

Building Tech Capacity in Law Enforcement Agencies

On strengthening foundations and pathways for
public interest technologists in government

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Office of Technology Staff Report



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Limitations

While this report describes the establishment of one office at the FTC and highlights several new structures that developed over a span of 110+ years, it is not a comprehensive or definitive exploration of all of the ways in which technologists are shaping enforcement and policymaking at the FTC, across the Federal government, and in agencies around the world.

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Executive Summary

The U.S. Federal Trade Commission (“FTC” or “Commission”) is a law enforcement agency that enforces a variety of antitrust and consumer protection laws affecting many areas of commerce.¹ The FTC’s mission is to protect the public from deceptive or unfair business practices and from unfair methods of competition through law enforcement, advocacy, research, and education. The FTC’s

¹ Fed. Trade Comm’n, *What the FTC Does*, <https://www.ftc.gov/news-events/media-resources/what-ftc-does>

Office of Technology (“OT”) was founded in 2023 with the purpose of strengthening and supporting law enforcement investigations and actions, advising and engaging with FTC staff and the Commission on policy and research initiatives, and engaging with the public and relevant experts to understand trends and to advance the Commission’s work. A year after OT’s founding, this report describes why and how the FTC continues to amplify its mission by hiring tech expertise.

This report is meant to establish a shared context and serve as a resource for building technical capacity in government agencies, highlighting how OT applies subject matter experts in regulatory and enforcement contexts. OT notes that there are many successful models and approaches both at the FTC² and at other agencies³ to consider. The scope of this report is focused on OT’s model.

First, this report introduces the technological moment in which the FTC finds itself. It then explains how the increased integration of technology into the economy has caused regulators and law enforcers across the world to draw on technologists to advance the public interest. Next, it describes past eras of technological change, and gives examples of how the FTC adapted to some of those changes.

The paper’s core then describes the structure of OT, its work within the agency, and considerations for other governmental arms seeking to integrate technologists into their work. Finally, we include a pocket guide outlining a sample position description for consideration by agencies hiring technologists.

Section 1: An Economy Driven by Technology

Congress established the Federal Trade Commission in 1914. Nearly 110 years later, swaths of the American economy rely on technologies that did not exist at the inception of the agency. Digitization has touched every aspect of the US economy, including health, art, manufacturing, and journalism. Digitization has also catalyzed new forms of scientific discovery, driven efficiencies, and expanded communications capabilities. Chair Khan acknowledged this history of innovation in her November 2023 speech at Stanford’s Institute for Economic Policy Research⁴ where she described how a commitment to free enterprise and fair competition “has allowed the United States to harness the talents of its citizens, reap breakthrough innovations, and lead as an economic powerhouse.”

Amidst this extraordinary increase in digitization, the Commission has protected consumers from unlawful conduct across sectors as diverse as digital advertising, social networking, and e-commerce. In recent decades, for example, some corporations employed aggressive strategies to “acquire or lock out companies that threatened their position, a handful of firms solidified their dominance, while locking in business models that we now realize came at the expense of our privacy and security.”⁵ “What began as a revolutionary set of technologies ended up concentrating enormous private power

² This includes but is not limited to the Bureau of Economics, units in the Bureau of Competition and the Bureau of Consumer Protection (the Division of Privacy and Identity Protection, the Division of Litigation Technology & Analysis, and the Division of Consumer Response and Operations), the Office of the CIO, the Office of the Chief Privacy Officer, and more.

³ See Section 2.

⁴ Fed. Trade Comm’n, *Remarks of Chair Lina M. Khan as Prepared for Delivery, Stanford Institute for Economic Policy Research* (November 2, 2023), https://www.ftc.gov/system/files/ftc_gov/pdf/khan-remarks-stanford.pdf

⁵ Fed. Trade Comm’n, *Remarks of Chair Lina M. Khan - FTC Tech Summit* (January 25, 2024), https://www.ftc.gov/system/files/ftc_gov/pdf/2024.01.25-chair-khan-remarks-at-ot-tech-summit.pdf

over key services and locking in business models that come at extraordinary cost to our privacy and security,” Chair Khan wrote recently regarding the “Web 2.0” digital economy.⁶

Too often, corporate actors have provided an illusion of choice to their customers,⁷ or have employed harmful defaults and design patterns that put their bottom line above individual autonomy, and, in many cases, the law.⁸ The rise of the surveillance economy,⁹ and its attendant concentration¹⁰ have demonstrated that the American public requires well-equipped regulators and law enforcers who understand the digital economy.

In this particular moment, the growth of Artificial Intelligence (“AI”) – and generative AI in particular – demonstrates how a new platform shift can “turbocharge fraud, automate discrimination, and entrench surveillance, putting people in harm’s way.”¹¹ Users for some generative AI services have increased from zero to hundreds of millions in just months.¹² At the same time, concern about harms from these new technologies seems to be increasing outside of the scholarly, technical, or advocacy circles where such harms have been studied and understood for years.¹³

⁶ Chair Khan, *We Must Regulate A.I. Here’s How.*, The New York Times (May 3, 2023), <https://www.nytimes.com/2023/05/03/opinion/ai-lina-khan-ftc-technology.html>

⁷ “The pervasiveness of contemporary surveillance requires a new paradigm. One that recognizes that our existing tools, in their current form, are insufficient. One that acknowledges the serious harms being inflicted on our privacy, our communities, and our society by mass commercial surveillance. And one that dispenses with the fiction that consumers can protect themselves by reading notices or opting out of the digital economy.” Samuel Levine, *Keynote Remarks of Samuel Levine*, Cleveland-Marshall College of Law Cybersecurity and Privacy Protection Conference (May 19, 2022), https://www.ftc.gov/system/files/ftc_gov/pdf/Remarks-Samuel-Levine-Cleveland-Marshall-College-of-Law.pdf

⁸ Press Release, Fed. Trade Comm’n, *FTC Finalizes Order Requiring Fortnite maker Epic Games to Pay \$245 Million for Tricking Users into Making Unwanted Charges* (March 14, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/03/ftc-finalizes-order-requiring-fortnite-maker-epic-games-pay-245-million-tricking-users-making>

⁹ “FTC enforcement actions, news reports, and published research indicate that the commercial surveillance industry is increasingly unavoidable. The FTC is concerned that companies have strong incentives to develop products and services that track and surveil consumers’ online activities as much as possible.” Fed. Trade Comm’n, *Fact Sheet on the FTC’s Commercial Surveillance and Data Security Rulemaking* (August 11, 2022), https://www.ftc.gov/system/files/ftc_gov/pdf/Commercial%20Surveillance%20and%20Data%20Security%20Rulemaking%20Fact%20Sheet_1.pdf

¹⁰ See, e.g., Fed. Trade Comm’n, *FTC Hearing #6: Privacy, Big Data, and Competition* (November 6-8, 2018), <https://www.ftc.gov/news-events/events/2018/11/ftc-hearing-6-privacy-big-data-competition>

¹¹ Fed. Trade Comm’n, *Remarks of Chair Lina M. Khan - FTC Tech Summit* (January 25, 2024), https://www.ftc.gov/system/files/ftc_gov/pdf/2024.01.25-chair-khan-remarks-at-ot-tech-summit.pdf

¹² Dan Milmo, *ChatGPT reaches 100 million users two months after launch*, The Guardian (February 2, 2023), <https://www.theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app>

¹³ Michelle Favero and Alec Tyson, *What the data says about Americans’ views of artificial intelligence*, Pew Research (November 21, 2023), <https://www.pewresearch.org/short-reads/2023/11/21/what-the-data-says-about-americans-views-of-artificial-intelligence/>

The generative AI space also sees many of the same concerns around concentration that Web 2.0 experienced.¹⁴ Concentration seems to increase as one moves further down the tech stack¹⁵ – and business and individuals have voiced the impacts on their work and opportunity to compete.¹⁶

The Response

Some have highlighted¹⁷ that an approach using self-regulation to prevent such harms is untenable.¹⁸ Regulators and law enforcers around the world are studying potential concentration and anti-competitive practices across the AI tech stack, including in hardware and infrastructure,¹⁹ data and models,²⁰ front-end applications²¹ – and for other products across the digital economy.²² Regulators can act faster and more effectively with an increased understanding of digital market dynamics; in order to do so, government enforcers across the world need to continue to strengthen this expertise. There is much more to be done to understand how to effectively recruit, onboard, and structure teams of technologists across policy and enforcement processes.

Now is a critical moment for law enforcers and regulators to commit to bolstering internal technology expertise. The FTC’s counterparts seem to agree: In conjunction with the release of this report, the Office of Technology worked with a number of international partners in acknowledging the importance of technology capacity-building in enforcement agencies.²³ Separately, a number of federal and state agencies released agency-specific action statements on tech capacity. These statements reflect concrete action to increase tech capacity, including actively hiring technologists.

Technology may evolve – generative AI being replaced by a new fundamental shift in the next year, or in the next decade – but the increasing digitization of the entire economy is here to stay. Over a

¹⁴ Chair Khan, *We Must Regulate A.I. Here’s How.*, The New York Times (May 3, 2023), <https://www.nytimes.com/2023/05/03/opinion/ai-lina-khan-ftc-technology.html>

¹⁵ Blog Post, Fed. Trade Comm’n, *A few key principles: An excerpt from Chair Khan’s Remarks at the January Tech Summit on AI* (February 8, 2024), <https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2024/02/few-key-principles-excerpt-chair-khans-remarks-january-tech-summit-ai>

Blog Post, Fed. Trade Comm’n, *Generative AI Raises Competition Concerns* (June 29, 2023), <https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/06/generative-ai-raises-competition-concerns>

¹⁶ Media Advisory, Fed. Trade Comm’n, *FTC Hosts Virtual Tech Summit on January 25 Focused on Artificial Intelligence* (January 24, 2024), <https://www.ftc.gov/news-events/news/press-releases/2024/01/ftc-hosts-virtual-tech-summit-january-25-focused-artificial-intelligence>

¹⁷ Chris Jay Hoofnagle, *Privacy Regulation: A Decade of Disappointment*, Electronic Privacy Information Center (Mar. 4, 2005), <https://archive.epic.org/reports/decadedisappoint.pdf>

¹⁸ Fed. Trade Comm’n, *Remarks of Commissioner Slaughter, FTC Tech Summit* (January 25, 2024), https://www.ftc.gov/system/files/ftc_gov/pdf/transcript-ftc-tech-summit-1.25.24.pdf;

Fed Trade Comm’n, *Remarks of Bureau of Consumer Protection Director, Samuel Levine*, The National Advertising Division Annual Conference (September 19, 2023), https://www.ftc.gov/system/files/ftc_gov/pdf/remarks-of-samuel-levine-at-nad-2023.pdf

¹⁹ Ofcom, *Statement: Cloud services market study (final report)* (October 5, 2023), <https://www.ofcom.org.uk/consultations-and-statements/category-2/cloud-services-market-study>

²⁰ UK Competition and Markets Authority, *AI Foundation Models: Initial report* (September 18, 2023), <https://www.gov.uk/government/publications/ai-foundation-models-initial-report>

²¹ European Commission, *European approach to artificial intelligence* (March 6, 2024), <https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence>

²² Japan Fair Trade Comm’n, *Report on the Study Group on Competition Policy in Digital Markets “Algorithms/AI and Competition Policy”* (March 2021), <https://www.jftc.go.jp/en/pressreleases/yearly-2021/March/210331003.pdf>

²³ International Competition Network, *Building Digital Capacity to Strengthen and Support Law Enforcement Agencies* (March 25, 2024), <https://www.internationalcompetitionnetwork.org/portfolio/technologist-forum-message/>

century after it was founded, the FTC continues to shape the movement for public interest technologists in law enforcement agencies around the world.

Section 2: The persistent and increasing need for technology capacity in law enforcement agencies: experimentation with different models or institutional structures.

As technology evolves, so do the needs and goals of government law enforcers. “The FTC’s functions have changed as Congress passed new laws and as social trends changed,” explained a former FTC economist who held a variety of roles at the agency.²⁴ Responding to the changing market, agencies across the U.S. and around the world have set up technical teams to support the mission and mandate of these agencies – providing industry-relevant, practical, and hands-on knowledge about the new mediums and mechanisms used to engage in potentially harmful business practices. This section highlights the prior and existing efforts from the FTC and government agencies around the world - ranging across federal, state and local authorities.

Digital Service Technologists: The 2010s underscored the need to hire technical experts to make government services work better across the U.S. government.²⁵ United States Digital Service (USDS),²⁶ for example, was established in 2014 to “deliver better government services to the American people through technology and design.” This agency is similar to the UK’s Government Digital Service (GDS), which aims to “make digital government simpler, clearer and faster for everyone.”²⁷ Other groups like 18F,²⁸ Presidential Innovation Fellows (PIF),²⁹ U.S. Digital Corps,³⁰ local government efforts like Boston’s New Urban Mechanics,³¹ and more are also continuing to strengthen technical capacity for service delivery within the U.S. government.

This movement to use technical talent for not just service delivery is in response to the growing need for technical capacity not just to *build and design* technology products and services, but also to help *strengthen and support government agencies’ missions* through policy and law enforcement.

Digital Tech Capacity in Law Enforcement in the U.S.: In the United States, a number of agencies are building out their technical capacity to ensure they can regulate present and emerging technologies. In January 2024, the White House issued an Executive Order on AI, which included an

²⁴ See Paul A. Pautler, *A History of the FTC’s Bureau of Economics*, The American Antitrust Institute (Sept. 8, 2015), https://www.antitrustinstitute.org/wp-content/uploads/2018/08/FTC-Bureau-of-Economics-History_0.pdf

²⁵ Nilay Patel, *USDS head Mina Hsiang wants Big Tech’s best minds to help fix the government*, The Verge (December 12, 2023), <https://www.theverge.com/23997640/usds-mina-hsiang-white-house-obama-big-tech-government-decoder-interview>; Blog Post, *Day One: Mikey Dickerson, U.S. Digital Service Administrator* The White House – President Barack Obama (August 20, 2014),

<https://obamawhitehouse.archives.gov/blog/2014/08/20/day-one-mikey-dickerson-us-digital-service-administrator>

²⁶ United States Digital Service, <https://www.usds.gov/>

United States Digital Service, *Mikey Dickerson to SXSW: Why We Need You in Government*, Medium (March 26, 2015), <https://medium.com/the-u-s-digital-service/mikey-dickerson-to-sxsw-why-we-need-you-in-government-f31dab3263a0>

²⁷ U.K. Government Digital Service, <https://www.gov.uk/government/organisations/government-digital-service>

²⁸ 18F: *Digital Service Delivery*, U.S. General Services Administration, <https://18f.gsa.gov/>

²⁹ Presidential Innovation Fellows, <https://presidentialinnovationfellows.gov/>

³⁰ U.S. *Digital Corps*, U.S. General Services Administration, <https://digitalcorps.gsa.gov/>

³¹ *New Urban Mechanics*, City of Boston, <https://www.boston.gov/departments/new-urban-mechanics>

“AI Talent Surge to accelerate hiring AI professionals across federal government.”³² Separate from the Executive Order, law enforcement agencies are taking action to build internal tech expertise. The Department of Justice designated³³ their first Chief Science and Technology Advisor and Chief Artificial Intelligence (AI) Officer in February 2024. For years, the Consumer Financial Protection Bureau has been building out a team of technologists³⁴ on various teams to work alongside attorneys and policy experts to “hold companies accountable for financial wrongdoing and ensure the marketplace is fair for all Americans.” In addition, a number of State Offices, such as the California Privacy Protection Agency,³⁵ Office of the Attorney General for New York State,³⁶ Delaware Department of Justice,³⁷ and the Massachusetts Office of the Attorney General have hired technologists or are in the process of doing so.

Digital Tech Capacity in Law Enforcement Agencies Globally: Competition and consumer law enforcement agencies in other jurisdictions have also increased tech capacity, including the United Kingdom,³⁸ Australia,³⁹ Canada,⁴⁰ France,⁴¹ Japan,⁴² Korea,⁴³ Germany,⁴⁴ the Netherlands,⁴⁵ Singapore,⁴⁶ Mexico,⁴⁷ India,⁴⁸ and the European Commission.⁴⁹ We would like to acknowledge the important role many of these partners played in establishing foundational digital capacity, and the

³² *Fact Sheet: Biden-Harris Administration Announces Key AI Actions Following President Biden’s Landmark Executive Order*, The White House (January 29, 2024), <https://www.whitehouse.gov/briefing-room/statements-releases/2024/01/29/fact-sheet-biden-harris-administration-announces-key-ai-actions-following-president-bidens-landmark-executive-order/>

³³ Press Release, *Attorney General Merrick B. Garland Designates Jonathan Mayer to Serve as the Justice Department’s First Chief Science and Technology Advisor and Chief AI Officer*, Department of Justice (February 22, 2024), <https://www.justice.gov/opa/pr/attorney-general-merrick-b-garland-designates-jonathan-mayer-serve-justice-departments-first>

³⁴ Consumer Financial Protection Bureau, *Hiring technologists to protect consumers*, <https://www.consumerfinance.gov/about-us/careers/cfpb-technologist/hiring-technologists-to-protect-consumers/>

³⁵ California Privacy Protection Agency, *About Us* (2024), <https://cpa.ca.gov/about-us/>

³⁶ See *Economic Justice Division*, New York State Attorney General (2024), <https://ag.ny.gov/about/about-office/economic-justice-division>

³⁷ *Technologist/Administrative Management Analyst*, Delaware Employment Link via The Internet Archive (January 17, 2024), <https://web.archive.org/web/20240311151156/https://www.jobapscloud.com/DE/sup/BulPreview.asp?R1=011224&R2=MUAH04&R3=150100>

³⁸ See Stefan Hunt, *The CMA Data Unit – We’re Growing!*, U.K. Competition and Markets Authority (May 28, 2019), <https://competitionandmarkets.blog.gov.uk/2019/05/28/the-cma-data-unit-were-growing/>; U.K. Competition and Markets Authority, Digital Markets Unit, <https://www.gov.uk/government/collections/digital-markets-unit>.

³⁹ Australian Competition & Consumer Commission, <https://www.accc.gov.au/about-us/accc-role-and-structure/organisation-structure>

⁴⁰ Competition Bureau Canada, <https://ised-isde.canada.ca/site/competition-bureau-canada/en/how-we-foster-competition/our-organization/our-structure>

⁴¹ Autorité de la Concurrence, <https://www.autoritedelaconcurrence.fr/en/organisation-chart>

⁴² Japan Fair Trade Commission, https://www.jftc.go.jp/en/about_jftc/organization%20chart/index.html

⁴³ Korea Fair Trade Commission, <https://www.ftc.go.kr/eng/contents.do?key=496>

⁴⁴ Bundeskartellamt, https://www.bundeskartellamt.de/EN/Bundeskartellamt/tasksandorganisation/tasksandorganisation_node.html

⁴⁵ Netherlands Authority for Consumers & Markets, <https://www.acm.nl/en/about-acm/our-organization/organizational-structure>

⁴⁶ Singapore, Competition and Consumer Commission (CCCS), <https://www.cccs.gov.sg/about-cccs/organisation-structure/cccs-divisions>

⁴⁷ Mexico, Federal Economic Competition Commission (COFECE), <https://www.cofece.mx/about-cofece/directorio/>

⁴⁸ Press Release, *CCI organises 8th edition of National Conference on Economics of Competition Law: Regulators must not hesitate to intervene to keep markets free from entry barriers, says CEA Dr. Nageswaran*, Competition Commission of India (March 3, 2023), <https://www.cci.gov.in/public/images/economicconference/en/press-release-of-8th-national-conference-on-economics-of-competition-law1684131990.pdf>; Newsletter, *Fair Play*, Competition Commission of India (January-March 2023), <https://www.cci.gov.in/search-filter-details/4975>

⁴⁹ European Commission, Directorate-General for Competition, https://commission.europa.eu/about-european-commission/departments-and-executive-agencies/competition_en

momentum and progress they continue to build. With regard to the scope of this report, it is notable that a number of these agencies have established their own unique tech, data, or digital markets units and mandates in which technologists serve as subject matter experts or help strengthen their respective agency missions, including by working alongside lawyers and policymakers to enforce the law and regulate the market.⁵⁰ OT recognizes the experience these partners shared that impacted the FTC’s technologist capacity-building efforts.⁵¹

Digital Capacity Building in the FTC: For the FTC specifically, the agency has, over the decades, hired experts to build out the agency’s Bureau of Economics⁵² with economists and data analysts who analyze the economic impact of government regulations on businesses and consumers. There are also technologists embedded in the agency’s Division of Litigation Technology & Analysis⁵³ to work with attorneys to assess case needs, manage the technological tools used to conduct investigations and litigation, and evaluate and implement technologies. Moreover, the agency’s Division of Consumer Response and Operations collects and analyzes data to target law enforcement and education efforts and measure the impact of activities related to the FTC’s consumer protection mission, including managing the Consumer Sentinel system – a database of consumer fraud reports submitted directly to the FTC, as well as fraud reports shared by data contributors, including the Consumer Financial Protection Bureau, the Internal Revenue Service, and state attorneys general – making the fraud reports available to over 2,300 federal, state, local, and international law enforcement users.

The Office of the Chief Information Officer was established to manage and service the FTC’s information technology assets⁵⁴ while the Office of the Chief Privacy Officer was established to manage the FTC’s internal privacy program and is responsible for ensuring that the Commission complies with all applicable privacy laws and guidance.⁵⁵ And most recently, as of 2023, the FTC’s Office of Technology, along with these other areas of the agency, is bringing in expert technologists to strengthen and support law enforcement investigations and actions.

Section 3: The FTC Adapts to Technological Change Throughout the Years

The FTC has taken a number of approaches throughout its nearly 110-year history to carry out its mission with respect to evolving technologies. The definition of a technology company is blurring as technology irreversibly enters every facet of commerce, from farming equipment to healthcare services. The proliferation of new technological products and services over the years reflects the types of changes that the FTC sees every day: not just technological changes in one “technology sector,” but increased technological dependence across the entire economy. While this section does

⁵⁰ See, e.g., European Commission, *Job opportunity: European Commission is hiring experts to enforce the Digital Services Act* (November 18, 2022), <https://digital-strategy.ec.europa.eu/en/news/job-opportunity-european-commission-hiring-experts-enforce-digital-services-act>

⁵¹ Blog Post, *GDS, USDS and Sharing Expertise*, U.K. Government Digital Service (January 20, 2015), <https://gds.blog.gov.uk/2015/01/20/gds-usds/>

⁵² *Bureau of Economics*, Fed. Trade Comm’n, <https://www.ftc.gov/about-ftc/bureaus-offices/bureau-economics>

⁵³ *Division of Litigation Technology & Analysis*, Fed. Trade Comm’n, <https://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection/our-divisions/division-litigation-technology-analysis>

⁵⁴ *Office of the Chief Information Officer*, Fed. Trade Comm’n, <https://www.ftc.gov/about-ftc/bureaus-offices/office-executive-director/office-chief-information-officer>

⁵⁵ *Office of the Chief Privacy Officer*, Fed. Trade Comm’n, <https://www.ftc.gov/about-ftc/bureaus-offices/office-chief-privacy-officer>

not aim to be fully comprehensive of the agency's very detailed history, it outlines a handful of technological developments over the past several decades and illustrates how the FTC adapted its structure along the way.

Radio: Amidst a backdrop of global economic and political crisis, powerful labor unions,⁵⁶ and an era that “emphasized simplicity and thrift,”⁵⁷ by the 1930's radio broadcasting had become a critical factor in people's social, political and economic lives – bringing world news, music, and other forms of entertainment into family living rooms. In 1934, the FTC was “determined to take steps looking to closer scrutiny and more rigid regulation of the large volume of radio advertising.”⁵⁸ The agency had created the Special Board of Investigation in 1929 to review the advertisements in periodicals, and in 1934 this Board began reviewing radio advertisements as well.⁵⁹

Television: Around the late 1940s,⁶⁰ television's emergence as a national medium brought live broadcast programming across the country, which became a critical mass medium for entertainment, advertising, and news. Similar to radio, this impacted the way the FTC had to adapt to a new device, along with new forms of scrutiny and analysis. In 1938, the FTC created the Division of Radio and Periodical Advertising to replace the Special Board of Investigation, enabling the agency “more effectively to discharge the additional duties that devolved upon the Commission with the enactment of the Wheeler-Lea amendment to the Federal Trade Commission Act” (which had added consumer protection duties to the agency).⁶¹ In 1948, as television ownership in the United States experienced a post-war explosion,⁶² the division began⁶³ to monitor advertisements broadcast over TV as well.

Medical and Chemical Developments: Beyond radio and TVs, the World War II era brought a “host of wartime advancements in fermentation and purification technologies changing the drug development process” including advances in technology to aid drug developments.⁶⁴ The FTC created the Medical Advisory Division in 1940,⁶⁵ which provided the other parts of the agency with “professional opinions in matters pertaining to the validity of claims made by advertisers of food, drugs, cosmetics, and devices in connection with cases instituted under the advertising provisions of the Federal Trade Commission Act.”⁶⁶ Tracking its naming changes shows the post-war expansion in

⁵⁶ Civil Rights and Labor History Consortium, *Strikes and Unions*, University of Washington (2009), https://depts.washington.edu/depress/strikes_unions.shtml

⁵⁷ Richard H. Pells and Christina D. Romer, *Great Depression: Popular culture*, Britannica (February 29, 2024), <https://www.britannica.com/event/Great-Depression/Popular-culture>

⁵⁸ Ewin L. Davis, *Regulation of Radio Advertising*, *Annals of the American Academy of Political and Social Science*, vol. 177 (January 1935), https://www.ftc.gov/system/files/documents/public_statements/673801/193501_davis_regulation_of_radio_advertising.pdf

⁵⁹ Fed. Trade Comm'n, *Annual Report 1935* (June 30, 1935) https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1935/ar1935_0.pdf

⁶⁰ Steve Allen and Robert J. Thompson, *Television in the United States: The Late Golden Age*, Britannica (January 14, 2024), <https://www.britannica.com/art/television-in-the-United-States/The-late-Golden-Age>

⁶¹ Federal Trade Comm'n, *Annual Report 1939* (June 30, 1939), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1939/ar1939_0.pdf

⁶² Robert D. Putnam, *Bowling alone : the collapse and revival of American community* via Internet Archive (2000), p. 217, <https://archive.org/details/bowlingalone00robe/page/217/mode/1up>

⁶³ Federal Trade Comm'n, *Annual Report 1948* (June 30, 1948), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1948/ar1948_0.pdf

⁶⁴ *The Pharmaceutical Century: Ten Decades of Drug Discovery - Antibiotics & isotopes*, American Chemical Society (2000).

⁶⁵ This Division, too, was created in reaction to the 1938 Wheeler-Lea amendment.

⁶⁶ Federal Trade Comm'n, *Annual Report 1940* (June 30, 1940), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1940/ar1940_0.pdf

scope – in 1950⁶⁷ it became the Division of Medical and Chemical Opinions, and in 1953⁶⁸ it became the Division of Scientific Opinions to “furnish scientific facts and opinions concerning the composition and efficacy of foods, drugs, medical devices, cosmetics,” “analyze and test samples of products under investigation,” and “gather information with respect to their composition, nature, effectiveness and safety.”

The Internet: The 1980s and 1990s brought a “rise of a new digital generation,”⁶⁹ ushering in an era in which people could browse virtually any topic, blogging and forums highlighted fresh ideas, and consumers began seeing the benefits of online commerce. The agency kept up with the fast pace of technological development with organizational changes and some technological improvements of its own. To help combat telemarketing fraud, it implemented⁷⁰ “a nation-wide computer network for consumer complaints, with widespread participation by state Attorneys General and local law enforcement agencies” in 1987. In 1999 the FTC launched the Internet Lab: “Equipped with state-of-the-art personal computers, the Lab is a resource for ongoing efforts to educate ourselves about the new media and to search for fraud and deception in a secure environment. It provides the necessary equipment and software to capture Web sites and preserve them as evidence for presentation in court.”⁷¹ Over time, the Internet Lab evolved into the BCP Tech Lab⁷² to further their mission of providing Internet access, devices, software, and other technological tools to conduct investigations and research in support of the FTC’s consumer protection mission.⁷³

Mobile Devices: The 1990s and early 2000s witnessed the massive rise of mobile phones; by 2014, the number of smartphones worldwide reached over 1 billion.^{74,75} In the midst of this boom, in 2010, the Bureau of Consumer Protection created a “Mobile Tech Unit” (MTU) to help them understand the consumer protection issues resulting from the rapid introduction of mobile technologies. Within a couple of years, the MTU was re-branded as the “Office of Technology Research and Investigation” (OTECH)⁷⁶ and given an expanded mission to include technology writ large. In addition to providing investigative support, OTECH would provide the Commission with a new form of output – research that could help drive the development of policy. This research included the time between a data breach and the misuse of breached data, discrimination in the delivery of ads on Facebook, the prevalence of cross-device tracking, and the collection of viewing

⁶⁷ Federal Trade Comm’n, *Annual Report 1951* (June 30, 1951), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1951/ar1951_0.pdf

⁶⁸ Federal Trade Comm’n, *Annual Report 1954* (June 30, 1954), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1954/ar1954_0.pdf

⁶⁹ Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*, University of Chicago Press (2006), <https://press.uchicago.edu/Misc/Chicago/817415.html>

⁷⁰ Federal Trade Commission, *Annual Report 1987* (Sept. 30, 1987), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1987/ar1987_0.pdf

⁷¹ Federal Trade Commission, *The FTC’s First Five Years Protecting Consumers Online* (December 1999), <https://www.ftc.gov/sites/default/files/documents/reports/protecting-consumers-online/fiveyearreport.pdf>

⁷² Federal Trade Commission, *Division of Litigation Technology & Analysis*, <https://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection/our-divisions/division-litigation-technology-analysis>

⁷³ Bureau of Consumer Protection (BCP) Tech Lab, *Federal Trade Commission Privacy Impact Assessment* (Jan. 2018), https://www.ftc.gov/system/files/attachments/privacy-impact-assessments/bcp_tech_lab_pia_no_sig_1-8-18_0.pdf

⁷⁴ Ingrid Lunden, *Mobile Milestone: The Number Of Smartphones In Use Passed 1 Billion In Q3, Says Strategy Analytics*, TechCrunch (Oct. 16, 2012), <https://techcrunch.com/2012/10/16/mobile-milestone-the-number-of-smartphones-in-use-passed-1-billion-in-q3-says-strategy-analytics>

⁷⁵ The development of mobile phones, and the easy communication they enabled, birthed entirely new forms of cultural communication ranging from raccoon memes to quickly evolving abbreviations.

⁷⁶ Samuel Levine, Director, FTC Bureau of Consumer Protection, *Looking back – and looking ahead – at the FTC’s commitment to protecting consumers in the digital marketplace*, Fed. Trade Comm’n (Feb. 17, 2023), <https://www.ftc.gov/business-guidance/blog/2023/02/looking-back-looking-ahead-ftcs-commitment-protecting-consumers-digital-marketplace>

data by smart-TV manufacturers. OTECH and the Division of Privacy and Identity Protection also launched PrivacyCon, the FTC's annual conference that examines the latest research and trends related to consumer privacy and data security.

Over the decades, beyond creating hubs for new technological developments, testing, or analysis, the FTC instituted legal divisions with a tech focus, including the Division of Privacy and Identity Protection in the Bureau of Consumer Protection ([2006](#)) and the Technology Enforcement Division in the Bureau of Competition ([2019](#)). Additionally, throughout its lifetime stretching back in multiple forms through the agency's history,⁷⁷ the Bureau of Economics has brought to bear its expertise in a breadth of industries.

In 2011, the Commission created a Chief Technologist position, which has since been held by eight individuals with various fields of expertise in technology and computer science.⁷⁸ Chief Technologists have served as strategic thought leaders on agency work related to technology, as well as advisors on enforcement matters.

Section 4: FTC's Office of Technology – Establishment, Mandate, and Structure

In February 2023, the agency officially voted to establish⁷⁹ a new Office of Technology led by the Chief Technologist, which would oversee a centralized office of technologists that operated across the agency to strengthen and support the agency's mission across competition and consumer protection. This section will cover the Office's structure, model, mandate, and staff experience.

As illustrated in the previous section, there are dozens of ways to increase digital capacity in a regulatory agency and there is no one-size-fits-all model. This section does not aim to recommend a single pathway in the scope of this document. In addition, this is a flexible scaffolding that can be adapted by each agency. The level of resources will vary across organizations and will impact the implementation. There are several key attributes of the Office of Technology that we will outline in this section: 1) Mandate; 2) Structure; and 3) Staff Skills and Expertise.

1. Mandate - OT's technical experts work across the agency on enforcement and other matters. Our mandate⁸⁰ is as follows:

Strengthen and support law enforcement investigations and actions: The Office supports FTC investigations into business practices and the technologies underlying them. This includes helping to develop appropriate investigative techniques, assisting in the review and analysis of data and documents received in investigations, and aiding in the creation of effective remedies.

⁷⁷ Paul A. Pautler, *A History of the FTC's Bureau of Economics*, The American Antitrust Institute (Sept. 8, 2015), https://www.antitrustinstitute.org/wp-content/uploads/2018/08/FTC-Bureau-of-Economics-History_0.pdf

⁷⁸ Federal Trade Commission, *FTC Chief Technologists*, <https://www.ftc.gov/about-ftc/commissioners-staff/ftc-chief-technologists>

⁷⁹ Press Release, Fed. Trade Comm'n, *FTC Launches New Office of Technology to Bolster Agency's Work* (Feb. 17, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/02/ftc-launches-new-office-technology-bolster-agencys-work>

⁸⁰ Press Release, Fed. Trade Comm'n, *FTC Launches New Office of Technology to Bolster Agency's Work* (Feb. 17, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/02/ftc-launches-new-office-technology-bolster-agencys-work>

Advise and engage with staff and the Commission on policy and research initiatives:

The office works with FTC staff and the Commission to provide technological expertise on non-enforcement actions including 6(b) studies, reports, requests for information, policy statements, congressional briefings, and other initiatives.

Highlight market trends and emerging technologies that impact the FTC's work:

The office engages with the public and external stakeholders through workshops, research conferences, and consultations and highlights key trends and best practices.

Sample case study: Cases and Investigations. In a hypothetical example, the agency is investigating a digital platform to determine whether the company is engaging in unlawful conduct. An OT technologist might help the case team ask appropriate technical questions to support a case, such as:

- To what extent does the platform share first-party data among its various business lines, and how does that usage relate to the original purposes for which such data was collected?
- Do entities that handle sensitive data (e.g., health, browsing, financial, location, etc.) make use of third-party tools provided by the platform, like pixel tracking, in ways that risk exposing that data?
- How is the platform developing and implementing algorithmic pricing models? What are the inputs, variables and parameters of those algorithms?
- How does the platform (claim to) anonymize data and where does that anonymization happen? Does the platform collect identifiable data and then anonymize it or does it only collect anonymized data?
- Can the platform provide the cryptography or security protocols applicable to the collection and transfer of personal information – including how and where encryption or decryption keys are stored?

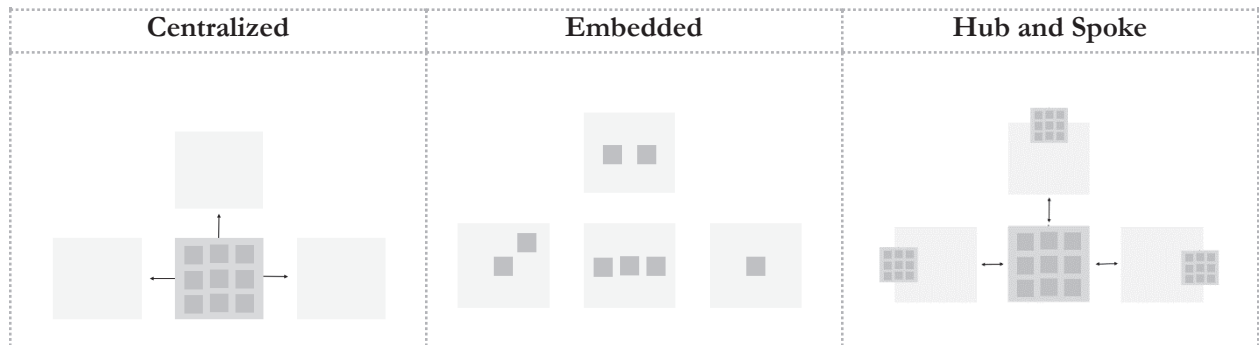
What OT is generally not – While this report outlines the structure of OT and how staff in the Office work, it may be useful to explain what OT does not generally do. Agencies have built out different models of technologist involvement based on their needs, and the FTC itself has technologists working on critical areas all across the agency. The services OT provides to the FTC may not be what other agencies need. Indeed, while OT consists of subject matter experts and tech practitioners that are embedded on enforcement work, investigations, policy, and research across the agency, other critical technologist roles across the governmental ecosystem include:

Data acquisition and data science. This includes finding various methods to acquire and handle big data and using data science to deliver new insights for cases. This area also includes using machine learning to understand and detect certain trends and problems.

Building and improving tools and software. This includes tool and software development and building efficiencies, such as using natural language processing for extensive document review.

Compliance and managing and servicing information technology. This includes procuring assets and promoting the efficiency and effectiveness of operations.

2. Structure – Technologists with a similar mandate to OT’s may be housed in agencies in a number of different ways, depending on the specific resources, needs, and culture of the agency. Some examples of structures, which are certainly not exhaustive, include:



- **Centralized units.** In this structure – the one that OT utilizes – technologists are centralized in one office or team. Agencies that adopt this model might find that it facilitates the sharing of best practices and the creation of a consistent style of work product. It may also provide flexibility as the need for different skills on different teams throughout the agency waxes and wanes.
- **Embedded units in bureaus or divisions.** In this structure, technologists may be embedded in an organization to a relatively fixed team of non-technologists. Agencies implementing this structure might find that embedding technologists directly on teams of attorneys or other staff increases the consistency of technologist-staff collaboration. By embedding technologists within a division focused on one topic area, this structure may help technologists develop specific expertise.
- **Hub and spoke units.** Agencies with distributed offices might opt for technologists in separate offices across the agency (e.g., regional offices, divisions by focus). This structure might allow in-person collaboration and consistent staff interactions when the relevant teams are dispersed. This model also allows for specialization and working continuity with team members.

Sample case study: Agency Request for Information (“RFI”). In an example from 2023,⁸¹ the agency wanted to better understand the state of cloud service providers and any potential issues related to the agency's competition and consumer protection mandate. In consultation with attorneys from the Bureau of Competition and Bureau of Consumer Protection, OT staff identified specific areas of interest and designed an RFI around these areas. In addition, staff from BC and OT designed and hosted a panel of speakers on a range of cloud-related issues.⁸² After hosting the panel and receiving public comment from across industry, academia, civil society, and research institutions, the cross-agency team analyzed these comments – identifying key themes across software licensing practices, egress fees, minimum spend contracts, single points of failure, security, and the relationship between generative AI and cloud computing.⁸³

⁸¹ The FTC Office of Technology, *An Inquiry into Cloud Computing Business Practices: The Federal Trade Commission is seeking public comments*, Fed. Trade Comm’n (Mar. 22, 2023), <https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/03/inquiry-cloud-computing-business-practices-federal-trade-commission-seeking-public-comments>

⁸² Press Release, Fed. Trade Comm’n, *Cloud Computing: Taking Stock and Looking Ahead* (May 11, 2023),

⁸³ Nick Jones et al, *Cloud Computing RFI: What we heard and learned*, Fed. Trade Comm’n (Nov. 16, 2023), <https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/11/cloud-computing-rfi-what-we-heard-learned>

3. Skills and Expertise – The Office of Technology seeks technologists who are “candidates with high quality experience and subject matter expertise related to software and digital product development and the tech industry that produces it.”⁸⁴

- **Defining technologist.** While the term “technologist” can be quite broad and will vary across offices and organizations, this section will focus on the skillsets OT aims to hire. The technologists in OT are “senior technology and digital service subject matter experts, who have agency wide responsibility for accomplishing and coordinating a variety of duties related to technology related projects at the Federal Trade Commission.”⁸⁵
- **Key competencies.** Successful OT members are fluent in some or all of:
 - **Technical expertise:** Possesses specialized technical expertise in at least one of the following categories: software engineering, design, tech research and tech policy, product management and development.
 - **Technical communication:** The ability to communicate complex technical concepts with non-technical audiences.
 - **Issue spotting abilities:** The ability to identify and respond to current and next generation threats and demonstrate knowledge on a range of technology related policy issues and technical matters relevant to the agency’s needs.
 - **Skills flexibility:** The ability to translate technically complex issues and information, to have a growth mindset with the ability to get up to speed quickly on complex technology topics.
 - **User focus:** The ability to connect how technology can impact consumers, workers, and honest businesses and those affected by technology and digital markets. The ability to lead or contribute to investigative research and conduct in-depth user interviews and usability studies.
 - **Project management and execution:** The ability to be highly resourceful, resilient, reliable, and a detail-oriented self-starter and have strong interpersonal skills and demonstrated experience to deliver on projects and goals for successful outcomes.
 - **Systems thinking:** The ability to have a breadth of interest areas and the capacity to adapt to a shifting environment and have a portfolio of multiple and diverse project areas.
- **Professional backgrounds.** At OT, these include:
 - Software engineering (Modern development process, Architecture, and/or Security)
 - Design (Modern design processes, Product design, User experience design and/or User research)
 - Research (Investigative data journalism and research, Qualitative or Quantitative research) / Policy (Public Policy, Tech Policy, Digital Markets) / Subject Matter Expertise and Domain Mastery
 - Product (Product delivery, Product strategy, and/or Capacity building)

4. In addition to the three items above, agencies that are considering ways to increase tech capacity might need to take into consideration:

- 1) **Agency leadership, champions, and support.** Who at the agency supports this type of expertise? Why do they value this expertise? How does this expertise help strengthen and support the mission of the group? How can those leaders begin conversations that demonstrate the value-adds of technologists?

⁸⁴ *Office of Technology Hiring*, Federal Trade Comm’n (Feb. 17, 2023), <https://www.ftc.gov/technologists>

⁸⁵ *Office of Technology Hiring*, Federal Trade Comm’n (Feb. 17, 2023), <https://www.ftc.gov/technologists>

- 2) **Agency and staff needs.** What problem(s) would this solve? What are the agency's mission and authorities? Which agency teams are working on tech-related markets or products? Do those teams have technology experts in-house, and if not, would they be useful? What types of expertise would agency staff need in-house to better understand these technologies?
- 3) **Agency resources.** Government resources are often limited across staff, budget, and time. How can teams use existing resources and establish low-cost, experimental pilot programs with quick iteration to demonstrate clear successes for technologists working in policy and enforcement? How can technologists be placed to best support the agency's mission? How can teams use what resources and options they have now to meet their mission and mandate?
- 4) **Agency history and culture.** How have existing technologists functioned at the agency? What has been effective, and what could be improved?
- 5) **Agency workflow.** How do things get done? How do teams communicate? How do decisions get made?
- 6) **Agency sustainability.** Which structures and models will allow technologists to continue to contribute to agency priorities for years to come? Which structures and models will allow technologist contributions to evolve as technology evolves?

Conclusion + Looking ahead

The FTC's Office of Technology is part of a larger movement of technologists and government agencies around the world joining together to ensure that the global digital economy respects the law and enriches society. The FTC, through its history of evolving with technology, is fortunate to be joined by peer agencies around the globe as together and individually we are in the pursuit of better practices.

While there is much more work to do, the agency will continue to iterate and improve to protect consumers and competition. It is hoped that this report will provide one roadmap for other agencies to recruit and deploy teams of technologists in strategic planning, policy development, and enforcement – and that it serves as a call to technologists to join this exciting field.

Pocket Guide: Sample Position Description

What this is: This section outlines a sample position description which is aggregated based on publicly available materials from the Federal Trade Commission, the Consumer Financial Protection Bureau, and other agencies that have hired similar roles (sources cited below). Note: The descriptions below have been edited for clarity, applicability, and brevity.

- The Consumer Financial Protection Bureau: <https://www.consumerfinance.gov/about-us/careers/cfpb-technologist/>
- The Federal Trade Commission: <https://www.ftc.gov/technologists>
- General Services Administration: <https://digital.gov/resources/sample-position-descriptions-for-digital-government-jobs/>
- United States Digital Service:
 - Sample competencies: <https://smeqa.usds.gov/toolkit/job-analysis/sample-competencies-proficiencies.pdf>
 - Toolkit: <https://smeqa.usds.gov/hiring-phases/job-analysis/>
- 18F: <https://github.com/18F/join.tts.gsa.gov/tree/main/positions>

What this is NOT: This sample position description is not designed to be “ready to publish” as is, so teams will need to modify to meet their needs. Depending on the definition of “technologist,” not all of the content here will be relevant or useful for every agency.

Who is this for? This resource aims to be helpful for agencies or organizations who are considering hiring a “technologist” and need to write and post a position description. As outlined in the report, many agencies have different definitions of the role of a “technologist.”

How to use this section: Copy and paste specific bulleted text that would be useful for your position description, as needed.

High level description

Technologists are senior technology and digital service subject matter experts, who work alongside attorneys and economists to hold companies accountable for wrongdoing and ensure the marketplace is vibrant and fair for all Americans. Technologists apply their technical expertise to help the government conduct law enforcement investigations, advocate for consumer needs in policy, and research initiatives to help promote competition and consumer protection.

Qualifications

- Has specialized experience in one of the following areas (e.g. user research, product design and user experience, research, tech policy, investigative research, software engineering, data science and strategy, product management, and other subject matter expertise or domain expertise).
- Has experience using data, research, or user needs to spot issues or develop solutions to novel problems.

- Has experience executing technology projects, products, platforms, or services using expertise in software development, design, product management, data science, and data engineering.
- Has experience in the full product or project lifecycle from initial launch to optimization to sun-setting.
- Has experience advising senior leaders and stakeholders on technical concepts to achieve organizational or project objectives.
- Has both lead and built projects with cross-functional, collaborative technical teams multiple times and in diverse organizations.

Skills & Expertise

- **User research** – Expertise using agile or lean expertise to align cross-functional teams around a shared vision, strategy and user needs. Experience in Product delivery, product strategy, and/or capacity building.
- **Product design and user experience** – Expertise applying modern design techniques to regulatory or investigative efforts and advocate for consumer needs. Experience helping agencies understand how certain UX techniques can be harmful to consumers.
- **Research, Tech Policy, Investigative Research** – Expertise in public policy, tech policy, and/or digital markets. Experience monitoring markets and developing environmental analyses to understand and summarize economic, social, and financial product research on issues affecting consumers’ everyday decision-making.
- **Software engineering** – Expertise with front-end, back-end, and full-stack engineering, modern development process, Architecture, and/or Security, knowledge of programming languages, such Python, SQL, R, Java, JS, Go, Scala, C, C++, Julia, or MatLab.
- **Data science and strategy** – Expertise examining large datasets using scripting languages and computational languages (e.g., Python, R, SQL) and can ensure the data being requested and collected from companies supports agency goals.
- **Product management** – Expertise with product delivery, product strategy, and/or capacity building. Expertise overseeing product-related activities along every stage of the product lifecycle – product development, product strategy, product growth and maturity, building roadmaps and feature definition, etc.
- **Other (Subject Matter Expertise)** – For example: advertising technology, artificial intelligence, augmented and virtual reality, cloud computing, digital platforms and ecosystems, hardware engineering, human computer interaction design, investigative research, privacy, security, social science research or fieldwork.

Duties & Corresponding Competencies

We outline several duties and responsibilities from the existing position descriptions outlined above, and then present competencies that are tied to those core areas. Core competencies detailed below include application of technical expertise, technical communication, skills flexibility, analysis of situational dynamics, ability to research and present strong recommendations, and more.

This is not a comprehensive list of duties and competencies. We encourage agencies to take what is useful to match their needs.

Synthesizing Information: Analyze, collect, and use information and data for law enforcement purposes.

- **Duties:**
 - Identifies, analyzes, and summarizes economic, social, and financial data using technical expertise to inform senior officials to develop, modify, or enhance agency investigative or policymaking efforts.
 - Leads projects that may inform investigation or litigated matters, using a range of technical approaches or human-centered design methods and involving quantitative and qualitative data collection efforts.
 - Assists fellow technologists and/or senior leadership to quickly grasp key issues, understand available principles and practices of the digital age to improve how government serves the public and make decisions related to technical strategies that could effectively protect consumers and regulate the use of emerging technologies.
 - Maintains sufficient documentation to verify any analysis included in the materials and to reproduce the analysis, if required.
 - Collects, processes, and performs statistical analysis of data without supervision.
 - Can both leverage existing and create new data sources as appropriate.
 - Leverages existing data sources and creates new data sources as appropriate while anticipating changes to project or case requirements.
 - Evaluates and governs the use of new data technologies and architectures.
- **Core competencies:**
 - Employs analytical thinking and has a range and depth of experience doing so.
 - Anticipates the need for certain information, and analysis early in the project discovery and design process and carries metrics through iterations.
 - Demonstrates a superior ability to analyze situational dynamics in a fast-paced environment and to leverage this observational awareness to solve complex problems.
 - Has experience in multiple types of effective problem-solving in the workplace.
 - Effectively guides others in making data-driven decisions.

Supporting cases and investigations: Meaningfully contribute to law enforcement investigations and actions.

- **Duties:**
 - Examines large datasets using scripting languages and computational languages (e.g., Python, R, SQL, etc.) to investigate allegations that financial institutions have broken the law. Ensures the data being requested and collected from companies supports investigatory goals. Applies expertise to casework involving data privacy, AI/ML, algorithmic discrimination, and secure data systems.
 - Serves as an agency resource to support investigations into business practices and the technologies underlying them.
 - Develops appropriate investigative techniques and craft effective civil investigative demands.
 - Aids in the review and analysis of data and documents received in investigations.
 - Supports the development of case theories and analysis; and aids in the creation of effective remedies.
 - Where appropriate, supports case and litigation teams by, among other things, serving as or helping to identify external expert witnesses.
 - Researches, evaluates, and reports on new and emerging developments within their technical area of expertise and works with legal experts on investigatory opportunities, mitigation strategies, and possible remedies.

- Designs, creates, and tests systems to support investigations.
- **Core competencies:**
 - Ability to clearly communicate complex topics to a variety of stakeholders and colleagues with different backgrounds and skills.
 - Develops new ways of communicating technical information to various audiences.

Issue Spotting: Issue spot for developing trends or potential harms.

- **Duties:**
 - Identifies and responds to current and next generation threats and demonstrate knowledge on a range of technology related policy issues and technical matters relevant to the agency's needs.
 - Monitors developments in the tech industry, along with laws, regulations, policies, and procedures to stay abreast of policy developments and implications for the agency and the consumers it serves.
 - Provides regular updates on these developments to relevant senior staff and advises on potential improvements resulting from this information.
 - Participates in projects related to their area of technical expertise. Works with management to formulate work plans that anticipates future requirements and capabilities for the agency's technical strategies.
- **Core competencies:**
 - Demonstrates an ability to translate technically complex issues and information and have a growth mindset with the ability to get up to speed quickly on complex technology topics.
 - Translates numbers and data into clear language to support agency decisions and uses that to inform other data-driven decisions.

Project management and execution: Steward projects and create momentum.

- **Duties:**
 - Implements cross-agency strategic and investigative efforts on emerging issues, as well as investigative and policy efforts to improve fairness and equity in consumer financial markets and affect the overall well-being of consumers.
 - Identifies, measures, and reports key metrics to measure and evaluate program success and failure.
 - Develops repeatable processes, templates, and systems for others to use in the organization to decide how agency goals are operationalized.
 - Uses expertise and experience with latest design and technology trends and best practices to provide oversight and leadership throughout the life cycle of a project.
 - Collaborates and is embedded across the agency to execute and implement technical strategies in investigative or policy efforts.
- **Core competencies:**
 - Is highly resourceful, resilient, reliable, and a detail-oriented self-starter and has strong interpersonal skills and demonstrated experience to deliver on projects and goals for successful outcomes.
 - Identifies potential technical concerns with proposals before consulting other technologists and attorneys.

- Views developing people as well as dealing with low performers and challenging management situations as a core responsibility, and can communicate team needs and wins both up and down their chain of command.
- Functions as a partner with technologists in all technical products and projects in which they are involved.
- Effectively makes prioritization decisions and manages to deadlines, working closely with colleagues in an iterative environment.

Engaging with stakeholders: Engage the public and relevant experts to understand trends.

- **Duties:**
 - Proactively engages with external stakeholders to identify emerging technologies that implicate the agency’s mandates, and use these findings to advance the agency’s work.
 - Leads or supports formal workshops, research conferences, and briefings or consultations. Technologists may also help to engage the public and relevant experts with agency staff to highlight key trends and encourage best practices.
 - Collaborates with technologists or agency management to identify emerging issues in their technical area of expertise and make recommendations on potential policy or investigative approaches.
 - Establishes and maintains contacts with technical experts at state, local, federal, and international government partners to implement a more systematic, government-wide approach to advancing the agency’s mandate.
 - Provides guidance and explanations about technical strategies to staff attorneys and economists to help them understand key aspects of products or services that could assist an investigation or litigation.
- **Core competencies:**
 - Navigates both structured and ambiguous environments, with the ability to sort out a variety of problems, and is eager to help the government keep pace with the private sector.
 - Always considers effective organizational structures, and thinks beyond the scope of their team or teams.

User focused research and stakeholder engagement: Ground agency work with consumers, small businesses, workers, etc.

- **Duties:**
 - Analyzes and integrates research regarding technology’s impact on consumers, workers, and honest businesses and those affected by technology and digital markets.
 - Works with stakeholders to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations.
 - Applies a strategic approach to developing key stakeholder requirements; uses quality assurance methods to maintain business analysis and assess customer experience.
- **Core competencies:**
 - Ability to lead or contribute to investigative research and conduct in-depth user interviews and usability studies.

- Engages or fosters relationships with key stakeholders at various levels, and independently identifies and resolves potential issues.
- Identifies areas of process improvement and implements necessary changes without management engagement.
- Connects project design to user needs, data-driven decisions, and broader agency and team goals.
- Is committed to providing quality products and services that meet user and stakeholder needs.

Cross-agency advising and collaboration: Advise and engage with agency staff and leadership on policy and research initiatives.

- **Duties:**
 - Works on agency actions including studies, reports, requests for information, research, policy statements, and policy deliverables.
 - Provides regular technical assistance for incoming Congressional bills and engage with Congressional staff via briefings and relevant follow-up.
 - Provides strategic guidance on technology matters through report recommendations and participates in engagement with regulatory counterparts.
 - Collaborates and is embedded across the agency to execute and implement technical strategies in investigative or policy efforts.
- **Core competencies:**
 - Provides specific and relevant examples and demonstrates the ability to manage multiple key stakeholders, including internal, external, and executive leadership, for influence across all levels of an organization.
 - Has experience delivering formal briefings to senior management to articulate views, findings, and recommendations.
 - Possesses the ability to communicate complex technical concepts with non-technical audiences.

Systems thinking: Adapt to a shifting environment and maintain a portfolio of multiple and diverse projects.

- **Duties:**
 - Coordinates between multiple investigation teams working different parts of the same or related problems.
 - Initiates and follows up on coordination and communication plans.
 - Identifies and empowers individuals that are strong contributors.
- **Core competencies:**
 - Balances a number of key success factors including user impact, time and resource constraints, agency or other stakeholder needs – including consumers’ perspectives – and can adapt response accordingly.
 - Provides examples and demonstrates the ability to manage multiple key stakeholders, including executives, with varying levels of influence during a project or across multiple projects.
 - Exhibits a breadth of interest areas and has shown a capacity to adapt to a shifting environment and have a portfolio of multiple and diverse projects.