TCI 2018 delegates pose for a group photo at the Rotman School of Management at the University of Toronto on Day 2 “Engage.”
CONTENTS

Summary 2
Facts and Figures 5
Introduction 6

DAY 1 | October 16 | Experience 8

DAY 2 | October 17 | Engage 22
Opening Keynote: Roger Martin
Clusters, strategy and creative problem solving 23
Panel: Designing collaborative networks for innovation 24
Keynote: Zabeen Hirji
Mobilizing talent and diversity 26
Panel: Mobilizing Talent and Diversity 28
Keynote: Mercedes Delgado
Cluster-based strategies for innovation and growth in regions 30
Panel: Superclusters in Canada and European lessons learned 31
Keynote: Marek Gootman and Christian Ketels
Regional economic development and inclusive prosperity 34

DAY 3 | October 18 | Exchange 36
SUMMARY

The 21st TCI Network Global Conference (TCI 2018) was an opportunity to “experience” the Toronto Region’s clusters, “engage” with world-renowned speakers on key topics, and “exchange” knowledge and best practices with fellow delegates!

Business, policy, and academic leaders from 37 countries attended the 21st TCI Global Conference in Toronto to make unexpected connections for economic growth and shared prosperity. The Institute for Competitive-ness & Prosperity, an Ontario-based economic think tank and host of TCI 2018, felt this year’s global conference was a resounding success, exposing delegates to new ways of thinking and providing ample networking time to make “unexpected connections” (tagline for the conference).

COLLABORATING TO COMPETE: CLUSTERS IN ACTION

Cluster success is often the result of collaboration—regions with clusters that actively collaborate within and between one another are more competitive. As firms continue to face new challenges from technological, economic, political, and societal shifts, clusters will become an increasingly important driver of sustainable levels of innovation and economic growth.

The theme of TCI 2018, Collaborating to Compete: Clusters in Action, explored collaboration that is currently happening within clusters and the future opportunities to work together through four sub-themes:

Regional economic development and inclusive prosperity

As clusters flourish and grow, particularly in urban centres, governments and firms must consider how to balance this growth with inclusive prosperity to ensure that everyone benefits from increased competitiveness. This sub-theme considered clusters as a way to spur regional economic development and inclusive prosperity by focusing on smart specialization, mobilizing talent and diversity, creating networks for innovation to connect those outside of a region or cluster, and building infrastructure and smart cities that enable continued growth and inclusivity as well as the role of cluster managers, businesses, and government in fostering economic growth and prosperity.
Mobilizing talent and diversity
In the midst of technological, economic, and political shifts, such as the movement towards Industry 4.0, changes in trade agreements and markets, and the onslaught of automation, clusters and corresponding actors can stay resilient and economically competitive by mobilizing their talent and retaining leaders. These shifts are also enabling the creation of emerging clusters, which require new and diverse sets of skills and competencies. Often these skills and competencies are scarce within a region and therefore immigration and infrastructure (e.g., affordable housing, reliable public transit, and attractive taxation regimes) are integral to maintaining the growth trajectory of an emerging cluster.

Scaling up within a cluster ecosystem
As firms continue to grow, governments, research organizations/universities, incubators and accelerators, and other firms within the cluster play a vital supporting role in their continued success. The interactions and collaboration between those within a cluster ecosystem are crucial to a firm’s ability to scale. Often, traditional competitors within a cluster cooperate (known as ‘co-opetition’) to create shared value and innovations that outweigh any costs of working together and what can be done alone. This sub-theme investigated how inclusion within a cluster ecosystem can enable accelerated growth that firms and regions need to remain competitive.

Designing collaborative networks for innovation
Innovation is one of the key outcomes of collaboration within and between clusters. Innovations produce added value to the customer in the form of new or better products, services, and processes. Fostering the interactions that can lead to greater levels of effective collaboration can be done within networks. These networks can take many forms, including formal or informal, industry or production chain, global linkages, and university-business linkages. Networks can cross geographical and spatial boundaries and can therefore connect clusters across towns, cities, regions, and macro-regions (e.g., Great Lakes Region, Baltic Sea Region).

This sub-theme explored the many ways that innovation occurs within these networks. It also considers how to design these networks to overcome barriers and maximize collaboration to generate the desired innovation for shared value. Finally, this sub-theme examines the results of collaboration within these networks, including opportunities for international trade.
This report summarizes the content covered during three consecutive days of programming:

- Day 1 “Experience” – delegates participated in one of 11 cluster immersion experiences that provided the opportunity to visit between two and five sites that illustrated a cluster’s story and the relationships between the actors within it;
- Day 2 “Engage” – a standard conference format including four keynotes and three plenary sessions that included 19 world-renowned speakers, followed by a conference dinner that highlighted Canada’s cultural diversity; and
- Day 3 “Exchange” – featured 19 interactive breakout sessions and three workshops sharing lessons learned, case studies, and stories across the conference’s four sub-themes, as well as 121 global matchmaking meetings.

LOOKING BACK AT TCI 2018 AND FORWARD TO TCI 2019

“The Institute was a wonderful host for TCI 2018, and Toronto has been a great inspiration to help our TCI members in their professional development and bring new ideas to advance in their economic development,” says Merete Daniel Nielsen, President of the TCI Network and Co-founder and Director of Cluster Excellence Denmark. “We will keep the spirit from Toronto for our conference next year that will take place the 8-10 October 2019 in Antwerp.”
FACTS AND FIGURES

AUDIENCE

- 340 attendees
- 37 nationalities
- 121 meetings
- 70 participated in Global Matchmaking on Day 3

CLUSTER IMMERSION EXPERIENCE

- 98% of delegates rated the overall conference either good or excellent.
- 82% who attended the conference dinner rated it good or excellent. Many appreciated that it gave them more than three hours to network with each other.
- 93% of attendees said that they were able to connect with fellow delegates to expand their network, with 44% of delegates making between 11-20 contacts and 11% making between 21-30 contacts.
- 93% of delegates rated Day 3 programming as good or excellent.

ORGANIZERS

- 3 post-secondary institutions
- 3 accelerators
- 9 industry organizations

WEBSITE

- www.tci2018.org
- 45K page views
- 11.2K unique visitors
- 9,126 website visits
- 135 country visits

SOCIAL MEDIA

- #TCI2018
- 1,525 posts with #TCI2018
- 1M unique reach
- 3M absolute reach
- 340 attendees
- 37 nationalities
- 121 meetings
- 70 participated in Global Matchmaking on Day 3

Collaborating to Compete: Clusters in Action — 21st TCI Network Global Conference: Conference Report
Tweet with us: @Institute_JCP @TCINetwork #TCI2018
INTRODUCTION

This report summarizes the three days of the 21st TCI Network Global Conference (TCI 2018) in Toronto, Ontario, Canada, hosted by the Institute for Competitiveness & Prosperity, a Toronto-based think tank that focuses on raising the competitiveness and prosperity of the province of Ontario. On Day 1 (Oct 16), delegates had the opportunity to visit one of 11 active clusters in the Toronto Region to learn its story. On Day 2 (Oct 17), delegates headed to the Rotman School of Management at the University of Toronto where they heard from 19 world-renowned speakers that shared their insights into the conference’s theme and sub-themes. On Day 3 (Oct 18) delegates had the opportunity to share their own best practices with delegates in 19 interactive breakout sessions, three workshops, and global matchmaking at the Chelsea Hotel Toronto.

This report was made possible through notes captured by four staff members at the Institute for Competitiveness & Prosperity as well as nearly 40 volunteers and staff. Images from TCI 2018 were captured by the conference’s official photographer, Jenna Muirhead, and images from cluster immersion experiences were captured by a cadre of student photographers.

The TCI 2018 organizing team has edited these notes and compiled them into one document alongside facts and figures captured through various computer programmes. This report is meant to summarize the conference’s entirety for both TCI 2018 delegates and those who were unable to attend the conference in Toronto, Canada. Due to the fact that the report is based on notes compiled by individuals from varying academic backgrounds there will be variations in the writing style. Unfortunately no notes were turned in for interactive breakout sessions E1, E2, E4, D1, and D2 so the summaries are a re-statement of what was in the programme.

Additionally, as a result of the fact that the notes were taken by multiple individuals there may be errors for which the Institute as the host and compiler of the report cannot be held responsible. No rights can be derived.
MESSAGE FROM THE TCI 2018 CONFERENCE DIRECTOR

Thank you to those who were part of TCI 2018 from October 16-18, 2018. Nearly 340 people from 37 countries gathered in Toronto to celebrate and share best practices and stories from Toronto’s clusters and beyond.

On behalf of the Institute for Competitiveness & Prosperity, we are proud that this conference was a catalyzing moment for many — organizations, governments, and businesses met to find ways to work together in formal settings such as Global Matchmaking. There were meetings concurrent to the conference, and the many unexpected connections that were made throughout the conference. In fact, more than 93 percent of attendees said that they were able to connect with fellow delegates to expand their network, with 44 percent of delegates making between 11–20 contacts. We are thankful for the opportunity and we look forward to seeing these connections build upon each other to create lasting results.

TCI 2018 taught us that it is truly a pleasure to work together, to find ways, reasons, and opportunities to collaborate. TCI 2018 is the product of more than 40 organizers who gave us their time and energy to put this conference together. Thank you to everyone who made TCI 2018 possible, including the Institute’s entire team, partners, organizers, and to the TCI Network for the opportunity to bring the world to Toronto, Canada.

Looking forward, we hope to showcase more stories from Canadian clusters and to continue developing partnerships to work together. The Institute will continue to record and track these stories and be the voice on cluster theory and practice. If you want to learn more about clusters in Canada, please visit www.competeprosper.ca and also join our mailing list. For all TCI 2018 related information, presentations, and photos, please visit www.tci2018.org or www.tci-network.org.

Thank you for an amazing three days of memories and unexpected connections.

Dorinda So
Conference Director, TCI 2018;
Research Director,
Institute for Competitiveness & Prosperity
DAY 1 | CLUSTER IMMERSION EXPERIENCES

On Tuesday October 16, 2018 delegates attended one of 11 cluster immersion experiences around the Toronto Region. Cluster immersion experiences were designed exclusively for TCI 2018 in collaboration with municipal bodies, non-profits, and public sector organizations.

Each experience visited between two and five sites that illustrated the story of a cluster including how those within it—such as anchor firms, SMEs, government, post-secondary institutions, and more—interact with one another to produce innovations and drive economic growth. Delegates also participated in a “mini-charrette”—a brainstorming session that allowed them to hear from others and share their expertise, best practices, and lessons learned on challenges facing each cluster.
ORGANIZERS:
Walter Garrison
Advanced Manufacturing Business Integrator, City of Mississauga

Frank Bedard
Sector Development Officer, Aerospace, City of Toronto

The advanced manufacturing cluster in the Toronto Region has a highly educated and integrated workforce, as well as strong supply chain, business-to-business, and logistics networks. Canada is among the leading aerospace nations in the world, but the industry is facing challenges as a result of an aging workforce and skilled labour shortages that are radically altering the competitive landscape.

Delegates visited the Ontario Aerospace Hub at Downsview Park developed by the Downsview Aerospace Innovation and Research (DAIR) Consortium, which aims to solve many of the challenges the industry faces by catalyzing research and development initiatives and offering a shared space for various industry, academic, and government organizations to develop technology. Next stop was the Mitsubishi Heavy Industries Canada Aerospace facility, the only Tier 1 aerospace supplier in Ontario capable of building complete airplane wings. Attendees appreciated getting a behind-the-scenes look at the facility’s production program and a better understanding of the steps and processes required to build wings and centre fuselage for commercial aircraft.
CLUSTER IMMERSION EXPERIENCES

DESIGN — INNOVATION CATALYST

Organizers:
Arlene Gould
Strategic Director, Design Industry Advisory Committee
Laurie Belzak
Sector Development Officer, Fashion/Apparel and Design, City of Toronto
Luigi Ferrara
Dean of Centre for Arts, Design and Information Technology, George Brown College

The Toronto Region is a North American hub for design and the centre of the design cluster in Canada which has an extremely high concentration of designers including in the disciplines of architecture, industrial, graphic, UI/UX, and fashion.

At their first stop delegates were introduced to the co-founders of the Umbra Store, a global houseware design company, and they learned about how the company scaled up despite a small Canadian market and challenges funding the business in its early years. Next they headed to 401 Richmond, a converted warehouse that now houses valuable cultural and non-profit organizations at below market rents. These organizations would have otherwise been excluded from or struggled to find affordable space in Toronto’s increasingly expensive downtown core. Delegates also toured the Fort York Visitors Centre, which sits on the oldest Canadian settlement, and learned about the Bentway, a uniquely designed pedestrian and cyclist pathway on reclaimed land below a highway. They also visited the Daniels Waterfront City of the Arts, where delegates toured three of its tenants’s spaces: George Brown College, known for producing quality designers across a variety of specializations and making academia serve industry and economy through practical work; Artscape Daniels Launchpad, a “future community where emerging and established artists, designers and creators can work collaboratively” in a space that is open to members at a low fee; and the OCAD U space that houses the Business Innovation Studio.
CLUSTER IMMERSION EXPERIENCES

EMERGING TECHNOLOGY — TECHNOLOGY INNOVATION FROM DISCOVERY TO DELIVERY

Organizer:
Beisan Zubi
Community Relations Manager, Communitech

Delegates travelled to Waterloo, Ontario, a region which has birthed eight of the largest tech companies in Canada (including Blackberry and OpenText), and home to the largest engineering school in Canada, as well as the second highest start-up density on the planet. The cluster immersion experience was led by Communitech, a not-for-profit founded in 1997 to support the region’s entrepreneurs, which now supports the region with talent attraction, selling the region’s value proposition and rapidly increasing its ability to support start-ups.

Following a two-hour drive from downtown Toronto to Waterloo, the cluster immersion experience commenced at the Perimeter Institute, an independent research institution focused on theoretical physics, because “today’s theoretical physics are tomorrow’s technology.” Focused on three pillars (training, research, and outreach), Perimeter is the only research institution Steven Hawking has put his name on. Second, delegates visited the Institute for Quantum Computing at the University of Waterloo, which takes questions generated by theoretical physicists and translates them into hardware including nanotechnology.

During their time at Communitech, delegates learned about the Velocity accelerator programme located within its facility and the corporate innovation program that encourages major businesses to work together on innovative initiatives. During their lunchtime brainstorming session, the group also examined how to measure the health of the ecosystem and support the creation of $100 million revenue companies.

The final stop was the Google Canada headquarters, where the latest Gmail update was built, and delegates had the chance to learn about the perks (such as a cafeteria with free food and an on-site gym) Google offers its employees, drawing talent to the Waterloo Region by increasing its value proposition.
CLUSTER IMMERSION EXPERIENCES

ENERGY — WHERE INNOVATION AND ENERGY UNITE

Organizers:
Aneesa Haniff
Economic Development Officer, Investment Attraction, Regional Municipality of Durham

Eileen Kennedy
Economic Development Officer and Film Liaison, Regional Municipality of Durham

Lindsay Coolidge
Manager, Government and Community Relations, University of Ontario Institute of Technology

Sheila McGrory
Manager, Economic Development, Town of Whitby

Bonnie Wrightman
Manager of Business Development, Clarington Board of Trade (CBOT) & Office of Economic Development

Sherry Colbourne
President & CEO, Spark Commercialization & Innovation Centre

Durham Region’s diverse business community includes a world-class EN3 cluster of Energy, Environment, and Engineering sector businesses—the strongest of its kind in Ontario. Researchers on the tour indicated the energy cluster had been developing in Durham since 1965.

Delegates visited two facilities at the University of Ontario Institute of Technology (UOIT): the Nuclear Simulation Lab, which prepares students not only to look for potential risks and how to manage them but also to the future of the energy sector; and the Automotive Centre of Excellence, home to one of the largest and most sophisticated Climate Wind Tunnel’s on earth, where delegates were able to watch a car go through testing. Delegates also received an overview of the Ontario Power Generation Corporation and the Darlington Nuclear Plant refurbishment project. The project will take 40 months to complete (October 2016–February 2020) and will be 100 percent complete before starting work in other three units in order to learn all the best practices and risk mitigation practices. Finally, at the Durham-York Energy Centre, delegates learned about the process of converting waste into energy, generating enough power for 10,000 homes in the Region as well as $9 million in revenue annually.
Organizers:
Sara Anderson
Manager of Strategic Alliances, Toronto Finance International

Monique Kahnert
Business Development Manager, Toronto Finance International

Toronto is Canada’s global financial centre, the second largest financial centre in North America, and home to one of the most stable banking systems in the G7. Organized by Toronto Financial International, a public-private partnership that promotes Toronto as a financial centre internationally, the tour focused on Toronto's FinTech areas of expertise—artificial intelligence, cybersecurity, and blockchain.

Delegates visited OneEleven, which acts as a growth accelerator for small financial firms that have been vetted for a high level of potential by demonstrating a full business service package and proven revenue stream. Delegates also participated in an intimate fireside chat between Kevin Paget, Vice President of Digital Strategy and User Experience at the Canadian Imperial Bank of Commerce (CIBC) and Salim Naran, Co-founder and CTO of Canadian FinTech start up Borrowell, who discussed how collaboration between a major banking institution and a FinTech startup is useful in harnessing innovation and brain power. Delegates also participated in a brainstorming session examining how to get students involved in their industries and what delegates’ first impression of Toronto’s financial services sector was at Aviva Digital Garage, an innovation space for an insurance company.
FOOD — GROWING COMPANIES AND INNOVATION FROM THE GROUND UP

Organizers:
Janet Horner
Executive Director, Golden Horseshoe Food and Farming Alliance (GHFFA)

Michael Wolfson
Food and Beverage Sector Specialist, City of Toronto

Ontario’s Golden Horseshoe is home to one of the largest food, beverage, and farming clusters in North America. The region’s superb agricultural land is complemented by a moderate climate and access to an abundant supply of fresh water. Half of Ontario’s food processors are also located in the Golden Horseshoe.

Delegates on this cluster immersion experience got to visit Food Starter, a not-for-profit that helps early-stage food processors commercialize and scale their businesses. They also got a behind-the-scenes look at Ozery Bakery, a local bakery that prides itself on prioritizes community involvement; Spirit Tree Cidery, an eco-friendly and energy efficient cidery; and Castle Dale Farms, a Canadian dairy that uses technology such as automatic feed systems and robotic milking. The mini-charrette examined how to promote clusters, with the organizers hoping to gain insight into delegates’ experiences. One delegate from Australia pointed to the success story of New Zealand, which has a number of food related clusters that are usually run through federally-funded research institutions. A delegate from Uruguay talked about how they use tourism as a way to promote their cluster, but that they were still challenged by the size and attractiveness of the cluster.
**Organizers:**

**Ella Korets-Smith**  
Executive Director, **TO Health!**

**Martin Bohl**  
Sector Manager, Health and Life Sciences, **City of Brampton**

**Grant Burns**  
Director, Public Affairs and Communications, **Ontario Bioscience Innovation Organization (OBIO)**

**Andrew Haller**  
Industry Outreach Associate, **Clinical Trials Ontario**

**Elise Johnson**  
former Communications Advisor, **Council of Academic Hospitals of Ontario (CAHO)**

**Victoria Littler**  
Marketing Officer, Marketing & Creative Services, University Relations, **Ryerson University**

**John Preece**  
Sector Development Officer - Life Sciences, **Economic Development & Culture, City of Toronto**

**Sharon Vanin**  
Manager, **Toronto Academic Health Science Network (TAHSN)**

---

Toronto is the largest health care market in Canada, with the highest concentration of academic research hospitals, health sciences employment, and companies in Canada. The cluster spans the development and delivery of health care to health-focused venture capital funds and academic research hospitals.

This cluster immersion experience began with a visit to **JLABS @ Toronto**, the first Johnson & Johnson science incubator outside the US where delegates learned about the **MaRS Discovery District**, one of the world’s largest urban innovation hubs and a cornerstone of the human health and sciences cluster in Toronto. Then delegates moved onto the **Centre for Commercialization of Regenerative Medicine**, which moves regenerative medicine-based therapies from the lab to the clinic to improve patient care. They then visited the regenerative medicine labs at the **University Health Network (UHN)**, Canada’s largest academic research hospital, where delegates got to see how medical professionals keep a lung breathing outside the body and meet the scientists behind some of the major research at UHN. Delegates also visited **ONRamp**, a University of Toronto entrepreneurship incubator, before heading to Ryerson University to participate in a mini-charrette. One question was “what do you like in a health cluster?” to which delegates responded: government freedom in investments—firms should not be forced into R&D in a field they do not want to work in or with partners that are not a natural fit.
CLUSTER IMMERSION EXPERIENCES

INNOVATION ECOSYSTEM — SIX SQUARE BLOCKS OF INNOVATION

Organizers:
Jadgish Yadav
Sector Development Officer - Education, City of Toronto
Andrea Arbuthnot
Senior Lead, Communications & Engagement, Vector Institute
Victoria Littler
Marketing Officer, Marketing & Creative Services, University Relations, Ryerson University
Melissa Pogue
Manager, Program Research, Venture Talent Development, MaRS Discovery District

The Toronto Region has a well-established innovation ecosystem that includes a number of post-secondary institutions, incubators and accelerators all within a few blocks of the downtown core. This cluster immersion experience highlighted the cluster dynamics and the linkages between the different actors in the innovation ecosystem, focusing on the medical sciences and health sector cluster (located along University Avenue), where there is a concentration of university hospitals that work together with the provincial government, as well as with innovation agencies like MaRS to commercialize scientific research.

On this walking tour, delegates visited Ryerson DMZ, the number one business incubator according to the UBI Index. The DMZ supports technology entrepreneurs through a number of programmes including a sandbox for entrepreneurs in the idea stage; validator for start-ups with proven products looking for further refinement; and accelerator — the main focus, which targets start-ups in the scale up stage. Delegates then headed to the Centre for Social Innovation (CSI), which positions itself as a collaborative platform for social driven innovation and businesses. CSI promotes social justice and diversity not only in the scope of businesses and projects but also in the cultural backgrounds to help more new ideas and innovations emerge. Finally delegates got an inside look at the Vector Institute, which attracts the best AI scientists and researchers in Canada. At Vector, Professor Avi Goldfarb from the Rotman School of Management discussed how business support for AI is provided through the Creative Destruction Lab, which helps scientists turn their ideas into sustainable corporate opportunities. Following their brainstorming session delegates noted that the intersection between social and technological innovation could be used to solve IP issues.
CLUSTER IMMERSION EXPERIENCES

LOW-CARBON BUILDINGS — COLLABORATING TO BUILD A STRONG CLUSTER IN TORONTO

Organizers:

Rob McMonagle
Senior Advisor – The Green Economy,
City of Toronto

Jeff Ranson
Regional Director, Canada Green Building Council – Greater Toronto Chapter

Dennis Cutajar
Director, Economic and Cultural Development,
City of Vaughan

Krista Holmes
PhD, Director, Research & Innovation, George Brown College

Glenn MacMillan
C.E.T. Senior Manager, Water & Energy,
Toronto and Region Conservation Authority (TRCA)

Toronto has the highest percentage of new buildings being built to environmental standards in Canada, and the low-carbon buildings cluster immersion experience provided delegates with the opportunity to visit centres that incubate innovation and test and pilot new solutions. This cluster immersion experience included a visit to Sherbourne Common, led by Waterfront Toronto, to learn what the waterfront used to look like, and compare the eastern waterfront to new lakefronts along Queens Quay, where car lanes were reduced to provide more space for public transit and active transit. Waterfront Toronto noted that it imposes higher green building standards on all buildings along the waterfront than the Toronto Building Code requires.

Delegates then travelled to Evergreen Brickworks, which has 16 historic buildings and park space. Brickworks has a “Future of Cities” centre that tackles issues such as how to accommodate the influx of people Toronto gets each year and how to leverage infrastructure innovations. The centre is also being used as a test center for developing lifecycle analysis standards and is working with EllisDon and the engineering department at the University of Toronto.

Next was a visit to George Brown College’s Green Building Centre and its building labs in: materials, science, and automation, and the building information modeling studio. Delegates also learned how George Brown works with the Kortright Centre, which built
an archetype house with sustainable technology in 2000 and is creating an Innovation Park System with seven more showcase buildings that will share knowledge and test new ideas. Finally delegates visited the Ontario Investment and Trade Centre where they heard from the Toronto Region Conservation Authority (TRCA) and the programs it runs, such as sustainable neighbourhood action plans. TRCA noted that they want to create eco-business clusters in Toronto and it is important to get businesses involved in order to scale up responses to environmental issues. They also want Ontario to be known as a competitive, high-performance and eco-friendly business climate.
TRANSPORTATION & LOGISTICS — MOVING CLUSTERS FORWARD

Organizers:
Natasha Apollonova
Assistant Vice President, Toronto Region Board of Trade

Samuel Carlisle
Toronto Region Board of Trade

The Toronto-Waterloo corridor (the Region) is Canada’s largest multi-modal transportation hub with 1 million tonnes and $3 billion worth of goods moving through the Region daily. The range of sectors within the cluster include trucking firms to airlines, rail transport, courier services, shipping, warehousing/distribution centres, and logistics services.

Delegates visited the Ontario Food Terminal, Ontario’s largest wholesale fruit and produce terminal with distributions as far as 1,000km from Toronto, and then Redpath Sugar Refinery, a Canadian company located in downtown Toronto. There they learned about Redpath’s supply chain integration and the challenges of transportation and logistics in Toronto including the threat to speed and reliability due to congestion in major cities; and the University of Toronto Transportation Research Institute, which brings together faculty experienced in analysis, planning, and design.

During their charrette, the group discussed regional economic plans, which are crucial for transportation and logistics clusters because they need to be forward thinking in the layout of transportation networks, but are often difficult to make. It was argued that an agency that is arms-length from the government should first spend five months understanding the industry (size, processes, etc.) before designing an action plan identifying challenges and a founding board of ten to 15 people who see a future in it because sometimes waiting for industry to come together does not work.
CLUSTER IMMERSION EXPERIENCES

WATER — ACCELERATING AN INNOVATION ECOSYSTEM

Organizers:
Lesley Herstein
Manager of Policy, WaterTAP and Director, Change Leaders Lab
Josh Chong
Communications Strategist, WaterTAP
Rob McMonagle
Senior Advisor – The Green Economy, City of Toronto

Ontario is home to a globally recognized water innovation ecosystem. Already endowed with some of the cleanest water on the planet, the province has generated highly competitive solutions that span the water, wastewater, and storm water continuum. This cluster immersion experience visited the Lakeview Water Treatment Plant, a 67-acre facility on Lake Ontario. Since its opening, a number of education programmes have developed around the facility, increasing the knowledge and productivity of its workers which has increased wages, demonstrating cluster theory in action. Delegates also visited Enwave’s Deep Lake Cooling Pump Station, part of the world’s largest deep lake cooling pump system which uses dense cold water at the bottom of Lake Ontario to cool up to 100 commercial towers in downtown Toronto. Many of the cluster theorists on this tour appreciated the opportunity to get a behind-the-scenes look at how water innovation facilities operate day-to-day.
TCI NETWORK AGM

The TCI Network’s Annual General Assembly saw Christian Ketels, President of the TCI Network Board of Directors pass the torch to Merete Daniel Nielsen, the first female President in the Network’s 20+ year history.
DAY 2 | ENGAGE
PLENARY SESSIONS

Co-chairs of TCI 2018, **Tiff Macklem**, Dean of the Rotman School of Management at the University of Toronto and Chair of Ontario’s Panel for Economic Growth and Prosperity, and **Jamison Steeve**, Executive Director of the Institute for Competitiveness & Prosperity and the Martin Prosperity Institute, kicked off Day 2 (Wednesday, October 17) with welcoming remarks. This was followed by thought-provoking keynotes and panels addressing the conference’s four sub-themes.

**Christian Ketels**, outgoing President of the TCI Network and the President of the TCI Network Advisory Board, also delivered opening remarks, noting that Toronto is a timely location to host TCI 2018 given that it is currently an exciting place to be right now, with lots happening in the clusters ecosystem.
OPENING KEYNOTE: CLUSTERS, STRATEGY
AND CREATIVE PROBLEM SOLVING

Roger Martin, Institute Director of the Martin Prosperity Institute, #1 Management Thinker in the world according to Thinkers50, answered the question of whether government should have a cluster strategy. He says that, ultimately, they should.

Key takeaways

- Strategy is a choice. Therefore, choosing to not have a cluster strategy is a strategic choice, it is not opting out. There is very little logic to support the notion that government should not have a cluster strategy because there are very serious consequences as a result of not having one.
  - A cluster strategy should fit and reinforce the domestic economy as it is, rather than create something that is not realistic. The examples he mentioned were the Odense (Denmark) robotics cluster and the Niagara wine cluster in Ontario.
- Only way you know you made a strategic choice is if the opposite choice is also a viable action. Choosing to serve your customer is not a choice at all, that’s just business.
- The ranking of strategies are not normally distributed — they are instead Pareto distributed. This leads to very few excellent strategies and a huge number of poor strategies. This also causes a winner-take-all outcome.
- “Best way to cope with the future is create it. If you do not someone else will, and you probably would not like it.”
PANEL: DESIGNING COLLABORATIVE NETWORKS FOR INNOVATION

Ryan Combs
Executive Director, Research Triangle Region

Jeremy Dabor
Entrepreneur (Former CPO of Sensassure, Acquired)

Merete Daniel Nielsen
Co-Founder and Director, Cluster Excellence Denmark; President, TCI Network

Lidia Divry
Chief Executive Director, TechnoMontréal, Montréal

Pia Kinhult
Head of Host States Relations, European Spallation Source, Sweden

Moderator:
Rocco Rossi, President & CEO, Ontario Chamber of Commerce

The panel discussed the global stories of collaboration and innovation within different kinds of networks and ways to design networks with the goal of maximizing collaboration to foster innovation and create opportunities for international trade.

Key takeaways

- A collection of firms is not enough to be a cluster if they do not cooperate and work together in some way.
- The metrics currently collected in Canada cause companies to compete with each other rather than to cooperate and create something bigger than what they can do individually.
- Seemingly unrelated clusters can work together, such as packaging and life sciences—packaging firms can have technologies and competencies that can assist drug delivery.
- In the Canadian context, the government often spreads itself too thin (investing a little in a lot of companies) instead of focusing on identifying and investing in only those companies with the most productivity and greatest potential.

continued on next page...
• Incorporate entrepreneurs and their ideas into government discussions.

• Other ways to measure the success of clusters include growth of companies within it, including the ability to pay for or invest themselves. They should also capture the “unexpected connections” or informal talks that drive activity within clusters.

• While Toronto and its clusters are good at starting companies, they do a poor job scaling them because the system is very fragmented, with 40 incubators in the Greater Toronto Area that do not work together on the level they should.
  • It is crucial that incubators have a good exit strategy or else they will not produce real companies.
KEYNOTE: MOBILIZING TALENT AND DIVERSITY

Zabeen Hirji, Global Advisor, Future of Work at Deloitte explained the difference between diversity and inclusion and shared ways companies can create a culture that incorporates these principles to increase innovation and cluster growth.

Key takeaways

- Diversity is a fact, inclusion is an act.
  - Diversity is what you can see or identify people as including gender, race, socioeconomic background, age, as well as other things we cannot see like cognitive diversity or education.
  - Inclusion is the choice to make people feel valued, connected, and provide a sense of belonging because of their uniqueness. You feel safe to be your authentic self and by extension, do your best work.

- Deloitte’s newest publication, Optics over outcomes: Building inclusive organizations, found that 49 percent of highly inclusive organizations were more likely to invest in R&D, reported faster growth in revenue and employees, and two-thirds of highly inclusive organizations are more likely to bring products and services to the market — so diversity and inclusion are good for the economy.

- Job loss is likely to occur in the future, with specific groups more at risk than others, including women and minorities due to automation and youth as a result of skills shortage. If we fail to build inclusive clusters, we are increasing global inequality in the labour market. In the near future, it is about managing the transition to the future of work.
  - Clusters may spread inequality rather than reduce it even when we are striving for inclusive prosperity. Therefore unless we take deliberate action to be more inclusive, these traditionally underrepresented groups will not be able to share in the growth of these clusters.

- Zabeen listed five best practices to accelerate diversity and inclusion between cluster actors and clusters:
  1. Develop inclusive leadership — Leaders need to change behaviour to change culture. We need to define inclusion and then train, coach, and provide feedback and ultimately link behaviour to performance. Hold leaders accountable at all levels. One cannot be a leader today without being inclusive.

  continued on next page...
2. Embed diversity and inclusion in talent management practices — Hire based on cultural contribution, not ill-defined cultural fit (aka ‘just like me’ hiring).

3. Cultivate an inclusive culture where all employees connect, contribute, belong, and grow — Culture change is hard work and requires systemic change. We also need to harness the power of small moments to set a tone of authenticity as leaders. We need to address disrespectful behaviour and harassment and have conversations about exclusions and other ‘isms’ and how they’re playing out in the organization.

4. Uncover unconscious bias — Uncover them because we all have them and once you discover them, work to interrupt them. It is jarring to discover your own bias but this is an important first step.

5. Harness the power of clusters through collaboration 4.0 — Work within and across clusters to collaborate. For example, Civic Action’s Empower program allows competitors to work together to design, mentor, hire, and advise the curriculum to build tech skills at an entry level for underserved youth to help them launch meaningful careers. Since its inception in 2014, they have trained 800+ youth, most were unemployed and from racialized communities. Within 6 months, 84 percent were enrolled in school or working and their starting salaries were $39,000 more than their starting family income.
PANEL: MOBILIZING TALENT AND DIVERSITY

Ulla Engelmann
Head of Unit, Clusters, Social Economy and Entrepreneurship,
DG Grow at the European Commission

JP Gladu
President and CEO of the Canadian Council for Aboriginal Business

Susan Windham-Bannister
former President of the Massachusetts Life Sciences Center

Moderator:
Toby Lennox, President and CEO of Toronto Global

Key takeaways

- Government should use supply chains to support target groups, for example buying from Aboriginal or woman-owned companies (the EU has a programme called “buying social”).

- There has been substantial growth in Indigenous wages when they are included in natural resources projects but if Canada does not get inclusion right, they will continue to struggle. Until the Indigenous are managing money instead of poverty they will not have achieved success, according to JP Gladu.
  - For a long time the Indigenous community has not been included in economic development and supply chains and that this is the reason Canada is losing its competitive edge. Speaking specifically to the Kinder Morgan pipeline, which the federal government has purchased, it presents an opportunity for Indigenous firms to become equity position holders. Indigenous communities are already raising equity ($500 million for a project with Suncor). In the past, with pipelines owned by the private sector, there was little that could be offered to the Indigenous aside from jobs and business opportunities, which while positive, did not provide the opportunity for the Indigenous to take ownership through risk management and environmental protection.

- The US and its politics have been moving away from diversity and inclusion, that being said, there has also been a substantial mobilization against Trump’s government and its policy.

continued on next page…
• Susan Windham-Bannister highlighted the importance of the workforce in building innovation capacity. She thought about three things when building up her workforce: how to build a more diverse workforce, how to build pathways into innovation sectors, and how to make it more inclusive to ensure that talent is being effectively deployed.

• It is important to transform the cluster (a collection of assets) into an ecosystem where everyone within the cluster sees themselves as being part of a system or community working together. While there is a lot of data showing that diversity in the leadership team improves financial metrics compared to similar industry performance, the US has not done a good job of owning that data and using it to drive action and change.
KEYNOTE: CLUSTER BASED STRATEGIES FOR INNOVATION & GROWTH IN REGIONS

Mercedes Delgado, Senior Lecturer at the MIT Sloan School of Management and Research Director and Research Scientist at the MIT Innovation Initiative Lab for Innovation Science and Policy shared how clusters can create economic resiliency, even for rural regions.

Key takeaways

- Clusters are a set of related industries not just a single industry. In analyzing them, it is necessary to include the suppliers.
- Traded clusters produce most research and patents, while local clusters are everywhere but are less innovative and in general less productive. Traded clusters also create more jobs, and are more resilient to shocks (both economic and non-economic such as natural disasters).
  - Data show industries within strong clusters grow comparatively faster than the same industry that is contained within a weak cluster.
  - Industry diversity is not important for resiliency. Strongly specialized clusters are statistically significantly more resilient.
- To improve inclusion of small and inner cities, you must connect to compete. Connecting them to the economic opportunities that surround them can have significant impacts. This includes education and skills required by the cluster, improved supply chains, and capital and social infrastructure investments.
PANEL: SUPERCLUSTERS IN CANADA AND EUROPEAN LESSONS LEARNED

The Hon. Navdeep Bains
Minister of Innovation, Science and Economic Development Canada

Peteris Ustubs
European Union Ambassador to Canada

Christine Neuy
Managing Director of microTEC Südwest eV

Werner Pamminger
CEO of Business Upper Austria

Bill Greuel
CEO, Protein Industries Canada

Jay Myers
CEO, Next Generation Manufacturing Canada

Bill Tam
Co-founder and VP Business Development and Partnerships, Canada’s Digital Technology Supercluster

Moderator:
Jan De Silva, President and CEO, Toronto Region Board of Trade

This panel allowed three supercluster representatives to share the story of their supercluster and to hear advice on cluster development from their fellow European Union (EU) panelists.

Key takeaways from conversation with Minister Bains

• The superclusters initiative forced companies to engage with their competitors and the supporting industries in order to apply for funding which stimulated a lot of discussions and partnerships before the money was distributed. He hopes those who were not selected still work together.

• The goal has always been to use convening power of government and its financial resources up front to then facilitate the cooperation of the superclusters by themselves, while sharing best practices to other clusters and companies within the Canadian economy.

• Common technologies and horizontal platform growth connect each of the superclusters to influence beyond their geographies to benefit the entire country. It is also the hope that the initiative will increase R&D to improve Canada’s historically poor performance (22 out of 34 OECD countries).

continued on next page...
• Success for the supercluster project will be 50,000 high quality jobs over the next ten years, $50 billion in economic activity, investment in people (skills, upskilling) and technology, the ability to scale up with strong global companies emerging, technology adoption within SMEs closing the gap between Canada and the US, taking advantage of and generating IP, development of a data strategy from the superclusters, and develop increased export quantity.

Keys lessons learned from the EU experience

• EU cluster policy has been around for 10 years and the EU has almost 3,000 clusters of all shapes and forms. Content, not size explains the cluster and this concept (clusters) has not disappeared and it’s only growing, Success stories of EU are focused on patents.

• When clusters work they bring real results.

• Emergence of value chains is really great. For Canada to succeed, it needs to see the number of clusters grow.

• After the five-year funding period of the German spitzencluster, stakeholders stated that the annual conference was the highlight of their experience because it allowed them to meet other people.

• On metrics, the Germans used to count Memorandums of Understanding (MOUs) but it is important to be careful because a lot of collaboration is ad hoc and informal. MOUs are not enough. What counts is agreements that have actions and life behind them regardless of whether they are formal or informal.

• Cluster policy is a marathon, not a sprint. During the first couple of years, 95 percent of the budget for cluster development financed by regional government in Austria. Now, after 20 years, there are 10 clusters, 2,200 participating companies, and only 25 percent of funding is by the government (75 percent by the corporations). Both funding and governance followed this pathway to put the responsibilities on the private sector. They were successful because they have been very clear from the beginning that governance and financing would be transferred to the business side in the long run.
Where will the superclusters be in 1 year?

- **Protein Industries Canada** wants to have a team of people and create a lot of linkages. It does not matter what sector or geography, it is about connections.

- **Next Generation Manufacturing Canada** wants to have systems in place that are building collaboration to build assets across the country and to create projects that will be transformative and so attractive to other companies that they want to co-invest. They want to leave behind a legacy of technology centres, test beds, and exports. They have a stream of support for smaller companies to move the needle on the ability of SMEs to join and scale up their technologies.

- **Canada’s Digital Technology Supercluster** said that the first year is about solidifying strong foundations. The concept and ethos of family is part of the supercluster. They held a lot of townhalls to drive the culture that they are trying to achieve. They want to see how this scales and taking these cultural values and instilling them in the companies. They need to define what superclusters mean in the Canadian context.
KEYNOTE: REGIONAL ECONOMIC DEVELOPMENT AND INCLUSIVE PROSPERITY

In the closing keynote of the day, Jamison Steeve, Executive Director of the Institute for Competitiveness & Prosperity, facilitated a conversation about the linkages of economic development and inclusive prosperity between Marek Gootman, Director, Strategic Partnerships and Global Initiatives at the Brookings Institute and Christian Ketels, Chief Economist at the Boston Consulting Group and President of the TCI Network Advisory Board.

Key takeaways

- Brookings is trying to shift the definition of economic success beyond straight growth. It has an annual monitor advocating that economic development actors and policy makers consider growth and prosperity (firm productivity) as well as inclusion (who is competitive). The issue is that cluster leaders are not paid to be inclusive or to measure inclusivity, they are paid for economic growth and output. They also do not have control over the levers that effect change. This creates a dichotomy and a question of whether clusters should be driving economic growth or social change. While clusters may have a role to play in addressing society’s problems, it might be asking too much of one policy tool to treat so many different things.

- In order to bring inclusivity into the realm of clusters it is necessary to bring in different metrics. It is also important to recognize that there is a tradeoff between supporting the best businesses that create the most jobs, R&D, innovation, and value, and supporting the broad economy more equitably, while achieving a lower level of overall benefit. We also need the right level of ambition — not everyone can be Silicon Valley. While clusters cannot solve all the social ills in the world, there is a lot of overlap. For example, upgrading SMEs technologically will help inclusivity. It is not a big surprise that IT and biotech clusters have the most revenue or R&D but food processing clusters can affect and employ far more people even if they are not making the biggest innovation leaps.
• The United States has a very strong aversion to industrial policy with 80 percent of funding coming from the private sector and 20 percent from the public, while the reverse is true in Europe where there is almost a fear of being co-opted by business. It is necessary to strike a balance between these two.

• Clusters naturally reinforce the winner take all Pareto-distributed economy. You are either in a world-leading cluster or left behind, which makes matching inclusivity to this reality difficult.

• For this reason it makes sense to consider embedding cluster strategy into broader regional economic development strategies.

• The challenge for inclusion is linking up the neighborhoods in need with the economic opportunity.

• One solution may be to embed cluster strategies in non-urban areas that could help raise the regions up, linking them to neighbouring regions where there is greater opportunity.
DAY 3 | EXCHANGE INTERACTIVE BREAKOUT SESSIONS

The third day of TCI 2018 (Thursday, October 18, 2018) gave delegates the opportunity to exchange knowledge with their peers in 19 interactive breakout sessions across the four sub-themes, three workshops, and nine global matchmaking sessions. This section summarizes key takeaways from the breakout sessions, which addressed the conference’s four sub-themes. Please note that the Institute is not responsible for any missing or inaccurate information in the summaries below.

DESIGNING COLLABORATIVE NETWORKS FOR INNOVATION

How do cluster linkages feed into cluster growth? (A1)
The aim of this session was to examine how small clusters in developing regions can be nurtured to foster economic growth. Moderated by Jennifer Miller (Innovation, Science and Economic Development Canada, Canada), this session discussed using smart specialization strategies (S3) and global linkages to encourage cluster growth.

Joan Martí Esteve (ACCIO, Spain) discussed the importance of establishing a strong, reliable strategy and allies to develop innovative projects and business connections that help them to succeed in a complex world. He drew from his experience in Catalonia, which is focusing on making its existing clusters world-class instead of building new clusters. Key takeaways included:

- International alliances are about more than signing a memorandum of understanding;
- Look for partners selectively, based on strengths, not sectoral similarities;
- Focus on strategic alliances based on business development, joint R&D, talent exchange; and
- Invest time travelling to create trust — do not wait for a subsidy to finance a trip.

Reza Zadeh (European Foundation for Cluster Excellence, Spain) discussed the importance of training cluster management in key areas such as cluster economics and international benchmarking.
ing, but that this training must be complemented with field work with partner organizations, which helps civil servants realize that clusters are about more than statistics. For example, statistical data will not tell you where competitiveness in a sector will come from because it is too broad — it could be production, processing, etc. He also noted that companies, especially SMEs, are not best positioned to tell you what they want but rather what they need.

**Saskia Bonnefoi** (The Cluster Competitiveness Group, United States) noted that competitiveness reinforcement initiatives are tools to generate businesses with greater innovation and strategy as well as a better business ecosystem. When designing a clusters programme it is important that companies are at the centre of the analysis so that programmes are adapted to meet their strategic needs.

**Designing collaborative networks to foster trust (A2)**

Universities have a key role, not just in bringing together particular expertise, but also in helping to foster and build collaborative networks. By doing this, they can corral diverse actors to work together to address a common challenge.

Moderated by **Madeline Smith** from The Glasgow School of Art, this panel included **Roger Sugden** (University of British Columbia, Canada), **Michael Pierre Johnson** (The Glasgow School of Art, United Kingdom), and **Jacques-Olivier Pesme** (KEDGE Business School, France), who discussed the collaborative journey of their three schools to help improve British Columbia’s wine cluster. Wine is traditionally a very fragmented industry in which estates work on their own without cooperation between growers. However, as a region, it is very important to express communal branding in order to make the region world-renowned. As such, all three educational institutions are very focused on what they can do for the wine industry and what their role is in knowledge generation and partnership. The University of British Columbia tried to make itself a safe third party between firms within the cluster, someone who could help negotiate and organize but also mediate the discussions given its role as a public institution serving the public interest.

**Case studies of collaborative networks in fostering innovation (A3)**

This session, moderated by **Paula Kwan** (City of Toronto, Canada), delved into the challenges and benefits of forging inter-cluster relationships through a proximity model and high-tech adoption to become not just regional players, but global leaders.
John Blankendaal (Brainport Industries, Netherlands) noted that the Netherlands had experienced challenges in their economy, which was reliant on large players (e.g. Phillips) that have been offshoring the industry to China and India. This necessitated the country to shift to a more entrepreneurial economy that added greater value for customers through innovative products and systems (e.g., a software cluster focused on cybersecurity).

Gloria Ferrer (The Cluster Competitiveness Group, United States) discussed the example of the Barcelona Region agriculture cluster, where there are over 133 companies including a high concentration of large, global companies (e.g., Monsanto for seeds, Bayer for fertilizer, John Deere for tractors). It is important for companies to realize they may be in competition with these major players and to adjust their strategies accordingly.

Nii Addy (McGill Centre for the Convergence of Health and Economics, Canada) expanded on the example of agri-food clusters, noting that technological and social innovation often converge in the sector to improve food systems. For example, in Québec, the food systems were improved in 2017 by bringing private and public actors together.

Mapping as a tool (A4)
Understanding how your clusters works and who is involved is the first step in building a strong network. This session explored the successes of mapping cluster networks, fostering intra-cluster relationships, and how these initiatives are the key in bringing supplies to global markets. Moderator Christian Ketels (The Boston Consulting Group, Sweden) noted that there are three ways to map clusters:

- Network analysis, discussed by Saygin Can Oguz (Izmir Development Agency, Turkey), which has been used to track 151 actors within the quadruple helix supporting cluster initiatives in Izmir;
- Aggregate economic statistics such as employment by cluster, which Amit Kapoor (The Competitiveness Institute, India) noted are very important for his government as the country catches up to other jurisdictions in terms of productivity; and
- By drilling down at the cluster level, Vincent Dugre (Bivizio, Canada) discussed his company’s customizable cluster mapping tool which enables clusters to find collaborative partners.
Innovation networks & digitalization of SMEs (A5)
The Fourth Industrial Revolution (Industry 4.0) is expected to remarkably change the appearance of manufacturing and industry of the world. Smaller companies — especially smaller and more traditional SMEs — must prepare for the impact of digital developments and opportunities to stay ahead of global competition. Moderated by Ifor Ffowcs-Williams (Cluster Navigators Ltd, New Zealand), this panel featured representatives from three European jurisdictions on the implications of digitization form SMEs.

Digitization and connectivity is a megatrend and backbone of the industry in the cluster, says Christoph Matthias Reiss-Schmidt’s (Business Upper Austria, Austria). He noted that in his case, there are 2,135 companies, predominantly SMEs.

Rasmus C. Beck (Business Metropole Ruhr, Germany) discussed how his region reinvented itself from a coal and steel based economy into a knowledge economy. They created a unified face for foreign advertisement and investment attraction, and identified lead markets with an industrial core in the region.

Tim Daniels (Brainport Industries, Netherlands) discussed how his region futureproofed the manufacturing sector by focusing on bringing together SMEs to discuss the issues they are all facing so that they can be more resilient. Knowledge sharing leads to multiplication of knowledge.

Case studies of building competitive collaborative networks (A6)
A method to ensure that your cluster stays ahead of the pack is to take pre-emptive steps in a constantly changing global environment. This session, moderated by Scott Savage (Deloitte, Canada), focused on how three clusters used novel collaboration methods to innovate and generate solutions that otherwise would not have been possible.

Cecilia Carrillo (CLELAC, Mexico) discussed the Nuevo Leon state’s refrigeration and air conditioning cluster and her organization, which has spent the past four years focusing on helping suppliers to improve, including through a pilot project contest where teams must be organized by a supplier.

Ricky Chan (Ontario Brain Institute, Canada) discussed OBI’s role in bridging the ‘innovation valley of death” by attracting capital for R&D to see research through to commercialization, as well
as their role in supporting the neuro-tech sector through talent development programmes such as internships. As a fairly nascent cluster, they are taking a unique approach to building clusters by involving universities and patient groups early in the discussion.

**Nathalie da Silva** (Steinbeis 2i GmbH, Germany) works on technology transfer between R&D and business for a cluster agency in the southwest region of Germany that supports 120 organizations. They often hold competitions to keep firms engaged because it helps firms realize there may be synergies.

**Adolfo Leon Moreno Gallego** (Medellin Chamber of Commerce, Colombia) noted the case study of the hospital sector, which they are measuring success of by reporting how many patients they received from international markets each year and the associated income. They have seen increases of 20 percent over the past five years, highlighting the importance of continual quality improvement.

### SCALING UP WITHIN A CLUSTER ECOSYSTEM

**Improving smart specialization strategies (B1)**

“Smart specialization” has become the new buzzword among cluster circles. This panel, moderated by **Merete Daniel Nielsen** (Cluster Excellence Denmark, Denmark) examined how S3 has led to the development of successful large-scale clusters in the past, and how the lessons learned can be used today for regional economic development.

Transformative activities follow singular and group projects and can become emerging industries given enough size/quantity of projects. This is why we need to identify transformative activities and act and encourage the final stage of emerging industry to be achieved, said **Bernhard Grieb** (VDI/VDE Innovation + Technik GmbH / ClusterAgentur Baden-Wuerttemberg, Germany). It is important to bring entrepreneurs, universities, and investment into the same room and facilitate a discussion so cluster activity can occur.

**Mirjana Prica** (Food Innovation Australia Ltd, Australia) discussed the cluster competition they used to overcome some of the consequences of federalism—such as food producers fighting each other domestically instead of uniting and competing globally. Of 32 applications, 9 moved onto refinement and full application
process, and four won including Tasmania, a small island with a variety of small alcohol makers, who are group together based on world-leading fermentation.

David Fernandez Terreros (SPRI-Basque Country Business Development Agency, Spain) said that the goal is not just specialization but smart diversification. Diversification is in contrast to the specialization that clusters traditionally encourages. He proposed using the cluster organization to push cluster players into new but somewhat similar industries while remaining in the cluster. Success demands early and active participation of the private sector and responsive support of cluster organizations in the activation of a project.

Growing regional cluster ecosystems (B2)
Innovation begins at the cluster stage and grows as intercluster ecosystems become stronger and more diverse. This session, moderated by Manuel Montoya (Cluster of Nuevo Leon, Mexico) examined strategies to move from a regional cluster to an international player by examining four regions.

Andreas Winkler (IDM Südtirol, Italy) stated that his region is very focused on smart specialization instead of just clustering, particularly in energy and environment (e.g., green tech, cleaning, heating), food production, and ICT and automation.

Werner Pamminger (Business Upper Austria, Austria) celebrated the fact that the 10 biggest clusters in Austria has 2,000+ companies and are almost completely self-financed. The focus over the next ten years will be to introduce bottom-up initiatives that stem from the company level.

Anne Cathrine Morseth (Innovation Norway, Norway): The cluster initiative is funded by government allowing them to work to promote clusters. Generally clusters’ importance is recognized by the public but the next step will be establishing additional cooperation between the east and west parts of the country as there is already significant action in the north and south.

One question that emerged from this discussion was how to manage IP at the cluster level. Panelists stated that:

- The cluster organization helps to settle IP issues with contracts and advice, preexisting IP agreements on how to share the IP;
• In-house IP expert provided to the companies so people do not feel they might lose out on their inventions by being part of the cluster; and
• Try to focus on spinoff businesses as a solution for IP.

Raising competitiveness through models of cluster organizations (B3)
A solid organizational structure can be the difference between mediocre clusters and truly international structures. This session, moderated by Frédéric Miribel (Invest in Lyon, France) looked at what it takes to set up robust cluster organizations and offer first hand models based on international best practices.

Merete Daniel Nielsen (Cluster Excellence Denmark, Denmark) found that professional cluster management comes down to more than just the cluster manager, there must be a ratio of staff to the companies they represent. Additionally, at least half the board and also the President should be from the private sector, with the rest representing stakeholders (i.e., the education sector).

Cecilia Johansson (Swedish Agency for Economic and Regional Growth, Sweden) has piloted a smart specialization project, similar to a cluster platform with multiple clusters representing the most promising specialization. It is important that clusters be based on the needs of the companies, there are shared values and continued dialogue, and organizational skills such as the ability to manage administration.

Mike Baker (Bluewater Wood Alliance, Canada) stated that cluster competitions create the necessity for companies to collaborate and establish strong network bonds. After partnering up, they learn that they can trust each other.

Nicolai Rottbøll (Quercus Group, Denmark) suggests finding the five to ten most important stakeholders who are most useful in starting a cluster organization. Not all will be from the private sector, other important players incubators. By doing so you can offload some of the startup work onto these big players which have buy-in already.
REGIONAL ECONOMIC DEVELOPMENT AND INCLUSIVE PROSPERITY

Developing clusters (C1)
This session, moderated by Victor Severino (Ontario Ministry of Economic Development, Job Creation and Trade, Canada), discussed what it takes to grow a cluster from the ground up. Panelists shared their stories of how their clusters formed under different circumstances but all with the same goal.

Tyler Rice (Margaux Resources Ltd, Canada), representing a mineral exploratory company, formed a cluster by working with a local environmental group, Streamkeepers, which was looking to clean up the environmental mess left by former mining sites. Expecting to not be able to work together given their very different motivations, they ended up collaborating with Cronimet, a German company known for remediating mining sites.

Martin Webber (J.E. Austin Associates, Inc., United States): In Burkina Faso, eastern Africa, there is a mango cluster that has largely self-formed. The initial issue the cluster faced was that it could not produce enough mangoes due to disease and post-harvest loss. Then they faced a branding problem, which was taken advantage of by higher value processors in neighbouring markets. Unaware of the increased return that could come from branding and processing, Webber added value by suggesting alternate avenues.

Zeljko Erkapic, (Klaster poljomehanizacije Agricultural Equipment Cluster, Croatia) shared that as a result of the 1991 war in Croatia, many firms and associated infrastructure were destroyed. But after ten years it was understood that clusters could be a kind of glue for the country to perform better in the global market. Five cluster initiatives were started, including agriculture. The idea was to keep production in Croatia, which had predominantly SMEs, despite globalization. As a cluster manager, Zeljko travelled to meet with more than 100 firms. As a result he received 42 letters of intention and 23 became associated partners. Eight of the partner companies are owners of the cluster. By attending world fairs they have internationalized their business and the cluster now exports more than 70 percent of its production.
Juergen Wengel (BMBF - Federal Ministry of Education and Research, Germany) reminded the audience that it is not possible to make a cluster from scratch; however, Germany is becoming more ambitious with its cluster policy, with the Future Cluster Initiative expected to focus on interesting new fields. Their view is that clusters are a good way to overcome the ‘innovation valley of death.’ To a large extent, steps forward are based on incremental innovations, such as applying new technologies in manufacturing.

The panel engaged in a lively discussion, with many audience questions, including one concerning the pros and cons of a business-led cluster versus a government-led cluster. Each panelist had thoughts on the topic:

- Martin noted that in most locations where J.E. Austin Associates, Inc. works, the government either has no understanding of value of cluster development or they have the tendency to be top-down, which adds a lot of cost. His suggestion to the private sector is to tell the public sector that a cluster initiative is something they want and provide them with details as to how they can help rather than have the public sector telling business what to do.

- Tyler agreed that clusters should be business-led. In his case, the mining and environmental sectors approached the government together to present a solution to a problem. However, they continue to look to the government to lead permitting given the liability in the regulatory environment of their sector.

- Zeljko noted that it depends on a country’s economy interested in forming clusters, but that business-led is best. However, government plays a very important role at the beginning.

- Despite representing the government on the panel, Juergen said he is a fan of bottom-up approaches. There is one way of combining bottom-up and top-down approaches, at least in the German case. There are research organizations and municipalities both with interests and competencies they can bring in. The way the federal government approaches the need for government funding is via competition. They simply picked the best proposals. Picking winners is difficult for government and three-quarters of winners ended up located in the south of Germany, which is fine as long as you have other measures to deal with disparity.
Regional cluster competitiveness strategies (C2)

Every region faces unique hurdles that they must overcome to develop their clusters. From a lack of data to the encouragement of technological adoption to smart specialization, the panelists gave insight into their particular challenges and the strategies they used to overcome them. The conversation was moderated by Marco Llinas (Bogota Chamber of Commerce, Colombia).

Rob McMonagle (City of Toronto, Canada) found one of the challenges in North America is a lack of cluster management organizations, which means there is often no way to track data. Working for the municipality, they do have access to land use planning data, which is collected by surveying companies and landowners and can be used for cluster mapping. Mapping is done based on industry classification data augmented with NAICS data which allows them to drill down into companies in the supply chain.

Malavika Kumaran (MaRS Discovery District, Canada) worked on mapping the Toronto region clusters. MaRS has been able to develop a robust overview of start-ups by integrating third party data and layering labour market data (wages, connections to universities, etc.). They are looking at analysis in two areas: cluster policy and its effects and how to conduct more predictive analytics to prepare a region for clustering such as traffic congestion that could occur from an influx of activity. So far MaRS has not found anything unexpected in the data which is why they are increasingly layering.

Ruben Dario Cadavid Marin (Medellin Chamber of Commerce, Colombia) stated that SMEs need to improve productivity and competitiveness. Thus, an ecosystem based on digital transformation and the digital economy is being developed. By taking a group of small businesses (28 in Medellin) and teaching digital transformation through four phases, they hope to increase productivity.

Sandy Baruah (Detroit Regional Chamber, United States) shared that Detroit has an interesting economic history, having gone from the wealthiest city in the US per capital in the 1920s, to one of the poorest in the 1970s, eventually filing for municipal bankruptcy in 2013. Nonetheless it has six clusters in the region that are organized or semi-organized including a very strong entrepreneur-led software cluster, a bioscience cluster...
that moved from heavy government subsidization to private sector led, and a strong defence corridor that is not particularly organized. He noted the importance of differentiating between a cluster initiative and regional economic development (FDI). Detroit has been under so much economic pressure for a long time that they have gone shallow, Sandy is now focusing on bringing the region a better clusters strategy so it is no longer behind.

**Smart specialization for regional cluster development (C3)**
Cluster development often happens in the extreme long term, according to moderator Örjan Sölvell (Stockholm School of Economics, Sweden). For example the Gothenburg regional economic transformation was based on evolution from sector to sector, from sugar in 1729 to 3D visualization in 2012. This session examined the end-to-end process of developing regional cluster policies through Smart Specialization Strategies (S3) in the Swedish context and ways to accurately evaluate outcomes of cluster strategies.

Emily Wise (IEC AB and Lund University, Sweden) agrees that transformative processes require long term, clear direction and the ability to mobilize a lot of actors over a long period of time. These processes require governance that involves collaborative leadership (not hierarchical models), the ability to mobilize people, evidence processes of change, and allow development of strategic direction over time.

Ewa Andersson (Swedish Agency for Economic and Regional Growth, Sweden) discussed an S3 clusters pilot that aims to strengthen clusters in regions that have chosen to prioritize them. The pilot used a spallating tool for aggregate analysis of common strengths and challenges in 22 clusters and workshops and seminars to exchange experiences and solve those shared challenges.

Mats Williams (WilConsulting.se, Sweden) notes that cluster organizations should work with five partners: government, research, education, financial sector, and global markets. But many companies do not want to work with public sector or researchers because their longer time frames do not align with business priorities, which tend to be short term. Mats introduced a dialogue tool for strategic cluster development that helps actors determine which relationships make sense to invest in.
**Firm growth and inclusive prosperity (C4)**

What if clusters can do more than just improve a region’s economic output? This session, moderated by Guenwoo Ryu (TCI Network Asia Chapter, South Korea) looked into ways clusters can and have changed societal outcomes for the panelist, improving not just the economy but health, education, the environment and overall sustainability while having a positive effect on the local economy.

**Rocio Prado** (Universidad Popular Autonoma del Estado de Puebla AC, Mexico): The 21st century makes a strong case for clusters to take actions and it is crucial to make companies understand they cannot succeed in a failing society.

**Sofia Norberg** and **Moa Eklund** (Vinnova, Sweden) noted that economic growth has always been a focus of the government agency but it is not the only focus—they also want to be a leader on implementing UN sustainability goals. All of Vinnova’s projects meet core missions (decent work and economic growth, industry innovation and infrastructure, gender equality, and reduced inequalities) with additional projects meeting targeted programs (e.g., good health, wellbeing and zero hunger).

**Alberto Pezzi** (ACCIO, Spain) explained that shared value is a simple concept but it has the potential to become powerful in the current economic and social context. The original social component of clusters must be re-discovered and enhanced in line with current needs and sensitivities. New agendas and incentives must be introduced by companies, governments, and cluster organizations to consolidate shared values.
ACADEMIC TRACK

**Governance and tech for cluster effectiveness (E1)**
This session looked at what it takes to design a cluster network that can increase cluster competitiveness, reach critical mass, and ween rentier states from resource dependence. Methods on cluster evaluation best practices were discussed, moderated by **Damian Dupuy**, Ontario Ministry of Economic Development, Job Creation and Trade, Canada.

Panelists:
- **Alan Cheib**
  Federation of Industries of the State of Minas Gerais, Brazil
- **David Adkins**
  University of Plymouth, United Kingdom
- **Malida Mookken**
  University of British Columbia, Canada

**Scaling collaborative networks for cluster growth in Canada (E2)**
Canada’s clusters have been given new life under the federal Innovation Supercluster Initiative. With new funding and renewed interest, this panel examined how these superclusters can scale up to become international centres of innovation, moderated by **James Wilson**, Orkestra-Basque Institute of Competitiveness, Spain.

Panelists:
- **David Wolfe**
  University of Toronto, Canada
- **Peter Phillips**
  University of Saskatchewan, Canada
- **Darius Ornston**
  University of Toronto, Canada
- **Ray Gosine**
  Memorial University/University of Toronto, Canada

**Structures of collaborative networks (E3)**
Clusters are only as strong as their weakest link, which is why structural organization is just as important (if not more so!) than the firms that make it up. This session, moderated by **Harald Bathelt** (University of Toronto, Canada), looked at successful applications of technology and governance structures used to revitalize clusters.
Luz Mercedes Mejia Lopez (Medellin Chamber of Commerce, Colombia) developed the School of Leadership for the fashion cluster in Medellin that brought together 57 presidents of large companies and created spaces for them to network and connect. Moreover, it created a space to discuss their concerns on raising competitiveness, market participation, and talent retention.

Jacques Bersier (HES-SO//FR Haute école d’ingénierie et d’architecture Fribourg, Switzerland) noted that there is no cluster policy in Switzerland but nonetheless the question emerged of how to improve and foster innovation within the enterprise. Therefore, they developed a smart specialization project with 11 regions and 65 countries.

Bryndis Einarsdottir (University of Monaco, Iceland) discussed the Icelandic oceans cluster, which is working towards 100 percent utilization of fish. Most countries that process fish for food only use 55 percent and throw the rest away. Fish products have many uses including fish leather (ten times stronger than regular leather) and pharmaceuticals. Today the cluster has sister clusters in Maine and Seattle despite beginning as a small cluster that emerged from a PhD study about collaboration of high tech entrepreneurs.

**Measuring and mapping clusters (E4)**

This session focused on specific regional measurements to increase competitiveness in clusters across the four sub-themes of the conference (scaling up within a cluster ecosystem, regional economic development and inclusive prosperity, mobilizing talent, and designing collaborative networks for innovation), moderated by Rob McMonagle, City of Toronto, Canada.

**Panelists:**

**Teresa Verduzco-Garza**
University of Monterrey, Mexico

**Margaret Dalziel**
University of Waterloo, Canada

**John Hobbs**
Cork Institute of Technology, Ireland
MOBILIZING TALENT AND DIVERSITY

Gender diversity and cluster competitiveness (D1)
A lack of gender diversity results in unused resources and a loss of market potential within the innovation ecosystem cluster. A healthy gender and diversity mix at all levels (company, cluster, policy) is decisive for inducing innovation. This session featured global perspectives and discussed how to incorporate gender and diversity within cluster strategies, and was moderated by Lucia Seel, Lucia Seel International Consulting, Austria.

Besides sharing knowledge on existing initiatives and approaches, the session also identified the need for concrete actions from the cluster perspective, such as building awareness (including at the policy level), statistical data, exchanging best practices, building capacity, and mentoring SMEs, in order to put the theme on the cluster agenda.

Opening remarks:
Ulla Engelmann
European Commission, Belgium

Panelists:
Nathalie da Silva
Steinbeis 2i GmbH, Germany

Tracy Scott-Rimington
Regional Development Australia — Brisbane, Australia

Anna Falth
UN Women, United States

Mirjana Prica
Managing Director of FIAL, Australia

Jonas Bergholm
Development Manager of the Region of Skane, Sweden (via video conference)
**Talent attraction (D2)**
What methods are there for not only attracting top-level international talent but keeping them in the local economy? Our panelists looked into these questions based on their own experiences and compared these methods to successful international examples.

**Panelists:**
- **Marcus Andersson**  
  Future Place Leadership, Sweden
- **Jagdish Yadav**  
  City of Toronto, Canada
- **Melissa Pogue**  
  MaRS Discovery District, Canada

**Moderator:**
- **Tracy Scott-Rimington**  
  Regional Development Australia - Brisbane, Australia

**WORKSHOPS**

**Capacity enhancement for cluster support organisations**
For many Business Support Organizations (BSO), cluster development is an opportunity to expand their service offer to their members and other local enterprises. The workshop was facilitated by **Martin Dellavedova** (SISTME Monitoring & Evaluation, Argentina) and **Ulrich Harmes-Liedtke** (Mesopartner, Argentina) who have worked extensively in the Caribbean. They presented both the Balance Scorecard Approach, which can be used at any level to attract businesses to a region, and Social Network Analysis, which maps the relationships between firms through asking questions that demonstrate the links between major players.
Clusters and internationalization

This workshop, facilitated by Ifor Ffowcs-Williams (Cluster Navigators Ltd, New Zealand), broke the participants up into four groups to answer several questions.

What is the role of a cluster organization? Participants highlighted several key areas of responsibility that lie with cluster organizations including:

- Identifying international partners, conducting trade missions, and attracting FDI;
- Market analysis, SWOT/gap analysis, competitor mapping, and territory branding;
- Funding, lobbying for the clusters interests, and activating trade associations; and
- Value chain thinking and supply chain management.

What are the challenges cluster organizations face in implementing these roles? Participants highlighted several key areas including:

- Lack of trust among partners;
- Lack of resources (money, ideas, data, HR) or lack of knowledge of markets;
- Inadequate cluster governance or model and lack of a single voice/strategy/goal;
- Cultural, linguistic or financial barriers; and
- Political or economic risk.
Evidencing the benefits of cluster programmes — towards a framework of effects

While there are many cluster initiatives, there are few ways to evaluate them which can prevent funding from being disbursed as there is no way to prove their value. Cluster policies are not linear (i.e., good policies do not necessarily translate into good outcomes. And external factors, such as collaboration have huge influence on their success.

This workshop introduced cluster programme impact analyses that have already been used in several countries. Notably there are three different levels in evaluating a cluster: individual actors (firms), the clusters themselves, and the system (society). When examining changes within the cluster they are done at these levels in either the short or long term.

<table>
<thead>
<tr>
<th>SHORT-TERM CHANGES</th>
<th>LONG-TERM CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTOR</strong></td>
<td></td>
</tr>
<tr>
<td>Changes in strategy</td>
<td>Revenue, profits</td>
</tr>
<tr>
<td>Common training</td>
<td>Employment gains</td>
</tr>
<tr>
<td>Funding applications</td>
<td>Productivity gains</td>
</tr>
<tr>
<td><strong>CLUSTER</strong></td>
<td></td>
</tr>
<tr>
<td>New partnerships developed</td>
<td>Higher Location Quotient</td>
</tr>
<tr>
<td><strong>SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td>Wage increases</td>
<td></td>
</tr>
<tr>
<td>S3 strategies</td>
<td></td>
</tr>
<tr>
<td>Investments in response to social challenges (e.g., Green tech)</td>
<td></td>
</tr>
<tr>
<td>University system changes</td>
<td></td>
</tr>
<tr>
<td>Spillovers</td>
<td></td>
</tr>
<tr>
<td>Lobbying activities</td>
<td></td>
</tr>
</tbody>
</table>

This workshop was facilitated by: James Wilson, Orkestra-Basque Institute of Competitiveness, Spain; Emily Wise, IEC AB and Lund University, Sweden; and Madeline Smith, The Innovation School at the Glasgow School of Art, United Kingdom.
MEETING: SMART DIGITAL ECOSYSTEMS THROUGH CLUSTERS

This was the second meeting of the TCI Digital Transformation Learning Group. The Group helps transform clusters by digitizing with the right knowledge and tools. This meeting was led by Vincent Dugré, Bivizio, Canada and Antonio Novo, Spanish Federation of Clusters, Spain. The group discussed The Open Group Architecture Framework model which has proven popular among users—currently there are nine members but that number is expected to grow as membership is free and it is an open and collaborative network that is fully customizable for users’ particular needs. Also discussed was Business Metropolitan Ruhr GmbH, which was formerly a steel and coal industry cluster but has transitioned towards more knowledge-based economies. Notably they have a “digital hub” built to support start-ups and SMEs which includes workshops, hackathons and accelerator programs.

GLOBAL MATCHMAKING

Global Matchmaking provided delegates with 20-minute, one-on-one meetings with other delegates to develop business relationships, discuss lessons learned and best practices, and find partners for their initiatives.

70 participants 121 meetings 19 countries
ORGANIZERS

ABOUT THE HOST
The Institute for Competitiveness & Prosperity is an independent, not-for-profit organization that deepens public understanding of macro and microeconomic factors behind Ontario’s economic progress. It is funded by the Government of Ontario and are mandated to share our research findings directly with the public.

For more than 17 years, the Institute has advocated for the development of strong clusters in the province of Ontario to close the prosperity gap between the province and its peer jurisdictions. It remains the only source for Canadian cluster data and is recognized for its focused work on clusters.

More information can be found on the Institute’s website: http://www.competeprosper.ca.

TCI GLOBAL CONFERENCES
For two decades, the annual TCI Global Conference brings together experts in the field from around the globe and aims to be a forum to create progress in the practice of cluster development, regional competitiveness, and innovation support. The conferences are the meeting point for the TCI community and are open to members and non-members of TCI.

Since 1998, TCI has been received in outstanding cities and regions from the five continents, renowned for building competitiveness strategies from the strengths of their clusters and people: Barcelona (Spain), Varese (Italy), Glasgow (UK), Tucson (USA), Cairns (Australia), Gothenburg (Sweden), Ottawa (Canada), Hong Kong (China), Lyon (France), Portland (USA), Cape Town (South Africa), Jyväskylä (Finland), Delhi (India), Auckland (New Zealand), Basque Country (Spain), Kolding (Denmark), Monterrey (Mexico), Daegu (South Korea), Eindhoven (Netherlands), and Bogotá (Colombia).

For more information on the TCI Network’s conferences, please visit: http://www.tci-network.org/conferences.

ABOUT THE TCI NETWORK
TCI Network is the leading global network of more than 9,000+ main organizations and practitioners with deep expertise in clusters and competitiveness, who collaborate in a unique open, flexible and practical context to advance in the practice of competitiveness, innovation and cluster development. For more information on the TCI Network, please visit www.tci-network.org.
CREDITS

This conference would not be possible without the many individuals who have contributed their time and energy to help us deliver an outstanding event. Thank you to each and everyone of these individuals.

CO-CHAIRS
Tiff Macklem
Dean, Joseph L. Rotman School of Management, University of Toronto; Chair, Ontario’s Panel on Economic Growth & Prosperity

Jamison Steeve
Executive Director, Institute for Competitiveness & Prosperity; Executive Director, Martin Prosperity Institute

CONFERENCE DIRECTOR
Dorinda So
Research Director, Institute for Competitiveness & Prosperity

LOCAL STEERING COMMITTEE
Harald Bathelt
Canada Research Chair, Innovation and Governance, Department of Political Science, University of Toronto; Professor, Department of Geography and Planning, University of Toronto

Jan De Silva
President & CEO, Toronto Region Board of Trade

Damian Dupuy
Director, Innovation Economy Strategies, Ontario Ministry of Economic Development, Job Creation and Trade

Farah Huq
Director, Future of Canada Centre, Deloitte Canada

Toby Lennox
President & CEO, Toronto Global

Rob McMonagle
Senior Advisor — Green Economy, Economic Development & Culture, City of Toronto

Jennifer Miller
Director General, Innovation Superclusters Initiative, Innovation, Science and Economic Development Canada

Greg Spencer
Professor, University College Dublin (formerly Martin Prosperity Institute)

TCI Network representative
Vincent Dugré
Co-Founder, Bivizio
EVENT MANAGEMENT
Jennifer Hilborn
President, Esteemed Events
Sarah Varley
President, Esteemed Events

GRAPHICS
Michelle Hopgood
Graphic Designer, Martin Prosperity Institute

COMMUNICATIONS AND MEDIA RELATIONS
Margaret Campbell
Policy Analyst & Communications Specialist, Institute for Competitiveness & Prosperity

ADVISERS
Christopher Mack
Research Supervisor, Institute for Competitiveness & Prosperity
Jacob Greenspon
Policy Analyst, Institute for Competitiveness & Prosperity
Helene Kwong
Jackie Monahan
Executive Assistant, Rotman School of Management
Melissa Pogue
Manager, Program Research, Venture Talent Development, MaRS Discovery District
Sophia Sedaris
Valeria Sladejovic-Sola
Executive Assistant, Martin Prosperity Institute
MJ Edun
Administrative Assistant, Institute for Competitiveness & Prosperity

EXPERIENCE (DAY 1)
COMMITTEE
Paul de Freitas
Strategist, Institute without Boundaries
Luigi Ferrara
Dean of Centre for Arts, Design and Information Technology, George Brown College
Carrie Gaetz
Executive Assistant, Institute without Boundaries
Robert Guisti
Special Projects Manager, Institute without Boundaries
Bethany Moir
Director, Research & Insights, Toronto Global
Christopher Pandolfi
Academic Lead & Urban Designer, Institute without Boundaries

EXCHANGE (DAY 3)
COMMITTEE
Weseem Ahmed
Policy Analyst & Clusters Specialist, Institute for Competitiveness & Prosperity
Melissa Pogue
Manager, Program Research, Venture Talent Development, MaRS Discovery District

PHOTOS & ICON DESIGN
Cover Photo: AppleZoomZoom / iStock