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6 LEVERAGING AI TO ENHANCE AMERICAN COMMUNICATIONS

7 TUESDAY, NOVEMBER 14, 2023

8 House of Representatives,

9 Subcommittee on Communications and Technology,

10 Committee on Energy and Commerce,

11 Washington, D.C.

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15 The Subcommittee met, pursuant to call, at 10:02 a.m.,
16 in Room 2123 Rayburn House Office Building, Hon. Bob Latta
17 [Chairman of the Subcommittee] presiding.

18 Present: Representatives Latta, Bilirakis, Walberg,
19 Carter, Dunn, Curtis, Joyce, Allen, Balderson, Fulcher,
20 Pfluger, Harshbarger, Obernolte, Rodgers (ex officio);
21 Matsui, Clarke, Veasey, Soto, Eshoo, Cardenas, Craig,
22 Fletcher, Dingell, Kelly, and Pallone (ex officio).

23

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24 Staff present: Sarah Burke, Deputy Staff Director;
25 Sydney Greene, Director of Operations; Slate Herman,
26 Counsel; Nate Hodson, Staff Director; Tara Hupman, Chief
27 Counsel; Noah Jackson, Clerk; Peter Kielty, General Counsel;
28 Emily King, Member Services Director; Giulia Leganski,
29 Professional Staff Member; John Lin, Senior Counsel; Kate
30 O'Connor, Chief Counsel; Evan Viau, Professional Staff
31 Member; Hannah Anton, Minority Policy Analyst; Jennifer
32 Epperson, Minority Chief Counsel; Waverly Gordon, Minority
33 Deputy Staff Director and General Counsel; Tiffany
34 Guarascio, Minority Staff Director; Dan Miller, Minority
35 Professional Staff Member; Michael Scurato, Minority FCC
36 Detailee; Andrew Souvall, Minority Director of
37 Communications, Outreach and Membership Services; and
38 Johanna Thomas, Minority Counsel.
39

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40 *Mr. Latta. Well, good morning. The subcommittee will
41 come to order, and the chair recognizes himself for five
42 minutes for an opening statement.

43 Again, I want to thank our witnesses for being with us
44 today to discuss the importance of artificial intelligence,
45 otherwise known as AI, in the communications and technology
46 sector. And just going off script a little bit, you know, I
47 mentioned this to some of you, no matter where you look
48 today, you see articles about AI, and how important it is,
49 and where we are going with it, so I appreciate you all
50 being with us.

51 But AI is more than just a thing of fiction. The uses
52 of AI technology spans across many sectors. This technology
53 has the potential to significantly improve the quality of
54 our lives across a range of industries, many of which are
55 within the jurisdiction of this subcommittee.

56 There is no one size fits all approach to regulating
57 this technology nor should there be. To unlock the full
58 potential of AI, we must establish foundational protection
59 for the data that powers many of these new AI tools by
60 enacting a comprehensive data privacy standard in the United
61 States. As we integrate AI into various aspects of our

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62 lives, it is crucial to ensure that its development is
63 guided by ethical principles and American values.

64 In the communications sector, artificial intelligence
65 applications are used to optimize the quality and
66 reliability of service, bite the scourge of robocalls,
67 detect and respond to cybersecurity incidents, and ensure a
68 safe online experience for our kids. AI applications are
69 used to provide faster, more reliable internet service.
70 Whether Americans are on a telehealth visit, working from
71 home, streaming their favorite shows, or playing video
72 games, intelligent networks now and in the future will
73 perform better by using large models to protect -- predict
74 where traffic capacity will be needed and when.

75 Network operators currently take advantage of digitized
76 networks to more rapidly detect outages, use detailed
77 analytics to determine the cause of the outage, and
78 eventually get Americans back online faster. This
79 automation takes place not only in wired networks but also
80 in wireless networks where AI applications are used to
81 optimize the use of airways to provide the best user
82 experience.

83 For cybersecurity, some AI models utilize algorithms to

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84 detect incoming threats and learn from network's previous
85 behavior to establish a framework for prevention in the
86 future. AI utilization and content moderation has become a
87 significant factor in deterring violent content and other
88 material that violates the rules of a platform. AI's
89 actions are key to creating a safer and more interactive
90 platform for our users.

91 In the same way humans are not perfect, AI is not
92 perfect either. Because humans design AI algorithms, AI
93 systems may contain unintentional bias which unfortunately
94 could lead to discrimination. The key to ensuring the
95 safety of algorithms used by Big Tech is to make sure the
96 algorithms are trained and developed responsibly with
97 greater transparency for the user.

98 These are just a few of the nearly unlimited uses of AI
99 technology. Whether you are in your home or on a busy road,
100 AI will assist in providing a more seamless transition from
101 one service to the next ensuring continuous connectivity.
102 Despite these technological advantages -- advances, this new
103 frontier doesn't come without challenges, which is why we
104 must ensure the responsible and ethical use of AI.

105 In today's hearing, we will discuss some of the many

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106 use cases and benefits of AI. We will also examine why U.S.
107 leadership on AI is imperative for economic and national
108 security. I look forward to hearing from our witnesses and
109 I thank you for appearing before us today.

110 [The prepared statement of Mr. Latta follows:]

111

112 *****COMMITTEE INSERT*****

113

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114 *Mr. Latta. And at this time, I will now yield to the
115 ranking member of the subcommittee, the gentlelady from the
116 7th District of California for her opening statement.

117 *Ms. Matsui. Thank you very much, Mr. Chairman. I am
118 glad we are holding this hearing today. While other Energy
119 and Commerce subcommittees have started to explain AI's
120 implications in the jurisdictions, I think ours has some of
121 the most pressing. AI is too far reaching a concept to fit
122 neatly into any one congressional committee, but it is clear
123 that the issues we will be discussing today are some of the
124 most foundational.

125 First and foremost, I think we have an obligation to
126 ensure the United States leads the deployment of this
127 technology on terms that are consistent with our values. To
128 me, that means promoting innovation and competition while
129 establishing new safety, security, and equity standards.
130 Thankfully, the Biden administration has engaged industry to
131 establish consensus goals and guardrails that will guide
132 AI's deployment in the United States.

133 President Biden's recent executive order on safe,
134 secure, and trustworthy artificial intelligence is a
135 testament to this administration's vision. The EO ensures

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136 that America leads the way in seizing the promise and
137 managing the risks of AI. It does so by requiring more
138 transparency from developers of foundational models that
139 pose a national economic or security threat and would also
140 promote consumer trust by protecting from AI-enabled fraud
141 through new authentication guidance. It would also combat
142 AI bias by addressing algorithmic discrimination through
143 best practices and training.

144 President Biden's EO represents one of the most broad
145 and consequential steps toward more responsible AI
146 governance. I look forward to working with the
147 administration to implement it quickly. And while it is
148 clear we need broad, horizontal rules of the road, it is
149 also important that we explore industry-specific vertical
150 applications. Thankfully, the communications and technology
151 landscape provides ample opportunity.

152 On the telecom front, Chairwoman Rosenworcel has led
153 the charge at the FCC to capture AI's promise for more
154 efficient and resilient communications networks. Take
155 spectrum efficiency, a demand for our airwaves grows. We
156 need to be more nimble and efficient in managing the limited
157 resource. That is why the FCC is exploring more intelligent

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158 networks with devices that can manage their own
159 transmissions. Taken together, these advances would mean
160 faster and more capable networks for American consumers.

161 But despite the progress from the administration and
162 the FCC, it is clear that this subcommittee has a
163 foundational role to play in AI. I will be pushing to use
164 our significant jurisdiction to support the responsible
165 deployment of AI in areas like spectrum management,
166 cybersecurity, online content, and beyond.

167 Because the stakes here couldn't be higher, AI holds
168 the potential to determine who gets to participate and
169 succeed in the 21st century economy. So I am excited about
170 this hearing and I appreciate our witnesses for appearing
171 before us today. Thank you.

172 [The prepared statement of Ms. Matsui follows:]

173

174 *****COMMITTEE INSERT*****

175

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176 *Ms. Matsui. And I yield back the balance of my time.

177 *Mr. Latta. The gentlelady yields back the balance of
178 her time. The chair now recognizes the chair of the full
179 committee, the gentlelady from Washington, for five minutes
180 for an opening statement.

181 *The Chair. Good morning and welcome to our third
182 hearing of this Energy and Commerce series on artificial
183 intelligence. AI has the potential to usher in a new era of
184 discovery and innovation. This technology can be used to
185 solve problems we once thought unsolvable. It offers
186 advancements that could empower people, expand worker
187 productivity, create new jobs, and grow the economy.

188 Its potential is vast, unlocking possibilities across
189 every sector of the economy. That said, AI also raises
190 serious concerns about how bad actors can exploit this
191 technology and abuse it. As AI gets deployed, we must think
192 about appropriate measures to ensure accountability.

193 The best way to start this effort is by laying the
194 ground work to protect people's information with a national
195 data privacy standard which provides greater transparency
196 and puts people back in control over the collection and use
197 of their personal information. It is critical that America,

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198 not China, is the one addressing these challenges and
199 leading to both AI's development and deployment and ensuring
200 people's data privacy is protected.

201 Access to the internet has become an integral part of
202 life for many Americans. Broadband has unleashed new tools
203 that have improved our education system, healthcare, and our
204 ability to stay in touch with family and friends. It has
205 strengthened our economy, empowered entrepreneurs,
206 researchers, and allowed people to connect around the world
207 in ways they never could before.

208 Providers are constantly working to increase the
209 capacity on their networks and deploy more network
210 infrastructure. AI and machine learning can monitor
211 networks to determine what bandwidth is available at a
212 specific time. This could significantly improve the
213 efficiency of our communications infrastructure without any
214 disruption for people using the services, enhancing the user
215 experience.

216 AI's ability to engage in pattern recognition extends
217 far beyond human capability, allowing for advanced detection
218 of cybersecurity threats and malicious activity.

219 Unfortunately, AI models can also be used to enhance hacking

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220 capabilities such as deep, fake, enabled phishing attacks.
221 The best way to address this malicious use of AI may be in
222 fact to leverage AI tools to detect, prevent, and respond to
223 threats.

224 America's networks are under constant attack from our
225 adversaries and other bad actors. Cyber warfare is an ever-
226 changing landscape and requires that we utilize all
227 technologies available to protect our critical
228 infrastructure. Also AI can be a helpful tool to combat
229 illegal and violent content online, like recent content
230 posted by Hamas which they are using to recruit, spread
231 propaganda, potentially livestream the murder and torture of
232 hostages, and organize more terrorist activities.

233 That said, while this may be an efficient tool to
234 combat illegal content, we need transparency and
235 accountability from Big Tech to ensure these new tools
236 aren't being abused to moderate content in a way that
237 infringes on American's right to free speech. Protecting
238 the innovative nature of AI while encouraging responsible
239 development and deployment is key to unlocking the full
240 potential. This is best done with a light touch, market-
241 driven approach that provides clear rules and guidance for

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242 industry.

243 The Biden's administration's recent AI executive order
244 fell short of this objective. While I agree with the
245 President that the best way to cementing American AI
246 leadership is by first enacting a comprehensive data privacy
247 and security law, I am concerned that the order itself
248 places unnecessary and duplicative regulatory burdens that
249 could hinder the development of this critical technology.

250 To address the challenges of AI and take advantage of
251 the benefits, the administration needs to work with Congress
252 to strike the right balance between encouraging innovation
253 and ensuring responsible development and deployment. AI and
254 machine learning are here to stay. Its potential is both
255 exciting and disruptive. AI could vastly enhance people's
256 lives, especially by improving communications network
257 performance and internet speeds.

258 But with the benefits come risk, especially cyber risk
259 and the abuse of people's personal data. The best way to
260 mitigate many of these risks and cement America's leadership
261 in AI is by enacting comprehensive data privacy and security
262 legislation.

263 I look forward to the discussion today and to hearing

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264 from our witnesses about the vast use cases for artificial
265 intelligence technology in the communications and technology
266 space.

267 [The prepared statement of The Chair follows:]

268

269 *****COMMITTEE INSERT*****

270

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271 *The Chair. I yield back.

272 *Mr. Latta. Thank you. The gentlelady yields back.

273 The chair now recognizes the gentleman from New Jersey, the
274 ranking member of the full committee, for five minutes.

275 *Mr. Pallone. Thank you, Mr. Chairman. Today the
276 committee continues exploring the potential benefits and
277 harms of artificial intelligence by discussing how we can
278 leverage the power of AI to basically improve communications
279 networks. AI has the potential to transform how these
280 networks can better serve the public.

281 For instance, AI may be able to detect deep, fake
282 voices and scam calls which will help to quickly protect
283 consumers from annoying and illegal robocalls. AI models
284 can be deployed in communications networks to help enhance
285 resiliency and reliability so that when national -- natural
286 disasters hit, providers can more easily assess damage and
287 get these crucial networks back up and running. And AI may
288 be able to optimize government and nongovernmental use of
289 spectrum so that this limited natural resource is used more
290 efficiently for wireless and satellite connectivity.

291 Given the opportunities that AI offers, I am pleased
292 that the Biden administration has taken action to examine

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293 the possibilities and risks of this technology. Last month,
294 President Biden signed an executive order to adopt a
295 coordinated government-wide approach to the development and
296 use of AI. The order directs NTIA to consider the benefits
297 and risks of open source AI systems. These systems can
298 drive innovation by placing AI tools in the hands of
299 consumers and researchers but also susceptible to misuse --
300 but they are also susceptible to misuse and harm.

301 And the administration's order also encourages the FCC
302 to explore how AI can improve network security, resiliency,
303 and interoperability, as well as combat unwanted robocalls
304 and robotexts. Fortunately, the FCC has already started
305 investigating how AI can be used to optimize communications
306 networks, improve spectrum sharing, and developing more
307 sophisticated models of 5G and 6G wireless signals. And
308 tomorrow the FCC will vote on a proposal to examine how AI
309 technology can bolster the agency's existing efforts to
310 protect consumers from unwanted and dangerous robocalls and
311 robotexts. So I want to commend the Commission for
312 exploring these issues and I hope Congress continues to
313 support these efforts by fully funding our federal agencies
314 so they can advance this important work.

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315 Now despite the promises of AI, we must also
316 acknowledge its potential pitfalls. There is no question
317 that this technology poses real risks to consumers,
318 especially as it becomes more embedded in our daily lives
319 and our communications networks. We have already seen AI
320 technology being used to mimic the voices of family members
321 to scam Americans out of their life savings. Bias and the
322 data used to train AI facial recognition software can
323 contribute to wrongful and discriminatory arrests, and
324 chatbots have been reported to leak personal data and spread
325 disinformation.

326 So these risks demonstrate why it is important that
327 Congress and regulators fully understand how AI models are
328 being developed, trained, and operated, and only then can we
329 actually -- or can we ensure proper measures are in place to
330 mitigate any harm and produce critical accountability. Now
331 I strongly believe that as a bedrock of any AI regulation,
332 we must enact strong federal data privacy protections for
333 all consumers. AI cannot function without large quantities
334 of data and we must ensure that this increased data demand
335 does not come at the expense of consumers' right to privacy.

336 Last Congress, Chair Rodgers and I worked together with

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337 our committee to advance data privacy legislation with
338 strong provisions focused on data minimization and
339 algorithmic accountability. As AI becomes further
340 integrated into American life, we must protect consumers
341 from predatory data collection, and I remain committed to
342 work to enact strong bipartisan privacy protections. It is
343 the only way we can limit the aggressive and abusive data
344 collection practices of Big Tech and data brokers and ensure
345 our children's sensitive information is protected online,
346 and protect against algorithmic bias, and put consumers back
347 in control of their data.

348 So I am looking forward to hearing from our witnesses
349 about the challenges and opportunities of integrating AI
350 technologies into our communications network.

351 [The prepared statement of Mr. Pallone follows:]

352

353 *****COMMITTEE INSERT*****

354

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355 *Mr. Pallone. And with that, Mr. Chairman, I yield
356 back the remainder of my time. Thank you.

357 *Mr. Latta. Thank you very much. The gentleman yields
358 back, and that concludes member opening statements.

359 And at this time we will now hear from our witnesses.
360 And today's witnesses are Ms. Courtney Lang, Vice President
361 of Policy, Trust, Data, and Technology at the Information
362 Technology Industry Council, ITI. Mr. Sam Rubin, Vice
363 President, Global Head of Operations, Unit 42 at Palo Alto
364 Networks. Dr. Sameh Yamany, Chief Technology Officer at
365 VIAVI Solutions. And Dr. Nicol Turner Lee, Senior Fellow in
366 Governance Studies and Director at the Center for Technology
367 Innovation at the Brookings Institution. So thank you very
368 much for being with us.

369 I would also like to note for our witnesses that the
370 timer light that you will see in front of you will turn
371 yellow when you have one minute remaining and will turn red
372 when your time has expired.

373 And, Ms. Lang, you are now recognized for five minutes
374 for your opening statements. Again, thank you for being
375 with us.

376

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377 STATEMENT OF COURTNEY LANG, VICE PRESIDENT OF POLICY, TRUST,
378 DATA, AND TECHNOLOGY, THE INFORMATION TECHNOLOGY INDUSTRY
379 COUNCIL; SAM RUBIN, VICE PRESIDENT, GLOBAL HEAD OF
380 OPERATIONS, UNIT 42, PALO ALTO NETWORKS; DR. SAMEH YAMANY,
381 CHIEF TECHNOLOGY OFFICER, VIAVI SOLUTIONS; AND NICOL TURNER
382 LEE, PH.D., SENIOR FELLOW IN GOVERNANCE STUDIES AND
383 DIRECTOR, CENTER FOR TECHNOLOGY INNOVATION, BROOKINGS
384 INSTITUTION

385

386 STATEMENT OF COURTNEY LANG

387

388 *Ms. Lang. Chairman Latta, Ranking Member Matsui, and
389 Chairwoman McMorris Rodgers, and Ranking Member Pallone,
390 thank you for the opportunity to testify today.

391 My name is Courtney Lang, and I am Vice President of
392 Policy for Trust, Data, and Technology at the Information
393 Technology Industry Council. I lead ITI's global artificial
394 intelligence policy advocacy work and manage ITI's
395 cybersecurity policy work. ITI represents companies from
396 all corners of the technology sector and across the AI
397 ecosystem, including those involved in both developing and
398 deploying AI models.

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399 We applaud this committee's leadership in supporting
400 past and present legislation that focuses on U.S. leadership
401 and developing cutting edge AI technologies and affording
402 opportunities for companies to pursue timely research and
403 development-focused partnerships. Such legislation includes
404 Chairwoman McMorris Rodgers's bipartisan American Compete
405 Act of 2020 and Representative Eshoo and Obernolte's Create
406 AI Act, bipartisan legislation supported by many members of
407 this committee.

408 President Biden recently signed a long-awaited
409 executive order on safe, secure, and trustworthy AI, which
410 included over 100 taskings to a variety of different
411 agencies. While this was an important signal in U.S. AI
412 policy making, it is only one piece of the puzzle. Congress
413 has an important role to play in encouraging future
414 innovation and investment in the United States, protecting
415 consumers and businesses, and mitigating foreseeable risks.

416 I am glad to be here today to further discuss how
417 Congress should approach a legislative framework for AI.
418 Artificial intelligence will have a transformational impact
419 for both telecommunications and cybersecurity. In
420 telecommunications, AI is being used to authenticate calls,

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421 analyze voice prints, and filter or block spam callers,
422 helping to address the prevalence of robocalls.

423 In cybersecurity, AI is helping to detect anomalous
424 behavior and respond to incidents more quickly, therefore
425 reducing the ramifications of a cybersecurity incident.
426 These uses cases demonstrate how important it is that a U.S.
427 AI policy framework balance the need to support innovation
428 and the need to manage risk and foster accountability. In
429 order to create such a framework, ITI encourages U.S.
430 policymakers to take a holistic approach that, firstly,
431 supports innovation and investment by prioritizing
432 investment in compute infrastructure, funding research and
433 development activity focused on testing and evaluation for
434 model performance, and taking steps to make data available
435 in machine readable formats.

436 Second, a U.S. AI policy framework should take a risk-
437 based approach that appropriately considers existing legal
438 constructs and allocates responsibilities between actors and
439 the AI value chain based on their role and function.
440 Concrete risks should be identified so that obligations can
441 be appropriately targeted to high-risk use cases and
442 innovation can continue unimpeded in low-risk settings.

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443 Existing legal frameworks such as the Civil Rights Act or
444 the Health Insurance Portability and Accountability Act may
445 already account for certain risks in specific instances, so
446 to avoid duplicating or otherwise creating overly broad
447 regulation, it is important to evaluate these and understand
448 how they might apply.

449 Third, a U.S. AI policy framework should facilitate
450 public trust in the technology, including by fostering
451 transparency and considering how to employ content
452 authentication tools. Consumer trust will increase the
453 adoption of AI and expand the AI ecosystem in the United
454 States.

455 Fourth, a U.S. AI policy framework should ensure
456 security and privacy which starts with comprehensive data
457 privacy legislation but which also includes a recognition
458 that AI can be used to bolster cybersecurity and that AI
459 should be deployed with security in mind. We applaud this
460 committee's work to advance bipartisan privacy legislation
461 and we look forward to continuing to work with you on this.

462 Fifth, a U.S. AI policy framework should recognize that
463 U.S. leadership in AI policy is a global imperative and it
464 should prioritize engagement with like-minded allies

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465 overseas to advance a common vision of secure, trustworthy
466 AI.

467 To conclude, AI has a potential to be transformative in
468 the communications sector, in the cybersecurity realm, as
469 well as to society more broadly. Congress should work with
470 stakeholders to develop an AI framework that supports
471 innovation and manages risk, ensuring that the United States
472 remains the leader in AI.

473 Thank you, and I look forward to your questions.

474

475

476

477 [The prepared statement of Ms. Lang follows:]

478

479 *****COMMITTEE INSERT*****

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481 *Mr. Latta. Thank you very much.

482 Mr. Rubin, you are recognized for five minutes.

483

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484 STATEMENT OF SAM RUBIN

485

486 *Mr. Rubin. Good morning. Chairs Rodgers and Latta,
487 Ranking Members Pallone and Matsui, and distinguished
488 members of the committee, thank you for the opportunity to
489 testify in the critical role of artificial intelligence in
490 cybersecurity defense.

491 My name is Sam Rubin, and I am the Vice President of
492 Global Operations at Unit 42, which is the threat
493 intelligence and incident response division of Palo Alto
494 Networks. For those not familiar with Palo Alto Networks,
495 we are an American-headquartered cybersecurity company
496 founded in 2005 that has since grown to protect tens of
497 thousands of organizations around the world. We support
498 critical infrastructure operators, the U.S. Federal
499 Government, universities, and other educational
500 institutions, and a wide range of state and local partners,
501 and we have been using AI to do so for many years.

502 This means that we have a deep and broad visibility
503 into the cyber threat landscape. We are committed to using
504 this visibility to be good cyber citizens and national
505 security partners with the Federal Government. As my

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506 written testimony outlines, AI is essential to realizing
507 this commitment. We encourage all entities to embrace the
508 importance of AI for this critical use case.

509 Adversaries are growing increasingly sophisticated and
510 AI will further amplify and scale the speed of their
511 attacks. However, this backdrop heightens the importance of
512 maximizing the substantial benefits that AI offers for cyber
513 defense. This technology helps network defenders
514 anticipate, track, and block cyberattacks to a degree never
515 seen before.

516 Indeed, the demonstrated impact of AI-powered cyber
517 defense is significant. By leveraging AI, each day Palo
518 Alto Networks detects 1.5 million unique attacks that were
519 not present the day before. This process of continuous
520 discovery and analysis allows threat detection to stay ahead
521 of the adversary, blocking 8.6 billion total attacks every
522 single day.

523 The bottom line is that AI makes security data
524 actionable for network defenders giving them real-time
525 visibility across their digital enterprises and the ability
526 to prevent, detect, and respond to cyber attacks quickly.
527 Palo Alto Networks firmly believes that the risky outcome

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528 for society is not leveraging AI for cyber defense purposes.

529 My written testimony highlights a particularly
530 compelling use case for AI-powered cyber defense that is
531 showing notable results, upleveling and modernizing the
532 security operations center, or the SOC as we call it. For
533 too long, the cyber community's most precious resources, our
534 people, have been inundated with alerts to triage manually.
535 This creates an inefficient game of whac-a-mole while
536 critical alerts are missed and vulnerabilities remain
537 exposed.

538 Results from our own AI-driven SOC are particularly
539 telling. Consider this, leveraging this capability, we are
540 able to ingest 36 billion events daily. Using AI, we are
541 able to triage that number down to just eight incidents on
542 average that require manual analysis. This dramatically
543 reduces detection and response time and frees up our
544 analysts for more proactive threat hunting activity to stay
545 ahead of the adversary.

546 We have seen equally encouraging results from customer
547 use cases of this capability, including a five-fold increase
548 in incident closeout rates and a six-fold increase in the
549 average amount of security data ingested and analyzed each

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550 day. Outcomes like these are necessary to stop threat
551 actors before they can encrypt our systems or steal our
552 sensitive information.

553 Any way you look at it, national security, data
554 security, and critical infrastructure resilience are being
555 enhanced by AI-powered cyber defense, and we want to keep it
556 that way, innovating relentlessly to put the best possible
557 capabilities in the hands of defenders. As policy makers
558 consider guardrails governing the development and use of AI,
559 a risk-based and stakeholder-involved approach will help
560 minimize harms without stifling necessary innovation. We
561 encourage all entities to embrace the importance of AI for
562 cybersecurity and look forward to working with you and your
563 staff to further promote its adoption.

564 Thank you for the opportunity to testify, and I look
565 forward to your questions.

566 [The prepared statement of Mr. Rubin follows:]

567

568 *****COMMITTEE INSERT*****

569

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570 *Mr. Latta. Thank you.

571 Dr. Yamany, you are recognized for five minutes.

572

This is an unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker.

573 STATEMENT OF DR. SAMEH YAMANY

574

575 *Dr. Yamany. Chairman Latta, Ranking Member Matsui,
576 and members of the subcommittee, thank you for offering me
577 to testify today.

578 My name is Dr. Sameh Yamany, I am the Chief Technology
579 Officer with VIAVI Solutions, an American technology company
580 headquartered in Chandler, Arizona with nearly 2,000 U.S.
581 employees. At VIAVI, we are proud to be transforming
582 communication networks using AI technologies. Whether we
583 are helping plan how a network will cope with the traffic
584 demands of major sporting events or when disasters strike,
585 VIAVI is bringing the power of AI to improve American
586 telecommunications.

587 In big cities and small towns across our Nation, the
588 introduction of AI-driven network solutions by VIAVI are
589 revolutionizing the telecommunication industry to keep
590 Americans connected when and where they need it the most.
591 While we do not work with everyday American consumers, our
592 technology supports their critical day-to-day connectivity
593 needs.

594 Many of our tools have progressively incorporated AI

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595 and machine learning technologies to improve the accuracy
596 and efficiency of network functions and take on tasks that
597 human operators could never have performed, including
598 proactively safeguarding against cybersecurity threats and
599 vulnerabilities. Perhaps VIAVI's most advanced tool for
600 improving American communication networks is our AI-powered
601 digital twin technology. These powerful applications create
602 what we think of as a network flight simulator to help our
603 customers understand how networks will respond in the real
604 world by first creating a virtual network, you know, of the
605 provider networks and simulating millions of network events.

606 VIAVI's AI system enable real-time adjustment to manage
607 complex problem in the network because they have seen them
608 before in the digital twin. VIAVI's proactive approach to
609 network monitoring and management means that we can help
610 provide speed repairs and reduce the need to extensive
611 manual labor when restoring critical services during and
612 after disasters. We can provide specific guidance about
613 which particular parts of the network should be fixed and in
614 what order to restore connectivity as quickly as possible.

615 But disasters aren't the only stressors on our Nation's
616 network. Sporting events, celebration, and other mass

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617 gathering can easily overwhelm a network, potentially
618 cutting off the communication needs. For example, to
619 reunite families in a large crowd or provide medical
620 services. Hereto, VIAVI's AI-driven solutions help
621 providers optimize their network, both in advance, and as
622 situation evolves.

623 The challenges we face in securing our
624 telecommunications supply chain are vast and complex and
625 another choke point where AI-driven solutions help serve the
626 needs of American telecom operators and consumers.
627 Specifically, as we transition to Open RAN, Open Radio
628 Access Network, Open RAN technology, rather than a control
629 network stack from a single vendor, Open RAN will consist of
630 a highly diverse set of disaggregated pieces of hardware and
631 software components sourced from multiple vendors.

632 VIAVI applauds the incredible bipartisan work done by
633 the leaders of this committee in drafting, enacting, and
634 funding the USA Telecommunication Act to promote the
635 development and use of Open RAN technology here in the
636 United States, and we are also encouraged by your recent
637 actions to advance the Open RAN Outreach Act to help ensure
638 these technologies live up to their full potential. The

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639 goals you have set for this transition are critical but
640 present challenges to industry, challenges VIAVI's AI
641 solutions are built to address.

642 Our AI digital twin technology learns the complex
643 behavior of Open RAN and emulates them in the lab. In
644 short, network operators can virtually build an ORAN on an
645 advanced 6G network alongside additional representation of
646 their existing network and see how they would work together
647 and gain confidence all before the first component is
648 deployed in a live environment. AI, like many significant
649 technological advancement that have come before it,
650 necessitates a discussion of regulations and guideline to
651 safeguard its operation and ensure security, safety,
652 privacy, and impartiality. But no two AI technologies are
653 equivalent and each carry different risks, impacts, and
654 implications.

655 As the committee continues its pivotal work on AI, we
656 urge you to embrace the nuanced nature of AI systems,
657 particularly those offered by VIAVI. Low-risk, high-value
658 AI system like ours, which we term Telco AI, represent a new
659 frontier enhancing network security, resiliency, and
660 efficiency. At VIAVI we take pride in our leadership in the

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661 field of telecom-based AI solutions and welcome the
662 opportunity to be a resource to this committee. Our
663 technologies hold the potential to profoundly contribute to
664 the enhancement of American networks.

665 We are committed to fortifying the critical
666 infrastructure upon which our Nation relies, and we thank
667 you for the honor to testify here today, and I look forward
668 for your questions.

669 [The prepared statement of Dr. Yamany follows:]

670

671 *****COMMITTEE INSERT*****

672

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673 *Mr. Latta. Thank you very much.

674 And, Dr. Turner Lee, you are recognized for five
675 minutes.

676 And if I just may tell the members, we are voting right
677 now, so what I would like to do is finish up with our
678 witness testimony and then we will run over and vote. And
679 let me emphasize this, we will come -- we will resume 10
680 minutes after the second votes starts, not when the second
681 votes ends, after the second vote starts.

682 So, Dr. Turner Lee, you are recognized for five
683 minutes. Thank you.

684

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685 STATEMENT OF NICOL TURNER LEE, PH.D.

686

687 *Dr. Turner Lee. Thank you, Chair Latta, Ranking
688 Member Matsui, and other distinguished members of the
689 subcommittee. I want to thank you for the invitation to
690 testify.

691 I am Nicol Turner Lee, a Senior Fellow and Director of
692 the Center for Technology Innovation at the Brookings
693 Institution. The Center explores and reports on regulatory
694 and legislative policies that govern telecommunications and
695 high tech industries, and my particular focus on the -- is
696 on the impacts of digital exclusion and artificial
697 intelligence on vulnerable populations.

698 The state of communications infrastructure in the U.S.
699 has been important to the Biden administration and to this
700 Congress, including the expansion of access to highspeed
701 broadband networks for all and their affordability. This
702 work is especially urgent after COVID-19 demonstrated the
703 importance of being connected to the internet for critical
704 services including healthcare, education, employment, remote
705 work, and government services. Having affordable, reliable
706 highspeed internet access as well as the equipment, digital

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707 skills, and financial resources is a game changer, and being
708 on the wrong side of digital opportunities is a social
709 determinant of economic prosperity and the quality of life.

710 So today I share that with the largest ever federal
711 investment in highspeed broadband, we should be able to
712 close the digital divide and use AI to strengthen
713 communities through smart innovation, the effective delivery
714 of government services, and the ability of users to fully
715 engage in our democracy. However, our effectiveness in
716 these areas will be dependent on how our digital
717 infrastructure is used to protect the public from bias,
718 ensure data privacy, and institute into action calls for
719 federal guidance, including those proposed in the White
720 House executive order.

721 Prudent AI implementation can help green our cities,
722 improve public transportation, and make public services more
723 accessible. I recently returned from the Smart City Expo
724 World Congress in Barcelona and on the exposition floor were
725 transformative demonstrations of how other countries are
726 using AI, including IOT sensors to detect climate concerns.
727 In cities like Seattle, traffic signals are using AI-powered
728 analysis for transit data. In Philadelphia, the city is

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729 using AI-powered cameras on public busses to issue tickets
730 for illegally-parked vehicles. And, of course, we talked
731 about spectrum management and 5G allocation of spectrum for
732 that purpose.

733 Government AI use is also making public services more
734 efficient and accessible by reducing some of the
735 administrative burdens on civil service workers who now have
736 access to automated tools. And consumers are also beginning
737 to benefit from democratized AI as they can easily register
738 community feedback and facilitate more responsive local
739 government.

740 But we know that AI comes with a range of risks and
741 threats. I have already mentioned them on my *Bias, Privacy*
742 *Violations, and Implications for Work -- the Workforce and*
743 *Workforce -- Workplace Conduct*. Both the overwhelming and
744 underwhelming access to data for these models can target,
745 surveil, and discriminate against certain populations with
746 greater precision. For example, denying mortgages and
747 credit to certain populations due to a series of inferential
748 data that has nothing to do with their income or prior
749 payment history; or using AI for decisions or beyond their
750 intended purposes, like facial recognition technology that

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751 can open your phone but also arrest you falsely for a crime.

752 Not having a federal privacy standard has contributed
753 to data pillaging, and as more of our digital lives are
754 fueled by these systems, the lack of comprehensive privacy
755 protections just feed mass aggregation of personal data. We
756 need Congress to urgently pass bipartisan federal privacy
757 legislation as foundational to any comprehensive guardrails
758 that we actually decide upon, and our current patchwork of
759 state laws may generate too much uncertainty for both
760 developers and consumers who are now forced to trade off
761 their privacy for participation in our AI-driven world.

762 Finally, AI will contribute to a new set of workforce
763 and workplace challenges. Expanding communication networks
764 and protocol will require a massive labor investment.
765 Secretary Raimondo has predicted 200,000 jobs will be
766 created as a result of the IIJA.

767 But building an inclusive and equitable broadband
768 workforce doesn't require us to use AI to replace them or
769 not actually hire new people, but to leverage the technology
770 for skills development, credentialing, job placement. And
771 we need to avoid the distraction of allowing employers to
772 monitor their employees by using surveillance tools.

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773 What I would suggest is that federal guidance is
774 needed. The White House EO is a step in the right
775 direction. I do agree that we need to base this on a risk
776 management framework, but we need more congressional heft to
777 be more binding, actionable, and enforceable. And that
778 clear guidance should come in the form of providing clear
779 disclosure and transparency to consumers around AI-generated
780 content or the use of that AI in certain tools, in addition
781 to the forthcoming 2024 presidential election. Validation
782 through watermarking will also be helpful, as it has been
783 suggested by many of the people in this room.

784 Smart Cities needs to also advise residents on how they
785 are also using AI. If we are going to have AI be
786 transformative, we have to be equally aggressive on the
787 legislation and guidance and equally aggressive on its
788 transformative capabilities.

789 Thank you so much and I look forward to your questions.

790 [The prepared Dr. Turner Lee follows:]

791

792 *****COMMITTEE INSERT*****

793

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794 *Mr. Latta. Well, thank you very much.

795 That concludes our witnesses' opening statements. And
796 as I mentioned, we will resume 10 minutes after the second
797 vote starts not ends, starts. Thank you very much. We will
798 stand in recess.

799 [Recess.]

800 *Mr. Latta. Reconvening our subcommittee hearing for
801 the day. Again, thank you for our witnesses for our little
802 interlude there so we could go vote. We really appreciate
803 that.

804 And the chair now recognizes himself for five minutes.

805 Mr. Yamany, in your testimony, you discuss how VIAVI
806 uses artificial intelligence to build digital twins that
807 simulate network performance in the real world. Across the
808 country states are planning to allocate tens of billions of
809 dollars for broadband deployment. Can AI technology like
810 digital twins be used to ensure broadband networks to
811 connect all Americans in the most efficient way possible,
812 and if so, how?

813 *Dr. Yamany. Absolutely, yes. And digital twin
814 technology will provide the capabilities to understand and
815 learn what you have there and then you can actually build

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816 tools and applications to actually efficiently, you know,
817 define what the spectrum should have and how you can
818 implement a much better approach to distribute the broadband
819 much -- with more equity. Absolutely, yes.

820 *Mr. Latta. Thank you very much.

821 Mr. Rubin, you know, I think that a lot of people are
822 always concerned about -- with AI about -- especially on the
823 cybersecurity side, I know that you -- both you and Ms. Lang
824 also talked about cyber. But when you are looking on the
825 cyber side, when you are talking about the number of attacks
826 that we have, one of the questions out there, what have --
827 how do you protect on a cyberattack to make sure that the AI
828 is protecting you against that attack and not somehow that
829 the cyberattack can simulate the AI that people thought they
830 would be using and all of the sudden use it against you? If
831 you can follow that.

832 *Mr. Rubin. Yeah. Thank you, Congressman. So as I
833 understood the question, the question is how do we avoid the
834 AI being used for attacks against --

835 *Mr. Latta. Correct.

836 *Mr. Rubin. Yes.

837 *Mr. Latta. Because it would be that -- somehow that

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838 cyberattack would have gotten into the AI and really turned
839 the tables and utilized it against you then.

840 *Mr. Rubin. Sure. So at Palo Alto Networks, we see a
841 lot, you know, with the telemetry and data that we have and
842 the products that we have protecting our customers and -- as
843 well as with the research that we do, and we do see
844 adversaries using AI to accelerate their own attack
845 capability. And so this is something that's happening out
846 there. That being said, when we look at the balance of how
847 AI can be used against us or be used as defenders, we think
848 that there is a real advantage for its use in defense.

849 *Mr. Latta. Okay. Ms. Lang, you know, when we are
850 talking about, especially with algorithms and how they are
851 being written, and I know that you mentioned on --
852 especially in the privacy and the cybersecurity side and all
853 the attacks, but I guess one of the questions is is how do
854 we write the algorithms out there to be absolutely neutral
855 so that people know that the AI isn't picking winners and
856 losers out there, what's happening?

857 *Ms. Lang. Yeah, thank you for the question,
858 Congressman. So one of the things that is very important
859 when we are thinking about, you know, steps to take to

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860 ensure that AI systems are performing in a way that is
861 equitable for all parties is thinking through, right, we
862 have input data and then output data or outputs from the AI
863 system.

864 On the input side, data quality is something that is
865 really important, and so one of the measures that
866 organizations can take is really looking through, you know,
867 how do we ensure that the data that we are inputting into
868 the system is as high quality as possible. And what I mean
869 by that is, you know, how do we ensure that it is accurate,
870 that is representative, that it is relevant to the task that
871 we are training the AI system for, and that is, you know,
872 one set of measures that organizations can take as they are
873 developing and implementing an AI risk management approach
874 to really ensure that AI systems are performing as they are
875 intended to perform and not picking winners and losers.

876 *Mr. Latta. Okay. Let me follow-up. You know, with
877 the Biden administration's executive order on AI which
878 directed agencies across the Executive Branch to implement
879 regulations that govern the use of AI in the respect of
880 industry sectors, how should federal agencies approach any
881 potential regulation of artificial intelligence use cases

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882 within their own subject matter expertise?

883 *Ms. Lang. Sure, happy to respond to that as well. So
884 as you know, the executive order tasks many different
885 agencies across the Federal Government with assessing and
886 evaluating the use of AI within their particular sectors and
887 then from that point in certain instances they are directed
888 to either develop guidelines or NIST is developed to help
889 direct -- to develop guidelines to help direct the use of AI
890 in those sectors.

891 But one of the things that is very important to
892 consider as sector-specific agencies are looking at, you
893 know, how they would like to address specific AI-related
894 risks is to first think through and look at kind of what
895 existing authorities they have to address the risks, think
896 through what are the concrete risks that we are trying to
897 address within our sector because risks in the healthcare
898 sector are going to look very different perhaps than risks
899 in the energy sector or risks in a different sector. So
900 really thinking through what the risk profile is in each of
901 those sectors and then ensuring that as guidance is being
902 developed it is targeted to those risks is going to be very
903 important.

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904 I think the other thing that I would note is just
905 making sure that as, you know, guidance is being developed
906 to write it in a way that is flexible and can account for
907 the evolution of the technology, and that really means
908 focusing on what outcomes are -- should be achieved as to
909 opposed to kind of prescriptively mandating this is how you
910 should achieve those outcomes. So those are two areas that
911 I think are really important for federal agencies to keep in
912 mind as they are progressing on some of the taskings under
913 the executive order.

914 *Mr. Latta. Well, thank you very much. My time has
915 expired, and I -- the chair recognizes the gentlelady from
916 California, the ranking member of the subcommittee, for five
917 minutes for questions.

918 *Ms. Matsui. Thank you very much, Mr. Chairman.

919 One of the most exciting applications for AI is the
920 role it can play in cybersecurity risk management. I have
921 been especially focused on the growing cyberthreat our K
922 through 12 schools face. Attacks targeting the sensitive
923 information of students and their families are growing more
924 frequent and severe. According to K12 SIX, there have been
925 more than 1600 cyber incidents between 2016 and 2022. That

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926 is why I introduced the bipartisan, bicameral Enhancing K12
927 Cybersecurity Act to provide new cybersecurity resources and
928 promote better access to information.

929 Mr. Rubin, can you describe the cyberthreat landscape
930 facing America's K to 12 schools and do you believe
931 additional resources are needed to address this growing
932 threat?

933 *Mr. Rubin. Yes. Thank you, Congresswoman. I --
934 there is no doubt our schools are facing a cyberthreat.
935 From an incident response perspective, Unit 42, the team that
936 I lead, helps organizations, including schools, who get hit
937 with cyberattacks. In the past year, we have helped
938 numerous who have had their networks taken down and they
939 have been unable to provide schooling as a result.

940 And so I think we do need to do more to help these
941 organizations. Programs like FCC's E-rate Program which
942 provide resources for network bandwidth, and I think there
943 is a consideration to extend that to help with cybersecurity
944 coverage to help keep their network safe. There is a great
945 example of things that we could do to provide resources to
946 these organizations.

947 *Ms. Matsui. Thank you very much, Mr. Rubin.

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948 I was an original cosponsor of the USA
949 Telecommunications Act that passes part of the bipartisan
950 CHIPS and Science Act. We provided 1.5 billion dollars to
951 support the development and adoption of open interoperable
952 networks. As NTIA continues implementation, I believe AI
953 will play a critical role in supporting Open RAN and multi-
954 vendor networks.

955 Mr. Yamany, while greenfield deployment of Open RAN
956 networks are moving ahead, integration of Open RAN into
957 existing networks can be more challenging. How can AI be
958 leveraged to support Open RAN integration?

959 *Dr. Yamany. Thank you, Ms. -- Madam Congressman
960 (sic). Definitely the problems with Open RAN today -- or
961 the potential of Open RAN is to open up the supply chain and
962 create more innovation. The confidence in these new
963 technologies in terms of replacing what is currently there
964 and get the confidence about its performance requires a lot
965 of testing and requires a lot of -- bringing a lot of, you
966 know, maturity into the technology itself.

967 And this is one of the areas -- again, this concept of
968 digital twin will create more confidence because you can
969 actually build a complete Open RAN network with all the

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970 different components and test it at scale and find out if
971 there are problems, if you can actually emulate what you
972 currently have so that when you rip and replace you have
973 more confidence in this new technology and you can deploy it
974 at scale, not worried about that it can match the demands on
975 -- from the network itself.

976 *Ms. Matsui. Okay, thank you very much.

977 As we talked about yesterday, President Biden announced
978 a national spectrum strategy which outlines a roadmap for
979 making needed spectrum available for commercial use. As
980 untapped opportunities for commercial spectrum go further
981 and fewer between, we need to explore additional ways to
982 utilize this valuable resource. I was glad to see the
983 national spectrum strategy include an all of the above
984 approach for maintaining a healthy spectrum pipeline.

985 Ms. Lang, how can AI be leveraged to support spectral
986 efficiency and can you describe some of the early use cases?

987 *Ms. Lang. Thank you for the question, Congresswoman.
988 Yes, we were also pleased to see the release of the national
989 spectrum strategy and we agree that an all of the above
990 approach in licensed and unlicensed bands is incredibly
991 important to continued wireless innovation. One of the

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992 really interesting things that AI is enabling is this notion
993 of spectral efficiency, and given the fact that spectrum is
994 in shortage and we need it to continue to innovate, AI can
995 play a key role in doing that.

996 So, for example, AI can be used to optimize spectrum
997 allocation and by determining both the environmental
998 conditions and where the demand is and allocate accordingly
999 based on those things, so that is one way in which it can
1000 help with some of the spectrum shortage problems.

1001 *Ms. Matsui. Okay. Well, thank you very much and I
1002 just ran out of time. Thank you. I yield back.

1003 *Mr. Latta. The gentlelady yields back. The chair now
1004 recognizes the gentlelady from Washington, the chair of the
1005 full committee of Energy and Commerce, for five minutes.

1006 *The Chair. Ms. Lang, thank you for your testimony.
1007 Several of your member companies are working to create a
1008 standard watermark to authenticate AI-generated content.
1009 This mark would provide a transparent, easy means for
1010 Americans to readily identify the origins of images or
1011 videos and to verify its authenticity.

1012 Some companies have already announced disclosure or
1013 marketing requirements on content that has been digitally

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1014 altered by AI to help improve transparency. With numerous
1015 companies moving in this direction, do you think there needs
1016 to be a standard mark to identify when content has been
1017 digitally altered versus companies each implementing their
1018 own solution, and are there any drawbacks that you think of
1019 this approach?

1020 *Ms. Lang. Thank you for the question, Congresswoman.
1021 Yes, several of our member companies are a part of an
1022 organization called C2PA which is working on provenance
1023 tracking standards that can be essentially leveraged to tag
1024 metadata in photos, and so that really helps in identifying
1025 both, you know, who the creator of a piece of content is and
1026 also if and where it was altered. And so by assuming that
1027 piece of -- by putting that into the data, that can be a
1028 helpful way to track the provenance of particular content.

1029 Right now, that is a multi-industry group and so there
1030 are multiple stakeholders involved in developing that
1031 standard and so the good news with that is, you know, you do
1032 have a wide breadth of the community involved and then able
1033 to integrate the standard. Beyond that, certainly I think
1034 additional standardization work will be needed to advance
1035 content authentication initiatives. Watermarking is one

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1036 type of content authentication, but there are also things
1037 like metadata auditing, like provenance tracking like I just
1038 mentioned, as well as the role that human authentication
1039 plays in all of this.

1040 And so, yes, additional standardization will be needed
1041 to ensure that watermarking in particular is applied in a
1042 way that is consistent, and certainly I think it is worth
1043 exploring whether and how there can be a mark that is
1044 consistently applied to certain pieces of content, and that
1045 would be a good place for standardization to focus. But
1046 more broadly, I think we need to, you know, not
1047 overemphasize on only one component of authentication
1048 because there are multiple different mechanisms that might
1049 be appropriate depending on both the type of content and
1050 also what the objective of the authentication mark is.

1051 *The Chair. Okay, okay, thank you. Something I have
1052 made abundantly clear is that in order for AI to be
1053 successful and to ensure American leadership in future
1054 deployments of AI models, these models need information to
1055 evolve and mature. That is why I have been so adamant that
1056 before any action to regulate AI, Congress must enact a
1057 comprehensive data privacy and security law with provisions

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1058 that work to protect Americans' data. Provide them with
1059 more control over the collection, use, and transfer, and
1060 still allow for innovation to keep America a leader in the
1061 technologies of the 21st century and beyond.

1062 How should we balance this data minimization principle
1063 effort that limits what information can be collected from
1064 the get-go while also protecting the ability for companies
1065 to innovate? That is for you, Ms. Lang.

1066 *Ms. Lang. Yes, so that is a great question and thank
1067 you for this committee's efforts to advance comprehensive
1068 privacy legislation. This is absolutely a foundational
1069 underpinning to address the privacy-related risks that you
1070 highlight.

1071 With regard to maintaining data minimization, this is a
1072 principle that we are supportive of in the context of
1073 privacy and certainly in the way that AI systems are
1074 trained, they leverage a lot of data, and like I said,
1075 having a standard privacy law will help to mitigate risks
1076 associated with user's personal data being used to train the
1077 systems.

1078 One of the things I will note is in the context of AI
1079 when we think about data minimization in particular, in some

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1080 cases in order to address things like biased outcomes, there
1081 is a need to actually analyze or collect sensitive
1082 information on the part of users so that you can train the
1083 system in a way that does not result in an output that is
1084 potentially harmful or discriminatory. And so this is
1085 something that when we are thinking about privacy
1086 legislation and AI legislation moving forward is really
1087 important to take into account, right, how do we balance
1088 that tradeoff to make sure that we are --

1089 *The Chair. Thank you.

1090 *Ms. Lang. You are welcome.

1091 *The Chair. Thank you.

1092 Mr. Rubin, we have already heard today there is a wide
1093 variety of AI applications that we will use not only in
1094 telecommunications but energy, healthcare, and others.
1095 Given the Biden administration EO on AI, what role do you
1096 think the Federal Government should play and do you agree
1097 that any regulation of AI should be light touch or should we
1098 create one centralized agency for regulating AI?

1099 *Mr. Rubin. Thank you, Congresswoman. So from the
1100 Federal Government's perspective, the role that it plays is
1101 critical to ensuring the adoption of security safeguards and

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1102 creating guardrails around the safe use, but I think it is
1103 also critical that any regulation considers the use cases
1104 that are going into play, right. From a cybersecurity
1105 perspective, that is very different than a use case as it
1106 pertains to maybe a consumer application, like I believe
1107 earlier there was an example of a mortgage application.

1108 And so that is a difficult balance because there is
1109 such a wide variety of applications, but I think it is
1110 important that whatever framework or regulatory
1111 considerations go into place allow for the operation without
1112 stifling innovation.

1113 *The Chair. Thank you. I yield back.

1114 *Mr. Latta. Thank you. The gentlelady's time has
1115 expired. The chair now recognizes the gentleman from New
1116 Jersey, the chair -- or the ranking member of the full
1117 committee, for five minutes.

1118 *Mr. Pallone. Thank you, Chairman Latta.

1119 While it is promising that AI can help make our
1120 communications networks more reliable, efficient, and
1121 secure, the vast amount of the data that is needed to train
1122 and run AI systems is staggering. Often that data includes
1123 massive amounts of information about individuals. Consumers

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1124 and most people don't even understand how these AI systems
1125 work, and that is why it is important that consumers are at
1126 the heart of any AI discussion and it is important that our
1127 committee work to include putting them back in control of
1128 their data to ensure companies collect only the consumer
1129 data they need to provide products and services to those
1130 consumers.

1131 So I just wanted to ask all the panelists a simple yes
1132 or no. Do you agree that the bedrock of any AI regulation
1133 must be comprehensive privacy legislation that includes
1134 clear rules around data minimization and algorithmic
1135 accountability, yes or no? I will start with Ms. Lang.

1136 *Ms. Lang. Yes, we support data minimization
1137 standards, but we hope to work with this committee on
1138 addressing appropriately targeted legislation for
1139 algorithmic accountability separately.

1140 *Mr. Pallone. All right, Mr. Rubin?

1141 *Mr. Rubin. Palo Alto Networks absolutely supports a
1142 strong federal privacy standard. Cybersecurity is an
1143 important aspect of protecting our privacy as well, and we
1144 believe it is important that any federal privacy standard
1145 recognizes that.

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1146 *Mr. Pallone. Thank you. Dr. Yamany?

1147 *Dr. Yamany. Thank you. While we don't directly work
1148 with consumer data, definitely we agree that there must be
1149 some regulations on the use of consumer data, absolutely.

1150 *Mr. Pallone. Thank you. And Dr. Turner Lee?

1151 *Dr. Turner Lee. Yes.

1152 *Mr. Pallone. Thank you.

1153 Now I just wanted to say that one application of AI
1154 that stands out to me is its ability to fight robocalls and
1155 robotexts, so I am going to go back to Ms. Lang. Can you
1156 tell us how deploying AI technology in communications
1157 networks will better enable network providers to eliminate
1158 robocalls and robotexts more easily?

1159 *Ms. Lang. Sure, happy to provide some examples on how
1160 AI can be leveraged to help combat robocalls. I think one
1161 of the really interesting things about AI is that it can use
1162 data to make connections between things that perhaps are not
1163 otherwise there. So in the context of robocalls, for
1164 example, AI can be used to analyze things like voice prints
1165 or it can look at crowdsourced data from consumer reports
1166 about robocalls and see, for example, whether there is calls
1167 coming in at a particular time with a particular kind of

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1168 repetition and deduce from that that those might be
1169 suspicious or spam calls and enable the blocking of those
1170 calls before they actually make it to consumers. So that is
1171 one way in which AI can be used to help combat robocalls.

1172 *Mr. Pallone. Well, thank you. I also wanted to say
1173 that ensuring that our communications networks are safe and
1174 secure is a national priority and I am encouraged that AI
1175 can help in detecting and defending against bad actors on
1176 our networks before they can do serious harm. But we have
1177 to understand the types of data that are powering these AI
1178 cyber tools.

1179 So I am going to go to Dr. Turner Lee. Why is it
1180 important that consumers understand how AI systems are
1181 designed, trained, and operate, and how will a lack of
1182 understanding impact the ability of consumers to trust and
1183 effectively use these technologies?

1184 *Dr. Turner Lee. Well, I think you are approaching on
1185 the topic of AI literacy. It is really important for people
1186 to have some information around decisions that are being
1187 made around socioeconomic determinations as well as just
1188 general decisions that AI systems are crafting, whether it
1189 is for fraudulent activity or it is just buying your kid,

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1190 you know, a pair of shoes. I think we are pretty dissident
1191 in terms of what it actually means to have these systems for
1192 us.

1193 If we are going to create trustworthy AI, Congressman,
1194 I think putting in place privacy standards, as we have
1195 discussed, minimizing data, but also having some deletion
1196 requirements also help. And I would also add disclosure,
1197 right, so people know that AI systems are in play in the
1198 decisions that are being made about them.

1199 *Mr. Pallone. Thank you.

1200 Last question, Mr. Rubin. What types of data are you
1201 using to train and operate your AI systems and what
1202 protections do you have in place to protect any sensitive
1203 information that you use?

1204 *Mr. Rubin. Thank you, Congressman. So the type of
1205 data that Palo Alto Networks uses to protect networks from a
1206 cybersecurity perspective is telemetry that is generated
1207 from endpoints which are the laptops, or desktops, or mobile
1208 phones we use from servers, from cloud devices, and from our
1209 networks. But I want to be clear that that telemetry is
1210 machine-generated information about how those systems are
1211 used. Things like what applications are running, things

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1212 like what malware or other data might be operating on the
1213 machine. More metadata distinct from consumer information
1214 or PII.

1215 So it is system telemetry that gives us an
1216 understanding of how the systems are functioning and gives
1217 us the ability to assess what is going on from a security
1218 perspective.

1219 *Mr. Pallone. Thank you. Thank you, Mr. Chairman.

1220 *Mr. Latta. Thank you very much. The gentleman's time
1221 has expired, and the chair now recognized the gentleman from
1222 Michigan's 5th District for five minutes.

1223 *Mr. Walberg. Thank you, Mr. Chairman, and thanks to
1224 the panel for being here.

1225 For me, talking about AI sometimes bring shivers to my
1226 bones, kind of like what I felt since I was in grade school
1227 and was hoping that the metric system wouldn't come to
1228 fruition in my time but -- some of you will understand that.

1229 Mr. Lang and -- Ms. Lang and Mr. Yamany,
1230 telecommunications and broadband access are crucial services
1231 for my constituents, especially those who live in rural
1232 parts of Michigan, even on the -- in the cabs of tractors
1233 and combines. How can AI be leveraged to increase access to

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1234 broadband networks and ensure internet access is deployed
1235 quickly and effectively? Ms. Lang?

1236 *Ms. Lang. Sure. Thank you for the question,
1237 Congressman. One of the really interesting use cases for AI
1238 is around broadband mapping, and this is something that can
1239 be done more accurately and more precisely with the
1240 integration of artificial intelligence. So, for example, we
1241 have some broadband maps now, but AI can be used to help
1242 enhance those and in certain cases it can actually see from
1243 the data particular buildings that perhaps are without
1244 broadband access even within a community, and that can help
1245 to more quickly and effectively extend broadband and
1246 internet service to those populations, so that is really an
1247 interesting use case for AI on the broadband access side.

1248 *Mr. Walberg. That would be an amazing help with the
1249 maps that are out there right now.

1250 Mr. Yamany?

1251 *Dr. Yamany. Yeah, thank you, Congressman, for the
1252 question. Definitely using AI will help in understanding
1253 where the network capacity can be and efficiently utilize
1254 that and you can actually optimize it. Also the idea of
1255 bringing in Open RAN which is -- you know, is going to

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1256 provide more innovation that can create a much better kind
1257 of cost analysis of where you can bring the spectrum and how
1258 you can use that.

1259 Definitely these -- all these AI tools will help create
1260 a much better way of distributing the resources of the
1261 network, enhance, improve a lot of access to broadband
1262 services.

1263 *Mr. Walberg. Okay, thank you.

1264 Ms. Lang, in your written testimony you raised concerns
1265 about policy makers and regulators classifying entire
1266 sectors as, and I quote, "high risk." Can you talk about
1267 the implications of what would happen if the entire
1268 telecommunications sector was classified as high risk?

1269 *Ms. Lang. Sure, happy to answer that question. So
1270 One of the things that we have encouraged policy makers to
1271 do is take a risk-based approach to AI legislation or
1272 regulation, and this means targeting obligations at use
1273 cases that are high risk or pose a significant risk to
1274 fundamental human rights or to people's safety. One of the
1275 things that we have seen taking place internationally is the
1276 tendency to designate entire sectors as high risk, which
1277 unfortunately misses some of the nuance.

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1278 So when we are thinking about the telecommunications
1279 sector, for example, there might be particular applications
1280 within the telecommunications sector, for example, AI that
1281 is used as safety components in a critical infrastructure
1282 application in the telecom network that are perhaps high
1283 risk. However, if you were to capture the entire sector as
1284 high risk and designate all uses within that sector as high
1285 risk, you would unfortunately capture many low-risk use
1286 cases and many beneficial applications of AI technology and
1287 the regulation would likely be somewhat disproportionate.

1288 So it is really important that when we are thinking
1289 about, you know, how to characterize risk that we are
1290 thinking through, okay, what are some of the very specific
1291 context in which AI is being deployed even within these
1292 sectors and that any regulatory measures account for that.

1293 *Mr. Walberg. In lieu of that caution, or because of
1294 that caution, if we were to label critical infrastructure as
1295 high risk, would that pull in telecommunications as well?

1296 *Ms. Lang. Yes. Certainly depending on the definition
1297 of critical infrastructure used, but in the U.S. there are
1298 16 critical infrastructure sectors, one of which is the
1299 telecommunications sector, so certainly if critical

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1300 infrastructure itself was labeled as high risk in the U.S.,
1301 that would likely implicate the telecommunications --

1302 *Mr. Walberg. Ought to be a -- ought to be a caution
1303 there. Okay, thank you.

1304 Mr. Rubin, we hear a lot about doom and gloom of AI.
1305 Your testimony paints a rather different and promising
1306 picture. Can you please provide brief, concrete examples of
1307 how AI played a critical role in your day-to-day work as a
1308 cyber intelligence professional?

1309 *Mr. Rubin. Absolutely. Thank you for the question.
1310 I would say the use of AI and the capabilities of AI is an
1311 absolute game changer for us as defenders, right. Being the
1312 group of people responsible for detecting and responding to
1313 cyberattacks, it gives us this incredible capability and
1314 power that we didn't have before. I have been doing this
1315 for about 20 years, and if I go back, you know, 10 or so
1316 years and I look at the activities that I would do when I am
1317 responding to a cyberattack, much of it is manual
1318 correlation of disparate pieces of information and stitching
1319 that together by hand, which takes an inordinate amount of
1320 time, and it is simply not scalable.

1321 And so when you compare that with the speed of attacks

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1322 today and how quickly the cyber adversaries are able to
1323 infiltrate our networks, and move, and take data, you have
1324 to operate at machine speed. And that is exactly what AI
1325 gives us the capability of doing.

1326 *Mr. Walberg. Efficiency. Okay, thank you.

1327 My time is expired, I yield back.

1328 *Mr. Latta. The gentleman's time has expired, and the
1329 chair now recognizes the gentleman from Texas's 33rd
1330 District for five minutes.

1331 *Mr. Veasey. Thank you, Mr. Chairman. And I think
1332 that this is a great topic today. I don't think that we can
1333 talk about it enough.

1334 And I wanted to ask Dr. Lee Turner (sic) a question.
1335 Your expertise and knowledge on all things technology I
1336 think has been really good for this committee today. And
1337 before getting into my line questioning, I also wanted to
1338 thank you for the work that you do to advocate on low-income
1339 having access to broadband. I think that is hugely, hugely
1340 important to make sure that people don't keep falling
1341 behind. I also appreciate the recognition in your testimony
1342 that the Affordable Connectivity Program is an important
1343 bridge between closing that gap in this country, both in

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1344 districts that I represent that are urban and even more so
1345 in rural districts like the ones that many of our friends on
1346 the Republican side represent.

1347 And in your written testimony, you highlight that the
1348 digital divide and the use of AI are connected ideas. We
1349 are also aware that our broadband maps are an important tool
1350 in helping us close that gap. Could you explain in what
1351 ways AI can be used to depict how broadband access is being
1352 used and automate process to help enhance the broadband
1353 mapping process?

1354 *Dr. Turner Lee. Well, first and foremost, thank you
1355 very much, Congressman, for those words. I am humbled by
1356 that appreciation and recognition because this has been my
1357 life's work for 30 years. And I do want to reiterate, as it
1358 was said in the written testimony, we have to close the
1359 digital divide or our conversations on artificial
1360 intelligence use are just going to be null and void because
1361 people will be left behind here.

1362 With that being said, you know, clearly I think we have
1363 heard that AI can be very useful in helping us to gather the
1364 necessary data when it comes to broadband assets, where they
1365 are located, how they are being used in terms of management

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1366 of those assets and how we are deploying them in very
1367 efficient manners. We also still have to be careful that we
1368 may not have enough data when you think about rural
1369 communities where the scarcity of data exist, the extent to
1370 which the AI will be effective in giving us a true portrayal
1371 of assets there will be, you know, something that we will
1372 have to go back and interrogate.

1373 So I think as we go into using AI in critical
1374 government functions and in areas where the value of data
1375 matters, we also have to check and make sure that the
1376 function of that data or the historical condition of that
1377 data is not going to be one that will put us back as opposed
1378 to forward because we know less about the communities that
1379 we are trying to serve.

1380 *Mr. Veasey. Right, right, exactly. You had also said
1381 that government and industry leaders need to reimagine the
1382 technology workforce. You reiterated that skills-based
1383 hiring cannot only widen the talent pool for broadband
1384 workforce but also bring in a more diverse and
1385 underrepresented community and talent that have not
1386 benefitted from this occupational sphere.

1387 Now as you know, some economists predict that

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1388 artificial intelligence could actually replace the jobs of
1389 many -- of humans in our country and around the world. Can
1390 you elaborate on how industry can ensure that people from
1391 all walks of life receive the necessary training and access
1392 without widening the gap between those with AI skills and
1393 those without?

1394 *Dr. Turner Lee. Yes. I think, you know, AI use when
1395 it comes to workforce is productive when we start to think
1396 about efficiencies, but unfortunately it has the
1397 consequential impact of releasing people whose functions are
1398 more repetitive that can be replaced by some type of
1399 automated function. That tends to be women and people of
1400 color.

1401 With that being the case, we should look at AI as not a
1402 replacement for workers, perhaps a way to do better skills
1403 training, better matching, better credentialing. We
1404 struggle right now in getting many people into
1405 apprenticeship programs. Perhaps the AI could be useful in
1406 opening the door and then letting them reimagine their role
1407 in that space as well.

1408 We haven't had those conversations I think in
1409 meaningful ways, and there is a community of workforce

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1410 development providers who are thinking about the learning
1411 sciences and education and really among non-college degree
1412 workers as well.

1413 *Mr. Veasey. Yeah. I also wanted to ask you in
1414 closing here, I know that people are worried about the
1415 social impact of AI. I know that there are communities out
1416 there that are desperate, particularly for better crime
1417 fighting tools to be able to apprehend people more quickly
1418 because of shootings, and violence, and things like that
1419 that have taken place. And, of course, you know, that --
1420 there can be consequences to that, particularly for
1421 communities of color. And at a time when we are seeing more
1422 diversity in arts and culture, what challenges do you see
1423 presented by AI that can, you know, address some of these
1424 issues? Because I think that there is a big concern in
1425 that, and rightfully so.

1426 *Dr. Turner Lee. Yeah, no, I agree with you. I sit on
1427 the National Academies of Sciences. Use -- we were talking
1428 about facial recognition use by police officers and whether
1429 or not that is going to have these unintended consequences.
1430 Clearly everybody is concerned about public safety today,
1431 right, and we want to see AI tools launched in ways that

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1432 addresses those problems and remedies potentially using
1433 predictive analytics to do so. But we cannot do that at the
1434 cost of individual people who may not be the ones that we
1435 are targeting or may be unfairly surveilled.

1436 Government has to pay attention to that and the role
1437 that we play in video surveillance, but we also have to be -
1438 pay attention to that and make sure the technologists
1439 understand that even though we are optimizing the technology
1440 for public safety outcomes, we are not further criminalizing
1441 people as a result of it.

1442 *Mr. Veasey. Thank you. Thank you, Mr. Chair.

1443 *Mr. Latta. Thank you very much. The gentleman's time
1444 has expired. The chair now recognizes the gentleman from
1445 Florida's 2nd District for five minutes.

1446 *Mr. Dunn. Thank you very much, Mr. Chairman. As a
1447 representative of Florida's 2nd District, you can imagine
1448 how important natural disaster resilience is to me and to
1449 all communities in Florida. In my district particularly is
1450 the destruction of Hurricanes Michaels and Idalia are fresh
1451 in our minds.

1452 Michael was 185 mile an hour Cat 5 storm that caused
1453 serious damage to people in terms of their lives, property,

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1454 and communication services. Upon landfall, the destruction
1455 to cell service was really very significant, including 78
1456 percent loss in Gulf County, 70 percent in Bay, 50 in
1457 Washington County, and 45 percent in Liberty, Jackson, and
1458 other counties, so this was a really, you know, a blackout,
1459 if you will.

1460 Dr. Yamany, I am happy to hear your solution-based
1461 approach at VIAVI helping networks remain operational. I
1462 wonder if you could expand a little on how AI helps
1463 communications stay operational during natural disasters and
1464 storms like that.

1465 *Dr. Yamany. Thank you for the question, Congressman.
1466 Yes, definitely AI and the tools of collecting data about
1467 where you have to do the next repair quickly and
1468 understanding from the data. For example, you know, most of
1469 the hurricane will change then in alignments, right, you
1470 know, then it will move. But a lot of the time the
1471 operators don't know which one and you have thousands and
1472 thousands of antennas, you go in -- have to go in and
1473 inspect manually.

1474 Using AI tools and the data we collect, we can
1475 prioritize exactly where you need to go first quickly to

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1476 restore the services so that a lot of these, you know, first
1477 responders and all of requirement connectivity is there. So
1478 using AI tools with the data that is being collected and
1479 provided and historical data of where are areas of concerns
1480 and how you can prioritize and do this more automatically,
1481 that is exactly what you need to actually quickly restore
1482 the services.

1483 *Mr. Dunn. Well, hopefully we won't lose as much
1484 communication next time.

1485 On another note, the internal biases in AI concern me,
1486 as in fact it should concern everyone regardless of their
1487 political beliefs. We don't want autonomous entities to
1488 engage in mass censorship. There is an article in MIT
1489 Technology Review August this year that reported new
1490 research from several universities that found AI language
1491 models are rife with different political biases.

1492 Ms. Lang, in your testimony you mentioned the
1493 importance of facilitating public trust in AI and that the
1494 ITI's members are making efforts to advance content
1495 authentication. I applaud the intent. To be fair, however,
1496 I hope to see incorporation of diverse information and
1497 opinions provided by artificial intelligence. For instance,

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1498 Project Origin claims to combat misinformation and digital
1499 news information's ecosystem through collaboration of the
1500 New York Times, BBC, CBC, Radio Canada, and Microsoft.

1501 Do you think ITI would be interested in collaborating
1502 with some perhaps more conservative operations like News
1503 Corporation, Newsmax to combat misinformation or are they
1504 only going to collaborate with left-leaning media outlets?

1505 *Ms. Lang. Thank you for the question, Congressman.
1506 Any approach to AI should be representative of a diverse set
1507 of perspectives, and so certainly one of the ways in which
1508 AI systems should be developed and deployed is with multiple
1509 stakeholders being brought to the table and with input to
1510 ensure that that input is reflected in whatever the output
1511 of the AI system is. So certainly it is very important to
1512 have a diverse set of stakeholders at the table for AI to be
1513 developed with those perspectives in mind and to move
1514 forward in that way.

1515 *Mr. Dunn. I think that is -- I agree with you and I
1516 think that is important.

1517 Mr. Rubin, in your testimony you mentioned that AI will
1518 be a gamechanger to help cyber defenses ward off nation
1519 states that threaten our digital lives. I agree. I am

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1520 grateful to hear that. However, we also welcome defensive
1521 cybersecurity developments by AI. Perhaps the offensive
1522 capabilities of hackers are growing at the same time. How
1523 would you describe the threat environment currently of the
1524 CCP, that is the Chinese Communist Party, accessing American
1525 citizens' data?

1526 *Mr. Rubin. Thank you, Congressman. As it relates to
1527 the AI threat, generally, as I testified earlier, that is
1528 part of what is out there on the threat landscape and we are
1529 seeing our adversaries leveraging certain capability with
1530 things like generative AI to make phishing attacks, for
1531 example, more effective and to make some of their attacks
1532 faster from a speed and scale standpoint.

1533 As it relates to China, they are absolutely an
1534 adversary that we are watching at Palo Alto Networks and
1535 that we do see in terms of attacking our companies and our
1536 organization.

1537 *Mr. Dunn. Well, you are doing the Lord's work. Thank
1538 you very much, and I yield back.

1539 *Mr. Latta. The gentleman's time has expired, and the
1540 chair now recognizes the gentleman from California's 29th
1541 District for five minutes for questions.

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1542 *Mr. Cardenas. Thank you, Mr. Chairman Latta and
1543 Ranking Member Matsui, for holding this hearing, and I want
1544 to thank you -- thank our witnesses for your expertise and
1545 your opinions for us today.

1546 This year we have seen a disturbing trend of social
1547 media platforms weakening their content moderation policies.
1548 YouTube, for example, has reversed its election integrity
1549 policy and now leaves up to -- content promoting false
1550 claims that the 2020 election was the result of widespread
1551 fraud, errors, or glitches. As recently as September,
1552 Twitter eliminated its election misinformation reporting
1553 tool completely.

1554 We have seen the damage that widespread misinformation
1555 and disinformation can do to public health, public safety,
1556 and to our democracy. A few short years ago, a failed
1557 former president instigated a violent riot at the Capitol by
1558 weaponizing false information. The lack of oversight in the
1559 social media landscape combined with the boom in public
1560 access to generative artificial intelligence and other tools
1561 makes me concerned about the types of propaganda that can be
1562 spread throughout the 2024 election cycle.

1563 Dr. Turner Lee, with the AI tools currently available

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1564 to the public, how great is the risk that we see a boom in
1565 misinformation and disinformation online and how much of
1566 this risk is due to the availability of these AI tools?

1567 *Dr. Turner Lee. Thank you for that question.

1568 Obviously since the previous elections we have not spent the
1569 due diligence to strengthen our election infrastructure and
1570 we are going to continue to see vulnerabilities in that
1571 infrastructure due to the fact that without again a national
1572 privacy standard, in addition to some protocols, norms, and
1573 standards on how we value the integrity of our voting
1574 system, we will be prone to misinformation and
1575 disinformation.

1576 The nature of technology unfortunately in and of itself
1577 is too amplified of opinions and biases that we have, and
1578 when it does that, it actually creeps into I think some of
1579 the areas in which we are most concerned about in our
1580 democracy. So with that being the case, our hope is that we
1581 will not see companies pull back on those efforts and that
1582 they will continue to be aggressive in monitoring those
1583 types of attacks.

1584 And I think secondly, we are probably at a stage now
1585 here where we have to do increased voter engagement and

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1586 awareness of these tools, and I think that is why AI
1587 literacy is particularly important going into this election.

1588 *Mr. Cardenas. Thank you. Dr. Turner Lee, what are
1589 social media platforms currently doing to prepare for the
1590 risk of AI-generated propaganda ahead of the 2024 election
1591 and beyond? Is it -- and also, is it enough?

1592 *Dr. Turner Lee. Yeah, I mean, I think what we are
1593 seeing now and it has been echoed through several
1594 conversations so far is that they are using AI to beat AI,
1595 right, and figuring out ways to leverage the technology to
1596 help us do better content moderation. The challenge again
1597 is the AI has gotten smarter than us and the way that it
1598 actually functions, now with generative AI, we can actually
1599 mimic voice and extract other textual information that can
1600 be perceived as evidence of not going to the polls.

1601 So I think with that being the case, having additional
1602 pressure on social media companies to continue to preserve
1603 our election integrity is really key and important and
1604 raising awareness among consumers that they also have a
1605 voice in how to mitigate through some of these risks is
1606 really important as well.

1607 *Mr. Cardenas. Okay. You say it has gotten smarter

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1608 than us, I hope you are not referring to Congress. Anyway,
1609 I will move on to my next question. Thank you.

1610 Traditionally we have seen social media companies
1611 invest less in non-English language content moderation. You
1612 recently wrote an article highlighting concerns about
1613 generative AI apps training on data that fails to include
1614 language and dialectic diversity. How might we see this
1615 play out with AI detractors that are designed to flag
1616 misinformation?

1617 *Dr. Turner Lee. Well, I love that question, too,
1618 because I think we don't spend enough, Congressman, on
1619 Spanish language and the diversity of languages that show up
1620 in these models and train these models. The article that
1621 you are referencing, in the case of generative AI, we found
1622 there may be under a thousand languages are actually being
1623 trained in these large language computational systems. That
1624 means there are a lot of people being excluded, not just in
1625 their participation and use of these tools, but to your
1626 point, you know, misinformation can kind of go around that
1627 or it can misinform people based on these platforms not
1628 being completely diverse and accurate.

1629 Going forward, we need much more investigation about

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1630 this stuff, and we probably need some independent research
1631 and investment in places like the National Science
1632 Foundation and other places where we can have representative
1633 groups actually sit at the table and develop those models
1634 and training data sets.

1635 *Mr. Cardenas. [Inaudible.]

1636 *Dr. Turner Lee. Yes.

1637 *Mr. Cardenas. [Inaudible.]

1638 *Dr. Turner Lee. That's right. And I would just add
1639 to that, and a lot of researchers have been focusing on
1640 this, the data that we are putting into these systems are
1641 traumatized, meaning they are coming with all of our
1642 historical baggage alongside some of the modern-day
1643 assumptions that we have about our world. So it is really
1644 important for us to continue to interrogate that and put in
1645 some comprehensive guidance or regulation that will help us
1646 steer advice, in particular.

1647 *Mr. Cardenas. Thank you, Mr. Chairman. Time having
1648 expired, I yield back.

1649 *Mr. Latta. The gentleman's time has expired, and the
1650 chair now recognizes the gentleman from Utah's 3rd District
1651 for five minutes.

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1652 *Mr. Curtis. Thank you, Mr. Chairman, and thank you
1653 for holding this hearing, to you and the ranking member.
1654 Our witnesses, my appreciation to my colleagues who take
1655 this issue so seriously and many of them are very well-
1656 informed on it.

1657 I would like to start, Ms. Lang, with this concept of
1658 the executive order that you mentioned. Executive orders
1659 have advantages and disadvantages, right. One of them is
1660 they could be fast and move quicker than Congress, but they
1661 also may not be long-lasting.

1662 So a couple questions about the executive order that is
1663 out. What -- are there things in there that you would like
1664 to see move into legislation and that would be better in
1665 legislation, and can you give me a sense of the balance the
1666 executive order strikes between guardrails and
1667 overregulation?

1668 *Ms. Lang. Sure, happy to talk a little bit about the
1669 executive order. Certainly there was a big emphasis on
1670 supporting innovation in the executive order which is
1671 something that ITI was pleased to see. For example, it
1672 directs the National Science Foundation to launch a pilot
1673 program of the National AI Research Resource which I know

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1674 there is a bill at present as well on the Create AI Act.
1675 This is something that we would love to see move forward,
1676 particularly because standing up this research resource is
1677 so critical to advancing research and development. So that
1678 was one area that we were particularly pleased to see.

1679 I will also note it discusses and tasks DOD with
1680 launching a pilot program to leverage AI to both discover
1681 and fix vulnerabilities on critical government networks.
1682 This is another area that we see as particularly positive.
1683 Again, demonstrating the ways in which AI can be used to
1684 bolster cybersecurity and actually patch vulnerabilities.

1685 In terms of balancing the regulatory burden with
1686 innovation and making sure that companies are able to
1687 continue to innovate, we did see the introduction in
1688 particular of obligations for companies to -- of a certain
1689 type to disclose red teaming safety results as well as other
1690 information to the Federal Government, and the government
1691 has invoked the Defense Production Act to require that
1692 information. That is an area, you know, that we have some
1693 questions about I think moving forward.

1694 *Mr. Curtis. And I would literally love to hear
1695 another hour, but I am going to move on because --

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1696 *Ms. Lang. Sounds good.

1697 *Mr. Curtis. -- I know there is a lot there, but let
1698 me move to some things.

1699 So no surprise, this is also a big issue back in our
1700 states with our state legislature and governments, and I had
1701 a chance last week to speak with our state director of
1702 commerce, and she brought up a couple of things that we
1703 talked about. When is this concept of legislating at a
1704 point in time when we know that a few years from now that
1705 the landscape's going to be totally different?

1706 In Utah, they are experimenting with a artificial
1707 intelligence lab which allows companies to come in and
1708 operate in kind of a sandbox without over-worrying about
1709 regulation while we can all learn. And I guess my quick
1710 question to you is what can we do here at a federal level to
1711 make sure that we are nimble in our legislation and what do
1712 we have to be worried about?

1713 *Ms. Lang. Sure. So I think the regulatory sandbox or
1714 AI lab that you reference is one way in which to allow
1715 companies to kind of experiment without kind of knowing
1716 exactly kind of what their product is going to yield and
1717 then fix any sort of issues that come up, so that is one way

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1718 in which to kind of test things. I would also highlight
1719 policy prototyping, which is kind of a collaborative
1720 approach where, again, industry stakeholders and other
1721 stakeholders are brought in to test particular regulatory or
1722 policy proposals to see how they work, whether they are fit
1723 for purpose, whether they are doing what they are supposed
1724 to be doing. And then if not, it can be, you know,
1725 addressed before it becomes law, so it is kind of a co-
1726 creation mechanism, which I think is also important.

1727 *Mr. Curtis. Good.

1728 *Ms. Lang. And then finally just remaining outcome-
1729 focused.

1730 *Mr. Curtis. All right. Mr. Rubin, you wanted to jump
1731 in, but before you do, I am going to ask -- at least ask a
1732 question that both of you can try to address before we run
1733 out of time. We also brought up this concept of liability.
1734 If I use ChatGPT for something, let's say the listing of a
1735 home, and I put data up and it is inaccurate, how do we get
1736 to assigning liability?

1737 And the other is notification, and what I mean by that
1738 is if I get on Home Depot's website and I talk to some
1739 artificial intelligence, I don't really care that it is

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1740 artificial intelligence, but if I get on let's say a site
1741 for health information and I am not actually talking to a
1742 human, how do we make sure that consumers are notified if
1743 they are talking to a real person or AI? And, Mr. Rubin, I
1744 will give you the first shot at that and the previous
1745 question.

1746 *Mr. Rubin. Sure. And from those two examples,
1747 Congressman, they are somewhat divergent from Palo Alto
1748 Networks core mission of protecting our networks and keeping
1749 our information safe. But what I can tell you is that
1750 however AI is used, the integrity of the information and the
1751 reliability of the results and the outcomes, as Ms. Lang
1752 said, is absolutely critical.

1753 So as we are building these systems, absolutely we have
1754 to keep them safe, and then we need to take steps to ensure
1755 that before they are put into production or go into use that
1756 we can rely on the results.

1757 *Mr. Curtis. I dearly wish we had more time, but I am
1758 out of time, and I will yield back to the chairman.

1759 *Mr. Latta. The gentleman's time has expired, and the
1760 chair now recognizes the gentlelady from Michigan's 6th
1761 District for five minutes.

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1762 *Mrs. Dingell. Thank you, Mr. Chairman. When it comes
1763 to privacy and equity in artificial intelligence, we have to
1764 act now. Left unchecked, the proliferation of AI raises
1765 concerns that will be detrimental to families nationwide.
1766 The status quo in this everchanging landscape is
1767 insufficient and relying on self-regulation has consistently
1768 fallen short. These implications put at risk the security
1769 of our personal information that can easily be exploited by
1770 our adversaries.

1771 For example, the rise of sophisticated robocalls,
1772 deceptive advertisements, and deep fake technology coupled
1773 with AI's potential to exasperate the digital divide are
1774 real problems. But on the other hand, there is real
1775 potential for AI to revolutionize our society. Combining AI
1776 with 5G technology we can improve our healthcare and
1777 customer services capabilities while bringing to life a
1778 future of autonomous vehicles, improving lives, improving
1779 safety, and bolstering our economic growth.

1780 So it is crucial that we take AI and its potential
1781 impact seriously and that Congress take comprehensive action
1782 to address the profound implications of this technology on
1783 our health, safety, economy, and national security to ensure

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1784 we reap its benefits.

1785 Let me start with you, Ms. Lang. Could bad actors use
1786 artificial intelligence to take advantage of our vulnerable
1787 populations, our children, our seniors, and if so, how?

1788 *Ms. Lang. Thank you for the question, Congresswoman.
1789 I think, you know, like any other technology, AI has the
1790 potential to be used for good and certainly it can also be
1791 used in ways that impact people negatively. And so, yes,
1792 certainly there are instances in which malicious actors
1793 could target vulnerable populations using AI and this is a
1794 risk that is important to keep in mind when we are thinking
1795 through what appropriate guardrails might look like for the
1796 technology.

1797 *Mrs. Dingell. Thank you. Often driven by AI,
1798 robocalls can exploit these vulnerable consumers by using
1799 tactics to deceive them. Tomorrow the FCC will vote on a
1800 proposal to begin investigating AI's role as it relates to
1801 robocalls and robotexts. While AI has the power to make it
1802 easier for consumers to get the information they are looking
1803 for, for example, when they receive AI-generated appointment
1804 reminders, but it can just as easily trick consumers.

1805 In 2022, consumers reported losing almost 8.8 billion

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1806 dollars to scams and fraud. And of that, 2.6 billion were
1807 from what AARP calls imposter scams. Dr. Turner Lee, can
1808 you discuss how AI assists these scammers in taking
1809 advantage of Americans?

1810 *Dr. Turner Lee. Yeah, I think what we are seeing
1811 compared to traditional robocalls and robotexts is the
1812 ability to extract voice and text in ways that mimic loved
1813 ones or people that we have confidence in when it comes to
1814 our personal information. And that area, particularly for
1815 seniors, becomes a real hard way to distinguish between if
1816 this person has your best intent in mind or if this is
1817 somebody you have never met before that is just taking
1818 advantage of you.

1819 We do need to start gathering and documenting the
1820 technical cadence that works towards best practice. Right
1821 now we just don't know because the AI is being deployed in
1822 these ways that are operationalizing these fraudulent
1823 activities. So stepping back, and hopefully the FCC will do
1824 the same in their rulemaking, is to figure out what do we
1825 need to learn more about this technical cadence I think
1826 would be really helpful.

1827 *Mrs. Dingell. Thank you. I think, Mr. Chairman, I am

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1828 out of time, so I will yield back, and I will have some
1829 questions for the record.

1830 *Mr. Latta. Thank you. The gentlelady yields back.
1831 The chair now recognizes the gentleman from Pennsylvania for
1832 five minutes for questions.

1833 *Mr. Joyce. Thank you, Chairman Latta and Ranking
1834 Member Matsui, for holding today's hearing on artificial
1835 intelligence.

1836 With the recent executive order on AI from President
1837 Biden, and with the Senate holding multiple hearings on AI
1838 in the last few months, this committee is addressing an
1839 extremely timely and relevant policy issue. As a doctor, I
1840 am acutely aware of how AI can both spur innovation as well
1841 as pose serious risks, especially when it comes to
1842 healthcare. We should be encouraging developers to build AI
1843 technologies to supplement the work that we do as healthcare
1844 professionals.

1845 And at the same time, we must be sure to implement
1846 guardrails to protect patient data and to be sure that no
1847 harm is done in the process of implementing new technology,
1848 whether that is through disease diagnosis, clinical
1849 documentation, or medical research. We must ensure that AI

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1850 is used ethically and transparently.

1851 Ms. Lang, in your written testimony which touches on
1852 legislative and policy ideas for AI, ITI asks that Congress
1853 will follow a risk-based approach and examine existing laws,
1854 policies, and sector-specific risk frameworks before
1855 considering comprehensive legislation. As you might know,
1856 healthcare falls under these categories as it is regulated
1857 as an industry. Can you elaborate on these points and how
1858 the risk-based approach applies to the healthcare sector?

1859 *Ms. Lang. Sure. Thank you for the question. Yes, so
1860 in thinking through a risk-based approach, it is very
1861 important to -- as you outlined, there are several different
1862 use cases within the healthcare sector, and certainly
1863 something where AI was being used to perhaps perform a
1864 surgery, that could impact somebody's life or safety. That
1865 is likely something that would be designated as high risk
1866 and subject to additional oversight and obligations to
1867 ensure that that AI is being deployed in a trustworthy and
1868 safe way.

1869 There might be other lower risk uses cases as well in
1870 the healthcare sector. Maybe AI is helping to process
1871 billing statements in some way, and so there perhaps are

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1872 different obligations or perhaps no obligations that are
1873 appropriate in that setting. So when we think about, you
1874 know, what makes sense in the healthcare sector, it is
1875 really important to think through what some of the different
1876 use cases are that one would be seeking to capture
1877 underneath.

1878 *Mr. Joyce. I think there are many obligations that
1879 definitely occur, and when exploring AI, data protection and
1880 user privacy is tantamount. This will be especially
1881 pertinent as we begin to use AI in the healthcare setting
1882 where HIPAA plays a large role in keeping our most sensitive
1883 data safe.

1884 Mr. Rubin, how can we ensure that patient data used by
1885 AI is kept secure and safe from cyberattacks?

1886 *Mr. Rubin. Thank you for the question. Cybersecurity
1887 generally in healthcare is a huge topic and of paramount
1888 importance because healthcare organizations maintain, as you
1889 said, incredibly sensitive information about patient care,
1890 about our health. And so broadly we have a duty to protect
1891 that information and really it is about an I think all-
1892 encompassing cybersecurity program that includes technology,
1893 it includes the governance, it includes the processes that

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1894 we employ to protect that information, and AI can be a part
1895 of that from a cybersecurity perspective, helping the
1896 responders and the defenders better prevent, detect, and
1897 respond to any intrusions into a healthcare network.

1898 *Mr. Joyce. Do you see in the future that AI will be
1899 one of the arms of cybersecurity?

1900 *Mr. Rubin. Absolutely, Congressman. In fact, in many
1901 ways it already is. Palo Alto Networks has been using AI in
1902 our products for over 10 years and we are continuing to
1903 innovate and make it more and more a common part of how we
1904 enable cyber defenders to protect organizations.

1905 *Mr. Joyce. Thank you to all the witnesses for being
1906 present here today. And, Mr. Chair, I yield my -- the
1907 remainder of my time.

1908 *Mr. Latta. Thank you. The gentleman yields back, and
1909 the chair now recognizes the gentlelady from New Yorks' 9th
1910 District for five minutes.

1911 *Ms. Clarke. Good afternoon and thank you. Let me
1912 thank our esteemed panel of witnesses for joining us today
1913 as well as you, Chairman Latta and Ranking Member Matsui,
1914 for holding this very important hearing.

1915 The proliferation of artificial intelligence is

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1916 undoubtedly exhilarating for business and consumers alike,
1917 but we also know that it is fraught with the potential for
1918 harm. AI tools can help us combat the scourge of robocalls,
1919 create more efficient transportation systems, analyze cyber
1920 threat data, optimize spectrum uses, perform content
1921 moderation activities, and public services more accessible
1922 and generally improve the quality of life for so many. At
1923 the same time, with the proper oversight, transparency, and
1924 guardrails in place, AI also has the potential to bring the
1925 bias and discrimination of the analogue age into this
1926 burgeoning digital era.

1927 Furthermore, while industry leaders and lawmakers alike
1928 are understandably enthralled by the potential benefits of
1929 AI-powered tools in the private and public sectors, we
1930 cannot forget two immutable facts. First, the key to
1931 unleashing our Nation's full potential with respect to
1932 advancing AI in a safe and consumer-centric manner is a
1933 federal data privacy standard. And second, to ensure a more
1934 just and equitable future, we must prioritize closing the
1935 digital divide.

1936 The Bipartisan Infrastructure Law's historic investment
1937 in broadband deployment will go a long way towards bringing

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1938 historically underserved communities online, but we cannot
1939 forget that all the great developments in AI will be for
1940 naught if they cannot be accessed by those that need them
1941 the most. As policy makers, we must take care to
1942 appropriately balance our goal of fostering innovation and
1943 AI across all sectors with the need to bring all communities
1944 along as well as mitigate the potential harm stemming from
1945 our reliance on AI and algorithms, particularly in critical
1946 decision-making.

1947 So my first question is directed to Dr. Turner Lee. As
1948 you mentioned in your written statement, because AI is
1949 already being used to bolster wireless capabilities for 5G
1950 and next generation technologies, the prevalence of smart
1951 city technology will only increase. What do you see as the
1952 most exciting opportunity to improve the quality of life for
1953 the public and what do you see as the areas of potential
1954 concern?

1955 *Dr. Turner Lee. Thank you for that question,
1956 Congresswoman, and I know you have followed this issue for a
1957 very long time in terms of smart city development. I mean,
1958 we are beyond the IOT stage where it was static IOT
1959 collaboration and coordination, and now we have AI that can

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1960 make those systems much more efficient. And for
1961 communities, particularly vulnerable communities, that have
1962 less agency over government resources, having the ability to
1963 be in connected spaces actually creates better quality of
1964 life, healthcare-wise, et cetera. And we are going to see
1965 that develop more and more as AI comes in in productive
1966 manners to include populations and give them agency with
1967 city governments.

1968 On the other side where we have data deserts or digital
1969 divide concerns that go beyond our wildest imagination of
1970 people really being left behind, we are going to have to
1971 worry about the kind of data that is contained in smart city
1972 development and whether or not the network management that
1973 we are relying upon is actually going to direct us to those
1974 communities. We are also going to have to worry
1975 procurement, right, in terms of making sure that we know the
1976 unintended consequences of the products and services that
1977 cities actually purchase.

1978 So I would say those things stay on my mind as we
1979 actually think about AI's use and ensuring that in the
1980 greater use of video surveillance, audio surveillance,
1981 microphones, et cetera, that we are not repurposing those

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1982 for greater surveillance of communities simply because they
1983 are more connected.

1984 *Ms. Clarke. Thank you. Any other of the colleagues
1985 on the panel want to address smart cities?

1986 Okay. Between advances in AI, the growth of
1987 telecommunications industry and the historic investment in
1988 broadband from the Bipartisan Infrastructure Law, the need
1989 for massive investment in telecommunications workforce is
1990 becoming increasingly apparent. Just last year Commerce
1991 Secretary Raimondo estimated that Bipartisan Infrastructure
1992 Law's broadband funding would create 200,000 new jobs.

1993 Dr. Lee, given the industry's workforce needs, what
1994 factors should lawmakers consider as we attempt to balance
1995 AI's potential ability to meet workforce shortages without
1996 displacing workers?

1997 *Dr. Turner Lee. Well, first and foremost, I think,
1998 Congresswoman, we need to leverage AI for skills retraining
1999 and being able to help us understand the new jobs that are
2000 being available. Right now in the broadband sector, we
2001 don't have a full classification of the industry codes for
2002 those jobs and AI can be very useful in compiling that
2003 information.

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2004 The same token, when AI is introduced, it cannot be
2005 introduced as something that is only for those who have an
2006 educational degree. We need to push it down so the people
2007 who have less than college can also partake in these
2008 selection services and filtered services as well.

2009 *Ms. Clarke. Very well, thank you. Mr. Chairman, I
2010 yield back.

2011 *Mr. Latta. Thank you. The gentlelady yields back,
2012 and the chair now recognizes the gentleman from Idaho for
2013 five minutes for questions.

2014 *Mr. Fulcher. Thank you, Mr. Chairman, and thank you
2015 to the panelists for being here and your participation
2016 today.

2017 I have a question for Mr. Yamany. In Idaho we have a
2018 significant amount of broadband networks and it is -- there
2019 is a tremendous rural community and in order to connect
2020 those broadband networks have been proliferated quite
2021 heavily. And I wanted to just talk to you about that. Can
2022 you use -- can you speak about ways in which artificial
2023 intelligence may be able to monitor the performance and the
2024 quality of those networks?

2025 *Dr. Yamany. Absolutely. Thank you for the question.

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2026 I think understanding the quality of service that, you know,
2027 customers and consumers are getting is very important to
2028 actually make sure that these services can be used for day-
2029 to-day live connectivity and the businesses. And definitely
2030 AI can help in understanding patterns of behavior where, you
2031 know, some malfunctions, or some kind of misconfiguration of
2032 the network, or something that needs more optimization where
2033 you can reutilize resources from different areas requires an
2034 analysis of a lot of these network data and using AI tools
2035 to be able to detect these patterns and provide algorithms
2036 for optimization.

2037 That is really where the AI can help ensure quality of
2038 service but also improves some of the connectivities that
2039 consumers are getting.

2040 *Mr. Fulcher. Okay, so the optimization. And that
2041 might lead into the next question I actually had identified
2042 for Mr. Rubin but would welcome input from either of you.
2043 In regard to cost, cybersecurity cost, when it comes to
2044 broadband telecom service providers, do you see the
2045 potential there to either add or lower costs with
2046 cybersecurity and impact on security, and if so, can you
2047 just talk about that subject a little bit?

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2048 *Mr. Rubin. Yes, absolutely, Congressman. There is
2049 absolutely an opportunity for organizations who are adopting
2050 this technology and AI integrated capability to lower cost
2051 as it relates to the expenditure of keeping their network
2052 safe, their organization safe. And really this comes down
2053 to the ability to consolidate around fewer platforms which
2054 still give you the capability from a coverage standpoint to
2055 protect your network and keep your information safe and the
2056 ability to simplify and to aggregate data and information --
2057 security information down, and so you can have your teams
2058 focused on that and be more efficient in the protection of
2059 our organizations.

2060 *Mr. Fulcher. Thank you for that.

2061 I want to go back to Mr. Yamany and shift the topic
2062 just a little bit. But you noted in your testimony the
2063 importance Open Radio Access Networks when it comes
2064 specifically to strengthening supply chain, trusted
2065 networks, and so on as we prepare to -- a migration for 6G.
2066 I know the committee has been working on some bipartisan
2067 legislation, and I have supported that, for defense
2068 appropriations H.R. 1340 is one of the examples. And I know
2069 that it appropriated in CHIPS and Science Act some revenue

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2070 streams there.

2071 What has your experience been when it come to grant
2072 applications and the grant application process, and do you
2073 see improvements that we can consider here on the
2074 congressional side as we look towards those smaller
2075 providers in rural areas? And I just want to open up that
2076 topic and get your feedback, please.

2077 *Dr. Yamany. Thank you for the question. Absolutely
2078 we are seeing that to actually promote the Open RAN, there
2079 is a requirement there that, you know, the operators see the
2080 benefit but also get the confidence. I think you are
2081 replacing a single vendor that has been there for a long
2082 time that they built a lot of equity in terms of performance
2083 and operation.

2084 I think one of the challenges we are seeing in Open RAN
2085 today is that you really need this kind of test bed, and
2086 again coming back to the digital twin of flight simulator,
2087 so people can test Open RAN and get more confident so that
2088 they can deploy it. And I think the grants are playing a
2089 very important role in that. We have been working with NTIA
2090 in terms of, you know, creating this test bed and providing
2091 capabilities for smaller players to come in and, you know,

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2092 first develop the Open RAN, but also at the same time
2093 provide confidence for the operators. Yes, this technology
2094 can work. It can actually work at scale and it can provide
2095 the performance that you are looking for.

2096 *Mr. Fulcher. Great. Thank you. Mr. Chairman, thank
2097 -- again to the panelists, thank you for your feedback. Mr.
2098 Chairman, I yield back.

2099 *Mr. Latta. Thank you. The gentleman yields back the
2100 balance of his time, and the chair now recognizes the
2101 gentlelady from California's 16th District for five minutes
2102 for questions.

2103 *Ms. Eshoo. I want to thank you, Mr. Chairman and our
2104 Ranking Member Matsui, for holding this very important
2105 meeting, and to each of the witnesses, I think you have
2106 given terrific testimony. I love hearings, you know, it is
2107 a less coming from this side, more from there, and I think
2108 that you have been highly instructive.

2109 I think that the testimony today has made clear that AI
2110 holds tremendous promise, just tremendous promise. And to
2111 the surprise of many people when they hear that it has been
2112 around for a long time. But since December, it is certainly
2113 in terms of media coverage, it is the shiny, new object.

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2114 But is also hold peril, and so it is up to us
2115 collectively, and it is what your testimony is about of, you
2116 know, what kind of rules of the road should we write. One
2117 of the areas that I have been working on because, you know,
2118 there can be an exacerbation of some of the things that
2119 really plague us today, you know, the inequities in our
2120 society, we don't want AI to continue advancing that, we
2121 don't want a refueling of misinformation or disinformation.
2122 We want transparency, we want more competition. So it
2123 really is a very full agenda and it is a challenge for the
2124 Congress because this is -- we want to get it right.

2125 One of the things we know for sure is that the
2126 resources that are needed to develop much of AI are very
2127 expensive and, for the most part, are held exclusively by a
2128 handful of high technology companies. And this
2129 concentration means that most of the talent in America is
2130 prevented from participating in AI R and D. This reduces in
2131 my view competition, it limits the boundaries of innovation,
2132 it hampers our ability to develop safe and trustworthy AI.

2133 And that is why I have introduced the Create AI Act
2134 which is -- it really is nonpartisan. It is also bipartisan
2135 and it is bicameral legislation to provide these resources

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2136 to all sectors of our societies. There is not just one
2137 sector in our society, it is not just high technology, it is
2138 not just the public sector, it is the academic sector, it is
2139 the small business sector, it is the nonprofit sector. So
2140 in order to get there, I think we need to democratize AI.

2141 So I want to go to Ms. Lang. I read your testimony
2142 last night. Thank you for referencing my legislation which
2143 does democratize AI. Share with the other members that are
2144 here why you think it is important for researchers across
2145 all sectors to have access to the same resources that large
2146 technology companies have, and the purposes certainly of
2147 this hearing because this is telecommunications, how the
2148 telecommunications and cybersecurity sectors would benefit
2149 from it.

2150 *Ms. Lang. Sure. So, yes, thank you for your efforts
2151 to advance the Create AI Act. This is certainly a very
2152 important piece of legislation, particularly because, as you
2153 reference, access to compute can be very expensive. So for
2154 small companies in particular, that may be a barrier for
2155 them to actually advancing very critical research and
2156 development that is needed to develop certain standards, to
2157 develop certain metrics for evaluation, things like that.

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2158 So having access to high performance compute, to share
2159 data sets, to a collaborative platform to work with other
2160 academics, Big Tech, Small Tech, all types of people is
2161 going to be very important, and this type of resource can
2162 help to do that. And so really having the collaborative
2163 platform and making sure that multiple stakeholders from
2164 multiple sectors can come together to access the shared
2165 platform is going to be really critical to advancing that
2166 research and development moving forward.

2167 *Ms. Eshoo. Well, I appreciate that very much and
2168 would encourage my colleagues to examine the legislation.
2169 It is simple but it is -- really creates I think a very
2170 important foundation for us to move from.

2171 I want to thank each of you for your testimony. I
2172 didn't have time to ask each one of you my questions, but
2173 you are going to hear from me, and I know you are going to
2174 respond to the questions. So I think you have moved the
2175 ball down the field today. It is a wonderful hearing.

2176 Thank you, Mr. Chairman. Thank you, Ms. Doris.
2177 Terrific. Thank you.

2178 *Mr. Latta. Thank you very much. The gentlelady's
2179 time has expired. The chair now recognizes the gentleman

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2180 from Georgia's 12th District for five minutes.

2181 *Mr. Allen. Thank you, Chairman Latta, and for holding
2182 this hearing. Before I turn to questions for the panelists,
2183 I would like to make an important point about accountability
2184 for generative AI outputs.

2185 As this committee considers what a regulatory framework
2186 for generative AI might look like, I think at a starting
2187 point we should all agree that generative AI output should
2188 not be afforded the same protections as social media
2189 companies have had to date. We need to make sure that
2190 Section 230 does not apply to general A -- generative AI
2191 outputs.

2192 Having touched on that, I would now like to focus on
2193 some of the concerns I have heard from different groups
2194 about artificial intelligence. Ms. Lang, how can we make
2195 sure that we protect artists, and publishers, intellectual
2196 property rights? If AI models are producing value and
2197 revenue after being trained on data originally created by
2198 artists and publishers, shouldn't those artists and
2199 publishers receive compensation?

2200 *Ms. Lang. Thank you for the question, Congressman.
2201 Certainly we agree that AI must be developed in a way that

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2202 protects jobs and ideas, and simplifies tasks, and creates
2203 efficiencies. With that in mind, it is very important to
2204 bring the creative community into conversations that we are
2205 having about artificial intelligence and about copyright.

2206 Though I will note in the United States we have a legal
2207 framework for copyright and copyright law and this is
2208 something right now that we are seeing play out to some
2209 extent in the courts. They are looking at copyright and
2210 looking to see how principles of fair use apply or don't
2211 apply in the context of generative AI. So this is something
2212 that we are seeing play out and be adjudicated actively.

2213 And so really staying abreast of those developments
2214 will be helpful in figuring out whether copyright law needs
2215 to be updated or changed in some way to account for some of
2216 this.

2217 *Mr. Allen. As far as biases in AI models, Ms. Lang,
2218 what database -- what data sets are used to measure bias?

2219 *Ms. Lang. So with regard -- I can't speak to, you
2220 know, kind of what individual companies are leveraging
2221 because it really depends on the application that they are
2222 building their AI model for, but we take concerns about
2223 biased outputs very seriously and all of our member

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2224 companies who are developing and deploying AI are seeking to
2225 institute risk management practices to help address bias --

2226 *Mr. Allen. Okay.

2227 *Ms. Lang. -- so that it doesn't negatively impacts
2228 folks, so --

2229 *Mr. Allen. So the member companies are deciding which
2230 data sets are used?

2231 *Ms. Lang. Yes, depending on how their models are
2232 going to be applied.

2233 *Mr. Allen. What people conduct the analysis
2234 determining whether bias is a -- in a model exists?

2235 *Ms. Lang. Sorry, can you repeat the question?

2236 *Mr. Allen. What people conduct the analysis
2237 determining whether bias in a model actually exists?

2238 *Ms. Lang. So, again, it depends on which member
2239 companies are looking at it, but several of our companies
2240 have stood up AI ethics boards which are groups of different
2241 stakeholders both within and sometimes outside of the
2242 company that come together to review certain applications
2243 that are being developed. Certainly that can include sort
2244 of what data is being hold to train the model, things like
2245 that, to determine, you know, if and how to proceed with

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2246 certain developments.

2247 *Mr. Allen. What is in place to make sure that their
2248 own internal biases aren't affecting their decision as far
2249 bias is concerned?

2250 *Ms. Lang. Yes. So this is a very important question.

2251 *Mr. Allen. I mean, is it a peer review system or how
2252 does it -- how does it work?

2253 *Ms. Lang. Again, it varies depending on which company
2254 we are talking about, but certainly all of our companies
2255 take very seriously this and are keeping in mind, right, the
2256 fact that there are systemic and societal biases that are
2257 present and that may account for, you know, certain
2258 decisions that are made. And so being actively aware of
2259 that is something that is very important. They are also
2260 doing things like risk and impact assessments which can help
2261 to at the outset identify, you know, potential areas where
2262 there might be issues or biased outcomes so that those can
2263 be mitigated before it is publicly deployed.

2264 *Mr. Allen. Mm-hmm. Well, obviously, you know, we
2265 want to protect the private property rights here and that is
2266 an issue that needs exploring. But -- and then, you know,
2267 how can companies best identify and mitigate bias as far as

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2268 in algorithms to ensure fair outcomes for all users? How
2269 are member companies developing this AI transparency and
2270 accountability? These are all questions that need to be
2271 answered. Is there anyone else that would like to share
2272 your thoughts on that subject?

2273 *Dr. Yamany. Let me say maybe something similar to
2274 what we are doing in the network side. You know, AI and the
2275 training data will create these biases, but at the same
2276 time, you can also use another independent AI to actually
2277 test AI and find all these biases. So the idea of AI
2278 guarding AI and AI testing AI, it is something that we are
2279 also, you know, looking at because, I mean, you are going to
2280 have to let AI -- I mean, it is happening. So -- but at the
2281 same time, put the guardrails and have an independent kind
2282 of AI testing and identifying the biases.

2283 *Mr. Allen. Where I am from, they ask, you know, who
2284 is looking after the hen house here. And so I guess AI is
2285 looking after AI.

2286 I am out of time, and I yield back. Thank you.

2287 *Mr. Latta. Thank you. The gentleman's time is
2288 expired, and the chair now recognizes the gentleman from
2289 Florida's 9th District for five minutes.

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2290 *Mr. Soto. Thank you, Chairman. Artificial
2291 intelligence is an exciting new technology that is helping
2292 solve some of society's most complex problems. We saw
2293 during the pandemic that it was a super computer utilizing
2294 AI that helped us with discovering remdesivir, the first
2295 treatment for COVID from the Department of Energy, which is
2296 pretty unbelievable. That is just one example as we are
2297 looking at a lot of these issues.

2298 It could also be a disruptor. We saw that in
2299 entertainment with the latest contractual negotiations in
2300 Hollywood with professional services. Even tourism. We see
2301 in Central Florida in Orlando that travel and tour info
2302 bookings, ticketing, and even line management and
2303 attractions are utilizing artificial intelligence.

2304 I was excited to file the bipartisan Jobs For the
2305 Future Act with cosponsors like Lisa Blunt Rochester, Andy -
2306 - Andrew Garbarino, and others. And the whole idea was to
2307 direct the Secretary of Labor and NSF to conduct studies on
2308 the impact of AI on our U.S. workforce.

2309 So I was pretty excited to see President Biden put out
2310 an artificial intelligence executive order that mirrors this
2311 bipartisan legislation. But we know it is temporary. It is

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2312 information gathering. This is not enough. It is going to
2313 require congressional action from this committee and others
2314 in the Energy and Commerce Committee to develop rules of the
2315 road.

2316 This is an important oversight hearing. We need to
2317 listen, but then we need to draft and debate solutions, and
2318 then act. Internet privacy and comprehensive artificial
2319 intelligence legislation are two things that we really need
2320 to get moving on to promote innovation, protect consumers,
2321 and provide guardrails to artificial intelligence on
2322 development.

2323 Dr. Turner Lee, what are some of your thoughts on the
2324 positives, the challenges, and the limitations of President
2325 Biden's AI order and sort of the work that is piling up for
2326 this committee to get done?

2327 *Dr. Turner Lee. Thank you for that question,
2328 Congressman. You know, I think the President's order really
2329 helps us in bringing agency back to consumers when it comes
2330 to AI's development, and it is promoting a lot of what you
2331 have discussed. Equity and how we actually develop these
2332 tools matters and it matters in ways that it should be
2333 nondiscriminatory.

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2334 I did also like the fact that workplace and workforce
2335 are mentioned in the order because we have just not been
2336 able to get ahead because of the digital divide when it
2337 comes to these advanced technologies and we have much more
2338 time to think through these things.

2339 You know, I think the inherent risk that we probably
2340 have with AI right now is kind of related to the previous
2341 question is who is sitting at the table making these
2342 technologies. We tend to -- what I really, really like
2343 about the order is the fact that it places people in the
2344 center of being producers of technologies and not just
2345 consumers. Farmers should actually develop and sit at the
2346 table with technologists developing farmer AI. Educators
2347 should sit at the table when it comes to educational AI.
2348 Technology companies should not only have the agency and
2349 rights to tell us as subjects what we should actually, you
2350 know, be accepting as products [inaudible].

2351 *Mr. Soto. Thank you. This committee already passed
2352 my Consumer Safety Technology Act out of the subcommittee
2353 and it would harness the power of artificial intelligence to
2354 root out dangerous products and fraud, among other reforms,
2355 for the FTC. The criminals already have AI so the cops on

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2356 the beat need to have this technology as well. And AI needs
2357 both strong internet access and can help us make spectrum
2358 more efficient.

2359 That is why I applaud the FCC for their notice of
2360 inquiries for that, for stopping robocalls, something,
2361 Chairman, we could all get behind, and also working on
2362 predicting natural disasters, a key issue for Florida.

2363 Dr. Yamany, you know, we see climate change, extreme
2364 weather, and while we are working on reducing our emissions
2365 through the IRA, can you elaborate on how AI can help us
2366 predict hurricanes, tornadoes, bomb cyclones, winter storms,
2367 you name it, through complex data sets and using AI for
2368 these predictive models?

2369 *Dr. Yamany. Thank you for the question. Definitely
2370 AI can provide a lot of insight into different data sets.
2371 We are more focused on the networking side of the
2372 telecommunication, how it manages the disasters in terms of
2373 predicting the impact on the network itself and being able
2374 to proactively, you know, analyze the data and, you know,
2375 work with various sources of the network such that when it
2376 impacts, you have the minimum downtime and it doesn't impact
2377 people in businesses and the environment. So definitely

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2378 from this aspect, AI plays a very important role.

2379 *Mr. Soto. So communication's really critical to not
2380 only analyzed data but also to keep first responders and
2381 others up and running to respond. So thank you so much. My
2382 time is expired.

2383 *Mr. Latta. Thank you. The gentleman's time has
2384 expired, and the chair now recognizes the gentlelady from
2385 Tennessee for five minutes.

2386 *Mrs. Harshbarger. Thank you, Mr. Chairman. Thank you
2387 to the witnesses for being here today.

2388 Last Christmas, Tennesseans, especially where I am from
2389 in East Tennessee, experienced rolling blackouts, and that
2390 was due to a major weather event resulted -- and it resulted
2391 in TBA failing to have an adequate baseload of power. Mr.
2392 Yamany, can AI predict potential network failures or
2393 equipment malfunctions before they occur?

2394 *Dr. Yamany. Absolutely. And, in fact, now using AI
2395 more and more, the concept again of building this digital
2396 twin where you can have a copy of your network continuously
2397 doing what if analysis, right?

2398 *Mrs. Harshbarger. Mm-hmm.

2399 *Dr. Yamany. And that is where AI helps. So you can

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2400 actually -- you -- again, it is a flight simulator. The
2401 more you use the flight simulator --

2402 *Mrs. Harshbarger. Yeah. Right.

2403 *Dr. Yamany. -- the more you can predict what can
2404 happen. So, you know, being proactive in terms of
2405 understanding all the different nuances of how can a certain
2406 rollout -- a certain blackout can impact and how we can
2407 quickly -- you know, the problem is not just detecting the
2408 disaster but what happens after the disaster to actually
2409 quickly restore the services.

2410 *Mrs. Harshbarger. Yeah, absolutely. A lot of
2411 companies lost a lot of money because they had no power.
2412 Does AI contribute to proactive maintenance strategies and
2413 reducing the impact of these unexpected outages?

2414 *Dr. Yamany. Yes, absolutely. The AI plays an
2415 important role. The data collected from the network, when
2416 you do it through learning and predicting algorithms for the
2417 AI will actually help with that.

2418 *Mrs. Harshbarger. Okay, thank you, sir.

2419 Ms. Lang, how can AI help satellites communicate with
2420 one another and how can that ensure my constituents, because
2421 they live in a rural, mountainous region, have access to

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2422 better connectivity where internet infrastructure is more
2423 difficult to build out?

2424 *Ms. Lang. Thank you for the question, Congresswoman.
2425 Were you asking about satellites?

2426 *Mrs. Harshbarger. Mm-hmm.

2427 *Ms. Lang. Okay. So that is an area that I am
2428 somewhat less familiar with, so I would have to look into
2429 that a little bit further and get back to you.

2430 *Mrs. Harshbarger. That is fine, we can do that.

2431 Mr. Rubin, in your testimony you state that AI-driven
2432 SOCs have been a force multiplier in reducing detection and
2433 response time in cybersecurity events. You stated it has
2434 reduced your company's detect time to 10 seconds and your
2435 response time to one minute for high-priority alerts. What
2436 do you define as a high-priority alert?

2437 *Mr. Rubin. Thank you for the question, Congressman
2438 (sic). It is an alert that raises in severity to where it
2439 can have a security impact on our ability to conduct ongoing
2440 operations. So part of what AI actually helps with is the
2441 prioritization of the criticality of the security alerts
2442 that are coming into the SOC, and so it helps the analyst
2443 identify those that they need to turn to immediately so

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2444 ultimately they can triage those faster.

2445 *Mrs. Harshbarger. Okay. What is the best way to
2446 prevent data leakage since it seems to be a huge problem?

2447 *Mr. Rubin. Thank you. So data leakage as it relates
2448 to AI or with our --

2449 *Mrs. Harshbarger. Yeah.

2450 *Mr. Rubin. Okay.

2451 *Mrs. Harshbarger. As it relates to AI and cyber.

2452 *Mr. Rubin. Sure. I think that we have a duty from a
2453 cybersecurity perspective to protect the information that we
2454 are putting into these models, and so as companies, whether
2455 they are tech companies, healthcare, or other industries are
2456 building their own AI models --

2457 *Mrs. Harshbarger. Mm-hmm.

2458 *Mr. Rubin. -- to take advantage of the gains and
2459 efficiency and other operational benefits, we have to be
2460 very careful to build cybersecurity controls around how we
2461 protect them as well.

2462 *Mrs. Harshbarger. Okay, thank you, sir.

2463 We hear a lot about the debate between protecting free
2464 speech and social media platforms' desire to moderate
2465 content. Ms. Lang, what level of human oversight is

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2466 involved in the content moderation process alongside AI
2467 algorithms?

2468 *Ms. Lang. Thank you for the question, Congresswoman.
2469 So I can't speak to individual company practices.

2470 *Mrs. Harshbarger. Mm-hmm.

2471 *Ms. Lang. It varies between companies. But certainly
2472 there is an important role for them to play in making sure
2473 that harmful or illegal content is removed from platforms.
2474 But certainly, again, they are operating in the U.S. where
2475 free speech is an important protection that is granted under
2476 the Constitution. So there is different practices that
2477 different companies are undertaking in order to address
2478 that.

2479 *Mrs. Harshbarger. Okay. How does Big Tech ensure
2480 that they are not over-censoring content?

2481 *Ms. Lang. Pardon me?

2482 *Mrs. Harshbarger. How does Big Tech ensure that they
2483 are not over-censoring content?

2484 *Ms. Lang. Ah. Thank you for the question. So
2485 certainly there is different practices that different
2486 companies are undertaking. One of the things in particular
2487 that is important to note is that AI can actually help to

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2488 provide more objective and consistent valuations around some
2489 of the content that is on the platform, so that is actually
2490 one use case for AI that it does help make it more
2491 consistent and objective.

2492 Beyond that, there are efforts underdoing -- that
2493 companies are undertaking in order to ensure transparency
2494 and to ensure that there are more consistent metrics in
2495 place so that it doesn't inadvertently prefer one type of
2496 content over another and so that citizens have access to a
2497 wide variety of perspectives.

2498 *Mrs. Harshbarger. Okay. Does anybody else want to
2499 answer it quickly?

2500 Okay, my time is up. I yield back.

2501 *Mr. Latta. The gentlelady's time has expired. The
2502 chair now recognizes the gentlelady from Texas's 7th
2503 District for five minutes.

2504 *Mrs. Fletcher. Thank you so much, Chairman Latta, and
2505 thanks to you and Ranking Member Matsui for holding this
2506 hearing. I agree with my colleagues who have gone before
2507 and say this has been a really good hearing. There has been
2508 a lot of good information, good questions, and I have really
2509 appreciated the testimony of all the witnesses sharing their

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2510 thoughts with us today.

2511 I also -- I am sorry that I missed Representative Allen
2512 because I really appreciated some of his questions,
2513 especially around AI and copyright, and content creators,
2514 and really thinking about the challenges we have when it
2515 comes to learning. But I -- what I wanted to follow-up on
2516 his question, he was asking some questions about bias.

2517 And so I wanted to circle back to you, Dr. Turner Lee,
2518 because you talked about the potential for bias and for
2519 exacerbating sort of existing inequalities in your written
2520 testimony talking about the digitally invisible and
2521 experiences that are underrepresented. And so what I would
2522 love to know is if you could talk a little bit more about
2523 how we address that bias and what the researchers and
2524 experts kind of recommend as ways to achieve unbiased
2525 models.

2526 *Dr. Turner Lee. Well, thank you so much,
2527 Congresswoman, for that question. I think today we have
2528 been speaking of bias as a static concept and really the
2529 inputs that go into AI models may be static based on our
2530 presumptions, our values, our belief. I always constantly
2531 tell people computers don't bias, we do, right? So how the

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2532 models start is actually the bias that goes into the model
2533 development.

2534 But over time the model actually takes on its own
2535 characteristics. Once it is deployed in the real world
2536 setting, it begins to pick up with our digital footprint.
2537 These behaviors that then lean towards either explicit bias
2538 that has high-risk implications or bias that just may be I
2539 like buying black jackets and that is where I want my ad
2540 bias to be.

2541 My point is we constantly have to interrogate these
2542 models. There is no way out of this. First, positioning
2543 seats at the table for people who understand the lived
2544 experiences of communities as a start, putting in
2545 accountability measures that allow us to have
2546 interdisciplinary conversations around this. I am a
2547 sociologist, I am not a computer scientist, so I understand
2548 society whereas my computer science friends understand the
2549 technology itself.

2550 So forcing that into disciplinary perspective and then
2551 giving some leeway to groups that are not typically
2552 developing data sets to be able to go in and hack through or
2553 we are seeing red teaming now as a best practice, so that

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2554 they can identify where the bias is actually forming but
2555 really tackling the iterative progression of bias, which is
2556 something I think, again, as we have conversations, this is
2557 not something that we can turn on and turn off,
2558 Congresswoman, it is something that evolves because these
2559 technologies, different from others, grow with who we are,
2560 and that is why they actually represent the outputs that
2561 they have.

2562 *Mrs. Fletcher. Well, thank you so much for that. I
2563 think it is really helpful in thinking about, you know, how
2564 do you do that, how do you interrogate the model, and how do
2565 you continue to do that and set up a system where that is
2566 something where you are not just confirming existing bias
2567 and that you have the opportunities. It seems like a
2568 challenge for the computer scientists as well as for the
2569 others. I was a history major so I am on the outside of the
2570 world, too.

2571 But I do think as we are sitting here talking about
2572 kind of what we do going forward, the kinds of things that
2573 we can help with from Congress, there were two other things
2574 actually that you touched on. I am not sure I am going to
2575 have time to cover both of them, but I would like for you to

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2576 talk a little bit more about AI literacy. I think something
2577 everybody up here can understand are the challenges that we
2578 face going into 2024, and the idea that we need to educate
2579 the public about potential uses of AI, I think we have all
2580 experienced it takes a lot to break through kind of in any
2581 context. We have all done it in one way.

2582 But how do we educate about -- how do we do AI
2583 literacy, what does that look like, especially when it comes
2584 to voter education? Just what does that look like?

2585 *Dr. Turner Lee. Yes. I love that question as well.
2586 I mean, I think first and foremost is just basic
2587 communication around these new systems and alerting the
2588 public that these new systems exist. Giving some
2589 accountability to companies to do disclosures so that people
2590 know the decisions are being made by automated systems
2591 versus systems that tend to be much more analogue conceived.

2592 And then I think the other thing, and I have suggested
2593 this in my research, is giving people tactile reminders
2594 around this. I commonly use the reference of the Energy
2595 Star rating program when you are going in to do computer --
2596 consumer appliances. That is a multistakeholder process
2597 that gives some assurance of these tools, and it gives

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2598 accuracy, and it also reports where there are going to be
2599 inefficiencies, and that comes from energy folks, appliance
2600 people coming together and coming up with some standards.

2601 Having those standards will help us with literacy, I
2602 think, and I think Congress can play a role in just finding
2603 ways to resource those efforts or to bring those standards
2604 to bear.

2605 *Mrs. Fletcher. Great. Well, I am going to run out of
2606 time for my last question, so I will just put this out there
2607 and maybe if you all want to respond in writing. We have
2608 talked a lot about privacy in this hearing and the need for
2609 digital privacy. We have obviously addressed it in our
2610 committee before and the chairwoman mentioned today her
2611 interest really in moving that forward.

2612 So I would just love to know if you all can maybe
2613 submit for the record kind of what you would recommend we be
2614 thinking about in the context of privacy protections in the
2615 context of AI. When we are thinking about how to put
2616 together a framework, what are the AI considerations that we
2617 should be taking into account in that process?

2618 And so thank you all very much for your testimony.
2619 Thank you again, Mr. Chairman, for holding the hearing, and

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2620 I yield back.

2621 *Mr. Latta. Thank you. The gentlelady's time has
2622 expired. The chair now recognizes the gentleman from Ohio's
2623 12th District of five minutes for questions.

2624 *Mr. Balderson. Thank you, Mr. Chairman. Thank you
2625 all for being here today.

2626 My first question is for Ms. Lang. AI has the
2627 potential to revitalize businesses and improve efficiency
2628 across industries such as energy development, healthcare,
2629 and telecom. Ms. Lang, in your testimony you touched
2630 briefly on how AI has the potential to increase efficiency
2631 in the use of our Nation's spectrum. You specifically state
2632 that some demonstrations have shown a 10 percent increase in
2633 efficiency. Can you elaborate more on these demonstrations?
2634 And follow-up question with that would be where they are
2635 using some type of spectrum sharing.

2636 *Ms. Lang. Sure. AI can certainly enable spectral
2637 efficiency, and so that is one of the exciting things that
2638 we are seeing as a use case is really enabling both the
2639 dynamic allocation of spectrum as well as adaptive spectrum
2640 access. So based on incumbents that are in different bands,
2641 and where demand is, and also what environmental conditions

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2642 are like, AI can help to allocate spectrum in a way that is
2643 more efficient, and that really helps with some of the
2644 spectrum shortage and finite resourcing problems that we
2645 have in that regard.

2646 *Mr. Balderson. Okay, thank you.

2647 My next question is for Dr. Yamany, thank you. I am
2648 interested, sir, in learning more about the potential for AI
2649 to have a role in network slicing. As you know, network
2650 slicing allows portions of a network to be sliced and used
2651 for specific needs. Doctor, can you give a brief overview
2652 of network slicing, why it is important, and what, if any,
2653 role AI can play in network slicing?

2654 *Dr. Yamany. Thank you for the question, Congressman.
2655 Yes, definitely network slicing is a new technique in using
2656 the network efficiently so you can actually proactively
2657 create new applications let's say for automotive industry,
2658 for healthcare using the same kind of network
2659 infrastructure. You don't have to build the specific
2660 network for that. So you use the same network and then you
2661 create a slice within it using different resources to
2662 actually create the service for these kind of applications.

2663 It has a lot of benefits. First of all, it uses the

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2664 network efficiently, coming back to the spectrum
2665 efficiently. That means you can use more of the same
2666 network on the same spectrum and AI will help you decide how
2667 you can do that.

2668 But also it is a very important thing when we talk
2669 about, for example, energy efficiency. One of the biggest
2670 problem right now is data come in 5G and then coming with
2671 6Gs that we are densifying the network, we are using a lot
2672 of different, you know, resources out there, and energy is a
2673 big issue. AI with the network slicing capabilities can
2674 actually use efficiently, decide how the energy being uses,
2675 and reduce the need for more energy and distribute the
2676 energy efficiently.

2677 *Mr. Balderson. Okay, thank you very much.

2678 Mr. Chairman, I yield back my remaining time. Thank
2679 you all.

2680 *Mr. Latta. Thank you very much. The gentleman yields
2681 back, and the chair now recognizes the gentlelady from
2682 Illinois's 2nd District for five minutes for questions.

2683 *Ms. Kelly. Thank you, Chair Latta and Ranking Member
2684 Matsui, for holding this morning's hearing, and thank you to
2685 our witnesses for participating.

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2686 Dr. Turner Lee, good to see you. I have been tracking
2687 the European Union's progress as it has considered and
2688 developed its AI Act. In fact, I testified at one of their
2689 hearings. You acknowledge that this could be the world's
2690 first comprehensive AI law. As a comparative question, can
2691 you explain the European Union's general approach to AI and
2692 do you think there are any aspects of their draft
2693 legislation that the U.S. should follow or should we take a
2694 different approach?

2695 *Dr. Turner Lee. Thank you so much, Congresswoman, and
2696 one that I have known for many, many years.

2697 So I think the EU has been really interesting and quite
2698 different in their approach because of the prescriptive
2699 nature in which they actually assign AI in terms of
2700 high/low-risk algorithms, and they have been doing that for
2701 quite some time. They also are different because they have
2702 actually put together a privacy regime as well as a market
2703 regime to sort of help define where they may go with this
2704 global AI law.

2705 With that being the case, I think some value that they
2706 do bring to the conversation, despite their different
2707 regulatory approaches and various digital environments, is a

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2708 mouthful of Ds, is that there is a lot of information that
2709 we could probably glean in terms of sectoral guidance.
2710 There is a part of this EU act that is intriguing in terms
2711 of how we should be looking at different industries
2712 differently, how we should be looking at the differences
2713 between high and low-risk algorithms and, you know,
2714 potentially how we should be enforcing or policing them.

2715 So I would say as they develop this, we definitely can
2716 glean some aspects of that, some of which you have actually
2717 also mentioned in your testimony to bring to this committee.

2718 *Ms. Kelly. It doesn't seem like Americans hold
2719 privacy dear and it doesn't seem like they hold it as dear
2720 as us or -- I don't know. What do you think?

2721 *Dr. Turner Lee. Well, the European Union has a
2722 different context for which they have actually deployed
2723 these tools. I mean, when we think about their early
2724 adoption of the GDPR, they were working on that six years
2725 prior and the technology had changed probably over the
2726 course of those discussions. Here in the United States we
2727 do have this flow between innovation and having a nimble
2728 enough regulatory regime that allows us to grow into this,
2729 but we are somewhat behind, too, when it comes to a national

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2730 privacy standard as well.

2731 Where the EU will define, you know, the future of AI
2732 globally is if they do get ahead of us, they will push
2733 forward with standards that we may have to adopt --

2734 *Ms. Kelly. Right.

2735 *Dr. Turner Lee. -- if we want to do business with
2736 them. And so I think that is something that we need to
2737 continue to pay attention to and take, as you've said,
2738 perhaps some aspects of it that have been proven, tested,
2739 look interesting and explore them here.

2740 *Ms. Kelly. Thank you. For all the witnesses, there
2741 has been discussion about whether Congress should create a
2742 new federal agency to regulate AI. And to all the
2743 witnesses, would you recommend that Congress creates a new
2744 federal agency to oversee AI or do you think an existing
2745 federal agency can regulate this advanced technology? And I
2746 will start with you, Ms. Lang.

2747 *Ms. Lang. Sure. Thank you for the question,
2748 Congresswoman. As I referenced earlier, I think the sector-
2749 specific approach is going to be really critical here,
2750 particularly because there are independent regulatory
2751 agencies that have significant expertise in their sectors,

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2752 including you heard me talking about healthcare earlier,
2753 different regulators that have significant experience with
2754 that. And so risks are going to differ and they have the
2755 best level of understanding within their particular
2756 jurisdictions of what those risks look like and how they
2757 play out.

2758 That being said, it may be the case that we need to
2759 help bolster expertise in different federal agencies
2760 depending on how, you know, approaches are taken in
2761 different areas whether, you know, maybe one sector agency
2762 needs additional resourcing than another. So I think that
2763 is something to keep in mind as we are moving forward, but I
2764 think the sector-specific approach is the right one.

2765 *Ms. Kelly. Thank you.

2766 Mr. Rubin?

2767 *Mr. Rubin. Thank you. I would agree that sector-
2768 specific consideration is important. As it relates to
2769 cybersecurity, for example, CISA has done great work helping
2770 private sector and public sector entities. They have a lot
2771 of expertise, almost from a practitioner lens themselves.
2772 And so I would say enabling those use cases specific to the
2773 sectors and the outcomes of how they are using AI would be a

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2774 good approach.

2775 *Ms. Kelly. Thank you.

2776 Doctor?

2777 *Dr. Yamany. Yes, I agree. Again, you know, having
2778 sector-specific approaches is important because we need to
2779 understand nuanced approaches of AI. And I said in my
2780 testimony no two AIs are exactly the same. Our -- you know,
2781 when I call the Telco AI is a low-risk but it provides a lot
2782 of innovation, so you don't want to over-regulate that so
2783 that we inhibit innovations. But I understand there are
2784 other aspects of AI and other sectors that requires more
2785 regulation.

2786 *Ms. Kelly. And quickly.

2787 *Dr. Turner Lee. I will just say quickly I think
2788 sector-specific guidance is actually helpful, but I do think
2789 we need harmonized, comprehensive regulation because that
2790 will bring it all under one umbrella for us to actually have
2791 the same conversation when it comes to standards.

2792 *Ms. Kelly. Thank you and I yield back.

2793 *Mr. Latta. Thank you. The gentlelady's time has
2794 expired. The chair now recognizes the gentleman from
2795 California's 23rd District for five minutes for questions.

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2796 *Mr. Obernolte. Thank you very much, Mr. Chairman.

2797 Thank you to our witnesses. It has been a really

2798 interesting hearing.

2799 Ms. Lang, I have to start with you. You said in your
2800 testimony that the executive order was just one piece of the
2801 puzzle in establishing a regulatory framework for AI, and I
2802 completely agree with that. I think the executive order was
2803 very helpful in a lot of different ways but, I mean,
2804 obviously because of the separation of powers, there are
2805 things that the Executive Branch can do, which is to control
2806 the federal bureaucracy, and there are things that the
2807 Executive Branch really can't do, which is to establish
2808 regulatory guidance for private industry.

2809 Now the executive order, I think, had some overreach in
2810 it. It invokes the Defense Production Act to be able to
2811 impose some regulation on industry which I think is not
2812 going to stand up to legal scrutiny. But as you said,
2813 Congress has an important role to play here and, you know,
2814 certainly establishing that regulatory framework is a big
2815 part of that important role.

2816 So I would like to ask you about that, about what role
2817 does Congress have to play here because obviously we have a

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2818 system of federalism here in the United States. We believe
2819 that states should have the right to establish regulation in
2820 things that don't interfere with the Federal Government's
2821 prerogative over interstate commerce. But it gets a little
2822 messy with AI because AI on the one hand is clearly
2823 interstate commerce related but on the other hand is going
2824 to be so pervasive it is going to invade most aspects of our
2825 economy.

2826 So the question I want to ask about is preemption. Do
2827 you think that the Federal Government ought to preempt this
2828 and say the regulatory framework that we create is going to
2829 be the regulatory framework for AI, or do we think -- or do
2830 you think that we should let the states debate on this, or
2831 do you think that the answer is somewhere in between?

2832 *Ms. Lang. Thank you for the question, Congressman, it
2833 is a good one and certainly something that we have seen play
2834 out in the privacy context as well where states have started
2835 to create their individual approaches in lieu of
2836 comprehensive privacy legislation at the federal level.

2837 I do think, you know, it will likely be somewhere in
2838 the middle. Right now we are kind of still in the early
2839 days of both internationally what is happening, right. We

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2840 were just talking about the European Union and how they are
2841 approaching it, but certainly here in the U.S., too, we are
2842 starting to see states think about it.

2843 So, you know, I think as we proceed, we will have
2844 additional information about what an appropriate legislative
2845 framework looks like, but I do think to some extent we need
2846 to be considering the conditions that are, you know,
2847 occurring in the states and kind of what is progressing
2848 there and then we will figure out what needs to go into
2849 legislation or a framework at the federal level.

2850 *Mr. Obernolte. All right. Well, I think that you
2851 were correct in bringing up federal -- private -- data
2852 privacy as an example of what can go wrong because, you
2853 know, the Federal Government failed to act on that for so
2854 long that now we are going to have this patchwork of 50
2855 different state regulations, I think we have got 23 already,
2856 and that is very destructive to entrepreneurship and
2857 interstate commerce, so I think we want to make sure that we
2858 -- that that does not happen again with respect to AI.

2859 But my point is that this is where -- a fork in the
2860 road, right? We have to choose one or the other or
2861 something in between but it has to be done now.

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2862 Dr. Turner Lee, thank you very much for being here, and
2863 I actually think it is very helpful to have a sociologist
2864 here. I am a computer scientist so, you know, we have got
2865 the spectrum covered. I wanted to ask you a sociology
2866 question because you had said in your testimony that you
2867 have a grave concern with the identification of AI-generated
2868 content which is something that I am very concerned about as
2869 well because of its potential use to spread mis and
2870 disinformation. And you mentioned watermarking as something
2871 that could be used to identify that content.

2872 But let me push back gently on that because I have a
2873 sociology-related concern about that. The problem is if we
2874 were to establish a rule that all artificial content is --
2875 content is watermarked, then it would all be watermarked
2876 except for the stuff that, you know, was generated by
2877 malicious actors that really, really were bent on deception.
2878 And I think that from a sociological standpoint, that would
2879 desensitize the public --

2880 *Dr. Turner Lee. Mm-hmm.

2881 *Mr. Obernolte. -- to the fact that AI-generated
2882 content, you know, does exist and can fool them. So, I
2883 mean, I would think that maybe watermarking should be used

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2884 maybe in addition to that to verify the authenticity and the
2885 providence of real content. So if you have a CNN broadcast,
2886 you have got a digital watermark on there that verifies that
2887 it is a CNN broadcast and not generated.

2888 *Dr. Turner Lee. Yeah --

2889 *Mr. Obernolte. So would you agree with that?

2890 *Dr. Turner Lee. Well, yeah, I agree we should have a
2891 taxonomy, right? We shouldn't necessarily say that
2892 everything is watermarked because it doesn't necessarily
2893 have to be, but where there are instances of high risk or
2894 high vulnerabilities, clearly we should maybe present a
2895 taxonomy of where we want to use that. I am happy to
2896 follow-up with you.

2897 *Mr. Obernolte. Sure. Well, I mean, I -- my fear is
2898 that we have learned, to our misfortune, in other domains --

2899 *Dr. Turner Lee. Right.

2900 *Mr. Obernolte. -- that when we make rules, everyone
2901 follows the rules except the people that really, really
2902 don't want to follow the rules. And if you get a piece of
2903 artificially-generated content that is really controversial
2904 that changes people's opinions, there is going to be a huge
2905 incentive for people not to follow the rules.

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2906 *Dr. Turner Lee. That is right.

2907 *Mr. Obernolte. So I am not sure that that would be
2908 effective, but it is a fascinating discussion. I have got a
2909 million other questions, but I am out of time.

2910 *Dr. Turner Lee. Yeah.

2911 *Mr. Obernolte. So thanks again for a very fascinating
2912 hearing. We will continue the discussion. I yield back,
2913 Mr. Chairman.

2914 *Mr. Latta. Thank you very much. The gentleman's time
2915 has expired. And seeing no further members wishing to ask
2916 questions, the chair asks unanimous consent to insert in the
2917 record the documents included on the staff hearing documents
2918 list.

2919 Without objection, so ordered.

2920 [The information follows:]

2921

2922 *****COMMITTEE INSERT*****

2923

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2924 *Mr. Latta. The chair reminds members that they have
2925 10 business days to submit questions for the record, and I
2926 ask the witnesses to respond to the questions promptly.
2927 Members should submit their questions by the close of
2928 business on November the 28th.

2929 Again, I also want to thank our witnesses again for
2930 being with us today. It has been very, very informative.
2931 It is very important that the committee and the subcommittee
2932 hear your testimony.

2933 Without objection, the subcommittee stands adjourned.

2934 [Whereupon, at 1:06 p.m., the subcommittee was
2935 adjourned.]