Industry Forum at ICRA 2019

By Tamás Haidegger and Dominik Bösl

The IEEE Robotics and Automation Society (RAS) Industrial Activities Board (IAB) has been involved with various activities at past editions of the IEEE International Conference on Robotics and Automation (ICRA) (e.g., the RAS Standards Strategy Meeting). Probably the most exciting event at this year’s ICRA in Montréal was the (newly reshaped and restructured) Industry Forum held on Monday, 20 May 2019. The recurring ICRA Industry Forum is a showcase of successful robotics and artificial intelligence (AI)-based businesses from across the globe, featuring renowned entrepreneurs speaking about their successes and failures, business models, market potentials, and technology trends. It is open to all ICRA attendees and should be particularly interesting for those who aspire to robotics and AI entrepreneur careers.

This year, the program included three key tracks: the traditional Industry Forum, the Robotics Innovation and Entrepreneurship Forum, and the joint IEEE/International Federation of Robotics (IFR) Innovation and Entrepreneurship Awards in Robotics and Automation (IERA). The latter is a biannually hosted event that highlights and honors the achievements of inventors whose ideas translate into world-class products. The award is jointly sponsored by the IEEE/RAS and IFR and hosted at IEEE and IFR conferences in alternating years.

Dominik Bösl, vice president of the RAS IAB, hosted the Industry Forum and gave an enlightening talk on the future of robotics and the use of robotics at his company, Festo AG (Figure 1). Keynote lectures included talks on innovation and talent management, such as “Building Together From Lab to Market” by Juliana Lim (SGInnovate, Singapore), and technical presentations, including “Robots to the Market” by David Dubois (Kinova, Canada), “Field Robotics and Its Challenges” by Hisashi Sugiura (Yanmar, Osaka) and “Power of Cloud Robotics” by Robert Zhang (CloudMinds Technology, Beijing).

This year, to better fit companies’ increasing R&D outreach needs, an open call was issued to solicit contributions from across the industries affected by robotics. The RAS IAB requested works on potentially high-impact, innovative R&D projects that demonstrate substantial engineering quality but may not qualify for acceptance because of their scientific novelty and the research-centric nature of typical ICRA sessions. These Industry Forum publications may expand the companies’ influence and prominence in the robotics field. This session provided an opportunity to share translational research best practices. Selected contributions included “aiSim: A Simulation Tool for Accelerating Automated Driving Development” from Almotive, “Usability in Surgical Technology: Finding Research Questions in Practical Problems” from Phillips Research, and “Developing Social Assistive Robots Equipped With Cultural Intelligence in the Care of Elderly Living With Dementia” from Hofstede Insights.

The IERA session (hosted by Awards Chair Dominik Bösl and Cochair Erwin Prassler) showcased the most talented robotics companies bringing recent innovations to the competition. An expert jury consisting equally of RAS and IFR members selected the four best applications: Blue Ocean Robotics’ ultraviolet (UV) Disinfection Robot, Photoneo’s 3D camera, MIR’s Mobile Robotics Solution, and ABB’s OmniCore. The developers were then invited to pitch to the board and ICRA attendees. Based on their votes, this year’s award was presented to Claus Risager from Blue Ocean Robotics (Denmark) during the Thursday awards luncheon (“For achievements in developing the UV Disinfection Robot for the unique application of service robotics technologies in combination with UV disinfection equipment to fight the spread of (especially multiresistant) bacteria in hospitals”).

I really like the Industry Forum because it gives everyone a chance to see both present issues and future possibilities under the same roof. I also like that it encourages industry folks to open up more, on top of the diverse program you put together.

– P. Thienphrapa, Phillips Research

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The Industry Forum concluded with a panel discussion (Figure 2) during which seasoned entrepreneurs shared their views and concerns about the rapid deployment of consumer robots; the audience contributed a lively discussion about safety and regulatory aspects. On the following day, the RAS IAB held a chief executive officer luncheon to discuss further emerging issues with local and global company leaders and so increase its efforts to foster industry involvement at RAS conferences and amplify added value for industrial partners.

The rapidly strengthening landscape of the robotics industry and robotics entrepreneurship makes it important to organize the Industry Forum in conjunction with our flagship conferences to provide a platform and interface for cooperation and collaboration. Please join us for the next edition of the Industry Forum at the IEEE/RSJ International Conference on Intelligent Robots and Systems 2019 in Macao, where we will provide another opportunity to share your translational research success stories with the international robotics community. We encourage all of you to consider our call for papers/posters and hope you will submit your contributions. Please find more information on the official website, https://www.ras-industryforum.org.

**Ready to Share?**

The RAS IAB aims to provide the opportunity for increased participation from industrial representatives and contributions to the scientific programs targeting industry attendees at the IEEE/RSJ International Conference on Intelligent Robots and Systems 2019 Industry Forum in Macao.

We are accepting late-breaking news for the Industry Forum as extended abstracts two-to-three pages long (IEEE standard double-column format) submitted to haidegger@ieee.org in PDF. Read more about it at the official Industry Forum website: https://www.ras-industryforum.org.

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**Figure 1.** Dominik Bösl presenting his talk “Successful Consumer Robotics Beyond Science Fiction” at the ICRA 2019 Industry Forum.

**Figure 2.** Experts of the Industry Forum panel (from left): Dong-Soo Kwon (EasyEndo Surgical), Gurvinder Virk (Endoenergy Systems), Erwin Prassler (runfun), Gregory Dudek (Samsung Electronics and ICRA 2019 general chair), Tamás Haidegger (HandInScan), and moderator Dominik Bösl (Festo AG).