SPREAD

From & for engineers | AI-powered Engineering | Fastest time to value

Product Offer Architecture and deep dive into Action Cloud Solutions

Overview Presentation

December 2024

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Core Pre-Configured Engineering Intelligence Solutions

EI Solutions	R&D	Production	Aftermarket
Product **Explorer**	Navigate product architectures, explore configurations, dependencies, and features across variants		Provide holistic product transparency for aftermarket product management, including repairs, SW and E/E issues
Product **Architect**	Define and refine requirements, specify function realizations, and design and optimize components across variants	Generate assembly sequences and layouts, and align production requirements with R&D	Generate repair sequences, workflows, and manuals, and manage spare parts across configurations
E/E **Inspector**	Detect SW and E/E errors early, ensure full traceability, and link issues to system dependencies	Guide troubleshooting of SW and E/E errors in production by linking issues to system dependencies	Resolve SW and E/E issues by linking errors to system dependencies and uncovering recurring patterns
Action **Tower**	Monitor product maturity, track errors, ensure data quality and governance throughout R&D	Sync production line data with product data to gain full control over throughput, quality and error resolution	Connect field to product data, providing variant insights, trace root causes and detect product issues early
Upskilling **Coach**		Provide live access to holistic product information and variant deltas, learning paths and guidelines	Provide live access to holistic repair instructions and variant deltas, learning paths and guidelines

EI Agents

* Unlock limitless possibilities with low-code SPREAD Studio, enabling your organization to build your own solutions and agents' configurations

R&D

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Develop & integrate complex products more efficiently with data in context

Problem

The development of modern, highly complex products and systems requires perfect coordination between relevant requirements and stakeholders. Misalignment and lack of transparency lead to inefficiencies, increased costs, delayed time-to-market, and compromises on quality.

Solution

Your R&D teams collaborate seamlessly, benefiting from real-time insights and transparent interactions across all product domains. By providing a unified suite that ensures both technical functionality and compliance, your team will be able to deliver high-quality systems more quickly and cost-effectively.

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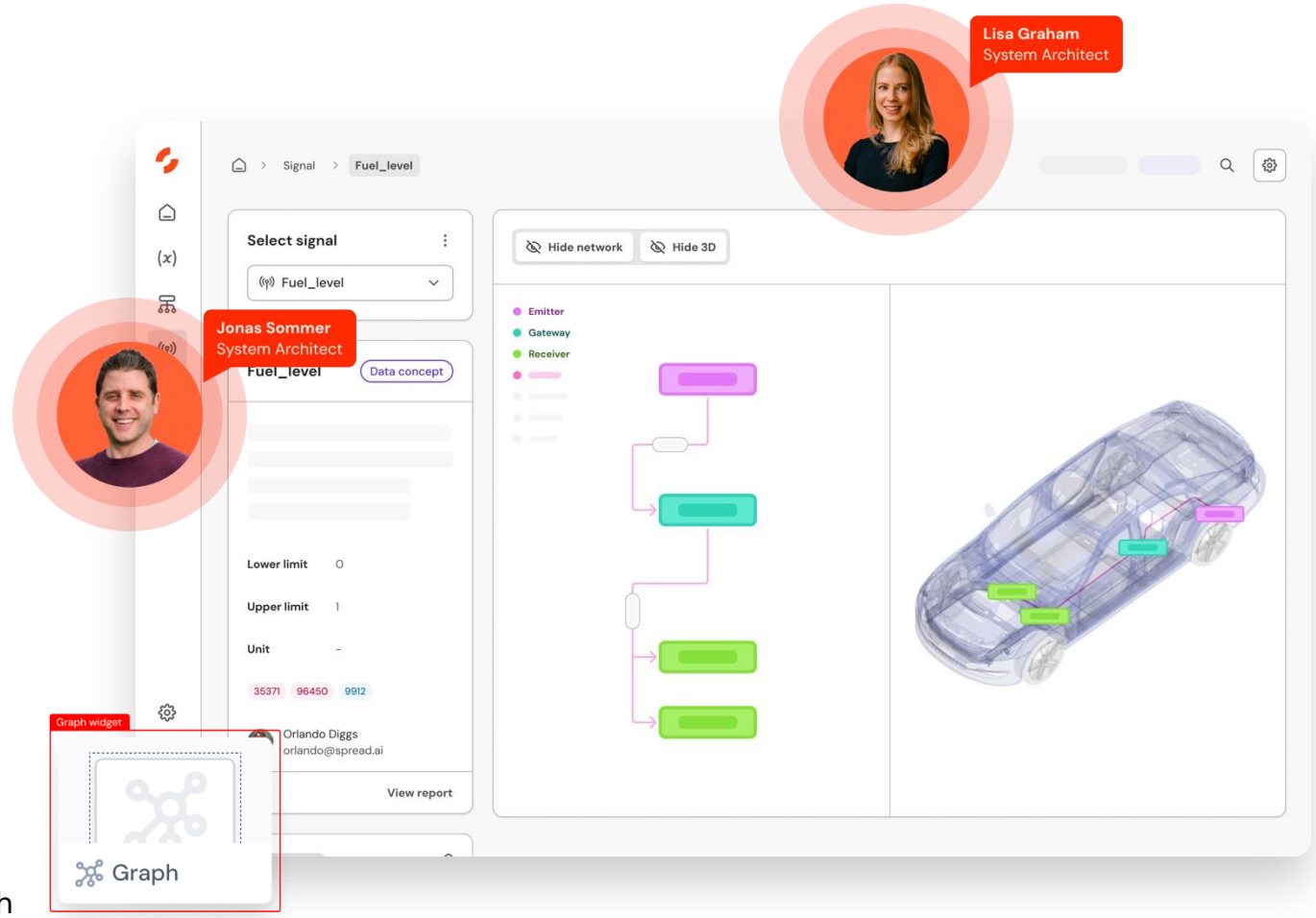
Product Explorer in R&D

Navigate architectures to decode product complexity



Problem

Managing functional dependencies is crucial but often overlooked, leading to late-stage issues that are costly and time-consuming to resolve. Developers rely on complex tables that are hard to navigate, making it difficult to understand how components and functions interact. This lack of clarity increases errors, delays, and costs.

Solution

Your component responsible and function developers are equipped with an intuitive, graphical overview of functional dependencies. By offering clear insights into component, function, and signal relationships, developers can proactively address issues, ensuring earlier error detection and seamless integration. This enhances clarity, reduces rework, and accelerates the development process, enabling smoother collaboration across your R&D teams.

Up to
40%
faster development

Reduce
70%
of errors in testing

Prevent
recalls
& unhappy customers

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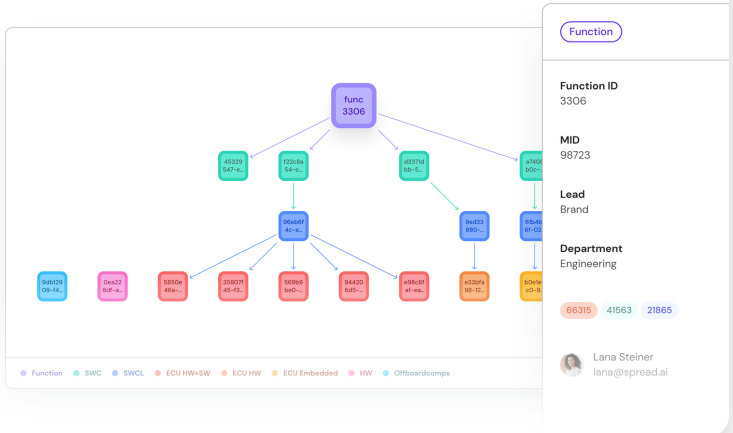
Product Explorer in R&D

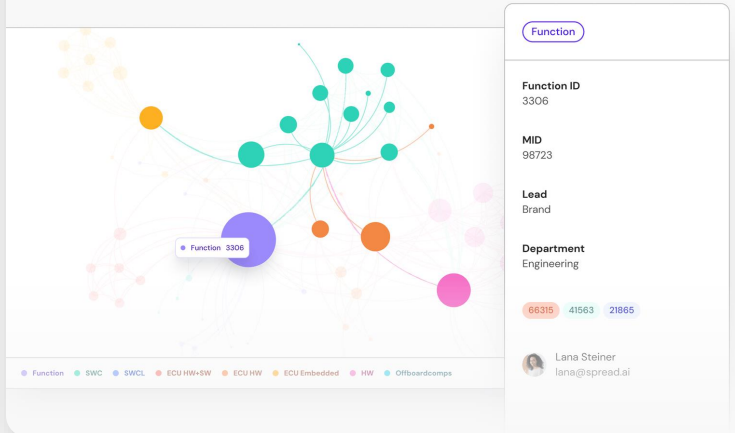
Explore signals and functions

Investigate existing signals and their roles within system functions. Gain a clear understanding of communication flows and functional interactions to support design validation and optimization.



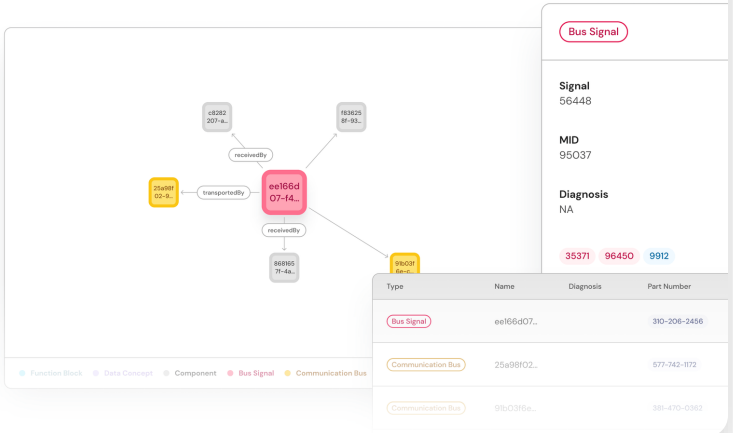
Analyze component mapping

Examine how functions are distributed across components, ECUs, and their associated software modules. Identify dependencies and assess how these mappings impact system performance and reliability.



Break down functions into signals

Understand which signals ultimately constitute a function. Examine sender-receiver views of all signals and gain an overview of your system's communication network.

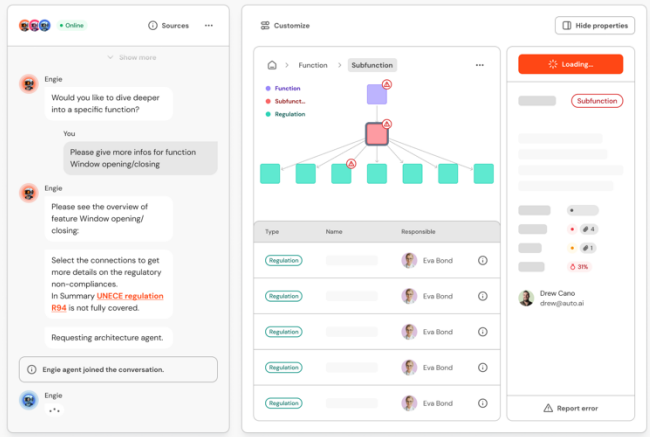


Product Explorer in R&D

Use Case Requirement Management

Align Requirement Management

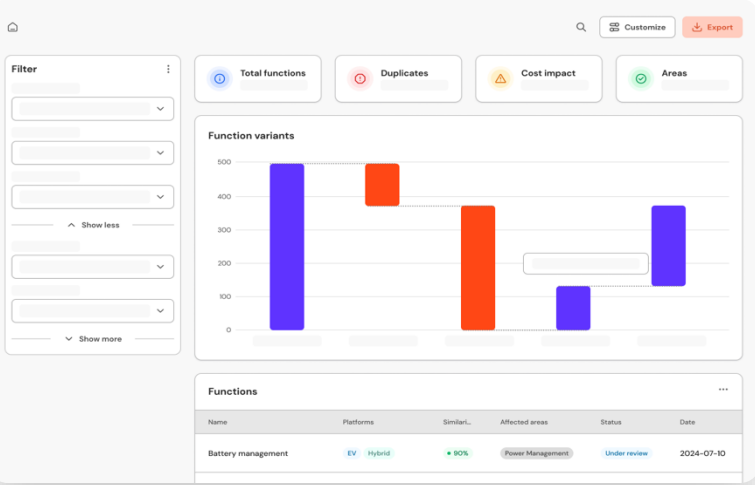
Simplify requirement management with centralized access to specifications, traceability links, and status updates. Align teams, track changes efficiently, and ensure compliance with project goals, enabling faster validation and smoother development workflows.



Use Case Variant Management

Manage Variant & Configuration

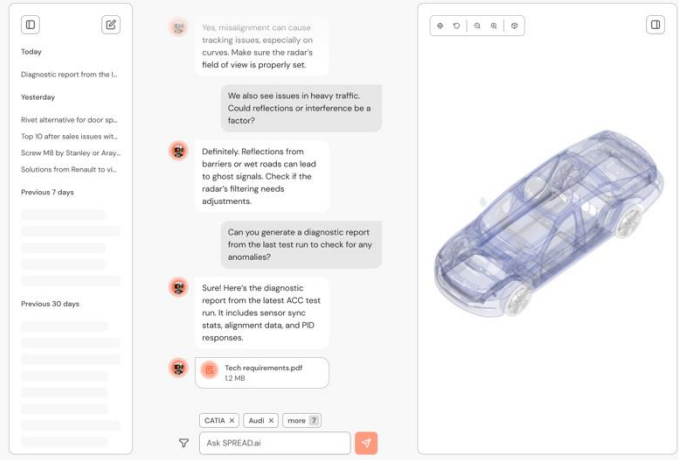
Easily manage variants and configurations with centralized access to technical data, dependencies, and change histories. Optimize decision-making, ensure consistency across teams, and streamline the integration of complex product configurations.



Use Case Knowledge Assist

Unleash knowledge within your R&D

Integrate fragmented data sources and structure unstructured information for seamless access. Enable efficient searches for compliance, portfolio management, and other critical inquiries, ensuring your team stays aligned and informed across all project stages.



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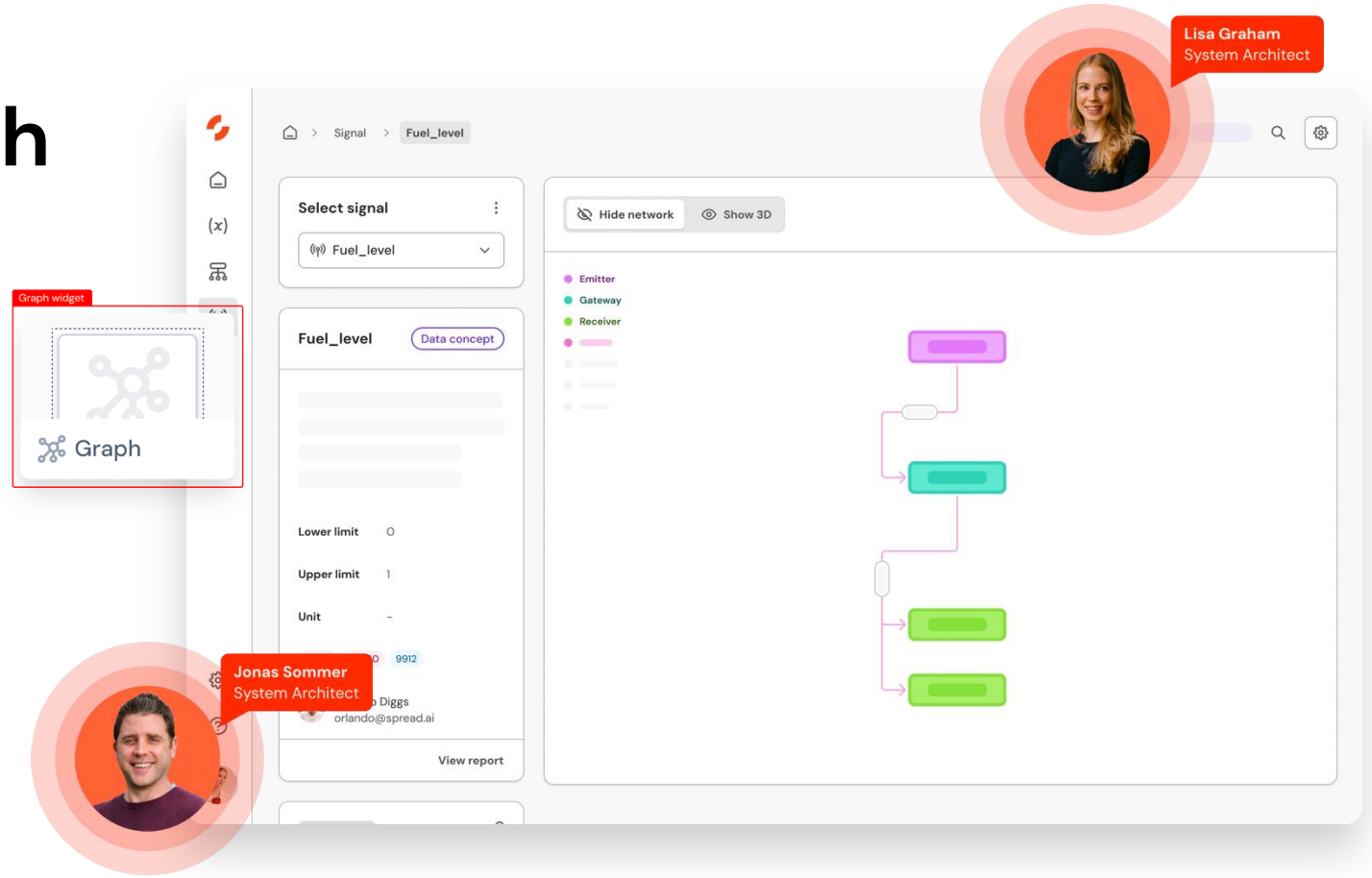
Product Architect in R&D

Design architectures with system dependencies in mind



Problem

Complex system architectures require clear insights into dependencies across hardware and software. Variants, models, and evolving functions add to this complexity, making it hard to align and optimize designs efficiently.

Solution

Your R&D teams can define and refine requirements, realize functions, and design components while managing dependencies across variants. With system-level insights and intuitive search, create functions, and components faster, ensuring optimized system architectures and seamless collaboration.

Up to
40%
faster documentation and definition of function realizations

Signal network
30%
reduction in time spent designing and optimizing components

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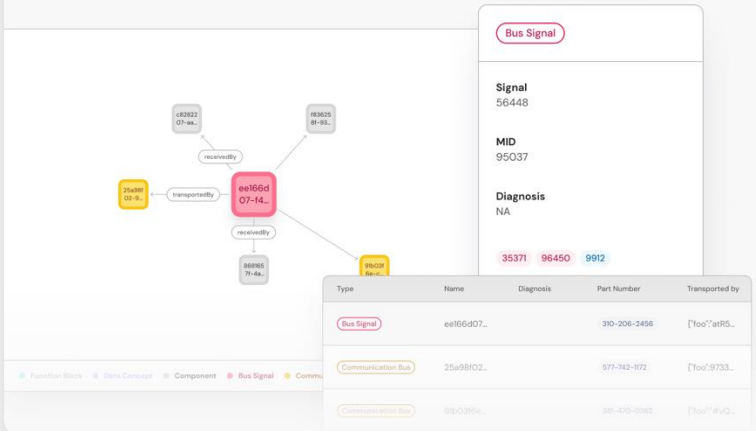
Product Architect in R&D

Create signals and functions

Define and create signals and functions to represent system behaviors and interactions, forming the foundation of your system architecture.

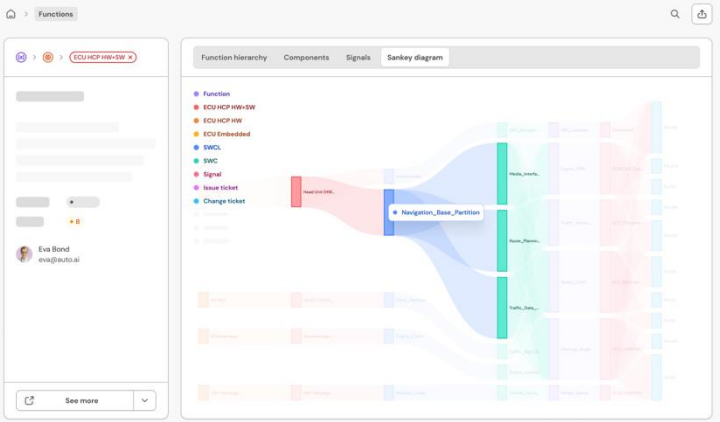
Assign functions to components

Map functions to specific components, ECUs, and their associated software modules, ensuring a clear definition of how the system is realized.



Understand system relations

Visualize and establish precise relationships between signals, functions, components, and software modules, creating a fully traceable and structured system network.



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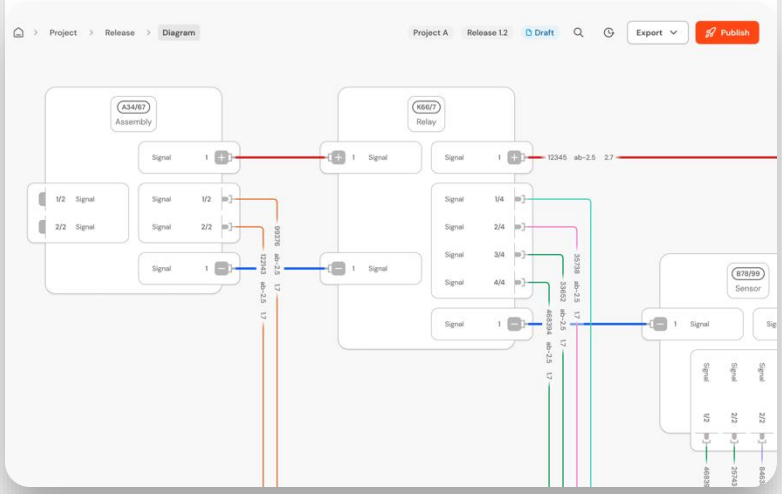
Product Architect in R&D

Use Case Wiring Design

Accelerate wiring harness design

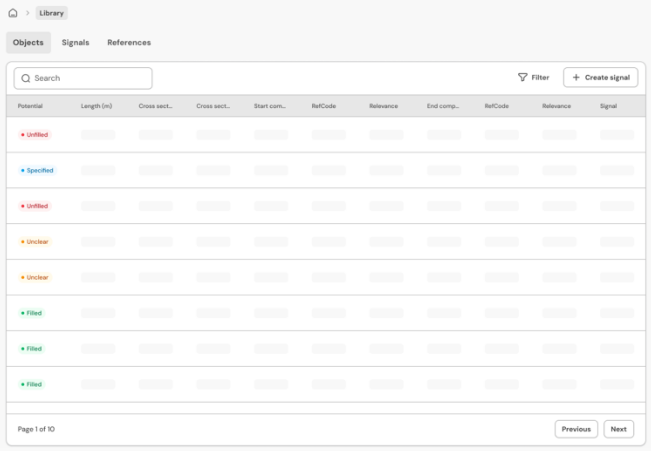
Circuit Diagram Creator (CDC) simplifies the creation and management of circuit diagrams with its versatile object library. Define components, connect them, and export diagrams to E-CAD tools for seamless early-stage development.



Use Case Wiring Optimize

Optimize wiring harness

Cross-Section Optimization (CSO) enables efficient evaluation of wiring harnesses by analyzing data against standards. Upload harness files, electrical specifications, and run automated checks for voltage drops, fuse ratings, and compliance, ensuring optimized and accurate designs quickly.



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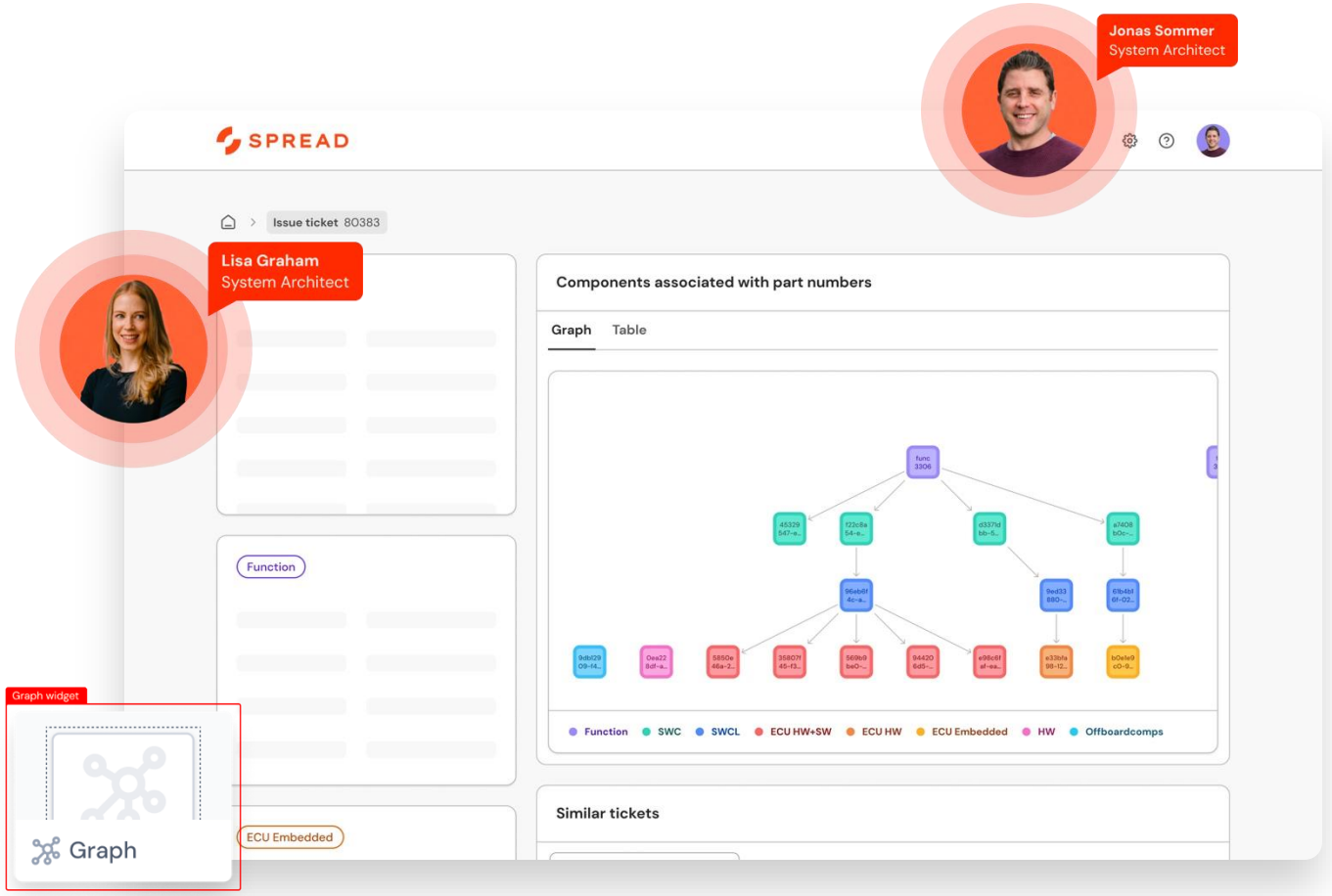
⚠ E/E Inspector in R&D

Detect issues early with complete traceability



Problem

R&D teams are under increasing pressure to resolve errors quickly as SOP deadlines loom. Disconnected systems and limited traceability complicate diagnostics and impact chain analysis, slowing down resolution. Without a clear understanding of how tickets connect to components, functions, and signals, these inefficiencies result in higher costs, delayed timelines, and risks to product readiness, ultimately hampering innovation.

Solution

The E/E Inspector solution enables your teams to efficiently identify errors and recurring patterns by connecting tickets to system dependencies such as components, functions, and signals. Enhanced traceability and transparency facilitate faster issue resolution, reduced delays, and improved collaboration, ensuring readiness for testing and production while driving innovation.

Up to
70%
reduced search time

Up to
67%
reduction in time spent diagnosing root causes

Up to
30%
time reduction in the testing period leading to faster SOP

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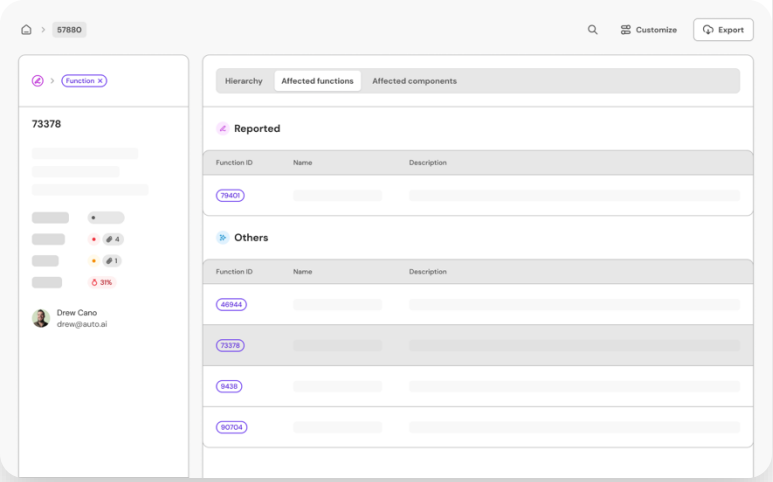
⚠ E/E Inspector in R&D

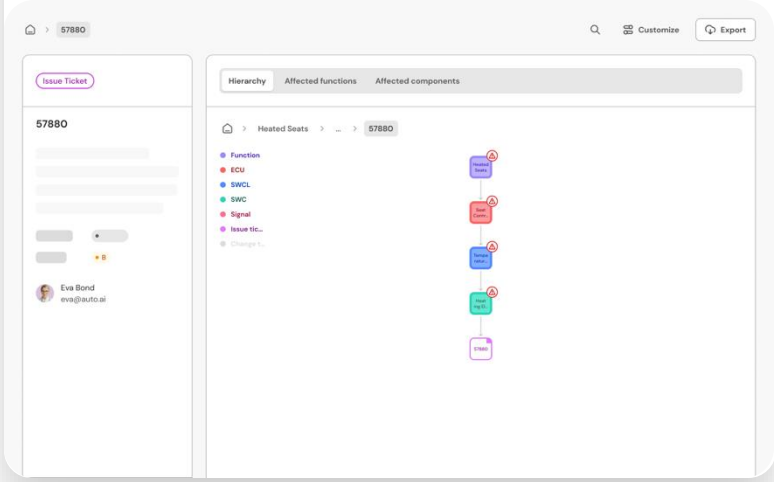
Explore issue tickets centrally

Link issue tickets to part numbers, functions, and release details in one view. Quickly identify dependencies and root causes while eliminating manual searches, enabling faster and more accurate diagnostics.



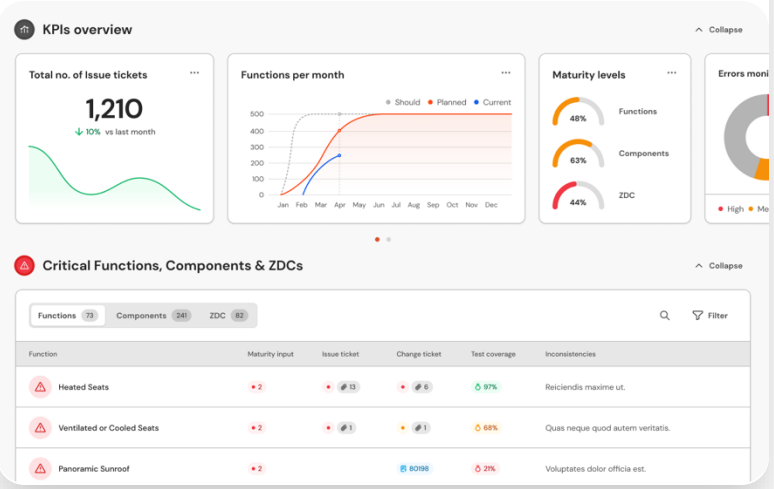
Dependency and root cause insights

Map components, functions, and dependencies to trace malfunctions. Visualize interconnections with color-coded insights to quickly isolate and resolve root causes, even in complex systems.



Track KPIs for error-free integrations

Use a dashboard to track resolved vs. unresolved tickets and diagnostic insights. Streamline troubleshooting with clear KPIs, eliminating duplicates and recurring errors efficiently.



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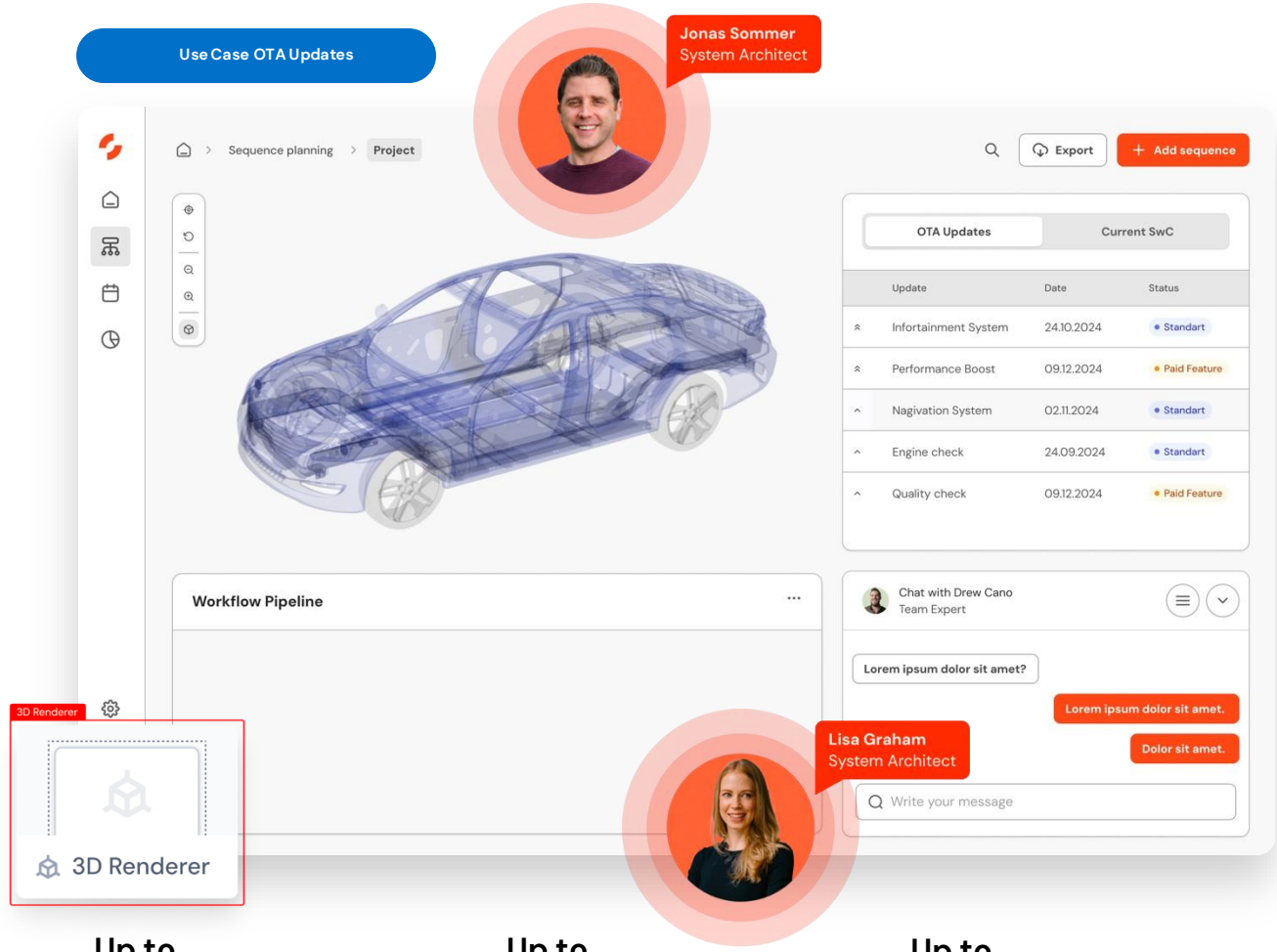
⚠ E/E Inspector in R&D

Boost OTA Update efficiency from Development to vehicle integration



Problem

Managing and enabling over-the-air (OTA) Updates involve challenges in both R&D and deployment. Errors in the update process can affect the vehicle performance and customer satisfaction. Inefficiencies in update delivery leads to delays, impacts functionality, and raises support costs. These challenges result in lost trust and potential revenue loss due to decreased customer satisfaction and increased maintenance needs.

Solution

Your team can leverage our OTA update management system to streamline the process from R&D to deployment. By ensuring efficient analysis, thorough testing, and reliable updates-delivery, our system maintains optimal vehicle performance and enhances customer satisfaction through timely and accurate updates.

Up to
20%
decrease in software-related errors

Up to
4x
faster administration & execution of updates

Up to
10%
increased software revenue

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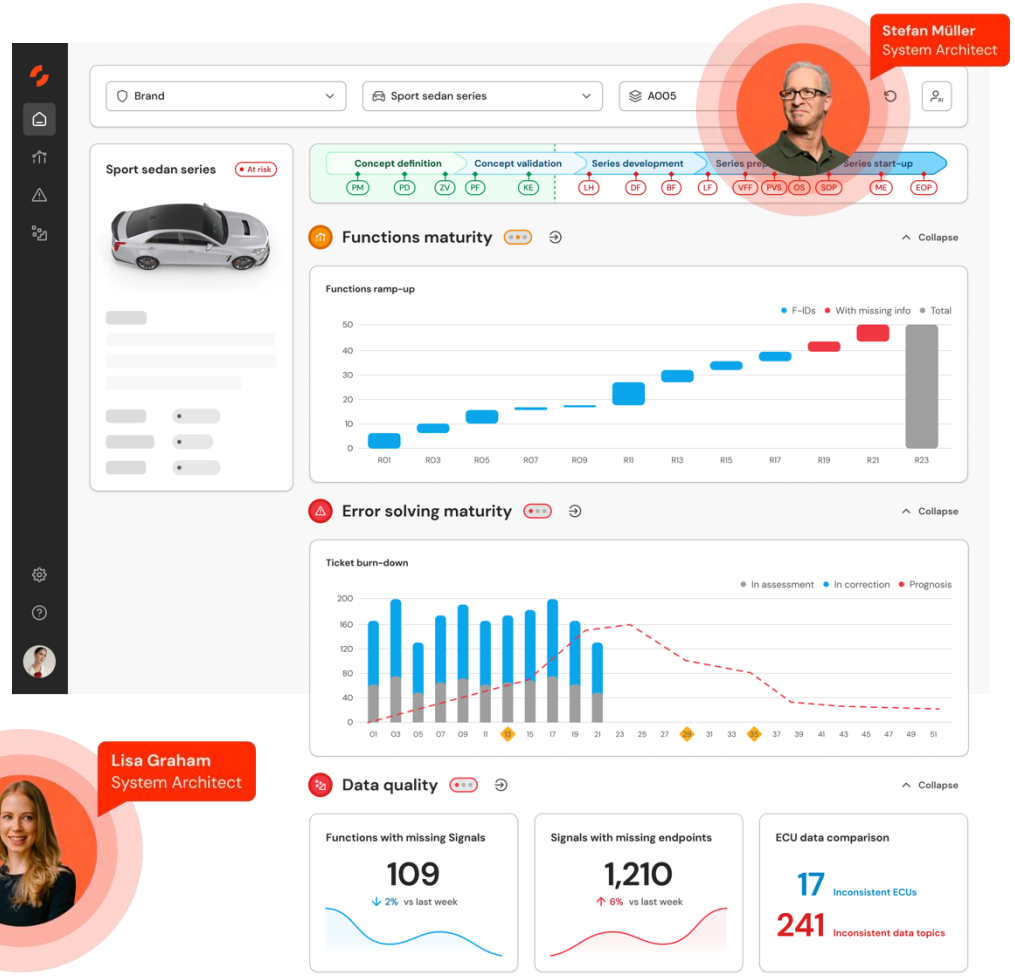
Action Tower in R&D

Steer R&D with product maturity, error insights, and data governance



Problem

R&D leaders, series managers, and product line managers struggle with fragmented insights into development progress, error resolution, and data completeness. Disconnected systems and manual tracking across multiple platforms and spreadsheets create blind spots in maturity, error management, and data consistency - resulting in delays, inefficiencies, and reliance on intuition rather than data-driven decisions.

Solution

You and your team benefit from real-time dashboards providing insights into product maturity readiness, unsolved errors, and data quality. Based on your questions, you can dive into specific errors, assess their impact on function readiness, and take data governance actions where needed. By replacing manual reporting with structured, fact-based insights, SPREAD enables you to focus resources on critical issues, keep development on track, and reduce rework efforts.

Up to
40%
SOP delays reduction

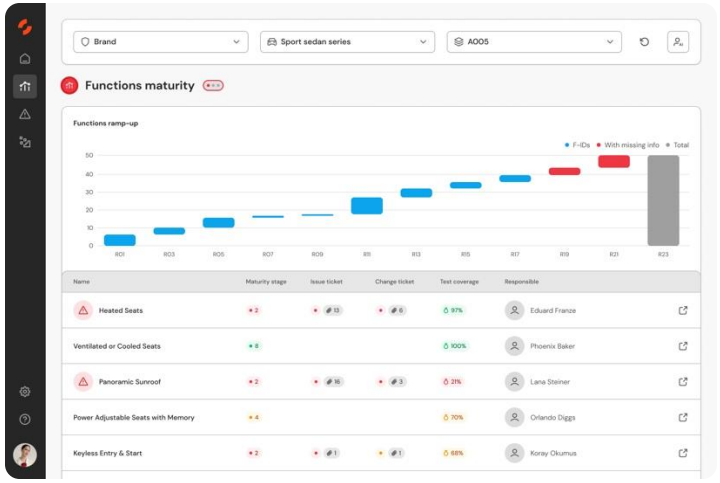
Up to
30%
development cost reduction

Up to
25%
increased on-time milestone completion

Action Tower in R&D

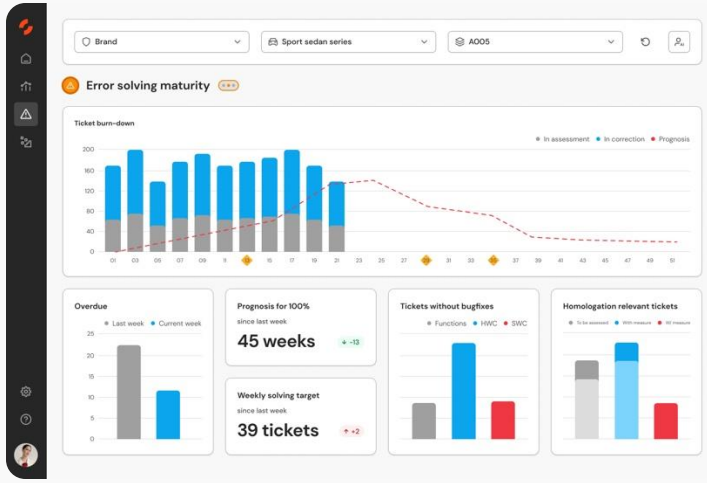
Monitor product maturity in real-time

Monitor status on product maturity, showing current state and planned functional ramp-ups, releases, and SW & HW component readiness. This enables actionable decision-making and prioritization, as well as detailed deep-dives where needed, all supported by connecting system data to ensure nothing is overlooked.



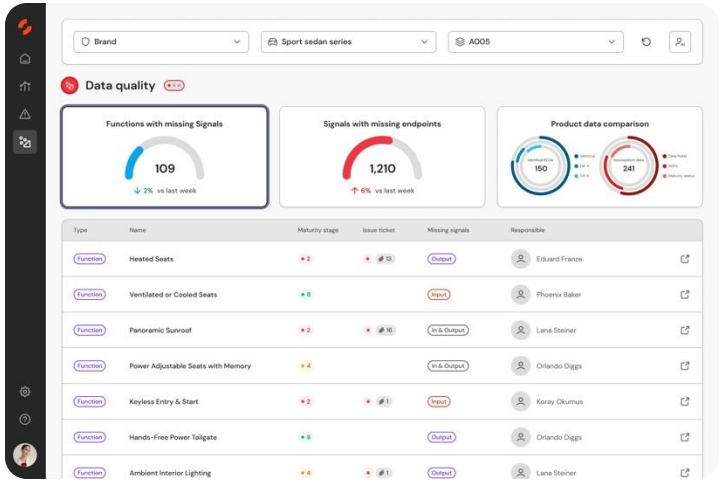
Easily keep track on errors

Automatically generate and unify error and issue status into a comprehensive report. Track historic trends, planned vs. actual issues predictions, and critical KPIs, while highlighting the most severe and long-lasting issues. By linking errors to product maturity, you can assess risks and derive effective mitigations.



Ensure data quality and governance

Assess the quality of data critical for steering your project from an architecture perspective, focusing on completeness, and consistency. Easily identify gaps that slow down engineering processes. Take action by engaging the responsible teams or departments to ensure strong data governance and project efficiency.



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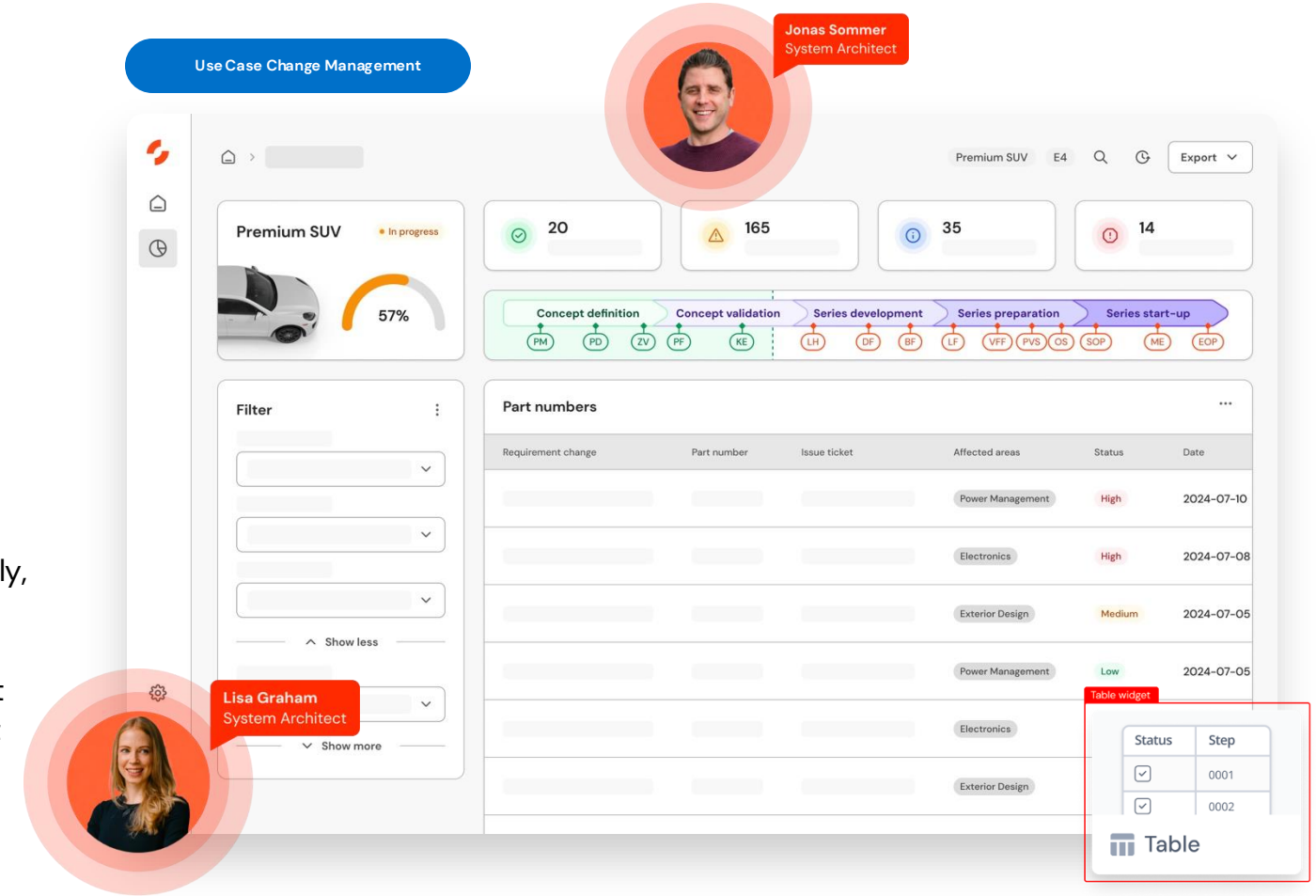
Action Tower in R&D

Trace the impact of changes on all dependencies



Problem

Throughout the entire R&D process, changes must be managed efficiently, whether they involve Model Year Updates (MOPF), Over-the-Air (OTA) updates, or Remote Software Updates (RSU). Error managers, BTVs, and FPVs need a clear overview of all change-related information and impact chains. Currently, tracking changes is inefficient, relying on change ticket numbers, part numbers, or functions.

Solution

Your team benefits from our streamlined change management solution, which integrates information from various sources and presents and prioritizes changes in a unified interface. By integrating impact chain data, you can quickly identify and resolve issues, ensuring efficient and productive R&D process.

Up to
10x
faster evaluation

Up to
50%
reduced unforeseen changes

Up to
70%
less time spend on alignments

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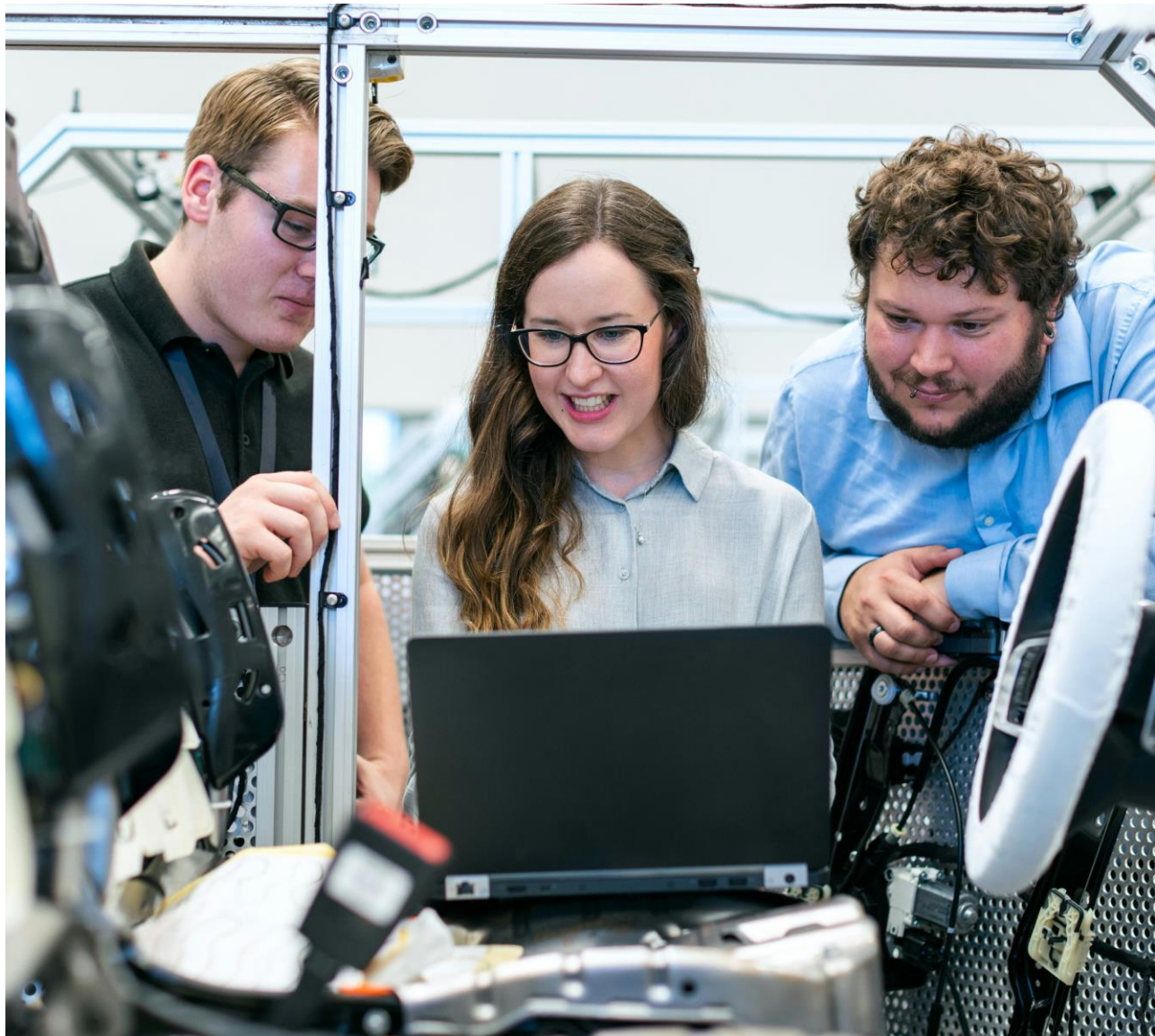
Production

Optimize assembly and error resolution to achieve higher first-pass yields



Problem

Misaligned product and production data, unresolved SW and E/E errors, and inefficient assembly planning hinder production efficiency. Production teams face difficulties troubleshooting errors, onboarding new employees, and optimizing processes during ram—up phases, leading to delays, reduced throughput, and challenges in scaling ramp-ups and ensuring consistent production quality.

Solution

SPREAD enables greenfield production by optimizing assembly sequence planning, resolving SW and E/E errors faster and integrating product and production data. Your teams gain actionable insights to enhance throughput, reduce disruptions, and foster continuous improvement, ensuring smooth ramp-ups and production efficiency.

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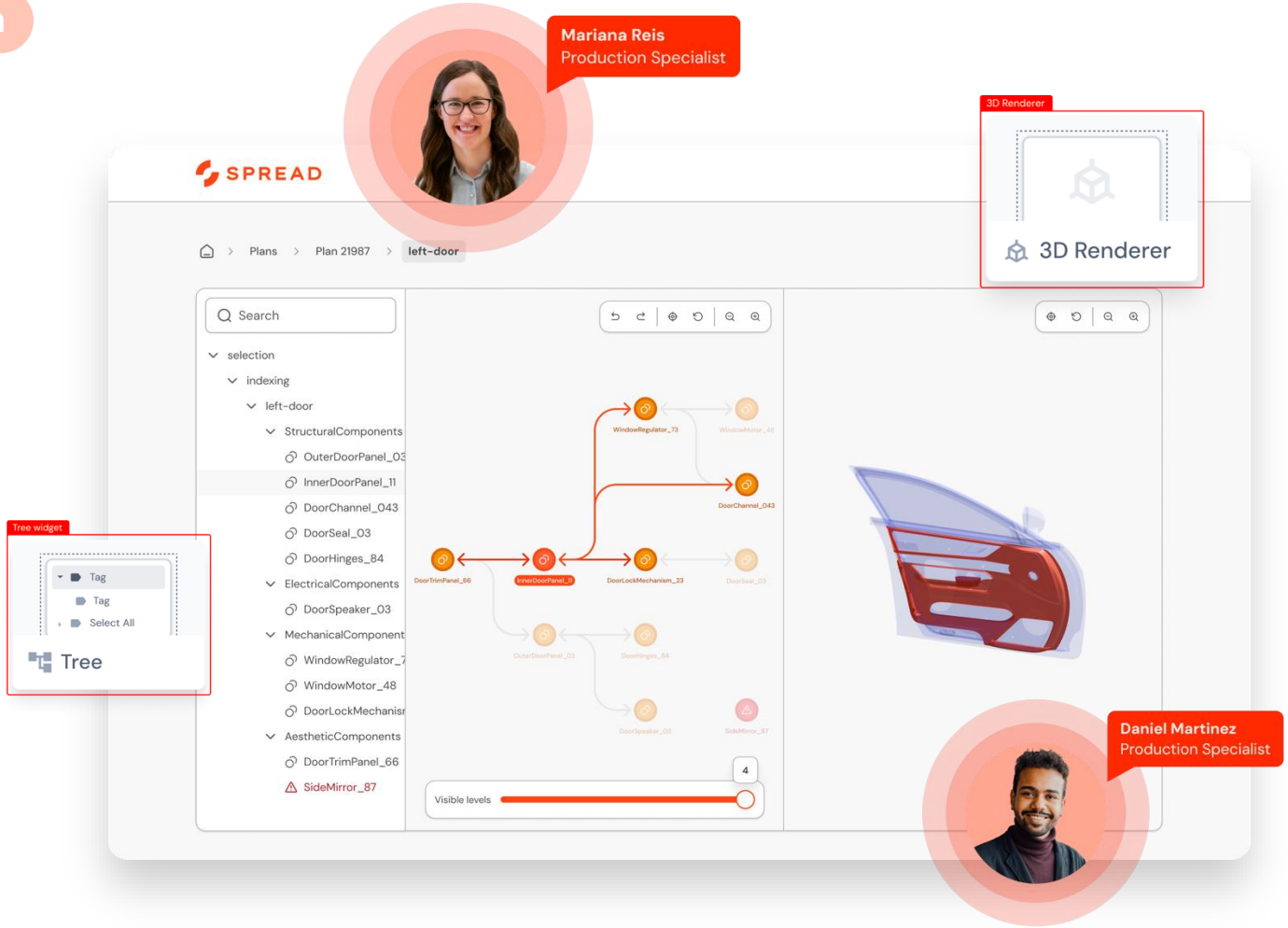
Product Architect in Production

Design production-ready system architectures



Problem

In manufacturing, greenfield planning faces growing pressure to accelerate time-to-market, control costs, and integrate innovations. Current tools rely on manual mapping of assembly sequences from CAD and BOM data, making the process slow and error-prone. This creates challenges for Process Planners, Industrial Engineers, and Production Managers to deliver precise sequence planning for complex demands.

Solution

SPREAD Product Architect, powered by Assembly Assist, automates precedence graph creation by analyzing CAD geometries and integrating BOM data. Using AI, it generates optimized assembly sequences, revealing dependencies and aligning resources. Users can easily adjust nodes and sequences, ensuring efficient, precise, and flexible planning while reducing manual effort and supporting production goals.

Up to
80%
savings in sequence planning costs

More than
95%
correct assembly dependencies

Up to
2x
more efficient production processes

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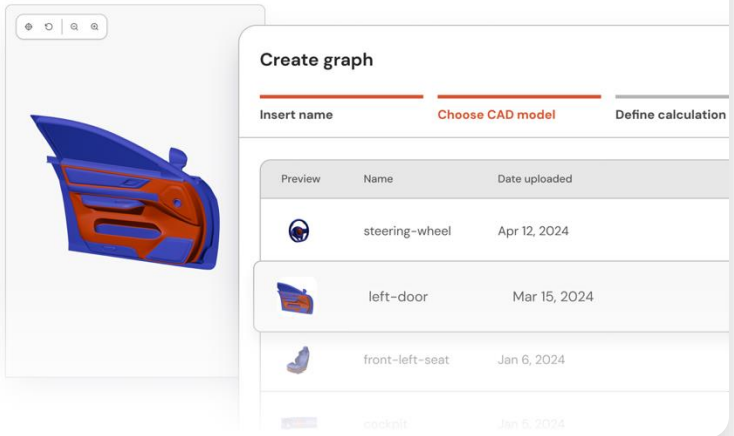
Product Architect in Production

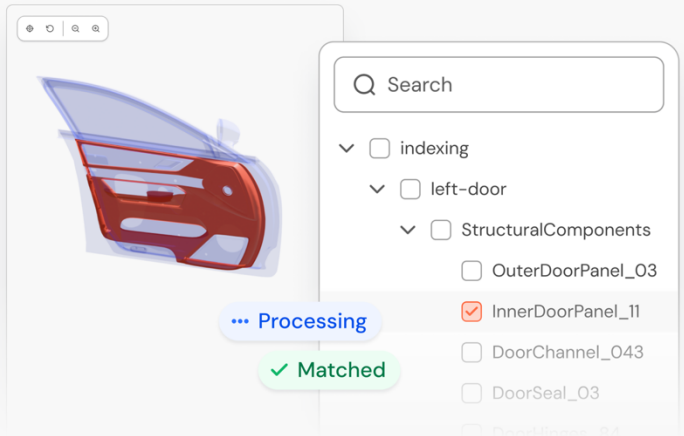
Import CAD Models and product data

The solution requires a CAD model as input, extracting product and BOM data from integrated systems or allowing users to define assembly groups. This forms the foundation for automated assembly planning.



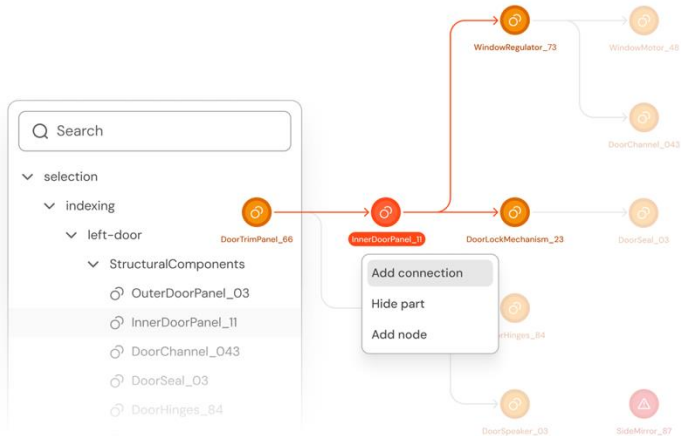
Generate optimized precedence graph

Provide the start node and any optional constraints, such as last parts or specific part orders. Our AI-algorithm will handle the rest, calculating geometrically reasonable assembly dependencies by analyzing the 3D data.



Adapt precedence relations

In the web solution, you can validate the calculated precedence relations directly using the interactive 2D graph view, which is condensed to a view relevant for production. Dependencies can there be adapted if the algorithm missed any and view all parallel and sequential assembly steps.



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⚠ E/E Inspector in ⚙ Production

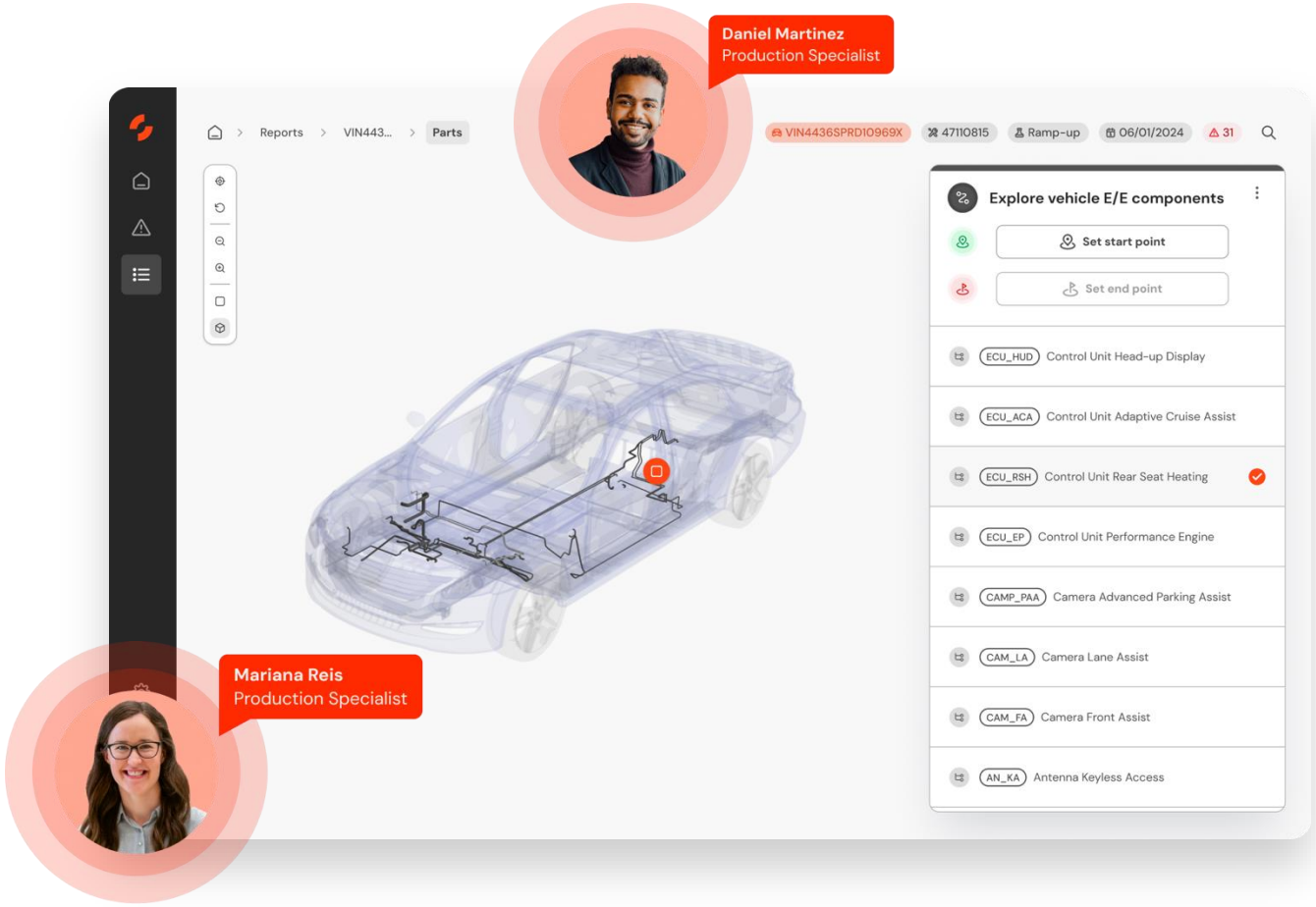
Guide troubleshooting for improved first-pass yields

Problem

Growing product complexity creates production challenges, making it harder to locate E/E components. Current solutions focus on physical connections but miss VIN-specific 3D views and logical paths, increasing reliance on expert knowledge. This slows fault resolution, delays production, and reduces first-pass yields (FPY), overloading rework stations and impacting workers, planners, and plant managers.

Solution

The E/E Inspector provides VIN-level visualizations, reducing reliance on expert knowledge and manual searches. It analyzes logical paths, suggests error causes, and filters data by configuration. By combining diagnostics, signal mapping, and component data in one 3D view, it enables faster E/E issue resolution, reducing rework and improving FPY.



Up to
30%
increase in first-pass yield

Up to
75%
reduced process steps

Up to
70%
reduced error searching time

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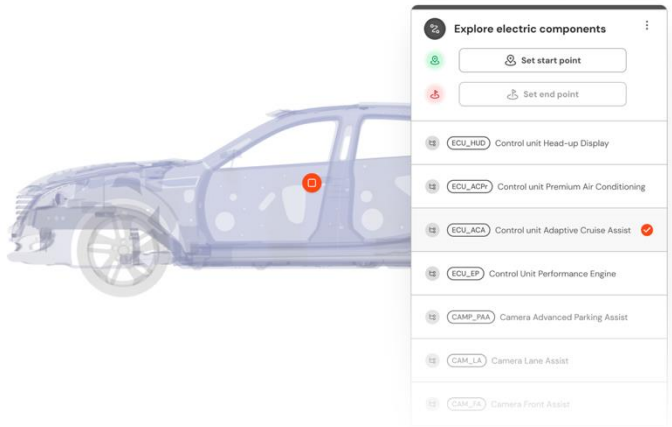
⚠ E/E Inspector in ⚙ Production

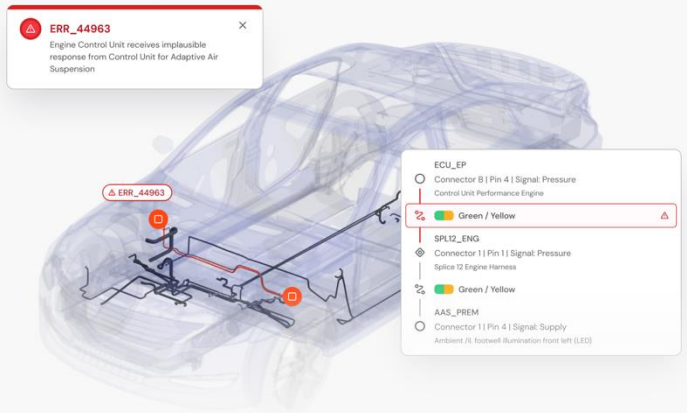
View signal path at VIN-level

Your product teams (inline or offline) can search for electric components in 3D, find communication partners and locate signal paths at a VIN-specific level. Instead of the 150% model covering all possible variants, we ensure that only components that are installed are displayed.



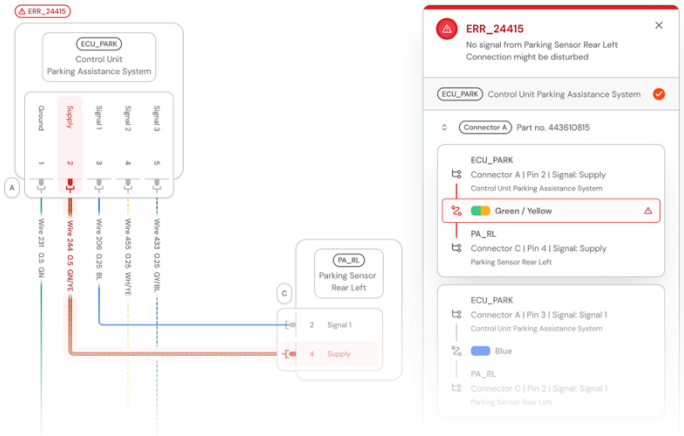
Identify faults with 3D error view

The solution swiftly guides users from error codes to error sources. The intuitive 3D visualization of the affected component, and the error causes suggestions make it easier to identify the source of the error.



Troubleshoot with wiring diagrams

The affected components can be further examined using the 2D circuit diagram. View communication paths, allowing to troubleshoot faulty control units, fuses, grounds, switches, or other (electrical) components.



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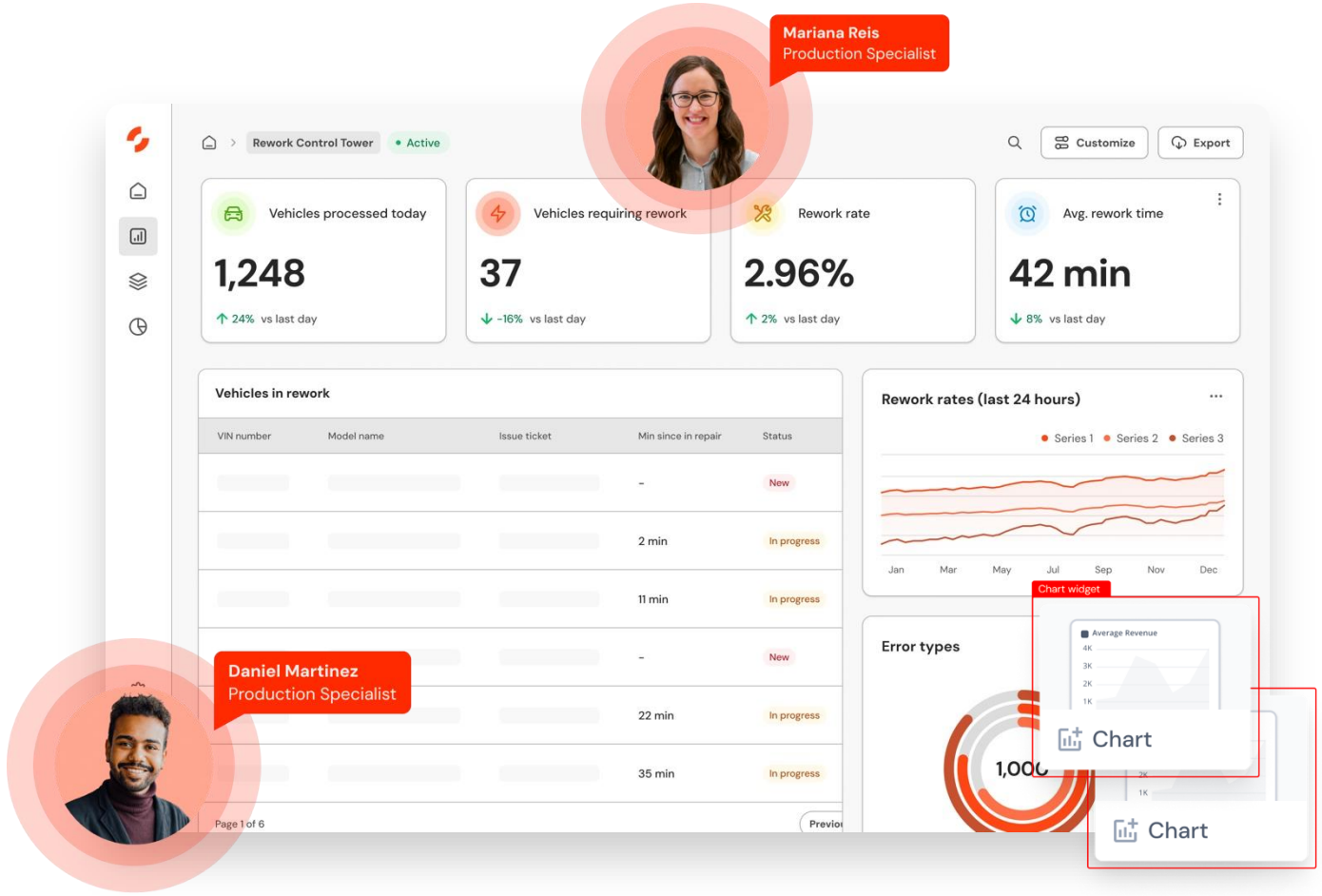
Action Tower in Production

Sync production data for full operational visibility



Problem

Production supervisors and plant managers often lack a connected view of production line and product data, making it difficult to identify and resolve errors in real-time. Disconnected tools and manual tracking lead to slow responses, inefficiencies, and missed opportunities to optimize throughput, quality, and error resolution. These gaps increase downtime and hinder the achievement of production goals.

Solution

Your production supervisors and plant managers gain full control over throughput, quality, and error resolution with real-time dashboards. These tools sync production line data with product data to identify root causes, resolve bottlenecks faster, and minimize downtime. By ensuring clear visibility and seamless workflows, the solution helps achieve critical production KPIs with precision and efficiency.

Up to
15%
reduction in downtime

Up to
10%
improved overall equipment effectiveness

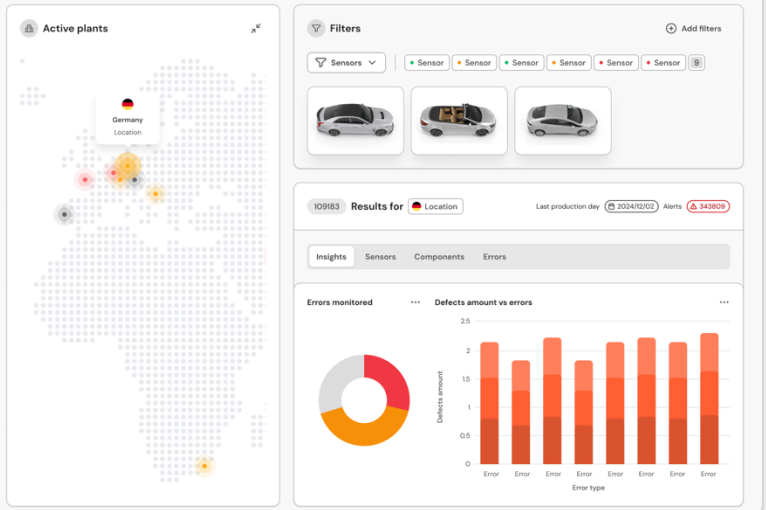
Up to
20%
reduced need for rework

SPREAD

Action Tower in Production

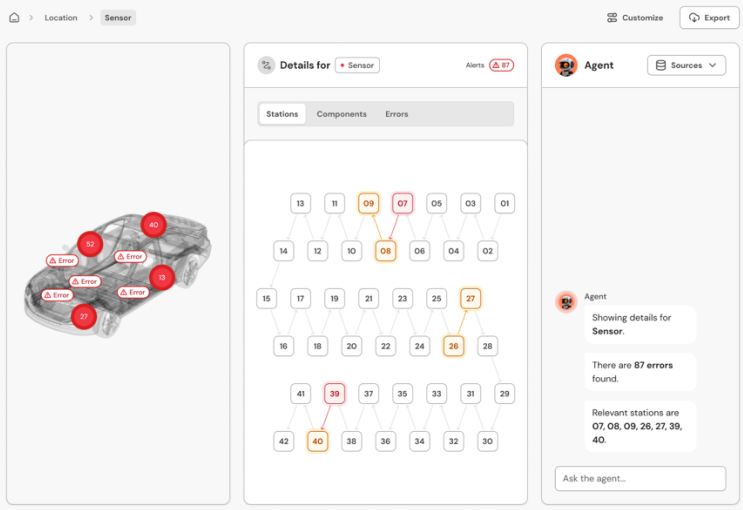
Achieve global plants steering

Track real-time performance across global plant locations with the Active Plants Map. Prioritize actions based on error severity to optimize production efficiency, reduce downtime, and focus on high-impact areas.



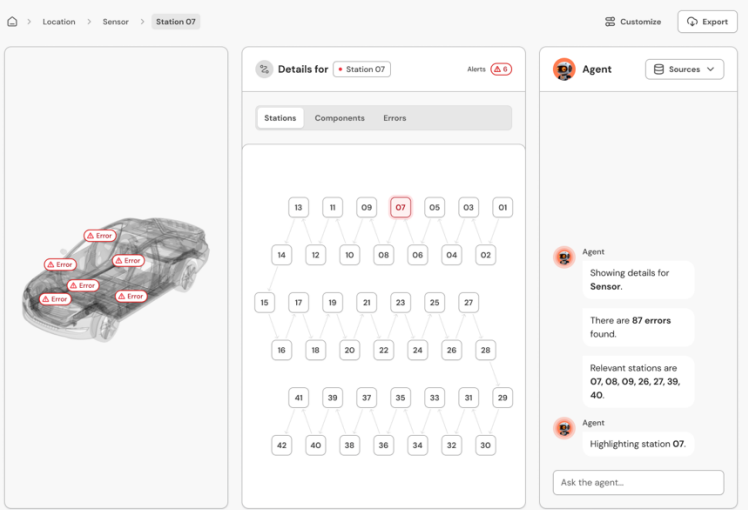
Enable sensor-level error analysis

Analyze errors at the sensor level, identifying specific issues affecting sensors or components. Gain deep insights into individual parts, enabling focused error resolution and maintaining continuous, smooth production flow.



Monitor station-level performance

Drill down into station-level data to pinpoint performance issues. Monitor critical stations for real-time error detection, prioritizing fixes that directly impact overall production speed, quality, and efficiency.

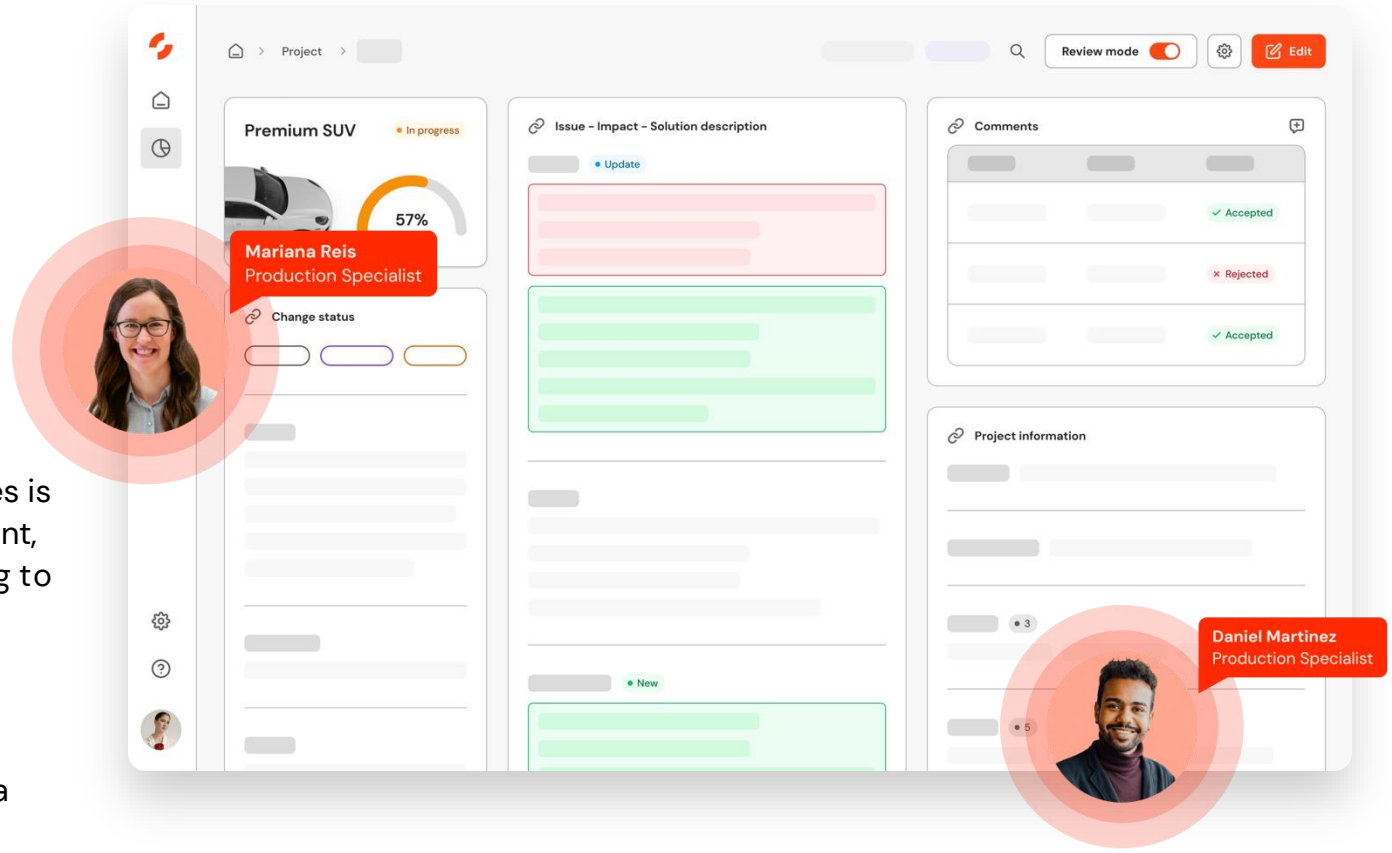


SPREAD

Action Tower in Production

Tracing implications from changes to all dependencies

Use Case Change Management



Problem

In Production, tracing the implications of changes across all dependencies is essential for maintaining efficiency. Without effective change management, understanding the full impact of modifications can be challenging, leading to increased errors and delays.

Solution

Provide your teams with end-to-end traceability of changes by offering a comprehensive view of how modifications impact all dependencies. By integrating information from various sources, the system displays and prioritizes changes effectively.

Up to
10x
faster evaluation

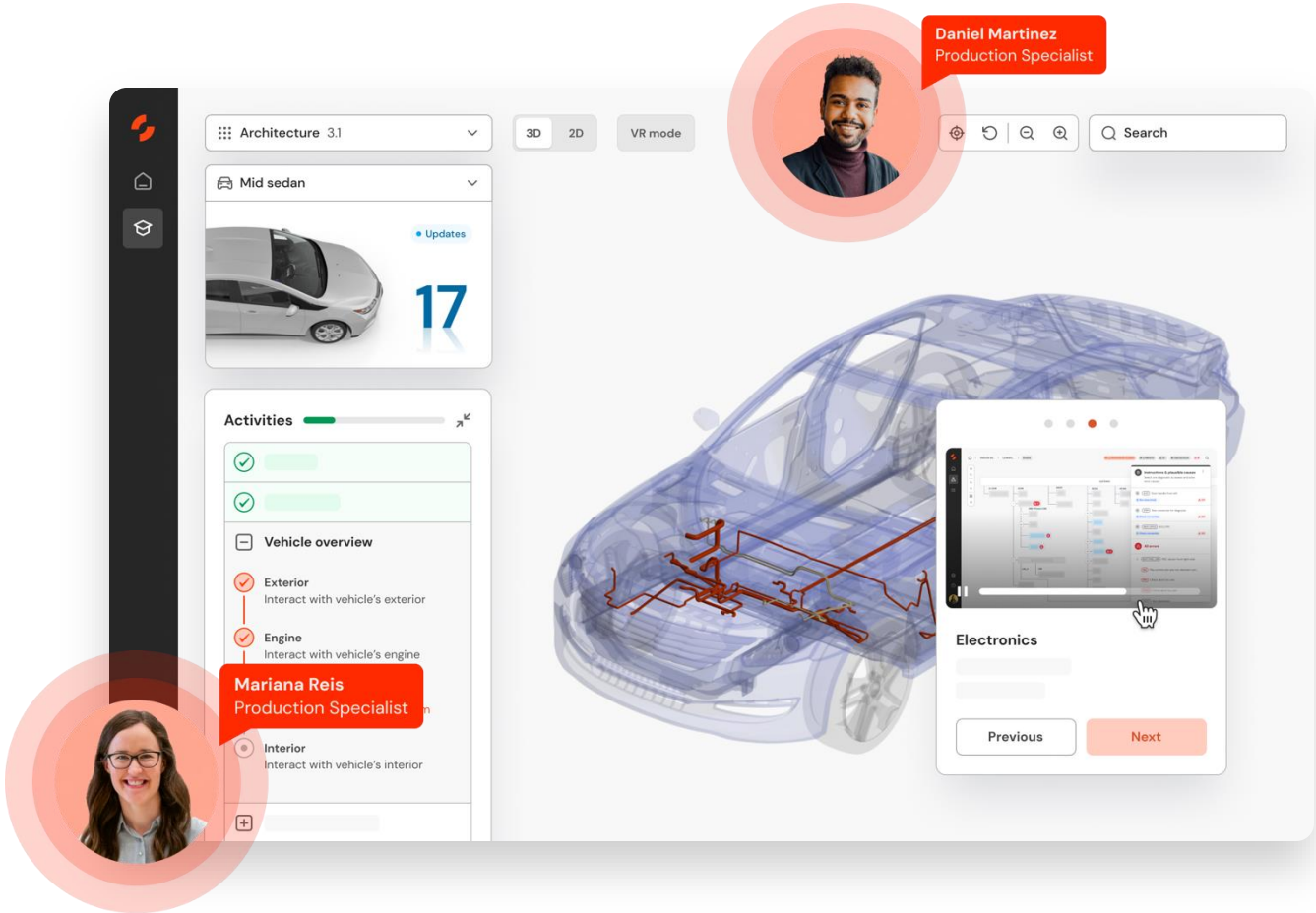
Up to
50%
reduced unforeseen changes

Up to
70%
less time spend on alignments

SPREAD

Upskilling Coach in Production

Provide live product knowledge and guidance



Problem

When setting up a new plant or running operations, production line workers face steep learning curves. Outdated manuals or inconsistent training lead to productivity loss, longer ramp-up times, and increased error rates. Additionally, the lack of live access to product information, variant deltas, and tailored learning paths makes it harder to adapt quickly. Training costs can escalate, with expenses from seminars and hardware qualifications reaching up to €120k per vehicle.

Solution

Your team can use our knowledge solution to integrate real-time training materials, live access to product information, and dynamic variant updates directly into their workflow. This enables on-the-job upskilling, improves understanding of complex components, reduces errors, and shortens ramp-up times. By replacing seminars and expensive hardware qualifications with virtual or hybrid training, costs are significantly reduced while ensuring streamlined workflows and continuous learning.

Up to
30%
reduction of ramp-up time

More than
50%
saved on training costs

SPREAD

Aftermarket

Reduce warranty costs & recalls by empowering workers with end-to-end product data

Problem

Maintaining a product's functionality throughout its lifecycle affects customer satisfaction and operational efficiency. Limited transparency, especially for E/E and software components, complicates aftermarket product management. Service engineers and technicians often struggle to resolve SW and E/E issues due to a lack of system dependency insights and recurring error patterns. This leads to higher warranty costs, recalls, and customer dissatisfaction.

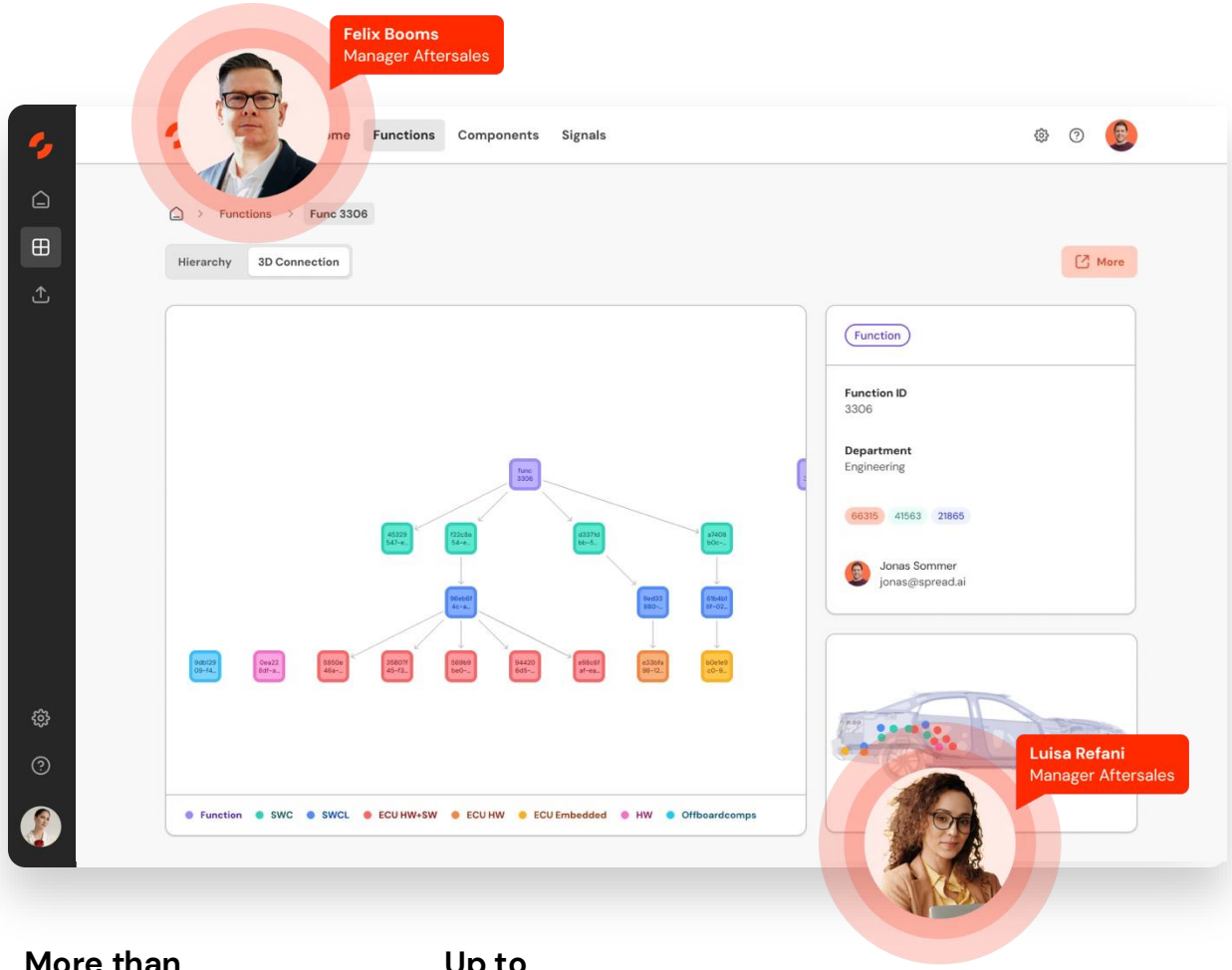
Solution

Empower your aftermarket teams with advanced solutions that provide transparency into product and variant data, especially for E/E and software components. Enable efficient fault diagnosis and repair, field quality monitoring, vehicle variant management, and optimized repair sequences, reducing warranty costs and minimizing recalls.

SPREAD

Product Explorer in Aftermarket

Provide transparency for aftermarket product management



Problem

Aftersales teams lack clear data on vehicles and components throughout their lifecycle. Questions about a vehicle's location, production details, installed parts, or recent upgrades are often unanswered. This lack of visibility slows OTA updates, spare part inventory management, and BoM adjustments, reducing customer satisfaction and shrinking margins.

Solution

SPREAD's Product Explorer for Aftermarket provides a digital aftersales twin, delivering full visibility into vehicles, fleets, and components. It can track OTA needs, spare part versions, and lifecycle updates using real-time workshop and fleet data. By refining BoMs and leveraging high-performing components for strategic pricing, it helps streamline spare part management, boost customer satisfaction, and drive profitability.

More than
25%
update BoMs efficiency for aftermarket needs

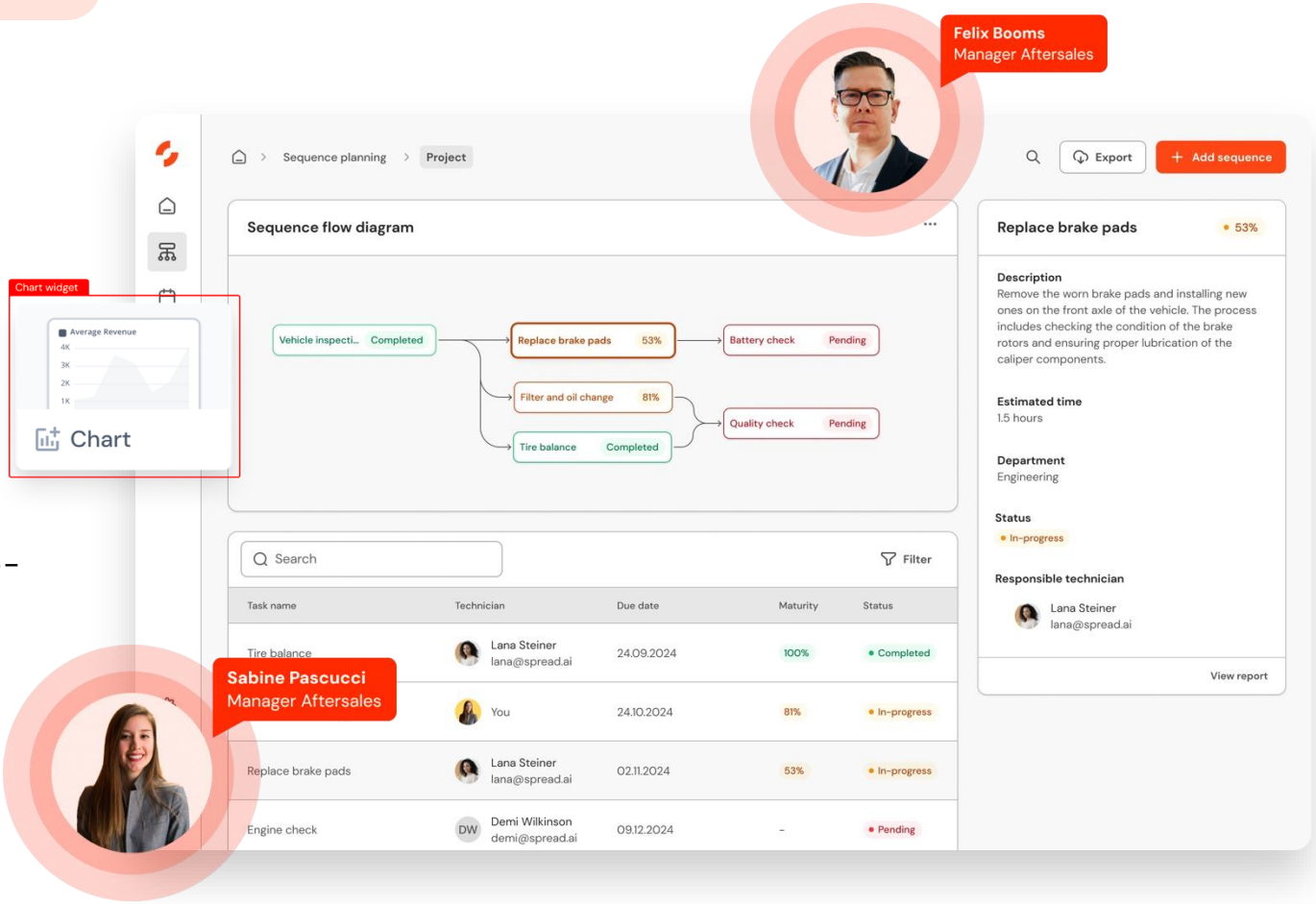
Up to
20%
lower warranty costs

visibility
of fleet data, and component usage

SPREAD

Product Architect in Aftermarket

Optimize services with efficient repair instructions



Problem

In Aftermarket, planning repair and maintenance sequences can be time-consuming and error-prone. Service technicians need a structured approach to manage tasks efficiently and ensure that all steps are followed in the correct order to avoid rework and delays. Static and unspecific repair guides can lead to lost synergies.

Solution

Your Aftermarket team can generate and optimize repair and maintenance sequences with our algorithm-based sequence planning tool. By analyzing task dependencies for the issues at hand and providing actionable instructions, the tool streamlines your workflow and ensures that service operations are performed efficiently and accurately.

Up to
100%
reduction of search time

Up to
zero
time on onboarding of new repair mechanics

SPREAD

Product Architect in Aftermarket

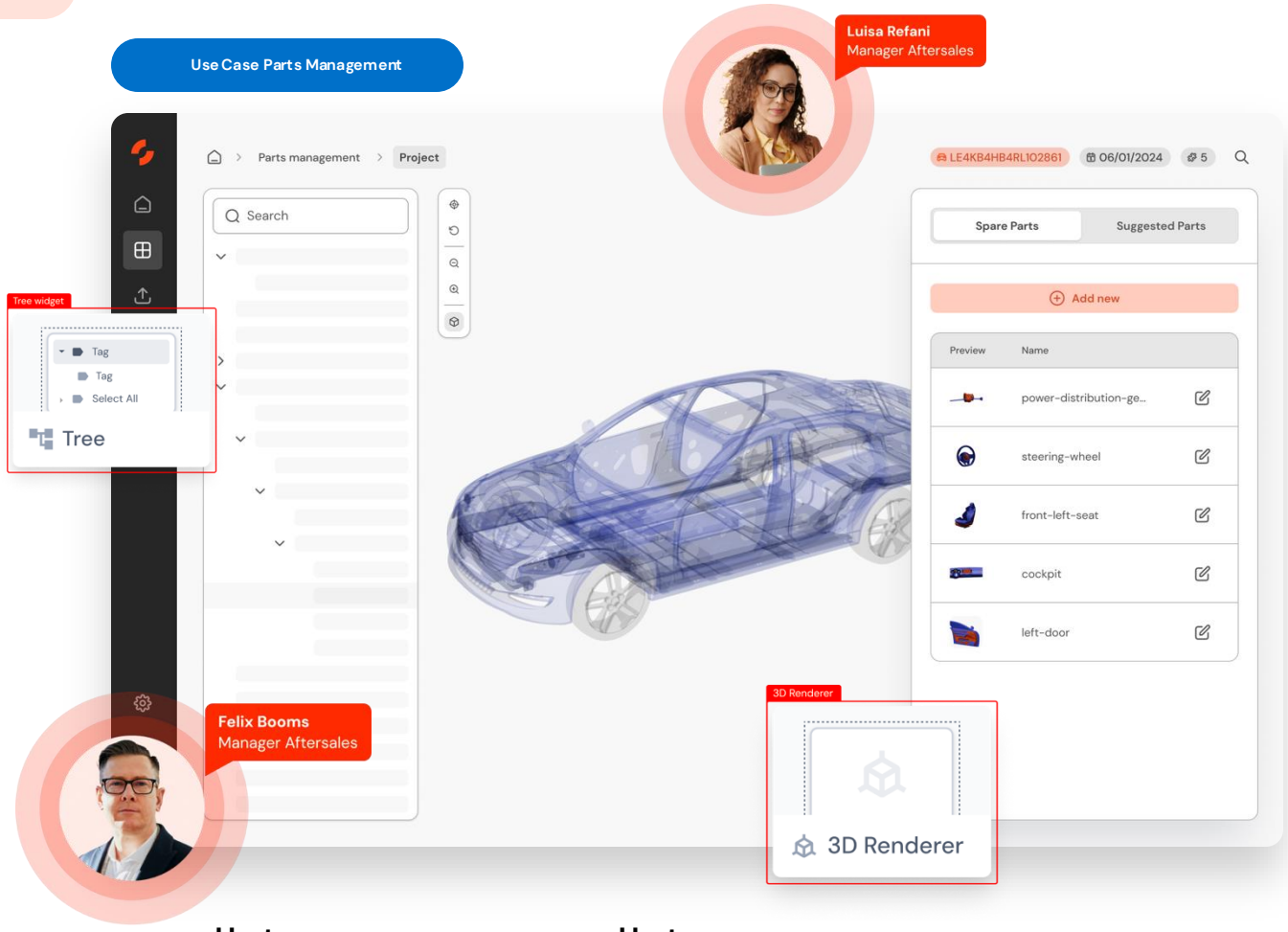
Maximize efficiency in parts management for better service

Problem

Managing parts inventory and ensuring the availability of compatible components for repairs and maintenance is a major challenge. Inefficient parts management can result in delays, increased operational costs, and customer dissatisfaction.

Solution

Ensure that your Aftermarket team has access to seamless tracking, availability, and compatibility of components. By providing a centralized, real-time inventory system and automated compatibility checks, we help service teams quickly identify and source the right parts, enhancing operational efficiency and customer satisfaction.



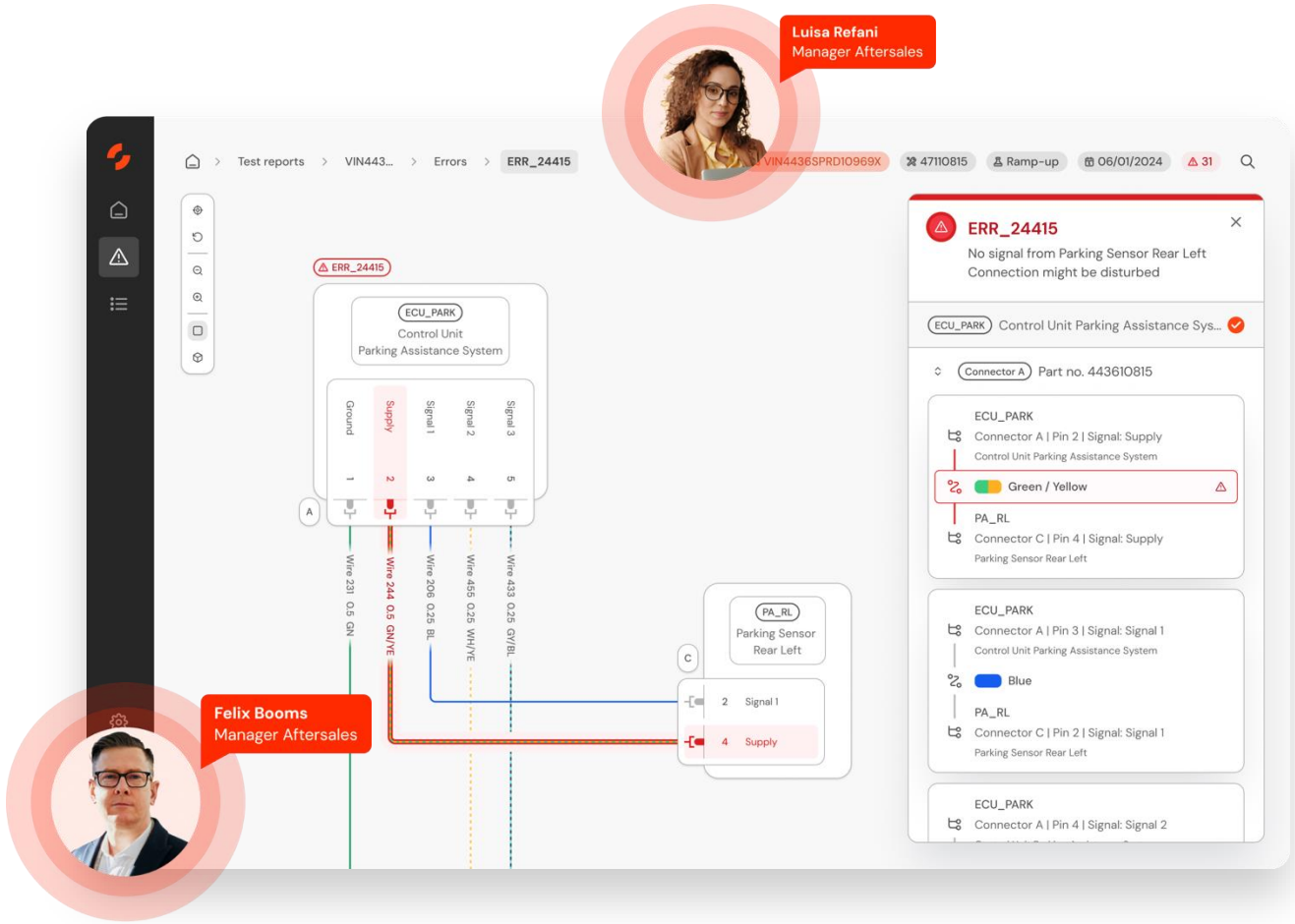
Up to
50%
faster spare part Identification

Up to
20%
increased spare part sales

SPREAD

⚠ E/E Inspector in Aftermarket

Resolve recurring E/E issues with system insights



Problem

In Aftersales, diagnosing and fixing faulty E/E or SW components can be time-consuming and costly, affecting warranty claims and customer satisfaction. Service technicians and workshops often struggle with inefficient troubleshooting tools, leading to delays and higher costs.

Solution

Your service technicians can leverage our advanced troubleshooting to quickly access accurate 3D models of vehicles, view installed components, and receive targeted error suggestions based on DTCs and architectural logic. By integrating 2D circuit diagrams for detailed exploration, technicians can rapidly locate and repair faulty components, improving service efficiency and reducing costs.

Up to
10x
faster troubleshooting

Up to
10%
lower warranty costs

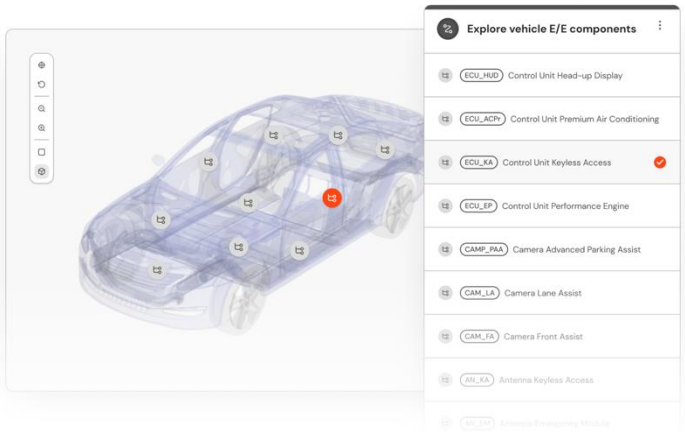
Up to
25%
increase in First-Time Right (FTR) Rate

SPREAD

⚠ E/E Inspector in Aftermarket

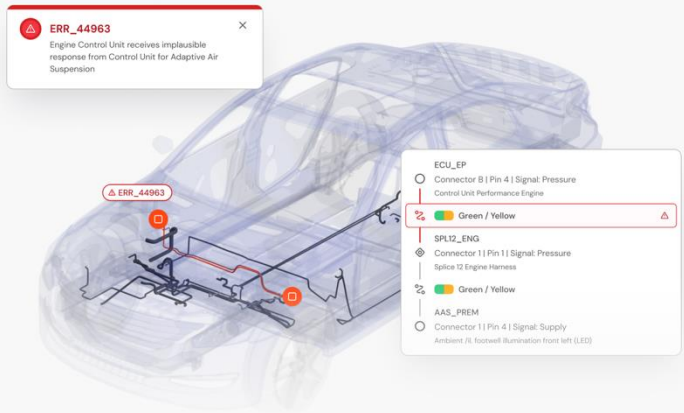
See the matching 3D model

Access the correct CAD model of the vehicle in question in a web-based 3D view allowing service employee to quickly view the installed components.



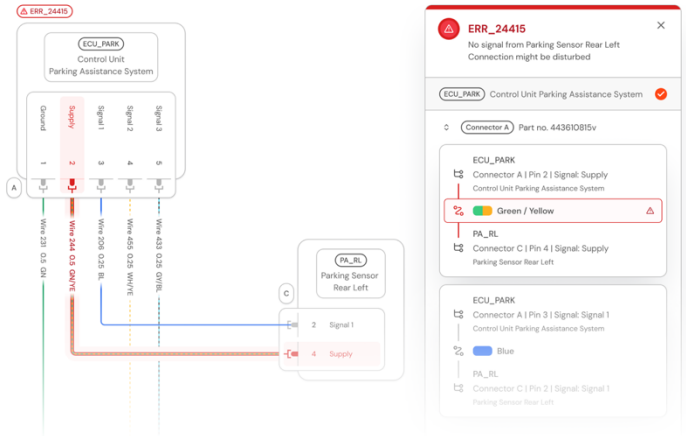
Get E/E & SW error suggestions

From the DTCs or other error codes, our data model identifies possible causes of errors based on architecture logic and product data and highlights them in the 3D model. This helps the service team find the correct troubleshooting solution more quickly.



Find and fix faulty components

The affected components can be further examined using the 2D circuit diagram, allowing for the quick identification and repair of faulty control units, fuses, grounds, switches, or other electrical components.

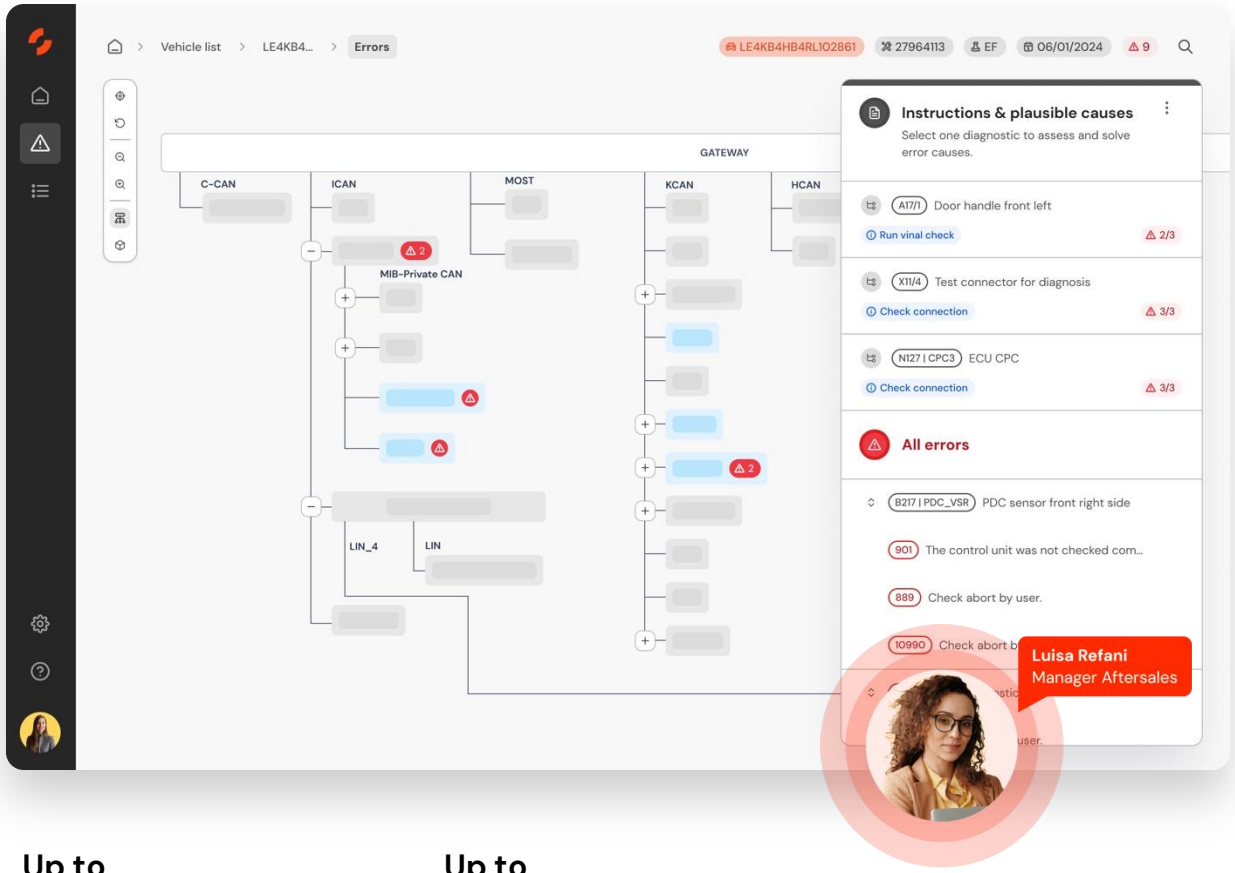


SPREAD

⚠ E/E Inspector in Aftermarket

Boost resolutions with variant specific wiring viewer

Use Case Variant Management



Problem

Managing and servicing different vehicle variants in Aftermarket can be challenging due to the complexity of wiring and topology differences. Service technicians often struggle to identify the correct wiring and component layout for each specific variant, leading to increased repair times and errors.

Solution

Your Aftermarket team benefits from a tailored views of wiring and component layouts for each vehicle variant thanks to our variant-specific Wiring and Topology Viewer. By offering precise diagrams and topologies based on the specific variant being serviced, technicians can quickly and accurately locate and address issues, reducing repair times and minimizing errors.

Up to
9x
faster troubleshooting

Up to
20%
lower warranty costs

Lower
staff skills level required

SPREAD

Action Tower in Aftermarket

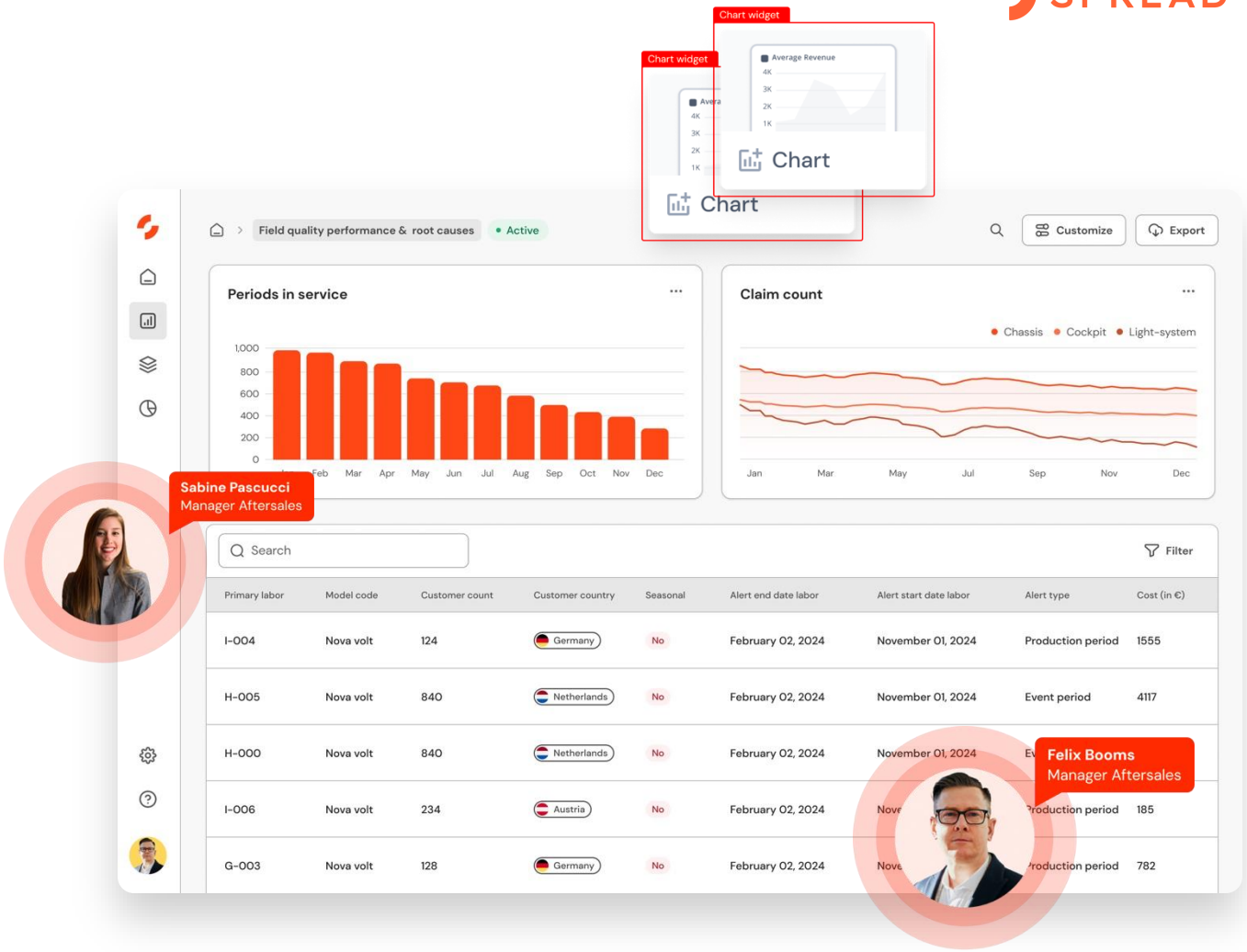
Connect field data to boost aftermarket services

Problem

Aftermarket managers and IT teams face recurring challenges in identifying and resolving field quality issues across vehicle variants. Disconnected systems between R&D, dealerships, and aftersales make it difficult to pinpoint root causes or determine affected vehicles. This reliance on manual analysis delays issue resolution, increases warranty costs, and raises recall risks.

Solution

Provide your team fleet-wide visibility into field quality issues by connecting product, variant, and operational data. Action Tower integrates inputs from R&D, dealerships, and aftersales into a scalable digital twin, automating root cause analysis and identifying recurring issues early. By offering actionable insights across the fleet, SPREAD helps reduce warranty costs, prevent recalls, and ensure proactive issue resolution.



Up to
70%
faster issue resolution

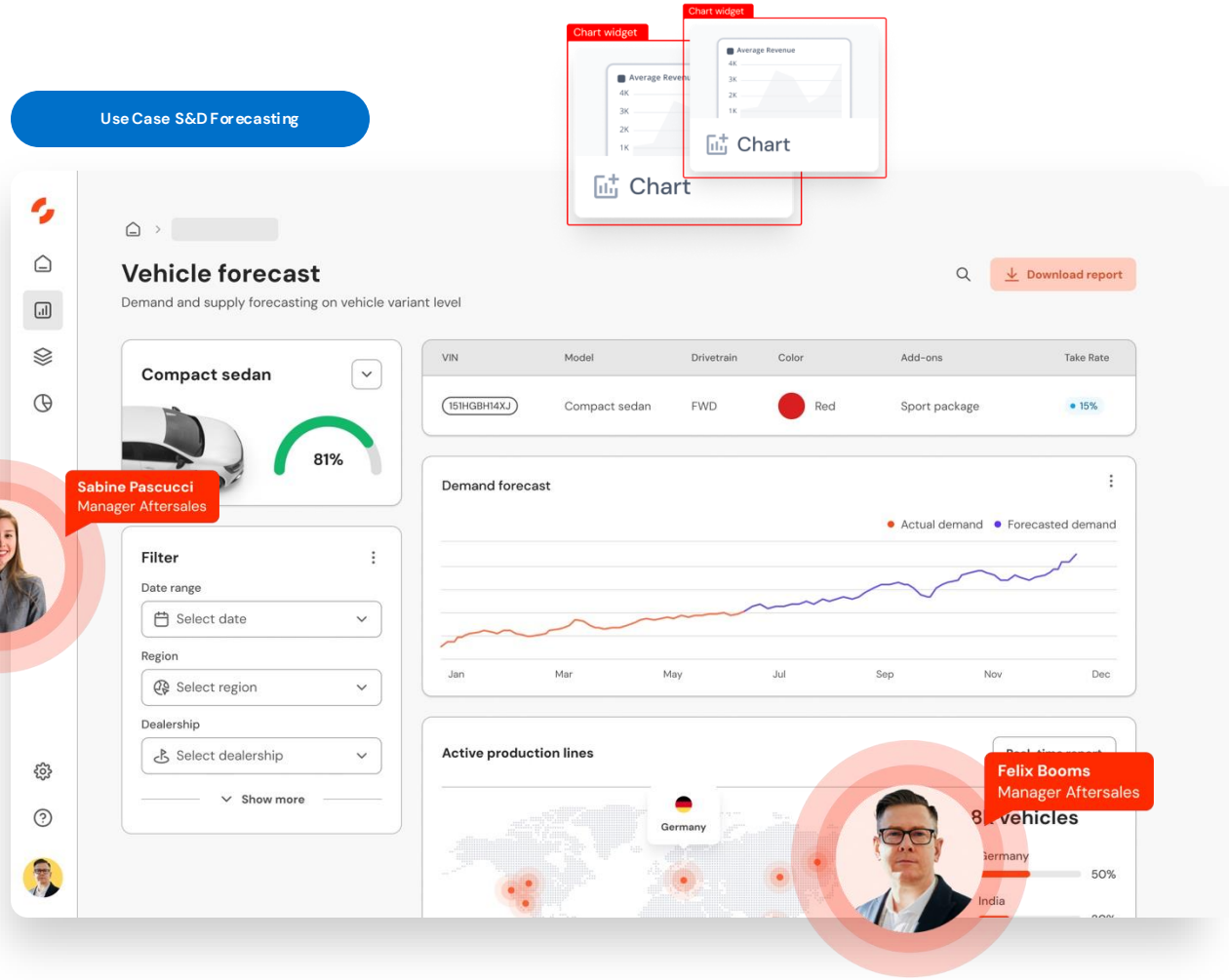
Up to
10%
lower warranty costs

Up to
20%
increase in CSAT

SPREAD

Action Tower in Aftermarket

Optimize supply and demand alignment forecasting



Problem

Automotive manufacturers and dealerships often struggle with inaccurate demand forecasting at the vehicle variant level. This lack of precision leads to overproduction, underutilized production lines, and inventory shortages. Regional variations in preferences, such as drivetrain, color, or add-ons, further complicate the planning process, reducing profitability and customer satisfaction due to delayed deliveries or excessive stock.

Solution

SPREAD provides real-time demand and supply forecasting at the vehicle variant level. By analyzing take rates, production line activity, and regional preferences, it enables manufacturers and dealerships to align production with market demand. The system empowers users to adjust production plans dynamically, reduce excess inventory, and optimize resource allocation, ensuring timely delivery and improved profitability.

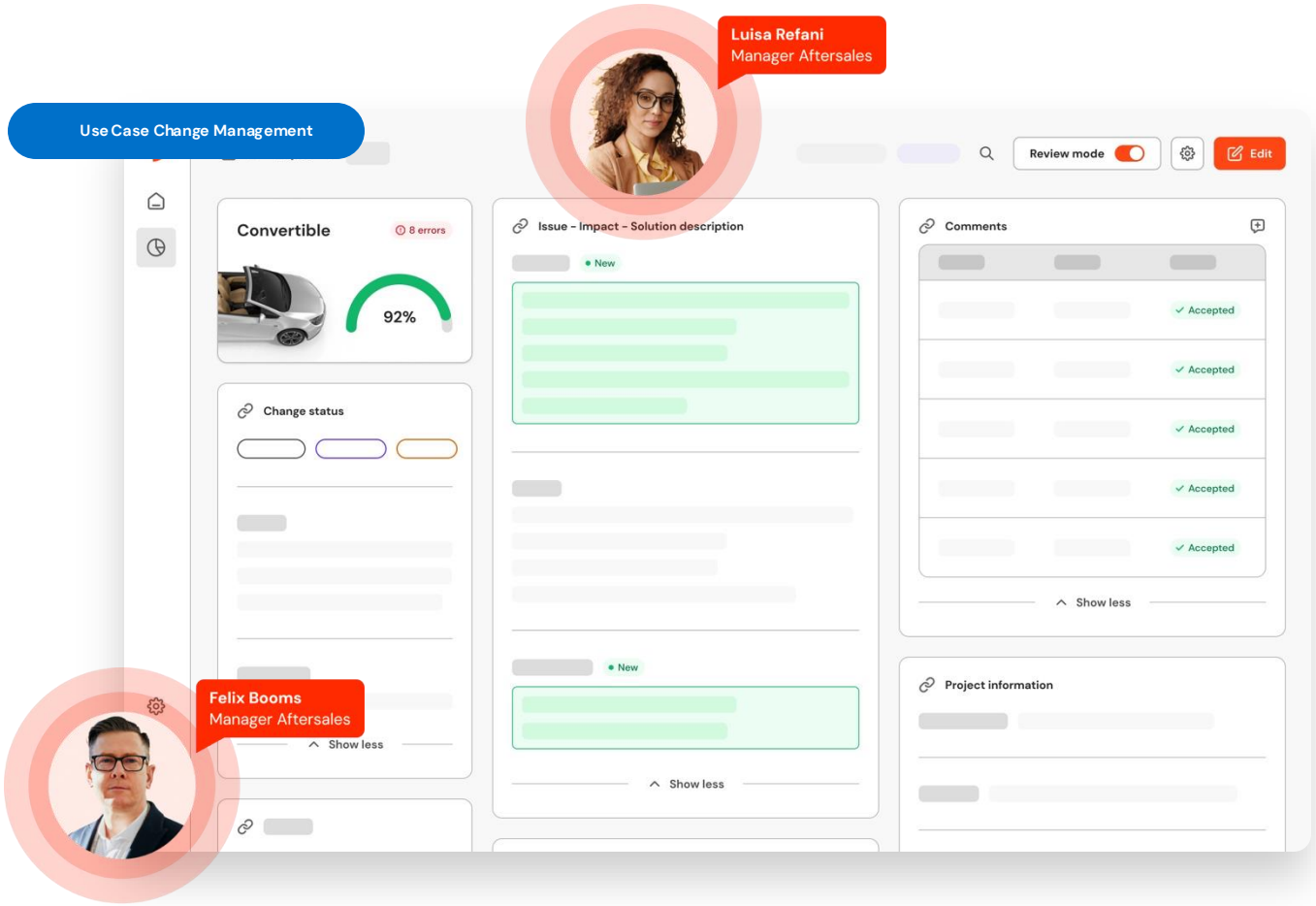
Up to
15%
increase in accuracy for demand predictions

Up to
20%
decrease overstock or shortages

SPREAD

Action Tower in Aftermarket

Trace changes and dependencies faster



Problem

In Aftermarket, tracing the implications of changes across all dependencies is crucial for maintaining service quality. Without effective change management, understanding the full impact of modifications can be challenging, resulting in increased errors and delays.

Solution

Provide your Aftermarket team with end-to-end traceability of changes and with a comprehensive view of how modifications impact all dependencies. By integrating information from various sources, changes are displayed and prioritized effectively.

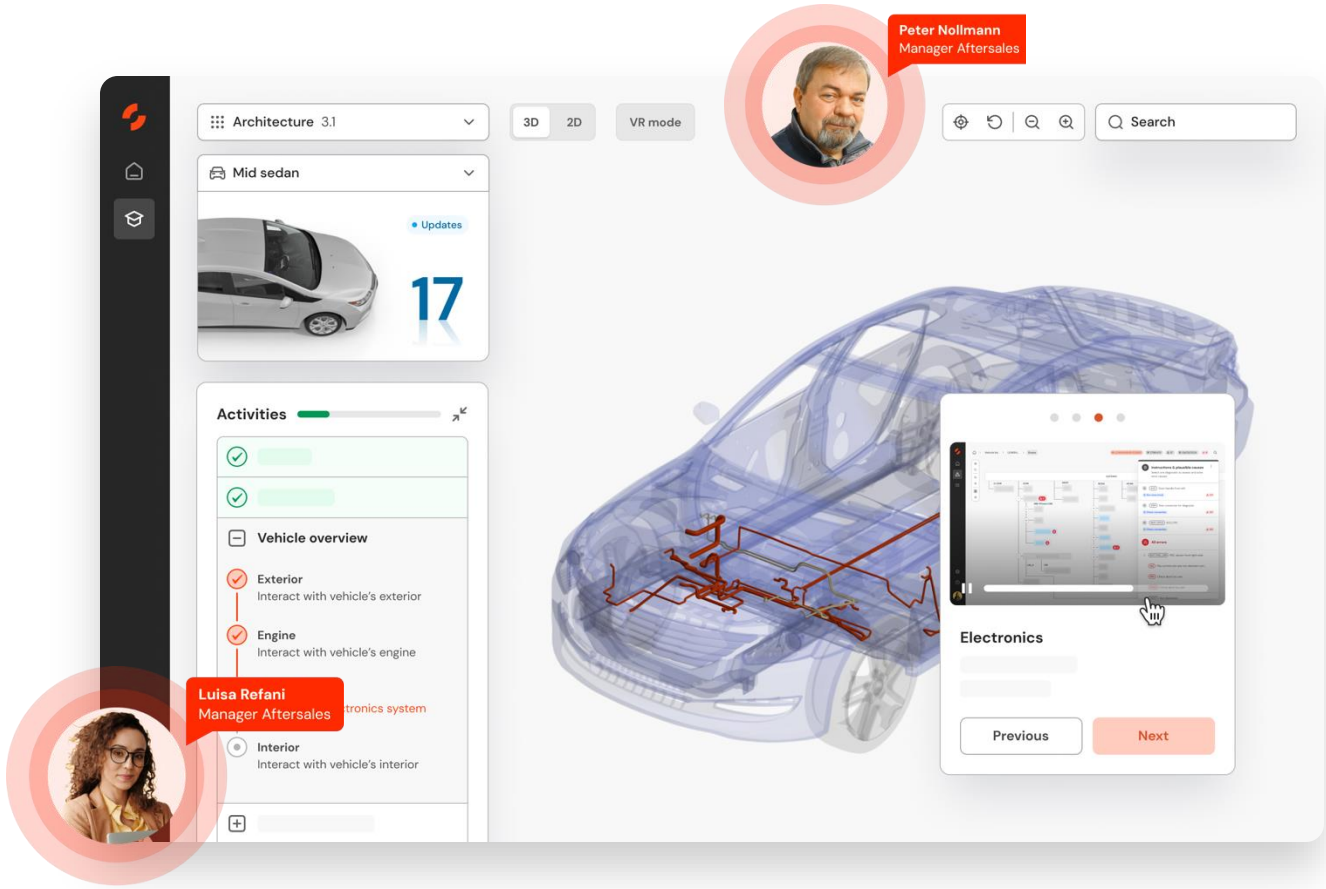
Up to
60%
faster issue resolution

Improved
features
with feedback loop

SPREAD

Upskilling Coach in Aftermarket

Deliver live repair insights and guidance



Problem

Aftermarket technicians and technical employees often struggle with inconsistent training during onboarding and limited access to up-to-date repair instructions, variant deltas, and learning resources while on the job. These gaps lead to inefficiencies in resolving customer issues, longer onboarding times, and knowledge deficits that negatively impact service quality and customer satisfaction.

Solution

Provide your technical Aftermarket team with a centralized knowledge repository that integrates repair instructions, variant deltas, and learning paths. This solution ensures technicians can access troubleshooting guides, product manuals, and training resources directly within their workflow. By supporting seamless onboarding and continuous upskilling, teams stay informed and equipped to solve customer problems efficiently, reducing onboarding time.

Up to
30%
onboarding time reduction

Up to
10%
increase of First-Time Fix rate

Up to
20%
reduced access time

SPREAD

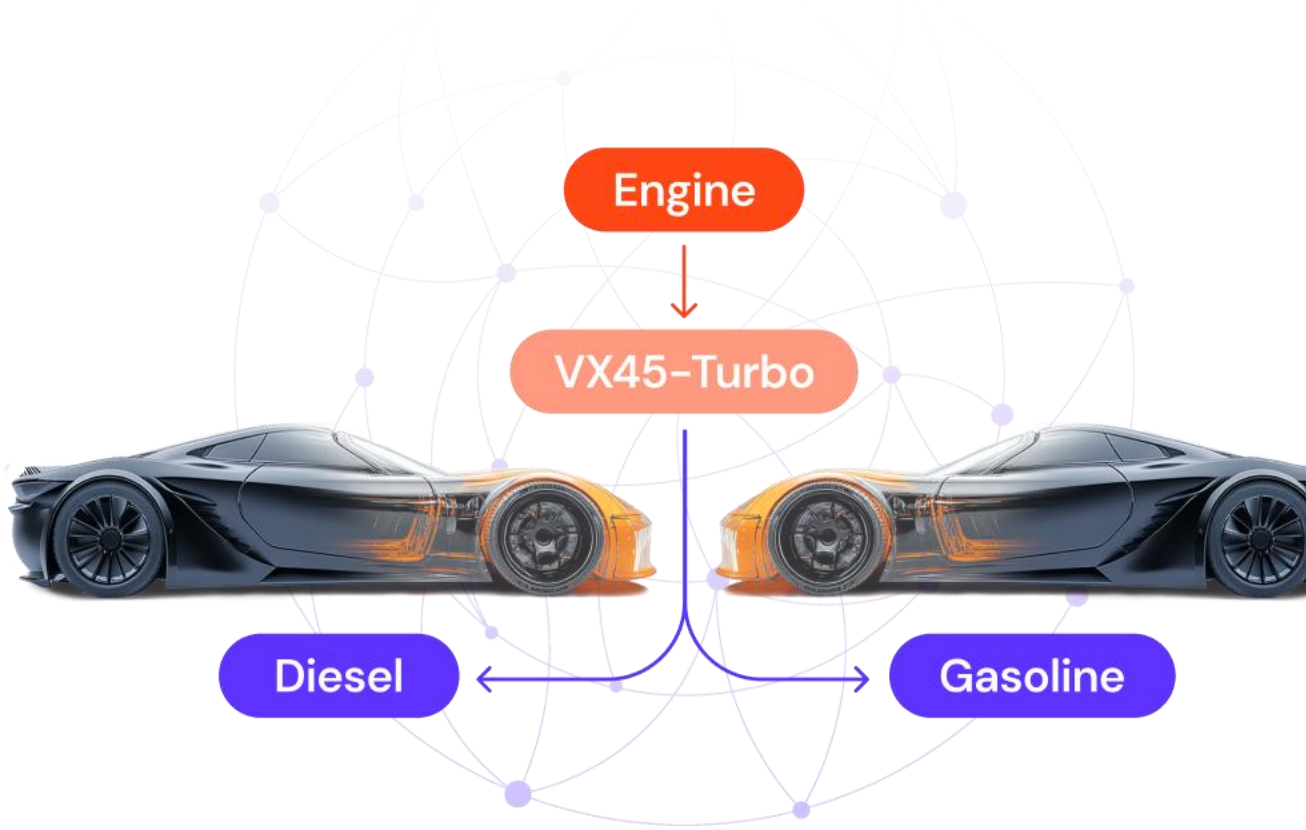
Product Explorer

Analyze

Navigate product architectures to decode complexity

Problem
In product development, teams struggle with understanding and navigating requirements, configurations, and dependencies across multiple product variants. This lack of transparency leads to inefficiencies, misalignment, and delays, particularly in the aftermarket, where insights into E/E and software components are often missing.

Solution
Product Explorer provides a unified view of product architectures, enabling teams to navigate requirements, configurations, and dependencies effortlessly across variants. In the aftermarket phase, it enhances visibility into E/E and software components, empowering teams to make informed decisions, reduce complexity, and optimize product management across the entire lifecycle.

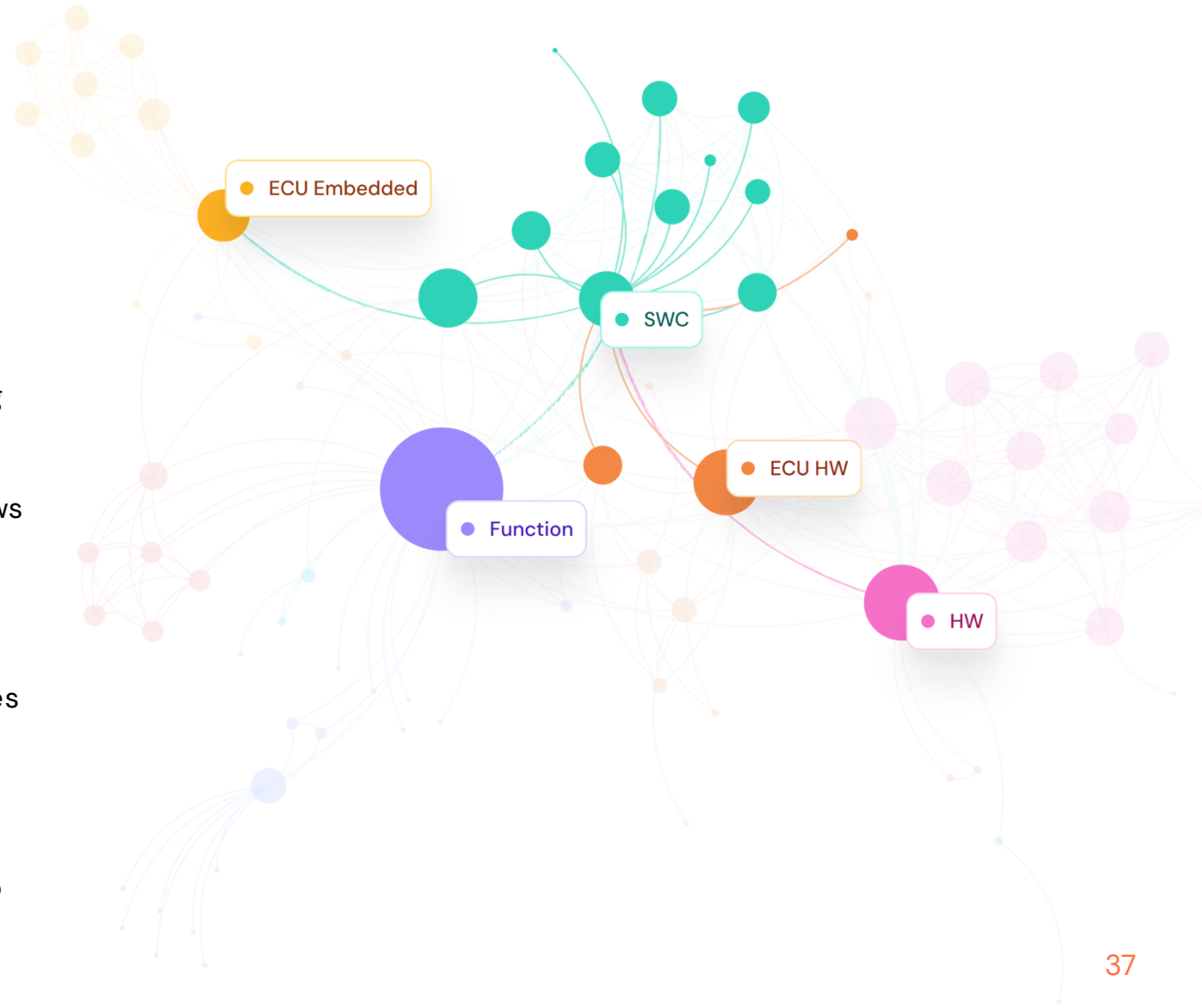


SPREAD

Product Architect

Create

Design system architectures that drive lifecycle efficiency



Problem
Effectively managing product architectures across the lifecycle is challenging due to the complexity of aligning requirements, dependencies, and configurations. Without clear visibility into these elements, delays occur in development, inefficiencies arise in production, and managing repair workflows or spare parts in the aftermarket becomes time-consuming and costly. This hinders innovation, increases effort, and impacts overall lifecycle efficiency.

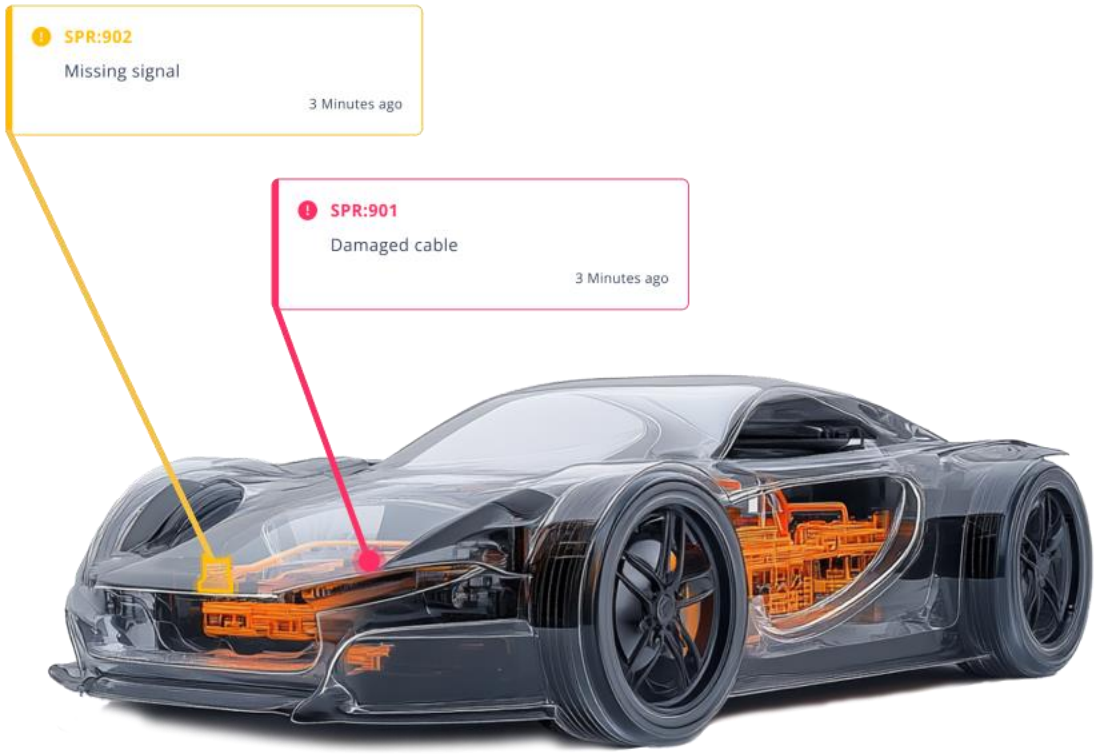
Solution
Product Architect enables teams to design and optimize system architectures by defining and refining requirements, linking functions to components, and managing dependencies across all variants. It facilitates alignment between R&D and production by ensuring product designs meet production needs, minimizing inefficiencies and disruptions. In aftermarket, it automates the creation of repair workflows, manuals, and spare part coordination, tailored to variant-specific requirements.

SPREAD

⚠ E/E Inspector

Analyze

Find and solve E/E software issues earlier across your lifecycle



Problem
As mechatronic systems grow more complex, identifying and diagnosing electrical and software issues becomes increasingly difficult. Without clear insights into system dependencies, errors can cascade through R&D, production, and aftermarket phases, causing delays, inefficiencies, and escalating costs.

Solution
Enable your engineers and service technicians to detect and resolve E/E and software issues earlier with a holistic diagnostic solution. By uncovering root causes, linking errors to dependencies, and reducing troubleshooting time, it supports faster resolutions, higher first-pass yields and smoother operations across your entire product lifecycle.

SPREAD

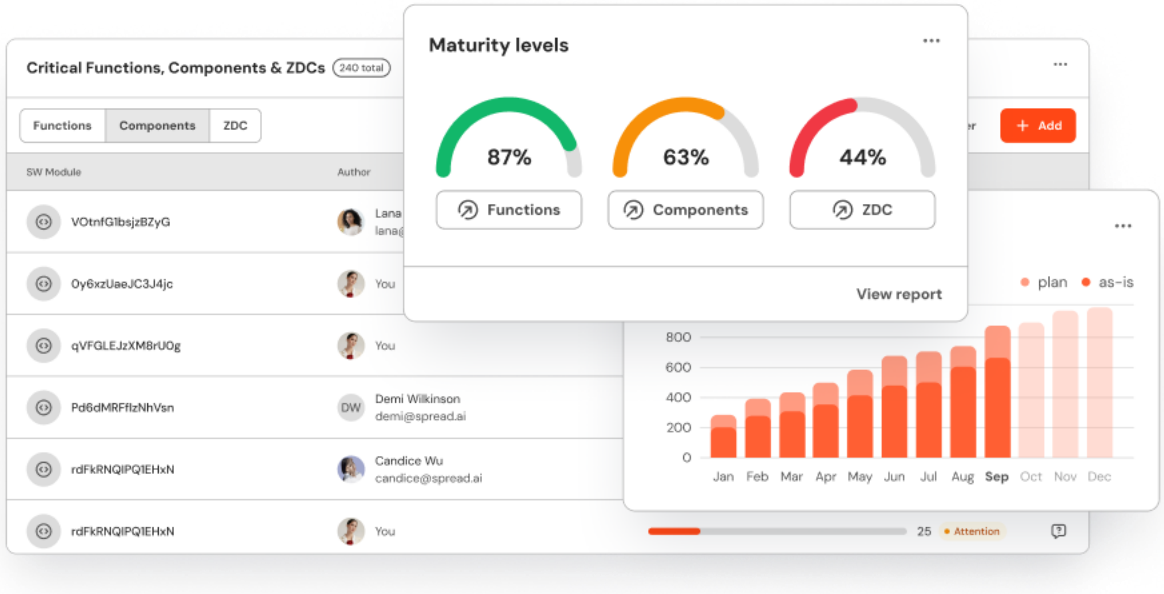
Action Tower

Analyze

Gain complete visibility and control over product data and performance

Problem
Disconnected data and processes across R&D, production, and aftermarket make it difficult to track product maturity, manage changes, and ensure consistent performance. This fragmentation leads to delays, quality issues, and missed opportunities to optimize product performance at every stage.

Solution
Action Tower unifies R&D, production, and field data, providing complete visibility into product maturity, release orchestration, and change management. It syncs production line data with product configurations to optimize throughput, quality, and error resolution. In aftermarket, it connects field data to identify root causes, track variant-specific issues, and enhance product diagnostics. By creating a centralized view, Action Tower empowers teams to improve efficiency, ensure quality, and accelerate decision-making throughout the product lifecycle.



SPREAD

Upskilling Coach

Analyze

Accelerate upskilling to boost team efficiency and lifecycle performance

Problem
With increasing product complexity and rapidly evolving processes, production and aftermarket teams often lack the knowledge needed to perform efficiently. This knowledge gap slows problem-solving, reduces operational efficiency, and limits the ability to adapt to new challenges, ultimately impacting overall performance.

Solution
Upskilling Coach accelerates expertise by delivering instant, role-specific access to tailored product knowledge, interactive learning paths, and actionable insights. It empowers teams to quickly adapt to new requirements, resolve issues faster, and confidently handle complex tasks in production and aftermarket. By bridging the skills gap, Upskilling Coach boosts productivity, accelerate ramp-up phases, and ensures consistent, high-quality operations.

SPREAD