

P7009

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Type of Project: New IEEE Standard

PAR Request Date: 05-May-2017

PAR Approval Date: 15-Jun-2017

PAR Expiration Date: 31-Dec-2021

Status: PAR for a New IEEE Standard

1.1 Project Number: P7009

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Fail-Safe Design of Autonomous and Semi-Autonomous Systems

3.1 Working Group: Standard for Fail-Safe Design of Autonomous and Semi-Autonomous Systems (RS/SC/Fail-Safe Design)

Contact Information for Working Group Chair

Name: Danit Gal

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Contact Information for Working Group Vice-Chair

None

3.2 Sponsoring Society and Committee: IEEE Reliability Society/IEEE Reliability (RS/SC)

Contact Information for Sponsor Chair

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3.3 Joint Sponsor: IEEE Computer Society/Software & Systems Engineering Standards Committee (C/S2ESC)

Contact Information for Sponsor Chair

Name: Paul Croll

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None

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2018

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2019

5.1 Approximate number of people expected to be actively involved in the development of this project: 30

5.2 Scope: This standard establishes a practical, technical baseline of specific methodologies and tools for the development, implementation, and use of effective fail-safe mechanisms in autonomous and semi-autonomous systems. The standard includes (but is not limited to): clear procedures for measuring, testing, and certifying a system's ability to fail safely on a scale from weak to strong, and instructions for improvement in the case of unsatisfactory performance. The standard serves as the basis for developers, as well as users and regulators, to design fail-safe mechanisms in a robust, transparent, and accountable manner.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: This document will not include a purpose clause.

5.5 Need for the Project: Autonomous and semi-autonomous systems which remain operational after an intended or unintended malfunction can disadvantage and harm users, society, and the environment. There is a need for definition of effective fail-safe mechanisms to help mitigate risks related to system malfunction and provide developers, installers and operators with clear technical criteria to terminate unsuccessful or

compromised operations in a safe and consistent manner.

5.6 Stakeholders for the Standard: The stakeholders include technology companies, engineers, developers, researchers, and other agents creating autonomous and semi-autonomous systems. This also includes, but is not limited to, regulators and society at large who are directly and indirectly affected by these systems.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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

8.1 Additional Explanatory Notes: