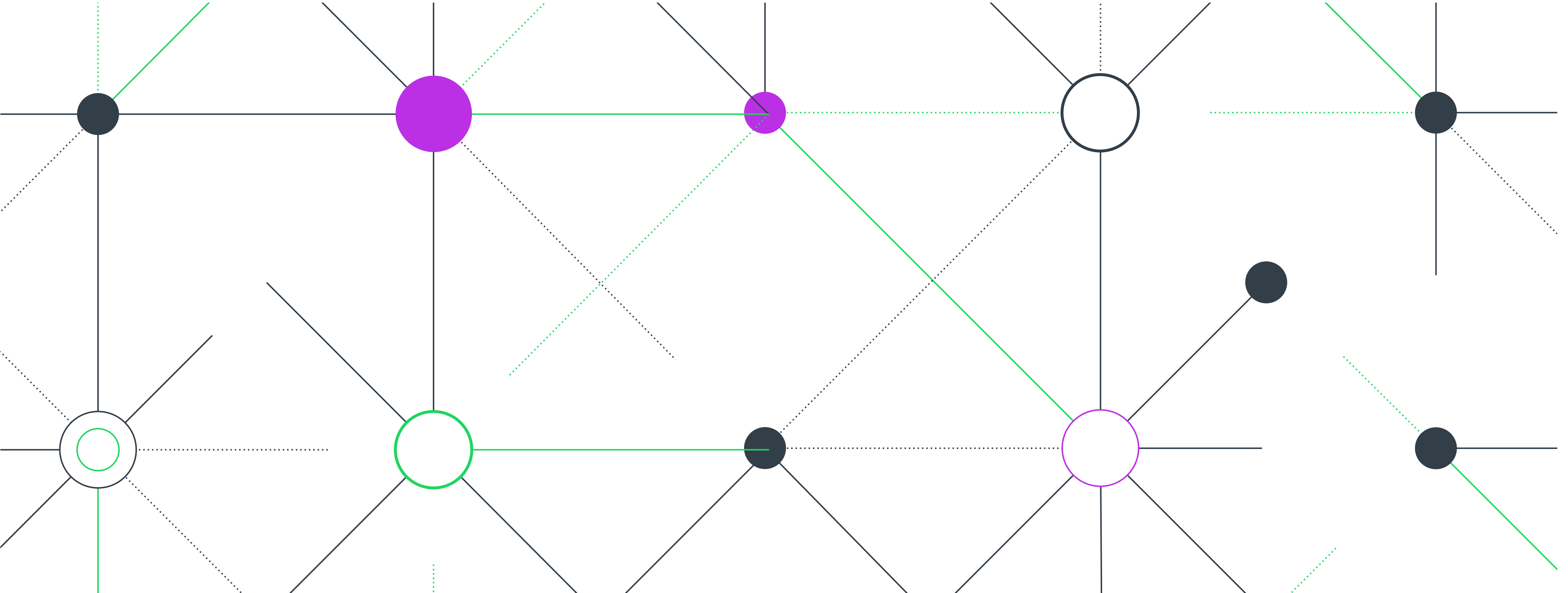
EBOOK

revenera

Software Composition Analysis in the Automotive Industry



EBOOK

The Modern Car:
Driving Fast for More Advanced Technology

The automotive industry is undergoing significant change. Automakers are looking to the advancement of integrated technology to power not just engines, but market share as well. Autonomous vehicles, sensor technology, speed monitoring, fuel efficiency tracking, diverse mobility, and social and In-Vehicle Infotainment (IVI) applications are just a few of the most recent advancements.

What's driving the convergence of tech with the auto industry? The answer—because almost every modern car feature today is digitized—is software. Software is defining the overall driver experience, and the foundation of that software is open source.

Free of cost, but not free of responsibility. According to Gartner, 95% of IT organizations are leveraging open source software. Like every other industry that reaps the benefits of OSS, there are license compliance, legal, and security issues auto manufacturers need to consider—in addition to legal and license requirements. Connectivity is certainly the end goal, but it should not outpace open source software requirements and obligations.

The benefits of open source software (OSS) are:

Lower development costs

Faster time to market

Strong development community

Many packages are **free to use, distribute and modify**

EBOOK

Managing Open Source and the Automotive Supply Chain

The automotive industry has one of the most complex supply chains, especially with the added emphasis on new and emerging technology embedded in today's cars. Most vehicles have upwards of 20,000 parts coming from a host of suppliers. Open source is channeled through all parts of the supply chain ecosystem. If a supplier or automotive OEM is unaware of the use of OSS in its products, it puts any manufacturer utilizing those components at risk. Ultimately, depending on how and where the software is used, that risk can be passed on to the consumer.

Manufacturers have to ask where does the code come from? What is the quality of the code and the associated licenses? Additionally, they should prioritize:

- Compliance for licenses inherent in the software and consideration of the interaction between licenses
- Strategies to track components and the multitude of required updates across both old and new vehicles
- Managing the pace of software releases and the volume of cars produced every year
- Use of automated Software Composition Analysis tools to defend against potential vulnerabilities and manage attribution and compliance

As open source use continues to increase, effective and efficient management of OSS risk is increasingly important. Automakers must be able to identify OSS use in the ecosystem, minimize license compliance exposure, assess vulnerability risk, and set and manage OSS policies within their organizations, and apply those policies to third-party suppliers.

Revenera Empowers the Automobile Industry with Software Composition Analysis

Trends in Modern Vehicle Software Use

50-70% of automotive software stacks originate with Open Source

Most organizations are aware of **less than 10%** of their OSS use

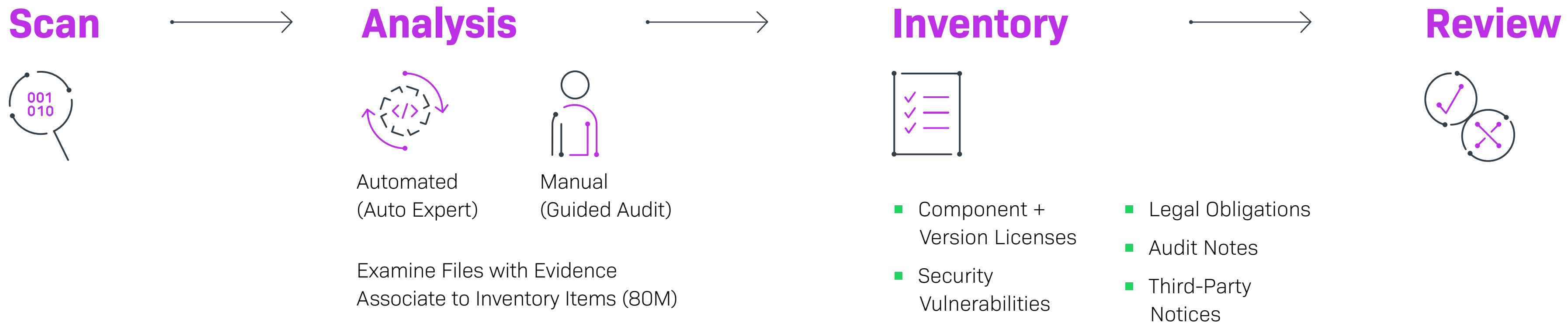
Increasing volume of software used in vehicles equals **>80-100 million lines of code**

Advanced driver assistance and autonomous vehicles deploy **10× more software**

The **typical application** contains hundreds of open source packages unknown to developers

Revenera's End-to-End Software Scanning Solution Enables:

- ✓ Identification of open source software use and third-party code in software applications
- ✓ Deep visibility and control of open source software
- ✓ Creation and management of open source software policy
- ✓ Creation and management of a Software Bill of Materials (SBOM)
- ✓ Minimized license compliance exposure
- ✓ Vulnerability risk assessment



Scan → Analysis → Inventory → Review

Analysis

Automated (Auto Expert)

Manual (Guided Audit)

Examine Files with Evidence Associate to Inventory Items (80M)

Inventory

- Component + Version Licenses
- Security Vulnerabilities
- Legal Obligations
- Audit Notes
- Third-Party Notices

Review

The Revenera Difference

Revenera integrates with common build tools and provides one of the largest open source knowledge bases in the industry, with more than 14 million components. Never miss evidence of open source—from software packages to code snippets.

Identify, Approve and Track third-party content elements used in code for compliance with IP and security policies

Quickly locate specific OSS or commercial components used in products

Efficiently generate vulnerability alerts for registered components used in applications and products

Create third-party notices for an accurate Software Bill of Materials

Guide developers to preferred open source components and and encourage reuse to stay in compliance

EBOOK

Speed Toward Enhanced Open Source Compliance, Security and Risk Management

By integrating policies, processes and effective management of open source software use, auto manufacturers can reach new levels of security and compliance. They can get clean and stay clean with enhanced visibility and control of the OSS found in their software applications and packages.

How Mature is Your SCA Process?

Process Maturity and Business Value ↑

Optimized **LEVEL 4**	Are we optimized for growth, scalability and digital transformation?
Automated **LEVEL 3**	Have we automated processes for scale and best user experience?
Enabled **LEVEL 2**	Are we using standard vulnerability management, OSS compliance and obligation management processes across all products?
Reactive **LEVEL 1**	Are our applications secure, compliant and centrally managing obligations?

Keys to Getting Started:

- Understand where open source compliance and risk management resides relative to maturity
- Assess the current state of open source use and establish a benchmark
- Create a culture built on compliance and security best practices
- Require third-party suppliers and OEMs to disclose open source use and open source license requirements
- Establish stakeholder training and education
- Create an Open Source Review Board (OSRB) comprised of IT executives, engineering, legal and developers to establish compliance best practices

Conclusion

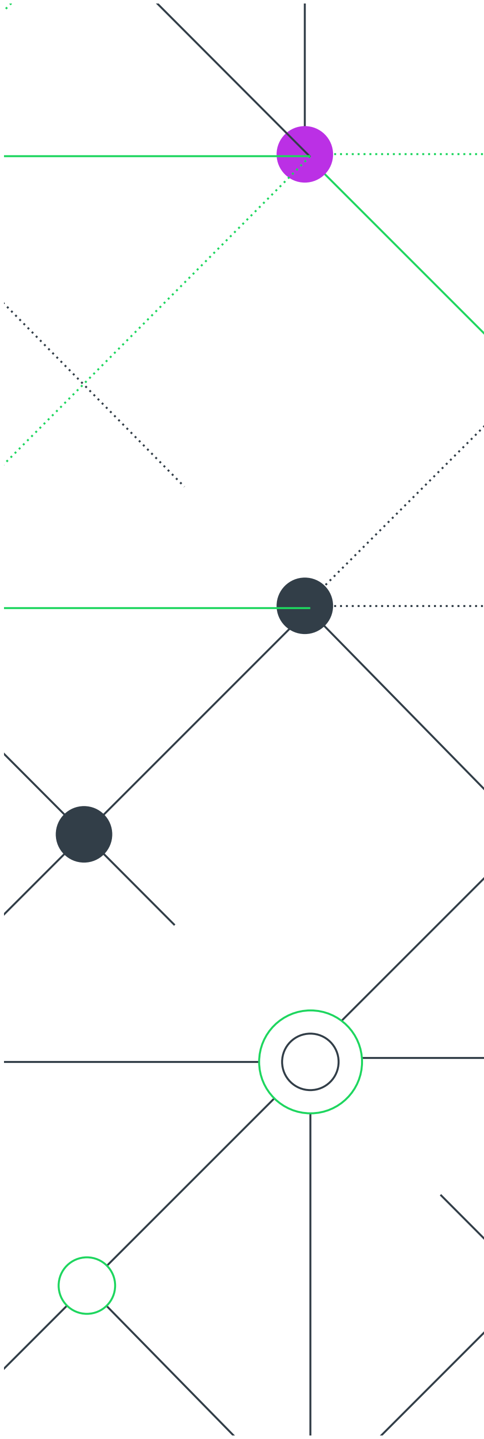
Research shows consumers are continually interested in advanced vehicle technology, pushing the auto industry to engineer strategies that integrate emerging technologies in the manufacturing of their automobiles. Inevitably, the use open source software will continue to rise.

Revenera's Software Composition Analysis solutions are built to detect issues early, saving security, legal and development teams significant time and effort in finding and mitigating problems. Revenera puts constant open source protection in place with both fast, high-level scans and full, comprehensive scanning capabilities that takes a smart approach to staying ahead of open source vulnerabilities and license compliance issues. To learn more, visit www.revenera.com/protect.html.

NEXT STEPS

Looking to get started with a robust, end-to-end Software Composition Analysis solution?

CONTACT US >



Revenera provides the enabling technology to take products to market fast, unlock the value of your IP and accelerate revenue growth—from the edge to the cloud. **www.revenera.com**

1.800.809.5659 | +44.870.871.1111 | revenera.com

revenera™