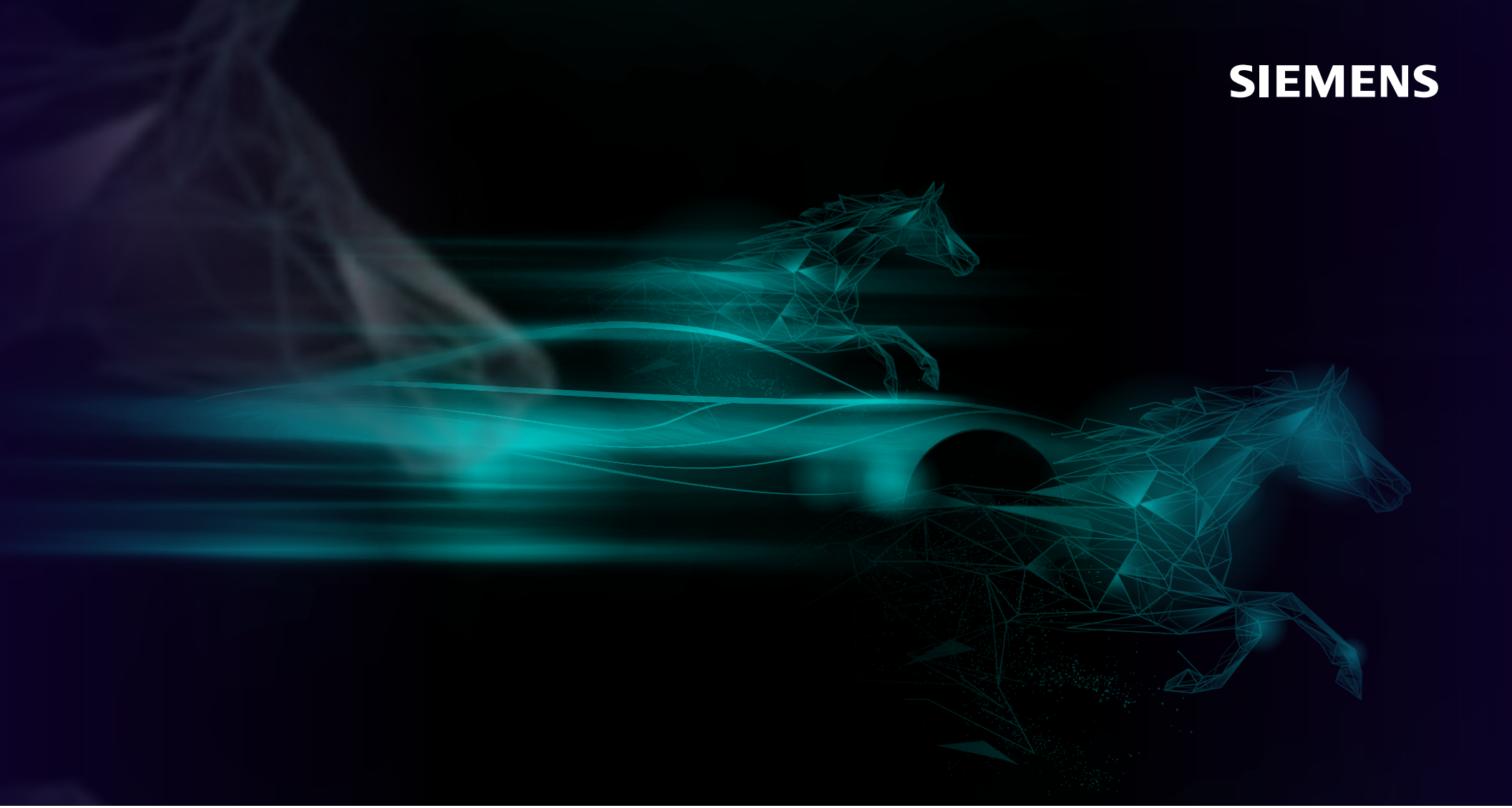


Data Accessibility, Dissemination and Compliance Tracking

Auditable traceability for the complete product lifecycle.
siemens.com

The path to automotive innovation is paved with data.

Do you have the tools you need to future proof your business and stay ahead of the competition?

The growing popularity of electric vehicles and autonomous driving has opened the door for new competitors to enter the industry. Technology-led businesses are leveraging their expertise and agility to push the market forward, compressing development cycles and capturing market share as they get ground-breaking products to market first.

OEMs are falling behind as they struggle to adapt their traditional processes to drive greater innovation while maintaining profits from traditional vehicles, stretching resources to their limits.

This is exacerbated as consumers push for more sustainability and greater connectivity, personalization, and comfort while governments increasingly legislate to face the climate crisis.

To successfully develop the next generation of vehicles, carmakers will need to adopt a new approach that ensures they adhere to stricter regulations and unlock the value of data to generate much needed efficiencies and reduce development costs without impacting quality or performance.

Key Drivers:

- **Climate change is pushing rising demand for eco-friendly, sustainable vehicles.**
- **Globalization increases the need for greater collaboration and resource control.**
- **Sky-rocketing product complexity is challenging traditional manufacturers.**
- **Developing AVs and EVs calls for new techniques and lightweight materials.**

Trend #1

Disruptive trends like autonomous vehicles (AV), advanced driver-assistance systems (ADAS), and electric vehicles (EV) are adding complexity to vehicle development.

Trend #2

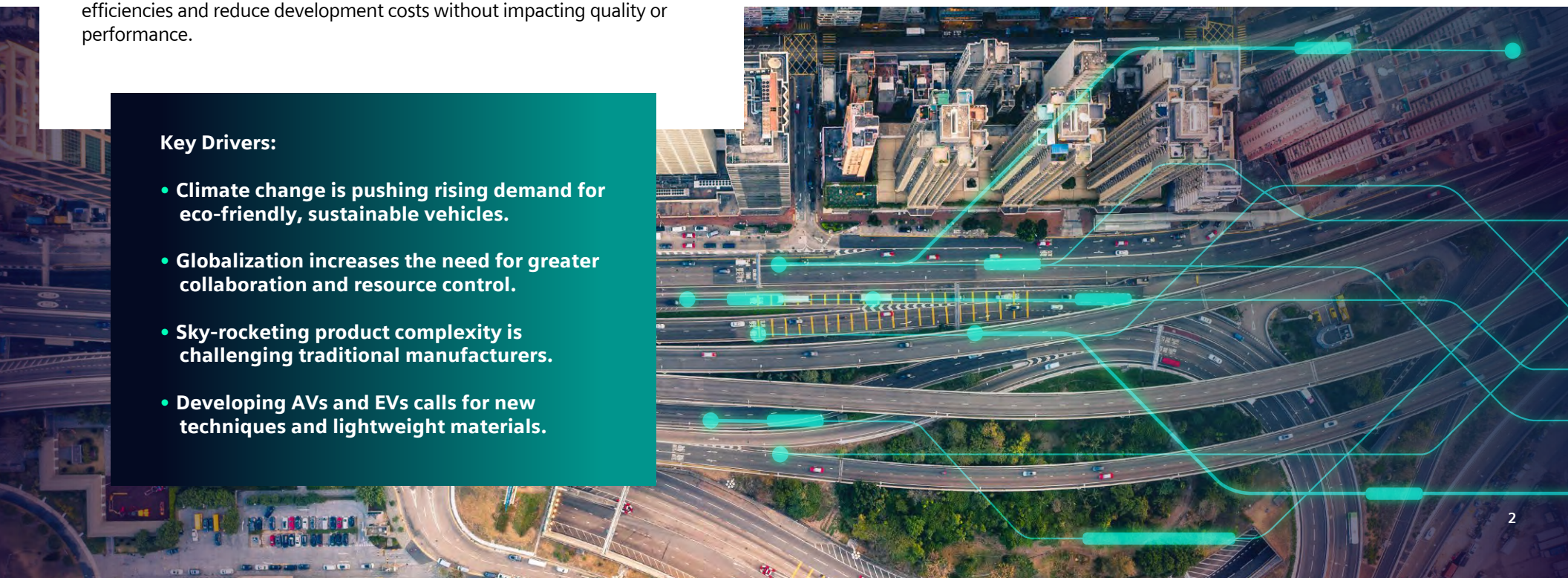
New products are more complex and difficult to track and manage.

Trend #3

Government and cultural mandates are escalating to address climate change, sustainability and safety.

Trend #4

Enforcement of homologation and regulatory requirements is becoming stricter to ensure compliance, resulting in increased violations, fines and criminal prosecution.



Embrace complexity with consistent and auditable traceability

Hardwire a digital thread backbone into your product development ecosystem to improve traceability and auditability.

Siemens Accelerated Product Development integrates PDM (product data management system) to accelerate innovation.

The need to trace requirements and integrate workflows has never been more pressing. Fail to do so, and you risk coming late to market with products that are outdated, eroding your competitive edge, and impacting sales.

Poor data management systems often cause product development delays. Critical information is held in silos, resulting in multiple sources of data with no clear data trail.

Furthermore, when information is passed along verbally, by email, and through handwritten notes, details are lost, and misunderstandings occur.

Teams waste time and effort searching for information, often unsure if they are working with the most recent, accurate data.

Consequently, designs are based on the wrong requirements or tested using incorrect parameters. By the time mistakes are caught, the subsequent rework, warranty claims and recalls can reduce consumer confidence and erode profits.

As market demand for more complex products grows, so do the challenges of tracking numerous, interconnected requirements.

Without reliable traceability, carmakers are struggling to ensure they have fulfilled new regulatory and homologation requirements, leaving them exposed to higher liability risks and rising warranty costs.

Many are forced to slow down development and hire more legal services to protect their reputation and bottom line.

But being early is critical to gain market share, particularly regarding the rising trends of electric, autonomous vehicles, and ADAS.

To strike the delicate balance between thriving in today's market and developing the next generation of intelligent, connected vehicles, you need to maximize efficiencies to speed up development.

An integrated data management process that is fully accessible to the product development ecosystem is the first step to reducing wasted time and effort to free up key resources.

- Balance immediate profitability and innovation to thrive today and tomorrow.
- Improve collaboration and communication to boost efficiency.
- Strengthen regulatory compliance to reduce the risk of fines or penalties.
- Cut rework costs and avoid delays.

Implement a comprehensive data management system with a digital thread to validate the next generation of vehicle design

How can digitalization help you stay at the forefront of today's fast-paced automotive industry while also engineering the next generation of transportation?

Implement a single source of truth for the entire ecosystem with real-time, user-friendly dashboards that guarantee information is instantly accessible to all stakeholders, keeping them in sync wherever they are located.

Implement a data and workflow tracking system with built-in revision and control processes to ensure all requirements and information changes are updated for fully auditable traceability.

Incorporate a status overview of regulatory compliance tasks to track progress and show completion to reduce the risk of product recall, regulatory compliance offenses, and legal consequences

Automate and streamline workflows to ensure the timely completion of tasks that keeps development on schedule.

Integrate requirements and data tracking within the product development process enabled by Siemens' digital thread technology that ensures you use use the right tests and specifications to validate your design the first time—no more wasted time and effort to undo errors.

Access the closed-loop digital backbone that makes the PLM (Product Lifecycle Management) accessible to everyone in the product development ecosystem.

Run MCAD and ECAD in one environment to avoid performance issues by ensuring domains interact seamlessly.

Manage all, data, information and documentation (compliance, testing and simulation, costing, requirements, targets, planning, and scheduling) together for streamlined results and higher quality.

Empower the digital twin and enable all stakeholders to interact with your multi-domain BOM management, integrating electrical, mechanical, and software components.

Forecast, track and control costs through workflows to ensure programs meet revenue profit margins.

Accelerated Product Development solutions provide the necessary infrastructure for a more collaborative and productive environment that accelerates product development

Guarantee traceability, improve product quality, and reduce development time and costs with APD.

About Siemens Accelerated Product Development:

Siemens APD empowers automotive manufacturers to accelerate innovation and drive efficiencies.
Its state-of-the-art product lifecycle management system improves auditable traceability. It provides a digital backbone to integrate product requirements into the development ecosystem to meet regulatory and homologation objectives. Siemens digital thread ensures all changes are updated automatically. Stakeholders gain access to the most up-to-date information in real-time, creating a seamless, collaborative environment that reduces errors and boosts productivity to accelerate product development.

Siemens' digital twin technology is especially valuable in fast-moving high-tech markets using emerging technologies such as 5G, the Internet of Things (IoT), smart manufacturing, and artificial intelligence (AI). Working with Siemens enables OEMs and their suppliers to develop the next generation of innovative vehicles faster.

For more information on Siemens Accelerated Product Development, visit, visit siemens.com/apd or follow us on LinkedIn and Twitter.

Siemens Accelerated Product Development
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