

**Selected IoT- related announcements and featured activities
from governments; agencies; consortia; alliances;
associations; standards, research and other similar groups
around the world**

May 16-31, 2020 [*]

For Information Only (no endorsement from CDAIT)

1. **Monday, May 18, 2020: The Internet of Underwater Things (IoUT)** - Informational resources: Ludovic F. Rembert, 'Head of Research at Privacy Canada, Internet of Things Goes Underwater: Will It Survive or Drown?' IoT Business News, May 15, 2020 <https://iotbusinessnews.com/2020/05/15/08981-internet-of-things-goes-und...> ; Patrick Nelson, "How underwater Internet of Things will work -- Lasers will be used to power underwater devices and transmit data below the ocean's surface," Network World, April 20, 2020 <https://www.networkworld.com/article/3538393/how-underwater-internet,-of-things-will-work.html> ; Jose Filho, "The power of light for internet of underwater things," KAUST Discovery, March 19, 2020 <https://discovery.kaust.edu.sa/en/article/952/the-power-of-light-for-int...> ; Christian Cardia, Petrika Gjanci, Chiara Petrioli profile, Gabriele Saturni, Daniele Spaccini, and Domenico Tomaselli, "The Internet of Underwater Things: From Nemo to underwater Whatsapp," Publication: Mobihoc '19: Proceedings of the Twentieth ACM International Symposium on Mobile Ad Hoc Networking and Computing, July 2019 Pages 409–410, <https://doi.org/10.1145/3323679.3326632> ; En-Cheng Liou, Chien-Chi Kao, Ching-Hao Chang, Yi-Shan Lin, and Chun-Ju Huang, "Internet of underwater things: Challenges and routing protocols," published in: 2018 IEEE International Conference on Applied System Invention (ICASI), Date Added to IEEE Xplore: 25 June 2018 <https://ieeexplore.ieee.org/document/8394494>

[*] Disclaimer: This document is for information purposes only. While extreme care was exercised in compiling data from various sources, which, at the time, were readily available on the Internet, a given report/study may be listed more than once (possibly with a different perspective or highlight) or may no longer be accessible. CDAIT makes no claims, promises, or guarantees about the completeness, accuracy, correctness, currency, relevance, reliability or quality of information contained in the links.

2. **Tuesday, May 19, 2020: Examining The Pandemic's \$158 Billion Digital Shift (Pymnts Brief – May 18, 2020)** -- Informational resources (without CDAIT endorsement): Download survey (published on May 18, 2020) here: <https://securecdn.pymnts.com/wp-content/uploads/2020/05/The-Great-Reopen...> -- "PYMNTS has surveyed more than 12,000 consumers over the past 10 weeks to track the shifts in their behaviors and priorities as the pandemic progresses. The Great Reopening: Tracking Digital's Quantum Leap edition focuses on our most recent survey of 2,047 consumers to understand which are most likely to have gone online to shop, pay and order food since the outbreak began. The report also analyzes how many of them plan to continue these digital activities in the future, and what a long-term shift in online shopping behaviors could mean for the broader connected economy." Key findings in the latest brief include: Consumers who have been the slowest to shift their routines online are the most eager to leave their homes; Four out of 10 consumers have brought their routines online; Consumers' online retailers shopping habits have seen the biggest shifts; Higher-income consumers are the most likely to have moved their activities online and keep them there; and Consumers who plan to stay online are the most worried about infecting others or dying. About PYMNTS: "PYMNTS.com is brought to you by What's Next Media and Analytics, LLC. The CEO of What's Next is Karen Webster. She is a globally recognized authority in payments and commerce and widely quoted author. She has assembled a team of leading economists, data analytic experts, management consultants, and journalists to provide cutting edge analysis of "What's Next". What's Next is owned by Market Platform Dynamics and Continental Advisors LLC. Market Platform Dynamics is an investor and advisor to clients who want to envision and execute effective multi-sided platform ("matchmaker") strategies. Continental Advisors is an investment advisor with significant expertise in funding new ventures in payments and commerce. What's Next (formerly known as 1st in Media) was founded in 2009 by Market Platform Dynamics and Business Wire, a wholly owned subsidiary of Berkshire Hathaway. Business Wire, the global market leader in commercial news and disclosure distribution, is the exclusive press release service for PYMNTS.com." [Source: <https://www.pymnts.com/about/>]

3. **Wednesday, May 20, 2020: Industry 4.0 & Digital Skills: Manufacturing Skill Standards Council (MSSC) to launch on June 1st, 2020 a production technician 4.0 certification based on 9 emerging Industry 4.0 technologies (incl. Industrial Internet of Things)** -- Information resources (without CDAIT endorsement): Leo Reddy and Harry Moser, "'Made in America' Needs an Industry 4.0 Skills Update," Industry Week, May 18, 2020 <https://www.industryweek.com/talent/education-training/article/21131593/...> -- About MSSC: <https://www.msscusa.org/about-mssc/> -- Related articles: Dale Buss, "Ready or Not, CEOs, Here Comes Industry 4.0 -- Manufacturers are being jarred into action by COVID-19 and "jerk," but consultant Rebecca Morgan says that's not all bad," Chief Executive, May 13, 2020 <https://chiefexecutive.net/ready-or-not-ceos-here-comes-industry-4-0/> ; Industry Week Staff, "One-Third of Manufacturing Workers Have Limited Digital Skills -- The National Skills Coalition is calling for policy changes to solve this digital skills gap, Industry Week, April 30, 2020 <https://www.industryweek.com/talent/article/21130173/onethird-of-manufac...> ; and John Robinson, "What is the future for Industry 4.0 in the post Covid-19 paradigm? -- Industry 4.0 is not only as relevant as it was before the global Covid-19 emergency, it's actually far more relevant moving forward. John Robinson, Strategic Client Advisor, Digital Supply Chain at SAP, explains why," The Manufacturer, April 2, 2020 <https://www.themanufacturer.com/articles/what-is-the-future-for-industry...>

4. **Thursday, May 21, 2020: NFC Forum adopts NFC Data Exchange Format Exchange Protocol (TNEP) standard for bidirectional communication between smartphones and IoT devices** -- Informational resources: May 18, 2020 NFC Forum Press Release, "NFC Forum Industry First: Bi-directional Communication Between Smartphones and IoT Devices," NFC Forum website, May 18, 2020 <https://nfc-forum.org/nfc-forum-industry-first-bi-directional-communicat...> ; IoT Business News Staff, NFC Forum Industry First: Bi-directional Communication Between Smartphones and IoT Devices, IoT Business News, May 19, 2020 <https://iotbusinessnews.com/2020/05/19/83898-nfc-forum-industry-first-bi...> ; and Mike Clark, "NFC Forum formally adopts TNEP standard for bidirectional NFC data exchange," NFC World, May 19, 2020 <https://www.nfcw.com/2020/05/19/366575/nfc-forum-formally-adopts-tnep-st...>

5. **Friday, May 22, 2020: The Internet of Things and Real Estate** -- Informational resources: Slava Vaniukov, "Powerful and New IoT Applications in Real Estate for 2020," IoT for All, May 20, 2020 <https://www.iotforall.com/powerful-and-new-iot-applications-in-real-esta...> ; Avison Young, "Evaluating The 'New Normal' for Commercial Real Estate," April 23, 2020 ["Impact that could persist beyond the immediate crisis to become embedded in a "new normal": extension of the Internet of Things (IoT) to create smart buildings and cities"] <https://www.avisonyoung.com/documents/20342/571064/COVID-19+-+Evaluating...> ; Vaibhav Gujral, Aditya Sanghvi, Robert Palter, and Brian Vickery, "Commercial real estate must do more than merely adapt to coronavirus," ["Taking the Digital Leap"] McKinsey, April 9, 2020 <https://www.mckinsey.com/industries/private-equity-and-principal-investo...> ; Velprakash K., "Possibilities for real estate with Internet of Things," Realty.com (The Economic Times [India]), October 16, 2019 <https://realty.economictimes.indiatimes.com/realty-check/possibilities-f...> ; Becky Holton, "The Importance of IoT (internet of things) in Commercial Real Estate," How the Internet of Things Is Changing Real Estate," Influencive, October 16, 2018 <https://www.influencive.com/how-the-internet-of-things-is-changing-real-...> ; ReOptimizer, May 26, 2019 <https://www.reoptimizer.com/real-estate-optimization-blog/the-importance...> ; Annabelle Short, "Read Dive, "Internet of Things in Real Estate: What's in it for Realtors and Home Owners," Read Dive, February 2019 <https://readdive.com/internet-of-things-in-real-estate-whats-in-it-for-r...> PwC, "The Internet of Things in Real Estate," July 31, 2018 <https://www.pwc.de/en/real-estate/digital-real-estate/internet-of-things...> -- See Real Estate Technology Alliance (RETA), created in 2018, and their Workgroup on Internet of Things (IoT) for Real Estate: <https://www.reta.org/reta-workgroups/>

6. **Monday, May 25, 2020: Private 5G Networks and the Internet of Things** -- Informational Resources: May 22, 2020 (London, UK-based) webinar, "The Role of 5G in Private Networks for the Industrial IoT," https://www.lightreading.com/webinar.asp?webinar_id=1400 ; Maha Achur, "Private 5G networks become indispensable, more evident during coronavirus quarantine," RCR Wireless, April 14, 2020 <https://www.rcrwireless.com/20200414/5g/private-5g-networks-becoming-ind...> ; Dylan McGrath, "Private 5G Networks Expected to Boost Industrial IoT," June 28, 2019, EE Times, <https://www.eetimes.com/private-5g-networks-expected-to-boost-industrial...> ; Gabriel Brown, "Private 5G Mobile Networks for Industrial IoT," Light Reading, July 30, 2019 <https://www.lightreading.com/mobile/5g/private-5g-mobile-networks-for-in...> -- associated white paper [July 2019] by Gabriel Brown on "Independent market research and competitive analysis of next-generation business and technology solutions for service providers and vendors - Private 5G Mobile Networks for Industrial IoT - A Heavy Reading white paper produced for Qualcomm," can be downloaded here:

<https://www.qualcomm.com/media/documents/files/private-5g-networks-for-i...> ; See also on private 5G networks: Patrick Nelson, "Private 5G networks are coming - Control over security is prompting big industrial companies to explore private 5G wireless networks," ["The Industrial Internet of Things (IoT) will drive adoption of private 5G networks, some are saying,"] Network World, November 7, 2018 <https://www.networkworld.com/article/3319176/private-5g-networks-are-com...> ; Andy Baryer, "Companies are choosing to build private 5G networks – Here's why," Futurithmic, February 12, 2020 <https://www.futurithmic.com/2020/02/12/companies-are-choosing-to-build-p...> ; Sacha Kavanagh, "What is a private 5G network?," 5G.co.uk <https://5g.co.uk/guides/what-is-a-private-5g-network/> ; Heidi Vella, "Will a private 5G network help my business?" Raconteur, February 19, 2020 <https://www.raconteur.net/technology/private-5g-network> ; IEEE, "Private 5G Networks", IEEE Innovation at Work <https://innovationatwork.ieee.org/private-5g-networks/>

7. **Tuesday, May 26, 2020: The Internet of Things and Smart Ports** -- Informational resources: Mateo Natalucci, "What is a Smart Port," Port Technology, August 9, 2019 ["A Smart Port is a port that uses automation and innovative technologies including Artificial Intelligence (AI), big data, Internet of Things (IoT) and blockchain to improve its performance,] <https://www.porttechnology.org/news/what-is-a-smart-port/> ; Richard Chelin and Denys Reva, "Security vs efficiency: smart ports in a post-COVID-19 era," Institute for Security Studies (South Africa), May 26, 2020 <https://issafrica.org/iss-today/security-vs-efficiency-smart-ports-in-a-...> ; Eric Leahy, "2020 State of Port Automation: (Part One) The Challenges," Tideworks, May 5, 2020 <https://tideworks.com/2020-state-port-automation-part-one-challenges/> and Eric Leahy, "2020 State of Port Automation (Part Two): The Future is Now," Tideworks, May 12, 2020 <https://tideworks.com/2020-state-port-automation-part-two-future-now/> ; Hanane Becha, Mikael Lind, André Simha, and François Bottin, "Smart ports: On the move to become Global Logistics Information Exchange Hubs," Offshore Energy, April 20, 2020 <https://www.offshore-energy.biz/smart-ports-on-the-move-to-become-global-...> ; Yongsheng Yang, Meisu Zhong, Haiqing Yao, Fang Yu, Xiuwen Fu, Octavian Postolache, "Internet of things for smart ports: Technologies and challenges," Published in: IEEE Instrumentation & Measurement Magazine (Volume: 21 , Issue: 1 , February 2018), <https://ieeexplore.ieee.org/document/8278808>
8. **Wednesday, May 27, 2020: Object Management Group (OMG) with founders Ansys, Dell Technologies, Lendlease and Microsoft launch Digital Twin Consortium** -- Informational resources: Digital Twin Consortium Press Release, "Object Management Group Forms Digital Twin Consortium with Founders Ansys, Dell Technologies, Lendlease, and Microsoft," Digital Twin Consortium, May 18, 2020 <https://www.digitaltwinconsortium.org/press-room/05-18-20.htm> ; Related articles: Stacey Higginbotham, "Let's dig into this new consortium for digital twins," Stacey on IoT blog, May 26, 2020 <https://staceyoniot.com/lets-dig-into-this-new-consortium-for-digital-tw...> ; Michael Alba, "Finally, Digital Twins Get Their Own Consortium," Engineering, May 21, 2020 <https://www.engineering.com/DesignSoftware/DesignSoftwareArticles/Articl...> ; Prescient & Strategic Intelligence press release, "Adoption of Internet of Things (IoT) to Propel Digital Twin Market Revenue to \$73,245.4 million by 2030: P&S Intelligence," April 7, 2020, <https://www.globenewswire.com/news-release/2020/04/07/2012631/0/en/Adopt...> ; and Shi-Wan Lin, Somayeh Malakuti, and Pieter van Schalkwyk, "A short introduction to digital twins," Machine Design, February 5, 2020 <https://www.machinedesign.com/automation-iiot/article/21122237/a-short-i...>

9. **Thursday, May 28, 2020: New [EU] ETSI standard to be developed for contact-tracing applications following Covid-19 outbreak** -- Informational resources: ETSI Press Release (May 12, 2020): "New ETSI group to develop standardization framework for secure smartphone-based proximity tracing systems, helping to break COVID-19 transmission chains," <https://www.etsi.org/newsroom/press-releases/1768-2020-05-new-etsi-group...> ; Related article: Joe O'Halloran, "European comms bodies set up standards group, call for vigilance on contact-tracing apps," Computer Weekley, May 15, 2020 <https://www.computerweekly.com/news/252483013/European-comms-bodies-set-...>
10. **Friday, May 29, 2020: The Internet of Things and Ghost Work** -- Informational resources: Cara Curtis, "The invisible labor powering Silicon Valley — and the ethics behind 'ghost work'," Sup.News, May 27, 2020 <https://sup.news/the-invisible-labor-powering-silicon-valley-and-the-eth...> ; Erica Volini, Jeff Schwartz, Brad Denny, David Mallon, Yves Van Durme, Maren Hauptmann, Ramona Yan, and Shannon Poynton, "Ethics and the future of work From 'could we' to 'how should we,'" Deloitte Insights, May 15, 2020 <https://www2.deloitte.com/us/en/insights/focus/human-capital-trends/2020...> ; Magnus Boman, "Ghost work powering AI-based services," Medium, January 13, 2020, <https://medium.com/viable-cities/ghost-working-away-for-ai-48b0268f954b> ; Julian Friedland, David Balkin, and Ramiro Montealegre, "A Ghost Workers' Bill of Rights: How to Establish a Fair and Safe Gig Work Platform," California Management Review, January 7, 2020 <https://cmr.berkeley.edu/2020/01/ghost-workers/> ; Jimmy Pham, "The Driving Force behind Automation," Medium, December 2, 2019 https://medium.com/@jimmypham_96058/the-driving-force-behind-automation-916b8e744e31 ; Angela Chen, "How Silicon Valley's successes are fueled by an underclass of 'ghost workers,'" The Verge, May 13, 2019 <https://www.theverge.com/2019/5/13/18563284/mary-gray-ghost-work-microwo...> ; and seminal work/ideas summarized here: Mary L. Gray, "The paradox of automation's 'last mile'," Collective Social Media [part of Microsoft Research Labs], November 12, 2015 <https://socialmediacollecive.org/2015/11/12/the-paradox-of-automations-...> *"As anyone in the thick of the race to automate responses to human needs and desires knows, we are several decades away (at least) from conquering the hardest problems in automation. As we strive to solve problems, the process of drawing on human insight and creativity through ghost work will repeat, resulting in the rapid creation and destruction of labor markets for new types of tasks. Thus, these new labor markets are, by design, extremely dynamic. Even more unpredictable: The land of IoT sensors and devices will further expand to-date unimaginable on-demand services and products delivered through the power of human-driven ghost work. For every sensor informing an individual about an action they could take (e.g., close their refrigerator, pick up a waiting child, help a elderly family member in immediate need), ghost work will offer new services to respond to the call, when and wherever we need it."*