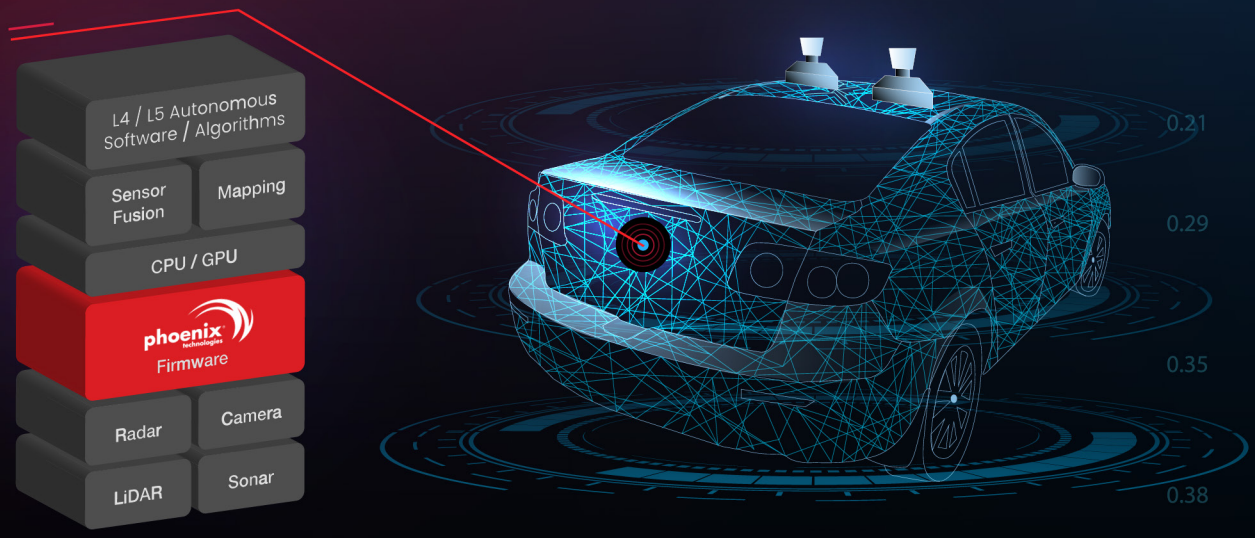
Phoenix Autonomous Vehicle Firmware

TAKE A PROACTIVE APPROACH TO FIRMWARE DEVELOPMENT AND SECURITY



Over the last century, vehicles have become increasingly connected and computerized, with the future promising complete L4/L5 autonomy. The complex software required to run these vehicles all sits on top of firmware, which has been facing an exponential increase in threats over the last few years. Firmware infiltration can give hackers the highest level of access to an autonomous driving systems' critical components, allowing them to inflict serious damage — from overriding safety protocols to taking complete control.

Autonomous vehicle engineers must take a proactive approach to the security of firmware from the beginning of the development process and support it with ongoing risk mitigation to ensure the safety and security of their products. As a result, selecting a secure firmware partner is of paramount importance.

No Security, No Safety

Why Phoenix?

As the original independent firmware company, we have over 40 years of experience developing, deploying, and patching firmware across various devices. We have extensive expertise in the firmware industry and work closely with leading silicon vendors Intel, Arm, AMD, and Qualcomm. We also maintain deep-rooted relationships with major organizations that support firmware security like the Unified Extensible Firmware Interface Forum (UEFI) and the Distributed Management Task Force (DMTF). Our core firmware development team is based in Silicon Valley with engineering teams in the US, Taiwan, and around the globe.

Leading Autonomous Vehicle Expertise

We collaborate closely with leading Tier 1 autonomous vehicle system providers to architect complete autonomous vehicle firmware solutions. Our software is built to support the L4/L5 future of autonomy based on our deep understanding of the critical roles that firmware and firmware security play in the autonomous vehicle industry.

Phoenix Autonomous Vehicle Services and Solutions

At Phoenix, we partner with you throughout the entire firmware lifecycle. From the initial development and deployment all the way through post-production support.

1. Research & Development

Comprehensive consulting and research services to help with:

- Platform and reference board selection
- Hardware acquisition
- Validation (long-run, smoke, DOA, unit test, automated testing)
- Feature development
- Product development
  - Dev kit
  - Tools
  - Documentation
  - Training

2. Customer Engagement

Expert autonomous vehicle engineering support and services:

- Early engineering access
  - High-level design review
  - Feature discussion
  - Schematic review
  - Workload estimates
- Platform porting
- Power On
- Custom feature development
- Onsite and local engineering support
- UEFI and BMC evaluation binaries for reference platforms

3. Production and Delivery

Custom development built on the established Phoenix firmware base:

- UEFI and BMC SDKs
- Source code and binaries for reference and customer platforms
- UEFI development & debug utility
- Firmware update tools
- Binary editor
- Signing tool
- Security advisories
- Manufacturing support

4. Post-Production Support

Continuous support and security patches:

- Ongoing support
- Ticketing system
- Continuous updates
  - Security patches
  - Bug fixes
  - BMC updates
  - UEFI reference code
  - Continued validation and regression testing
- Phoenix FirmCare™ Security-as-a-Service program available (contact us for details)

Want to learn more about Phoenix's services and solutions for autonomous vehicles?

Send us an email at av@phoenix.com