Implementation of the Strategic Initiatives through Collaboration between Section and Chapters: IEEE Toronto International Conference – Science and Technology for Humanity

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IEEE Toronto Section
serving members and the community since 1903
The Toronto Section of the Institute of Electrical and Electronics Engineers

Conference website
http://toronto.ieee.ca/tic-sth2009/

Abstract

The purpose of the poster is to share experience and knowledge gained by the IEEE Toronto Section in implementing strategic initiatives through collaboration between Section and Chapters. The main focus is made on the organization and successful delivery of the 2009 IEEE Toronto International Conference – Science and Technology for Humanity (IEEE TIC-STH) – a large-scale international event.
The poster will present interest to a wide audience of the Sections Congress 2011. Attendees will benefit from the poster and presentation by acquiring knowledge of innovative methods used by the Toronto Section and practical recommendations on:
- How to plan and deliver strategic initiatives.
- How Section and Chapters can work collaboratively to engage local universities and colleges in the IEEE activities.
- How to integrate celebration of an IEEE Milestone (in our case First External Pacemaker) into a conference agenda to increase public visibility for the IEEE and the Section.
- How to use web conferencing technologies to deliver an integrated on-site and on-line conference.
- How to deliver a financially sound event in economically uncertain times.

Oral presentation will be delivered by Dr. Xavier Fernando, IEEE TIC-STH Conference General Chair.

Strategic Thinking

As in any business planning, the most important task for the section's executive committee is to set strategic directions for the section for the next term (usually two years). For each section these directions will be different. They will depend on the section's priorities, resources, etc. However, the following criteria should help identifying the strategic initiatives for any section. The strategic initiative should:

- Influence large segment of the section membership;
- Address cross-chapter technical interests;
- Require and stimulate collaborative work of many members of the Executive Committee;
- Increase section's public visibility (beyond the IEEE constituency).

A strategic initiative could be a one-time event or a series of coordinated activities that meets one or more of the above criteria. Experience shows that there should be no more than three to five strategic initiatives for a two-year period. It needs to be mentioned that strategic initiatives are not replacing regular events delivered by the individual technical chapters and committees.

In 2008-09, IEEE TIC-STH 2009 conference was considered one of the Toronto Section's strategic initiatives. That means that conference preparation was placed high on the section's priority list and there was a consensus among the executive committee regarding the importance of these activities and willingness to personally participate in them. Reaching such a consensus is crucial for the success of any strategic initiative because they require a lot of collaborative work and personal commitment of the executive committee members is necessary.

Another necessary component of the strategic initiative is a clearly stated, quantifiable goal. Strategic initiatives, as most activities the Section was conducting in 2009, were dedicated to the IEEE 125th Anniversary, celebrating the history of the global organization and contributions to the profession by members of the IEEE Toronto Section.

Conference

IEEE Toronto International Conference on Science and Technology for Humanity (TIC-STH 2009) was held at Ryerson University, Toronto Canada on September 26-27, 2009.

The conference was focused on advanced interdisciplinary problems across a broad spectrum of the IEEE fields of interest. The scope was not limited to the traditional IEEE areas – electrical, computing, and engineering. There were very strong papers in education, social implications of technology and sustainable development of the society.

The conference attracted 360 papers by authors from 29 countries out of which 186 papers were finally accepted. Full papers were peer reviewed and only the top ones were accepted. The conference Proceedings in IEEE Xplore®.

In addition to providing a forum for research dissemination and networking, the conference also highlighted three excellent tutorials, five plenary/key note speeches and an award banquet. Close to 250 people attended the conference.

IEEE TIC-STH 2009 turned out to be a huge success story from all perspectives: technical, organizational, financial and customer satisfaction.

Region	Authors	%
Canada	*306*	*65.2*
Europe, Middle East, Africa	73	15.6
Asia/Pacific	49	10.4
United States	26	5.5
Latin America	13	2.8
Other	2	0.4

Table 1: Author Demography

Symposium	Acceptance Rate
Symposium on Information Assurance, Biometric Security and Business Continuity	47.1 %
Symposium on Biomedical Engineering	50.0 %
Symposium on Emerging Scientific Methods and Technologies	47.6 %
Symposium on Engineered and Natural Complex Systems-Modeling, Simulation and Analysis	77.3 %
Symposium on Human Factors and Ergonomics	66.7 %
Symposium on Education and Social Implications of Technology	54.8 %
Symposium on Sustainable Development and Energy Availability	48.6 %
Symposium on Technology, Information and Knowledge Management	50.0 %
Special Sessions	66.7 %
Symposium on Advances in Systems and Sensors	62.2 %
Weighted Average	**51.6 %**

Table 2: Acceptance Rate

Special Session: IEEE Milestone – First External Cardiac Pacemaker

A special conference session was organized to commemorate the invention of the first external cardiac pacemaker. Dr. John Hopps, a pioneering Canadian Biomedical Engineer worked for National Research Council is credited with the invention of world's first external artificial pacemaker in1951 in Toronto. This invention is very significant because it reflected for the first time that electronics engineering technology was applied to medicine.

The external cardiac pacemaker was approved by the IEEE as a milestone in 2008.

The session included presentations from academia, hospitals and medical industry on the topics such as "Cardiac Electrophysiology Advancements", Electrical Engineering Applied to Cardiac Electrophysiology", "Cardiac Pacemakers -- Industrial Perspective". In our opinion, organizing a symposia or a workshop on the topic of the milestone is very appropriate to reveal how the initial invention stimulated further development of science and industry.
The plaque dedication ceremony at the Banting Institute at the University of Toronto took place on September 26, 2009. It was attended by the Toronto Section volunteers, representatives of the Region 7 (Canada) and members of the Dr. Hopps family.
The plaque unveiling ceremony was naturally continued in-house as part of the special session at TIC-STH. This session was attended by several dozen people. Also the session was broadcast using web conferencing.

Web Conferencing

The use of the web conferencing technologies has been envisioned as a differentiating feature in the delivery of the IEEE TIC-STH 2009 since its inception. The objective of the conference (as it was announced in September 2008) was to deploy the following model: A multi-point worldwide distributed network of conference authors/participants will enhance the standard (centralized) IEEE conference model, which requires attendance of the participants in person at the main conference location. The participants will be given a choice of delivering conference papers, tutorials, etc. either at the central conference site (hotel) or from their home/ office computers wherever they are, eliminating the need of costly and time-consuming travel. This model will require seamless integration of the onsite and online conference systems, including data/presentation, video, audio, feedback, etc. We call this model a "Truly Integrated Conference" (TIC).

IEEE TIC-STH 2009 was the first conference that realized the truly integrated concept for all the scheduled presentations. There were at maximum 8 concurrent (onsite/online) presentations. For this purpose 16 volunteers were trained to work with the conference web conferencing system.

Our web conferencing platform was run on the ePresence hosting service.

Analysis of the commercially available web conferencing solutions has shown that none of them fully satisfies the TIC concept requirements. Conference organizers have to prioritize requirements based on the specific needs of the conference and, most likely, give up on less important ones.

Success Factors

IEEE TIC-STH 2009 was a high-risk project:

- **First-time experience for the Toronto Section.**
- **Limited financial resources.**
- **Organized and delivered during turbulent economic times.**

The following factors contributed the most to the overall success of the conference:

- **Approaching the conference as a strategic section activity**
  - **All section officers were members of the organizing committee;**
  - **50% of the section Executive Committee were members of the organizing committee.**
- **Selecting advanced interdisciplinary areas across a broad spectrum of the IEEE fields of interest and grouping them into nine (9) symposia.**
- **Full-paper peer review.**
- **Publishing proceedings in the IEEE Xplore.**
- **Setting low registration fee - $299.**
- **Using university facilities.**

References

X. Fernando "IEEE Toronto Section Holds its First International Conference on Science and Technology for Humanity". *IEEE Canadian Review,* Fall 2010, No. 64, p. 15.

A. Botchkarev "Strategic Thinking for the Section" *The Institute*, 2010, July.

A. Botchkarev "Toronto Section Celebrates, and Celebrates, a Milestone" *The Institute*, 2011, February.

A. Botchkarev "IEEE Toronto Section in 2008 – 2009. Aspirations and Achievements. Ex-Chair Notes." 2010. 19 pp. IEEE Toronto Section website: http://toronto.ieee.ca/IEEETS20082009NotesAlexBot.pdf

A. Botchkarev, L. Zhao, H. Rasouli "Designing a Truly Integrated (Onsite and Online) Conference: Concept, Processes, Solutions". *IEEE Canadian Review,* Winter 2010, No. 62, pp. 15 - 19.

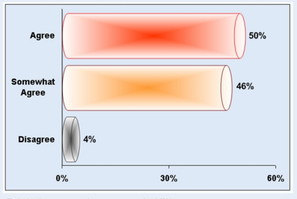
(Results of the same project as above, a full-length article)
A. Botchkarev, L. Zhao, H. Rasouli "Designing a Truly Integrated (Onsite and Online) Conference: Concept, Processes, Solutions", http://arxiv.org/ftp/arxiv/papers/1001/1001.1794.pdf, 2010.

Public Visibility Impact – Conference Website Visits

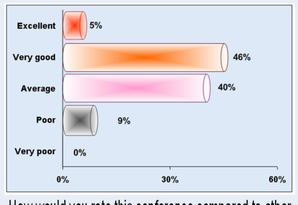
Over 15,000 visits came from 152 countries (2,057 cities) in the "New Visitors" segment.

Post-Conference Survey Results

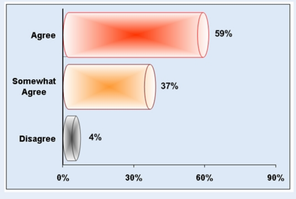
164 authors were invited to participate in the survey. 80 responded (~50% response rate)



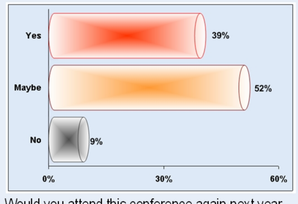
Did the conference fulfill your reason for attending?



How would you rate this conference compared to other conferences of this type that you have attended?



OVERALL -- The conference was well organized



Would you attend this conference again next year (or in 2011)?