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CHRONICLE OF DIGITAL TRANSFORMATION (DT) THROUGH INTERNET OF THINGS

TECHNOLOGIES (IoT in Context)
Some biweekly perspectives on DT
from around the globe gathered by
CDAIT - 50 added for this Digest
(3700 entries since April 1, 2022)
https://cdait.gatech.edu/sites/default/files/2025-05/Digital_Transformation_Through_IoT_Technologies_as-of-End-of-May-2025.pdf

GOVERNANCE & THE INTERNET OF THINGS

Simon Trend, "Will IoT downtime be the biggest risk of the next decade?" Technode Global, May 28, 2025
<https://technode.global/2025/05/28/will-iot-downtime-be-the-biggest-risk-of-the-next-decade/>

Planning, Building & Construction Today [PBC] posting, "IoT to the rescue: New research maps global progress toward sustainable and smarter cities," PBC, May 22, 2025
<https://www.pbctoday.co.uk/news/digital-construction-news/iot-to-the-rescue-new-research-maps-global-progress-toward-sustainable-and-smarter-cities/151526/>

Global Data, "IoT enhances productivity, safety, and ESG compliance for the mining sector," Mining Technology, May 20, 2025
<https://www.mining-technology.com/analyst-comment/iot-enhances-productivity-safety-esg-compliance-mining-sector/?cf-view>

Steve Weisman, "FBI Warns About Danger In The Internet Of Things," Forbes, May 16, 2025
<https://www.forbes.com/sites/steve-weisman/2025/05/16/fbi-warns-about-danger-in-the-internet-of-things/>

James Blackman, "Private 5G update: US policy hobbles Industry 4.0 ahead of new golden age," RCR Wireless, May 14, 2025
<https://www.rcrwireless.com/20250514/internet-of-things/private-5g-us-golden-age>

Favour Lashem, "NITDA [Nigeria's National Information Technology Agency] reveals IoT's transformative potential for Africa's economy," News Diary Online, May 13, 2025
<https://newsdiaryonline.com/nitda-reveals-iots-transformative-potential-for-africas-economy/>

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Biweekly IoT News Digest (05/25 – 2)

IoT News and Market Reports

(Second Half of May 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/2025-05/IoT_News_Filings_May_2025_Second_Half.pdf
- Sample list of IoT-related market reports gathered by CDAIT – 50 entries: https://cdait.gatech.edu/sites/default/files/2025-05/IoT_Market_Reports_May_2025_Second_Half.pdf

Georgia Tech IoT-related Info/Research Noticed by CDAIT

- Williams, Nathan B., Woong Je Sung, Arun Ramamurthy, Hyunjee Jin, and Dimitri Mavris, "From Toy to Target: Investigating Representation Transfer for Reinforcement Learning with Implications for Cyber-Physical Systems," In Proceedings of the 7th Workshop on Design Automation for CPS and IoT, pp. 1-10, published May 6, 2025 <https://dl.acm.org/doi/abs/10.1145/3722573.3727827>
- Lee, Jimin, Leel Mazal Liberty, Ira Soltis, Kangkyu Kwon, David Chong, Youngjin Kwon, and Woon-Hong Yeo, "Wireless Flexible Potentiometric Microsensors for Temperature-Compensated Sweat Electrolyte Monitoring," ACS Applied Materials & Interfaces (2025) <https://pubs.acs.org/doi/full/10.1021/acsami.5c03558>
- Vazquez-Nava, Alberto, Horacio Ahuett-Garza, Pedro Orta-Castanon, and Christopher Saldana, "Fast inline inspection: vision system for geometric deviation measurement and early defect detection in smart manufacturing," International Journal of Computer Integrated Manufacturing (May 2, 2025): 1-24 <https://www.tandfonline.com/doi/abs/10.1080/0951192X.2025.2503316>

OF NOTE: "The National Institute of Standards and Technology (NIST) has published its initial draft of updated cybersecurity guidelines for Internet of Things (IoT) manufacturers which includes a wider scope of products and more post-market considerations" – See Weslan Hansen, "NIST Drafts New Guidelines for Full-Life IoT Security," Meritalk, May 19, 2025 <https://www.meritalk.com/articles/nist-drafts-new-guidelines-for-full-life-iot-security/> -- Derrick Henry, "NIST Issues Internal Reports on IoT Cyber Improvements," ExecutiveGov, May 15, 2025 <https://executivegov.com/2025/05/nist-internal-reports-iot-cyber-improvements/>

Special Reading Suggestions

- Global Data, "Safety first: How IoT can protect workers in the power industry," Energy Monitor, May 29, 2025 <https://www.energymonitor.ai/analyst-comment/iot-protect-workers-power-industry/?cf-view>
- Dimitris Paraskevopoulos, "Winning in the asset tracking market: 5 lessons from adopters," IoT Analytics, May 28, 2025 <https://iot-analytics.com/asset-tracking-market-lessons-from-adopters/>
- Jack Lloyd, "Securing embedded edge devices," Manufacturers' Monthly, May 27, 2025 <https://www.manmonthly.com.au/securing-embedded-edge-devices/>
- Matthew Urwin, "IoT Platforms: What They Are and 20 Examples to Know," Built In, May 27, 2025 <https://builtin.com/articles/iot-platforms>
- Dr Yew Hoe Tung, "Internet of Things: Apps, challenges and future trends," Daily Express Malaysia, May 24, 2025 <https://www.dailyexpress.com.my/news/259121/internet-of-things-apps-challenges-and-future-trends/>
- Sharath Muddaiah, "How Smart Labels, IoT, and AI is Set to Transform Business Efficiency and Drive Innovation," The Fast Mode, May 23, 2025 <https://www.thefastmode.com/expert-opinion/41993-how-smart-labels-iot-and-ai-is-set-to-transform-business-efficiency-and-drive-innovation>
- Radhika Ojha, "AI, IoT and Smart Factories: The Game-Changers for Complex Manufacturing," ERP Today, May 21, 2025 <https://erp.today/ai-iot-and-smart-factories-the-game-changers-for-complex-manufacturing/>
- Kirsten Newquist, "When Off-the-Shelf Doesn't Cut It: The Rise of Specialized IoT," RFID Journal, May 20, 2025 <https://www.rfidjournal.com/expert-views/when-off-the-shelf-doesnt-cut-it-the-rise-of-specialized-iot/223590/>
- Emily Newton, "The IoT is Nonnegotiable for Modern Biopharma Supply Chains," EE times, May 19, 2025 <https://www.eetasia.com/the-iot-is-nonnegotiable-for-modern-biopharma-supply-chains/>
- Chuck Brooks, "Growing Cyberthreats To The Internet Of Things," Forbes, May 18, 2025 <https://www.forbes.com/sites/chuckbrooks/2025/05/18/growing-cyberthreats-to-the-internet-of-things/>

Selected IoT Perspectives Internet of Things and Water Management

"Integrating IoT-enabled smart water systems is transforming how facility owners and managers approach compliance, empowering them to save time and resources while enhancing the overall experience for guests or residents." Richard Lindhorn, "IoT: The Key to Safer, Smarter Water Feature Compliance," IoT for all, December 30, 2024 <https://www.iotforall.com/iot-water-feature-compliance>

- Bove Technology, "Smart water management: The critical role of IoT water meters in the global energy transition," Smart Energy International, April 30, 2025 <https://www.smart-energy.com/industry-sectors/smart-water/smart-water-management-the-critical-role-of-iot-water-meters-in-the-global-energy-transition/>
- Emily Newton, "Why IoT Is Crucial For Modern Water Treatment Automation," Water Online, April 24, 2025 <https://www.wateronline.com/doc/why-iot-is-crucial-for-modern-water-treatment-automation-0001>
- Karl Flinders, "IoT and SaaS will underpin government legislation introduced to protect rivers," Computer Weekly, February 26, 2025 <https://www.computerweekly.com/news/366619571/IoT-and-Saas-will-underpin-government-legislation-introduced-to-protect-rivers>
- Kostiantyn Olynyk, "IoT in Water Management: Benefits & Solutions for 2025 and Beyond," Webby Lab, January 9, 2025 <https://webbylab.com/blog/iot-in-water-management/>
- Gareth Mitchell and Andy Welsh, "Comment: The role of IoT and sub-gigahertz connectivity in tackling water leakage," The Engineer [U.K.], November 25, 2024 <https://www.theengineer.co.uk/content/opinion/the-role-of-iot-and-sub-gigahertz-connectivity-in-tackling-water-leakage/>

Research background info (sample): Naqvi, Syed Muhammad Zaigham Abbas, Saddam Hussain, Muhammad Awais, Muhammad Naveed Tahir, Shoaib Rashid Saleem, Fuad AM Al-Yarimi, Mirjalol Ashurov et al. "Climate-resilient water management: Leveraging IoT and AI for sustainable agriculture," Egyptian Informatics Journal 30 (2025): 100691 <https://www.sciencedirect.com/science/article/pii/S1110866525000842>; Khairullah, Enas F., Atheer M. Alghamdi, Mohammad M. Al Mojamed, and Sherail Zeadally, "LoRaWAN-based smart water management IoT applications: a review," Journal of Information and Telecommunication (2025): 1-27 <https://www.tandfonline.com/doi/full/10.1080/24751839.2025.2458889>; Praveen, R. V. S., Mudit Mittal, Prasanta Parida, Yogendra Kumar, Atul Singla, and Nagarjuna Thandra, "Leveraging IoT and AI in Precision Agriculture for Efficient Water Management," In 2025 International Conference on Computational, Communication and Information Technology (ICCCIT), pp. 803-808. IEEE, 2025 <https://ieeexplore.ieee.org/abstract/document/10927765>; Muthulakshmi, S., Malathy Sathyamoorthy, S. Akash, P. Charumathi, and Sri Suvathi NM, "IoT Based Water Management and Monitoring System," In 2025 3rd International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT), pp. 751-756. IEEE, 2025 <https://ieeexplore.ieee.org/abstract/document/10915161>



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May 31, 2025

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