

Looking Back at IROS 2018

By Tamás Haidegger and Dominik Boesl

The 2018 IEEE/Robotics Society of Japan International Conference on Intelligent Robots and Systems (IROS) broke many records. Not only did the number of submissions and attendees reach an all-time high; the variety of robotics-industry representatives present was also unprecedented. The exhibition space was crowded, with nearly 130 booths showcasing industry partners large and small (Figure 1). It was particularly welcome that, together with the 10 startups present, larger companies chose IROS to launch some of their new products. It has been clear over the past several years that small and medium-sized robotics enterprises have grown significantly in terms of number and competence.

The affordability of robot components allows for a diversity of alternative solutions across the industry. Previously, only a few companies tried to develop products based on work from the research community, but that domain has apparently strengthened a great deal. Another interesting trend is the appearance of large companies diversifying their portfolios toward robotics technologies and, therefore, showing growing interest in attending our conferences.

It is also worth noting that 29 booths were dedicated to European projects, showcasing attendees' achievements and facilitating further network building. It will be most interesting to

observe the continuation of these trends at our upcoming major events, the 2019 IEEE International Conference on Robotics Automation (ICRA) in Montréal (<https://icra2019.org>) and IROS 2019 in Macao (<https://iros2019.org>).

Again this year, the IEEE Robotics and Automation Society's (RAS) Industrial Activities Board (IAB) was responsible for a variety of IROS activities apart from the regular committee and board meetings. In addition to numerous other seminars, the Industry Forum featured speakers from several companies (including PAL Robotics,

Barcelona, Spain; KUKA, Augsburg, Germany; Bosch, Gerlingen, Germany; and MathWorks, Natick, Massachusetts) and eminent institutions (such as the Odense Robotics Startup Hub, Denmark, and the Technical University of Cartagena, Spain). KUKA offered a special space for project demos as part of the exhibition.

Erwin Prassler, Jon Agirre, Fabio Bonsignorio, and Renaud Champion brought to life the 2018 edition of the Entrepreneurship Forum and Startup Contest to foster entrepreneurial spirit within RAS and provide a platform to encourage researchers and practitioners



Figure 1. Young and old alike had the opportunity to interact with robots on the exhibition floor at IROS 2018.

to transition ideas and prototypes into commercialized products. The winner of the final pitch contest was Aerial

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Power, London, represented by Ridha Azaiz. The IAB organized a preconference RAS standards strategy meeting involving other international standard-

bodies, which may well have established a new tradition (see the "Standards" column by Craig Schlenoff on page 109 in this issue).

Looking Forward

Now, it's time to move ahead and focus on the upcoming ICRA 2019. Besides our regular activities (for example, the Industry Forum and Entrepreneurship

Forum), there will be numerous new ones, including the Startup and Small Business Zone (which will allow companies to exhibit at ICRA for a relatively smaller fee) and Dine With the Leaders, an exclusive invitation-only event to meet and brainstorm with executives from prominent local and global robotics companies. ICRA will again offer the Access to Talent platform, which helps students and young professionals land their dream jobs more easily.

This spring, ICRA will host the finals of the yearly IEEE/International Federation of Robotics (IFR) Innovation and Entrepreneurship in Robotics and Automation (IERA) Award. The IERA Award is a success story in many ways. First, it is a very good example of a long and fruitful collaboration between the IEEE and IFR (which started in 2005!). Second, year after year, dozens of smart innovators apply to showcase their products. These entrants have already mastered the

transition from mere innovation to commercial realization, providing shining proof of robotics' marked success stories. And, third, it is simply great fun and an absolute pleasure to watch the contestants' amazing pitches.

Unfortunately, by the time you read this, the 2019 application period will have ended, but you can still join us at ICRA to enjoy the event, the presentations, and the award ceremony. Have we excited you so that now you want to apply with your own innovation? That's great! Don't worry about the 2019 deadline! Shortly after ICRA, the new call for applications will be published and available from the IEEE at <https://www.ieee-ras.org/awards-recognition/society-awards/> and IFR at <https://ifr.org/events/iera-award/>. Don't hesitate to submit your application (or encourage someone else to apply!).

Down the road, for future conferences, the IAB is planning to launch a translational-research track aimed at increasing the quantity and engagement of RAS industry partners in core programs for the mutual benefit of industry and nonindustry members. Successful industrial innovation projects can span many years and include ideation, designing, prototyping, and testing phases, all of which may generate substantial and valuable engineering knowledge that is rarely documented in the RAS's traditional academic format. Some fields, especially in medical devices and technology, recognize the merit and effort of successfully integrating different disciplines (for example, designing and implementing a medical device and bringing it into clinics) and that best practices should be presented for the field's benefit. The RAS could learn from this example. The translational-research track will, thus, provide the opportunity for partners to showcase truly innovative projects, better focusing on industry-relevant ideas and offering more hands-on demonstrations at conferences, in alignment with the new trends in our journals. Details will be announced in due time. Should you have an interest in the program, please contact us at haidegger@ieee.org.



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