



The following is designed to give attendees of FDIC 2024 a glimpse of what is happening in the SMART Technology space. It is derived from the past quarter observations and is designed to support to attendees of my class Friday April 19th, 830-1015.

Summary:

As a Next-Gen SMART Futurist to various teams, I have focused on information in this report that is relevant to your portfolio collected over the past three or more months. My approach has been multifaceted, encompassing comprehensive SWOT analyses, strategic planning, and diving deep into cutting-edge technologies such as AR/VR, A.I., and digital twins (more on the output from these in the future). It has been pivotal in identifying critical areas for technology adoption, ensuring that strategies align with the latest trends while addressing the challenges inherent in technology integration and training.



<u>Fire Engineering Article – March issue to support my FDIC talk – By</u> <u>Kirk McKinzie and Stefan Truthän</u>

Article summary: In today's rapidly changing world, characterized by challenges such as climate shifts, digitization, urban densification, and increased competition for space, emergency services



are facing new, volatile situations that challenge traditional strategies. The transition to faster and more efficient SMART systems is replacing traditional technologies, prompting a need for a shift from reactive to proactive strategic thinking and actions in public safety. To address the complexity of this Volatile, Uncertain, Complex, and Ambiguous (VUCA) world, it is crucial to examine and update the fundamental building blocks of public safety. This includes incorporating advanced technologies like drones, virtual reality, augmented reality, Aldriven analytics, and IoT sensors. Additionally, addressing challenges related to severe weather trends, community engagement, sustainability, public health integration, advanced communication, and autonomous capabilities is essential. The article highlights the recent First Responder SMART Tracking Challenge and the potential of digital twins, mixed reality, computational fluid dynamics modeling, and virtual worlds in revolutionizing emergency response. As public safety agencies embrace these advancements, they can better prepare for the evolving landscape and enhance safety, resilience, and economic impact on a global scale.



Some of the teams moving forward in first response technology to watch for, may will be at FDIC:

Apple	FirstNet	Oracle
Ascent Tech	FLAIM Systems	RealWear
AT&T	FotoKite	Samsung
Augmented World Expo	GoPro	Shark Robotics
Clarion Events	Google	Slate Safety
Dark Horse Analytics	Hexagon	Skyfire Consulting
Defender A.I.	Honeywell	T-Mobile
Department of Defense	IAFC	Tesla
First Responder	IDEX	TRX Systems
Dräger	Indiana University	Qwake Tech
DroneSense	L3 Harris	Verizon
Emergent Software	Magic Leap AR	Vertical Flight Society
ESRI	Microsoft	Western Fire Chiefs
FDIC	NASA	Association
FEMA (Federal Emergency	NFPA (National Fire	Wi-Fiber
Management Agency)	Protection Association)	XPRIZE
First Due	NVIDIA	Zebra Technologies

A summary statement on FDIC/LOS:

The FDIC firefighter trade show, organized by the Clarion Group, provides fire and EMS professionals with a range of training and educational experiences at the Lucas Oil Stadium Experience. These include the Apparatus Bay + Drive Zone, where attendees can interact with apparatus, drones, E.V.s, and robotic technology; the Drill Yard for tactical training demonstrations; and X.R. Studios, which offer A.R. and V.R. interactive training scenarios. Health and wellness are addressed through areas focused on fitness, mental health, and cancer prevention. The ESM Evolutions Lab offers scenario-based EMS training, while the Command-and-Control section concentrates on incident management techniques using modern technology. Additionally, the Gear Locker Room provides insights into the latest in personal protective equipment and cleaning solutions. Networking opportunities are facilitated in spaces like Central Park and the Endzone. The event also features IGNITE, a showcase for start-up businesses run by emergency service entrepreneurs, adding a business perspective to the trade show. The FDIC firefighter trade show is designed as a comprehensive platform for developing professional fire and emergency services. <u>https://www.fdic.com/</u>



Upcoming Events – which may be of interest.



<u>The FirstNet - NIST 5x5</u> conference is an event focused on the intersection of public safety communications and technology. It brings together professionals and experts in the field to discuss advancements and challenges in emergency response communications. The conference features discussions on implementing the FirstNet network, a dedicated public safety broadband network, and explores its impact on various aspects of emergency response. In addition, the event includes sessions on the latest developments from the National Institute of Standards and Technology (NIST) regarding public safety communication technologies. The conference provides a platform for sharing insights, best practices, and experiences in deploying advanced communication tools in emergency response scenarios, emphasizing improving efficiency, safety, and coordination among first responders.







https://iwceexpo.com/

3. Recent and pending publications



The article "Intelligent Robots - Opportunities, Challenges, and Current Value in Fire and Rescue Operations" by Kirk McKinzie and Manon Vermenouze explores the increasing role of robots in fire and rescue scenarios. These robots offer numerous benefits, such as reducing physical strain on firefighters, enhancing efficiency, and minimizing exposure to hazardous conditions. The article highlights the evolution of robotic technologies, which are now more adapted to operational needs with features like machine learning, A.I., and multi-sensor fusion for diverse tasks like fire control, patient evacuation, and material transport. Notable examples include the use of "Colossus" by the Firefighters of Paris and the FDNY's adoption of robotic units. The article emphasizes that robotics enhance firefighter safety and

augment their capabilities. It also discusses how robotics can attract new, technologically adept recruits to firefighting. Integrating these technologies, particularly in complex scenarios like wildland-urban interfaces and lithium-ion battery fires, necessitates collaboration between manufacturers, departments, and personnel to maximize benefits and ensure compatibility with existing systems. The article suggests that the future of fire and rescue operations will heavily rely on practically implementing robotic technologies. Link to the article: https://www.fireapparatusmagazine.com/magazine/intelligent-robots-opportunities-challenges-and-current-value-in-fire-and-rescue-operations/



Summary of Q4 2023 - into 2024 Events, Activities, and News Feed

I attended the Transformative Vertical Flight Symposium, a.k .a. "Flying Car" show.



https://vtol.org/tvf2024









https://evtol.news/pivotal-helix-production-model https://pivotal.aero/helix





GoAERO - \$2M Prize to build an Emergency Response Flyer - <u>https://www.goaeroprize.com/</u> Video Announcement:





Jump Aero – building the Fastest Electric Vertical Take-Off and Landing for Emergency Response - <u>https://jumpaero.com/</u> Falck orders V1: <u>https://www.youtube.com/watch?v=2bLWVg6il3s</u>



NASA on Advanced Air Mobility and Data Reasoning Fabric: <u>https://www.nasa.gov/centers-and-facilities/ames/what-is-a-data-reasoning-fabric/</u>

Saving Seconds, Saving Lives: NIST-Funded Challenge Crowns Winners in 3D Tracking Technology <u>https://www.nist.gov/news-events/news/2024/01/saving-seconds-saving-lives-nist-funded-challenge-crowns-winners-3d</u>





FRST Challenge - October 23-27th, 2023 https://frstchallenge.com/phase-5/

The Phase 5 event culminated a five-year project and the fifth round of competitions for the First Responder Tracking (FRST) Challenge. Led by the <u>Crisis Technologies Innovation Lab</u> in the <u>Pervasive Technology Institute</u> at Indiana University and funded by an \$8 million cooperative agreement from the Public Safety Communications Research Division of the National Institute of Standards and Technology, the Prize money will be awarded in each phase of

the competition with a total of \$5.6 million in prize funds awarded across five phases of the competition. <u>Attended as an SME and Judge</u>





October 27th, An onsite visit to the <u>University of Cincinnati's Digital</u> <u>Futures Laboratory (DFL)</u> was conducted, offering significant insights into the advancement of SMART firefighting and first response initiatives. The DFL, a hub for interdisciplinary research, features over 20 specialized labs including the Smart Synergies Lab, which is

particularly relevant to our SMART public safety goals.





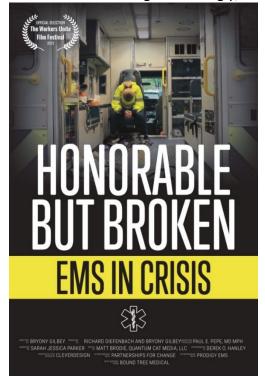
This lab is dedicated to enhancing public safety through smart home devices and IoT, focusing on community-wide situational awareness in emergencies.

Collaborating with experts in public safety, information technology, and community informatics, the lab offers a rich resource for data analytics, civic tech, and understanding the societal impacts of these technologies. Additionally, the facility's High Performance Computing center provides robust computational tools essential for data-driven research in SMART firefighting, including a supercomputer and sophisticated data analysis software. This visit aligns with

our mission to integrate cutting-edge research and computational resources into our SMART firefighting and first response strategies, driving innovation in public safety technology.



Honorable But Broken - EMS in Crisis What if you called for an ambulance and one never came? The goal of our documentary is to raise awareness of the systemic collapse of EMS and to advocate for change. Shockingly, most states don't mandate the provision of EMS, so funding



is unpredictable and inadequate. There is a critical workforce shortage, particularly in rural areas, which in turn has lead to much longer response times. This is something that will affect all of us and we should be very concerned.

https://www.honorablebutbroken.org/



EMS units in Sacramento County - the problem is worldwide!





Nov. 16, 2023 - U.S. Fire Administration - Press

C-THRU technology is a real-time, indoor visualization system that enhances firefighters' situational awareness in low-visibility environments. The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) conducted a field test of this new technology in August 2023 with fire departments from California, Chicago, and New York participating in an operational field assessment at the San Diego Fire-Rescue Training Facility in California. Overseen by S&T's National Urban Security Technology Laboratory (NUSTL), 3 different scenarios subjected C-THRU to the punishing realities of firefighting. NUSTL is currently developing an Operational Field Assessment report on C-THRU, which will incorporate the feedback from responders during the August field assessment. The feedback will be used to refine the product further for successful commercialization in 2024. DHS S&T also leveraged its First Responder Resource Group (FRRG) for input that helped to refine the interface for the technology. The FRRG helped DHS S&T design an interface with ergonomic, well-placed buttons that can accommodate firefighters' large gloves and can be operated using tactile feedback without having to see the interface. For the full story and video:

https://www.usfa.fema.gov/blog/c-thru-new-system-for-situational-awareness-in-lowvisibility/





December 2023 - <u>The Technology Summit International, led by the International Association of</u> <u>Fire Chiefs</u>, focused on modernizing emergency response through technological innovation. Key discussions included implementing Automated Voice Dispatch (AVD) systems to aid in understaffed dispatch scenarios and integrating Unmanned Aircraft Systems (UAS) for enhanced emergency response.





The event also highlighted the importance of live fire training, with specialized training centers playing a crucial role in firefighter education. Additionally, the summit delved into

advancements in data analysis, A.I., and smart technologies like IoT devices, exploring how these can be harnessed to improve firefighting strategies and public safety.



The conference served as a platform for networking, knowledge sharing, and showcasing new technologies, emphasizing the need for continual adaptation and integration of advanced tools in the fire service.





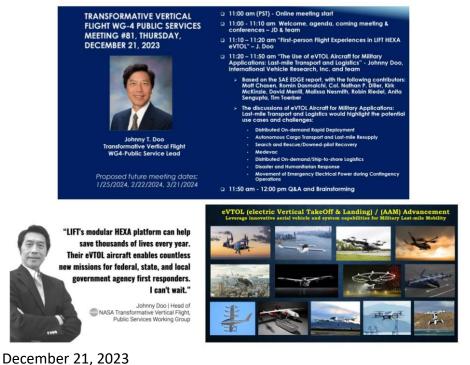
The TSI event was inspiring, but not as much so as the Amazon store at the airport: Amazon's "Just Walk Out" stores blend spatial computing and other advanced technologies to create a seamless shopping experience. These stores incorporate elements such as cloud domain and satellite connectivity, software API stack interoperability, and digital leadership, similar to the technologies

discussed in the context of SMART fire, EMS, and rescue services.

- 1. **Spatial Computing and Sensors:** The stores are equipped with a multitude of sensors and cameras that constantly monitor the movement of items and people within the store. This is akin to spatial computing, which enables the system to understand and process the physical space and activities within it.
- Cloud Domain and Connectivity: All the data collected from sensors and cameras are processed in real-time through cloud-based systems. This high-level cloud computing allows for managing vast amounts of data, ensuring accurate tracking of items picked by customers.
- 3. **Software API Stack Interoperability:** The system's software is designed to integrate various functionalities seamlessly. For instance, it can distinguish between products being picked up and those being put back on the shelves, thanks to sophisticated algorithms and API interactions.
- 4. **Digital Leadership and Management Info Systems:** The operation of these stores reflects a solid digital strategy, utilizing advanced management information systems to oversee inventory, customer interactions, and overall store management efficiently.

When a customer picks up an item, the store's system identifies the product and adds it to the customer's virtual cart. If the customer replaces the article, the system removes it from the cart. Upon exiting the store, the customer's account is automatically charged for the items in the virtual cart, eliminating the need for traditional checkout processes. This sophisticated orchestration of hardware, software, and cloud services exemplifies the potential of integrating advanced technologies into everyday operations.





The webinar hosted by the Vertical Flight Society, titled "The Use of eVTOL Aircraft for Public Safety Applications," led by Johnny Doo of International Vehicle Research, Inc. and team, provided a comprehensive overview of the potential applications of electric Vertical Takeoff and Landing (eVTOL) aircraft in public safety.

Drawing from insights in the SAE EDGE report by contributors such as Matt Chasen, Col. Nathan P. Diller, and Anita Sengupta, the discussion emphasized the transformative impact of eVTOL systems in various public safety scenarios. Key focus areas included distributed on-demand rapid deployment, autonomous cargo transport for last-mile resupply, search and rescue operations, medevac, ship-to-shore logistics, disaster and humanitarian response, and the movement of emergency electrical power during contingency operations.

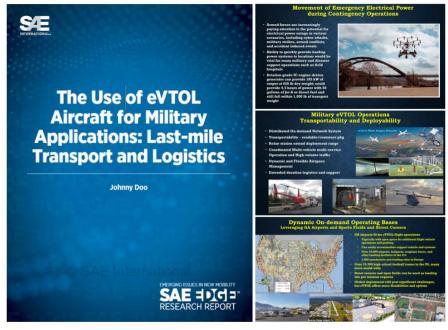




The webinar was a platform for

presenting existing research and a brainstorming session for future interdisciplinary collaborations. It aimed to build a community of aerospace professionals to explore innovative VTOL aircraft for enhancing public safety services while also developing an advocacy roadmap and white paper on transformative vertical flight (TVF) transportation systems, technology, and markets. Presentation

recording: https://www.youtube.com/watch?v=1aJDRCcllss



Keywords, Recent News, and SMART Fire Service Resources for Public Safety Advancements

The collection of resources supports the SMART Fire Service case, focusing on recent news and developments in various relevant areas. These resources provide valuable insights into integrating digital health and telemedicine innovations, next-generation pre-hospital and emergency medical services, and the influence of major technology companies on healthcare.



Additionally, they explore topics such as augmented reality in surgery, AI-driven healthcare communication, and advanced communication systems in public safety. Furthermore, the resources delve into A.I.'s role in national defense, Google's expansion into healthcare, and the transformative potential of A.I. in different sectors. They also cover emerging technologies like V.R. and A.R. in first responder training, wearable neuro-powered A.R., and the development of devices capable of reading brain activity. Additionally, digital platforms for public policy development, citizen engagement, and democratic participation are discussed, along with the deployment of robotics, uncrewed aerial systems, and autonomous technologies in public safety operations. These resources provide a comprehensive overview of recent developments and trends in various areas related to the SMART Fire Service case, highlighting the importance of technology in enhancing public safety and first response efforts.

Healthcare and Medical Technologies:

Advanced Health Monitoring **AI-driven Diagnostics** Al-driven Mobile Health Algorithm A.I. in Clinical Scenarios A.I. in Medical Imaging A.I. in Wildfire Management Al-powered Hearing Aids Apple Vision Pro Simulator Apple Watch **Digital Health Solutions Digital Twins Disease Detection** Health Data Management Integration of Digital Health **Medical Diagnostics** Mood Decoder Personalized Medicine **Predictive Analytics** Public Health Remote Healthcare Technologies Surgical Procedures Technology and Innovation: Technology Companies

Telemedicine **Telemedicine Innovations** Wearable Devices **Policy and Engagement:** Metaverse A.I. Impact Artificial Intelligence Citizen Engagement **Global Health Initiatives** Large Language Models Metaverse Market **Open-Source Data Policy Making Defense and Security:** National Defense A.I. in Defense Tech Command and Control **Command and Control** Modernization **Defense Supply Chains Defense Tech News** First Response Intelligent Solutions Military Command Orion Cyber Operations Center-Hill **SMART Community Risk** Reduction **SMART Fire Protection** Engineering

Sustainable Energy Technologies Urban Infrastructure X.R. Healthcare Vendors **Technology and** Innovation: Technology Companies 5G Technology Augmented Reality Augmented Wearable First Responder Technology Brain-Computer Interfaces **Digital Platforms** Digital Public Safety Innovation Disaster Response Drones in Public Safety **Educational Technologies** Generative A.I. Reality Capture Reality Capture Technologies Google in Healthcare Big Data Climate Modeling **Environmental Monitoring** GIS and A.I. IoT for Environmental Data **Changing Weather** Patterns



Integration of Digital Health and Telemedicine Innovations Next Generation Pre-Hospital Healthcare and Emergency Medical Services: Explores the adoption of A.I. technologies in healthcare for improved disease detection and patient care and emergency services for efficient response mechanisms. Covers the rise of digital health solutions and telemedicine, highlighting the impact of remote healthcare technologies and wearable devices on healthcare accessibility and efficiency. This includes AI-driven diagnostics, predictive analytics, and A.I. systems in public health.



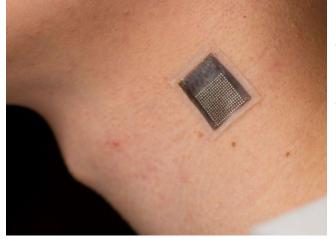
"Hearing Aid with Translation as a Tool for SMART EMS" highlights the potential of Alpowered hearing aids in emergency medical services. Read more

"Tech Giants Affecting Pre-Hospital Care" explores how major technology companies are influencing healthcare technology. <u>Read more</u>

"A.R. for Surgery" discusses augmented reality's role in advancing surgical procedures. <u>Read</u> <u>more</u>

"Medical Prompt Engineering" covers the use of A.I. in healthcare communication and diagnostics. <u>Read more</u>





Integration of Digital Health and Telemedicine Innovations Next Generation Pre-Hospital Healthcare and Emergency Medical Services: "Digital Ultrasound Tattoo" explores wearable tech in healthcare monitoring. <u>Read more</u>

Amazon in Healthcare: Data Nightmares and Opportunities - Bertalan Mesko

This article delves into Amazon's foray into healthcare, highlighting the challenges and potential of leveraging big data and A.I. in transforming healthcare services. **Read More GPT-4, an advanced A.I. model, demonstrated exceptional performance,** surpassing 99.98% of human counterparts in accurately diagnosing complex clinical scenarios. <u>Read More</u>

"Apple Calls 911" highlights the integration of emergency services in Apple's technology. <u>Read</u> more

"Apple Vision Pro Simulator" showcases the use of augmented reality in medical training and diagnostics. <u>Read more</u>

The Next Apple Watch Will Reportedly Add More Health Features - Yang Cai

Anticipated to enhance health monitoring capabilities, the next Apple Watch may introduce advanced features, potentially revolutionizing personal healthcare and fitness tracking.

Read More

Google's Masterplan for Healthcare - Bertalan Mesko

Google is strategically expanding into healthcare, leveraging its technological prowess and A.I. capabilities to innovate in areas like disease detection and health data management. **Read More**

A Guide to Artificial Intelligence in Healthcare - Bertalan Mesko

This article provides an in-depth look at how A.I. is integrated into healthcare, transforming patient care and medical practices with advancements like predictive analytics and personalized medicine. <u>Read More</u>



AI for Medical Imaging" explores the integration of A.I. in enhancing medical imaging techniques. <u>Read more</u>



"AI-Driven Mobile Health Algorithm" discusses a new approach to EMS protocols using A.I. Read more

NHS Trials Artificial Intelligence System - Bertalan Mesko

The NHS is experimenting with A.I. systems to enhance patient care and operational efficiency, highlighting the potential and challenges of A.I. integration in public healthcare. **Read More**

Neuroscientists Create a Mood Decoder - MIT Technology Review

A groundbreaking development in neuroscience, where researchers have created a mood decoder, potentially paving the way for new mental health treatments. <u>Read More</u>

AI, Future, Innovation - Dr. Martha Boeckenfeld

Dr. Boeckenfeld discusses the transformative potential of A.I. in shaping future innovations, particularly in sectors like healthcare and technology. <u>Read More</u>

"Medical LLM by Med-Palm" showcases advanced A.I. in medical applications. [Read more](<u>https://www.linkedin.com/posts/yossimatias_med-palm-2-our-expert-level-medical-llm-activity-706</u>

Walgreens Launches Direct-to-Consumer Telehealth - Bertalan Mesko

Walgreens is entering the telehealth market with a direct-to-consumer service, expanding access to healthcare services, and offering a convenient, digital health solution. <u>Read More</u> "SMART Bandage for Chronic Injuries" discusses a Stanford University-developed bandage that

accelerates healing. Read more

"Exoskeletons for Human Augmentation" covers the development of exosuits to assist humans in various activities. Read more

Microsoft Announces New A.I. Tools to Help Doctors - Bertalan Mesko

Microsoft introduces new A.I. tools to assist doctors, aiming to improve diagnostic accuracy and patient care efficiency through advanced technology. <u>Read More</u>

The Top X.R. Healthcare Vendors for 2023 – XRToday XRToday presents a compilation of leading X.R. (extended reality) healthcare vendors in 2023, showcasing companies at the



forefront of innovative medical technology.

Read More

Digital Health, Wearables - Gary Monk

This article explores the evolving landscape of digital health and wearables, highlighting their growing importance in monitoring and managing personal health.

Read More

Microsoft's Role in Healthcare - Bertalan Mesko

The article examines Microsoft's increasing involvement in healthcare, focusing on how its technologies shape the future of medical care and health data management.

Read More

Pediatric Moonshot Aimed at Improving Children's Health - J.J. Snow

An ambitious initiative, the Pediatric Moonshot, aims to advance children's health through innovative technologies and research significantly.

Read More

<u>Advanced Public Safety Communication Networks</u>: Focuses on evolving communication systems within public safety sectors, highlighting the shift from traditional Land Mobile Radio (LMR) to advanced LTE and 5G networks and integrating critical communication features.



A.I. Bots Are Helping 911 Dispatchers With Their Workload – Stateline This article discusses the integration of A.I. bots in assisting 911 dispatchers, highlighting how A.I. is easing workload and improving emergency response efficiency. Read More

"5G Gap Dialog from NIST" discusses next-generation wireless technology's research and development gaps. <u>Read more</u>

"NIST Report on SMART Connected Communities" focuses on integrating smart technologies in urban communities. <u>Read more</u>

"Next-Generation 911 Funding Bill" details a significant funding initiative for upgrading emergency communication systems. <u>Read more</u>

"NIST SMART Connected Newsletter" discusses innovations in smart connectivity and public safety. <u>Read more</u>



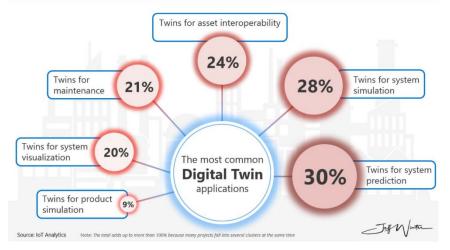
<u>SMART Wildfire and Climate Response</u>: Addresses the use of technology in environmental monitoring and response to climate change. This includes IoT for environmental data collection and A.I. for climate modeling, which is essential in planning and executing climate resilience strategies.

GIS and Artificial Intelligence for Precise Wildfire Management - Anthony Schultz

Exploring the integration of GIS and A.I. in managing wildfires, this article shows how technology can enhance precision and efficiency in dealing with natural disasters.

Read More

Evacuation - Wildfire Study" reviews the science on wildfire evacuation strategies. Read more



"Digital Twin Innovation" discusses the application of digital twins in environmental monitoring and urban planning. <u>Read more</u>

"50 Years of Changing Weather Patterns" provides an analysis of long-term weather trends and their implications. <u>Read more</u>

"Digital and Business Transformation in Wildfire Tech" by Lockheed Martin discusses the integration of digital technology in wildfire management. <u>Read more</u>

"The Great East Japan Earthquake Tweet Mapping" showcases the use of digital tools in understanding and responding to natural disasters. <u>Read more</u>

<u>Cybersecurity in Public Safety Networks</u>: Discusses the challenges and solutions in securing public safety communication networks in the era of IoT and 5G, ensuring the protection of sensitive data and secure communication channels.

"DoD Releases National Defense Science and Technology Strategy" focuses on the advancements in cybersecurity for national defense. <u>Read more</u>

"U.S. Homeland Security Creating A.I. Task Force" underlines the U.S. government's focus on A.I. in national security. <u>Read more</u>

"Digital Twins and Defense Supply Chains" discusses the role of digital twins in enhancing cybersecurity. <u>Read more</u>



"Components of Digital Transformation" explores the key elements driving digital transformation in various sectors. <u>Read more</u>

"China Chip Hack via Korea" addresses concerns over malicious code in technology, highlighting cybersecurity risks. <u>Read more</u>

"China Academic Threat Considered" delves into the implications of US-China tensions on academic collaborations and cybersecurity. <u>Read more</u>

Technological Advancements in First Response and SMART Community risk reduction:

Focuses on incorporating advanced technologies like drones, A.I., and real-time data analytics in firefighting and disaster response, enhancing precision and efficiency in natural disaster management.

"Want to know what is most talked about by CEOs? Here is the most recent data for Q4 2023 by Philipp Wegner with IoT Analytics" reveals key findings on CEOs' concerns, showing increased focus on economic challenges, budget management, geopolitical uncertainty, and a notable decline in generative A.I. discussions, suggesting a shift in corporate strategies towards practical applications of A.I. Read more about this insightful analysis and CEOs' current focus areas <u>here</u>.



SFPE Foundation: GCI White Papers

The SFPE Foundation's GCI white papers provide in-depth insights and research findings on various aspects of SMART fire protection engineering and safety. <u>Read More</u>

"Interior Wants Fleet of Drones for Wildfires" details plans for drone use in emergency responses. <u>Read more</u>

"Tweet Mapping of the Great East Japan Earthquake" showcases the use of social media data in disaster response. <u>Read more</u>



"Firefighting Intelligence by Lockheed Martin" highlights advanced tech in firefighting. <u>Read</u> <u>more</u>

"AWS Tech Accelerator for First Response" highlights Amazon's initiative to support public safety tech advancements. <u>Read more</u>

"146 MPH First Response Option" showcases the development of a high-speed Flyboard Air for emergency scenarios. <u>Read more</u>

Leveraging Reality Capture to Save Lives with Captain Kirk McKinzie - Reality Capture Network Captain Kirk McKinzie discusses how reality capture technologies can be a game-changer in saving lives, particularly in emergency response and public safety. <u>Read More</u>

Sustainable Urban Infrastructure Digital Public Safety Innovation and Smart City Solutions:

Explores how cities integrate sustainable energy technologies and intelligent solutions for urban planning, focusing on creating greener, more efficient, and resilient urban environments. "Digital Twin and IoT Report" explores the integration of digital twins and IoT in enhancing urban infrastructure. <u>Read more</u>

"Open VC List for Smart City Innovations" provides a comprehensive list of investors focusing on smart city developments. <u>Read more</u>

"Cruise Announces Autonomous Vehicle Deployment" showcases the integration of autonomous vehicles in urban settings. <u>Read more</u>

"Digital Twins for Smarter Cities" explores how digital twins are being used to enhance urban planning. <u>Read more</u>

"X.R. for Older Adults" looks at how virtual and augmented reality can enhance the quality of life for the elderly. <u>Read more</u>





"Digital Debt as a Productivity Killer" addresses the challenge of digital overload in modern workspaces. <u>Read</u> more

"Smart City Expo USA" discusses the latest trends and innovations in smart city development. <u>Read more</u>

"Strategic Plan" discusses leadership confidence in adapting to digital transformations, relevant for digital equity in smart cities. <u>Read more</u>

"State of Grant Seeking Report" discusses current trends and strategies in grant seeking, essential for funding smart city initiatives. <u>Read more</u>

Public Educational Technologies and Augmented Wearable First Responder Technology:

Highlights emerging technologies such as V.R. and A.R. in training first responders, focusing on innovative methods to enhance learning experiences and preparedness for complex scenarios. "A.I. and the Future of Learning and Teaching" discusses the impact of A.I. on educational methods and approaches. Read more

"Blood Pressure Tech" covers the evolution of blood pressure monitoring technology, shifting towards non-invasive methods. <u>Read more</u>

"EMS: iSimulate" provides advanced training tools and technology for emergency medical services. <u>Read more</u>

"More News on BCI for X.R." discusses the development and potential applications of Brain-Computer Interfaces in virtual reality. [Read

more](<u>https://www.linkedin.com/posts/davidsime_medicaltechnology-uiux-virtualreality-ugcPost-7083033317213642752-ken_?utm_source=share&utm</u>

"Google Glass AR Division" indicates Google's continued innovation in A.R. technology. <u>Read</u> <u>more</u>





Feature Article: Picturing the Future of Firefighter Training - Insights into the future of firefighter training, emphasizing the role of X.R. and other advanced technologies in preparing firefighters for real-world challenges.

Read More



OpenBCI Unveils Vision for Wearable Neuro-Powered AR -Ori Inbar OpenBCI is at the forefront of developing neuro-powered A.R. wearables, aiming to revolutionize user interaction with technology through brain-computer interfaces. <u>Read More</u>

The Devices that Will Read Your Brain - Pharoramses

This article delves into the development of devices capable of reading and interpreting brain activity, a significant step towards understanding and leveraging human cognition.
<u>Read More</u>



VR for Blood Gas Analysis - W. Todd Maddox, Ph.D.

Dr. Maddox discusses the application of V.R. technology in medical education, specifically for blood gas analysis, enhancing learning through immersive experiences.

Read More

Telemedicine with RealWear, Inc.

RealWear is innovating in telemedicine by providing hands-free, head-mounted devices that facilitate remote medical consultations, enhancing healthcare accessibility.

Read More

"U.S. Space Force Training with X.R." details the use of extended reality in military training. <u>Read more</u>

"Key Words for IoT Executives" provides insights into the terminology and concepts essential for IoT leaders. <u>Read more</u>

Public Awareness, Engagement and Policy Making with Digital Platforms: Delves into the role of technology in enhancing public policy making and citizen engagement, utilizing digital platforms for policy development, citizen feedback, and democratic participation. Sam Altman, CEO of OpenAI, discusses A.I.'s future impact. <u>Read more</u>

The US Needs to Grow in the Metaverse - The Coin Republic

The article discusses the necessity for the United States to actively engage in and expand its presence in the rapidly evolving metaverse to maintain technological leadership.

Read More

"No Cost A.I. Courses" offers free A.I. and machine learning courses, beneficial for educational technologies in public safety. <u>Read more</u>

"Microsoft Free Courses on A.I." offers resources for enhancing A.I. knowledge, beneficial for advanced communication systems. <u>Read more</u>

"Adjusting Face of Higher Education" explores the evolving relevance of college degrees in the digital age. <u>Read more</u>

"Will AI Replace Workers?" examines the impact of A.I. on the workforce and productivity. Read more

A.I. and Open Source Data Sets" discusses the importance and accessibility of open-source data for A.I. development. <u>Read more</u>

Artificial Intelligence Technology Innovation - Steven Nouri

This article explores the vast landscape of A.I. technology innovations, emphasizing their transformative impact across various industries and sectors. <u>Read More</u>

"The Metaverse's Economic Contribution" discusses the significant potential economic impact of the metaverse. <u>Read more</u>

"The Metaverse Hype Crash: A Positive Turn?" explores the potential benefits of a metaverse market correction. <u>Read more</u>





"WHO Global Health Initiatives" discusses emerging technologies and scientific breakthroughs impacting global health. <u>Read</u> more

Apple Enters the LLM Domain" showcases Apple's foray into large language models, relevant for digital public safety innovation. <u>Read more</u>

Robotics, UAS, and Autonomous Systems in Public Safety: This area focuses on deploying and

integrating robotics, unmanned aerial systems (UAS), and other autonomous technologies in public safety operations. It covers the use of drones for surveillance, search and rescue missions, and the delivery of emergency supplies.

"NASA on AAM and Vertiports" highlights NASA's collaboration with partners in advanced air mobility and vertiport development. <u>Read more</u>

"A.I. and Wildfire" addresses the role of high-tech and A.I. in improving wildfire response and coordination. <u>Read more</u>

"Drones for Emergency Medicines" explores the use of drones in delivering medical supplies. <u>Read more</u>

"The National Security Drone Act of 2023" discusses legislation impacting drone usage in national security. <u>Read more</u>

"Increased Autonomy for UAS" addresses the advancements in autonomous flight and airspace integration. <u>Read more</u>

"Funding Phase I with NASA" focuses on supporting autonomous systems in public safety. <u>Read</u> <u>more</u>





"RAIN Autonomous Firefighting" covers the development of autonomous drones for firefighting. <u>Read</u> <u>more</u>

"Increased Autonomy for UAS" discusses considerations for integrating autonomous flight and operations in airspace. <u>Read more</u>

Each of these ten areas represents a crucial aspect of implementing SMART systems in public safety and first response, ensuring a comprehensive approach to leveraging technology for a safer and more secure world. Do not change this list of ten subjects! Repeat them verbatim and then I will add articles to catalog.

General Technology and Innovation:

Augmented and Virtual Reality in Manufacturing: The article discusses the rise of AR and VR in manufacturing, valued at \$5.57 billion in 2021 and expected to grow significantly, with applications in assembly, training, and quality control. <u>Read more</u>.

Hexa eVTOL Innovation: LIFT Aircraft's Hexa eVTOL is highlighted as a pioneering electric Vertical Takeoff and Landing aircraft, merging sustainability with personal adventure in aviation. <u>Read more</u>.

The Economist's Metaverse Summit: A panel discussion at The Economist's Metaverse Summit, featuring insights on immersive technologies and their impact on the industrial metaverse, is previewed. <u>Read more</u>.

Future of Smart Firefighting with AI: An academic article discussing the role of artificial intelligence in enhancing the future of smart firefighting. <u>Read more</u>.

Metaverse Standards Forum Conference: The upcoming Web3D Consortium Conference in San Sebastian, focusing on 3D application domains including the metaverse, is introduced. <u>Read more</u>.

Spatial Collaboration with ArcGIS for Teams: The blog post details how Esri's ArcGIS for Teams enhances situational awareness and mission outcomes in various sectors through spatial collaboration. <u>Read more</u>.



Metaverse Standards Forum's Board of Directors: An announcement about the Metaverse Standards Forum electing its first Board of Directors, highlighting the strategic direction for metaverse standards. <u>Read more</u>.

Tesla Full Self-Driving (FSD) Beta Experience: Karol Sarnek shares his mixed experiences with Tesla's Full Self-Driving Beta 11.4.7, discussing its unexpected maneuvers and the balance between excitement and relaxation in autonomous driving. <u>Read more</u>.

3D Gaussian Splatting for Novel-View Synthesis: Manuel Allinger introduces 3D Gaussian Splatting, an innovative method for creating 3D models from 2D images, showcasing its application in detailed reconstruction of scenes. <u>Read more</u>.

Fire Rover's Response to Lithium-Ion Battery Fires: Ryan Fogelman demonstrates Fire Rover's effective response to lithium-ion battery fires, highlighting its role in preventing significant business losses and environmental damage. <u>Read more</u>.

NextGen 911 and Vehicle-to-Everything (V2X) Summit: The National Association of State 911 Administrators (NASNA) discusses the importance of NextGen 911 in emergencies and invites participation in the USDOT Research and Technology's V2X Summit. <u>Read more</u>.

U.S. Competitiveness in XR Technology: The XR Association releases key findings from an upcoming white paper discussing the U.S.'s position in the competitive field of XR (extended reality) technology. <u>Read more</u>.

First Flight of Jetson ONE in the USA: Tomasz Patan highlights the first US flight of the Jetson ONE at the UP.Summit 2023 in Dallas, Texas, marking a significant milestone in the future of mobility. <u>Read more</u>.

World Bank XR Project Management Job Opening: Jimmy Vainstein announces a job opening in the World Bank XR team for a Project Management consultant role, focusing on sustainable development initiatives. <u>Read more</u>.

Jetson eVTOL Featured by Forbes: Tomasz Patan discusses Jetson's historic first flight in the USA and its feature in a Forbes interview, highlighting the growing accessibility of flying cars. <u>Read more</u>.

Connected Vehicle Systems Alliance (COVESA) Meeting: Trpko Shawn Blazevski shares insights from the COVESA All Member Meeting, focusing on digital innovations in vehicle experiences. <u>Read more</u>.

360 VR Blue Angel Experience: A new 360 VR video offers an immersive experience with the Blue Angels, showcasing their aerial skills and precision. <u>Watch the video</u>.

Improvements in Autonomous Vehicle Response to Emergencies: Lawrence E. Williams discusses the need for autonomous vehicles, like those from Cruise, to better respond to emergency responder equipment and scenarios. <u>Read more</u>.



Germany's Dependence on Huawei and Security Concerns: Martijn Rasser reflects on the risks and regrets in Germany's dependence on Huawei for its 5G infrastructure, amidst rising security concerns. <u>Read more</u>.

US-China Economic Dynamics and the Midwest's Role: C. Colin Supko discusses the US's reliance on China for outsourcing and the changing dynamics in the US-China economic relationship. <u>Read more</u>.

USCENTCOM's Shift to Digital Tools in Defense: Schuyler Moore shares insights on how U.S. Central Command (USCENTCOM) is leveraging live data as the backbone of digital capabilities in defense operations. <u>Read more</u>.

Innovative Desalination System for Cheaper Freshwater: A new desalination system developed by MIT researchers could potentially provide cheaper freshwater than traditional methods. <u>Read more</u>.

Security Alert for U.S. Citizens Departing Israel: Sarah Adams shares information about a planned ship departure for U.S. citizens and their immediate family members from Haifa, Israel, to Cyprus. <u>Read more</u>.

Taliban's Involvement in China's Belt and Road Forum: Shannon Brandao reports on the Taliban attending China's Belt and Road Forum, indicating deepening ties between the Taliban and China. <u>Read more</u>.

China's Economic and Demographic Challenges: An article from The Telegraph discusses the peak and decline of China's economy and demographics, and its implications for global power dynamics. <u>Read more</u>.

Cloud AI Services and Darley's Strategy: John Boucard discusses Tesla's construction of a bunker-like structure for its Dojo supercomputer, which may eventually offer cloud AI services to other companies. <u>Read more</u>.

Driver Assist Technology for Fire Apparatus: Bharath Kumar shares insights on driver assist technology, emphasizing its importance for fire apparatus and other vehicles in enhancing road safety and efficient transportation. <u>Read more</u>.

Archer's International Launch in UAE: Archer announces its partnership with Abu Dhabi Investment Office for the launch of its electric air taxi services in the UAE by 2026, along with plans for a new international HQ and manufacturing in the region. <u>Learn more</u>. AI Bots Assisting 911 Dispatchers: AI bots are increasingly being used to help 911 dispatchers manage their workloads, improving emergency response efficiency. <u>Read more</u>.

JP Morgan Chase XR Internship for 2024: JP Morgan Chase's Global Technology Applied Research Group is seeking interns for 2024, focusing on various emerging technologies including immersive technology and spatial computing. <u>Apply here</u>.

Improved YOLOv5s Fire Detection Model: Fire Technology journal highlights an advanced YOLOv5s model for more effective fire detection. <u>Read more</u>.



Al in Smart Manufacturing: Jeff Winter discusses the critical roles of artificial intelligence in enhancing efficiency, adaptability, and innovation in digital and smart manufacturing. <u>Read</u> <u>more</u>.

Cognitive Warfare in China's Social Media Campaigns: Peter W. Singer explores the concept of "Cognitive Warfare" and its application in China's recent social media attacks, highlighting a broader strategy in information warfare. <u>Read more</u>.

Hyundai, Volkswagen & Volvo Using VR for Employee Training: Rrahul Sethi discusses how major automotive companies are utilizing virtual reality to train employees, emphasizing the effectiveness of immersive learning in the automotive industry. <u>Read more</u>.

SHARK Dialog and Fresh Press: Alain Babaud highlights the recognition of Cyrille Kabbara at the national EY prize in La Rochelle for his work on SHARK, a maritime safety project. <u>Read</u> <u>more</u>.

FBI and State Department Update on DPRK IT Workers: The FBI and State Department provide an update on the risks and due diligence measures related to hiring Democratic People's Republic of Korea IT workers. <u>Learn more</u>.

Marketing Position at Archer: Nikhil Goel from Archer is looking for a marketing expert to join their team and help promote their vision of electric air mobility. <u>Read more</u>.

Exoskeleton Tuning Strategy Research by Elliott Rouse: Elliott Rouse shares a new paper on an exoskeleton tuning strategy that optimizes user preference, a collaboration between University of Michigan Robotics and (Google) X. <u>Read more</u>.

XPENG AEROHT's Multi-Parachute Rescue System: XPENG AEROHT successfully tests a multi-parachute rescue system for ultra-low altitude flight, enhancing safety in flying car technology. <u>Read more</u>.

FCC Ruling Spurring New AR and VR Applications: Meta, Apple, and Google applaud an FCC ruling that could enable the development of new augmented and virtual reality applications. <u>Read more</u>.

Perspective on NLP and Human Mind: Yang Cai shares insights on the limitations of NLP tools like ChatGPT compared to the human mind, referencing Noam Chomsky's article on the topic. <u>Read more</u>.

Shark Robotics Facility Visit: Shark Robotics showcases its robotic technology and team, emphasizing advancements in security and unmanned ground vehicles. <u>Read more</u>. **NVIDIA's New CPU Development:** NVIDIA is developing a new CPU using Arm architecture to run Microsoft Windows, potentially challenging Intel, AMD, and Qualcomm in the market. <u>Read more</u>.

XPRIZE Wildfire Competition Announcement: The \$11M XPRIZE Wildfire competition aims to innovate firefighting technologies, with registration closing soon for space-based and autonomous response tracks. Read more.



FBI Cyber Division on Cybercriminals Targeting Plastic Surgery Offices: The FBI issues a PSA warning about cybercriminals targeting plastic surgery offices to obtain sensitive medical records for extortion. <u>Read more</u>.

Drone as First Responder (DFR) Technology by Motorola Solutions: Motorola Solutions highlights its CAPE technology, supporting Drone as First Responder operations and tactical applications with secure live streaming capabilities. <u>Read more</u>.

Iran Spy Ring Report: An investigative article discussing a spy ring in Iran, with implications on regional and international politics. <u>Read more</u>.

Iranian Spy Ring in Washington: A high-level Iranian spy ring has been uncovered operating in Washington. <u>Read more</u>.

Personnel Shortage in the U.S. Coast Guard: The U.S. Coast Guard is facing a significant personnel shortage, resulting in the decommissioning of 10 cutters and 29 stations. <u>Read</u> <u>more</u>.

Gallaudet's Technological Innovations for Football: Gallaudet University's history of technological innovation continues with the development of a new helmet designed for their football team. <u>Read more</u>.

Google's Masterplan for Healthcare: Google is making significant strides in healthcare, leveraging its vast search data and technologies like AI and Fitbit. <u>Read more</u>.

Long-Haul Carrier Emirates' Boeing Purchase: Emirates airline opens the Dubai Air Show with a massive \$52 billion aircraft purchase from Boeing. <u>Read more</u>.

Chinese Institute Lures Top U.S. and Western Scientists: A new Chinese institute is attracting leading scientists from the U.S. and other Western countries. <u>Read more</u>.

Defense tech news:

"DoD Focuses on C6ISR for Commercial Tech" details the Army's plans to transform future command and control using commercial technologies. <u>Read more</u>

"DISA Advances Command and Control Modernization" covers the completion of the Orion Cyber Operations Center-Hill, enhancing military command and control capabilities. <u>Read more</u>

Cybersecurity Advisory on PRC-Linked Cyber Actors: The FBI and partners issue an advisory about PRC-linked BlackTech cyber actors exploiting router devices, emphasizing the need for multinational corporations to implement robust security measures. <u>Read more</u>. **Japan's Military Strategy for Taiwan Crisis:** Japan prepares for a potential Taiwan crisis by extending runways and docks across 14 airports and 19 ports for citizen evacuation and troop deployment. Read more.

Augmented Reality in Aerial-Dogfighting and Pilot Training: Boeing's Innovation Quarterly reveals how augmented reality (AR) is revolutionizing aerial dogfighting and pilot training, making it more realistic. <u>Read more</u>.



U.S. Army's Contract for Heavy Lift VTOL Demo: Near Earth Autonomy and Kaman Air Vehicles announce their contract with the U.S. Army to demonstrate a heavy-lift vertical takeoff and landing (VTOL) uncrewed aerial system (UAS) for resupply missions. <u>Read more</u>. Augmented Reality Test Flight by Red 6 and Boeing: Red 6 and Boeing successfully complete the first augmented reality test flight using Red 6's ATARS and ARCADE, marking a significant advancement in military training. <u>Read more</u>.

Comtech's Contract for Next-Generation EDIM SATCOM Solutions: Mike Dean discusses Comtech Telecommunications Corp.'s contract with the U.S. Army to provide nextgeneration EDIM SATCOM solutions, a step forward in digital modernization. <u>Read more</u>.

Army's New Headset Version and Wishlist: Defense One reports on the latest version of the Army's new headset, which has cleared a major hurdle, though the service's wishlist for the technology remains extensive. <u>Read more</u>.

Advantage DoD 2024: Defense Data & Al Symposium: The DoD Chief Digital and Artificial Intelligence Office announces registration for the Advantage DoD 2024 symposium, focusing on the future of data and Al in the Department of Defense. <u>Read more</u>.

DoD's Computer System Productivity Issues: Prescott Paulin expresses frustration with the slow performance of NIPR computers and suggests potential benefits of using more efficient systems like Chromebooks or Ubuntu desktops. <u>Read more</u>.

US Warship Shoots Down Hostile Drones: The USS Carney reportedly shot down 15 hostile drones, potentially the largest drone shoot-down by a US warship, using RIM-66 missiles. Read more.

Advantage DoD 2024: Defense Data & Al Symposium Announcement: The DoD Chief Digital and Artificial Intelligence Office announces the Advantage DoD 2024 symposium, focusing on the future of defense data and Al. Read more.

British Army War Fighting Experiment Urban Integrate: The British Army invites industry partners to collaborate on the development and testing of new technologies, focusing on AI, machine learning, cloud computing, and quantum communications and sensors. <u>Read</u> <u>more</u>.

Army Report Card on Modernization Efforts: The National Defense magazine produced an "Army report card," grading the Army's 24 modernization efforts. <u>Read more</u>.

U.S. Army Special Operations Command CTO Job Opening: The U.S. Army Special Operations Command is seeking a Chief Technology Officer specializing in cloud and big data. <u>Read more</u>.

Shield AI's Funding for Autonomous Flying Systems: Shield AI raises \$200 million to scale its autonomous flying systems for the U.S. military and its allies. <u>Read more</u>.



Archer's Midnight Electric Air Taxi Test Flight: Archer completes the inaugural test flight of its Midnight electric air taxi, with plans to deliver the first aircraft to the U.S. Air Force. <u>Read</u> <u>more</u>.

2023 DOD Cyber Strategy Summary: The 2023 DOD Cyber Strategy outlines the Department of Defense's approach to cybersecurity, informed by recent significant cyberspace operations. <u>Read more</u>.

Qwake and CTHRU's Collaboration with DHS: Qwake Technologies collaborates with the Department of Homeland Security to enhance firefighting capabilities. <u>Read more</u>. **FEMA's Dedicated Funding for Code-Related BRIC Grants:** FEMA allocates \$137 million for code-related Building Resilient Infrastructure and Communities (BRIC) grants. <u>Read more</u>.

US Space Force Bans Generative AI: The US Space Force has imposed a 30-day unilateral ban on all uses of Generative AI, including for public distribution, marking an unprecedented action against a technology. Read more.

DARPA's Quantum Computing Breakthrough: DARPA-funded researchers have created the first-ever quantum circuit with logical qubits, potentially accelerating fault-tolerant quantum computing. Read more.

Microelectronics Commons Program: The DoD's Microelectronics Commons program calls for projects in areas like Secure Edge/Internet of Things, 5G/6G Technology, and Artificial Intelligence Hardware. Read more.

Pentagon's Electromagnetic Visualization Tool: The Pentagon unveils the first iteration of a joint electromagnetic visualization tool. <u>Read more</u>.

China-Russia Military Alliance: The growing military cooperation between China and Russia, including naval and airforce exercises, poses new challenges to US interests. Read more.

US Army Cyber Command on Information Role in Multi-Domain Operations: The US Army publishes its first doctrinal publication on the role of information in multi-domain operations. Read more.

BRICS Copper Trade in Chinese Yuan: BRICS countries plan a \$2 billion copper trade to be conducted in Chinese Yuan instead of the US Dollar. <u>Read more</u>.

FBI Warns of Russian Cyber Actors Targeting Energy Facilities: The FBI and partners issue an advisory on Russian cyber actors targeting US Department of Energy facilities. Read more.

Biden Administration's First CHIPS Act Grant to Military Supplier: The Biden Administration awards a \$46.2 million CHIPS Act grant to military supplier GreenSource Fabrication LLC. Read more.

Swedish Company Acquires Silicon Valley-Based CrowdAI: Saab's acquisition of CrowdAI could influence data analysis in fields like wildfire detection using MQ-9 drone data. <u>Read</u> <u>more</u>.

Secret Military Drone Project by Ex-Google CEO: A clandestine military drone project led by former Google CEO Eric Schmidt is in development. <u>Read more</u>.