

5 CHALLENGES in Modern Automotive Product Development

In the increasingly competitive and rapidly evolving automotive industry, market forces are creating new challenges for automotive product developers. To reduce risks and stay competitive, organizations need to deploy modern technology solutions that provide visibility, improved collaboration, and alignment to industry standards across the development lifecycle.

1 ENSURING PRODUCT QUALITY & MEETING SAFETY-CRITICAL STANDARDS

Industry standards are evolving to address the innovative technology needed to support autonomous, electric, and smart, connected vehicle manufacturing. Companies must continue to ensure functional safety and quality as new products are launched to market to meet consumer demand.



Greater Complexity = Greater Risk



With increased technical complexity, the risk for catastrophic & costly system failure grows.



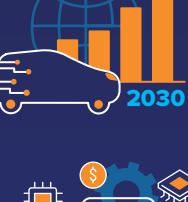
NHTSA probe for possible battery defects after 'alarming number of car fires' – and could face up to \$111.6 million in fines.¹

2 INNOVATION IN ELECTRIC VEHICLE TECHNOLOGY IS EXPENSIVE

The development of cutting-edge electric vehicle (EV) technology has raised the cost of innovation. Because this automotive innovation requires more expensive electronic systems, semiconductors have become the fastest growing component in a modern vehicle. Managing the increased cost of this technology is a key challenge for modern complex automotive product development.



Advanced Technology = More Investment



The global stock of electric cars is projected to grow to **125 million by 2030** – a compounded growth rate of **33%**²



The average EV contains more than **\$1,000 worth of semiconductor parts**³

3 CONSUMERS WANT SMART, CONNECTED CARS

The lines between traditional hardware manufacturing and software development (the digital experience) are merging. Evolving consumer expectations and the prevalence of smart phone technology is driving the demand for connected services in the automotive market. By 2030, 45% of new vehicles will contain preference-based personalization technology, representing a value pool ranging from \$450 billion to \$750 billion.⁴



Greater Connectivity = Increased Security Concerns



83% of consumers are concerned that increased connectivity means that their vehicle will be manipulated⁵



47% of consumers would be willing to switch brands in order to access new and innovative connected car services⁶

4 MOBILITY SERVICES ARE THE FUTURE

Fueled by improvements in autonomous vehicle (AV) technologies, mobility services will grow exponentially over the next decade. Digitally enabled car-sharing and ride-hailing is set to become a key driver of growth and profitability in tomorrow's auto markets, far outstripping the profitability of traditional car making. There is massive acceleration in investments for relevant technologies—with e-hailing, semiconductors, and sensors for advanced driving-assistance systems and autonomous driving still being frontrunners.⁷



The Race for Mobility is On



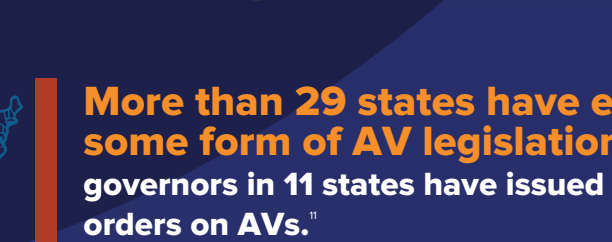
Revenues from mobility services are projected to soar to **almost \$1.2 trillion—with profits reaching as much as \$220 billion**.⁸



48% of respondents would consider giving up car ownership in favor of using autonomous mobility solutions.⁹

5 THE POTENTIAL OF AVs IS UNDENIABLE, SO IS THE RISK OF LIABILITY

As AVs become more prevalent, lawmakers are responding to the changing implications on accident liability. As responsibility shifts away from drivers, AV producers will need to respond to shifting liability risks.¹⁰ The impact on legislation creates challenges for the automotive manufacturers of components and vehicles.



AVs Will Face Unprecedented Scrutiny



More than 29 states have enacted some form of AV legislation, and governors in 11 states have issued executive orders on AVs.¹¹



By 2040, AVs are projected to make up 66% of total passenger travel.¹²

Meet Complex Industry Challenges with Jama Software's Solution

Stay market competitive with Jama Connect™ for Automotive. Our solution helps you better manage product requirements, hazards, and test in one powerful platform, speeding time to market and ensuring you meet functional safety standards. Tightly aligned to industry standards and regulations, Jama Connect for Automotive simplifies and improves development cycles across an increasingly complex supplier ecosystem.

Jama Connect for Automotive was designed to help teams:

- Identify and mitigate hazards earlier in development, saving late-stage changes.
- Manage and validate complex systems requirements while eliminating the inefficiencies associated with documents-based and legacy systems.
- Align tests and requirements, run test cases, and instantly log connected defects when tests fail.
- Accelerate adoption and improve compliance using frameworks aligned to key industry regulations (ISO 26262 and ASPICE).
- Improve functional safety compliance using procedure and configuration guides developed for automotive product development.
- Support the automotive product development process with export templates and hazard analysis reports designed specifically for the industry.
- Functional Safety Kit for Jama Connect comes with process documentation, critical workflows/safety manual, and a TÜV SÜD Certificate and Report.

Do you have automotive product development challenges?
We'd love to demonstrate how Jama Connect for Automotive can help you better manage requirements, hazards, and tests—speeding time to market while meeting functional safety standards.

To learn more, visit jamasoftware.com/solutions/automotive

1) <https://abcnews.go.com/Technology/federal-probe-launched-tesla-battery-defects-alarming-number/>
 2) <https://www2.deloitte.com/us/en/insights/industry/automotive/vehicle-electrification-global-automotive-industry.html#endnote-sup-11>
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