



CALL FOR PAPERS

Special Issue of the
International Journal of Prognostics and Health Management
Blockchain in Mission-Critical Transactional Systems

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The International Journal of Prognostics and Health Management (IJPHM) is the premier *online open access journal* related to multidisciplinary research on Prognostics, Diagnostics, and System Health Management.

Blockchain as an immutable, auditable transaction record has changed the very rubric of information processing for complex P2P, M2M interactions in many verticals such as finance, IoT, SCM, ERM, Data Marketplaces, Smart Contracts, Aerospace, Telecom and Defense. It is becoming increasingly compelling as autonomous, connected devices, open protocols pervade the IT fabric from mobile apps to enterprise and cloud implementations. This is in large part rooted in Blockchain's promise as a highly secure data backbone, to mitigate data protection, privacy, cybersecurity and interoperability concerns endemic to distributed environments. The information-theoretic underpinnings of Blockchain and its algorithmic mechanisms provides yet another paradigm for prognostics and system health management (PHM) function in sustainable systems.

This special issue is open for all contributors working in the broad field of Blockchain applications. We invite submissions of original papers capturing the paradigmatic attractiveness of a distributed ledger intended for cryptocurrencies as an enabling data bus for real-time mission-critical applications in controls, aerospace, automotive and manufacturing. Manuscripts covering Blockchain uptake today for a spectrum of activities ranging from routine, housekeeping tasks to mission-critical tasks with hard real-time deadlines, footprint and computational resource constraints are encouraged. Lessons learned and ROI from Blockchain projects including challenges encountered and insights that would particularly help other practitioners.

The Call for Papers solicits articles on the following, but not limited to

• Survey Papers highlighting Blockchain Projects in Mission-Critical Applications	• Learnings from Cryptocurrencies
• Blockchain Platforms and Strategies	• Blockchain IoT, IIoT
• Hyperledger for Real-Time Applications	• Smart Contracts
• Blockchain – a PHM Enabler?	• Industrial Control Systems
• Blockchain Driving AI	• Blockchain in Embedded Systems
• Blockchain Uptake Barriers	• ROI Framework for Blockchain Implementations

Submission Types (papers can range from 4-12 pages in length):

Development Briefs: Development briefs describe an instance of a Blockchain Implementation, the resultant impacts, and lessons learned with an emphasis on the successes and challenges of the development process and how it influenced the area/field. IJPHM Communications template is recommended for development briefs.

Industry Case Studies: Case studies are descriptive accounts of the use of Blockchain platform. Techniques used, results obtained, and lessons learned can be included to share experience with the community. Depending on level of details presented, IJPHM Full paper or Technical Brief template may be used.

Survey Papers: Survey papers are of a tutorial or review nature covering Blockchain tools and approaches or describe the best current practice, detailed characteristics and performance. These papers cover areas of general interest.

Special Issue Editor: Dr. Sandeep Gulati, IJPHM_blockchain@gmail.com

Submission Instructions: Please submit your manuscripts directly by going to the society webpage and follow instructions for journal submissions. There you will find an option to select the standards special issue.

Invitation to Present: Accepted papers are eligible for presentation at a future Annual Conference of the PHM Society

Deadlines: Abstract/NOI Due: November 30, 2019

Final Full Papers Due: January 31, 2020