Quantum-Safe Automotive Intensive

Practitioner intensive

A private full-day workshop for vehicle makers and tier-1 suppliers. Leave with a PQC program plan for your fleet, next platform, and suppliers.

Duration	Level	Fee
8 hours	**Practitioner**	**Quoted per engagement**
Planning workshop	No cryptography background needed	Private team training only

A vehicle built this year will still be accepting over-the-air (OTA) software updates well over a decade from now. The public keys that verify those updates are stored in hardware that nobody intends to replace, and tier-1 and tier-2 suppliers provide most of a vehicle's cryptography. A post-quantum cryptography (PQC) migration in automotive therefore needs three plans: for the fleet on the road, the platform in development, and the suppliers who build both. In this workshop, you build a migration program that covers all three.

What you will build

- An estate map by domain, marked by who controls each part and sorted into the three plans
- A program charter and steering committee structure
- An inventory plan that starts with the software update chain
- An initial priority list, with evidence gaps recorded and the fleet separated by update capability
- A supplier dependency register that separates evidenced dates from assumptions, with draft requirements for the next platform
- An external dependency map for V2X participants, standards bodies, and API partners
- A workstream structure with the evidence each OTA wave needs, and role and resource assumptions
- A year-one plan by quarter, with board KPIs and the decisions you need from others

Who should attend

- Program managers and PMO leads
- The executive who will sponsor the migration
- Vehicle security architects
- OTA and backend platform leads
- Vehicle-to-everything (V2X) and connectivity engineers
- Product cybersecurity staff who own ISO/SAE 21434 work
- Supplier quality, procurement, and compliance staff

The intensive is for both vehicle manufacturers and tier-1 suppliers. We recommend sending a mixed group from one organization, ideally the people who would be members of its quantum readiness steering committee. Bring at least one person from procurement. Many of the sequencing decisions in this workshop concern supplier requirements.

Preparation

We recommend Quantum-Safe Automotive as preparation, though you can enroll without it. It covers the same ground at overview depth. You can work through the day with data from your own organization or with a sample vehicle manufacturer we provide.

Why Quantum Academy

This intensive is built on the Applied Quantum PQC Migration Framework, published openly under Creative Commons at pqcframework.org. No sector extension of the framework covers the automotive industry yet. The course author wrote the framework. The instructors run migration programs in this industry and teach the sector material from that field work.

Curriculum and enrollment

The day

The instructor starts each module with a short briefing. You then apply the module's template to your own fleet, platforms, and suppliers, or to the sample vehicle manufacturer. At your location, we teach the intensive in one day, with lunch and two breaks. We agree the timetable with you, and a day from 09:00 to 17:00 looks like this:

09:00–09:50 · Module 1. OTA signing and the three plans
The instructor walks through the software update chain of a sample vehicle to show why OTA signing needs an early start.

09:50–10:40 · Module 2. Mandate, governance, and the business case
You define the steering committee, with product cybersecurity, vehicle engineering, the OTA and backend teams, procurement, and compliance as members.

10:40–11:00 · Break

11:00–11:45 · Module 3. Inventory planning
You start with the software update chain: its control units and which of them can be updated in the field, and the algorithms and keys it uses.

11:45–12:30 · Module 4. Risk scoring and priorities
You separate the fleet that can receive a cryptographic update from the fleet that cannot.

12:30–13:30 · Lunch

13:30–14:20 · Module 5. Supplier requirements and contracts
You open every supplier conversation with the framework's two agility questions. In the second, you ask whether a component's verifiers can be updated in the field, and by what mechanism.

14:20–15:10 · Module 6. V2X and other external parties
For each V2X change, you record whether participants can accept old and new cryptography for a transition period, or must switch together.

15:10–15:30 · Break

15:30–16:15 · Module 7. Program structure and staffing
You set the gates against your model-year schedule, plan the staffing, and define the evidence you need before closing each OTA wave.

16:15–17:00 · Module 8. Year-one plan, KPIs, and the asks
You set board KPIs for inventory, signing keys, and supplier commitments, including the framework's first-year trust target: every root and signing anchor inventoried, with its verifier updatability recorded.

Online, we agree with you how to divide the eight modules into sessions.

Formats and fees

Format	Delivery	Fee
Private team training	Online or at your location. Only your own colleagues attend	Quoted per engagement

What is included

- The course handbook, a PDF of the full material with the instructor notes written out
- A PDF copy of *Quantum Ready* by Marin Ivezic, the companion book to the framework the day draws on
- The working documents you build during the day, editable and yours to keep
- 180 days of access to the corresponding online on-demand course. Where that course is not yet published, the 180 days start on the day it is.
- A Quantum Academy certificate of completion. It confirms that you completed the course and is separate from Quantum Academy's professional certifications.

Explore the course

quantumacademy.com/courses/quantum-safe-automotive-intensive/

To arrange the intensive for your organization, write to training@quantumacademy.com.

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