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| Project | **Interfacing Cyber and Physical World Working Group**<<https://sagroups.ieee.org/2888/> **>** |
| Title | **Proposal of new PAR of the ‘****Specification of Actuator Interface for Cyber and Physical World’** |
| DCN | **2888-20-0031-01-0000** |
| Date Submitted | **July 20, 2020** |
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| Re: |  |
| Abstract | This document is written in the form of the context required for the proposal of a new PAR. |
| Purpose | This document was submitted to propose a new PAR. |
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**PAR for a New IEEE Standard**

# Section 1

* 1. **Assigned Project Number**:

P2888.2

* 1. **Type of Document: *Standard, Recommended Practice, or Guide***

Standard

* 1. **Life Cycle: *Full Use or Trial Use***

Full Use.

# Section 2

**2.1 Project Title:**

Specification of Actuator Interface for Cyber and Physical World

# Section 3

**3.1 Working Group: Interfacing cyber and physical world**

**3.2 Sponsoring Society and Committee:** C/SAB

[A listing of Sponsor P&Ps and Sponsor Scopes is available at <https://development.standards.ieee.org/pub/view-sponsor-pnps>]

**3.3 Joint Sponsor:** (chosen from drop down menu)

If you are not adding a joint sponsor to this project, you may leave this field blank.

# Section 4

**4.1 Sponsor Balloting Information: *Individual or Entity***

Individual

**4.2 Expected Date of Submission of Draft to the IEEE-SA for Initial Sponsor Ballot**

**Month: Dec. Year: 2022**

**4.3 Projected Completion Date for Submittal to RevCom**

**Month: Oct. Year: 2023**

# Section 5

**5.1 Approximate number of people expected to be actively involved in the development of this project:**

30

**5.2 Scope of the proposed standard:**

This standard defines the vocabulary, requirements, metrics, data formats and APIs for describing characteristics of, setting up parameters for, and commanding actuators enabling definition of interfaces between the cyber world and physical world. These actuators shall be defined either in cyber or physical world.

**5.3 Is the completion of this standard contingent upon the completion of another standard? No**

**5.4 Will this document contain a Purpose clause? No**

**5.5 Need for the project:**

Recent advances and interest in digital twin and smart cities are based on the convenience and effectiveness provided by building a cyber world to model target products or city infrastructure. Building a cyber world synchronized with the physical world depends on information coming from a large number of remotely controlled sensors and actuators. Today, there are no standards for the data format or data interface of these sensors and actuators, and manufacturers have to depend on the specifications provided by each individual service provider. By providing standard for these formats, the manufactured sensors and actuators can fit into any environment without considering specific service provider specifications, accelerating the development of the technology and related services.

**5.6 Stakeholders for the standard:**

Manufacturers, Local Governments, Constructors, Real-Estate Developers, etc.

# Section 6

**6.1 Intellectual Property:**

**A. Is the Sponsor aware of any copyright permissions needed for this project? *No***

**B. Is the Sponsor aware of possible registration activity related to this project? *No***

# Section 7

**7.1 Are there other standards or projects with a similar scope? *No***

**7.2 Joint Development - Is it the intent to develop this document jointly with another organization? *No***

**7.3 International Standards Activities**

**A. Adoptions - Is there potential for this standard to be adopted by another organization?: *No***

**B. Harmonization - Are you aware of another organization that may be interested in portions of this document in their standardization development efforts? No**

**7.4 Does the sponsor foresee a longer term need for testing and/or certification services to assure conformity to the standard? *Yes***

**Additionally, is it anticipated that testing methodologies will be specified in the standard to assure consistency in evaluating conformance to the criteria specified in the standard? *No***

# Section 8

**8.1 Additional Explanatory Notes:**

**8.2 IEEE Code of Ethics**

**I acknowledge that I have read and I understand the** [**IEEE Code of Ethics**](http://www.ieee.org/portal/pages/iportals/aboutus/ethics/code.html)

**I agree to conduct myself in a manner that adheres to the IEEE Code of Ethics when engaged in official IEEE business.**