Research Methods

Theme: Third World Developing Countries (Industry 4.0)

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Theme: Third World Developing Countries (Industry 4.0)

How we use Industry 4.0 in third world developing countries (e.g. Iraq)

Question:

1. How do we use Industry 4.0 in third world countries (e.g Iraq)?

Keywords:

- Third World Countries
- Cyber Physical Systems
- Indstrial Technology
- Manfucturing
- Industry 4.0

Inclusion/Exclusion:

- inclusion:
    - Scientific papers published in journals/conferences
    - Scientific papers accessible electronically
    - Books
    - Case studies

- exclusion:
    - Slides, websites, blogs
    - Scientific papers not available in English
    - Scientific papers less than 2 pages

List of papers

NO.	Research Name	Keywords	Link
1.	Communication middleware technologies for industrial distributed control systems: A literature review	Industry 4.0, Industrial technology (Validation research)	http://ieeexplore.ieee.org/document/8247730/
2.	Advanced manufacturing solution to industry 4.0 trend through sensing network and Cloud Computing technologies	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/6899471/
3.	Integration of agent technology into manufacturing enterprise: A review and platform for industry 4.0	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7093910/
4.	Intelligent manufacturing — Chinese industry 4.0	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7285366/
5.	Industry 4.0 with cyber-physical integration: A design and manufacture perspective	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7313954/
6.	Geographic Information Science and technology as key approach to unveil the potential of Industry 4.0: How location and time can support smart manufacturing Sign In or Purchase	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/7347812/

7.	Bespoke muesli sets industry 4.0 on its way [Manufacturing Digitisation]	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/7590517/
8.	Manufacturing Ontology Development Based on Industry 4.0 Demonstration Production Line	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/7780224/
9.	Industry 4.0 Development and Application of Intelligent Manufacturing	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7816745/
10.	A literature review on variability in semiconductor manufacturing: The next forward leap to Industry 4.0	Industry 4.0, Manufacturing (Validation research)	http://ieeexplore.ieee.org/document/7822298/
11.	Mobile Services for Customization Manufacturing Systems: An Example of Industry 4.0	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7750610/
12.	CASOA: An architecture for agent-based manufacturing system in the context of Industry 4.0	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8053743/
13.	Cyber-physical system integration for industry 4.0: Modelling and simulation of an induction heating process for aluminium-steel molds in footwear soles manufacturing	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8065972/

14.	From Intelligent Manufacturing to Smart Manufacturing for Industry 4.0 Driven by Next Generation Artificial Intelligence and Further On	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/8119409/
15.	Self-Organizing Manufacturing: Current Status and Prospect for Industry 4.0	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/8119410/
16.	Big Data in Wisdom Manufacturing for Industry 4.0	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8119375/
17.	Robot control and decision making through real-time sensors monitoring and analysis for industry 4.0 implementation on aerospace component manufacturing	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8121928/
18.	Security trends and advances in manufacturing systems in the era of industry 4.0	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/8203896/
19.	Simulation-based dynamic shop floor scheduling for a flexible manufacturing system in the industry 4.0 environment	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8248101/
20.	Intelligent sensing for robotic re-manufacturing in aerospace — An industry 4.0 design based prototype	Industry 4.0, Manufacturing (Solution proposal)	http://ieeexplore.ieee.org/document/8250134/

21.	Digital Twin and Big Data Towards Smart Manufacturing and Industry 4.0: 360 Degree Comparison	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/8258937/
22.	Industry 4.0: Advances of Germany's manufacturing innovation	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/8256152/
23.	Agile Factory - An Example of an Industry 4.0 Manufacturing Process	Industry 4.0, Manufacturing (Validation research)	http://ieeexplore.ieee.org/document/7272683/
24.	Selection of a data exchange format for industry 4.0 manufacturing systems	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7793750/
25.	State of product detection method applicable to Industry 4.0 manufacturing models with small quantities and great variety	Industry 4.0, Manufacturing (Evaluation research)	http://ieeexplore.ieee.org/document/7988251/
26.	Modeling business motivation and underlying processes for RAMI 4.0-aligned cyber-physical production systems	Industry 4.0, Cyber Physical Systems (Solution proposal)	http://ieeexplore.ieee.org/document/8247702/
27.	Big data as a promoter of industry 4.0: Lessons of the semiconductor industry	Industry 4.0, Cyber Physical Systems (Validation research)	http://ieeexplore.ieee.org/document/8104778/

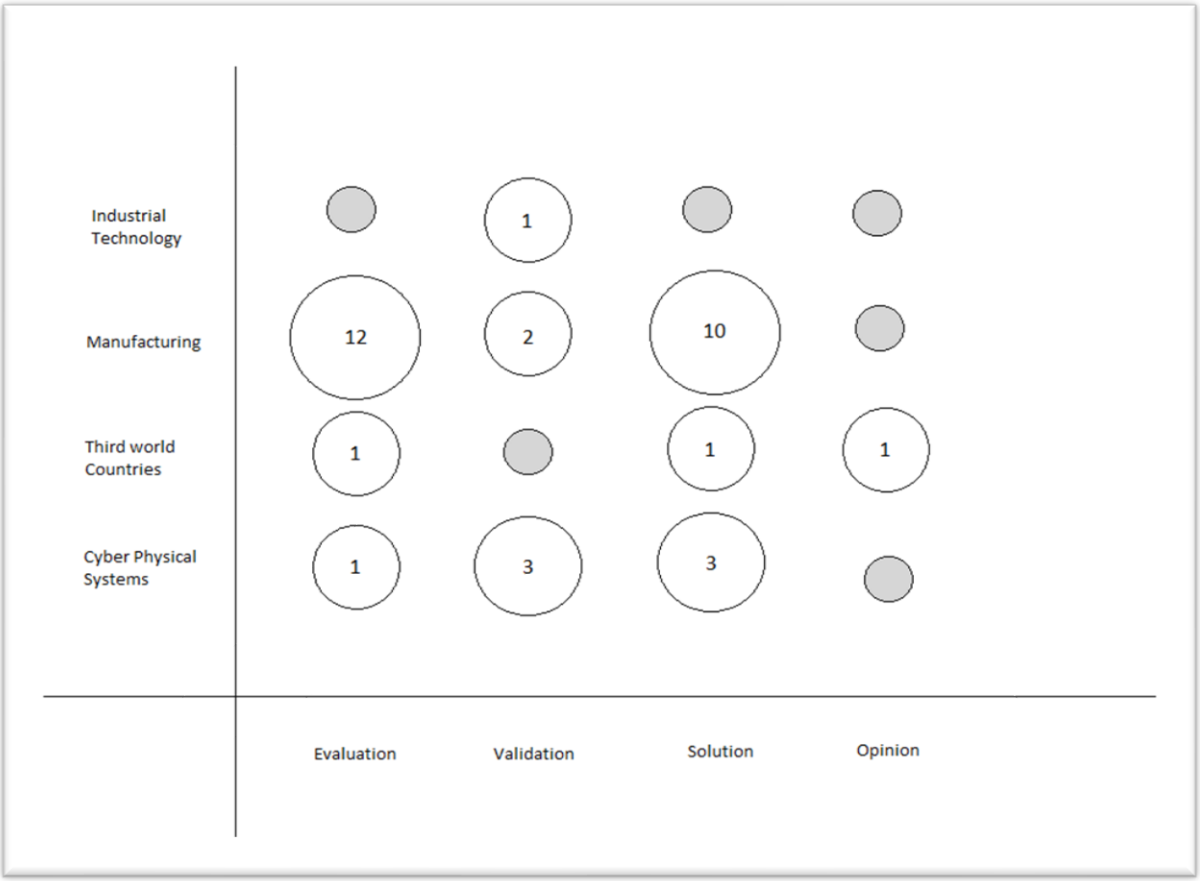
28.	Cyber physical systems in the context of Industry 4.0	Industry 4.0, Cyber Physical Systems (Evaluation research)	http://ieeexplore.ieee.org/document/6857843/
29.	A cyber-physical architecture for industry 4.0-based power equipments detection system	Industry 4.0, Cyber Physical Systems (Solution proposal)	http://ieeexplore.ieee.org/document/7757942/
30.	An improved Cyber-Physical Systems architecture for Industry 4.0 smart factories	Industry 4.0, Cyber Physical Systems (Solution proposal)	http://ieeexplore.ieee.org/document/7988589/
31.	A BPMN extension for modeling Cyber-Physical-Production-Systems in the context of Industry 4.0	Industry 4.0, Cyber Physical Systems (Validation research)	http://ieeexplore.ieee.org/document/8000159/
32.	Cyber-physical system integration for industry 4.0: Modelling and simulation of an induction heating process for aluminium-steel molds in footwear soles manufacturing	Industry 4.0, Cyber Physical Systems (Validation research)	http://ieeexplore.ieee.org/document/8065972/
33.	The impact of dynamic spectrum access network on third world countries: spectrum allocation issues, network and economic growth (the African tale)	Industry 4.0, Third World Countries Evaluation research	http://ieeexplore.ieee.org/document/1542618/
34.	Third World electrification (with Industry 4.0)	Industry 4.0, Third World Countries (Solution proposal)	http://ieeexplore.ieee.org/document/4648541/

35.	Is Remote Sensing An Economic Tool In Third World Countries?	Industry 4.0, Third World Countries (Opinion paper)	http://ieeexplore.ieee.org/document/577929/

Classification scheme

1. *Research type:*
    a. Evaluation research
    b. Validation research
    c. Solution proposal
    d. Opinion paper

2. *Bubble plot*


Industrial Technology
Manufacturing
Third world Countries
Cyber Physical Systems
1
12
2
10
1
1
1
1
3
3
Evaluation
Validation
Solution
Opinion

Question and Answers

- *Question 1*: Is it possible to use the industry 4.0 in developing countries?

  Answer 1: Yes. Systems used industry 4.0 technologies to establish a lot of projects to help developing countries in the middle east, for example the airport control system in Lebanon.

- *Question 2:* Smart city. Is there a way to implement the smart city approach to protect Iraqi borders from the external attacks and threats?

  Answer 2: Yes, it is possible, for protecting and controlling the borders with Lebanon Syria and Israel, smart approaches can be used to minimize human involvement at threat-prone spots.

- *Question 3:* Is it possible to use industry 4.0 technology to build secure communication in the army?

  Answer 3: Yes, using a lot of sensors and encrypted communication channels it is possible to use industry 4.0 technology to build secure communication in the army.