



SMB/5948/R

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2016-09-02

INTERNATIONAL ELECTROTECHNICAL COMMISSION

STANDARDIZATION MANAGEMENT BOARD

SUBJECT

SMB meeting 157, agenda item 10.1, Geneva

Report of ACART, *Advisory Committee on Applications of Robotic Technologies*, following its meeting on June 16/17 in Shenyang, China

BACKGROUND

ACART met to continue to refine the Standard Metric that was created during the Worcester, MA meeting in March of 2016. The meeting was held at the Shenyang Institute of Automation in Shenyang, China.

The following report summarizes the main achievements and ACART decisions of the meeting which was attended by 8 members and 4 guests. Apologies were received from 4 members. The attendance list is given in Annex A.

The report is in two parts:

Part A – Recommendations submitted to the SMB for formal approval: **None**.

Part B – Other items of interest

SMB Member's attention is drawn to the information given under item(s) B1 to B3.

Annex A – List of ACART attendees in Shenyang, China

ACTION

SMB members are **invited to submit any comments** on Part B of the report, using the IEC Technical Server, **before 2016-09-30**.

PART A: recommendations for approval

None.

PART B: other items of interest

B.1 Activities regarding Robot Technologies

A simplified version of the Metric that was created at the previous meeting was proposed, discussed and agreed to by the members.

The metric will be a basic 2 dimension metric to identify the overlaps. The members agree with the framework in principle however more work is needed. As agreed at the Shenyang meeting the second version metrics was provided to the members before 31 July, 2016. The revised metrics will be the subject of the 20 September conference call.

B.2 Determination of Future Work

A meeting has been scheduled for October 26-28, 2016 in Stuttgart Germany. The main agenda points for the Stuttgart meeting will be as follows:

- Discussion on Metrics of Robotic Standardization Framework
- Finalize the definition of Robotic Technology.
- Discuss the common aspects of Robotics such as vocabulary and symbols.

B.3 ACART development plan

The development plan as previously submitted to the SMB (see below) was discussed and work will continue to meet the goals outlined.

Step 1

A level by level framework breakdown of each type of robot will be developed. This framework will be used as a matrix to generate boundaries between IEC and ISO technical committees. As each TC of IEC or ISO has its own applicable category of robotics, we will ask the respective TCs to identify which category they have an interest in. For example, IEC TC 59/SC 59F/WG5 is interested in cleaning robots, ISO TC299 JWG5 is interested in medical robot safety. They will label their interested category of robotics in the framework. In this way, a clear borderline will be generated among the different TCs. The goal of ACART is that the TCs of IEC and ISO carry on their work based on the labeled matrix to prevent future conflict or overlaps. If several TCs are interested in the same robotic category (for example, vocabulary and symbols), it will be identified as an overlap. The first step will be finished before by the end of 2016.

Step2

Overlaps and conflicts will be resolved in a feasible way. If the overlap is between IEC TCs, ACART will coordinate with TC chairs, if necessary with assistance from the IEC SMB.

If the overlap is between IEC and ISO, ACART will recommend that the ISO also create a mirror Advisory Group with the long term goal of creating a Joint Advisory Group. The overlaps will be discussed and solved through the joint advisory group. The second step will be finished by the end of March of 2017.

Step3

A guideline will be prepared that outlines the critical aspects of preparing a standard for products that incorporate robotic technology. ACART recognizes that is a complex task. Robotics is very multi- and inter-disciplinary; involving electromechanical technology, control and automation, information and communication technology, as well as mobility and navigation. Due to the fact that there are many standardization organizations related to robotic technology, the guideline will be prepared in as transparent a way as possible, involving different standardization organizations and experts from different technical fields. The goal of ACART is to complete the guideline by the end of 2017.

ANNEX A – List of ACART attendees in Shenyang China

Present:

Members:

Mr. Tetsuo Kotoku	Japan
Mr. Burkhard Zimmermann	Switzerland
Mr. Seungbin Moon	Korea
Mr. Thomas Pilz	Germany
Mr. Karl-Erik Westman	Sweden
Mr. Haibin Yu	China
Mr. Dejun Ma	China
Mr. Wilson Qu	China

Guests:

Mr. Ting Dong	China (Standardization Administration of the People's Republic of China)
Mr. Meng Wu	China (Assistant to Mr. Dejun Ma)
Mr. Lianqing Liu	China (Assistant to Mr. Haibin Yu)
Mr. Tao Jiang	China (Assistant to Mr. Thomas Pilz)

Apologies:

Mr. Timothy Rotti	IEC
Mr. Paolo Ravazzani	Italy
Mr. Sungsoo Rhim	Korea
Mr. Daniel Posner	USA