



Impact of Science

14-15 June 2018, Ottawa

L'Orangerie Room, 11.30-12.45

Applied Research Institutes

Christine Trauttmansdorff (Chair)

André Roos

David Berthiaume

Applied research institutes

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*Vice-President of Colleges
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SAXION
CENTRUM VOOR
ONDERNEMERSCHAP

ANDRÉ ROOS

DIRECTOR SAXION CENTRE FOR ENTREPRENEURSHIP
MANAGEMENT NOVEL-T



Increasing impact through cooperation

15 june 2018



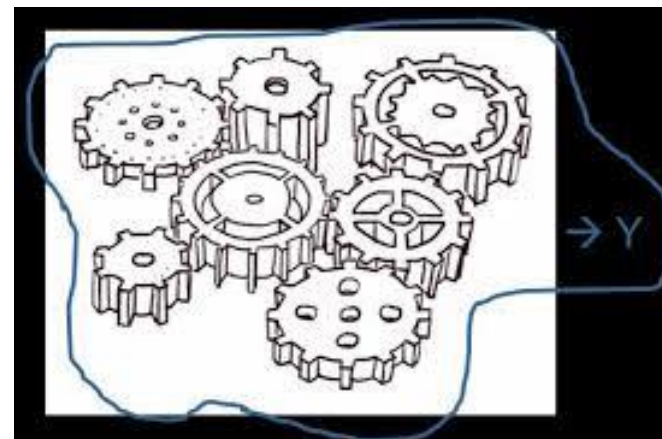
Outline presentation

- Historic perspective: policy initiative
- Cooperation of different university types
- From national impression to local experience
- Future expectations



POLICY INITIATIVE

- 2008 Dutch Innovation Platform under MP
- Problem: knowledge gap: lots of R&D, only few innovations to market
- Perception: knowledge on the university



OUTLINE OF THE IMPACT PROGRAM (I)

€ 140 mln program size, 13 consortia (NL has 13 universities)

€ 65 mln. subsidy, max € 5 mln. and 50% cofinance, duration 8 yrs
Duration per project 6 yrs, first 4 funded and last 2 self funded by

consortium, 3 calls in first 2 years, so total duration is 8 yrs.

Consortium: university is lead partner, universities of applied

sciences are partners, other organizations and companies can be



OUTLINE OF THE IMPACT PROGRAM (II)

Menu of seven facilities:

1. Entrepreneurship education activities;
2. Screening and scouting;
3. Intellectual ownership (IP Policy);
4. Pre-seed fund;
5. Proof-of-concept fund;



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GOVERNANCE OF THE IMPACT PROGRAM

Two ministries responsible: Economic Affairs and Science and Education

Daily execution: Agency of ministry of economic affairs

Tasks:

- Managing the calls (3 in 2 yrs) including the selection process; year plans and annual reports per consortium
- Organizing the advisory committee



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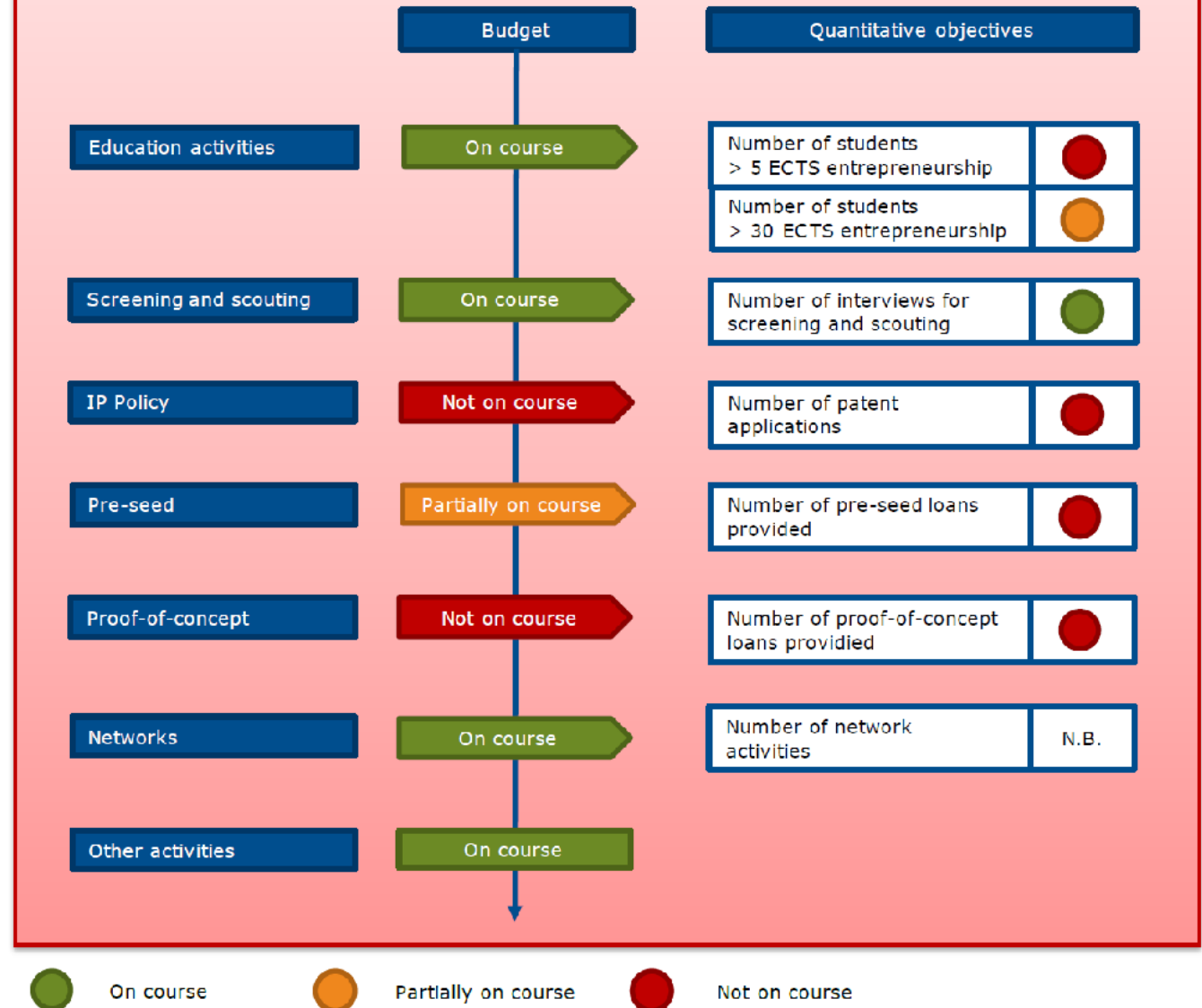
EXAMPLE
OF INTERMEDIATE
OUTCOMES TO BE ACHIEVED

OUTCOMES OF MID TERM REVIEW (after first 4 yrs)

Goals MTR:

- Overview of state of affairs of progress
- Anchoring at program level
- Effectiveness governance structure

Valorisation Programme MTR: where is the programme now?



OUTCOMES OF THE MTR (after first 4 yrs)

- Good paste after slow start, expected that deliverables will be met
- Success factor is customization (7 facilities): every consortium works differently, with different focus points and different forms of cooperation

- Governance best practice due to commitment and role advisory committee

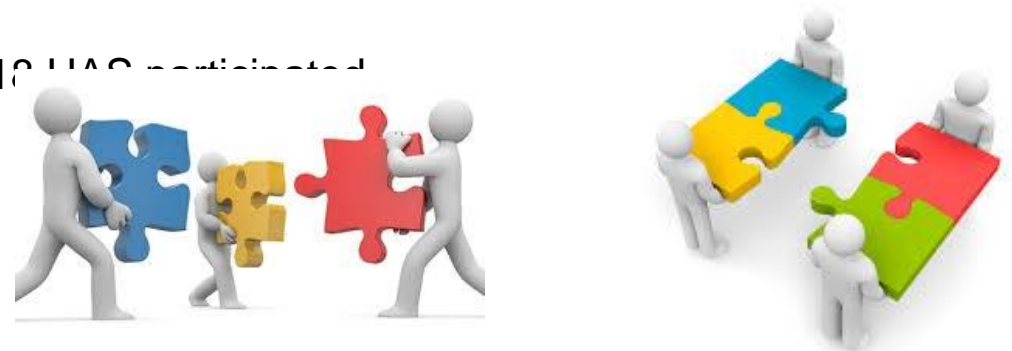
- Importance of communication and time boards



- Worries for anchoring including financial continuation, particularly the funds

UNIVERSITIES AND UNIVERSITIES OF APPLIED SCIENCES

- 13 vs 42, univ. in lead, UAS followers, 12 univ. and 10 UAS participated
- Different “languages”; took time to work together
- Science oriented vs education oriented
- Focus universities on KT/TT activities
- Focus UAS on (entrepreneurship) education, growing share of (triple helix) research



FINAL POLICY EVALUATION

- Final policy evaluation underway
 - Anchoring successful
 - Expected outcomes:
 - Nearly all goals achieved
 - Some activities need some more attention
 - No continuation of VP, EE receives a boost via other route (small incentive)



FROM THEORY TO PRACTICE

- 2016 career change, from Ministry to UAS (Saxion UAS ranks 4th place in NL)
- Director of Saxion Centre for Entrepreneurship



on of Novel T a



MAXIMUM

OF IMPACT THROUGH

COOPERATION

Increasing impact through cooperation

SETUP OF SCVO AND NOVEL-T





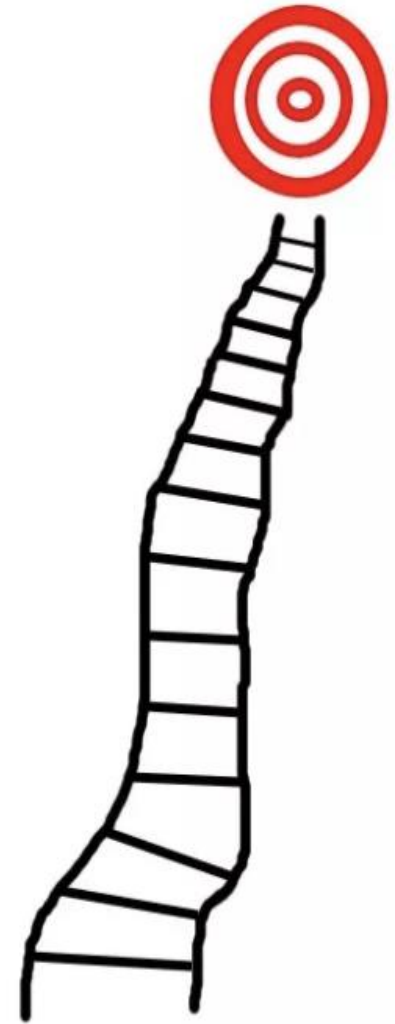
INTEGRATION OF SCVO IN NOVEL-T

- Novel-T focuses on regional economic development of Twente, as a subregion of the province
- 5 founders, 3 governments and 2 universities
- From subsidy cooperation towards a marriage
- Intensive cooperation on communication and (network) events, business development, knowledge transfer, teaching and training, coaching and mentoring, financial support,....
- Increasing cooperation in PPP triple helix activities: TechBase, Photonics, Space53, TPC NL, City Deals, Regional Deals,...



FINDINGS

- Valorisation programme paved way for increasing cooperation
- Slow process, cultural changes involved
- Novel-T as an out of the box vehicle really helps for commitment of boards (i.e. funding) and setting up activities that matter
- Differences still exist, but are more accepted
- KTO function in UAS needs to be developed, cooperation in TTO setting was partly helpful



Increasing impact through cooperation

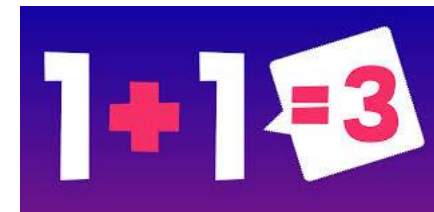
IMPACT

- Students and teachers
- Attitude and networks
- Buildings
- Local, regional, national and international cooperation
- Science and application of science
- Common agenda's on research and education
- Number of events and quality of events (Startup Twente)
- Number of involved companies
- Policy orientation and effective lobby
- Triple helix cooperation and PPP's
- Attractiveness of the region



ROAD TO IMPACT

- Cooperation between UAS and university is of great added value
- Governments play a crucial role in stimulating cooperation of UAS and university
- Process takes time and the right people
- Drive process with a joint vehicle free of organizational boundaries and red tape
- Define the most important fields of common interest and accept/appreciate differences



Thank you !
Any questions?

Applied research institutes

David Berthiaume

*Executive Director, Oleotek,
Canada*



APPLIED RESEARCH IMPACTS EVALUATION

David Berthiaume

M.Sc., MBA, Chemist

Executive Director – OLEOTEK

Chair – Tech-Access Canada

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CCTT DISPOSITIVE

- Province of Québec
- Created in 1983 (35 years)
- 49 CCTTs all around Québec, each with its own expertise

RÉSEAU
Trans•**tech**

TAC DISPOSITIVE

- Federal
- Created in 2012 (6 years)
- 30 TACs in Canada

Tech-Access  Canada



→ LE RÉSEAU TRANS-TECH EST LA PORTE D'ENTRÉE VERS 49 CCTT



TACs by the numbers

Data from 2015-16 fiscal year,
collected by Tech-Access Canada

2015-16

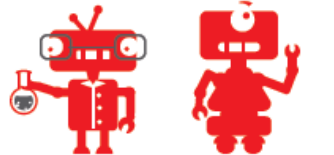
CAPACITY



30 TACs operating
from BC to PEI

1,019

business innovation and
applied R&D experts



2.4
million

square feet of innovation
and applied research space



x 142

\$254
million

worth of highly-specialized
equipment and facilities



ACTIVITY

149 areas of innovation
and expertise



109

business and technical
services, applied research,
training, and technology
diffusion offerings



1,967

companies served, 78%
of whom were SMEs



295

other clients assisted,
such as universities,
colleges, government
and private labs



\$12.7 million

of business innovation
investment from
companies served -
representing 52%
of annual TAC revenues

RESULTS

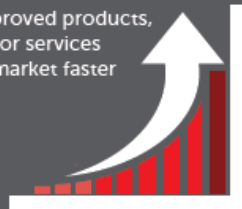
887

collaborative
applied research
projects - an
average of
almost 30
projects
per TAC



378

new or improved products,
processes, or services
moved to market faster



2,628

specialized technical service
engagements provided to clients



292

training contracts undertaken,
resulting in over 44,000
person-hours of training
received by clients



988

students involved in TAC-delivered
services - over 89,000 hours of
innovation skills acquisition



A vertical photograph of industrial machinery, featuring a large, polished metal cylindrical tank with various pipes, valves, and electrical conduits attached to it. The background is a solid green color.

AREA OF EXPERTISE

- Advanced transportation
- Biotechnology
- Agriculture
- Aeronautics
- Metallurgy
- Plastics
- Composites
- Chemistry
- Industrial ecology
- Robotics
- Telecommunications
- Apparel
- Energy
- Forestry
- Wood
- Fibers
- Furniture
- Electronics
- Optics
- Industrial residues
- Food
- Textiles
- Industrial design
- Sustainable development
- Immigration integration
- Logistics
- Manufacturing
- Prothesis
- Beekeeping
- Mineralurgy
- Digital media
- Environmental technologies
- Water treatment
- Automated production
- Construction
- Fisheries
- Healthcare

EXAMPLE OF A TAC | CCTT

OLEOTEK is a College Centre for Technology Transfer (CCTT) and a Technology Access Center (TAC) specialized in the fields of green chemistry and process scale-up. Affiliated to Cégep de Thetford.

Based in Thetford Mines, PQ (agglomeration population of 35k)

OLEOTEK supports companies in their development projects targeting innovative products and processes, from the laboratory to commercialization.



OUR TEAM

Regular staff (18)

- 8 researchers and engineers
- 6 operators, technicians and professionals
- 1 college research executive
- 3 administrative staff

- 2 teacher-researcher
- 1-4 students



SERVICES



**APPLIED
RESEARCH**



**TECHNICAL
ASSISTANCE**



**TESTING
AND ANALYSIS**



**PROCESS SCALE-UP
AND PILOTING**



**PRE-COMMERCIAL
PRODUCTION**



**FINANCING
PROJECT MANAGEMENT**

OUR EQUIPMENT

- Over 13 000 ft² of dedicated research space
- Over 5M\$ of specialized equipment
- Organic synthesis laboratory
- Tests and analysis laboratory
- Chemical process pilot plant



A dark, semi-transparent image of an industrial facility with various pipes, valves, and structural elements. A person is visible on a yellow safety platform in the background.

OUR ACHIEVEMENTS

- Over 500 completed projects
- Over 350 companies served
- Economic impacts beyond \$ 15,000,000 in our local community (population of 35k)



2. MANDATE AND EXPECTATIONS

Mission

- Applied research (mainly for SMEs)
- Technical assistance (consulting, tests and analyses)
- Impacts on HQP training
- Information diffusion



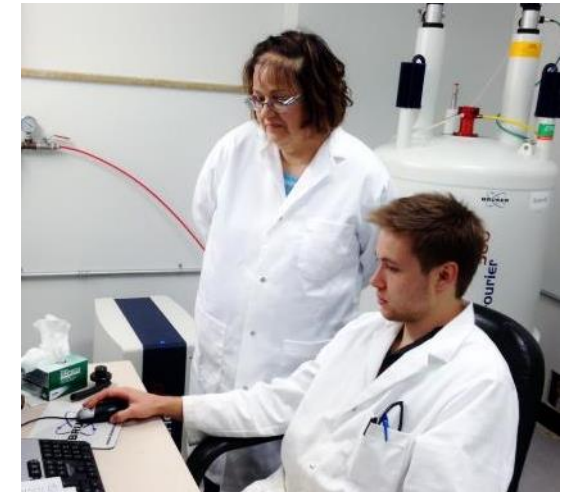
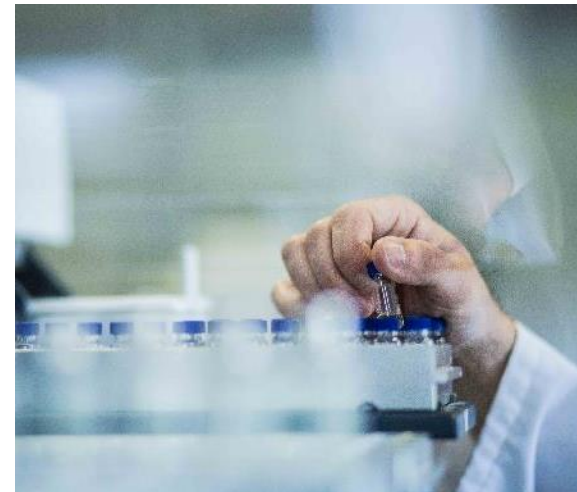
Expectations

- Confidentiality
- Economic development
- Accessible (\$)
- Efficient
- Successful
- Organised
- Timely
- Commercial innovations
- Simple
- Transparency and information diffusion
- High funding leverage
- PHQ training
- Incertitude management
- Cost recovery
- Accountability



TRAINING ACTIVITIES

- Involvement of college students and professors in our activities
- Participation in science engagement activities for students
- University students studies and research collaborations with universities
- Contribution to the Cégep de Thetford's foundation
- Use of our facilities for training purpose (but funding strictly for research...)



PROJECT Extraction

Opportunity

New company wanting to scale a berry extraction process for nutraceuticals

Development

Extraction process at the 800 L scale

Result

Plant built in Champlain near Trois-Rivières, PQ





CLIENT

“TESTIMONIALS”

Since 10 years, SOPREMA works in close relationship with OLEOTEK on the development in order to better position our company in the industry. Many of these collaborative projects led to the commercialisation of new innovative products. Notably, OLEOTEK's team expertise, active listening and good comprehension of our needs enabled us to commercialise a new renewable based adhesive used for construction purpose. This useful collaboration is still ongoing and will be pursued for the future! »

François Paquette / Director, Research & Development / **Soprema**



“

We've had a very positive experience with OLEOTEK. A real good professional level and a high quality service have been provided through all of our collaboration. We certainly expect more collaborations with them in the future! »

Marcelin Diha / President / **Bio-liq**



3. ACCOUNTABILITY

A TAC | CCTT has to report to :

- Board of directors (for incorporated TACs | CCTTs)
 - 5-6 meetings / year
- Financial Auditor : once per year
- Affiliated College
 - 2 presentations to the college board / year (yearly report and planning)
- (Prov) Ministry of Education and Higher Teaching
 - Annual reporting (annual plan and report)
 - Annual information request
 - Quinquennial evaluation (quinquennial plan and report)
- (Prov) Ministry of Economic Development and Innovation
 - Annual information transmission by project
 - Annual report annexes with specific metrics
- (Fed) National Sciences and Engineering Research Council
 - Yearly / periodic reporting on project
 - Quinquennial financial audit
 - Quinquennial evaluation (TAC status renewal)
- (Fed) Regional Economic Development Agency
 - Annual information transmission by project
- Industrial Consortia
 - Regular information transmission by project
- Clients
 - Regular technical reports for projects (biweekly / monthly / quarterly)
 - Regular financial reports for projects (monthly or less)

Each having their own requirements and metrics. ***

4. IMPACTS EVALUATION

Ministry of Education and Higher Teaching

*Éducation,
Enseignement
supérieur*

Québec



Each CCTT

- Annual reporting
 - Annual action plan
 - Annual report
 - Annual information request (metrics)
- Quinquennial evaluation
 - Quinquennial plan
 - Quinquennial report

Program

The CCTT program is also evaluated on a 5 years basis

Annual Information Request

21/11/2017

Transit



David Berthiaume
Oleotek inc. (924091)

Requête annuelle d'information 2016-2017

Année financière **2016-2017** ▼

A - Indicateurs non financiers			
1. Clientèle (en nombre)	Distance par rapport au CCTT		
	Plus de 100 km	Moins de 100 km	Total
a) Petites et moyennes entreprises (PME)	29	10	39
b) Grandes entreprises	17	0	17
c) Secteurs public et parapublic (ministères et organismes affiliés)	0	0	0
d) Autres (organismes à but non lucratif, associations, etc.)	1	0	1
Total (a + b + c + d)	47	10	57
2. Inventaire des activités			En nombre
a) Projets de recherche appliquée			37
b) Projets d'aide technique			27
c) Activités de formation offertes à la clientèle			13
d) Activités de diffusion d'information (publications, communications)			9

84 Indicators

- 43 financial indicators
- 41 non financial indicators

+Complete list of projects :

- Title
- Researcher
- Funding (optional)
- Total amount (optional)



Annual Information Request

Financial indicators (43)

- Revenues (by origin, by activity)
 - Private
 - Public (federal, provincial, regional)
- Investments (by fund origin, by type)
 - IP
 - Buildings
 - Equipment
- Funding lever (at least 2)
- Autofinancing level (at least 50%)

Non-financial indicators (41)

- Amount of clients (by size and location)
- Amount of activities (applied research, technical assistance, training, information diffusion, others)
- Number of personnel (by type and activity : faculty staff, professors, students [coll. or univ.])
- Number of socioeconomic impacts:
 - Created jobs (direct)
 - Spin-offs
 - Formal IP (patents, copyrights, etc.)
 - Developed products and processes
 - Others

Annual Statistical Summary



Sommaire statistique 2015-2016

Centres collégiaux de transfert de technologie (CCTT)

Février 2018

Version corrigée

Québec 

http://www.education.gouv.qc.ca/fileadmin/site_web/documents/enseignement-superieur/collegial/CCTT_Sommaire_statistique_2015-2016.pdf

Quinquennial Evaluation Report

Rapport d'évaluation

Performance du dispositif des centres collégiaux de transfert de technologie (CCTT)

Mai 2013

Québec 

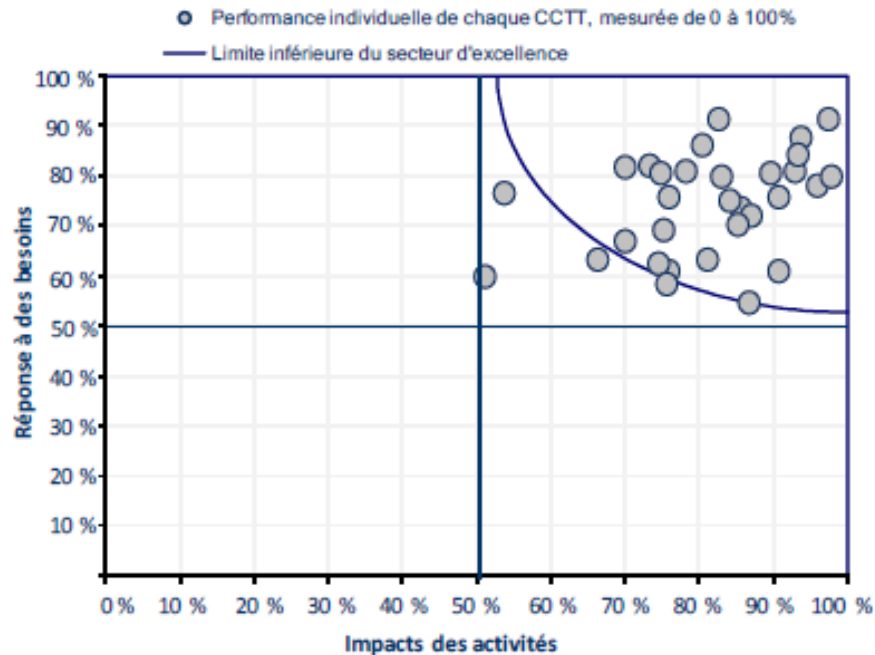
http://www.education.gouv.qc.ca/fileadmin/site_web/documents/enseignement-superieur/collegial/Rapport_CCTT_2013.pdf

Summary : « The CCTT dispositive has gone beyond expectations for all impact metrics targeted »

- Funding leverage : 3,8** (**from provincial perspective)
- Auto financing : 65%** (**from provincial perspective)
- 95% of the clientele satisfaction (67% response rate over 1000 eligible clients)
- 60% of the projects resulted in a type of innovation (product, process, organisational)
- Positive economic benefits of over 470 M\$ (benefits over costs ratio of 1,51)
- 825 students and 566 professors involved

Quinquennal Evaluation Report

Graphique 7.1 Étalonnage de la performance des centres collégiaux de transfert de technologie (CCTT), de 2007 à 2011



Note : Le cadran supérieur droit indique la zone de bonne performance.
Source : Évaluation réalisée par le MFEQ, mars 2013, 31 CCTT.

9 Evaluation criteria in 3 groups

- Pertinence (demand for services, added value for the provincial innovation dispositive, critical mass)
- Efficiency (# of activities, client satisfaction, partnerships and collaborations)
- Impacts (financial leverage, impacts on clients and other financial impacts, training impacts)

Graph : The Impact score is determined by the 3 criteria for impacts. The Pertinence score is determined by the 3 criteria for pertinence. Both scores are weighted by the efficiency scores.

A vertical industrial pipe with various valves and fittings, part of a larger system.

5. IMPACTS: INCREASE!

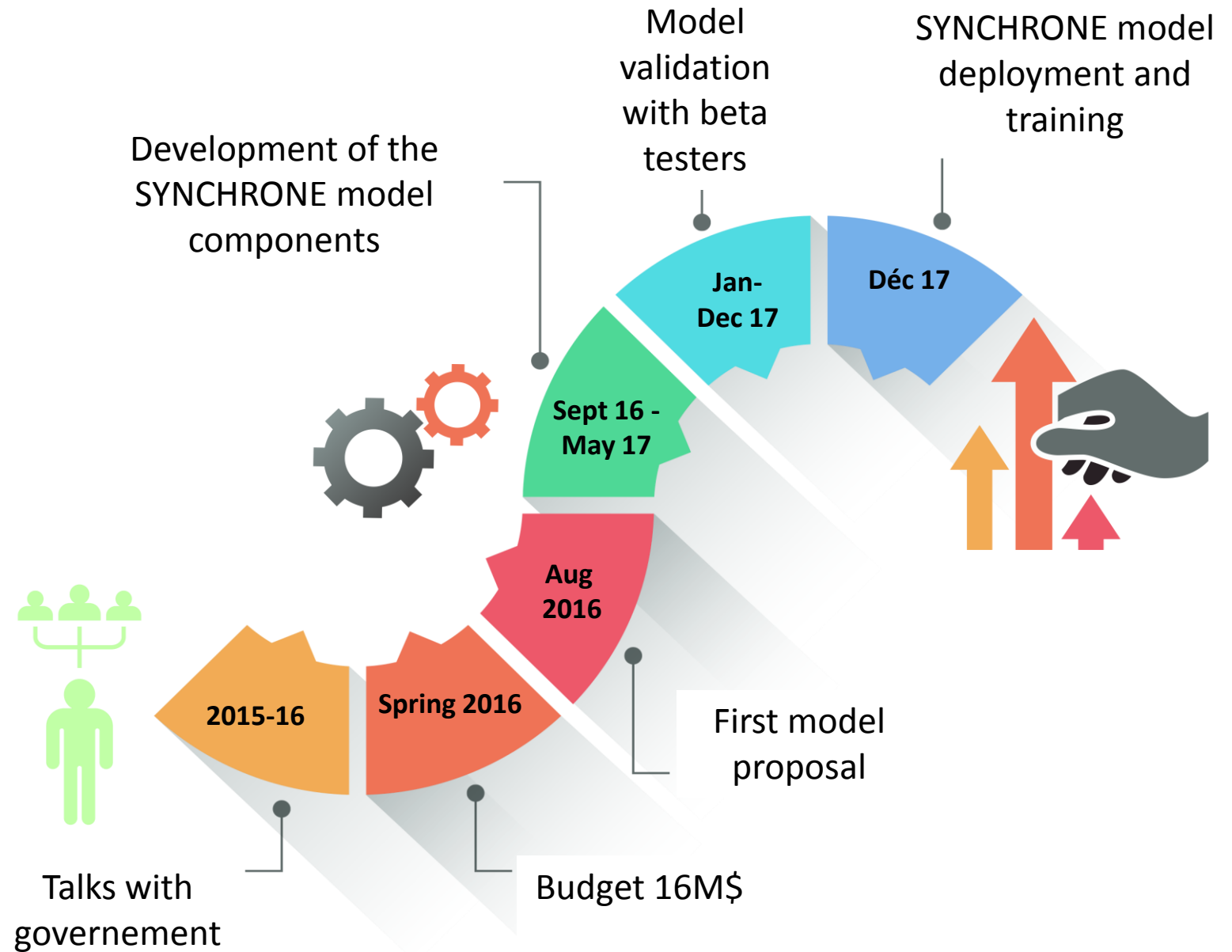
The CCTT activities, while highly beneficial in many case, are still confronted by some innovation failures. It's been determined that many of those failures were not necessarily related to technical question, but other issues like:

- Funding
- Bad strategic plan
- Bad market understanding
- Lack of innovation management systems
- Lack of ressources (human, infrastructure)
- Poor innovative practices, mindset and training
- Lack of networking and business information

Quebec Research and Innovation Stratgy : « Quebec SMEs are showing certain lag in terms of innovation valorisation management practices » (SQRI)

SYNCHRONE™

How it came to be



SYNCHRONETM : How does it work?

SYNCHRONETM assistance model in 7 steps :

- 1. Meet the partner (Is the partner using an innovation system?)*
- 2. Presentation of the SYNCHRONETM assistance model (Is the partner willing to participate?)*
- 3. Autoévaluation questionnaire*
- 4. Interpretation and presentation of the diagnostic report*
- 5. Definition of needs and identification of pertinent SYNCHRONETM collaborators*
- 6. Collaborators concertation, project realization and follow-ups (one-stop shop)*
- 7. Post mortem (Final diagnostic : to detect improvements in the partner's innovation capacity)*

SYNCHRONE™ : How does it look?

Questionnaire: 30 minutes SHORT - SIMPLE

54 questions : 1 à 7 scale

6 components et **29** sub-components

Based on :

- Joe Tidd (University of Sussex) et John Bessant (Exeter University) questionnaire
- Josée St-Pierre and Michel Trépanier from the Institut de recherche sur les PME of UQTR
- Vincent Boly, Laure Morel and Mauricio Camargo of ERPI (Équipe de Recherche sur les Processus Innovatifs) at Université de Lorraine
- Imp3rove Innovation Management team

PROFIL GLOBAL



A-STRATÉGIE

B-RESSOURCES

C-FAÇONS DE FAIRE

D-ORGANISATION

E-APPRENTISSAGES

F-RÉSEAUTAGE

ÉCOBES – Groupe d'Étude des CONDITIONS de vie et des BESOINS de la population

Code référence: 027-Test-17

Trans-tech

LE RÉSEAU DES CCTT : INNOVANT DEPUIS 25 ANS!

SYNCHRONÉ™



SYNCHRONÉ^{md}

Outil Diagnostique

RÉSEAU
Trans-tech

FIER DE COLLABORER
→ DEPUIS 25 ANS →

A - STRATÉGIE



46%

Vision stratégique

Planification stratégique

Communication de la vision/stratégie

Satisfaction des besoins des clients

En égard à la complexité et aux incertitudes qui caractérisent le processus d'innovation, la stratégie est nécessaire pour relier les nouveaux produits et services de l'entreprise à son marché potentiel et à son positionnement concurrentiel. Sans aucune stratégie d'innovation les entreprises seront mal équipées pour faire face aux opportunités naissantes et aux menaces, puisque « la chance ne sourit qu'aux esprits préparés ».

SYNCHRONÉ™



4

SYNCHRONÉ^{md}

Outil Diagnostique

 RÉSEAU
Trans-tech

 FIER DE COLLABORER
 → DEPUIS 25 ANS

THANK YOU

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www.oleotek.org

The logo for Oleotek features the word "oleotek" in a bold, black, sans-serif font. A green swoosh underline starts under the 'o' and curves around the bottom of the word. The background of the slide features a blurred image of laboratory glassware, including Erlenmeyer flasks and a beaker, with a green overlay on the left side.

oleotek