

PERSPECTIVES OF DEVELOPING INDUSTRIAL INTERNET

Radu DOBRESU¹

Abstract. *The adoption of IoT by industries has led to the next industrial revolution: Industry 4.0. The rise of the Industrial IoT (IIoT) promises to enhance factory management, process optimization, worker safety, and more. However, the rollout of the IIoT is not without significant issues. This paper aims to illustrate the way that IIoT evolves, under the wider umbrella of the Internet of Production, in a configuration of eco-systems based on Internet support and web services.*

Keywords: Internet, Industry 4.0, Industrial Internet of Things, Production Internet, eco-systems

1. Introduction

The growth of the Internet of Things (IoT) is drastically making impact on home and industry. While the IoT affects among others transportation, healthcare, or smart homes, the Industrial Internet of Things (IIoT) refers in particular to industrial environments. IIoT is a new industrial ecosystem that combines intelligent and autonomous machines, advanced predictive analytics, and machine-human collaboration to improve productivity, efficiency and reliability. It is bringing about a world where smart, connected embedded systems and products operate as part of larger systems.

IIoT is often used in the context of Industry 4.0, the promoter of a new industrial revolution with a focus on automation, innovation, data, cyber-physical systems, processes, and people. With Industry 4.0, the fourth industrial revolution is set on merging automation and information domains into the industrial Internet of things, services, and people. The communication infrastructure of Industry 4.0 allows devices to be accessible in barrier-free manner in the industrial Internet of things, without sacrificing the integrity of safety and security.

The term “industrial Internet” was coined by Industrial giant GE to describe industrial transformation in the connected context of machines, cyber-physical systems, advanced analytics, AI, people, cloud, and so on. GE and the Industrial Internet Consortium (IIC) decided that IIoT was a synonym for the Industrial Internet [1]. IIoT is poised to bring unprecedented opportunities to business and society. Organizations like IIC and IEEE are working hard to define and develop the IIoT.

The rise of IIoT promises to enhance factory management, process optimization, worker safety, and more. However, the rollout of the IIoT is not without

¹ Prof., Control Systems and Industrial Informatics Dept., Univ. “Politehnica” Bucharest, Romania