



Ontario Centres of
Excellence

Centre for:

- **Materials and Manufacturing (CMM)** (formerly MMO)
- **Energy (CE)**
- **Photonics (CP)**
- **Earth and Environmental Technologies (CET)**
- **Communications and Information Technology (CIT)**

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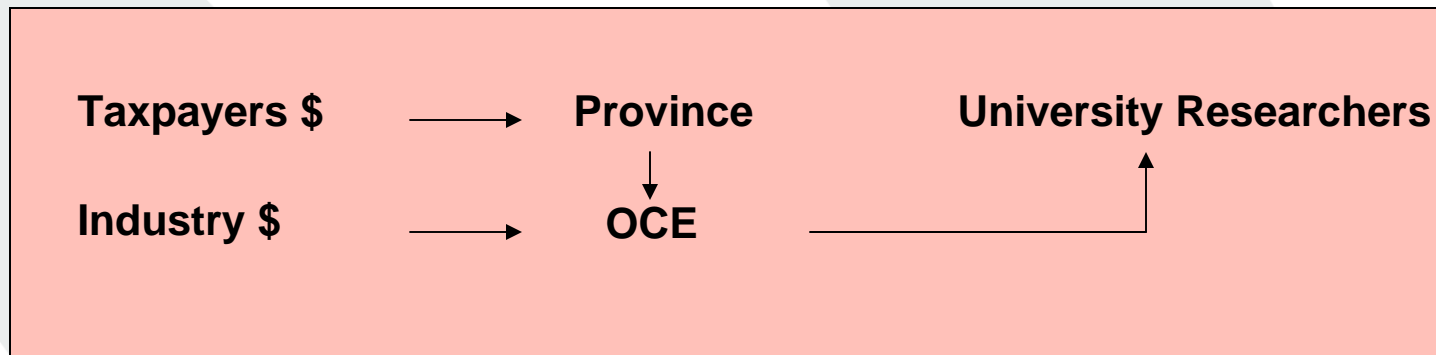


Historical Perspective

<1987



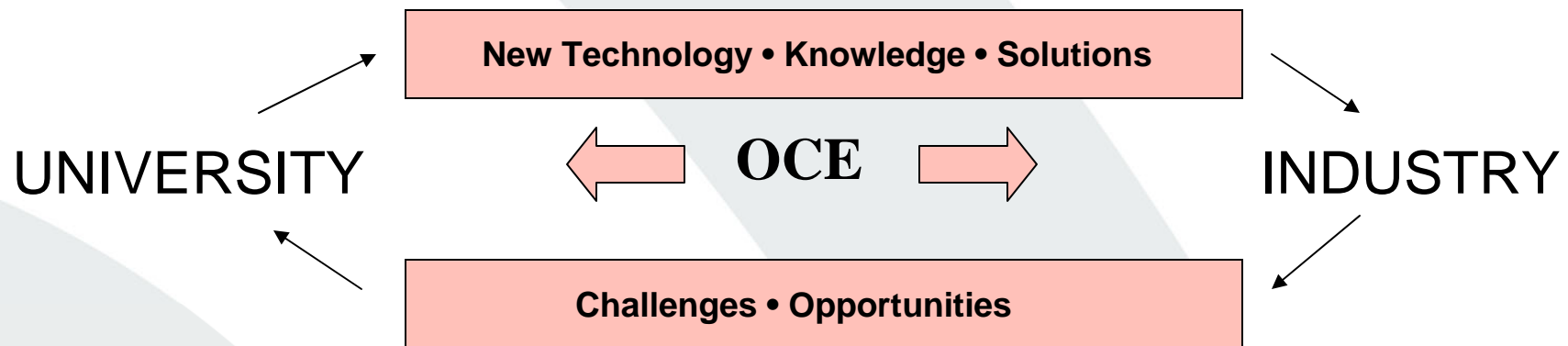
>1987



- Company putting in cash means project is industrially relevant



Mission



- Bridge the gap between university research and the needs of Ontario industry
- Commercialize technology and knowledge created through research
- Economic Benefit to Ontario

Overview of OCE



- **Founded in 1987**
- **Not-for-profit Corporation**
- **Under contract with the Ontario Ministry of Research and Innovation (MRI)**
- **Industry-driven agenda**
- **Accountable to Ontario taxpayers**
 - OCE's very existence is dependent upon getting results for industry

Overview of OCE



<u>Revenues</u>	<u>C\$ million</u>
MRI	59.7
Industry	<u>41.7</u>
	101.4
<u>Investments</u>	
Research	65.4
Talent	7.1
Commercialization	8.5
Marketing	1.7
Overhead	<u>18.7</u>
	101.4

Overview of OCE



Active *accounts* as of 2008-04-01:

# Projects	598
# Licenses	46
# Start-ups	38
non-OCE investments	\$451 million
# Univ/Col/Hosp	37

Ontario Resources



- **Over 2,000 PhDs and other highly qualified people (HQP)**
- **20 universities and 24 colleges**
- **Expertise and laboratory facilities in most industrial fields**
- **A source of skilled consultants and future employees**

OCE Programs



- 1. Research**
- 2. Talent**
- 3. Commercialization**



1. Research

Interact ~\$13.5K/project

New Industry-Academia relationships

Collaborative ~\$70-200K/yr

OCE Co-Funding Guideline OCE:Industry Cash + In-kind = 1:1

	<u># Employees</u>	<u>Company \$</u>	<u>Company In-Kind</u>	<u>OCE \$</u>
Small	<100	\$1	\$4	\$5
Medium	100 - 1000	\$1	\$1	\$2
Large	>1000	\$1	\$0	\$1

Proof of Concept ~\$25K/project

Theories proven; feasibility work; funding for physical experiments or prototypes or to customize to an industrial application; proof of principle; mitigate risk on further R&D

Champions of Innovation ~\$100K/yr

Breakthrough Research Activity; Disruptive Technology; Theories not fully developed; No Industry Cash due to lack of receptor or high degree of skepticism ; may lead to new Co.



2. Talent

First Job (Masters or PhD)

OCE funds 50% of salary up to \$40k unless start-up then \$50k

Connections

Final year undergraduate teams + Industry partner

Project defined by industry but selected by team/academia

OCE funds up to \$3000 + Company funds same

Science & Technology Awareness (K-12)

Ontario Science Centre

Science and technology Awareness Network (STAN)

International Scholarships

OCE funds up to \$15,000 for 4 mths abroad

Conference Travel Award (OCE students only)

OCE funds up to \$2000 (competition 4x per year)

Value Added Personnel (VAP) program (OCE students only)

Complimentary courses to technical skills for Masters and PhDs

Entrepreneurship Development program

CBET (Waterloo); MEEI (McMaster); Carleton Foundry Program; ADMI

Martin Walmsley Fellowship (researcher to start new Co.)

OCE funds \$50,000/yr up to 2 years

Let's Talk Science



3. Commercialization

Market Readiness Program (MR)

- OCE funds up to \$150K to assist university technology to get closer to commercialization (not for research)

Investment Accelerator Fund (IAF)

- Up to \$500K convertible debenture for new start-ups



Ontario Tax Advantages

		Ontario Investment Tax Credit	SR&ED Tax Credit	Cheques back from credits	Net Cost to Company
Industry Cash	\$ 2,000	\$ (200)	\$ (630)	\$ 830	\$ 1,170
Industry In-Kind	\$ 13,000	\$ (2,145)	\$ (6,757)	\$ 8,902	\$ 4,098
OCE Cash	\$ 13,000				
Project Value	\$ 28,000			\$ 9,732	\$ 5,268

By kind permission of Fielding Chemical



Value Proposition

(Typical 2 yr project, 2 HQP, Med size Co)

Company in-house R&D

Pay Staff (2X) \$ 200 000

Materials \$ 10 000

Special Equip (ps) \$ 20 000

Sub-total \$ 230 000

Overhead 35% \$ 80 500

Sub total \$ 310 500

Tax Credits 35% (\$ 108 675)

Net Cost \$ 201 825

Univ. Contract R&D

Pay Professor \$100 000

Pay Students \$ 50 000

Materials \$ 10 000

Special Equip (univ) \$ 10 000

Sub-total \$170 000

Overhead 35% \$ 59 500

Sub total \$ 229 500

Tax Credits 35% (\$ 80 325)

Net Cost \$ 149 175

OCE co-funded R&D

Pay Professor -

Pay Students \$ 50 000

Materials \$ 10 000

Conferences \$ 2 000

Special Equip (univ) \$ 3 000

Sub-total \$ 65 000

Overhead 35% \$ 22 750

Sub total \$ 87 750

OCE funds 67% (\$ 58 442)

Sub total \$ 29 308

Tax Credits 35% (\$10 258)

Net Cost \$ 19 050



Some OCE Success stories

W.E.T. Automotive Systems is making a customized climate control system for automotive car seats. The system customizes the seat temperature to your personal preferences for heating or cooling. Collaboration with Dr. J. Richard Culham, Director Heat Transfer Laboratory, University of Waterloo.





Some OCE Success stories

Fabrene engaged UWO to understand what was preventing line speed increases. Results showed >50% increase. Positive impact on capacity, customer service, inventory and ability to have low-cost, flexible-formulae.

Meritor Suspension worked with McMaster engineer, Dr. Gary Purdy and colleague Dr. Dmitri Malakhov to develop an improved production process to give auto suspension coil springs superior durability and performance at lower material cost. Meritor now manufactures 17 million suspension springs per year.

Fiber Optic Systems Technology Inc. (FOX-TEK), OCE, McMaster and professor David Thompson are developing a new cost-effective laser technology for detecting strain, expansion and corrosion in large civil engineering structures.

Intellectual Property – IP

(patents, trademarks, copyright)



- Existing IP respected
- Boiler plate Research Collaboration Agreement (RCA) is signed before project begins. RCA can be modified to suit parties before work begins.
- If new IP created:
 - University/Inventor owns and may patent
 - Company will be given a first option to negotiate rights to the IP (exclusive or otherwise). The agreement shall be reasonable in the circumstances and negotiated in good faith and shall take into consideration the contribution the parties have made to the project, the nature of the IP and industry norms.
- OCE has no interest in IP
- For jointly created IP, normal legal rules apply



Process

