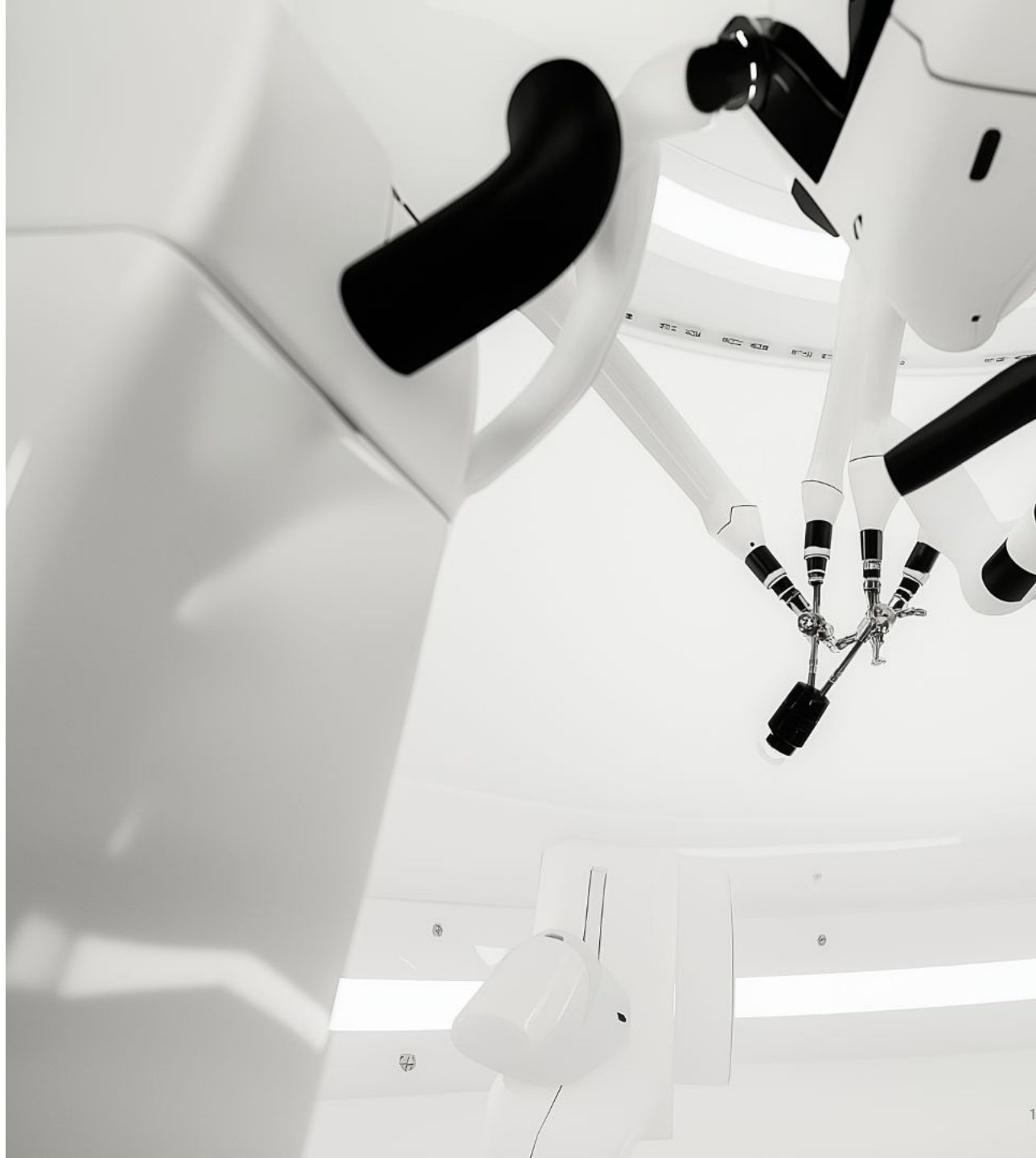
QNX

Carsten Hurasky | SVP & Chief Marketing Officer

Breaking the Trade-off

Accelerating Medical Device Innovation Without Sacrificing Safety & Security



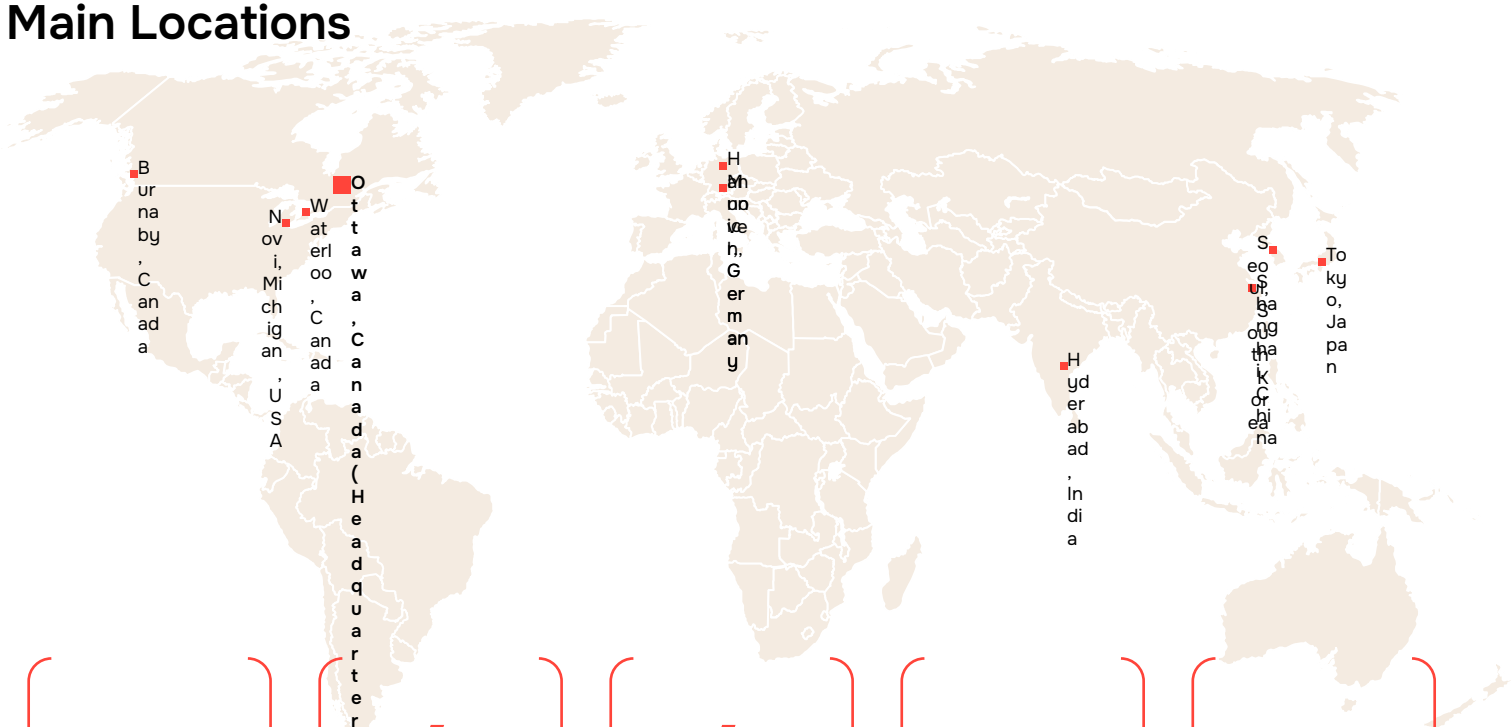
Chapter 01.

About QNX

Who We Are

Trusted software for safe and secure medical devices

Main Locations



50+
Types of Medical Devices

9/10
Medical Device Manufacturers

8/10
Surgical Robot Manufacturers

100%
Certification Success

255M
Cars on the Road today

QNX

45 years
as Real Time Operating System of Choice for Mission-Critical Embedded Systems

1980
Foundation of QNX

2010
Acquired by BlackBerry

950+
Employees globally

QNX Headquarters: Ottawa, Canada

Medical Devices

Our QNX OS for Safety is certified to IEC 62304 Class C to simplify certification efforts. We provide POSIX-compliant development tools to make your move from prototype to production of your medical devices faster and easier.

QNX

Industries We're Supporting

Enabling innovation across medical and diverse verticals

2,500+
Customers worldwide

In hundreds of millions
of embedded devices

Safety and security certifications, Conformance, and compliances

- IEC 61508 SIL 3
- ISO 26262 ASIL D
- IEC 62304 Class C
- ISO 9001:2015
- EN 50128 SIL 4[1]
- EN 50657 SIL 4[1]
- IEC 62061*
- IEC 61513*
- ISO 13849-1: 2015* Safety of Machinery
- FACE
- POSIX PSE52
- FIPS 140-2

[1]Available through custom services
*Certifiable to the relevant standard

Mobility
Transportation
Heavy Machinery
Medical Devices
Media
Oil & Gas
Robotics
Energy Generation
Casino Gaming & Player Tracking
Industrial Automation
Aerospace & Defense
Networking

Chapter 02.

Breaking the Trade-Off

Learning to Ride a Bike

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Industry Insights – Survey Results

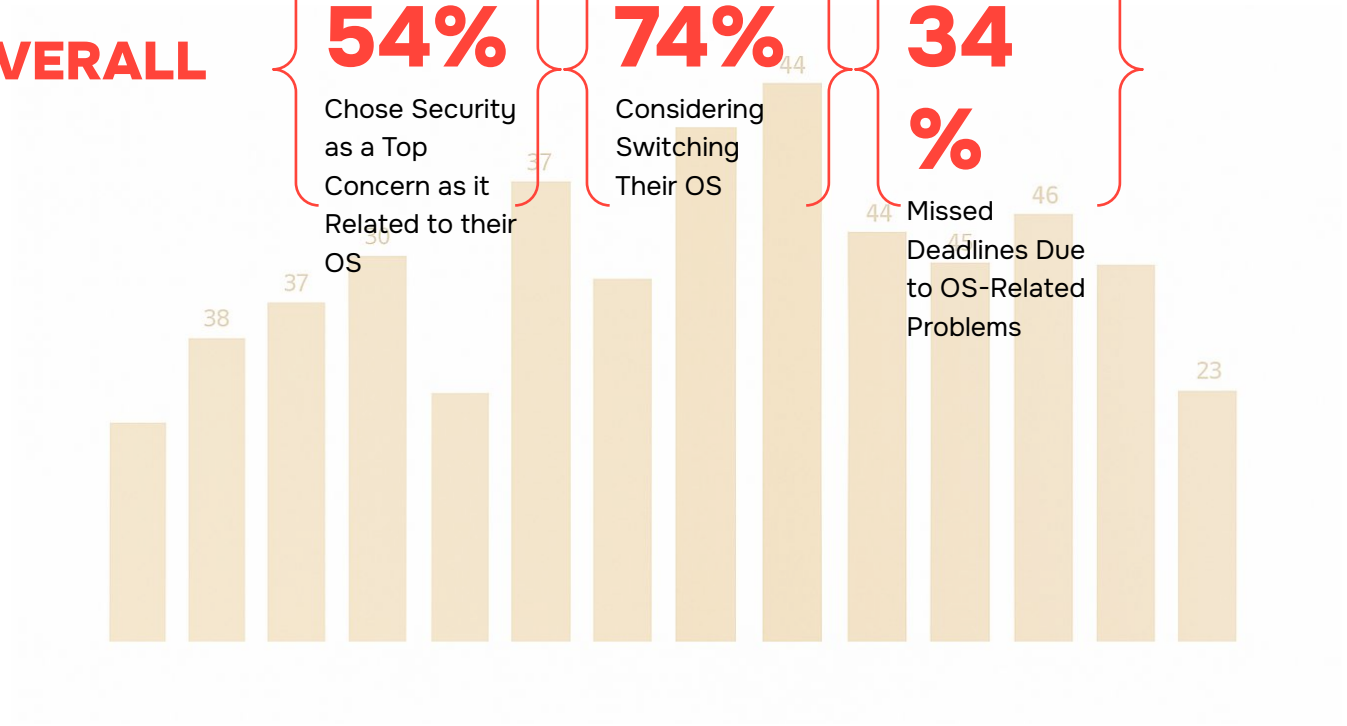
QNX surveyed 1,000 embedded software developers and engineers on their perceptions and experiences using open source or proprietary operating system (OS)

OVERALL

54% Chose Security as a Top Concern as it Related to their OS

74% Considering Switching Their OS

34% Missed Deadlines Due to OS-Related Problems



Source: https://www.blackberry.com/us/en/company/newsroom/press-releases/2024/blackberry-qnx-research-reveals-rising-pressure-on-software-engineers-leads-to-critical-trade-offs-in-safety-and-security
Survey Base: Global total (1000) North America (350) Europe (450) APAC (200)

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SECURITY

73% Ranked Cybersecurity has High Priority

41% Have Experienced a Breach with Their Existing Systems

70% Experience Delays Because of Breaches

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SAFETY	**75%** Deadline Urgency Leads to Compromises on Functional Safety	**66%** Experienced Delays Because They Need Safetu	**33%** Biggest Challenge of Safety Certification is

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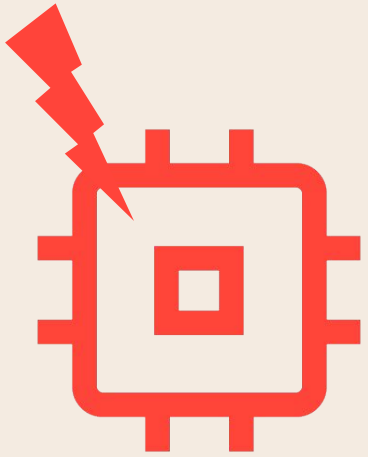
Medical Devices Industry Challenges



Supply Chain Disruption

Cybersecurity Regulations (e.g. FDA Guideline, CRA EU)

Legacy System Integration

Fragmented

Cross-Industry Trend: Devices are becoming Software-Defined

Simple and Standalone

Single Device, Single Function. Single Core CPU

Software Complexity

- Fixed function, tightly couple with hardware
- More hardware defined
- Single-level of safety criticality
- No mixed-criticality safety use cases

Complex and Consolidated

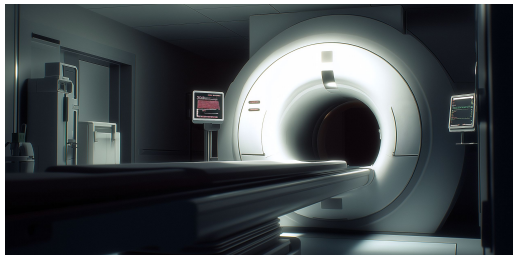
Single Device, Multiple Functions, Multicore CPU

Software Complexity

- Complex multiple functions such as AI, Perception, AR using a single SoC with multiple cores
- Device functionality is loosely coupled with H/W
- Emergence of mixed-critical safety use cases

Connected and Coordinated

Multiple Devices, Multiple Functions, Multicore CPUs



Software Complexity

- Cloud/IoT communication capabilities to participate in system-wide connected application(s)
- Industry 4.0/5.0 applications
- Mixed-criticality and system-level safety use cases

Multicore high-performance SoCs enable hardware consolidation with ability to run multiple software-defined functions in a single device

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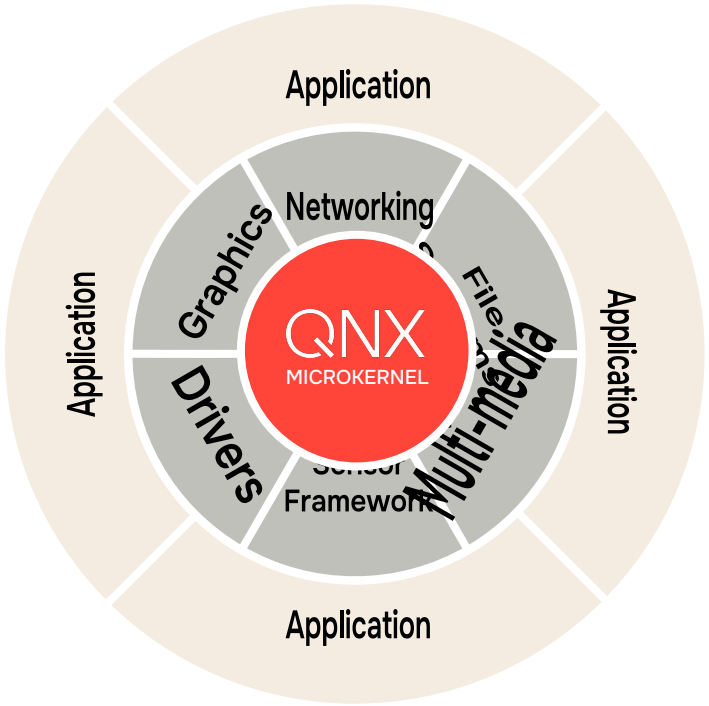
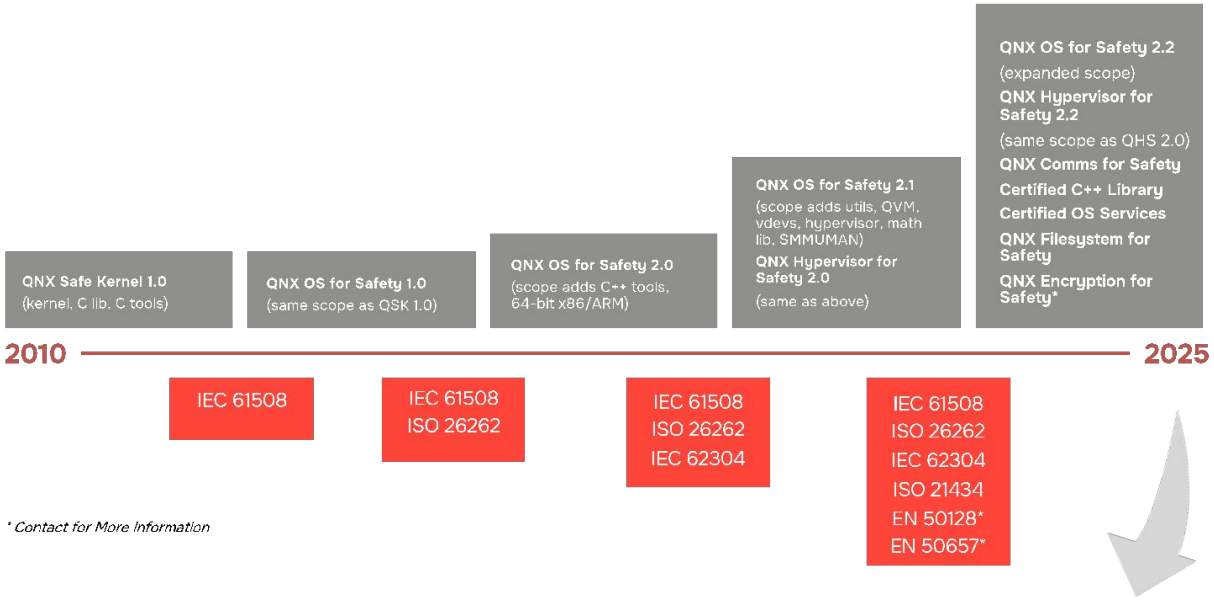
Innovating with Safety and Security by Design





Cloud Development

Containers

Accelerating your Software Development and Innovation

QNX Everywhere

Start with QNX Everywhere today and learn, develop, and prototype for free

Embedded development in automotive, medical, robotics, trains, wind turbines, and more.

It all starts with QNX

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[qnx] devblog.qnx.com

QNX General Embedded Development Platform (GEDP)

Foundational software and tools for accelerating software-defined embedded systems development

QNX

Certified Foundation

A faster, low-risk path to certification without slowing innovation

Pre-certified software

- Pre-certified software components significantly reduce the scope, risk, length, and cost of certification processes.

Safety artifacts

- Safety documents and development artifacts streamline audit preparation with safety manuals, traceability reports, and certification-ready templates.

Expert assistance

- Targeted hands-on support from safety engineering experts embeds safety into development lifecycles through workshops, design reviews, and process consulting

QNX OS for Safety
Pre-certified to IEC 62304, for use in applications requiring IEC 61508 SIL 3, and can be used as an SEooC

C/C++ toolchains
Qualified to IEC 61508 TCL3 and T3 requirements

QNX Hypervisor for Safety
Pre-certified to IEC 62304, for use in applications requiring IEC 61508 SIL 3, and can be used as an SEooC

C/C++ libraries
Pre-certified to IEC 62304

Advanced Virtualization Frameworks
Pre-certified to IEC 62304, for use in applications requiring IEC 61508 SIL 3, and can be used as an SEooC

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In Summary

- Medical Devices are becoming Software-Defined
- Software Developers are struggling and may need to consider innovation trade-offs
- Build with Safety and Security Certification in mind from the start
- QNX is trusted, proven and ready to help you

Come meet us and find out how

Thank you

Carsten Hurasky

SVP & Chief Marketing Officer

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