

# WELCOME TO AUTO-ISAC! MONTHLY VIRTUAL COMMUNITY CALL

August 4, 2021



TLP:WHITE

## DHS TRAFFIC LIGHT PROTOCOL (TLP) CHART

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AUTO-ISAC Automotive Information Sharing and Analysis Center From: https://www.us-cert.gov/tlp

### Agenda

Тіте (ет)	Торіс	
11:00	<ul> <li>Welcome</li> <li>➢ Why We're Here</li> <li>➢ Expectations for This Community</li> </ul>	
11:05	<ul> <li>Auto-ISAC Update</li> <li>➢ Auto-ISAC Activities</li> <li>➢ Heard Around the Community</li> <li>➢ What's Trending</li> </ul>	
11:15	DHS CISA Community Update	
11:20	<ul> <li>Featured Speaker:</li> <li>Suzanne Lightman, Sr. Advisor Information Security, NIST</li> </ul>	
11:45	Around the Room ➤ Sharing Around the Virtual Room	
11:55	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>: TLP:GREEN -** May be shared within the Auto-ISAC Community and "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>

22

**OEM Members** 

- ✤ 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 (1<sup>st</sup> Wednesday of month)
- If you have a topic of interest, let us know!
- Engage & ask questions!

### AUTO-ISAC Automotive Information Sharing and Analysis Center

#### **21** Navigator Partners

#### **41** 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)



Innovator

**Partners** 

## **2021 BOARD OF DIRECTORS**

#### EXECUTIVE COMMITTEE (EXCOM)



Kevin Tierney Chair of the Board of the Directors GM



Josh Davis Vice Chair of the Board of the Directors Toyota



Jenny Gilger Secretary of the Board of the Directors Honda

**Michael Feiri** 

Vice Chair of the

Advisory Board

ZF



Tim Geiger Treasurer of the Board of the Directors Ford



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Todd Lawless Chair of the Advisory Board Continental



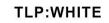
Larry Hilkene Chair of the CAG Cummins

2021 Advisory Board (AB) Leadership





Todd Lawless Chair of the Advisory Board Continental



4 August 2021

### MEMBER ROSTER AS OF AUGUST 1, 2021

#### **63 Members**

Aisin	Hyundai	NXP
Allison Transmission	Infineon	Oshkosh Corp
Aptiv	Intel	PACCAR
Argo AI, LLC	John Deere Electronic	Panasonic
AT&T	Kia	Polaris
Blackberry Limited	Knorr Bremse	Qualcomm
BMW Group	Lear	<b>Renesas Electronics</b>
BorgWarner	LGE	Stellantis
Bosch (Escrypt-Affiliate)	Luminar	Subaru
Continental (Argus-Affiliate)	Magna	Sumitomo Electric
Cummins	MARELLI	Tokai Rika
Denso	Mazda	Toyota
Faurecia	Mercedes-Benz	TuSimple
Ford	Meritor	Valeo
Garrett	Mitsubishi Motors	Veoneer
General Motors (Cruise-Affiliate)	Mitsubishi Electric	Volkswagen
Geotab	Mobis	Volvo Cars
Google	Motional	Volvo Group
Harman	Navistar	Waymo
Hitachi	Nexteer Automotive Corp	Yamaha Motors
Honda	Nissan	ZF



## **BUSINESS ADMINISTRATION**

### Members ONLY Activities: TLP:AMBER

- > Auto-ISAC Members Teaching Members: Wednesday, August 18, 2021, 10-11:30 am ET
  - Charles Wilson, Principal Engineer, Cybersecurity Development Lifecycle Practice, Motional
  - Presentation Title: "Autonomous Vehicle Cybersecurity Development Lifecycle (AVCDL)"
- Community Activities: TLP: GREEN
  - Community Call Speaker: Wednesday, September 1<sup>st</sup>, 2021, 11-12 pm ET
    - Ms. Kayle Giroud, Partnership Associate Director, GCA; Ms. Gill Thomas, Director of Engagement, Capacity & Resilience Program, GCA
    - Presentation Title: "Introduction to the Global Cyber Alliance (GCA)"
  - > Auto-ISAC Mid-year Community Call Survey: COMPLETE
- Auto-ISAC Annual Cybersecurity Summit: TLP:WHITE
  - **≻ Hybrid, October 13-14, 2021,** 8:00 am − 5:00 pm
  - GM Titanium Sponsor at RenCen, Detroit, MI
  - ➢ <u>REGISTER!!!</u>





### AUTO-ISAC CYBERSECURITY SUMMIT | OCT 13-14TH | HYBRID



Registration Open || Agenda & Themes on Website || Sponsor Prospectus on Website



# **AUTO-ISAC INTELLIGENCE**



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## **AUTO-ISAC INTELLIGENCE**

- > Know what we track daily by <u>subscribing</u> to the DRIVEN
  - Send feedback, contributions or questions to <u>analyst@automotiveisac.com</u>
- Know our strategic perception of and outlook for the cyber threat environment by reading the <u>2020 Threat Assessment</u> in the Auto-ISAC 2020 Annual Report. The 2021 Annual Report and Threat Assessment are in production
  - Email us to request the report, provide feedback, or ask questions
- > Intelligence Notes
  - Application programming interfaces (APIs) are increasingly being targeted as new vulnerabilities continue to be found (<u>BleepingComputer</u>, <u>BleepingComputer</u>, <u>Cyware</u>, <u>ZDNet</u>).
  - APIs are predicted to become "the most frequent attack vector by 2022." (Gartner).
  - Expanded use of APIs is a feature of digital transformation across industries (<u>Security</u> <u>Boulevard</u>).
  - Open-source API security best practices to consider (Outpost24, TechBeacon).



## **AUTO-ISAC INTELLIGENCE**

#### Intelligence Notes Continued...

- The market for Initial Access Brokers is expanding, creating incentives for threat actors to focus their efforts on one critical step in the attack chain – initial access (<u>ZDNet</u>, <u>Recorded</u> <u>Future</u>).
  - This division of labor could increase cyber threats facing major industries including automotive as groups of threat actors spend focused time and energy on gaining initial access to vulnerable networks (while also likely honing their skills through experience).
- Maintain awareness of penetration testing tools (e.g., Cobalt Strike) that: (1) anyone, especially threat actors, can obtain legally or illegally and (2) can be used to infiltrate, disrupt, and/or damage your products or infrastructure.
  - Notable Sources: <u>TechRepublic</u>, <u>BleepingComputer</u>, <u>BleepingComputer</u>



# **CISA RESOURCE HIGHLIGHTS**



Presenter's Name August 4, 2021

# TLP: WHITE – CISA Industrial Control Systems Joint Working Group (ICSJWG) Fall Virtual Meeting – 20-21 September 2021

- Summary for the Fall ICSJWG, an event flyer and resources from past ICSJWG meetings are available at <u>https://us-cert[.]cisa[.]gov/ics/icsjwg-meetings-and-webinars</u>
- Registration link for the event will be made available at <u>https://cisa[.]gov/icsjwg</u>
- Contact the ICSJWG team at ICSJWG.Communications@cisa[.]dhs[.]gov for more information



# TLP: WHITE – CISA Current Activity (CA) – CISA Announces Vulnerability Disclosure Policy (VDP) Platform

- Single, centrally managed website that agencies can leverage as the primary point of entry for intaking, triaging, and routing vulnerabilities disclosed by researchers
- Allows agencies to gain greater insights into potential vulnerabilities, which will improve their cybersecurity posture
- Additional details at:
  - https://us-cert[.]cisa[.]gov/ncas/current-activity/2021/07/30/cisa-announcesvulnerability-disclosure-policy-vdp-platform
  - https://www[.]cisa[.]gov/blog/2021/07/29/cisa-announces-newvulnerability-disclosure-policy-vdp-platform



# TLP: WHITE – CISA CA – Joint Cybersecurity Advisory – Top Routinely Exploited Vulnerabilities

- Cooperative effort by CISA, FBI, Australian Cybersecurity Centre (ACSC), UK National Cybersecurity Centre (NCSC).
- Details the top vulnerabilities routinely exploited by malicious actors in 2020 and those being widely exploited thus far in 2021
- Resources:
  - https://us-cert[.]cisa[.]gov/ncas/current-activity/2021/06/30/printnightmare-criticalwindows-print-spooler-vulnerability
  - https://us-cert[.]cisa[.]gov/ncas/current-activity/2021/07/06/microsoft-releases-outband-security-updates-printnightmare



# TLP: WHITE – CISA CA - NSA Releases Guidance on Securing Wireless Devices While in Public

- Valuable guidance to the general public, with focus on users in the National Security System (NSS), Department of Defense (DoD), and Defense Industrial Base (DIB) communities
- The guidance also provides information on malicious techniques used by cyber actors to target wireless devices and ways to protect against it
- See:
  - https://us-cert[.]cisa[.]gov/ncas/current-activity/2021/07/30/nsa-releasesguidance-securing-wireless-devices-while-public
  - <u>https://media.defense.gov/2021/Jul/29/2002815141/-1/-</u> <u>1/0/CSI\_SECURING\_WIRELESS\_DEVICES\_IN\_PUBLIC.PDF</u>



# TLP:WHITE – CISA CA – 2021 CWE Top 25 Most Dangerous Software Weaknesses

- Released by the Homeland Security Systems Engineering and Development Institute (HSSEDI), and operated by MITRE
- CWE uses data from the National Vulnerability Database (NVD) to compile the most frequent and critical errors that can lead to serious vulnerabilities in software
- See:
  - https://us-cert[.]cisa[.]gov/ncas/current-activity/2021/07/21/2021-cwe-top-25most-dangerous-software-weaknesses
  - https://cwe[.]mitre[.]org/top25/archive/2021/2021\_cwe\_top25.html



# **TLP: WHITE – Additional Resources From CISA**

- CISA Homepage <u>https://www[.]cisa[.]gov/</u>
- CISA News Room <u>https://www[.]cisa[.]gov/cisa/newsroom</u>
- CISA Blog <u>https://www[.]cisa.gov/blog-list</u>
- CISA Publications Library <u>https://www[.]cisa[.]gov/publications-library</u>
- CISA Cyber Resource Hub <u>https://www[.]cisa[.]gov/cyber-resource-hub</u>
- CISA Vulnerability Management (formerly known as the National Cyber Assessment and Technical Services (NCATS) program) - <u>https://www[.]us-cert[.]gov/resources/ncats/</u>
- CISA Cybersecurity Directives <u>https://cyber[.]dhs[.]gov/directives/</u>
- CISA COVID-19 Response <u>https://www[.]cisa[.]gov/coronavirus</u>





For more information: cisa.gov

Questions? CISAServiceDesk@cisa.dhs.gov 1-888-282-0870



## **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.
- Goal is to 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* 





**30** *Featured Speakers to date* 



# **FEATURED SPEAKER**



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#### SUZANNE LIGHTMAN, NIST SENIOR ADVISOR- INFORMATION SECURITY



**Suzanne Lightman** is a Senior Advisor at the Computer Security Division of the Information Technology Lab at the National Institute of Standards and Technology (NIST). In that position, she serves as the main point for cybersecurity and transportation systems as well as of industrial systems.

She has been involved in a diverse topics including development of the Cybersecurity Framework required under Executive Order 13636, cybersecurity in cyber-physical systems, identity management, IoT cybersecurity and cybersecurity & privacy policy. Her standards work includes automotive cybersecurity engineering (SAE/ISO 21434) & industrial cybersecurity (IEC 62443).

Ms. Lightman has two decades of experience in cybersecurity policy and implementation in positions all over the government, as well as in the private sector. She has held positions in both the legislative and executive branches which gives her a unique perspective on the development and implementation of government policy. In addition, she has worked on ethical hacking teams as well as led in-depth audits and reviews of cybersecurity.



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Suzanne Lightman

NIST

# TOPICS

- Brief overview of cybersecurity standards work
- Automotive specific work
  - Joint SAE/ISO
  - SAE
  - ISO TC22
  - IEEE
  - UNECE
- Work that may be impactful
  - ISO
  - U.S. Government
- Getting involved



# SHORT INTRODUCTION TO NIST

- Working with industry and science to advance innovation and improve quality of life.
- A few of our topics:



Artificial Intelligence



Quantum Science Manufacturing

Cybersecurity

**•** 



# STANDARDS OVERVIEW

- Standards are
  - What should exist
  - Based on consensus
  - Technology neutral
  - Written for experts
- Standards are not
  - How to do something
  - Dependent on specific technological solutions
  - Biased to a particular viewpoint within an industry (i.e., s specific approach by one company)
  - Mandatory



# MAJOR STANDARD DEVELOPMENT ORGANIZATIONS

- Specifically focused on automotive cybersecurity
  - SAE/ISO JWG
  - SAE
  - ISO TC 22
  - IEEE/Uptane
  - UNECE WP.29
- Working on automotive cybersecurity adjacent topics
  - ISO JTC-1
  - ISA 99/IEC 65
- Other interesting groups
  - IIC
  - NMFTA



# AUTOMOTIVE SPECIFIC WORK - JWG

### ISO/SAE JWG

- **21434** 
  - Passed voting on final draft international standard
  - Should be issued by the fall
  - Do you really need a primer on this one?
- Future work
  - Cybersecurity assurance levels/target attack feasibility (CAL and TAF)
  - Risk assessment scales
  - Standards harmonization



# AUTOMOTIVE WORK - SAE

- TeeVee 18A cybersecurity
  - SAE side of the JWG
  - Verification and validation under 21434
    - Methodologies
  - Maturity model for automotive cybersecurity
    - Possible path for a certification program
  - Data connector
    - Close to issuing a standard



# AUTOMOTIVE WORK - ISO TC22

- TC22/SC32
  - WG11 Cybersecurity
    - ISO side of the JWG
    - Harmonization
    - Verification and validation
    - CAL/TAF
    - Audit
  - WG12 Updates
    - Passed CD stage
    - DIS due for ballot in the fall
  - WG13 Safety for driving automation systems
    - Working on developing a specification for assessing safety
      - Has cybersecurity as part of that



# AUTOMOTIVE WORK IN IFFE

- IEEE is now the home of Uptane
  - Open and secure software update design for automotive
  - IEEE-ISTO 1600.1.0.0
- IEEE has too many cybersecurity activities to mention
  - However, they have excellent publications which I recommend for technical information



# UNECE AUTOMOTIVE WORK

- CS/OTA Informal Working Group on Over the Air Updates
  - Issued a draft requirement under the 1998 agreement
  - Up for vote in September by the GVRA
    - If approved, may go to WP.29 in March
      - May not be deemed necessary
    - Recommended guidelines
      - Not a global technical regulation
      - May be adopted by regulatory authorities
- Some other informal working groups
  - Functional requirements for autonomous vehicles
  - Validation methods
  - ADAS



# INTERESTING WORK IN JTC-1

- JTC-1/SC-27
  - Joint committee between ISO, IEEE and IEC to coordinate work in the IT arena
  - SC27's topic is cybersecurity
  - Working groups on
    - Privacy
    - Cryptography
    - Identity management
    - Information security management systems (ISO 27000 series)
    - Security evaluation, testing and specification
    - Security controls and services
    - And on and on
  - New working group (WG13) on trustworthiness has been established



# INTERESTING WORK IN OTHER AREAS

- NMFTA
  - Non-standard but a locus of knowledge on cybersecurity focusing on the heavy-duty truck space
- ISA99 and IEC 65
  - Authoring committee for ISA/IEC 62443 standard on cybersecurity for industrial systems
  - Well-established standard for manufacturing
  - Mentioned in 21434
- G-32
  - SAE committee
  - Focusing on cyber-physical systems and cybersecurity
- IIC
  - Work on IoT and cloud



# **US GOVERNMENT WORK**

- Department of Energy
  - New version of C2M2 just released
    - Cybersecurity Capability Maturity Model
    - Aimed originally at the power industry but now in much wider use

### • NIST

- Intent to revise SP 800-82 on cybersecurity of industrial systems
- Publication of SP 800-53 rev5 imminent
- Published definition of 'critical software'
- Work on cybersecurity of positioning, navigation and timing
- DHS/CISA
  - Working on EO on Improving the Nation's Cybersecurity
  - Ransomware



# HOW TO GET INVOLVED

- SAE
  - If you are a member of SAE, you can join a committee and participate as an expert on their work
  - Global membership
  - SAE functions as the US TAG (Technical Advisory Group) to ISO TC22
- ISO
  - Participation in ISO work is through national bodies represented by TAGs
    - You would need to identify the group in your nation which functions as the TAG
    - You then ask to join the TAG for the working group you are interested in
  - IEEE
    - Membership is individual and members can participate in committees







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



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### HOW TO GET INVOLVED: MEMBERSHIP

IF YOU ARE AN OEM, SUPPLIER OR COMMERCIAL VEHICLE, **CARRIER OR FLEET, PLEASE JOIN THE AUTO-ISAC!** 

- > REAL-TIME INTELLIGENCE SHARING
- > INTELLIGENCE SUMMARIES
- > REGULAR INTELLIGENCE **MEETINGS**
- > CRISIS NOTIFICATIONS

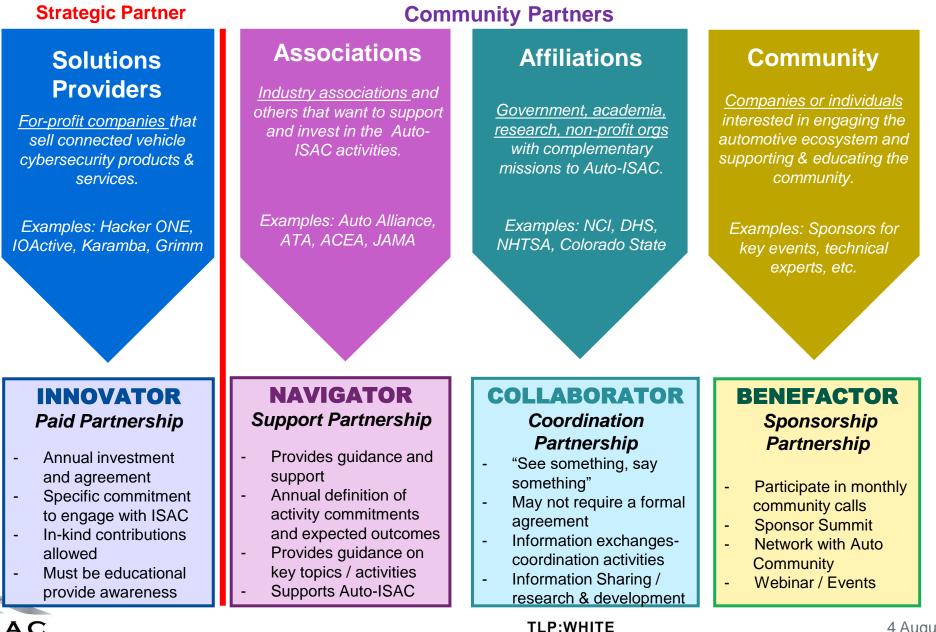
- > DEVELOPMENT OF BEST PRACTICE GUIDES
- > Exchanges and Workshops
- > TABLETOP EXERCISES
- > WEBINARS AND PRESENTATIONS
- > MEMBER CONTACT DIRECTORY > ANNUAL AUTO-ISAC SUMMIT EVENT

To learn more about Auto-ISAC Membership, please contact andreaschunn@automotiveisac.com. For Partnership, please contact sharmilakhadka@automotiveisac.com.



### **AUTO-ISAC PARTNERSHIP PROGRAMS**

AUTO-ISA



### **CURRENT PARTNERSHIPS**

MANY ORGANIZATIONS ENGAGING

#### **INNOVATOR** Strategic Partnership (15) ArmorText Celerium Cybellum Ernst and Young FEV GRIMM HackerOne Karamba Security Pen Testing Partners **Red Balloon Security Regulus** Cyber Saferide Security Scorecard **Trillium Secure** Upstream

Αυτο-Ι

Automotive Information Sharing and Analysis Cent

SA

American Trucking Associations (ATA) ASC ATIS Auto Alliance EMA **Global Automakers** IARA IIC JAMA MEMA NADA NAFA **NMFTA RVIA** SAE TIA **Transport Canada** 

NAVIGATOR

Support Partnership

AAA

ACEA

ACM

#### COLLABORATOR Coordination Partnership AUTOSAR Billington Cuborsoquity

Billington Cybersecurity Cal-CSIC Computest Cyber Truck Challenge DHS CSVI DHS HQ DOT-PIF FASTR FBI GAO ISAO Macomb Business/MADCAT Merit (training, np) MITRE National White Collar Crime Center NCFTA NDIA NHTSA NIST Northern California Regional Intelligence Center (NCRIC) NTIA - DoCommerce OASIS ODNI Ohio Turnpike & Infrastructure Commission SANS The University of Warwick TSA University of Tulsa USSC VOI PF W3C/MIT Walsch College

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# **AUTO-ISAC BENEFITS**

- Focused Intelligence Information/Briefings
   Cybersecurity intelligence sharing
   Vulnerability resolution
- Member to Member Sharing
- Distribute Information Gathering Costs across the Sector
- >Non-attribution and Anonymity of Submissions
- >Information source for the entire organization
- ➢Risk mitigation for automotive industry
- ➤Comparative advantage in risk mitigation
- ➢ Security and Resiliency





# **Building Resiliency Across the Auto Industry**



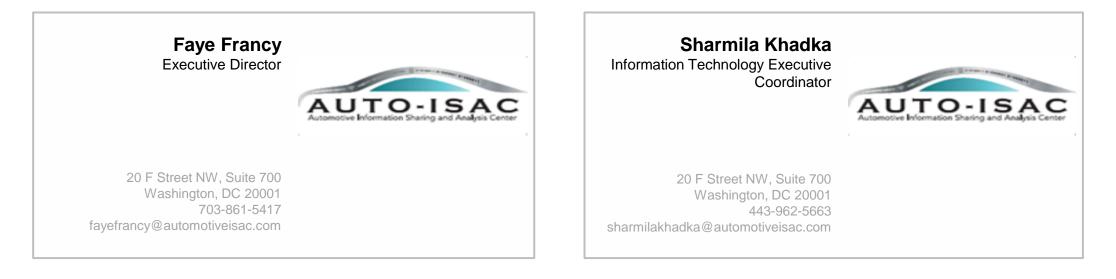
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## **THANK YOU!**





### **OUR CONTACT INFO**





www.automotiveisac.com @auto-ISAC



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