The fourth industrial revolution, which becomes matter of fact in the recent and next years, is expected to deeply change the future manufacturing and production processes, and lead to Smart Factories that will benefit from the main design principles of Industry 4.0: interoperability, virtualization, decentralization, real-time capability, service orientation, modularity. Robotics will have a key role in this development since innovative technologies and solutions, traditionally associated with the service robotics sector, are going to migrate to industrial smarter robots, exploiting the maturing of sensing, mapping, localization, navigation, and motion control technologies. These smarter robots will draw on a much broader range of technology, allowing higher levels of dexterity and flexibility, the ability to learn tasks without formal programming, and to autonomously collaborate with other autonomous devices and human operators, thus reaching non-manufacturing industries and fields. A deeper attention will have to be paid on safety in dynamic and shared environments with the human-beings and to energy consumption. The development of robotic solutions for the Smart Factories of Industry 4.0 is already going on, taking advantage also from industry-academia collaboration. Aim of this Special Section is the illustration of trends and advanced robotic solutions that can significantly contribute to the Smart Factories of Industry 4.0. Topics of interest include, but are not limited to the following ones:

- Autonomous robotics and mobile robots applications in industrial environments
- Sensor fusion and intelligent sensing for robotics applications in smart factories
- Monitoring, fault detection and safety of robotic systems
- Advanced robotic solutions for smart factories developed through industry-academia collaboration
- Smart robotic applications in industrial complex situations and innovative application fields

All contributions must focus robotic industrial applications. Case studies and results experimentally validated in an industrial context are especially welcome.

Manuscript Preparation and Submission


Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Before submitting manuscript check the review criteria ([http://tii.ieee-ies.org/o/RC.pdf](http://tii.ieee-ies.org/o/RC.pdf)).

**Note:** The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

**Timetable:**

<table>
<thead>
<tr>
<th>Deadline for manuscript submissions</th>
<th>Expected publication date (tentative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 15, 2017</td>
<td>January 2018</td>
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