

WELCOME TO AUTO-ISAC!

MONTHLY VIRTUAL COMMUNITY CALL

NOTE: A **New Community Call invite** for Feb 2024- Jan 2025 has been sent. Please advise if you haven't received it.

February 07, 2024 This Session will be recorded.





TRAFFIC LIGHT PROTOCOL (TLP)

VERSION 2.0 DEFINITIONS

Color		WHEN SHOULD IT BE USED?	How May IT BE SHARED?	
	Not for disclosure, restricted to participants only.	Sources may use TLP:RED when information cannot be effectively acted upon without significant risk for the privacy, reputation, or operations of the organizations involved. For the eyes and ears of individual recipients only, no further.	Recipients may not share TLP:RED information with any parties outside of the specific exchange, meeting, or conversation in which it was originally disclosed. In the context of a meeting, for example, TLP:RED information is limited to those present at the meeting. In most circumstances, TLP:RED should be exchanged verbally or in person.	
TLP:AMBER+STRICT	Limited disclosure, restricted to participants' and its organization.	Sources may use TLP:AMBER+STRICT when information requires support to be effectively acted upon, yet carries risk to privacy, reputation, or operations if shared outside of the organization.	Recipients may share TLP:AMBER+STRICT information only with members of their own organization on a need-to-know basis to protect their organization and prevent further harm.	
TLP:AMBER	Limited disclosure, restricted to participants' organization and its clients on a need-to- know basis.	Sources may use TLP:AMBER when information requires support to be effectively acted upon, yet carries risk to privacy, reputation, or operations if shared outside of the organizations involved. Note that TLP:AMBER+STRICT should be used to restrict sharing to the recipient organization only.	Recipients may share TLP:AMBER information with members of their own organization and its clients on a need-to-know basis to protect their organization and its clients and prevent further harm.	
TLP:GREEN	Limited disclosure, restricted to the community.	Sources may use TLP:GREEN when information is useful to increase awareness within their wider community.	Recipients may share TLP:GREEN information with peers and partner organizations within their community, but not via publicly accessible channels. Unless otherwise specified, TLP:GREEN information may not be shared outside of the cybersecurity or cyber defense community.	
	Disclosure is not limited.	Sources may use TLP:CLEAR when information carries minimal or no foreseeable risk of misuse, in accordance with applicable rules and procedures for public release.	Recipients may share this information without restriction. Information is subject to standard copyright rules.	
Source: https://www.us-cert.gov/tlp				





Agenda

Тіте (ет)	Торіс	
11:00	 Welcome ➢ Why We're Here ➢ Expectations for This Community 	
11:05	 Auto-ISAC Update ➢ Auto-ISAC Activities ➢ Heard Around the Community ➢ Intelligence Highlights 	
11:15	DHS CISA Community Update > Jeff Terra, Joint Cyber Defense Collaborative (JCDC)	
11:20	Featured Speaker: > Shira Sarid-Hausirer , Upstream Security > Title: "2024 Global Automotive Cybersecurity Report: Key Findings & Insights"	
11:55	Q&A & Closing Remarks	





WELCOME - AUTO-ISAC COMMUNITY CALL!

Purpose: These monthly Auto-ISAC Community Meetings are an opportunity for you, our Members & connected vehicle ecosystem Partners, to:

- ✓ Stay informed of Auto-ISAC activities
- ✓ Share information on key vehicle cybersecurity topics
- Learn about exciting initiatives within the automotive community from our featured speakers

Participants: Auto-ISAC Members, Potential Members, Strategic Partners, Academia, Industry Stakeholders and Government – *the whole of the automotive industry*

<u>Classification Level:</u>. Slides are at <u>TLP:CLEAR</u> and on our <u>website</u>. Discussions are <u>TLP:GREEN</u> & may be shared across Auto-ISAC Community, "off the record"

How to Connect: For further info, questions or to add other POCs to the invite, please contact us!

(sharmilakhadka@automotiveisac.com)







ENGAGING IN THE AUTO-ISAC COMMUNITY

* <u>Join</u>

- ✤ If your organization is eligible, apply for Auto-ISAC Membership
- ✤ If you aren't eligible for Membership, connect with us as a Partner
- Get engaged "Cybersecurity is everyone's responsibility!"

* Participate

- Participate in monthly virtual conference calls (1st Wednesday of month)
- ✤ If you have a topic of interest, let us know!
- Security is a Team Sport!"



Innovator

Partners

48 Supplier & Commercial Vehicle Members

Share – "If you see something, say something!"

- Submit threat intelligence or other relevant information
- Send us information on potential vulnerabilities
- Contribute incident reports and lessons learned
- Provide best practices around mitigation techniques

Membership represents 99% of cars and trucks on the road in North America Coordination with 26 critical infrastructure ISACs through the National Council of ISACs (NCI)



OEM Members



2024 BOARD OF DIRECTORS

Thank you for your Leadership!



Kevin Tierney Chair of the Board of the Directors GM



Andrew Hillery Chair of the CAG Cummins



Josh Davis Vice Chair of the Board of the Directors Toyota



Amine Taleb Chair of the SAG Harman



Stephen Roberts Secretary of the Board of the Directors Honda



Maryann Combs Polaris



Tim Geiger Treasurer of the Board of the Directors Ford



Bob Kaster Bosch



Oliver Creighton Chair of the EuSC BMW



Brian Witten Aptiv





AUTO-ISAC MEMBER ROSTER

AS OF FEBRUARY 1, 2024

76 MEMBERS + 3 PENDING

Aisin	Faurecia	Magna	Stellantis
Allison Transmission	Ferrari	MARELLI	Stoneridge
Amazon	Flex	Mazda	Subaru
American Axle & Manufacturing	Ford	Mercedes-Benz	Sumitomo Electric
Aptiv	General Motors (Cruise-Affiliate)	Mitsubishi Electric	thyssenkrupp
AT&T	Geotab	Mitsubishi Motors	Tokai Rika
AVL List GmbH	Harman	Mobis	Toyota (Woven-Affiliate)
Blackberry Limited	Hitachi (Astemo- Affiliate)	Motional	Valeo
BMW Group	Honda	Navistar	Veoneer
BorgWarner	Hyundai	Nexteer Automotive Corp	Vitesco
Bosch (ETAS-Affiliate)	Infineon	Nissan	Volkswagen (Cariad-Affiliate)
Bose Automotive	Intel	NXP	Volvo Cars
ChargePoint	JTEKT	Oshkosh Corp	Volvo Group
CNH Industrial	Kia America, Inc.	PACCAR	Waymo
Continental	Knorr Bremse	Panasonic (Ficosa-Affiliate)	Yamaha Motors
Cummins (Meritor-Affiliate)	КТМ	Phinia	ZF
Daimler Truck	Lear	Polaris	
Denso	LG Electronics	Qualcomm	
Deere & Company	Lucid Motors	Renesas Electronics	
e:fs TechHub GmbH	Luminar	Rivian	



Pending: Dana Inc, Jaguar Land Rover, Renault SAS



AUTO-ISAC BUSINESS UPDATES AND EVENTS

- Community Call: Wednesday, March 6th Time: 11:00am 12:00 p.m. Speaker: Jay Schwartz, SAE G-32: S.A.E. Cyber-Physical Systems Committee. Title: "The SAE Electric Vehicle Charging Station Illustrative Example: How to apply JA7496 standard to Electric Charging Scenarios"
- Auto-ISAC 2nd European Summit BMW Welt in Munich, Germany: June 12th June 13th. The Titanium sponsor of the 2024 event will be BMW. Stay tuned for more details on our website.
- > Auto-ISAC is Hiring!
- > ACT Fundamental Course Block: Online, On-Demand, Anytime, Anywhere, and by Anyone \$500/block
 - 3 Blocks: Cybersecurity Basics (32 hrs.) | Security Engineering (28 hrs.) | Security Operations/Management (22.5 hrs.)
 - 10% Discount for organizations signing up 30 or more students!
 - More information on <u>website</u>
- > ACT Advanced Courses: ACT Now!
 - □ Cost per ADV Course: ***\$2000 (Member Pricing), (\$2250 Non-Member Pricing) with discount code.
 - Advanced Engineering: January 22 26, 2024 FULL
 - Wireless: February 5 9, 2024 FULL
 - EV and EV Infrastructure: March 4 8, 2024 OPEN
 - Guided Attacks: April 29 May 4, 2024 OPEN
 - CAPEX to follow | Become CASE Certified!!







AUTO-ISAC INTELLIGENCE HIGHLIGHT RICKY BROOKS, INTELLIGENCE OFFICER





AUTO-ISAC INTELLIGENCE

- Know what we track daily: <u>subscribe</u> to the DRIVEN; Auto-ISAC 2024 Threat Assessment for Members is complete; <u>TLP:GREEN</u> version pending.
 - Send feedback, intelligence, or questions to <u>analyst@automotiveisac.com</u>
- > Intelligence Notes
 - Geopolitical tensions involving Russia, China, North Korea, and Iran remain high with Russia-Ukraine and Israel-Hamas in crises (<u>Russia-Ukraine</u> ¹², <u>Israel-Hamas</u> ³, <u>Iran</u> ⁴, <u>China</u> ⁵⁶, <u>North Korea</u> ⁷).
 - Ransomware ⁸ ⁹ Groups Targeting Automotive: <u>8Base</u>, <u>Akira</u>, <u>Black Basta</u>, <u>Cactus</u>, <u>LockBit 3.0</u>.
 - Notable TTPs: Abusing GitHub for malicious infrastructure (Recorded Future); Leveraging Microsoft SQL servers for initial access (Securonix); Infiltrating Réseaux IP Européens Network Coordination Centre (RIPE NCC) accounts (BleepingComputer); Exploiting vulnerabilities in: Ivanti Connect Secure and Privacy Secure (Volexity)*, SonicWall Next Generation Firewalls (BishopFox), Unified Extensible Firmware Interfaces (arsTechnica), VMware (BleepingComputer), Google Chrome and the open-source Perl library (Bleeping Computer), Unitronics VisiLogic (CISA); ColdFusion (CISA); Microsoft Outlook and Azure HDInsight (Microsoft, Darkreading), Barracuda Email Security Gateway appliances; (BleepingComputer), and JetBrains TeamCity (CISA); Botnet exploitation of Network Video Recorder vulnerability (BleepingComputer); various detection evasion techniques (Microsoft); leveraging affordable devices for digital odometer fraud (KSLTV)*. Notable Tools: EV Open Vehicle Monitoring System (Hackaday)*, Rhadamanthys Stealer (Check Point), Medusa Stealer (Resecurity), SpectralBlur (Securityweek), Androxgh0st (CISA), SnappyTCP (Hunt&Hackett), Android/Xamalicious (McAfee), PikaBot (Flashpoint), and various other malware (Unit 42).





AUTO-ISAC COMMUNITY MEETING

Why Do We Feature Speakers?

- * These calls are an opportunity for information exchange & learning
- ✤ Goal is to educate & provide awareness around cybersecurity for the connected vehicle

What Does it Mean to Be Featured?

- Perspectives across our ecosystem are shared from Members, government, academia, researchers, industry, associations and others.
- Showcase a rich & balanced variety of topics and viewpoints
- Featured speakers are not endorsed by Auto-ISAC nor do the speakers speak on behalf of Auto-ISAC

How Can I Be Featured?

If you have a topic of interest you would like to share with the broader Auto-ISAC Community, then we encourage you to contact us!

7 Best Practice Guides available on website

2000+ *Community Participants*





Featured

Speakers to date







FEATURED SPEAKER





MEET THE SPEAKER



Shira Sarid-Hausirer leads Upstream's marketing team, bringing more than 15 years of experience in strategic marketing for deep tech companies.

Prior to joining Upstream, Shira jumpstarted and led all marketing activities for Varada, a cloud data lake analytics platform (acquired by Starburst Data). Shira also led product marketing activities for private cloud infrastructure startup Stratoscale and managed marketing teams in various startups in the fields of cyber and ecommerce. Shira started her career as an investment banker for Tech & Media corporations for Bank of America.

Shira holds an MBA with honors from Georgetown University, and an BSc in Computer Science and LLb in Law from Haifa University in Israel.

Shira Sarid-Hausirer, VP Marketing Upstream Security







The 2024 Automotive Cyber Inflection Point: **From Experimental Hacking to Massive-Scale Attacks**

Shira Sarid-Hausirer | VP Marketing



WEBINAR AGENDA

● R-06-6

₱-95-1

+

2023 report recap

- 2024 report: the fundamental trends
- The automotive cyber inflection point: scale & impact
- The threat actors landscape
- The financial impact
- The power of GenAl
- Our predictions for 2024

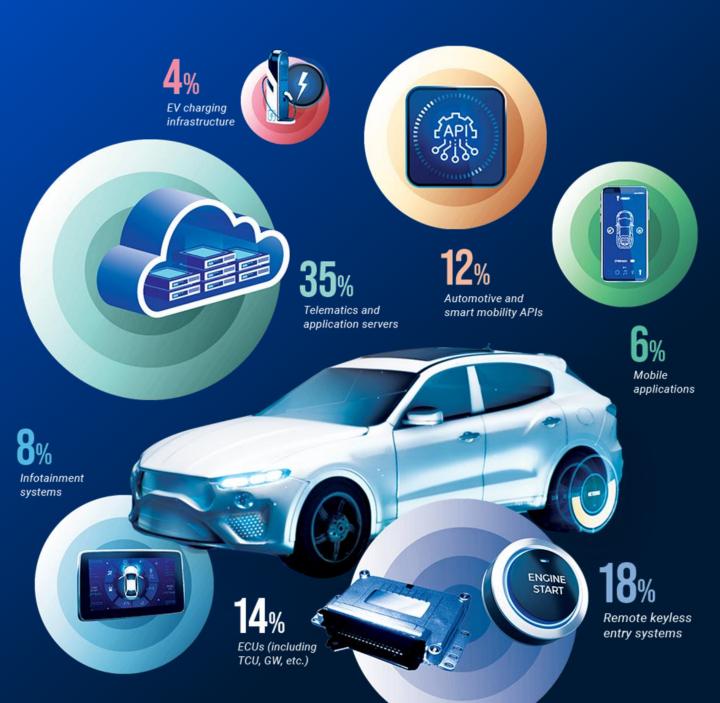
Supporting the Automotive Cybersecurity Community

Delivering automotive & smart mobility cybersecurity insights since 2019





Upstream's 2023 Report: **The Automotive Industry Expands into the Smart Mobility Ecosystem**



Source: Upstream Security

THE AUTOMOTIVE INFLECTION POINT Cyber risks at scale

Automotive cyber inflection point

Threat actor landscape

Financial impact

Power of GenAl

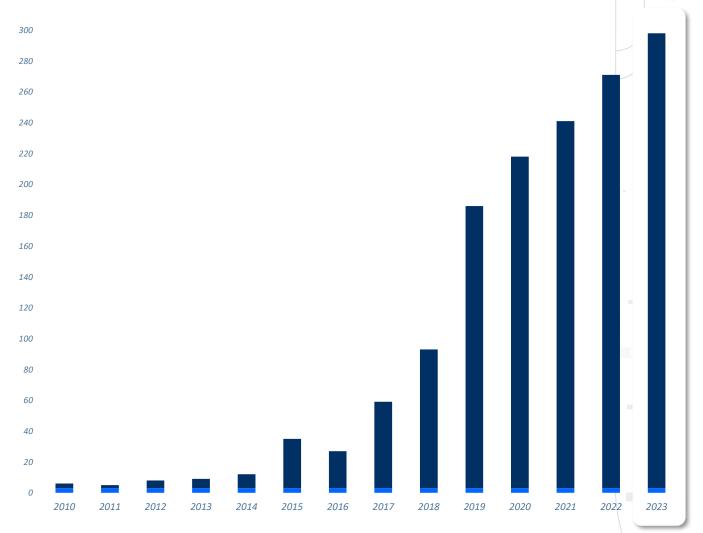
2024 Predictions

The state of Automotive cybersecurity of Automotive Cybersecurity

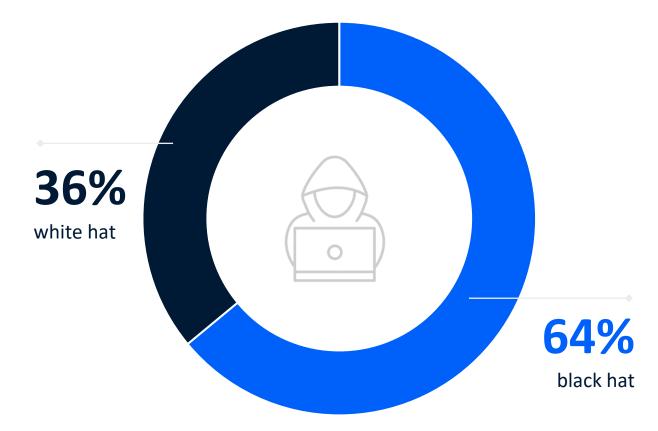
Automotive & Smart Mobility incidents continue to grow

 2010-2023 incidents
 2023 incidents

 1,468
 295



The state of Automotive cybersecurity



Vast majority of incidents are remote..

95%	
remote	



... and long-range

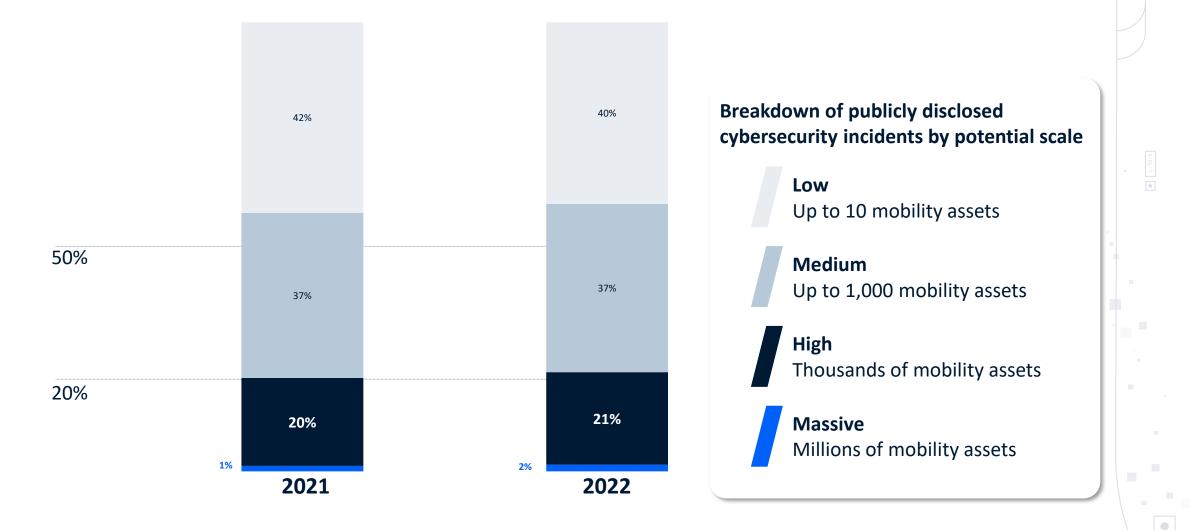
85%

long-range (up from 70%)

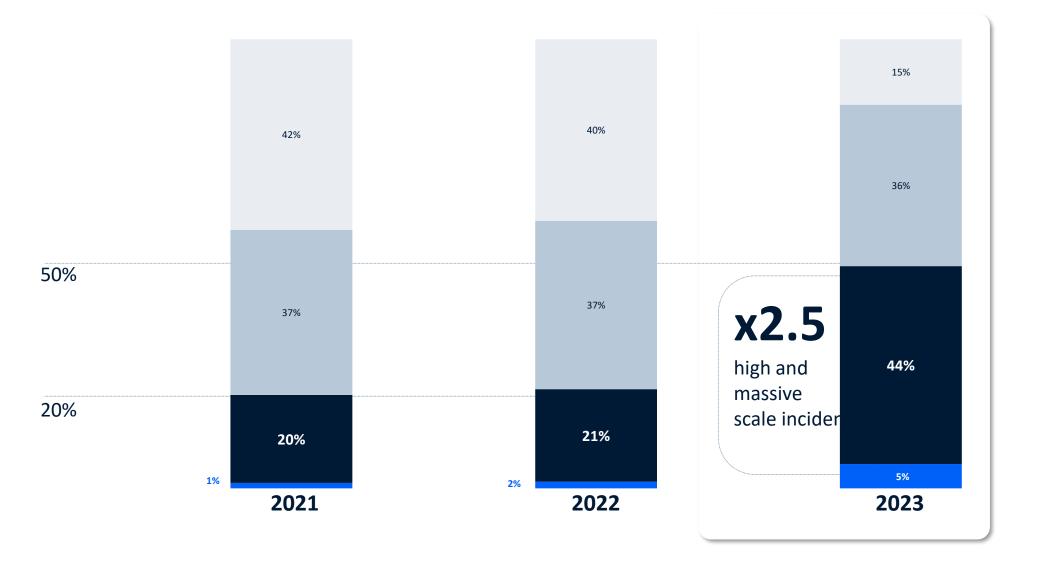
15% short-range



The Inflection Point: shifting to large-scale attacks



The Inflection Point: shifting to large-scale attacks



Low Up to 10 mobility assets Medium Up to 1,000 mobility assets High Thousands of mobility assets Massive Millions of mobility assets

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The scale is evident in many recent attacks

r/Truckers • 24 days ago by KappaFishxD Anyone else effected by the outage?

I've been running with paper logs due to the outage, which they say the end is nowhere in sight. Problem is my safety manager is a complete tool and he wants me to send him a picture so he can "compare it to the gps movements." Really nothing better to do? Oh well. Hope you all enjoy your paper logs

675 Q:

HowlingWolven • 23 days ago

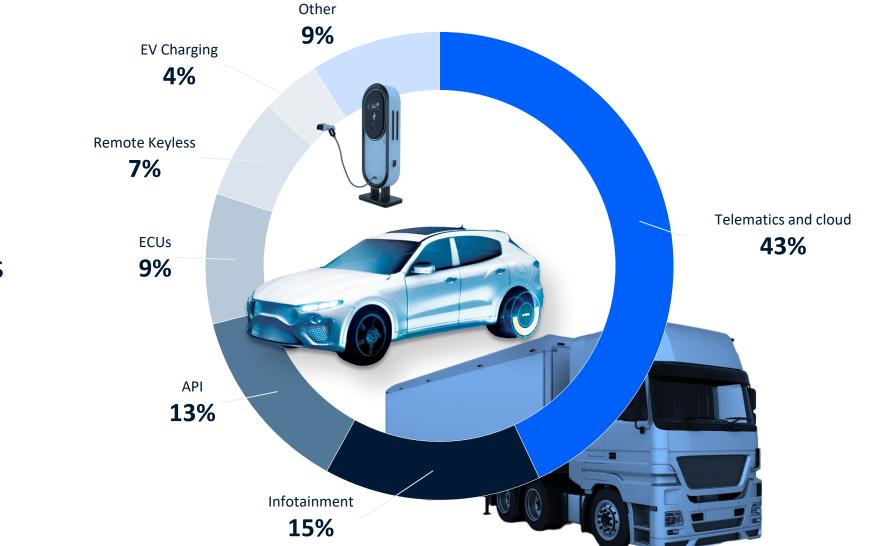
Yeah, been on motive in paper mode since Wednesday. Apparently their data provider got ransomwared?

Join

The fluffing dumb bit is that if my tablet had a USB port I could stuff a flash drive into, it'd be a compliant standalone elog and I wouldn't need to manually transcribe my log into my phone, because the box in the dash works just fine, but it can't send the logs to the nothership.

BLEEPINGCOMPUTER Home > News > Security > ORBCOMM ransomware attack causes trucking fleet management outage ransomware attack causes trucking fleet management outage **By Lawrence Abrams** September 15, 2023 171 09:33 AM The Record. Jonathan Greig Major trucking software provider confirms mber 15th, 2023 ransomware incident One of the biggest providers of software for the trucking industry acknowledged a ransomware attack on Friday after reports emerged of issues that customers had with its products An executive of the company, New Jersey-based , confirmed the attack to Recorded Future News but would not say which ransomware group was behind the incident or whether a ransom would be paid

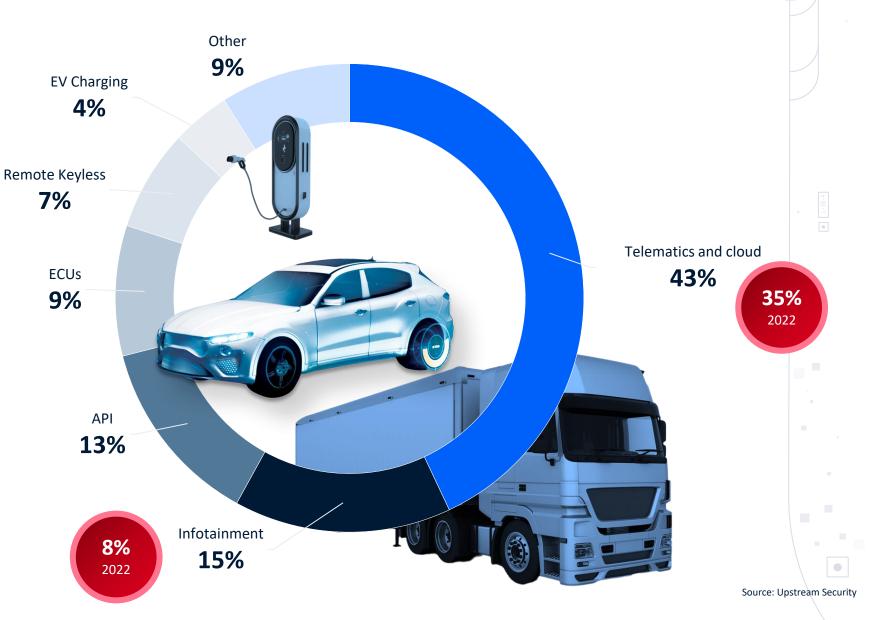
Scale is also reflected in the evolving attack vectors



2023 attack vectors

Scale is also reflected in the evolving attack vectors

2023 attack vectors



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Recap: publicly reported incidents prove a shift to scale & impact



64% of 2023 incidents were performed by black hats

and **85%** were long-range

50% of 2023 incidents had the potential to impact thousands – millions of mobility assets

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DIVING INTO THE DEEP AND DARK WEB The threat actor landscape Automotive cyber inflection point

Threat actor landscape

Financial impact

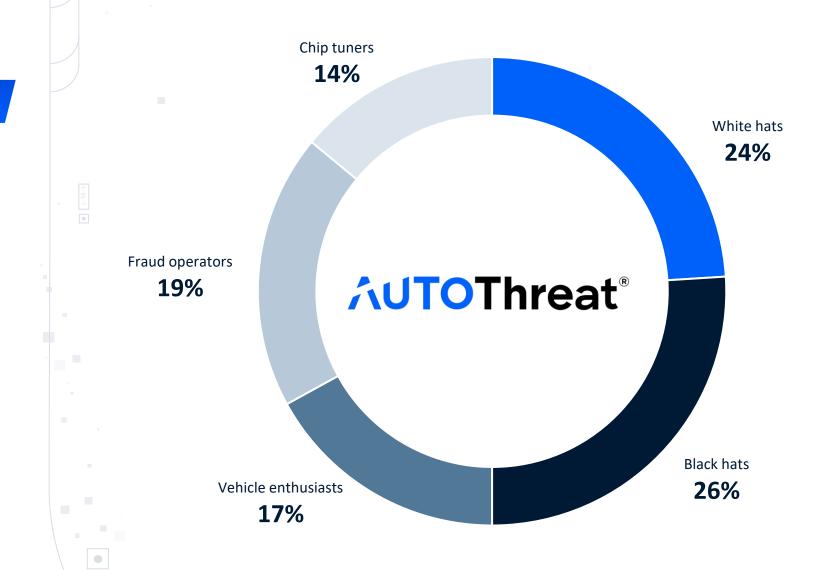
Power of GenAl

2024 Predictions

Threat actors motivation

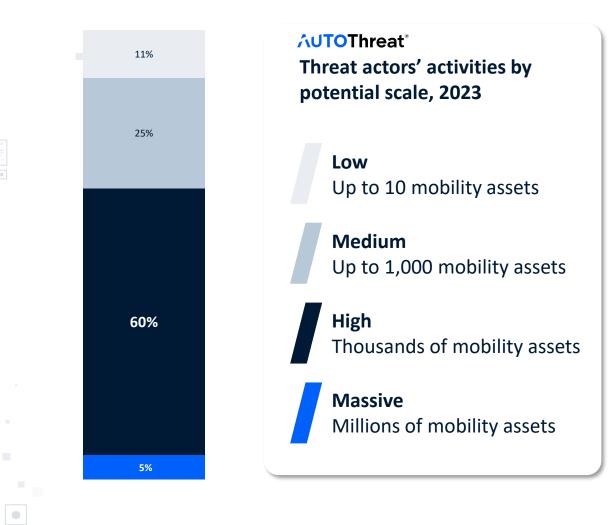
DEEP & DARK WEB ACTIVITIES

300 threat actors, 2023



Threat actors' motivation has also shifted towards scale...





... and impact

DEEP & DARK WEB ACTIVITIES

300 threat actors, 2023



AUTOThreat[®] Breakdown of deep and dark web threat actor targets, 2023

Single OEM / stakeholder

Several OEMs / stakeholders

Global

Source: Upstream Security

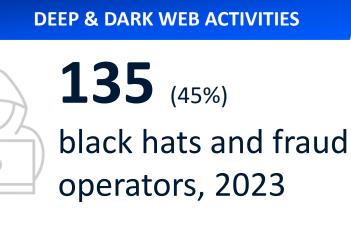
Black hats and fraud operators shift towards "massive" impact

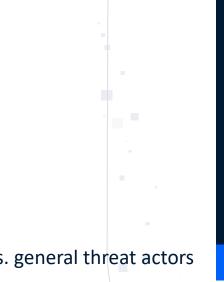
9%

24%

59%

8%





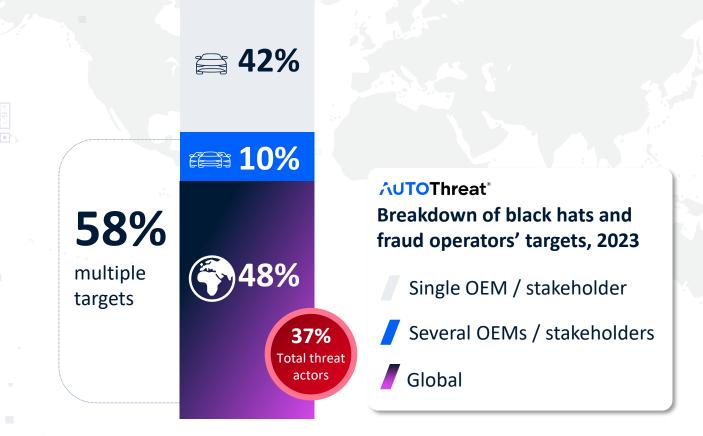




Black hats and fraud operates focus on global impact

DEEP & DARK WEB ACTIVITIES

135 (45%) black hats and fraud operators, 2023



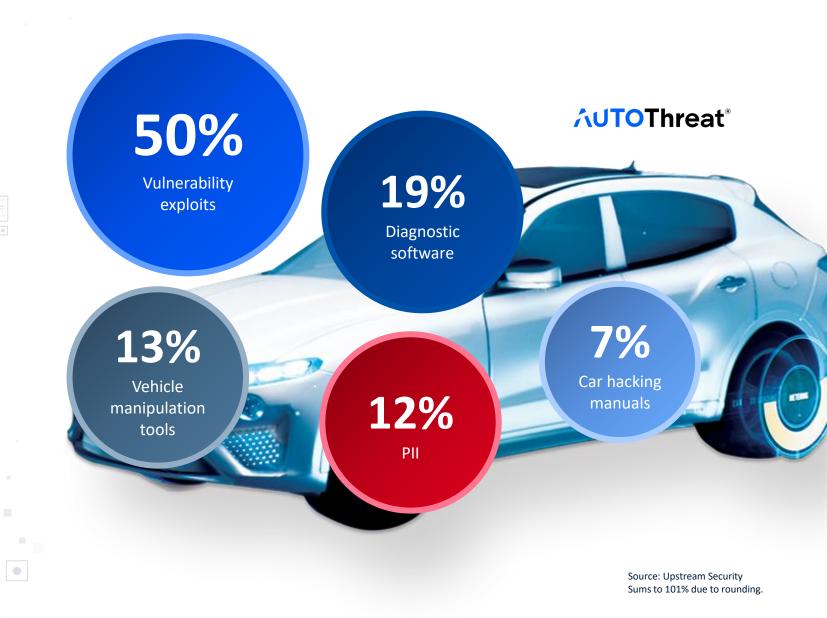
Source: Upstream Security

Black hats and fraud operators and focus on high-impact activities

DEEP & DARK WEB ACTIVITIES

 \mathbf{O}

135 (45%) black hats and fraud operators, 2023



THE FINANCIAL PERSPECTIVE Analyzing the financial

Analyzing the financial impact of cyber attacks

Automotive cyber inflection point

Threat actor landscape

Financial impact

Power of GenAl

2024 Predictions

Financial implications of Automotive cyber attacks

ONE OF THE BIGGEST RANSOM DEMANDS IN HISTORY

June 2023, Taiwan-based tier-2 hit by a

ransomware attack, threatening to expose confidential information.

Upstream Cyber Financial Framework



Vehicle safety, operations and recalls

Data and privacy breaches



Vehicle theft and break-ins



Service and business disruption



Legal and regulatory compliance



Fraud



Brand and reputation

Financial impact of an EV fleet-wide vulnerability



French security researchers demonstrated a hack of EV OEM gateway energy management system. Claimed to potentially access full vehicle controls.

Lorenzo Franceschi-Bicchierai @lorenzofb / 4:05 PM GMT+3 • March 28, 2023			
said we wouldn't be able to turn the steering wheel,			
accelerate or brake. But from our understanding of the car			
architecture we are not sure that this is correct, but we don't			
have proof of it," he said, because they don't have full access			

to a at the moment.

 Severity
 H

 Threat actor
 M

 type
 H

 Potential
 H

 impact
 H

 Fleet size
 H

High

White hat

Fleet-wide

e 3+ million vehicles

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Financial impact of an EV fleet-wide vulnerability



Vehicle safety, operations and recalls

OTA UPDATE

\$0.39 for line-of-code update, assuming 5 large ECUs @500MB; 10 small ECUs @0.42MB (*Aurora Labs*).



Vehicle safety, operations and recalls

BATTERY RECALL

\$15,000 per battery, assuming 0.01%-0.05% impacted vehicles.

\$5,250,000 -\$26,250,000

Legal and regulatory compliance

CLASS ACTION

\$600 per plaintiff, assuming 0.5%-1% of vehicles owners participating; plus \$500,000 legal fees.

^{Upstream} \$11,000,000 -\$21,500,000

Total potential financial impact

\$17.5 - \$49.75 million

Financial impact of an EV charging data breach



Security researcher discovered an online database with ~1TB of logs of thousands of EV charging points, including VINs, location, customer PII, and more.

> Zack Whittaker @zackwhittaker / 10:30 AM GMT+3 • June 9, 2023 The data, seen by TechCrunch, contained names, email addresses, and phone numbers of fleet customers who use the EV charging network. The database included the names of fleet operators, which identified organizations - such as police departments - with vehicles that recharge on the network. Some of the data included vehicle identification numbers, or VINs.

Severity High Threat actor Black hat type 1TB of data **Breach size Network size**

X00,000 public charging stations; 30+ countries

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Financial impact of an EV charging data breach



Data and privacy breach

DATA BREACH

\$36 million average cost for a data breach at this magnitude (*IBM*).

^{Upstream} \$30,000,000 \$40,000,000



Legal and regulatory compliance

GDPR FINES

€864,776 average fine in the transportation sector; **€1,346,050** average fine for insufficient measures.

^{upstream} \$1,000,000 -\$2,000,000

Total potential financial impact

\$31 - \$42 million

THE POWER OF GENERATIVE AI

Introducing unprecedented capabilities to threat actors and vSOC teams

Automotive cyber inflection point

Threat actor landscape

Financial impact

Power of GenAl

2024 Predictions

GenAI: the intruder's perspective

The use of generative AI for nefarious purposes has become an increasingly popular topic on the dark web after the launch of ChatGPT

BAIN & COMPANY



Utilize LLM models to identify vulnerabilities

:**!**!

Simulate and standardize exploit tactics, methods and processes



APIs are a prime target for GenAI attacks due to public documentation, enabling to map endpoints, vulnerabilities, and lower attack barriers

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The vSOC 3.0: powered by Gen Al

GenAl has the potential to transform the vSOC



Agile investigations, to automating vSOC workflows



Generate complex insights based on deep and dark web data and in-depth vulnerability & threat management



Quickly analyze massive amounts of connected vehicle and mobility data across multiple sources, detect patterns, filter incident alerts, and automate investigations

Automotive cyber inflection point

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2024 Predictions

LOOKING INTO 2024 Upstream's predictions

Digital transformation will continue to introduce large-scale attacks Expand vSOC coverage to monitor API threats

Generative AI emerges as a double-edged sword

vSOC teams are expected to incorporate AI-based tools to support agile ops and combat emerging threat vectors Regulatory fatigue, landscape is becoming overwhelmingly complex Global regulations vary according to country, region, global initiatives; often creating overlap and conflicts; upcoming second milestone of R155 and expected expansions, regulations in China

Rapid EV adoption expands cyber risks and drives regulations

Expand cyber posture to cover IoT protocols, standards and regulations; driving additional regulations

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Regulatory landscape is becoming overwhelmingly complex *Upcoming second milestone of R155 and expected expansions, as well as new regulations in China*

Generative AI emerges as a double-edged sword

vSOC teams are expected to incorporate AI-based tools to support agile ops and combat emerging threat vectors

Rapid EV adoption expands cyber risksand drives regulationsExpand cyber posture to cover IoTprotocols, standards and regulations;driving additional regulations

Upstream

THANK YOU!





ANY QUESTIONS ABOUT THE AUTO-ISAC OR FUTURE TOPICS FOR DISCUSSION?



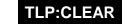
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THANK YOU







OUR CONTACT INFO





