

ONTARIO COLLEGES AND INSTITUTES: ANSWERING THE CALL FOR APPLIED RESEARCH



Presentation to:

ONTARIO R&E Summit 2007

Colleges and Institutions are a Valuable Resource

- Over 150 colleges and institutes
- Presence in over 900 communities across Canada
- Capital inventory of over \$25 billion
- Over 60,000 full time and 150,000 part-time employees
- Colleges train the workforce of tomorrow
- Colleges re-train the workforce of today

Colleges and Institutes are Linked to Industry

- Program Advisory Committees
- Co-op placements, internships, clinical placements, simulated work environments
- Graduates with entrepreneurial skills and ability for immediate application of new knowledge to industry
- Industry-led applied research leading to economic development
- Industry access to advanced technologies, equipment, expertise

Colleges and Institutes are Linked to Communities

- Focus on community development
- Social impact agenda (community service, safety and health, environment, security)
- Co-locations with community organizations
- Work placements in community organizations

Colleges and Institutes are Applied

- Applied education and training
- Applied, industry-led research
- Work on industry problems, needs, and goals
- Focus on the Development side of Research/Development/Commercialization
- Focus on technology/knowledge transfer (whatever the source)

Research

- Original and Basic Research (and proof of concept) normally the mandate of universities and government labs
- Conducted in large companies with R&D units
- Goal is to create new knowledge
- Fine line between basic and applied research
- Curiosity-driven and faculty-focused
- Perspective is normally “technology push”

Development

- Focus moves to market need (“market pull”)
- Proof of concept in the marketplace
- Applied research – application of new knowledge to specific problem or goal
- Prototyping and simulation
- Testing and analysis
- Industrial/field/clinical trials
- Both College and University involvement
- Development is the focus of college activity

Commercialization

- Commercialization occurs in the private sector (end user)
- Product launch
- Business start-up, development, expansion, improvement
- Trade exploration
- Implementation of new policies

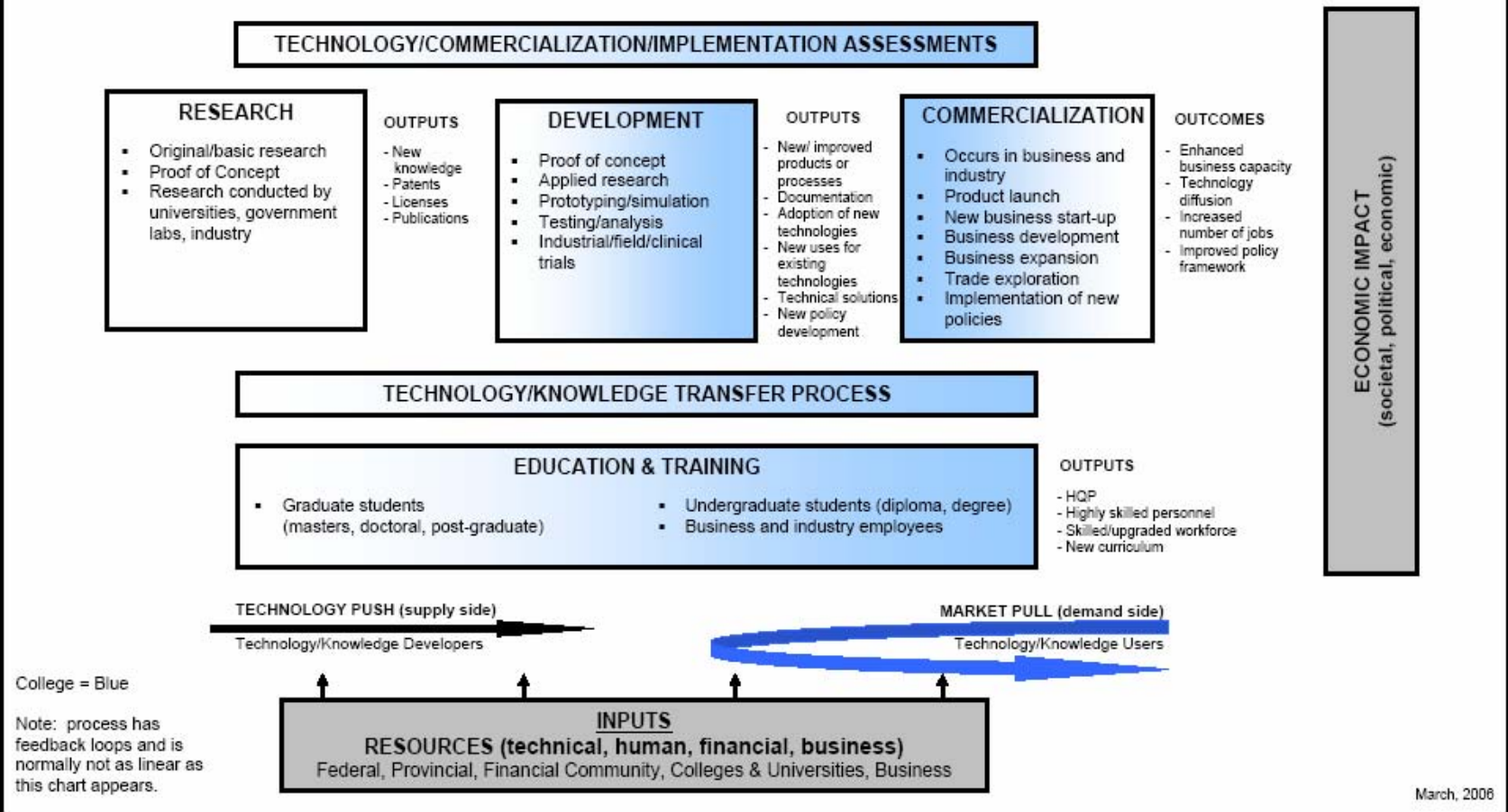
Education and Training

- University research normally conducted by graduate students working with faculty
- College applied research frequently conducted by undergraduate students
- College students work with faculty, staff, and industry

Value Chain Map

CANADIAN COLLEGES & INSTITUTES

Role in Research Development and Commercialization



College Research and Innovation Ontario Activity

- 10 Ontario colleges have just formed **CONII** (Colleges Ontario Network for Industry Innovation)
- “market pull” focused
- building capacity - technical, administrative, policy, human resources
- beginning to undertake projects

Examples of Ontario Research Centres

- Niagara College – Centre for Advanced Visualization
- Fleming College – Centre for Alternative Wastewater Treatment
- Algonquin College – Centre for Wireless Research
- Sheridan College – Visualization Design Institute
- Centres are involved with research activities in broad range of sectors, including alternative energies, bio-products, health and life sciences, information and communication technologies