

P1856

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Type of Project: New IEEE Standard

PAR Request Date: 16-Jan-2012

PAR Approval Date: 29-Mar-2012

PAR Expiration Date: 31-Dec-2016

Status: PAR for a New IEEE Standard

1.1 Project Number: P1856

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard Framework for Prognostics and Health Management of Electronic Systems

3.1 Working Group: Prognostics and Health Management of Electronic Systems (RS/SC/PHM)

Contact Information for Working Group Chair

None

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

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 11/2014

4.3 Projected Completion Date for Submittal to RevCom: 10/2015

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

5.2 Scope: This standard covers all aspects of prognostics and health management of electronic systems, including definitions, approaches, algorithms, sensors and sensor selection, data collection, storage and analysis, anomaly detection, diagnosis, metrics, life cycle cost of implementation, return on investment and documentation. This standard describes a normative framework for classifying PHM capability and for planning the development of PHM for a system or product. The use of this standard is not required throughout the industry. This standard provides information to aid practitioners in the selection of PHM strategies and approaches to meet their needs.

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

5.4 Purpose: The purpose of this standard is to classify and define the concepts involved in prognostics and health management of electronic systems, and to provide a standard framework that assists practitioners in the development of business cases, and the selection of approaches, methodologies, algorithms, condition monitoring equipment, and strategies for implementing prognostics for electronic systems.

5.5 Need for the Project: In the field of reliability practice, prognostics and health management has been widely recognized as the means to predict and protect the integrity of mechanical equipment and complex electronic systems, and avoid unanticipated operational problems leading to mission performance deficiencies, degradation, and adverse effects to mission safety. Researchers have developed a variety of approaches, methods, and tools that are useful for these purposes, but applications to real-world situations may be hindered by the lack of real visibility into these tools, uniformity in application of these tools, as well as consistency in their demonstrated results. There is a need for documented and guidance that will encourage practitioners to invest the resources necessary to put these techniques into practice. This standard will act as a guide for those who wish to implement prognostics and health monitoring for electronic systems.

5.6 Stakeholders for the Standard: Companies manufacturing Commercial, Industrial and Military electronic systems, Telecommunications, Medical Electronics, Transportation, Information technology, Defense Industries

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 (Item Number and Explanation):