


2022

**Kristie Pfofi**

Director of Product Cybersecurity



# **CYBERSECURITY FOR CONNECTED AND AUTONOMOUS VEHICLES**

• **APTIV** •

# About Me



## Current Position

### Director of Product Cybersecurity, **Aptiv**

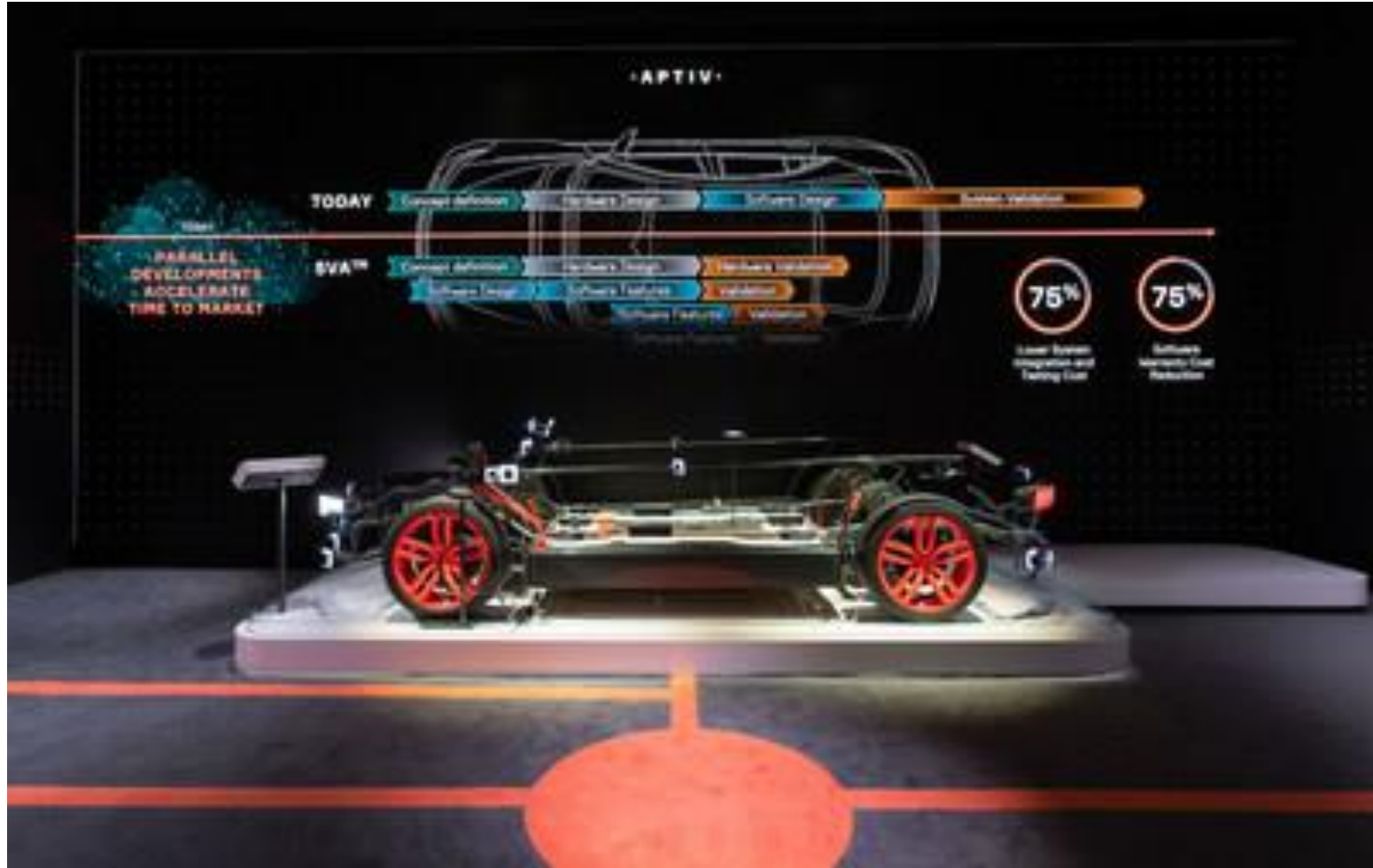
- Education and Standing Committee Chair, **Auto-ISAC**
- Co-Founder & Director of Events, **Women's Security Alliance**
- Aptiv University Ambassador, **Ohio State University**
- College of Sciences and Liberal Arts Advisory Cabinet, **Kettering University**
- Cyber Security Advisory Board Member, **Washtenaw Community College**

## Previous Roles



Powertrain

• APTIV •



# Connected vehicle ecosystem

ECUs: 120+



USB



Wi-Fi



Cellular (3G, 4G, 5G, LTE)



Bluetooth



Service Tools (OBDII)



RF Key Fob



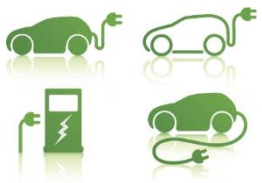
Satellite



Satellite Radio



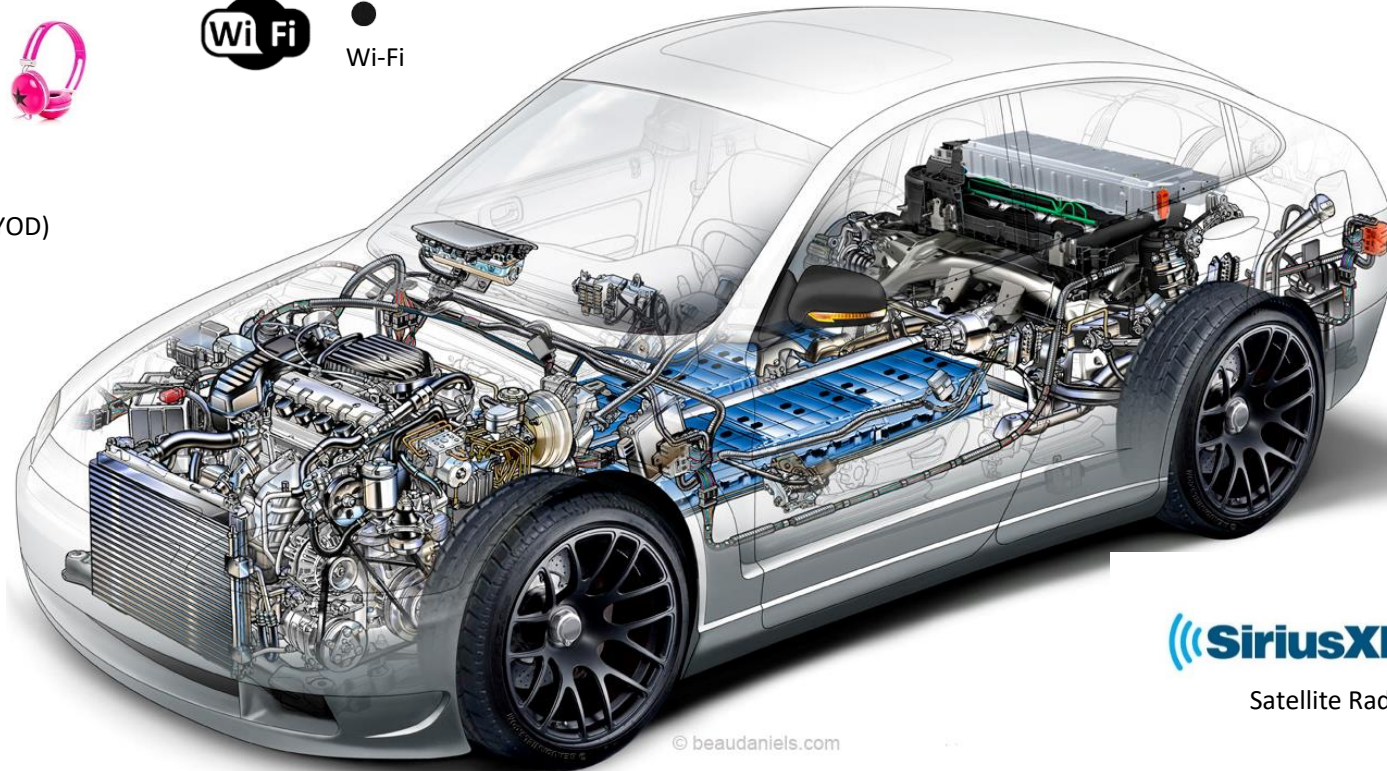
Brought-in Devices  
(aka Bring Your Own Device – BYOD)



Plug-in Electric Vehicle Charging



Tire Pressure Monitor

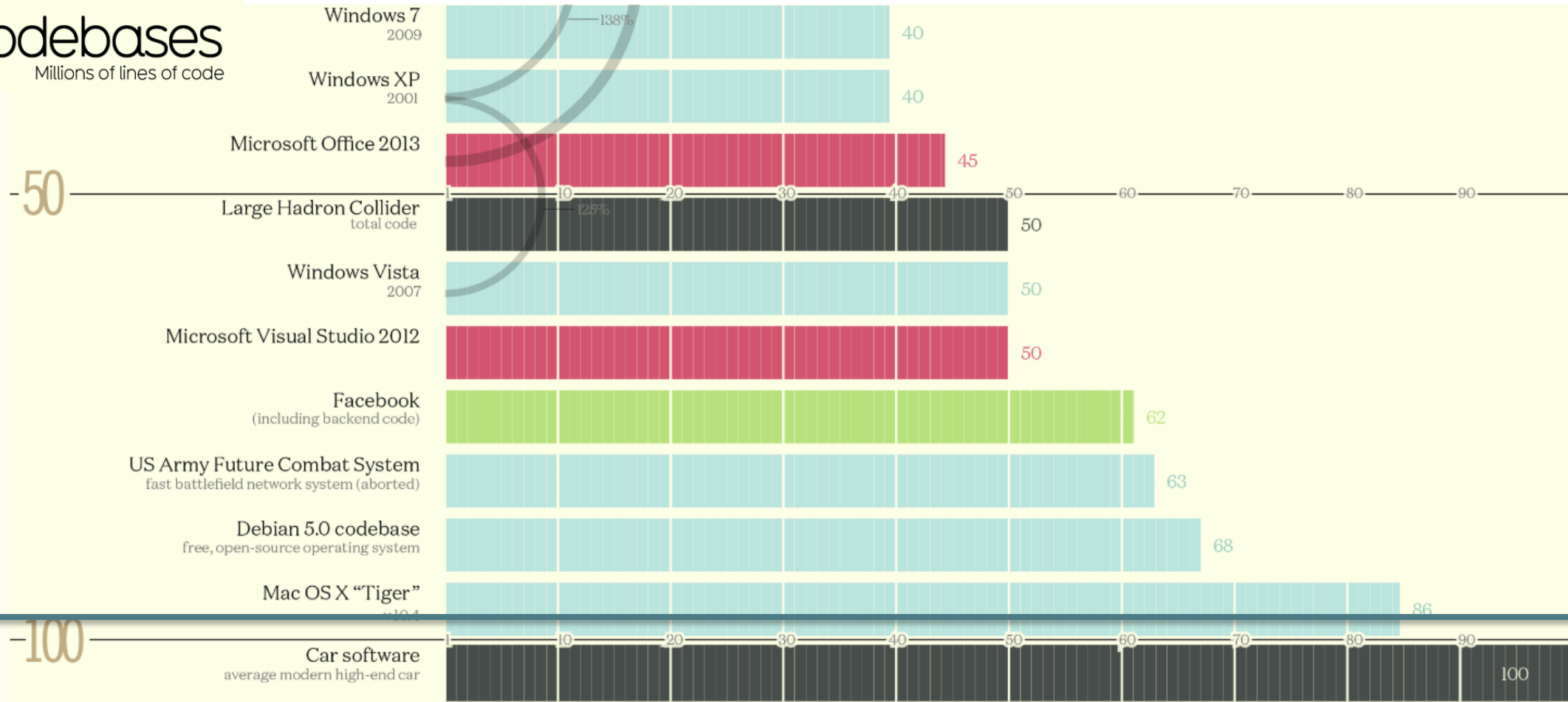


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# Millions of Lines of Code

## Codebases

Millions of lines of code



# Auto cyber is complex

Safety-critical systems

Shared components

Long lifecycle

Long consumer usage lifecycle

Highly complex systems

Highly constrained operational parameters

Complex supply chain

# Building a Culture of Cybersecurity



Cybersecurity is “Table Stakes” for the connected and autonomous vehicle

# BEST PRACTICE GUIDES RELEASE TIMING

## TLP Amber Release Date

1. Incident Response	July 2017
2. Collaboration and Engagement with Appropriate Third Parties	March 2017
3. Governance	August 2017
4. Risk Assessment and Management	November 2018
5. Awareness and Training	November 2018
6. Threat Detection, Monitoring and Analysis	November 2018
7. Security Development Lifecycle	August 2019

### Release Timing:

- First 3 months after publication: **TLP Amber** - available exclusively to Auto-ISAC Members
- 3 to 9 months after publication: **TLP Green** - released by request to industry stakeholders
- 9 months after publication: **TLP White** - released to the public via the Auto-ISAC website ([www.automotiveisac.com](http://www.automotiveisac.com)), subject to Board of Directors confirmation

ISO/SAE 21434  
Published Aug 2021





# Women's Security Alliance Benefits

## Guidance & Mentorship

Determine career path opportunities

## Customized Training Roadmap

Based on cybersecurity standards, frameworks, and best practices

## Educational Courses

Enrollment in unique cybersecurity courses

## Connections to Funding

Connections to fund training costs

## Employment Connections

Visibility into job opportunities

## Networking Opportunities

Network with executives, recruiters, and industry experts

- ✓ Join WomSA LinkedIn Group
- ✓ Sign up for Mentorship Program at [www.womsa.org](http://www.womsa.org)

