GT CDAIT
Biweekly IoT News Digest (01/22 – 1)

COVID-19 & THE INTERNET OF THINGS

See some perspectives gathered by CDAIT on the use of IoT technologies in preventing and monitoring COVID-19 like infectious diseases, & pandemic impact on IoT and related (incl. post-pandemic) issues – as of 1/15/2022 – 1127 entries:
https://cdait.gatech.edu/sites/default/files/2022-01/Covid-19_IoT_January_2020_January_15_2022_0.pdf

GOVERNANCE & THE INTERNET OF THINGS

NIST posting, "**IU.S.] Department of Commerce Seeks Internet of Things Experts for New Advisory Board**," NIST, January 13, 2022 https://www.nist.gov/news-events/news/2022/01/department-commerce-seeks-internet-things-experts-new-advisory-board

Sri Chandrasekaran and Ravi Subramaniam, "**Why IoT Sensors Need Standards,**" IEEE Spectrum, January 12, 2022 https://spectrum.ieee.org/why-iot-sensors-need-standards

Peter Suciu, "**FY22 NDAA [National Defense Authorization Act] and Military Tech: Pentagon Increasing Pace and Scope of Innovation**," Clearance Jobs, January 10, 2022 https://news.clearancejobs.com/2022/01/10/fy22-ndaa-and-military-tech-pentagon-increasing-pace-and-scope-of-innovation/

Song Soo-youn, "**[CES 2022] Regulations at home drive Korean companies to tap foreign markets**," Korea Biomed, January 10, 2021 http://www.koreabiomed.com/news/articleView.html?idxno=12927

Rana Foroohar, "**When the Web3 bubble pops, real world assets will survive** -- Forget the metaverse — industrial changes are what create long-term value across economies," The Financial Times, January 10, 2022 https://www.ft.com/content/ddaa6b58-1ed2-40bb-bf71-642e2b9767a9

Peter Fretty, "**COVID-19 Year 2: A photonics story of growth, shortages, and innovation**," Laser Focus World, January 5, 2022 https://www.laserfocusworld.com/photonics-business/article/14222538/covid19-year-2-photonics-story-of-growth-shortages-and-innovation

Judy Lin, **"What does it take to sustain the 'semiconductor renaissance'?"** Digitimes, January 4, 2022 https://www.digitimes.com/news/a20220103VL204/semiconductor-substainability.html

IoT News and Market Reports

(First Half of January 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/2022-01/IoT_News_Filings_January_2022_First_Half.pdf
- Sample list of **IoT-related market reports** gathered by CDAIT– 79 entries – See: https://cdait.gatech.edu/sites/default/files/2022-01/IoT_Market_Reports_January_2022_First_Half.pdf

Georgia Tech IoT-related Info/Research Noticed by CDAIT

- Jong Han Yoon and Pardis Pishdad-Bozorgi, "**State-of-the-Art Review of Blockchain-Enabled Construction Supply Chain**," Journal of Construction Engineering and Management, Volume 148 Issue 2, February 2022 https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29CO.1943-7862.0002235
- Li X, Gao Q, Cao Y, Yang Y, Liu S, Wang ZL, and Cheng T. "**Optimization strategy of wind energy harvesting via triboelectric-electromagnetic flexible cooperation**," Applied Energy. 2022 Feb 1;307:118311 https://www.sciencedirect.com/science/article/abs/pii/S0306261921015671

OF NOTE: Steve Surfaro, **"CES 2022 tech notes wrap-up,"** Security Infowatch, January 14, 2022 https://www.securityinfowatch.com/ces/article/21253235/ces-2022-tech-notes-wrapup; Mel Studach and Lila Allen, **"5 Emerging Home Tech Trends, as Seen at CES 2022 ,** Architectural Digest, January 11, 2022 https://www.architecturaldigest.com/story/5-emerging-home-tech-trends-as-seen-at-ces-2022; Bill Curtis, **"CES 2022: Matter And Thread Win The IoT Connectivity Wars,"** Forbes, January 11, 2022 https://www.forbes.com/sites/moorinsights/2022/01/11/ces-2022-matter-and-thread-win-the-iot-connectivity-wars/?sh=2c60d00419b1**;** Seth Colaner, **"Enterprise Security at CES 2022 Marked by IoT, Biometrics, and PC Chips ,"** DarkReading, January 11**,** 2022 https://www.darkreading.com/dr-tech/enterprise-security-at-ces-2022-marked-by-iot-biometrics-and-pc-chips; AFP**, "Metaverse gets touch of reality at CES,"** CIO.com from the Economic Times (India), January 8, 2022 https://cio.economictimes.indiatimes.com/news/next-gen-technologies/metaverse-gets-touch-of-reality-at-ces/88768878

Special Reading Suggestions

- Joe O'Halloran, "**4G dominates IoT with more than 60% of all cellular module models [….5G lagging currently]**," Computer Weekly, January 12, 2022 https://www.computerweekly.com/news/252511912/4G-dominates-IoT-with-more-than-60-of-all-cellular-module-models
- Dirk Trossen, David Guzman, Abhijeet Kelkar, Xinxin Fan, Mike McBride, Lei Zhang, and Ulrich Graf, **"Impact of Distributed Ledgers on Provider Networks,"** IoT Industry Consortium whitepaper (20 pages), January 10, 2022 https://www.iiconsortium.org/pdf/2022-01-10-Impact-of-Distributed-Ledgers-on-Provider-Networks.pdf

Selected IoT Perspectives
Trust and The Internet of Things

"Trust is regarded as an essential pillar for our digital economy, our cyber infrastructure and the success of Internet of Things (IoT)" (*)

- Anu Devi, Fanyu Lin and Karen Lightman, "**3 ways to get consumers to trust internet-connected devices**," World Economic Forum, December 10, 2021 https://www.weforum.org/agenda/2021/12/3-ways-to-get-consumers-to-trust-internet-connected-devices/
- Brian Gilmore, "**Building IoT strategies around trust,"** IoT Agenda, October 19, 2021 https://internetofthingsagenda.techtarget.com/post/Building-IoT-strategies-around-trust
- Raullen Chai, **"Internet of Trusted Things: Democratizing IoT,'** IoT for All, May 7, 2021 https://www.iotforall.com/internet-of-trusted-things-democratizing-iot
- Megan Nichols, "**Why Trust Will Be a Big IoT Factor Moving Forward**," Datafloq, September 9, 2019 https://datafloq.com/read/why-trust-will-be-big-iot-factor-moving-forward/

Research background info (sample): Venkatesan G., Kumar A. (2022), "**Dynamic Trust Management System for Social IoT**," In: Zhang YD., Senjyu T., So-In C., Joshi A. (eds) Smart Trends in Computing and Communications. Lecture Notes in Networks and Systems, vol 286. Springer, Singapore. https://doi.org/10.1007/978-981-16-4016-2_50; G. E. Prem Kumar and M. Lydia, **"A Comprehensive Overview on Impact of Trust Models in Internet of Things**," 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), online November 15,2021, pp. 195-200, doi: 10.1109/ICOSEC51865.2021.9591821 https://ieeexplore.ieee.org/document/9591821; Kute S.S., Tyagi A.K., Aswathy S.U. (2022), "**Security, Privacy and Trust Issues in Internet of Things and Machine Learning Based e-Healthcare**," In: Tyagi A.K., Abraham A., Kaklauskas A. (eds) Intelligent Interactive Multimedia Systems for e-Healthcare Applications. Springer, Singapore. https://doi.org/10.1007/978-981-16-6542-4_15; Rajesh Kumar, Rewa Sharma,"**Leveraging blockchain for ensuring trust in IoT: A survey**," Journal of King Saud University - Computer and Information Sciences, online September 17, 2021, ISSN 1319-1578, https://doi.org/10.1016/j.jksuci.2021.09.004; Industry IoT Consortium press release, "**Industrial Internet Consortium Defines Trustworthiness for Cyber-Physical Systems,**" Industry IoT Consortium website, July 15, 2021 https://www.iiconsortium.org/press-room/07-15-21.htm – See report here: https://www.iiconsortium.org/pdf/Trustworthiness_Framework_Foundations.pdf; Franklin Magalhães Ribeiro Junior and Carlos Alberto Kamienski. "**A Survey on Trustworthiness for the Internet of Things**," IEEE Access 9 (March 17, 2021): 42493-42514 https://ieeexplore.ieee.org/document/9380363; Jeffrey Voas et. al. '**Internet of Things (IoT) Trust Concerns**,' NIST, October 17, 2018 https://csrc.nist.gov/publications/detail/white-paper/2018/10/17/iot-trust-concerns/draft -- See also **OTA [Online Trust Alliance] IoT Trust Framework**, an Internet Society inititative https://www.internetsociety.org/iot/trust-framework/ and introduction to **IoT SAFE (IoT SIM Applet for Secure End-2-End Communication)**, hardware "root of trust" for an IoT device on GSMA website https://www.gsma.com/iot/iot-safe/

(*) L. Liu and M. Loper, **"Trust as a Service: Building and Managing Trust in the Internet of Things,"** 2018 IEEE International Symposium on Technologies for Homeland Security (HST), 2018, pp. 1-6, doi: 10.1109/THS.2018.8574169 https://ieeexplore.ieee.org/document/8574169?signout=success

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