INCREASING RESEARCH INTENSITY: A CANADIAN PERSPECTIVE

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CANADIAN CONTEXT

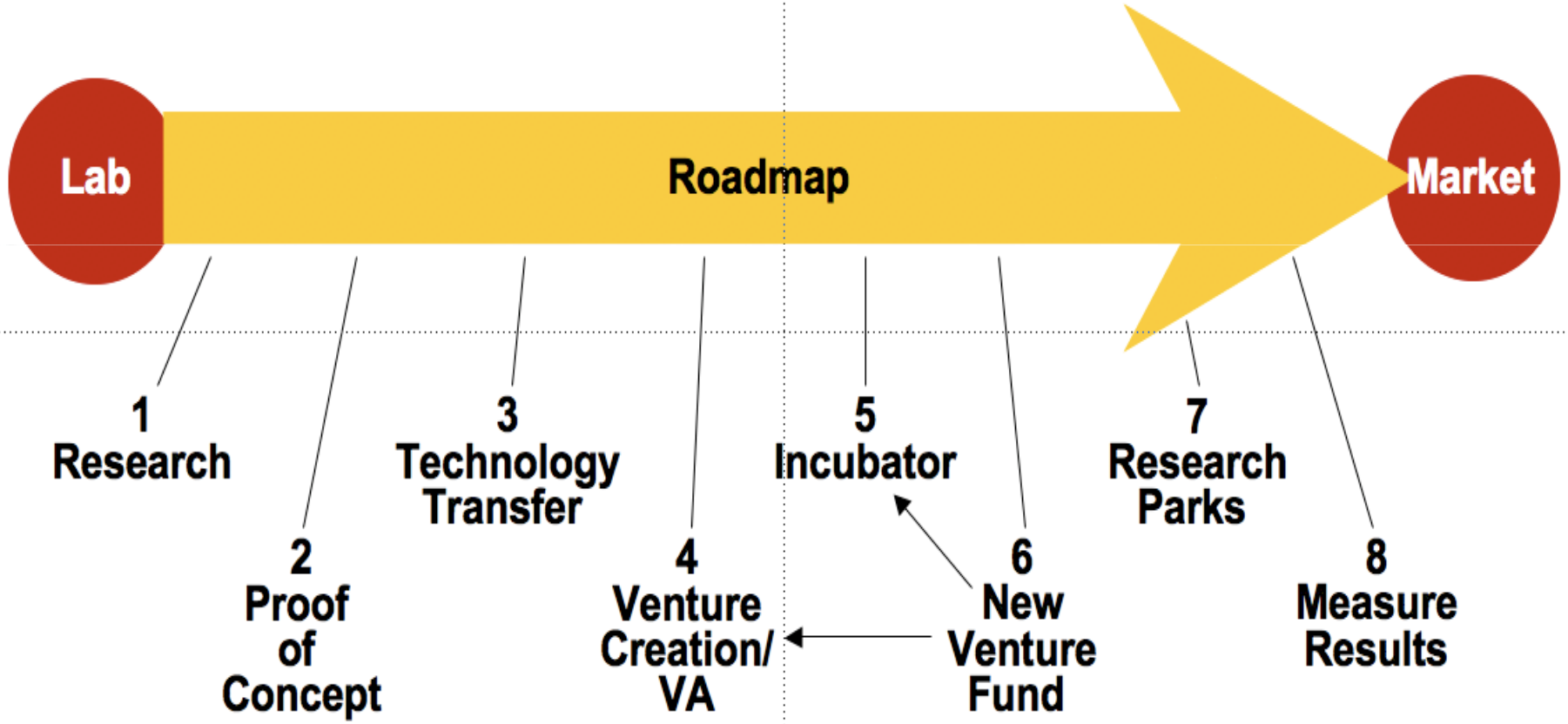
Research and innovation is central to economic and social development

- Post-secondary education: 49% (1st in OECD)
- R&D as a percentage of GDP: 1.8%
- **Business** R&D as a % of GDP: 1% (18th place)
- Global position slipping – eg. Infrastructure
- Weakened productivity relative to the USA
- "Innovation Canada: A Call to Action" Expert Panel Report Oct, 2011

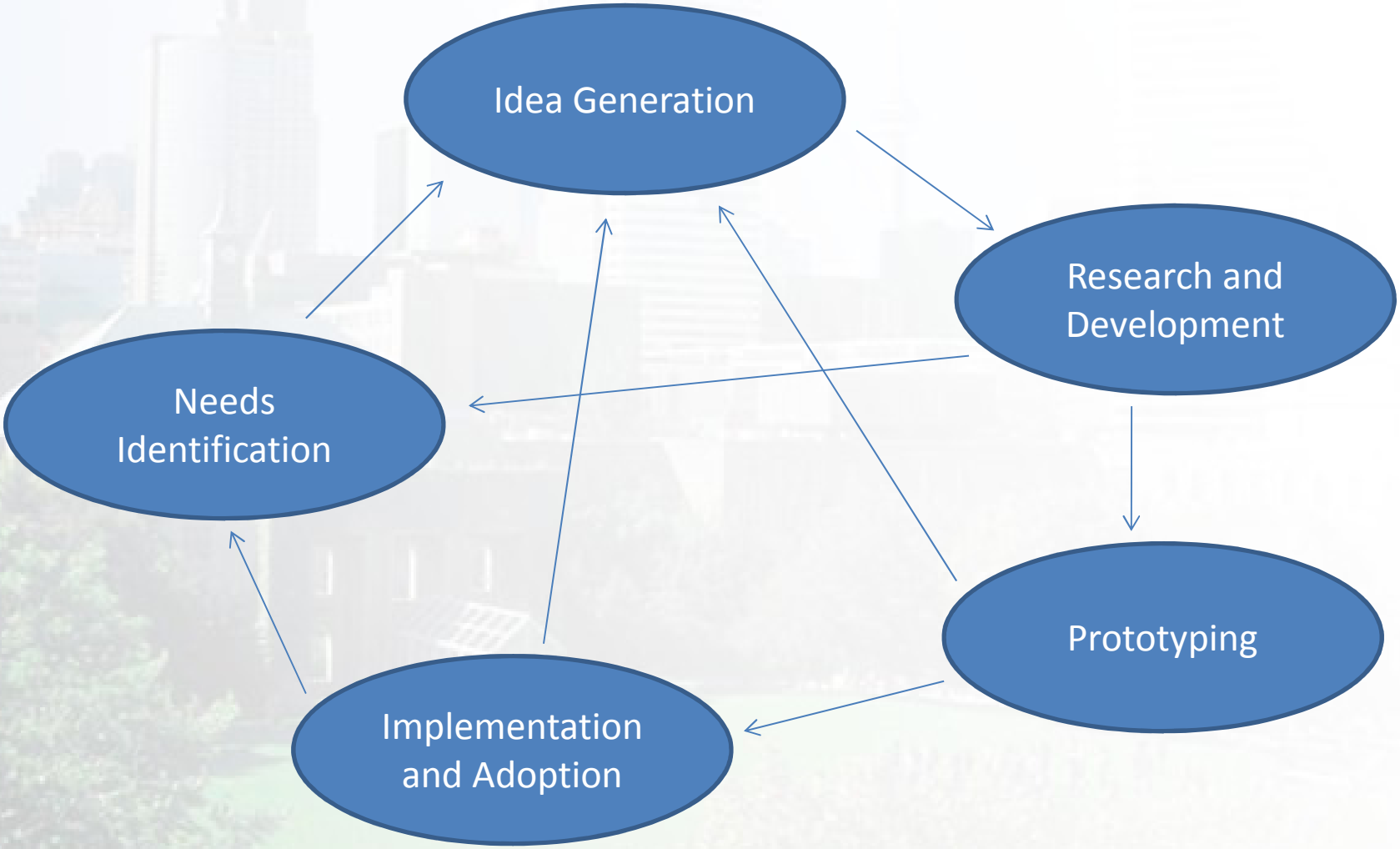
ROLES FOR UNIVERSITIES

- Seek knowledge: **Research** (from “chercher”)
- Share knowledge: **Educate** to develop talent and is the foundation of knowledge
- Apply knowledge: **Innovate** to create/improve products, services, organizations, community

Basic & Discovery Research:
Roadmap from Lab to Market



Market or Community Driven Research



Innovation

- Need for incremental and disruptive innovation
  - New companies and organizations
  - New products and services
  - New processes within existing organizations
- Think human infrastructure: NOT JUST STEM
- Promote the culture of innovation: start young
- Need rapid creation of high value jobs
- The world is flat: more competition
- Opportunities at “the Bottom of the Pyramid” and for social and public sector innovation

DEVELOPING AND EXECUTING THE STRATEGY

- Competition? Yes
- Differentiation? Yes
- Stratification or “rich get richer”? No
- Innovation often occurs on the periphery
  - necessity IS the mother of invention
- Reward performance not pedigree

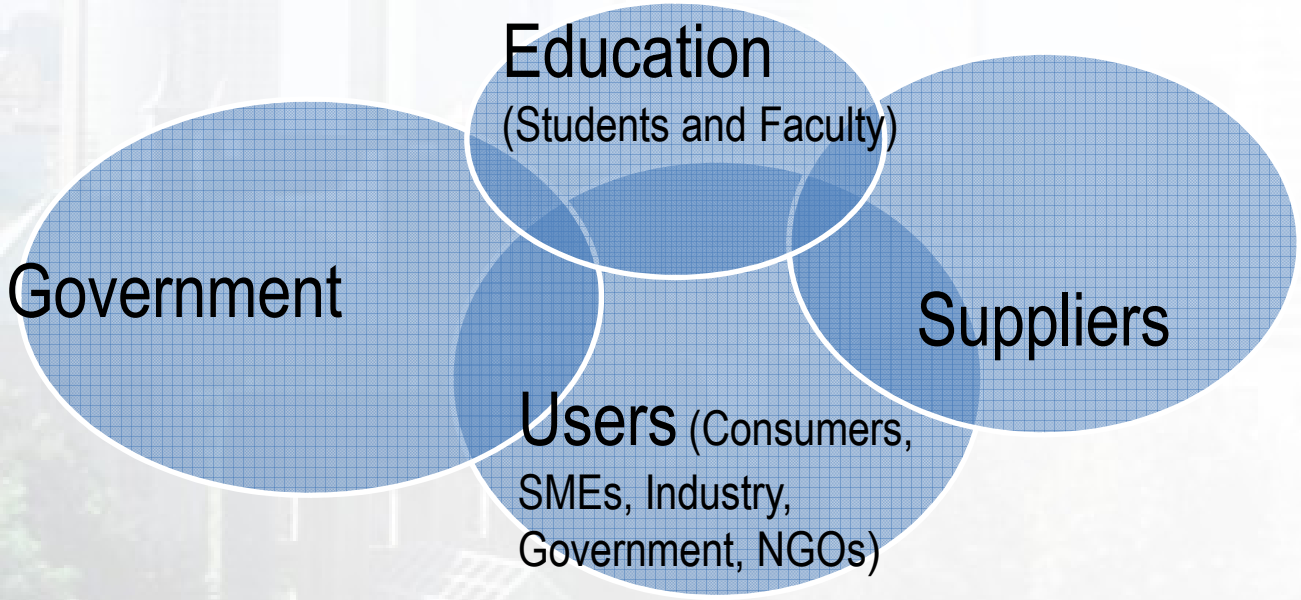
Tearing down the “Ivory Tower”:

Continue to invest in Basic and Discovery Research

Build partnerships with community and industry to:

- Develop knowledge to solve real world problems
- Develop and share talent: employees, researchers and students
- Leverage public funds and tax credits
- Share risk and reward, expand resources
- Share access to facilities and tools
- Develop new approaches to open innovation
- Develop a sustainable innovation eco-system

Create Collaborative Zones of Innovation



”What gets measured gets done”

Align measures to objectives:

- peer review processes, journals, impact
- relevance (eg. partners, matching funds)
- outputs (eg. patents, jobs, service or productivity improvements, access),
- knowledge mobilization and outreach (eg. traditional and new media)
- value for money, impact evaluation and accountability assessments

Align Government Programs

- Continue support for Basic Research: Discovery Grants; Canada Research Chairs and Scholarships
- Build Infrastructure: CFI
- Promote Partnerships eg. NSERC Engage
- Encourage Commercialization eg. FedDev (National)/OCE (Provincial)
- Promote market-driven research eg. MITACS
- Reward performance not pedigrees

Align University Strategies
(eg. Ryerson University, Toronto)

- Hiring and promotion: Academically qualified + real world experience, coaching, bridgers, visiting professors
- Crossing disciplines: research centres and institutes
- Infuse culture: applied/action research; co-op, interns, charettes, clubs, reverse mentoring, games, zones
- Support local and global partnerships and participation
- Trends?
  - Research quality and intensity: 2x in 5 years
  - Leader in research growth within system
  - "Market/Community"-driven research: 2x in 1 year
  - Highest applications to places in the province
  - Accreditation, Reputation, Employment rates, Salaries.....

The Digital Media Zone (DMZ)
(opened April 2010)

- **Interdisciplinary, student-centric, hands- on, collaborative, accelerator**
- **Just in time training, coaching and professional assistance**
- **Since opening April 2010:**
  - **36** start-ups incubated and accelerated
  - **340** jobs created
  - **6** companies have "graduated"
  - **1** company failed
  - 1 company has 60 employees