Agenda, Day 2, Group 1* | SEPTEMBER 25, 2024

new eagle
RAPTOR™ INNOVATION SUMMIT 2024

All Day: Sales Support and Genius Bar in Lobby at New Eagle Product Display

8:30AM — Badge Pick Up and Breakfast – Lobby

9:00AM — **Fortifying Vehicle Cybersecurity: ISO 21434 & UN ECE R155** - Breakout Room 1

10:00AM — **Enhancing Security with Raptor: Cybersecurity, Secure Boot & Data Assurance** - Breakout Room 1

11:00AM — **Achieving Functional Safety: Raptor SEooC and ISO 26262** - Breakout Room 1

12:00PM — Lunch and Break – Breakout Room 1

12:30PM — Optional: New Eagle Office & Garage Tour – Meet in Lobby

1:00PM — CHOOSE 1 WORKSHOP

Raptor Training: What is the Raptor Platform?
Breakout Room 2

Navigating The Nest: Upgrades to New Eagle Training and Support
Breakout Room 3

Introducing Raptor-Dev
Breakout Room 4

Exploring the RCM112: A Future-Proof ECU with Advanced Safety Features
Breakout Room 5

2:00PM — CHOOSE 1 WORKSHOP

Raptor Training: Model Library Creation & Application
Breakout Room 2

Raptor Hardware Overview: Controllers and Displays
Breakout Room 3

Raptor Toolchain: Overview and Insights into Raptor-Cal, Raptor-Service, and Raptor-Test
Breakout Room 4

Raptor CI/CD – Validation Automation for Model-Based Development
Breakout Room 5

*Agenda subject to change.

3:00PM

CHOOSE 1 WORKSHOP

Raptor Training: RCM112 Connectivity
Breakout Room 2

RCM112 Unplugged: Mastering Inputs and Outputs
Breakout Room 3

Optimizing Functional Safety with Raptor-Safe
Breakout Room 4

Exploring Diagnostic Protocols in Raptor: J1939, UDS, and DoIP
Breakout Room 5

Demo: Building an EV VCU using EVS (EV Supervisor) 2.0
Breakout Room 6

New Eagle Office and Garage Tour
Lobby

4:00PM

CHOOSE 1 WORKSHOP

Open Raptor Support Hours
Breakout Room 2

VeeCAN Displays: Raptor's HMI Hardware and Software Capabilities
Breakout Room 3

Introducing the Raptor Interface Library: Streamlining Updates with Custom Service Tools
Breakout Room 4

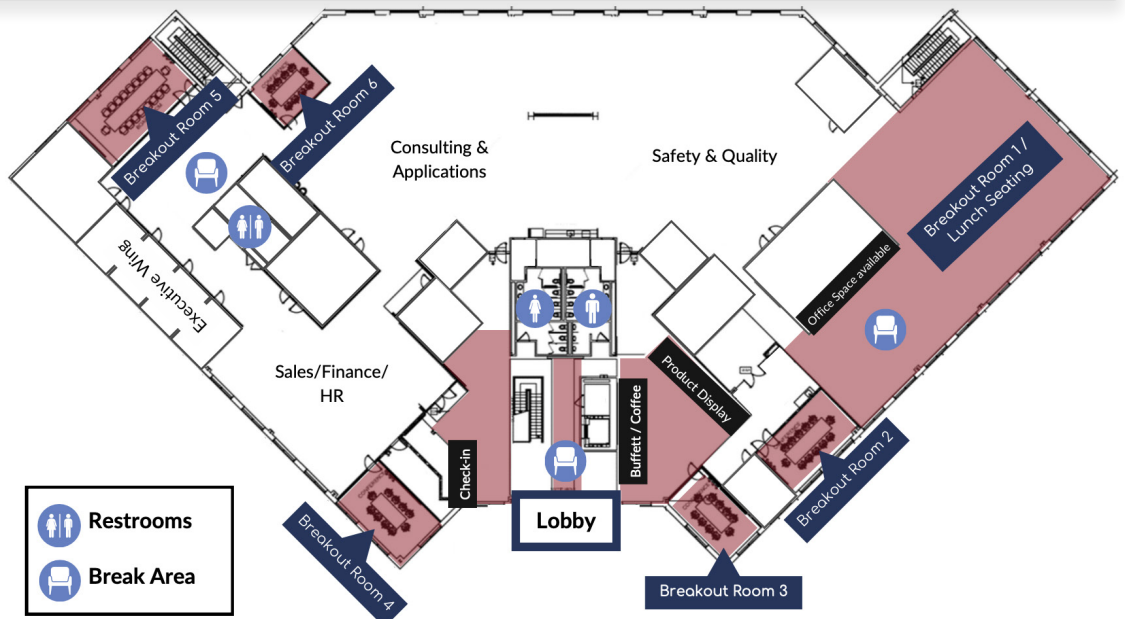**Unlocking J1939-22/91C with Raptor: The Basics through Advanced Gateway Development**
Breakout Room 5

5:00PM

Networking Hour, Hors D'oeuvres, and Drinks - Lobby

6:00PM

Event Close

Restrooms

Break Area

*Agenda subject to change.

Sessions

Breakout Room 1 – Functional Safety and Cybersecurity

Fortifying Vehicle Cybersecurity: ISO 21434 & UN ECE R155 - Presented by Karen Boswell

As vehicle electrification lays the foundation for autonomous and connected vehicles, the risk of cybersecurity breaches and malicious cyberattacks significantly impacts the ecosystem. ISO 21434 and UN ECE R155 establish and require a cybersecurity management system, necessitating a thorough understanding of threats and risks throughout the vehicle's lifecycle. In this workshop, we will discuss how New Eagle and the Raptor product support our customers in cybersecurity management with a focus on the following topics:

- Overview of Cybersecurity Management Requirements: Gain insights into the essential cybersecurity management requirements as outlined by ISO 21434 and UN ECE R155.
- RAPTOR Secure Boundary and Application of TARA: Explore the Raptor secure boundary and understand the application of Threat Analysis and Risk Assessment (TARA).
- Crypto-Services within Raptor: Learn about the crypto-services available within Raptor and their critical applications.
- New Eagle Cyber Roadmap: Discover New Eagle's cybersecurity roadmap and the ongoing developments that support your vehicle's cybersecurity lifecycle.

Enhancing Security with Raptor: Cybersecurity, Secure Boot & Data Assurance - Presented by Ron Lewis

In an era where cybersecurity threats are increasingly sophisticated and prevalent, it is crucial to stay ahead with robust security measures. This session is designed to provide Raptor users with an understanding of the comprehensive security features available within the platform. Join us for an engaging discussion where we will cover:

- Cybersecurity in the Raptor Ecosystem: Explore the advanced cyber security mechanisms integrated into the Raptor platform. Learn how these features can help protect your systems from malicious attacks and ensure data integrity.
- Secure Boot Implementation: Understand the importance of Secure Boot in maintaining the trustworthiness of your devices. We will discuss how Secure Boot functions within the Raptor platform, ensuring that only authenticated software can run on your hardware.
- Data Assurance Mechanisms: Dive into the data assurance capabilities of the Raptor platform. Discover how these mechanisms safeguard data accuracy, reliability, and consistency, providing peace of mind in your data- driven operations.

Achieving Functional Safety: Raptor SEooC and ISO 26262 - Presented by Karen Boswell

Functional safety is increasingly critical for our customers, and New Eagle is at the forefront with our Raptor SEooC products. Aligned with Raptor SAFE tools, these products enable effective development of your Functional Safety Item. In this session, get an overview of Raptor SEooC for the RCM112, focusing on the following elements:

- Assumptions and Use Cases: Understand safety goals, safe states, and their application to SEooC.
- Achieving Required ASIL: Learn how to meet the required Automotive Safety Integrity Level for your system.
- ISO 26262 Lifecycle: Discover how Raptor is developed according to ISO 26262 standards and what this means for system integrators.
- Raptor Safety Work Products: Get an overview of the essential safety work products provided by Raptor.

Breakout Room 2 – Mini Raptor Training Sessions and Open Support Hours

Raptor Training: What is the Raptor Platform? - Presented by Len Gasior

Discover the Raptor Platform, its history, and the advantages of using Embedded Model-Based Development (eMBD) over traditional development methods. This session includes an overview of the platform and live demonstrations of Raptor-Dev and Raptor-Cal.

Raptor Training: Model Library Creation & Application - Presented by Len Gasior

Discover how to create and utilize model libraries to streamline application development. This session covers the steps for generating a library and incorporating it into your model for increased efficiency.

Sessions

Raptor Training: RCM112 Connectivity - Presented by Len Gasior

Discover the versatile connectivity options of the RCM112 ECU, including common I/O and communication buses. This session will focus on:

- Ethernet: Network communication capabilities.
- CAN FD: Enhanced Controller Area Network with Flexible Data-Rate.
- LIN: Local Interconnect Network for efficient data exchange.
- IMU Sensor: Integration of the Inertial Measurement Unit for advanced motion sensing.

Breakout Room 3 - Deepening Raptor Expertise Across Key Tools and Features

Navigating The Nest: Upgrades to New Eagle Training and Support - Presented by Isaac Sundin

Discover our expanded Raptor training options and our new support and knowledge portal in this informative session. Learn how to navigate and utilize our enhanced resources effectively:

- New Training Opportunities: Get an overview of our updated training classes coving our Standard, Advanced, and Test training topics.
- New Knowledge Base Features: Explore our revamped Knowledge Base and uncover how to leverage its updated product documentation, from Raptor software to hardware.
- Support Portal Introduction: Get acquainted with our new support portal, designed to streamline your issue resolution process and enhance your overall support experience.
- Support Process & Tiers: Understand our support process, including how we resolve issues, and the benefits of our support tiers and staying current with software maintenance.

Raptor Hardware Overview: Controllers and Displays - Presented by Rich Swortzel

Explore the Raptor controllers and displays, covering both legacy and new 3rd party hardware as well as New Eagle's RCM modules. This overview will highlight each ECU and display's unique features and potential applications. Attendees are welcome to bring their future hardware platform and change requests for discussion.

RCM112 Unplugged: Mastering Inputs and Outputs - Presented by Terry Hicks & Martin Stobby

The RCM112 is designed to handle a diverse range of applications with ease. Due to increasing system complexity, it may be challenging to select and/or understand the right Inputs and Outputs for your system. Come ready to learn about:

- Input Selection: Why Pull-Up and Pull-Down Resistors Matter.
- Load Complexity: How a load is not just a load and understand the limitations on the types of loads the RCM112 is intended to drive.
- Faults Deconstructed: What the nuances of fault detection are in the RCM112 and how our device strives to protect your system.
- Attendees are invited to bring a list of anticipated sensors and loads for their application (with specifications) and any questions about the RCM112 I/O!

VeeCAN Displays: Raptor's HMI Hardware and Software Capabilities - Presented by George Reeves

Discover the powerful HMI capabilities of Raptor within its development environment. This session will cover:

- Introduction to HMIs: What are HMIs and their importance?
- Raptor Display Offerings: Examples and case studies of custom applications.
- Live Walkthrough: A tour of the Raptor Display library using the development environment.
- Support and Resources: Discussion on end user resources, optional libraries, and customer support.
- A Q&A will follow, with additional details on the live VeeCAN apps available today.

Sessions

Breakout Room 4 – Introduction to the Raptor Platform

Introducing Raptor-Dev - Presented by Rich Swortzel, Ron Lewis, Kevin Alley

Using the Mechanical Engineer's Software Tool, Raptor-Dev

Raptor Toolchain: Overview and Insights into Raptor-Cal, Raptor-Service, and Raptor-Test - Presented by Trevor Youngman

An overview of New Eagle's essential Raptor tools, which are designed to optimize calibration, diagnostics, and testing:

- Raptor-Cal: A cost-effective tool for easy ECU and display programming and calibration.
- Raptor-Service and Raptor-Service Customizer: Streamline software updates and troubleshooting in the field with customizable technician experiences.
- Raptor-Test: Enable repeatable testing and validation to ensure software reliability throughout development.
- A Q&A and live demo (time permitting) will follow.

Optimizing Functional Safety with Raptor-Safe - Presented by Marshal Stewart

This session offers a comprehensive dive into Raptor-Safe, focusing on tools to enhance your functional safety practices. We'll start with an overview of the new Raptor-Safe platform, emphasizing its vital role in automotive safety. You'll delve into key features and tools, including worst-case analysis for safety-critical systems. Essential Raptor support topics, such as installation, licensing, and supported targets, will also be covered.

We'll examine the Raptor-Safe Stack Check and Time Check, with techniques for module reset investigations and an introduction to RTA-OS. A practical example with a monolithic foreground model will illustrate these concepts. The session will wrap up with a preview of upcoming features in Raptor-Safe Astree.

Introducing the Raptor Interface Library: Streamlining Updates with Custom Service Tools - Presented by Michael Callaway

Discover how the Raptor Interface Library easily integrates with your custom service tools to enable customers and service centers to update their products without relying on Raptor Cal or Raptor Service. Topics include:

- How It Works: An overview of the Raptor Interface Library.
- Integration: Incorporating the library into your custom service tools.
- Use Cases: Implementing Over-The-Air updates and more.

Breakout Room 5 – Advanced Raptor Topics – Safety, Automation, and Industry Standards

Exploring the RCM112: A Future-Proof ECU with Advanced Safety Features - Presented by Parker Mosman

The RCM112 stands out as a cutting-edge, future-proof ECU designed to meet evolving industry demands. Join us to explore how its advanced features drive innovation and reliability in your applications as we delve into:

- Safety Mechanisms: Explore advanced safety features including hardware driven mechanisms.
- Multicore Process: Leverage multi-core processing to enhance performance/safety of your application.
- Advanced Networking Topics: Explore partial networking and advanced ethernet topics.

Sessions

Raptor CI/CD – Validation Automation for Model-Based Development - Presented by Marshal Stewart

Transform your development process with this session on advanced Raptor CI/CD automation techniques:

- Component-Based Modeling: Integration with Simulink Test and Raptor-Dev.
- Atlassian Tools: Enhancing workflows with Bitbucket, Git, and Jira.
- Automation Servers: Utilizing Jenkins or AWS for pipeline management and automated testing.
- Raptor-Safe: Boosting automation strategy with a focus on testing and validation.
- Raptor CI/CD Best Practices: Effective strategies for managing releases and artifacts.

Exploring Diagnostic Protocols in Raptor: J1939, UDS, and DoIP - Presented by Collin Spencer

As the automotive industry continues to evolve, the importance of robust diagnostic protocols becomes increasingly critical. In this workshop, we will explore the diagnostic protocols within the Raptor ecosystem, focusing on J1939, UDS, and DoIP. These protocols are essential for ensuring efficient and accurate diagnostics across modern vehicles. During this session, we will cover:

- Current Landscape of Diagnostic Protocols: An overview of the latest advancements in diagnostic protocols within the Raptor system.
- Understanding J1939, UDS, and DoIP: A high-level look at the key features and benefits of each protocol.
- Integration and Implementation: Practical examples of how these protocols are integrated and implemented within your diagnostic processes.

Unlocking J1939-22/91C with Raptor: The Basics through Advanced Gateway Development - Presented by Parker Mosman

Join us for an engaging session on J1939-22/91C with Raptor, where we'll take you from foundational concepts to advanced applications:

- Introduction to J1939-22 & SecOC: Learn the essentials of the J1939-22 standard and its Secure On-Board Communication (SecOC) features.
- Overview of J1939-91C: Understand the key aspects and applications of the J1939-91C standard.
- Advanced Gateway Demo: Witness a live demonstration of advanced gateway setup using Simulink, including build processes.

Breakout Room 6 – Product Demos

Demo: Developing ADAS Features Using IPG Truckmaker and our Vehicle Control System Model - Presented by Dave Weber

A demonstration and discussion on the use of our Vehicle Control System Model and the IPG TruckMaker platform to develop requirements and debug system performance through data playback.

Demo: Building an EV VCU using EVS (EV Supervisor) 2.0 - Presented by Stephen Sheler & Roshan Kaanth

Uncover the advantages of the new EVS 2.0 Platform for developing your Electric Vehicle VCU. This session provides an overview of:

- Platform Evolution: How we advanced from EVS 1.0 to 2.0.
- New Features: Key enhancements and advanced capabilities of EVS 2.0.
- Architecture Walk-through: Detailed exploration of the platform's architecture.
- Testing Capabilities: Review of testing improvements and functionalities.
- Learn how EVS 2.0 can jumpstart your development with its advanced feature sets and overall improvements.