

## / Wind River Studio Developer

A modern cloud-native DevSecOps platform that accelerates development, testing, and delivery of mission-critical systems for the intelligent edge

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Simplify the complexity of building software for mission-critical embedded systems.



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# Accelerate Your Embedded Software Lifecycles

Wind River® Studio Developer helps solve the challenges of managing complexity in modern development, which is driving costs higher, slowing delivery timeframes, and limiting innovation at scale. It is a cloud-native platform that accelerates all facets of developing and delivering robust mission-critical systems for the intelligent edge.

Through a suite of modular, integrated tools, users can scan, build, debug, test, deploy, and manage devices and data – and take advantage of automation tools to optimize key workflows across the lifecycle. The result: Studio Developer enables you to lower embedded software lifecycle costs, shorten time-to-market, accelerate innovation, and capture new revenue opportunities. With Studio Developer, DevSecOps teams can now →

**Improve** connectivity and collaboration by leveraging the power of secure public, private, and hybrid clouds.



**Standardize** the DevSecOps environment with centralized configuration management of tools, pipelines, processes, devices, and user access.



**Secure** complex environments, including infrastructure, applications, and supply chains.



**Scale** operations through a modular, extensible design and automated testing.



**Control** operational costs by reducing recalls and downtime.



From a business perspective, Studio Developer delivers value in four core categories:

1.

**Improves developer efficiency** by increasing standardization; automation; collaboration; ease of use; consistency, and reuse of resources, configurations, components, and code. This leads to lower development costs, faster time-to-market, higher productivity, and improved developer experience.

2.

**Enables shift-left testing** with simulation to test earlier and at greater scale, and automated testing supported by reusable testing components and consistent, programmatic access to both virtual and physical targets.

3.

**Increases agility and innovation** through a flexible, extensible DevSecOps environment that can be secured end-to-end from the development environment to the edge, unlocking new competitive advantages by leveraging cloud computing, scalability, and collaboration capabilities.

4.

**Extends device lifetime value** with real-time visibility into conditions and usage patterns in the field, analytics, and the ability to deliver updates over the air to address maintenance concerns or revenue opportunities.

“Studio Developer has improved the speed of our pipelines by approximately 20% ... but also using Studio has improved the speed of our build by around 30% ... Our developers can get feedback much faster.”

– Studio Developer Customer

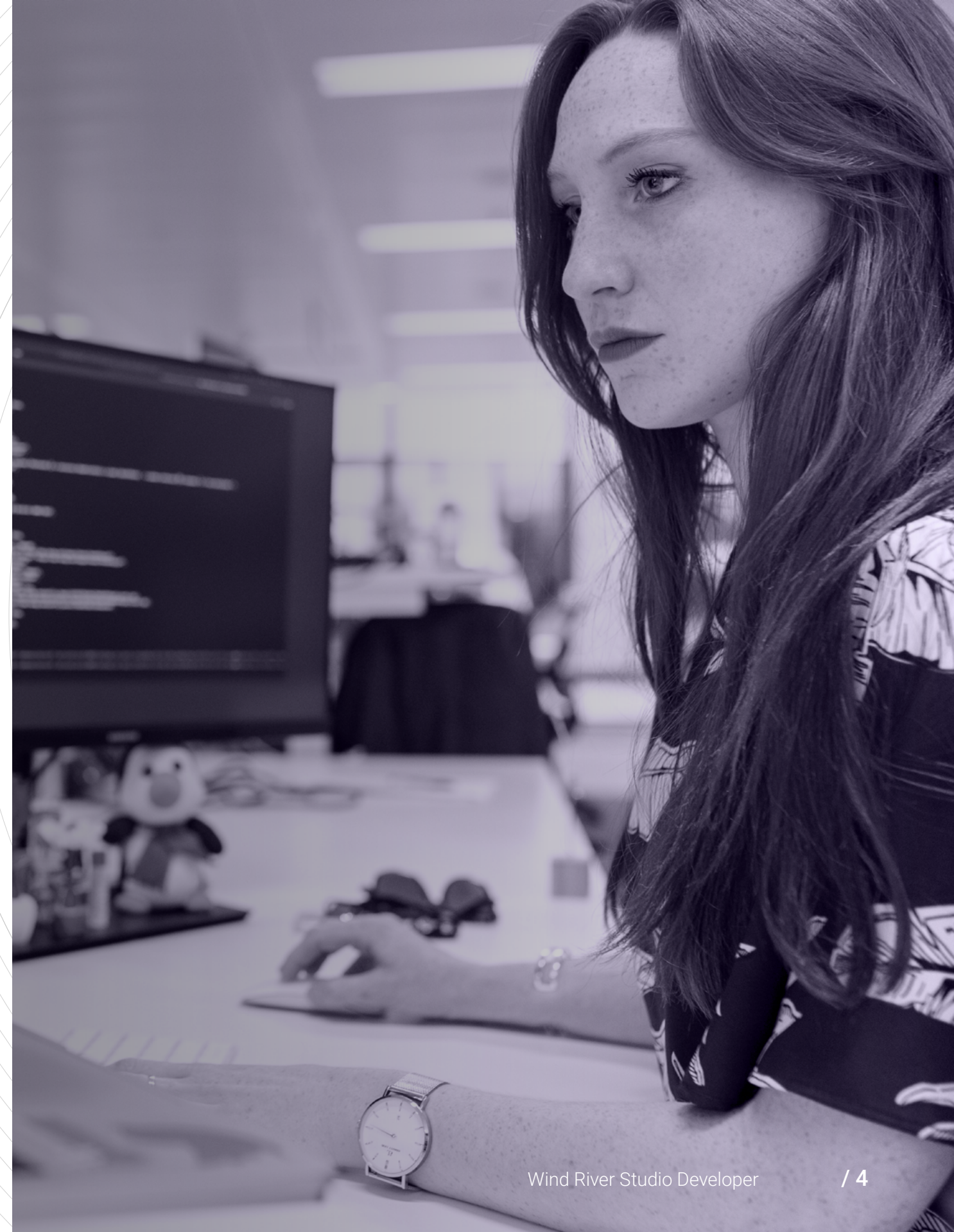
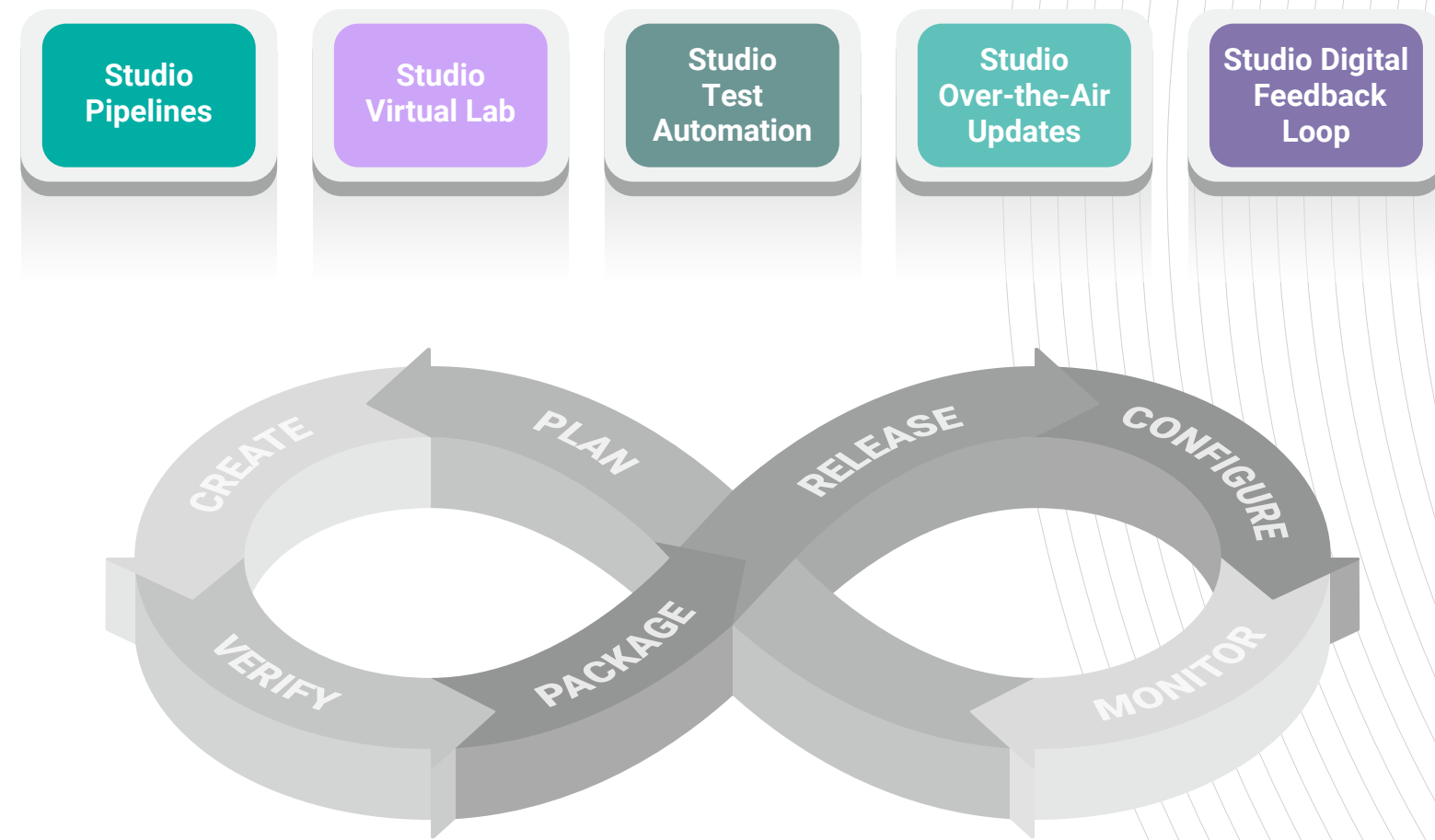
“It’s a more cloud-based approach to testing ... now we can move to virtual hardware and perform tests more efficiently.”

– Studio Developer Customer

## Studio Developer

# Five Integrated Modules, One Interconnected Environment

Studio Developer delivers its capabilities through its five separate yet integrated modules, each designed to streamline and enhance multiple aspects of embedded software development. They include:



# Five Integrated Modules, One Interconnected Environment

### Wind River Studio Pipelines

Modern edge/cloud application architectures are difficult to design, build, and secure, and embedded development schedules often depend on disconnected, manual workflows due to specialized tools and resources that are isolated on developer desktops or in labs. With Studio Pipelines, organizations can:

- Integrate seamlessly with popular embedded software tools as well as development teams' existing infrastructure to create high-performance multistage pipelines.
- Increase efficiency, reduce development costs, and accelerate time-to-market by automating and orchestrating the software workflows used to develop, test, deploy, and operate intelligent edge systems.

### Wind River Studio Virtual Lab

Embedded projects may suffer high rework costs and unpredictable schedules because software testing cannot start until development hardware is manufactured. Testing embedded projects is expensive and time consuming because testing targets are connected to isolated systems and lack programmatic access and management. The Studio Virtual Lab module allows you to:

- Provide uniform cloud-based management of and access to simulated and physical hardware resources to automate embedded testing and maximize utilization of expensive development resources.
- Accelerate development and release cycles by enabling earlier, more frequent, and consistent testing.
- Leverage teams' intellectual property by enabling the integration of existing models and physical test harnesses into the Virtual Lab system.

### Wind River Studio Test Automation

Embedded projects often suffer fragmented, inconsistent testing because tests and tools are isolated on developer desktops or in labs, and resources are often wasted reimplementing test cases and testing plans across platforms and components. With Studio Test Automation, you can:

- Improve testing consistency and reduce costs by centralizing tests and configurations, packaging common tests and testing plans for use across teams and projects.
- Integrate with existing testing and reporting tools to meet the needs of development teams.

# Five Integrated Modules, One Interconnected Environment

### Wind River Studio Over-The-Air Updates

Securing and maintaining compliance in complex edge/cloud production environments and infrastructure is difficult and expensive, and the constant need to update edge devices reduces development agility and lifetime value of edge devices. With Studio Over-the-Air Updates, organizations can now:

- Increase development agility by delivering updates to fielded devices. Extend device lifetime by upgrading efficiency and capability in software.
- Enhance security with streamlined deployment of fixes.
- Reduce maintenance costs and risk of device recalls.

### Wind River Studio Digital Feedback Loop

A lack of visibility to conditions and usage at the edge can reduce development agility and lifetime value of edge devices, and there are high costs and risks with operating and maintaining edge device fleets. With the Studio Digital Feedback Loop, you can:

- Increase development agility and velocity by establishing feedback loops between edge and cloud systems with flexible data pipelines and analytics.
- Raise profitability and user satisfaction with real-time visibility into usage and conditions at the edge.
- Reduce downtime and costs by proactively identifying maintenance and performance problems.

### Examples:

#### / Streamlining workflows by harnessing the integrated modules

- Use Studio Test Automation to create test plans and execute them on your simulated or physical targets with Studio Virtual Lab.
- Leverage the testing and scanning blocks of Studio Pipelines to execute and recycle test plans generated in Studio Test Automation.
- Deploy Studio Over-the-Air Updates to remotely install Studio Digital Feedback Loop software on edge devices, empowering them with real-time data collection capabilities.

# Ever-Expanding Use Cases for All Industry Sectors

As the features and capabilities of Studio Developer multiply, so do its use cases. Below are just a few real-world examples of how the product is solving core challenges and delivering business value for a variety of specific industry sectors.



### Aerospace and defense

A leading aerospace and defense company is developing a new fighter jet for a military contract. The test team has a number of customized test harnesses for aircraft subsystems that are shared by all teams. Each test harness is controlled by a single PC, and testers have to be co-located with the test harnesses, limiting the testing that could be performed.

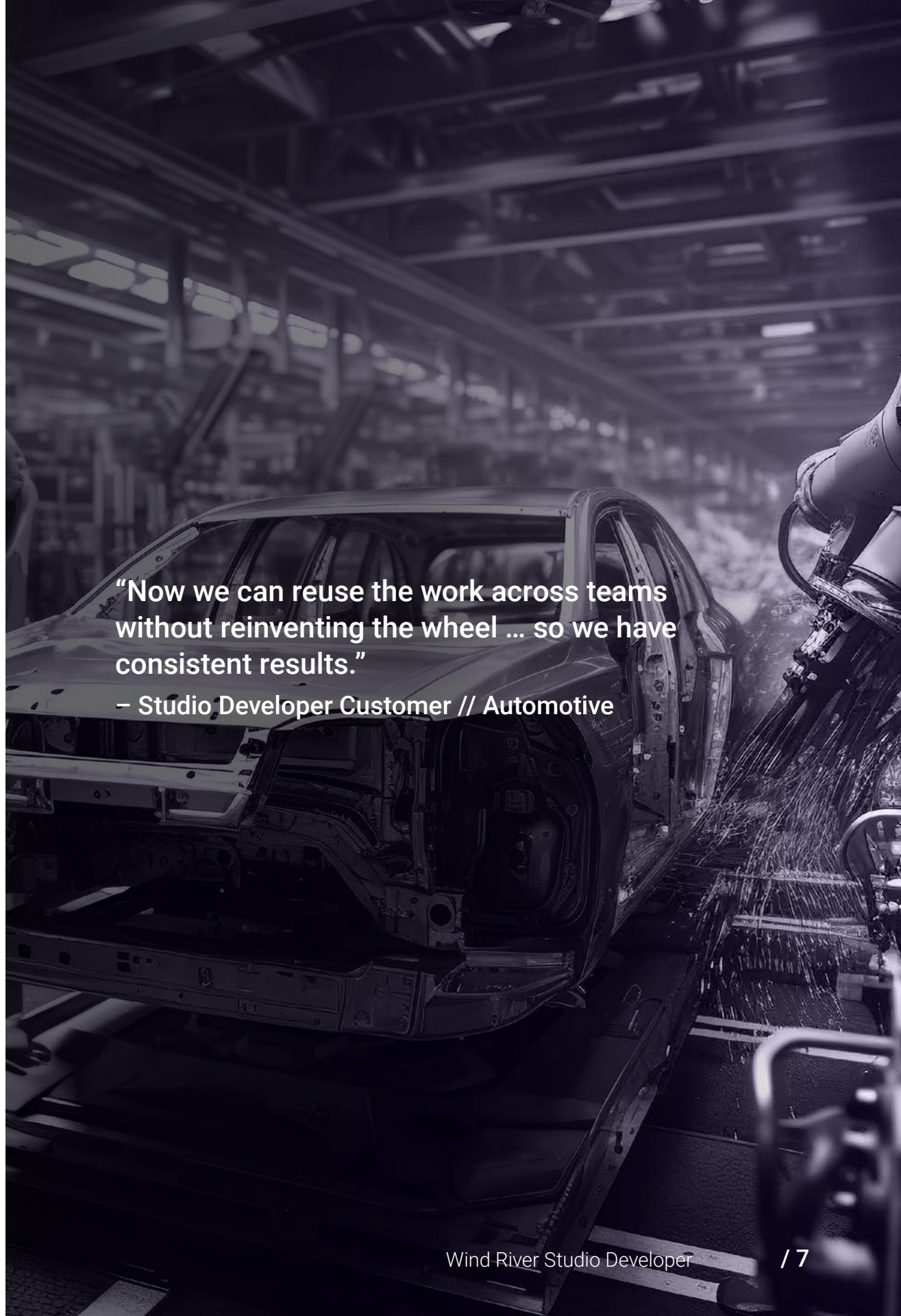
With Studio Virtual Lab connected to the test harnesses, they appear as single test resources and Studio Test Automation can connect to them. Studio Test Automation can automate the configuration of the entire test harness as well as test execution. Now the entire software team, worldwide, has remote access to test harnesses and test automation; tests can be run anywhere 24/7; and more testing can be performed without specialized training.



### Automotive

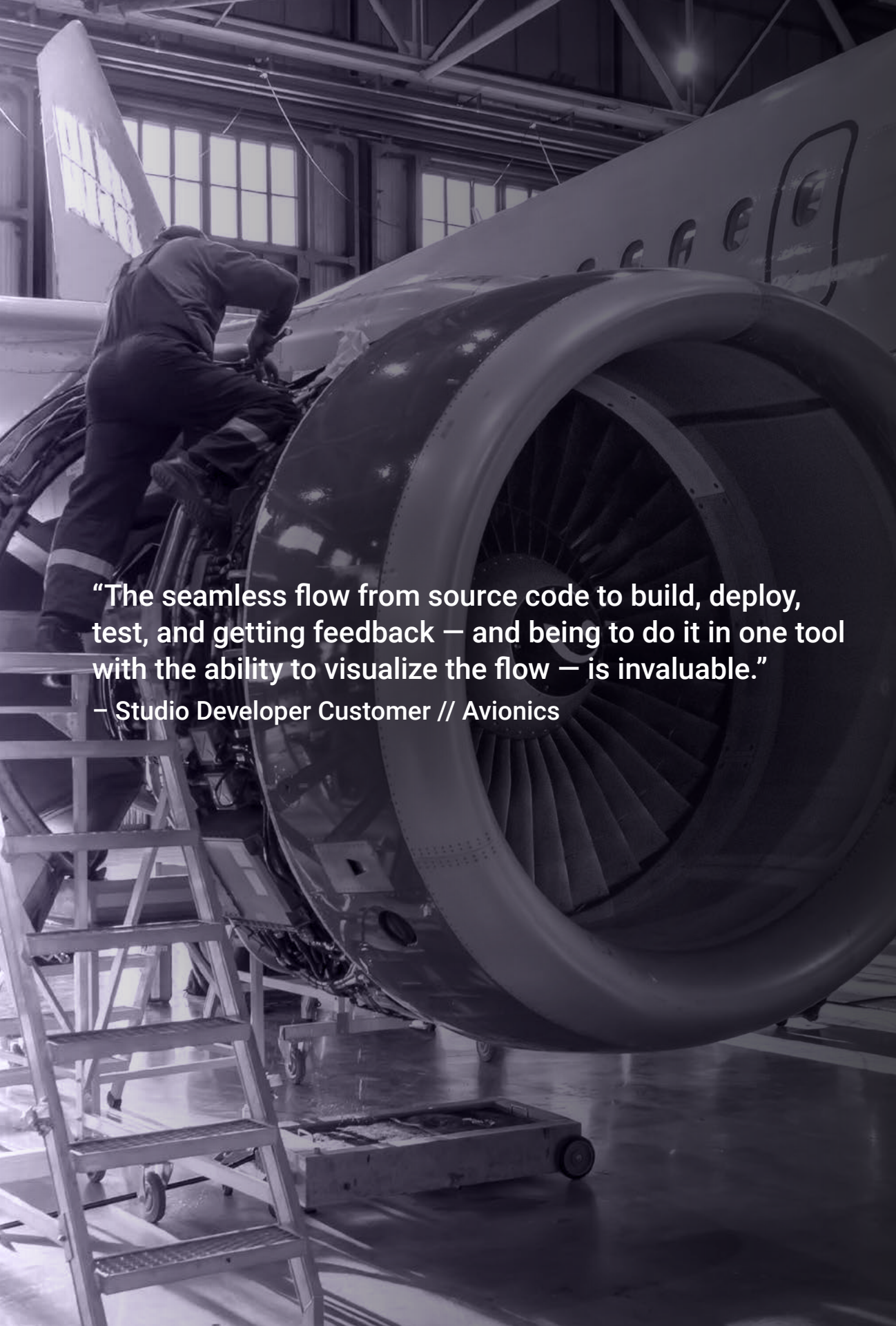
A Tier 1 automotive supplier has multiple development teams, most with their own workflow automation tools and processes. The complexity makes the overall environment difficult and costly to maintain and scale. They want their application engineers to be able to migrate between environments without constantly having to learn new tools and processes.

Studio Pipelines provides a consistent layer of automation tools that can be integrated with all existing environments, and existing automation tools can be invoked as-is or repartitioned into smaller pipelines that can be reused in multistage environments. The result: Automation scenarios can be shared and reused among teams, providing greater visibility, traceability, and debuggability in their automation environment; and engineers can migrate easily among products because they're all using the same framework.



**“Now we can reuse the work across teams without reinventing the wheel ... so we have consistent results.”**

**– Studio Developer Customer // Automotive**



**“The seamless flow from source code to build, deploy, test, and getting feedback — and being to do it in one tool with the ability to visualize the flow — is invaluable.”**

**— Studio Developer Customer // Avionics**

## Studio Developer

# Ever-Expanding Use Cases for All Industry Sectors



### Avionics

A leading avionics company was using multiple operating systems and legacy software across multiple projects. They wanted to unify the development environment, but each environment had its own legacy build tools.

With Studio Developer, the company could bring its development processes into a single environment. Now all of the software projects harness a common set of development and automation tools, and the transition to cloud-based automation allows for scale and higher-performance automation. With everyone using one environment and an integrated set of tools and artifacts, developers can now transfer between projects while increasing overall productivity.



### Medical

A medical device maker needs to update its devices more frequently to address emerging security vulnerabilities. Many of the team’s code scanning tools run only on Windows, and they are concerned about transitioning to a Linux-based DevSecOps environment.

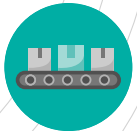
With the new Windows Containers support in Studio Developer, the company can run its existing Windows scanning tools in Windows Containers and call them from Studio Pipeline to automate the scanning tasks. Simply put, it can keep its existing processes but migrate to the Studio Developer cloud-based environment, accelerating cycle time by 20–30%.



## Studio Developer

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# Ever-Expanding Use Cases for All Industry Sectors



### Equipment Manufacturer

A farm equipment manufacturer is interested in modernizing its software development process. The company wants to adopt a cloud model, but the managed cost and security concerns of the public cloud make it an unattractive option.

With Studio Developer, the company can deploy Studio on-premises in an environment that matches its Kubernetes needs. With a working on-premises version of Studio Pipelines and Virtual Lab, the company can share hardware and automate in a simulated environment, so developers can become more efficient, release more frequently, and improve collaboration — while cutting costs through the cloud model.

**“We’re getting into a beautiful momentum where teams are collaborating to push frequent interim releases ... check the status of the software, jump in quickly to fix bugs, and integrate and release at a faster cadence.”**

**– Studio Developer Customer // Equipment Manufacturer**

# Partner Ecosystem, Service and Support Options

### Accelerate Digital Transformation Across the Intelligent Edge

Learn more about our comprehensive service and support options below, then contact us to take the next steps on your transformation journey with a trusted, proven partner.

#### WIND RIVER STUDIO DEVELOPER MANAGED SERVICES

Wind River Studio Developer is offered with a set of managed services that leverage the expertise and experience of Wind River's Professional Services team to accelerate the adoption and integration of Studio Developer, as well as manage cloud infrastructure, operate the environment and maintain the security of the development platform through updates and upgrades.

#### WIND RIVER PARTNER ECOSYSTEM

Visit our partner ecosystem at [www.windriver.com/partners](http://www.windriver.com/partners) for a full list of our partners and their products.

#### WIND RIVER PROFESSIONAL SERVICES

The CMMI Level 3-rated Wind River Professional Services organization leverages years of system design and development expertise to work collaboratively with customer design and program teams.

For more information, visit [www.windriver.com/services](http://www.windriver.com/services)

#### WIND RIVER CUSTOMER SUPPORT

Studio Developer is backed by the award-winning Wind River global support organization, with multifaceted self-help options and optional premium services to provide the fastest possible time-to-resolution.

For more information, visit [www.windriver.com/services/customer-support](http://www.windriver.com/services/customer-support)

#### WIND RIVER EDUCATION SERVICES

Wind River offers instructor-led, on-demand, and mentored learning, including our anytime, anywhere access to online subscription-based e-learning.

For more information, visit [www.windriver.com/studio/services/education](http://www.windriver.com/studio/services/education)