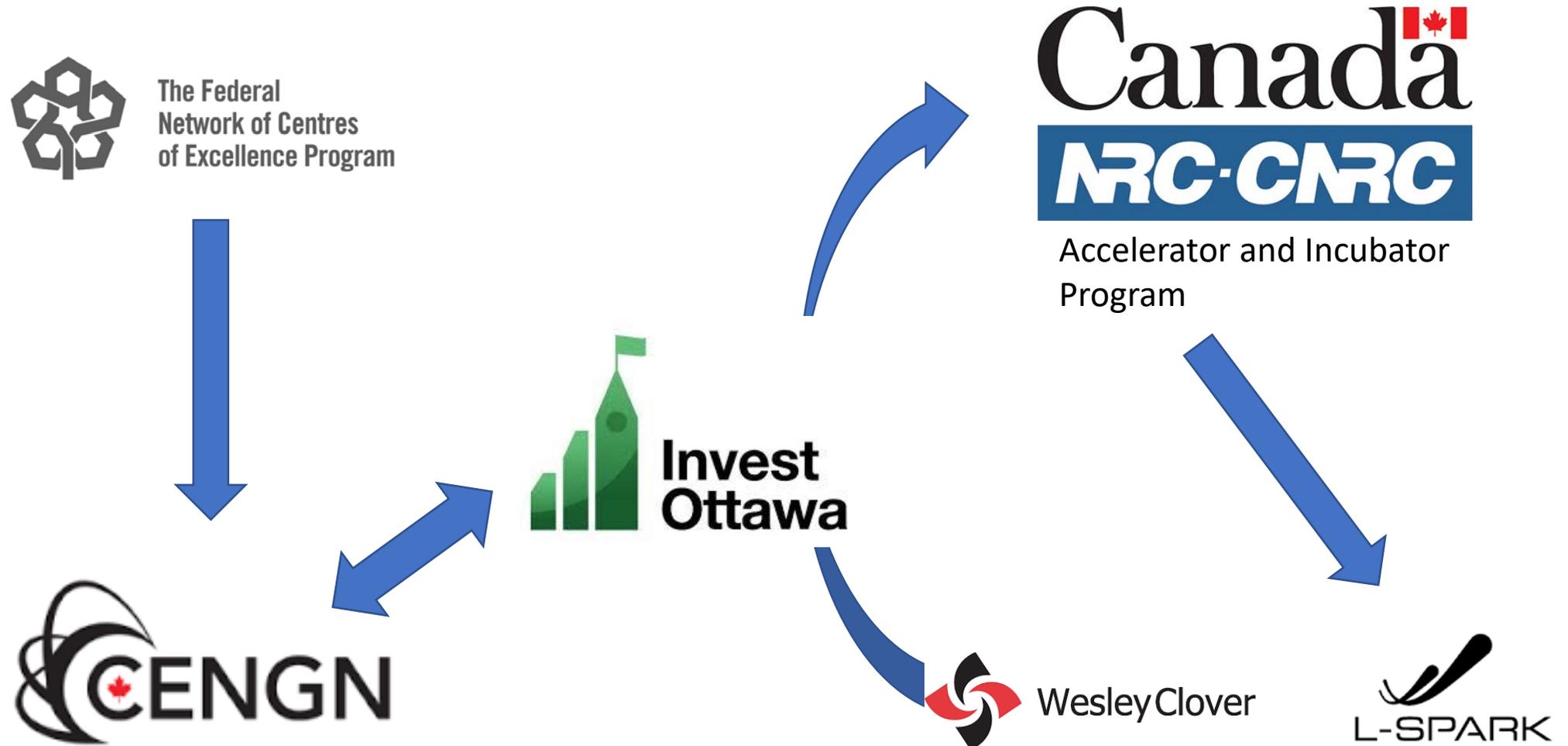


Legacy of experienced managers with business enterprise market knowledge

Digital Strategic Coupling Initiatives

- Creation of organizational, physical, virtual platforms to connect new companies that embody *regional assets* with *lead firms*
 - How digital changing nature of production networks?
- Led by civic entrepreneurs with sector specific knowledge and regional loyalties

Initiatives Draw on Available Government Resources



Policy Issues

How to create regional and sector specific policies?

- Civic Entrepreneurs with sector specific knowledge and regional loyalties can inform policymakers on possible strategic couplings

Scale-up?

- Leverage strategic coupling initiatives with targeted and meaningful support so most promising indigenous firms coupled to global production networks can reach sufficient scale

Resilience?

- Is Ottawa prepared to “strategically uncouple” when necessary?

