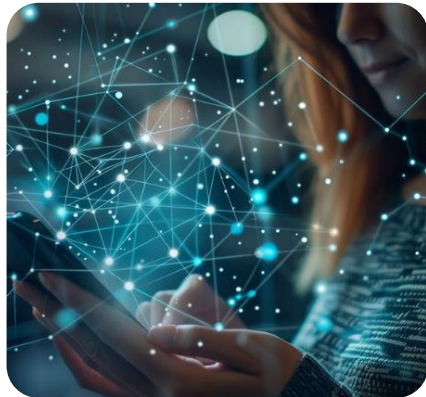# IoT Business Update

John Moloney
Senior Vice President & Head of IoT Sales

BlackBerry QNX Progress

Product / structural progress

- Biggest product launch year in a decade – QNX SDP 8.0
- Reached critical mass in our R&D globalization efforts
- Significant Cloud enablement progress

Customers/Partners progress

- Multiple strategic wins over past 18 months despite SDV delays
  - 2/3s of Auto wins were directly with OEMs
- Multiple award wins, e.g.
  - Frost and Sullivan Company of the Year
  - PACE Award
  - MotorTrend Awards

Working with Industry-Leading Customers & Partners to Drive Innovation

Examples

Ford · LUCID · DENSO · Mercedes-Benz

RIVIAN · STELLANTIS · HYUNDAI MOBIS · VOLVO

- QNX Auto still dominated by high-end compute stacks (Cockpit, ADAS, Centralized Compute)
- Early examples of other MPU domains emerging (Zonal, Gateways, Body/Chassis…)

60+ Design Wins
In the past 18 Months

QNX SDP 8
silicon vendor commitments

Ambarella AI envisioned™ · AMD · Horizon Robotics · intel

MEDIATEK · nVIDIA · NXP · Qualcomm

RENESAS · SAMSUNG · TEXAS INSTRUMENTS

and more …

Leveraging dominant market position to win outsized share of future market growth

10/10
Top Automakers

7/7
Top T1 OEMs

24/25
Top EV Makers

255M+
Cars on the Road

Customers and Partners Directly Drive a Significant Portion of our Development

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Clear Strategy to Capitalize on Market Opportunities

Leaders in Foundational Software for the Intelligent EDGE...

Focused Market Segments
High End, Mission Critical

- Further investments in ecosystem, solution selling and partnerships
- GTM investments beyond auto

Long Term Commitments
Deep IP, Partnerships

- Continued R&D/IP leadership (1100+ patents!)
- Responding to vehicle platform request from key customers

Targeted Core R&D
Three Pillar Roadmap

- Cloud first evolution/ commercialization
- Multiyear OSS push accelerated

Business Unit Transformation
Operational Excellence

- Stepwise BU dedicated core processes/systems/ support functions

Delivering Performance, Safety/Security, Reliability

The Automotive Software Journey:
An Inflection Point and Opportunity for Greater Focused Collaboration and Value

Realization

Vehicle "black box" of software

Lessons Learned

Reality of software complexity

Ownership Pivot

Automaker CX + value add

OEM layer on vehicle platform
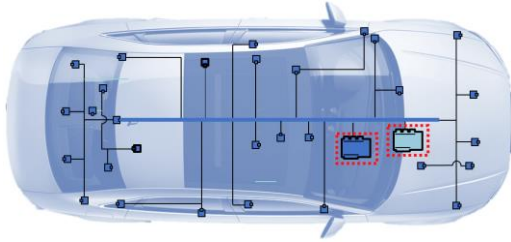
Opportunity for Greater Collaboration

This software journey and inflection point is an opportunity for focused investments, focused differentiation and new value creation for QNX and Automakers

Complexity Shifting From Hardware and Networks to Software

Vehicle-wide Foundational Software Essential to Enabling Innovation, Differentiation, and Value
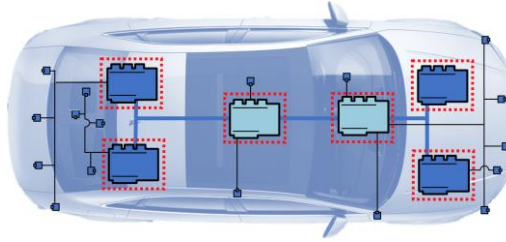
Distributed
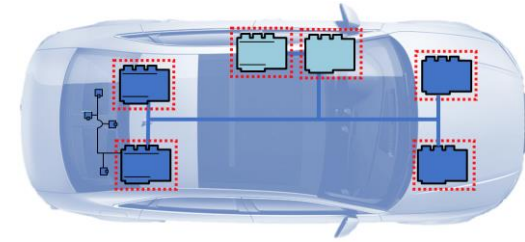*Many fixed functions – discrete ECUs*

Complexity

Software | Hardware / Network

- Limited opportunity for consolidation of features and functionality
- Separate discrete safety ECUs across multiple networks (no mixed-criticality)

Domain – Centralized
Reduction in fixed function ECUs

Complexity

Software | Hardware / Network

- Consolidation of complimentary vehicle features
- Emergence of mixed critical ECUs
- Increase in software complexity across new domains

Vehicle – Centralized
High performance centralized compute domains with zonal architecture
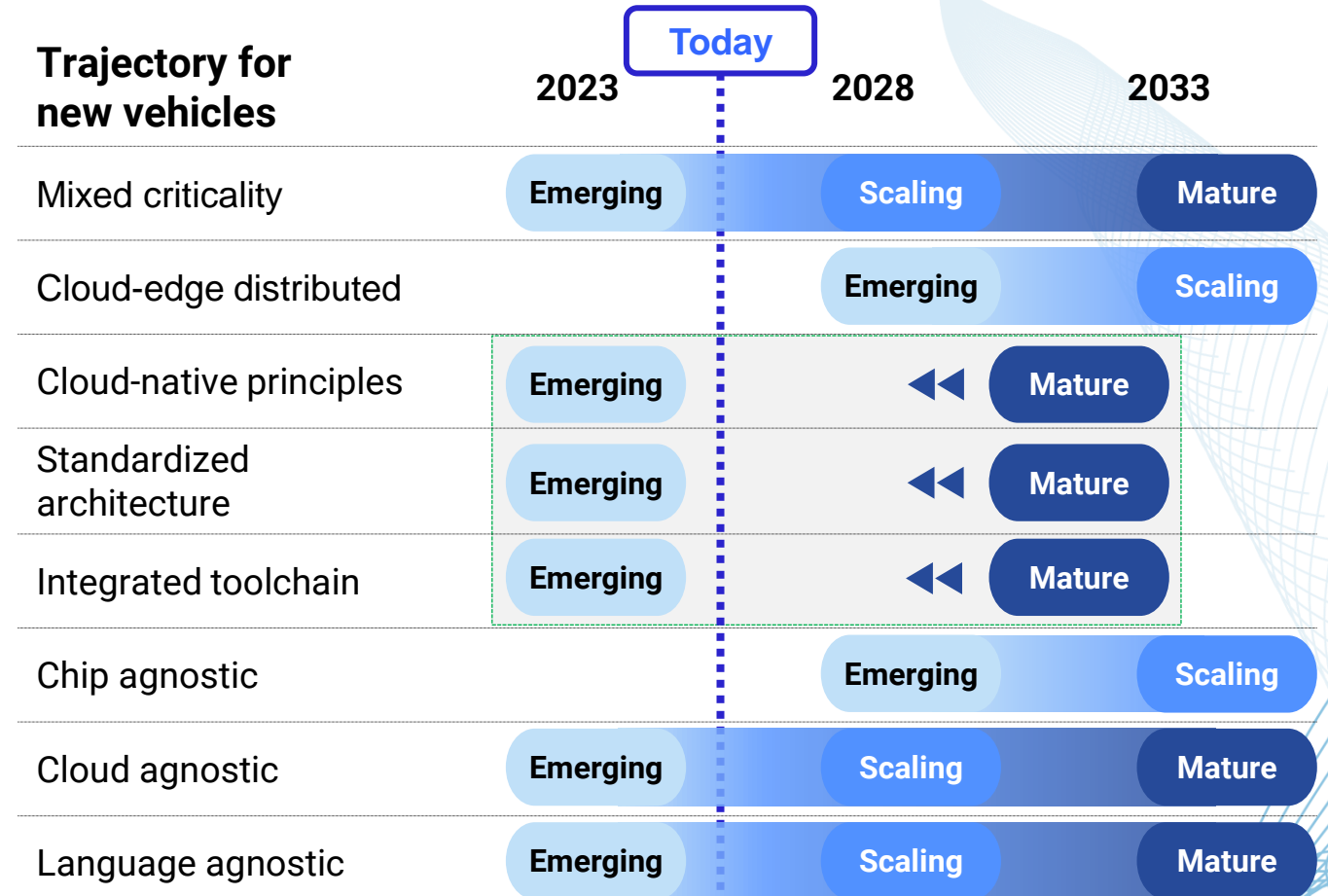
Complexity

Software | Hardware / Network

- High performance and low-latency communications
- Multiple mixed critical environments
- **Critical need for managed software complexity**

SDVs: Vehicle-wide Foundational Software *Essential* to Enabling Innovation, Differentiation, and Value

In the Early Stages of SDV Transformation with 10+ years to Go

Software Developed Vehicle (SDV) Maturity Assessment

- Most facets of vehicle development still "emerging" in terms of maturity

- Some elements seeing an acceleration of the maturity curve

- BlackBerry continuing to lead the industry in development best practices and platform innovation

Trajectory for new vehicles

Today

	2023	2028	2033
Mixed criticality	Emerging	Scaling	Mature
Cloud-edge distributed		Emerging	Scaling
Cloud-native principles	Emerging	◀◀ Mature	
Standardized architecture	Emerging	◀◀ Mature	
Integrated toolchain	Emerging	◀◀ Mature	
Chip agnostic		Emerging	Scaling
Cloud agnostic	Emerging	Scaling	Mature
Language agnostic	Emerging	Scaling	Mature

Significant Runway for Growth as the SDV Market Continues to Move in QNX's Direction

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Source: BCG, June 2023 "Unlocking safety and innovation in vehicle software"

Reaching an Inflection Point in Value Creation Paradigm

Historical Focus:
In-House Development

- 5+ years ago, industry realized that software could create **immense value over the lifecycle of the vehicle**
- Automakers began to take **software development in-house**

Lessons Learned

- Foundational software platform **is a critical enabler**
- However, it is **difficult and expensive to develop**, with little differentiation or consumer-facing value

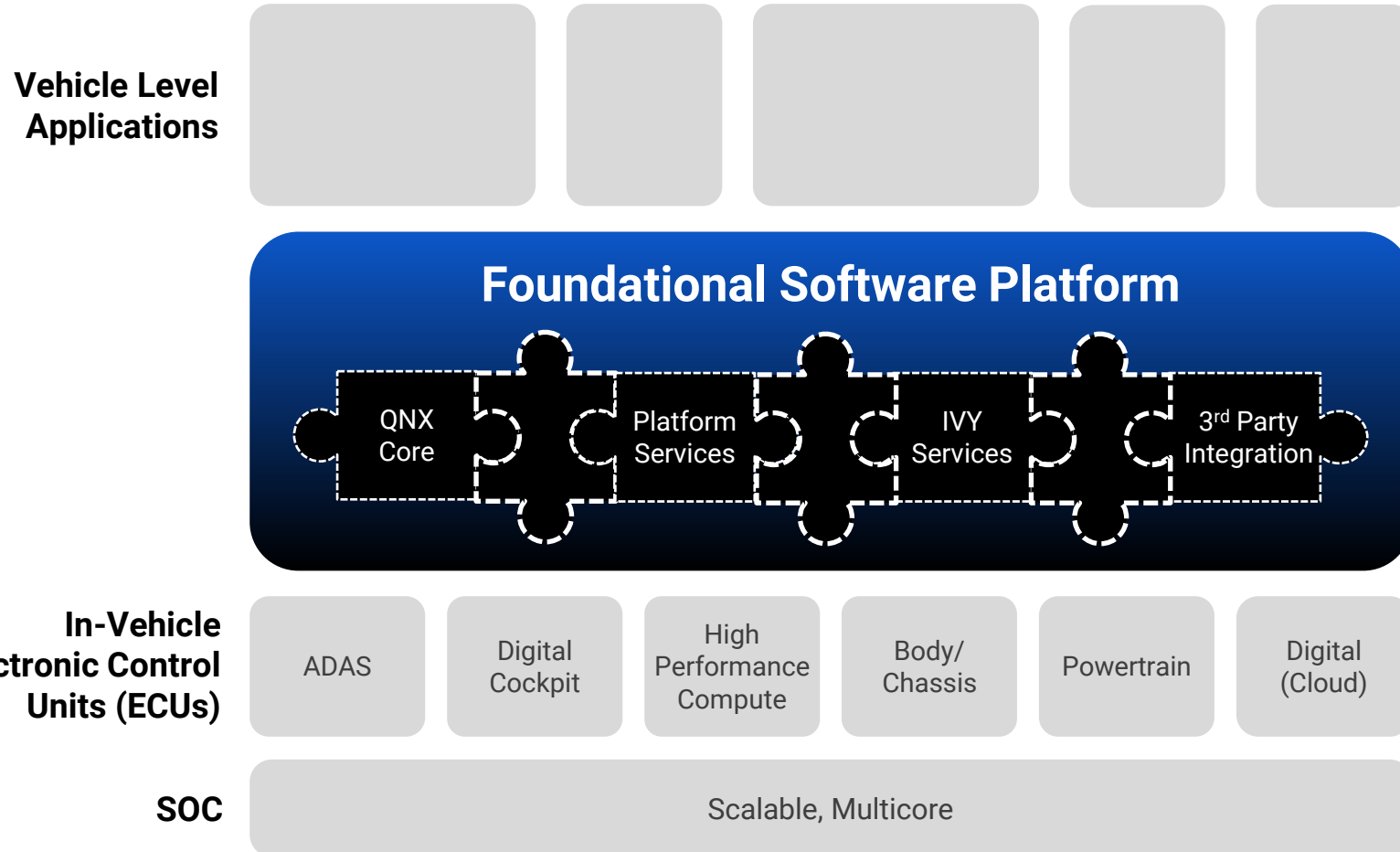## Current Focus:
Partnership Preference

- Automakers desire **standardized vehicle software platform** from a trusted and proven partner
- Automakers shifting focus to customer-facing applications that **build brand loyalty, differentiation, and value**

Opportunity for Greater Collaboration

New Opportunity for QNX to Provide Focused Investments and Enable Differentiation for Automakers

Opportunity to Invest in a Foundational Software Platform

Vehicle Level Applications

Foundational Software Platform

QNX Core — Platform Services — IVY Services — 3rd Party Integration

In-Vehicle Electronic Control Units (ECUs)

ADAS | Digital Cockpit | High Performance Compute | Body/Chassis | Powertrain | Digital (Cloud)

SOC

Scalable, Multicore

Pre-integrated, light-weight, and certified software platform

- Future-proof and high-performance
- Scalable vehicle-wide for safety and non-safety critical systems
- In-vehicle, physical, or digital
- Ecosystem partner integration
- Enable automakers to focus on differentiation at scale

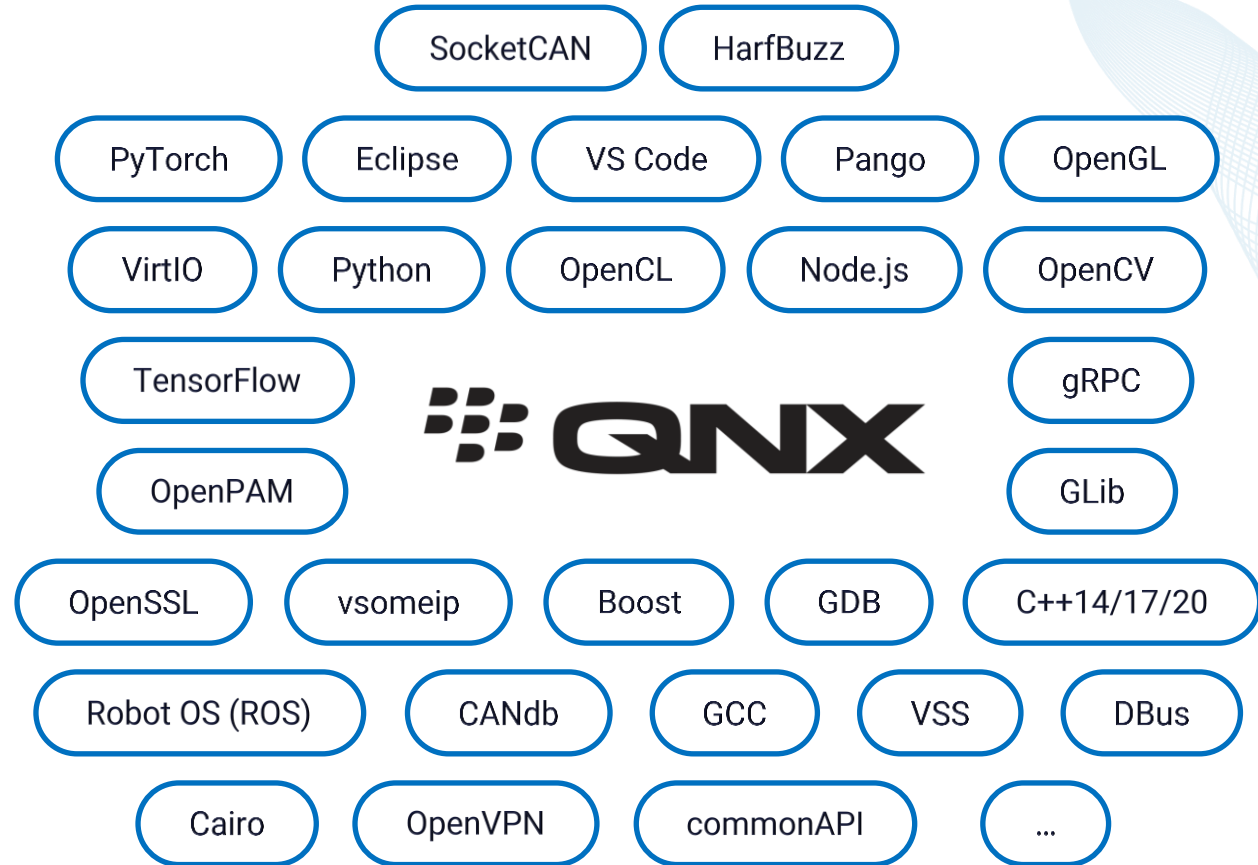**Delivering value that is far greater than the sum of the parts**

Automakers Requesting a Pre-Integrated, Safety-Certified, Cloud-Enabled Foundational Software Platform where value is far greater than the sum of the parts

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QNX Enabling Innovation
Open Standards, Open Source and Standard Tools

Supporting Industry Standard Tools, APIs, and Software

- Supporting **standard tools and languages** like the GCC toolchain, Rust, Python, Ada, Eclipse and VS Code

- **Widespread APIs** that most developers already know and use (e.g., POSIX)

- Providing Linux developers with **familiar utilities, tools, and system services** when they move to QNX

- Actively contributing to multiple **open-source projects**

- Augmenting **access to QNX source code** as part of commitment to industry standards and transparency

SocketCAN · HarfBuzz

PyTorch · Eclipse · VS Code · Pango · OpenGL

VirtIO · Python · OpenCL · Node.js · OpenCV

TensorFlow · gRPC

QNX

OpenPAM · GLib

OpenSSL · vsomeip · Boost · GDB · C++14/17/20

Robot OS (ROS) · CANdb · GCC · VSS · DBus

Cairo · OpenVPN · commonAPI · ...

Embracing Industry Standards to Promote Customer Adoption and Growth

Looking Beyond Automotive

QNX Trusted by Mission-Critical System Manufacturers Everywhere…

- Four-decade software pedigree in complex, mission-critical systems
- Industry reputation for top-tier engineering talent
- Company-wide focus on safety and security
- Safety certifications beyond automotive: Industrial, Medical
- High-performance and massively scalable microkernel OS architecture
- Futureproof roadmap for building scalable, reliable, safe, and secure systems

"The exciting thing about our cars, is that **it's not a phone on wheels, it's a robot**."
Doug Field, Chief EV, Digital, and Design Officer
Ford Motor Company

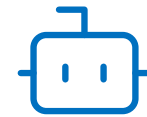**…Creating Opportunities to Extend the QNX Value Proposition to Adjacent Markets**

Industrial Controls

Aerospace & Defense

Medical

Robotics

Addressing the challenges of complexity, safety, security, scale, and reliability

Leveraging Our Unmatched Expertise and Trust to Drive Growth in Adjacent Markets

QNX: The Trusted, Proven Solution for Next-Gen Systems

Dominant technology for advanced automotive software stacks

High-performance solutions **underpinning safety-critical systems**

IP to **enable customer systems**, platforms and long-term roadmaps

Trusted partner in markets where **safety, security, and reliability are critical**

Experience, culture, and quality to support mission-critical systems

"**Quality means doing it right** when no one is looking."

Henry Ford

"The **bitterness of poor quality remains** long after the sweetness of low price is forgotten."

Abraham Lincoln

"**Quality is more important than quantity**. One home run is much better than two doubles."

Steve Jobs

Delivering High-Performance Foundational Software to Support the Most Innovative Companies in the World

Celebrating the unsung heroes of SDV

Pioneers **Leaders** **Experts**

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MOTORTREND SDV INNOVATOR AWARDS

in partnership with BlackBerry. QNX.

QR to landing page

Thank you