Abstract

It was recently observed that many companies that use industrial automation, wish to improve the performance of their production due to the competitive market, implement advances methods in the production procedures. These methods, called Industrial Internet of Things, aiming at distributing and managing an information not only from the production field in advanced levels of productive procedures like the one of cloud computing but also among the systems that administer the particular method. In the present paper advanced sensors, the structure of IIoT technology used for the wireless transmission of data from the sensors to the central server, the HMI will be presented along with a detailed description of Cloud services that co-operate with the above. The objective of the research, given that it deals with modern applications in industrial functions and services, will try to answer questions arisen such as if the combination of all previously mentioned optimizes the efficiency and operation of the production and also if it is easily comprehensible from its final users. From all the above mentioned, conclusions will be recorded about the application of such methods in the production procedures, their advantages and disadvantages will be debated and simultaneously
refinements will be proposed so as to maximize further the benefits from the IIoT and Cloud co-
operation. Possible outcomes of this technology application are expected to be the efficiency
which in turn will increase the performance of the production connectivity with an easy
transmission of information at real time and eventually the reliability of the method which will
produce considerable economic benefits for the companies willing to implement it.

References

1. Richard Clark, August 2016, “Mobile HMI improves plant operations”, available:
(http://bt.editionsbyfry.com/publication/?i=328299#{"issue_id":328299,"page":0}, last access
17/4/2017).
2. Michael Zhang, October 2016, “Managing processes with the IIoT available:
http://bt.editionsbyfry.com/publication/?i=346513#{"issue_id":346513,"page":0}, last access
17/4/2017).
Magazine.
Magazine.
7. Kevin Zamzow, 26 October 2015, “Practical considerations for selecting an industrial
wireless sensor network”, available:
(http://www.controleng.com/industry-news/single-article/practical-considerations-for-selecting-an
-industrial-wireless-sensor-network/4981723af570e1ec3ab00dbaf7b552da.html, last access
17/4/2017).
8. Lynnette Reese, RF Wireless Technology, available:
9. EngineersGarage, “Sensors: Different Types of Sensors”, available:
10. SAS, “IoT”, available:
ographic, last access 19/4/2017).
Engineerig and Information Technology.
210-451.
aspects”, ISACA Belgium.

Index Terms

Computer Science

Information Systems
Keywords

Industrial Internet of Things, Cloud computing, Cloud services, Wireless Smart sensors, protocols of wireless communication, HMI, server.