



NSAI

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ANNUAL REPORT 2018

NSAI TECHNICAL COMMITTEE
NSAI/TC 49/SC 03 - ROBOTICS

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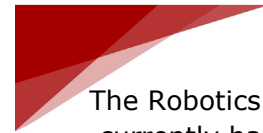
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1 Chairman's Statement

NSAI currently convenes the Robotics committee. A Chairman will be appointed by NSAI in 2019.

2 Introduction

This Standards Committee was created to as a Working Group feeding into the National Steering Committee for Collaborative Robotics to follow the activities of [ISO/TC 299 Robotics](#). The National Steering Committee for Collaborative Robotics was created by the IDA with the intention of assisting the Irish manufacturing industry in introducing industrial robots into collaborative operations and applications with human workers.



The Robotics industry currently has 5 of 21 experts involved in international work

The primary focus of the Standards Committee is on Industrial Robotics at an ISO level and the development of safety requirements through Standards that enable the introduction of humans into the work space of an industrial robot. The work space of an industrial robot has traditionally been a restricted space. In collaborative application, this work space will be redefined as a shared space. The safety of the human worker is the ultimate concern.

3 Scope of TC

Standardization in the field of robotics, excluding toys and military applications

This committee will not produce indigenous Irish Standards. The national committee will participate in the development of International Standards at an ISO level.

The International Standards published by ISO will be adopted as European Standards and harmonised to the Machinery Directive where applicable. NSAI will adopt these European Standards as Irish Standards.

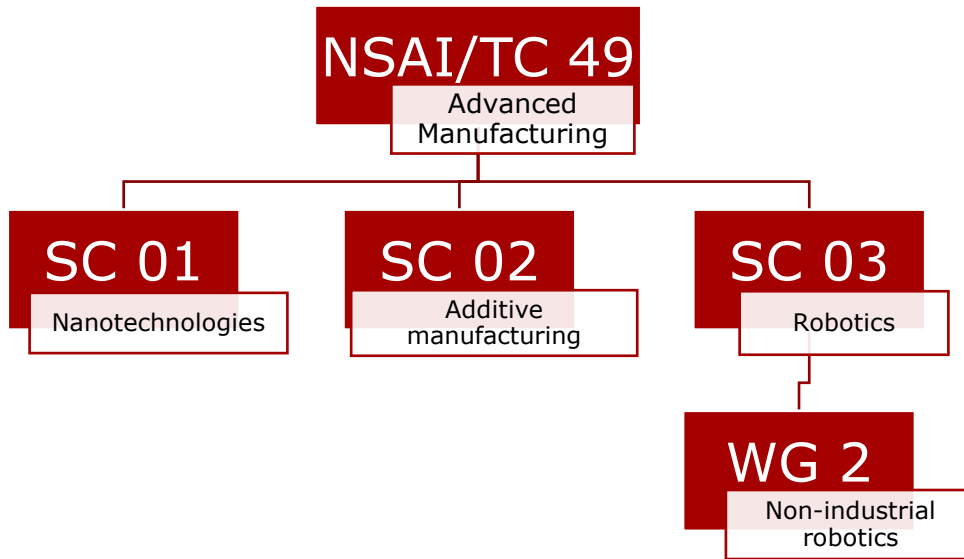
The committee mirrors the following international committees:

Committee Name	Committee Title
ISO/TC 299	Robotics
ISO/TC 299/WG 2	Personal care robot safety
ISO/TC 299/WG 3	Industrial safety
ISO/TC 299/WG 4	Service robots
ISO/TC 299/WG 6	Modularity of service robots

4 Structure and Membership

4.1 Structure

The Figure below illustrates the structure of the National Committee:



4.2 Members

The list below are the members for the year 2018:

Organisation	Name	Role
NSAI	Mary White	Secretary
NSAI	Fergal Finn	Secretary
Trinity College Dublin	Eamonn Bourke	Committee member
ITS Ltd	Dan Buckley	Committee member
Pilz	Juergen Bukowski	Committee member
KUKA Robotics	Brian Cooney	Committee member
Health & Safety Authority	John Colreavy	Committee member
Health & Safety Authority	Alan Costelloe	Committee member
Trinity College Dublin	Mark Culleton	Committee member
Schivo Group	Jonathan Downey	Committee member
KUKA Robotics	Colin Dullaghan	Committee member
Eiratech	Paddy Hanlon	Committee member
IMR	Ken Horan	Committee member
Eirtech	Markus Kohler	Committee member
Rockwell	Brian Maher	Committee member
NCR	Michael Martin	Committee member
Trinity College Dublin	Conor McGinn	Committee member
Analog Devices	Tom Meany	Committee member
University Limerick	Leonard O'Sullivan	Committee member
UCD	Nikolaos Papakostas	Committee member
Somex Automation	Michael Wall	Committee member
DCU	Paul Young	Committee member
Boston Scientific	Julio Zanon	Committee member

5 Summary of 2018 Activities

5.1 National

5.1.1 Meetings

Committee members attended the following national meetings in NSAI as follows:

Meeting No.	Date	Minutes Reference ** optional**
1	28 th March 2018	N 044
2	20 th June 2018	N 047
3	22 nd November 2018	N 057

5.1.2 National Work

The Standards Committees is represented at the National Steering Committee for Collaborative Robotics and submits a report on progress at each meeting.

5.2 International/Regional

5.2.1 Meetings

Committee members attended international meetings as follows:

Committee Name	Location	Date	No. of Attendees
ISO/TC 299/WG 3	Washington USA	February 2018	1
ISO/TC 299/WG 3	Kyoto, JAPAN	June 2018	1
ISO/TC 299/WG 3	CANADA	September 2018	1

5.2.2 International/Regional Work

Ireland is committed to following and inputting into the revision of the International Standards for the Safety Functionality of Industrial Robotics (ISO 10218). Since 2017 Ireland has been represented at each of the meeting held in Europe and internationally.

The focus of the work is on the requirements around the collaborative applications for robotics and humans.

5.2.3 International/Regional Standards Reviewed

ISO/TR 20218-1:2018, *Robotics -- Safety design for industrial robot systems -- Part 1: End-effectors*

ISO/CD2 10218-1, *Robots and robotic devices -- Safety requirements for industrial robots -- Part 1: Robots*

ISO/CD2 10218-2, *Robots and robotic devices -- Safety requirements for industrial robots -- Part 2: Robot systems and integration*

ISO/DTR 23482-1, *Robotics -- Application of ISO 13482 -- Part 1: Safety-related test methods*

ISO/PRF TR 23482-2, *Robotics -- Application of ISO 13482 -- Part 2: Application guide*

5.2.4 International/Regional Voting Results

The committee voted on five of the fifteen international votes in 2018.

5.3 Regulatory Development/Update

The European Machinery Directive is due to be revised and the Irish Committee will be monitoring this revision to ensure that provisions for robotics are included and that they serve to promote collaborative robotics.

6 Irish Publications/Reviews

6.1 Publications

National standards will not be produced by this committee as the International Standards will be published as European Standards adopted as Irish Standards.

6.2 Reviews

The Committee reports to the National Steering Committee for Collaborative Robotics and participates in the work of the group.

7 Work programme for 2019 onwards

ISO/CD 10218-1 revision – *Robots and robotic devices -- Safety requirements for industrial robots -- Part 1: Robots*

ISO/CD 10218-2 revision – *Robots and robotic devices -- Safety requirements for industrial robots -- Part 2: Robot systems and integration*

ISO/DTR 23482-1 – *Robotics -- Application of ISO 13482 -- Part 1: Safety-related test methods*

ISO/TR 23482-2 – *Robotics -- Application of ISO 13482 -- Part 2: Application guide*

8 Additional Information

Ireland will host the ISO/TC 299/WG 3 meeting in November 2019. Over seventy of the world's experts on industrial robots will convene in Mullingar to address the technical comments received during the public enquiry stage.

NSAI with our research, academic and industry partners in robotics will work together to organise a meeting that benefits both WG3 and our local manufacturers interested in advanced manufacturing.