



# Proceedings: Ontario (Canada)-India-Israel Trilateral Roundtable on Water Technologies

Hosted on February 24 and 25, 2011  
Toronto, Ontario

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<http://www.istpcanada.ca/News/TrilateralRoundtable/index.php>

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# ONTARIO (CANADA) INDIA ISRAEL



## TRILATERAL ON WATER TECHNOLOGIES

### 1. Executive Summary

Water represents one of the most powerful and life-giving forces on earth. Although 70 percent of our planet is covered in water, less than one percent is readily accessible fresh water. Moreover, available fresh water is threatened by pollution, heightened global competition (particularly from agriculture and other industries that require extensive water for production), poor water management and the increasing commoditization of this scarce resource. It is an issue that is particularly pertinent in India.

Increasing urbanization, industrial growth, climate change, and over use of the ground water have led to major problems in the quality and availability of freshwater across the country. Recognizing the severity of this issue, the Supreme Court of India has asked the Department and Science and Technology (DST) to focus on the development of potential water solutions that leverage advanced technologies. Dr. Ramasami, Secretary, Department of Science and Technology in India, has been assigned as the leader for this initiative. During the last Canada-India joint committee meeting, Dr. Ramasami proposed trilateral R&D activity in water technologies that engages Canada, India and Israel, and enables all three nations to leverage their respective expertise to address key water problems in India. Water technologies have the potential to improve the protection, treatment and management of this essential resource. They also represent a lucrative global market opportunity as the water technology sector is valued at more than \$400 billion.

To help address the water challenges facing India, ISTP Canada, together with India's Global Innovation Technology Alliance (GITA), the Government of Ontario, the Canada-Israel Industrial R&D Foundation (CIIRDF), and Ontario Centres of Excellence (OCE), hosted the **Ontario (Canada)-India-Israel Trilateral Roundtable in Water Technologies on February 24 and 25, 2011 in Toronto, Ontario**. This event represents the first milestone in a broader strategic initiative that aims to harness the complementary strengths of all three nations; stimulate trilateral R&D on technology-based water solutions that address specific issues facing India; and open new markets for participating companies. The emerging three-way partnerships will provide participating innovators with a competitive advantage in the Indian market, enabling them to seize near-term commercial opportunities and increase the export of innovative technology to India.

This event brought together more than 70 experts from industry, academia and government from all three countries, as well as observers from other nations such as China, to better understand key Indian water challenges; meet prospective partners; and explore trilateral R&D collaboration on water technology solutions that address specific issues facing India. It aimed to help participants to capitalize on a near-term market opportunity as the Government of India seeks to procure leading-edge water technologies over the coming years.



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With a focus on action, the event generated several next steps to be championed by ISTPCanada, DST/GITA, and delegates across the three countries. With a strong commitment to build on the momentum established during the roundtable, key recommended actions included:

- Follow-up with participating companies from the three jurisdictions to promote continued matchmaking and stimulate mutually beneficial opportunities for R&D collaboration
- Development of a water technology assets database and roadmap for Canada and India
- Active promotion of the Request for Proposals (RFP) for pilot projects to be released by the Government of India in April 2011 across Canada and Israel
- The conduct of a follow-up Partnership Development Activity (PDA) in water technologies in India that provides delegates with an opportunity to assess various water challenges first-hand
- Release of a trilateral Call for Proposals (CFP) that draws on existing investment mechanisms in all participating countries
- Further exploration of specific collaborative R&D project ideas emerging from the roundtable



*On February 24, 2011, more than 100 distinguished guests gathered at the opening reception of the Ontario (Canada)-India-Israel Trilateral Roundtable on Water Technologies in Toronto, Ontario. This special event featured speaking remarks from (left to right) Dr. S. Prabhakar, Scientist and Head Separation Technology Section, Desalination Division, Bhabha Atomic Research Centre (BARC), India; Dr. Pierre Bilodeau, Vice President, ISTPCanada; keynote speaker, the Honourable Glen Murray, Minister of Research and Innovation, Government of Ontario; Dr. Tom Corr, President and CEO of Ontario Centres of Excellence (OCE); and Mr. Dan Vilenski, Director of the Board, Israel National Nanotechnology Initiative, Israel.*





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## 2. Overview of the Roundtable

**Day 1: Thursday, February 24, 2011**

### Site Visit

The two-day roundtable event opened with a visit to the G. E. Booth (Lakeview) Wastewater Treatment Facility on the shore of Lake Ontario in Mississauga, organized by the Ontario Clean Water Agency (OCWA). This facility has a total daily capacity of 448,000 cubic metres of wastewater delivered via three trunk sewers from homes and businesses in Bolton, Caledon East, Brampton and other parts of eastern Mississauga. International delegates were briefed on the mandate of OCWA, including the operation of this and other water facilities across Ontario.

### Matchmaking Meetings

Following the site visit, delegates and more than a dozen Ontario-based companies participated in a matchmaking session that featured more than 80 one-on-one meetings with industry leaders from across the three countries. Firms attending the matchmaking meetings included Canadian and Israeli water technology and service providers, as well as Indian companies seeking innovative clean water solutions. As part of the matchmaking, ISTPCanada made arrangements for Indian and Israeli representatives to advise Canadian companies on how to access programs and build effective alliances. Many of these delegates are now organizing follow-up discussions to further explore specific opportunities for R&D partnership. Representatives from ISTPCanada, GITA and CIIRDF committed to facilitate further relationship building among participants to promote and help nurture collaboration among innovators in the three countries.

### Opening Reception

The opening day of the roundtable event concluded with an opening reception that brought together more than 100 distinguished guests and featured keynote speakers from Ontario (Canada), India and Israel. This included the Honourable Glen Murray, Minister of Research and Innovation, Government of Ontario; Dr. Sivaraman Prabhakar, Scientist and Head Separation Technology Section, Desalination Division, Bhabha Atomic Research Centre (BARC), India; Dr. Pierre Bilodeau, Vice President, ISTPCanada; Dr. Tom Corr, President and CEO of Ontario Centres of Excellence (OCE); and Mr. Dan Vilenski, Director of the Board, Israel National Nanotechnology Initiative, Israel.





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**Day 2: Friday, February 25, 2011**

## Opening Plenary Session

The second day of the event featured an opening plenary session that provided delegates with an overview of the water landscape water challenges and priorities facing India, we well as the R&D strengths Canada, Israel and India in water technologies. Speakers included:

- Dr. Sanjay Bajpai, Scientist in Solar Energy & Water, Department of Science & Technology (DST), India
- Mr. Gil Sadeh, CEO, d&a Visual Insights, Israel
- Dr. Anthony Watanabe, President & CEO, Innovolve Group, Canada

All presentations are available on the ISTPCanada website at:  
<http://www.istpcanada.ca/News/TrilateralRoundtable/index.php>

## Roundtable Discussion:

Building on the valuable context established during the plenary session, participants enjoyed roundtable discussion among experts from all three countries on specific water challenges, priorities and opportunities for trilateral R&D and technology cooperation. The outcomes of this session will influence next steps and the development of a three-way action plan over the coming year.

The roundtable engaged 14 leaders from academia, industry and government from Ontario (and Canada more broadly), India and Israel, who shared their perspective on six key questions:

- What are some of the greatest water challenges facing India? What specific factors or elements underlie these challenges?
- What are the key issues in meeting India's needs?
- What are the opportunities presented by India's needs (for technology innovators and companies)?
- How can Canadian, Indian and Israeli strengths be leveraged to address these requirements?
- What investment mechanisms are presently available to help accelerate R&D collaboration that addresses these specific water challenges in India?
- What action is recommended? What are the next steps?

The vigorous discussion yielded many perspectives from participating leaders, and led to the following recommendations:

## Development of a Water Technology Assets Database and Roadmap for Canada and India

Participants emphasized the need to create a Canadian and Indian water technology asset database and roadmap (modeled on the existing Israeli ones) to facilitate the exchange of knowledge and enable effective trilateral collaboration. Although each country possesses unique R&D and technology strengths,





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no single nation has all the expertise and resources required to address our complex water challenges. It is essential for collaborators to understand and leverage the distinct competencies and resources across the three countries when establishing partnerships and cooperative R&D projects. The development of standardized, country-specific water technology databases and roadmaps would not only increase the availability of such information, it would help to create a consistent and common language for collaborators. These tools could also be used by key decision-makers to acquire a snapshot of the water technology landscape, identify lucrative water technology opportunities, and facilitate effective matchmaking among prospective partners.

### ***Explore Opportunities to Draw on Existing Models of Trilateral R&D Collaboration***

Panelists noted that a solid platform of R&D cooperation is required to move forward from innovation to implementation and capitalize on the significant opportunity for water technologies in India. The group emphasized the need to develop and implement a trilateral model of R&D collaboration that addresses the unique needs of, and delivers value to, each participating nation. Delegates discussed the attributes of several models of R&D collaboration including: the [Israel-US Bi-National Industrial Research and Development Foundation \(BIRD\)](#); the [Israel National Nanotechnology Initiative \(INNI\)](#); [Israel's MAGNET Program](#); and the [7<sup>th</sup> Framework Program in Europe](#). Participants also noted that collaboration should be guided by a comprehensive strategy that is founded on best global practices, shared performance targets and measures.

### ***Engage Indian Technology End-Users in the Development of Water Solutions***

India's top water priority is the provision of clean drinking water for all citizens. With 80 municipalities and more than 5,000 local water bodies, the availability and quality of water varies dramatically across the country. Although India is committed to delivering clean drinking water to its entire population '24 /7', this is not the current reality. Leveraging their R&D strengths and resources, Canada and Israel can help India to address these challenges, and achieve the goal of 'clean water for all'. Indian delegates emphasized that solutions must be sustainable and acceptable to the population. End-users must be fully engaged throughout the development and implementation of solutions to ensure feasibility, ease of use and efficacy in the designated region. Panelists also reiterated the need for industry matchmaking to ensure that Indian companies have the opportunity to contribute to collaborative projects with Canadian and Israeli counterparts. All solutions should draw on local expertise, stimulate increased economic development in resident communities, and enable the Indian population to derive economic benefit from collaborative projects.





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### ***Increase India's Technological and R&D Capacity for Water Projects – and Create New Market Opportunity for Global Partners***

The Indian market for water technologies is currently estimated to be \$48 billion. The challenge: India lacks the technology, R&D capacity and investment required to fully capitalize on this opportunity, and undertake many high potential water projects across the country. An India Committee on Water has recently recommended increased government-industry collaboration to help address this issue, and further accelerate economic growth across the Indian water technologies industry. This creates opportunities for Canadian and Israeli partners to build on these efforts, add value to these national cooperative initiatives and gain facilitated entry into this market. Consistent with this view, panelists emphasized that cooperation on water challenges should be accelerated and integrated at all levels: within and across communities, regions, states, and nations.

### ***Promote Request for Proposals (RFP) for Pilot Projects to be Released by the Government of India across Canada and Israel***

The Government of India is seeking innovative water solutions that can be demonstrated, applied and replicated in different regions across the country. In support of this objective, the Government of India (DST/GITA) will issue several Requests for Proposals (RFPs) for water technology pilot projects. Given the timeliness of the upcoming Calls, panelists recommended that:

- DST/GITA provide all relevant RFP information to ISTP Canada and CIIRDF for distribution to prospective collaborators across Canada and Israel
- ISTP Canada, GITA and CIIRDF host information sessions (conference calls or webinars) to address questions from potential Canadian, Indian and Israeli respondents
- The Government of India (DST/GITA) organize and host a follow-up trilateral Partnership Development Activity in India upon the release of the RFP to help Canadian, Indian and Israeli companies better understand the community-based water supply and treatment requirements, explore pilot locations and assess site-specific conditions first-hand

### ***Release of a Trilateral Call for Proposals (CFP) that Leverages Existing Investment Mechanisms in all Participating Countries***

- ISTP Canada, GITA, CIIRDF, and MATIMOP (Israel) should issue a trilateral Call for Proposals (CFP) on water technologies facilitate three-way R&D collaboration on innovative water solutions that address critical R&D challenges





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## Breakout Sessions: Water Needs Assessment and Collaborative Solutions

Following the roundtable, delegates convened in three breakout sessions to discuss specific opportunities and project ideas for R&D collaboration in water technologies in:

- Integrated water resources management
- Safe water supply
- Managing water demand

Each group was asked to consider technological strengths, innovative solutions and market adoption when developing initial proposals. Specific topics of interest included:

- Optimized and integrated technology-based solutions
- Use and reuse of urban and industrial wastewater (new water)
- Agricultural irrigation
- Green buildings
- Water and energy efficiency
- Water metrics
- Education, awareness and training

Initial project ideas included a:

- Watershed project that enables greater protection of India's water supply
- Water standards development project that proposes specific regulations on water use in India
- Water reclamation and re-use project that enables the pilot testing of new technologies and their applicability in India

Breakout group participants emphasized the need for targeted workshops to maintain momentum and take action on priority topics. These include the establishment of concrete project objectives, performance measures, optimization strategies, and community-based solutions that can be implemented across India and other regions around the world.



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## 3. Outcomes and Next Steps

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Participants acknowledged that the roundtable fostered an improved understanding of the specific water challenges facing India; provided a forum for essential dialogue among the three countries; and catalyzed action that promises to stimulate trilateral collaboration and the development of innovative water technologies with high market potential.

For additional information on the *Ontario (Canada)-India-Israel Trilateral Roundtable on Water Technologies* or the proposed follow-up Partnership Development Activity in India, please contact:

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