



Digest is compiled by Alain Louchez,
CDAIT Co-founder & Director Emeritus

CHRONICLE OF DIGITAL TRANSFORMATION (DT) THROUGH INTERNET OF THINGS TECHNOLOGIES

Some biweekly perspectives on DT from around the globe gathered by CDAIT - 50 added for this Digest (3300 entries since April 1, 2022) https://cdait.gatech.edu/sites/default/files/2025-01/Digital_Transformation_Through_IoT_Technologies_April_1_2022__through_end_of_January_2025.pdf

GOVERNANCE & THE INTERNET OF THINGS

Ann Ribeiro, "US House Committee calls for offensive cyber strategies in response to rising adversarial threats," *Industrial Cyber*, January 24, 2025 <https://industrialcyber.co/critical-infrastructure/us-house-committee-calls-for-offensive-cyber-strategies-in-response-to-rising-adversarial-threats/>

Rick Heicksen, "AI Governance: Charting a Responsible Path for Artificial Intelligence," *IoT for all*, January 23, 2025 <https://www.iotforall.com/ai-governance-guidelines>

Carsten Rhod Gregersen, "More Endpoints, More Problems. Here's How IoT Can (and Should) Fight Back in 2025," *Built In*, January 17, 2025 <https://builtin.com/articles/iot-can-fight-back>

Srikanth Chandrasekara, "Three Foundational Technology Trends to Watch in 2025 - Robust cybersecurity is essential for all of them," *IEEE SA [Standards Association]*, January 17, 2025 <https://standards.ieee.org/beyond-standards/2025-foundational-technology-trends/>

Wolfgang Kleinwächter, "Internet Governance Outlook 2025: Unbordered Spaces vs. Bordered Places," *CircleID*, January 16, 2025 <https://circleid.com/posts/internet-governance-outlook-2025-unbordered-spaces-vs-bordered-places>

Block Telegraph staff, "How Has IoT Misuse Compromised Data Privacy?" *Block Telegraph*, January 16, 2025 <https://blocktelegraph.io/how-has-iot-misuse-compromised-data-privacy/>

Imran Khan, "Context-Based IT Audits: Why Are They Not Standard Yet?" *"Traditional IT audits focus heavily on internal controls, relying on documentation and predefined frameworks. However, such methods do not - cannot - foresee modern threats such as cloud vulnerabilities and Internet-of-Things (IoT) devices."*, *ISC2*, January 13, 2025 <https://www.isc2.org/Insights/2025/01/Context-Based-IT-Audits>

GT CDAIT Biweekly IoT News Digest (01/25 - 2)

IoT News and Market Reports

(Second Half of January 2025)

- 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 - 16 entries: https://cdait.gatech.edu/sites/default/files/2025-01/IoT_News_Filings_January_2025_Second_Half.pdf
- Sample list of IoT-related market reports gathered by CDAIT - 50 entries: https://cdait.gatech.edu/sites/default/files/2025-01/IoT_Market_Reports_January_2025_Second_Half.pdf

Georgia Tech IoT-related Info/Research Noticed by CDAIT

- Jerry Grillo, "New Biosensors Could Revolutionize Cancer Detection," *GT News Center*, January 13, 2025 <https://news.gatech.edu/news/2025/01/13/new-biosensors-could-revolutionize-cancer-detection>
- Farahmand, Fariborz, and Richard W. Neu, "AI Safety for Physical Infrastructures: A Collaborative and Interdisciplinary Approach," *Fatigue & Fracture of Engineering Materials & Structures* (2025) <https://onlinelibrary.wiley.com/doi/full/10.1111/ffe.14575>
- Kangkyu Kwon, Yoon Jae Lee, Suyeong Chung, Jimin Lee, Yewon Na, Youngjin Kwon, Beomjune Shin, Allison Bateman, Jaeho Lee, Matthew Guess, Jung Woo Sohn, Jinwoo Lee, and Woon-Hong Yeo, "Full Body-Worn Textile-Integrated Nanomaterials and Soft Electronics for Real-Time Continuous Motion Recognition Using Cloud Computing," *ACS (American Chemical Society) Applied Materials & Interfaces*, January 24, 2025, doi: 10.1021/acsami.4c17369 <https://pubs.acs.org/doi/full/10.1021/acsami.4c17369>

OF NOTE: TrustCloud, "Data privacy in the age of IoT: securing connected devices in 2025," TrustCloud website, n.d. <https://community.trustcloud.ai/docs/grc-launchpad/grc-101/governance/data-privacy-in-the-age-of-iot-securing-connected-devices-in-2024/>; Atlantic Council, Cyber Statecraft Initiative, "IoT security explainer series - 'Consumer IoT security is a thorny problem. We interviewed experts to hear their insights into the state of consumer IoT security and what the future might hold'," Atlantic Council, September 29, 2023 <https://www.atlanticcouncil.org/programs/cyber-statecraft-initiative/iot-security-explainer-series/>

Special Reading Suggestions

- Air Cargo Week posting, "How IoT, AI and blockchain are transforming operations," *Air Cargo Week*, January 27, 2025 <https://aircargoweek.com/how-iot-ai-and-blockchain-are-transforming-operations/>
- Harshini Shaka, "Top IoT Applications and Use Cases in 2025," *Analytics Insight*, January 27, 2025 <https://www.analyticsinsight.net/internet-of-things/top-iot-applications-and-use-cases-in-2025>
- Ryan T. Murphy, "Unlocking IoT: Small Business Edition," *Upfront Operations*, January 24, 2025 <https://www.upfrontoperations.com/blog/internet-of-things-for-small-business>
- Alex Pasett, "How Do We Talk About the Intersection of IIoT and GenAI? Plenty of Insights at IoT Evolution Expo 2025," *IoT Evolution*, January 21, 2025 <https://www.iotevolutionworld.com/newsroom/articles/461732-how-we-talk-the-intersection-iiot-genai-plenty.htm>
- Yagmur Baydir, "IoT the Hidden Brain in Smart Buildings," *Parametric-Architecture*, January 19, 2025 <https://parametric-architecture.com/iot-the-hidden-brain-in-smart-buildings/>
- Rashi Bajpai, "The Interwoven Tapestry of the Internet of Things Weaving a Smarter Future," *ELE Times*, January 17, 2025 <https://www.eletimes.com/the-interwoven-tapestry-of-the-internet-of-things-weaving-a-smarter-future>
- Anthony Macarayan, "IoT interoperability is still a challenge: StarHub CTO," *Frontier Enterprise*, January 16, 2025 <https://www.frontier-enterprise.com/iot-interoperability-is-still-a-challenge-starhub-cto/>

Selected IoT Perspectives Vehicle-to-Everything (V2X) and IoT

"IoT for automotive purposes can be best understood by the rise of Vehicle-to-Everything (V2X) communications, which encompasses the communication systems that are facilitating interaction between vehicles, infrastructure and pedestrians, with the aim being to improve road safety, traffic management and enhance the driving experience," Caitlin Gittins, "IoT for automotive: driving the future of smart cars," *IoT Insider*, July 5, 2024 <https://www.iotinsider.com/transport/iot-for-automotive-driving-the-future-of-smart-cars/>

- Allied Analytics LLP press release, "Securing the Future: V2X Cybersecurity Market Surges to \$5.7 Billion by 2031 Amid Connected Vehicle Revolution," *EIN Presswire*, January 13, 2025 https://www.einnews.com/pr_news/776436812/securing-the-future-v2x-cybersecurity-market-surges-to-5-7-billion-by-2031-amid-connected-vehicle-revolution
- N. Mughees, "The role of V2X communication in autonomous vehicles," *Electronics 360*, January 2, 2025 <https://electronics360.globalspec.com/article/21800/the-role-of-v2x-communication-in-autonomous-vehicles>
- Tom Stone, "USA's FCC announces final rules for C-V2X use in 5.9GHz band," *Traffic Technology Today*, November 22, 2024 <https://www.trafficechnologytoday.com/news/connected-vehicles-infrastructure/usas-fcc-announces-final-rules-for-c-v2x-use-in-5-9ghz-band.html>
- Caledon Chrysler CarHub posting, "The Future of Car Connectivity: From IoT to V2X Communication," *Caledon Chrysler*, November 8, 2024 <https://www.caledonchrysler.ca/the-future-of-car-connectivity-from-iot-to-v2x-communication/>
- Brian Cronin, "What the USDOT's V2X Deployment Plan means for the USA," *Traffic Technology Today*, August 22, 2024 <https://www.trafficechnologytoday.com/opinion/opinion-what-the-usdotts-v2x-deployment-plan-means-for-the-usa.html>
- Graham Hope, "Vehicle-to-Everything Communication Gets New Roadmap," *IoT World Today*, August 20, 2024 <https://www.iotworldtoday.com/transportation-logistics/vehicle-to-everything-communication-gets-new-roadmap#close-modal>
- Brett Foote, "Future Ford Vehicles Could Get IOT Interference Detection," *Ford Authority*, August 18, 2024 <https://fordauthority.com/2024/08/future-ford-vehicles-could-get-iot-interference-detection/>

Research background info (sample) - 2024-25 sources: Jasim, N.I., Shamini, S., Al-Sharafi, M.A., Mahmoud, M.A., Ibrahim, M., Hassan, A. (published January 22, 2025), "Adoption and Implementation Trends of Vehicle-to-Everything (V2X) Technologies: A Comprehensive Bibliometric Analysis," *Ii: Al-Sharafi, M.A., Al-Emran, M., Mahmoud, M.A., Arpaci, I. (eds) Current and Future Trends on AI Applications. Studies in Computational Intelligence*, vol 1178. Springer, Cham. https://doi.org/10.1007/978-3-031-75091-5_18; Bruno Mendes, Marco Araújo, Adriano Goes, Daniel Corujo, Arnaldo S.R. Oliveira, "Exploring V2X in 5G networks: A comprehensive survey of location-based services in hybrid scenarios, Vehicular Communications," *Volume 52*, 2025, 100878, ISSN 2214-2096, <https://doi.org/10.1016/j.vehcom.2025.100878>; Yang Zhang, "IoT-based V2X communication for real-time dynamic obstacle prediction and adaptive RRT path planning," *Alexandria Engineering Journal*, Volume 116, published January 3, 2025, Pages 415-426, SSN 1110-0168, <https://doi.org/10.1016/j.aej.2024.12.053>; Khadiza Tul Kubra, Tajim Md. Niamat Ullah Akhund, Waleed M. Al-Nuwaier, Md Assaduzzaman, Md. Suhag Ali and M. Mesbahuddin Sarker, "Integrated IoT-Driven System with Fuzzy Logic and V2X Communication for Real-Time Speed Monitoring and Accident Prevention in Urban Traffic," *International Journal of Advanced Computer Science and Applications(IJACSA)*, 15(8), 2024. <https://dx.doi.org/10.14569/IJACSA.2024.01508118>

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