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SMB/6272/QP

2017-10-20

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### STANDARDIZATION MANAGEMENT BOARD

#### SUBJECT

Establishment of a new subcommittee on *Artificial intelligence* in ISO/IEC JTC 1

#### BACKGROUND

JDMT recommendation 2017/03 (approved via TMB resolution 99/2017 and SMB/6222/RV item 6) requires that all new JTC 1 Subcommittee scopes be ratified by TMB and SMB.

The secretary of ISO/IEC JTC 1 *Information technology* submitted to the IEC Central Office a request for the establishment of a new subcommittee (SC 42) with title and scope as follows:

**Title: Artificial Intelligence**

**Scope: Standardization in the area of Artificial Intelligence**

- 1. Serve as the focus and proponent for JTC 1's standardization program on Artificial Intelligence**
- 2. Provide guidance to JTC 1, IEC, and ISO committees developing Artificial Intelligence Applications**

If approved, the secretariat would be allocated to ANSI (USA)

**Rationale** There is a need for standards to facilitate communication about artificial intelligence (AI), to enable acceptance of approaches and concepts that support future development and to address the interests and concerns of governments and society. New standards will be necessary for widespread acceptance and use of AI in global society.

**Committee resolution** At its recent meeting in Russia ISO/IEC JTC 1 unanimously approved Resolution 12 on the creation of a new ISO/IEC JTC 1 SC on *Artificial Intelligence* (see annex).

According to clause 1.6 of the ISO/IEC Directives Part 1, the SMB must ratify the decision of a TC to establish a new subcommittee.

The following documents are attached as annex:

- Form 3 – decision to establish a subcommittee
- ISO/IEC JTC 1 Resolution 12 to establish a new SC on Artificial intelligence

#### ACTION

The SMB is invited to approve the item below **before 2017-11-17**, using the IEC SMB Voting System.

**Item 1:** Ratify the decision of ISO/IEC JTC 1 to establish a new SC on *Artificial intelligence* with allocation of the secretariat to ANSI (USA)



## Form 3: Decision to establish a subcommittee

This form shall be completed by the secretariat of the ISO parent technical committee concerned and be submitted to the Central Secretariat which will assign it a reference number and submit it to the Technical Management Board for ratification of the decision.

<b>Date of decision</b>  2017-10-06	<b>New subcommittee number</b>  ISO/TC ISO/IEC JTC 1/SC 42
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<b>Title of subcommittee</b> (the title shall be unambiguous and as concise as possible) Artificial Intelligence
<b>Scope</b> (the scope shall define precisely the limits of the proposed field of activity of the subcommittee within the defined scope of the parent technical committee and shall begin with "Standardization of ..." or "Standardization in the field of ...") <i>Standardization in the area of Artificial Intelligence</i> <ol style="list-style-type: none"><li><i>Serve as the focus and proponent for JTC 1's standardization program on Artificial Intelligence</i></li><li><i>Provide guidance to JTC 1, IEC, and ISO committees developing Artificial Intelligence applications</i></li></ol>

**Purpose and justification** (the justification shall explain why it is considered necessary to establish a subsidiary body within the parent technical committee, taking into account the additional resources that will be required to operate the subcommittee secretariat)

Artificial Intelligence (AI) technology has been around for many years and JTC 1 has a 20-year history with working on standards in this technology area (ISO/IEC 2382-28:1995 Information technology — Vocabulary — Part 28: Artificial intelligence — Basic concepts and expert systems, 2382-31: Artificial intelligence — Machine learning, 2382-34: Artificial intelligence — Neural networks, all have which have been consolidated and revised into ISO/IEC 2382:2015). While AI has been around for many years with active research and development over the last 10 years we have seen an increase in the number of products and services implementing AI effectively which has led to an increase of interest by new organizations to look into standardizing additional aspects of AI. Recent advancements in AI have been tied to the large amounts of data and substantial computing resources now available for use.

Countries and regulators have begun taking an interest in many aspects of AI. With an increase in the application of AI into a wider set of domains and the possibility of new regulation, now is the time to address AI standardization. The JAG Emerging Technology and Innovation (JETI) group has done an initial investigation into the topic of AI including showing examples of National Strategies, Industry collaboration and Open Source activities related to AI. The JETI investigation also described applications of AI including Autonomous Vehicles.

There is a need for standards to facilitate communication about AI, to enable acceptance of approaches and concepts that support future development and to address the interests and concerns of governments and society. New standards will be necessary for widespread acceptance and use of AI in global society.

**Survey of similar work undertaken in other bodies** (relevant documents to be considered: national standards or other normative documents)

This SC will liaise with PAS submitters, standards organizations, and consortia to determine if there are documents to leverage and/or fast track to this SC's programme of work. The JAG Emerging Technology and Innovation (JETI) group has done initial investigation into the topic of AI including showing examples of National Strategies, Industry collaboration and Open Source activities related to AI. However, to the best of our knowledge, nothing is being developed that would overlap with the work of the SC.

**Member bodies** (at least five members of the parent technical committee, having expressed their intention to participate actively in the work of the subcommittee)

The decision was taken via unanimous resolution at the October 2017 JTC 1 Plenary in Russia. The following National Bodies approved the resolution: Australia, Canada, China, Finland, France, Germany, India, Ireland, Japan, Korea, Norway, Russia, Singapore, South Africa, Sweden, Switzerland, UK, USA

**Secretariat** (member body — one of those listed above — having confirmed its readiness to undertake the secretariat of the subcommittee) ([see 1.9 and annex D of part 1 of the ISO/IEC Directives](#))

US National Body (ANSI)

**Liaison organizations** (list of organizations or external or internal bodies with which cooperation and liaison should be established)

IEEE, ITU-T, other relevant organizations such as consortia.

**Other comments** (if any)

[Click here to enter text.](#)

**Programme of work** (list of principal questions which the parent technical committee wishes to be included within the limits given in the proposed subcommittee scope, indicating what aspects of the subject should be dealt with, e.g. terminology, test methods, dimensions and tolerances, performance requirements, technical specifications, etc.) (attach a separate page as annex, if necessary).

It is recommended that SC 42 include the following topics: Foundational standards, Computational methods, Trustworthiness, Societal concerns and the current work program of JTC 1/WG 9, Big Data

Secretary of ISO/TC	Name and signature	Date
Lisa A. Rajchel	Lisa A Rajchel	2017-10-19

## **Resolution 12 – Establishment of JTC 1/SC 42, Artificial Intelligence**

JTC 1 establishes a Systems Integration entity (see SD 24, Systems Integration Standardization Guidelines) in the form of a new Subcommittee 42 on Artificial Intelligence as follows:

Title: *Artificial Intelligence*

Scope: *Standardization in the area of Artificial Intelligence*

- 1. Serve as the focus and proponent for JTC 1's standardization program on Artificial Intelligence*
- 2. Provide guidance to JTC 1, IEC, and ISO committees developing Artificial Intelligence applications*

While SC 42 will establish its own substructure at its first meeting, JTC 1 recommends that SC 42 includes the following topics:

- Foundational standards
- Computational methods
- Trustworthiness
- Societal concerns

The National Body of the United States will serve as Secretariat for SC 42. Wael Diab will serve as the Chair for SC 42.

The JTC 1 Secretariat is instructed to issue a call for membership in SC 42 and to work with ITTF to set up the committee.

JTC 1 notes that the National Body of China has expressed an interest in pursuing a Vice-chair position via the ISO Twinning process.

The National Body of China has offered to host the first meeting of JTC 1/SC 42.

JTC 1 notes that two NWIPs on the topic of artificial intelligence are currently out for JTC 1 letter ballot. If these NWIPs are approved, JTC 1 recommends that they be placed in JTC 1/SC 42.