



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 12/15/2021 – 1090 entries:
https://devcdait.gatech.edu/sites/default/files/covid-19_iot_january_2020_december_15_2021.pdf

GOVERNANCE & THE INTERNET OF THINGS
Aaron Wilson, “DEI [Diversity, Equity, Inclusion]I, Trickle Down Capitalism And The Internet of Things In The Age Of Empowerment,” International Business Times, December 12, 2021
<https://www.ibtimes.com/dei-trickle-down-capitalism-internet-things-age-empowerment-3356165>
CIO (India) posting, “Regulators, policymakers should predict innovation-led disruptions, manage them : TRAI (Telecom Regulatory Authority of India),” CIO, December 11, 2021
<https://cio.economictimes.indiatimes.com/news/business-analytics/regulators-policy-makers-should-predict-innovation-led-disruptions-manage-them-effectively/traai/88223710>

Oona A. Hathaway, “Keeping the Wrong Secrets - How Washington Misses the Real Security Threat,” Foreign Affairs, January/February 2022
<https://www.foreignaffairs.com/articles/united-states/2021-12-07/hacking-cybersecurity-keeping-wrong-secrets>

Krishana Prasain, “Telecom [Nepal Telecommunications] Authority releases draft regulation related to internet of things,” The Kathmandu Post, December 4, 2021
<https://kathmandupost.com/money/2021/12/03/telecom-authority-releases-draft-regulation-related-to-internet-of-things>

John Thornhill, “Tech regulators need to move fast and mend things,” Financial Times – Opinion Tech (UK), December 2, 2021
<https://www.ft.com/content/e2acbe8e-bf82-4f3b-9b9b-06f0c1735b5d>

Jim Robbins, “Why the Luster on Once-Vaunted ‘Smart Cities’ Is Fading,” eYale (Yale School of the Environment), December 1, 2021
<https://e360.yale.edu/features/why-the-luster-is-fading-on-once-vaunted-smart-cities>

Kiran Asyiah, “China’s Plan to Speed Up Integration of Digital and Real Economies,” OpenGov Asia, 12/1, 2021
<https://opengovasia.com/chinas-plan-to-speed-up-integration-of-digital-and-real-economies/>

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Biweekly IoT News Digest (12/21 – 1)

Georgia Tech IoT-related IoT News and Market Reports Info/Research Noticed by CDAIT

- (First Half of December 2021)
- 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://devcdait.gatech.edu/sites/default/files/iot_news_filings_december_2021_first_half.pdf
 - Sample list of IoT-related market reports gathered by CDAIT – 70 entries – See:
<https://siliconangle.com/2021/12/06/iot-is-no-longer-just-about-sensors-says-engineering-firm-reinvent/>
 - Dara Bright (GT CACP), “An integrative review of the potential of wireless assistive technologies and internet of things (IoT) to improve accessibility to education for students with disabilities,” Assistive Technology, online November 23, 2021
<https://doi.org/10.1080/10400435.2021.1956639>
 - Roger Jiao, Sesh Commuri, Jitesh Panchal, Jelena Milisavljevic-Syed, Janet K. Allen, Farrokh Mistree, and Dirk Schaefer, “Design Engineering in the Age of Industry 4.0,” Journal of Mechanical Design, July 2021
<https://doi.org/10.1115/1.4051041>
 - Q. Gu, D. Formby, S. Ji, B. Saltaformaggio, A. Bourgeois and R. A. Beyah, “This Hacker Knows Physics: Device Physics Aware Mimicry Attacks in Cyber-Physical Systems,” in IEEE Transactions on Dependable and Secure Computing, doi: 10.1109/TDSC.2021.3089163., online June 24, 2021
<https://ieeexplore.ieee.org/abstract/document/9454568>

OF NOTE: Bernard Marr, “The 5 Biggest Internet Of Things (IoT) Trends In 2022,” Forbes, December 13, 2021
<https://www.forbes.com/sites/bernardmarr/2021/12/13/the-5-biggest-internet-of-things-iot-trends-in-2022/?sh=3811161a5abg>

Special Reading Suggestions

- Cynthia Brumfield, “NIST [National Institute of Standards and Technology] gears up for software security and IoT labeling pilot programs,” CSO, December 13, 2021 <https://www.csoonline.com/article/3644454/nist-gears-up-for-software-security-and-iot-labeling-pilot-programs.html>
- Ankush Khanna, “Guest column: Leveraging IIoT to boost industrial manufacturing,” Manufacturing Today (India), December 9, 2021
<https://www.manufacturingtodayindia.com/people/iiot-boosting-industrial-manufacturing>
- Patrick Nelson, “IoT is no longer just about sensors, says engineering firm,” Silicon Angle, December 6, 2021
<https://siliconangle.com/2021/12/06/iot-is-no-longer-just-about-sensors-says-engineering-firm-reinvent/>
- François Baldassari, “IoT developers can't afford to ignore third-party code,” Internet of Things Agenda, December 2, 2021
<https://internetofthingsagenda.techtarget.com/post/IoT-developers-cant-afford-to-ignore-third-party-code>
- Allen, “Naming and Identifiers in IoT,” Security Boulevard, December 1, 2021 <https://securityboulevard.com/2021/12/internet-applications-naming-and-identifiers-in-iot/>

Selected IoT Perspectives The Internet of Things and Digital Twins

“Digitization of our environment is the true enabler [of autonomous systems and decision-making], and it relies on the Internet of Things (IoT) to play a critical role in building and maintaining digital twins.” ()*

- Thor Olavsrud, “What is a digital twin? A real-time, virtual representation,” CIO UK, December 14, 2021
<https://www.cio.com/article/3644049/what-is-a-digital-twin-a-real-time-virtual-representation.html>
- Research and Markets press release, “Worldwide Digital Twin Market Outlook to 2026 - Notable Players Include ANSYS, Cal-Tek, Mevea and Rescale,” PR Newswire, December 13, 2021 <https://www.prnewswire.com/news-releases/worldwide-digital-twin-market-outlook-to-2026--notable-players-include-ansys-cal-tek-mevea-and-rescale-301443335.html>
- Digital Twin Consortium press release, “Digital Twin Consortium Announces Digital Twin System Interoperability Framework,” Digital Twin Consortium website, December 7, 2021 <https://www.digitaltwinconsortium.org/press-room/12-07-21.htm>
- Eurotech, “Digital Twins: what are they and how they can help you,” IIoT World, December 3, 2021 <https://www.iiot-world.com/industrial-iiot/connected-industry/digital-twins-what-are-they-and-how-they-can-help-you/>
- (*) Brad Kirby “Digital Twins – An Ever-Evolving Model,” RT Insights, November 29, 2021 <https://www.rtinsights.com/digital-twins-an-ever-evolving-model/>

Research background info (sample): John E. Taylor, Gisele Bennett, and Neda Mohammadi, “Engineering Smarter Cities with Smart City Digital Twins,” Journal of Management in Engineering, Volume 37, Issue 6, November 2021, [https://ascelibrary.org/doi/full/10.1061/\(ASCE\)ME.1943-5479.0000974](https://ascelibrary.org/doi/full/10.1061/(ASCE)ME.1943-5479.0000974); Vrana, J., “The Core of the Fourth Revolutions: Industrial Internet of Things, Digital Twin, and Cyber-Physical Loops,” Journal of Nondestructive Evaluation 40, 46 (2021), online May 35, 2021 <https://doi.org/10.1007/s10921-021-00777-7>; Behin Elahi, Sadegh Amiri Tokaldany, Chapter 15, “Application of Internet of Things-aided simulation and digital twin technology in smart manufacturing,” Editor(s): Mangey Ram, Advances in Mathematics for Industry 4.0, Academic Press, 2021, Pages 335-359, ISBN 9780128189061, <https://doi.org/10.1016/B978-0-12-818906-1.00015-2>; Zongmin Jiang, Yangming Guo, Zhuqing Wang, “Digital twin to improve the virtual-real integration of industrial IoT,” Journal of Industrial Information Integration, Volume 22, 2021, 100196, ISSN 2452-414X, <https://doi.org/10.1016/j.jii.2020.100196>; NASA Earth Science Technology Office, “A Few References on Digital Twins and Related Technologies,” Updated July 22, 2021 https://esto.nasa.gov/files/0_2021-07-22_ESDT_References.pdf; Yang D, Karimi HR, Kaynak O, Yin S. “Developments of digital twin technologies in industrial, smart city and healthcare sectors: a survey,” Complex Engineering Systems, online September 30, 2021, <https://dx.doi.org/10.20517/ces.2021.06> --- See add'l references: related ISO standard: ISO 23247-1:2021(en) Automation systems and integration — Digital twin framework for manufacturing <https://www.iso.org/obp/ui/#iso:std:75066:en>; Digital Twin Consortium [Object Management Group®]: <https://www.digitaltwinconsortium.org/>; Industrial Digital Twin Association <https://industrialdigitaltwin.org/en/>; Augmented Reality for Enterprise Alliance: <https://thearea.org/>; Building Digital Twin Association <https://buildingdigitaltwin.org/>; SWAN Digital Twin H2O Work Group <https://www.swan-forum.com/digital-twin-h2o-work-group/>; Digital Twin Alliance <https://inf.news/en/economy/76529d9c978b04058f2344dddab8f046.html>