



## CHRONICLE OF DIGITAL TRANSFORMATION THROUGH INTERNET OF THINGS TECHNOLOGIES

Some biweekly perspectives from around the globe gathered by CDAIT (550 entries)

[https://cdait.gatech.edu/sites/default/files/2022-10/Digital\\_Transformation\\_Through\\_IoT\\_Technologies\\_October\\_15\\_2022.pdf](https://cdait.gatech.edu/sites/default/files/2022-10/Digital_Transformation_Through_IoT_Technologies_October_15_2022.pdf)

## GOVERNANCE & THE INTERNET OF THINGS

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Tom Jackson & Ian r. Hodgkinson, "Dark data" is killing the planet – we need digital decarbonization," The Conversation, September 29, 2022 <https://theconversation.com/dark-data-is-killing-the-planet-we-need-digital-decarbonisation-190423>

# GT CDAIT

## Biweekly IoT News Digest (10/22 – 1)

## IoT News and Market Reports

(First Half of October 2022)

- Selected **IoT-related announcements and featured activities/topics** gathered by CDAIT from governments; agencies; consortia; alliances; associations; standards; research and other similar groups around the world – 15 entries - See: [https://cdait.gatech.edu/sites/default/files/2022-10/IoT\\_News\\_Filings\\_October\\_2022\\_First\\_Half.pdf](https://cdait.gatech.edu/sites/default/files/2022-10/IoT_News_Filings_October_2022_First_Half.pdf)
- Sample list of **IoT-related market reports** gathered by CDAIT– 83 entries – See: [https://cdait.gatech.edu/sites/default/files/2022-10/IoT\\_Market\\_Reports\\_October\\_2022\\_First\\_Half.pdf](https://cdait.gatech.edu/sites/default/files/2022-10/IoT_Market_Reports_October_2022_First_Half.pdf)

## Georgia Tech IoT-related Info/Research Noticed by CDAIT

- Shaojun Ma, "Learning Dynamics from Data Using Optimal Transport Techniques and Applications," PhD dissertation, GT School of Mathematics, July 2022 <https://smartech.gatech.edu/handle/1853/67233>
- Voicu, Razvan Cristian. "Cooperative Network Architecture For Next Generation Technologies," PhD dissertation, GT School of Electrical and Computer Engineering, January 2022 <https://smartech.gatech.edu/handle/1853/66521>
- Gamero, David, Andrew Dugenske, Christopher Saldana, Thomas Kurfess, and Katherine Fu. "Scalability Testing Approach for Internet of Things for Manufacturing (IoTfM) SQL and NOSQL Database Latency and Throughput," Journal of Computing and Information Science in Engineering (September 2022): 1-33 <https://doi.org/10.1115/1.4055733>

**OF NOTE:** Philip Wegner, "What CEOs talked about in Q3/2022: Economic slowdown, raw materials, and Industry 4.0," IoT Analytics (Hamburg, Germany), October 6, 2022 <https://iot-analytics.com/what-ceos-talked-about-q3-2022/>; Upcoming conferences on Internet of Things <https://www.clocate.com/conferences-on+industry-things/dHqg/>

## Special Reading Suggestions

- Beth Maundril, "IP Cameras, VoIP and Video Conferencing Revealed as Riskiest IoT Devices," Infosecurity, October 13, 2022 <https://www.infosecurity-magazine.com/news/riskiest-iot-devices/>
- Joaquin Victor Tacla, "MIT Uses IoT, AI, and VR Systems to Aid Unsupervised Physical Therapy," Tech News, October 10, 2022 <https://www.techtimes.com/articles/281751/20221010/mit-uses-iot-ai-vr-systems-aid-unsupervised-physical-therapy.htm>
- Liam Tung, "The Internet of Things is still very messy. That could be about to change," [about CSA's Matter 1.0 standard release] ZDNet, October 5, 2022 <https://www.zdnet.com/home-and-office/smart-home/the-internet-of-things-is-still-very-messy-that-could-be-about-to-change/>
- Future IoT editors, "SatIoT makes possible global IoT connectivity," Future IoT, October 3, 2022 <https://futureiot.tech/sat-iot-makes-possible-global-iot-connectivity/>
- IDEMIA whitepaper, "Combination of 5G, AI, M2M and IoT is bringing the world closer to a connected future," CXO Today, October 3, 2022 <https://www.cxotoday.com/press-release/combination-of-5g-ai-m2m-and-iot-is-bringing-the-world-closer-to-a-connected-future/>

## Selected IoT Perspectives

### The growing interest for serverless architectures (or functional computing) in IoT

*"In contrast to either a virtual machine compute or even a container model for cloud computing, serverless computing is truly a consumption-based elastic service. Serverless computing functions only run when triggered and users only pay for precisely what they use. By definition, serverless computing architecture is about not running a server, virtual or otherwise, to execute a function as part of a modern application stack."*

Michael Kerner, "An Overview of the Serverless Computing Architecture Trend," IT Pro Today, January 11, 2021 <https://www.itprotoday.com/serverless-computing/overview-serverless-computing-architecture-trend>

- Abhishek Ghosh, "Can Serverless Architecture Help Your IoT Solution," The Customize Windows, August 24, 2022 <https://thecustomizewindows.com/2022/08/can-serverless-architecture-help-your-iot-solution/>
- John Lun, "What is AWS IoT?" Petri, August 11, 2022 <https://petri.com/what-is-aws-iot/>
- Research Nester press release, "Global Serverless Apps Market to Record ~23% CAGR during 2022-2031," Globe Newswire, August 4, 2022 <https://www.globenewswire.com/en/news-release/2022/08/04/2492617/0/en/Global-Serverless-Apps-Market-to-Record-23-CAGR-during-2022-2031-Enterprise-Adoption-Targeting-Serverless-Architecture-and-Fast-Expanding-IT-Telecommunication-Industry-to-Magnify-M.html>
- Tom Nolle, "Should We Use Software Containers or Serverless for IoT?" IoT for All, IoT World Today, August 2, 2022 <https://www.iotworldtoday.com/2021/08/02/should-we-use-software-containers-or-serverless-for-iot/>
- Richard MacManus, "Early Days for Quantum Developers, But Serverless Coming," The New Stack, August 1, 2022 <https://thenewstack.io/early-days-for-quantum-developers-but-serverless-coming/>
- Ben Kehoe, "Serverless IoT @iRobot," InfoQ, March 31, 2018 <https://www.infoq.com/presentations/serverless-iot-irobot/>

**Research background info (sample):** Dazhi Li, Jiaang Duan, Yan Yao, Shiyu Qian, Jie Zhou, Guangtao Xue, and Jian Cao, "SoDa: A Serverless-Oriented Deadline-Aware Workflow Scheduling Engine for IoT Applications in Edge Clouds," Wireless Communications and Mobile Computing, Volume 2022, published online October 7, 2022 | Article ID 7862911 | <https://doi.org/10.1155/2022/7862911>; Dantas, Jaime Cristino Jales. "On Performance Tuning of Serverless IoT Applications," (2022) <https://yorkspace.library.yorku.ca/xmlui/handle/10315/39639>; Cassel, Gustavo André Setti, Vinicius Facco Rodrigues, Rodrigo da Rosa Righi, Marta Roseleir Bez, Andressa Cruz Nepomuceno, and Cristiano André da Costa. "Serverless computing for Internet of Things: A systematic literature review," Future Generation Computer Systems 128 (2022): 299-316 <https://www.sciencedirect.com/science/article/abs/pii/S0167739X21004167>; Elkholly, Mohamed, and Marwa A. Marzok. "Light weight serverless computing at fog nodes for internet of things systems," (2022) [https://pks.pua.edu.sg/engineering\\_publications/30/](https://pks.pua.edu.sg/engineering_publications/30/); Antonio Castro, Jorge Machado, Matthias Roggendorf, and Henning Soller, "How to build a data architecture to drive innovation—today and tomorrow," McKinsey Digital, June 3, 2020 <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/how-to-build-a-data-architecture-to-drive-innovation-today-and-tomorrow> --- Scholarly Encyclopedia Community "IoT Serverless Computing at the Edge," n.d. (circa 2022) <https://encyclopedia.pub/entry/15406>



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