It is Time to Finally Tackle Legacy Application Transformation in Manufacturing.

Turning legacy debt into a platform for efficiency, resilience, and innovation

Executive Summary: Legacy Transformation in Manufacturing

Manufacturers are under increasing pressure to move faster, operate more efficiently, and respond to quality and supply-chain disruptions in real time. Many have moved legacy systems to the cloud expecting agility, only to find the same delays, manual handoffs, and disconnected workflows persist on newer infrastructure.

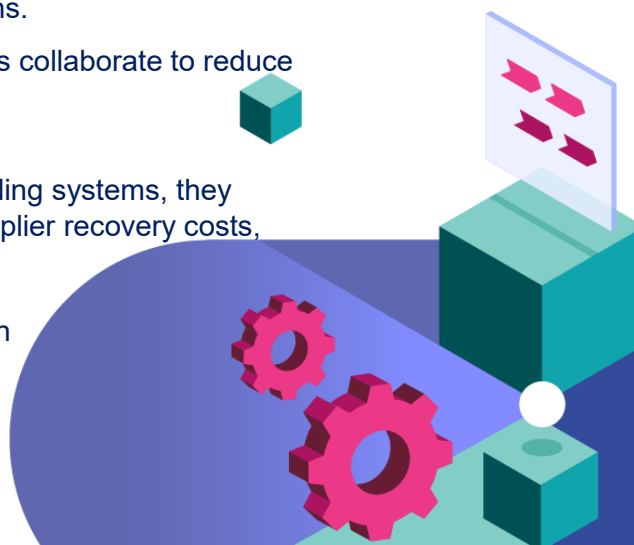
As product complexity, regulatory requirements, and customer expectations rise, legacy systems have become more than an IT challenge. They now directly impact cost, speed, quality, and the ability to innovate.

Manufacturers face a critical choice when modernizing:

- Recreate existing processes, accepting the same cycle times, rework, and escalation paths.
- Reimagine work end-to-end, redesigning how warranty, quality, engineering, and suppliers collaborate to reduce delays and prevent issues earlier.

Leading manufacturers are choosing the second path. By rethinking workflows before rebuilding systems, they are identifying product issues sooner, shortening feedback loops, reducing warranty and supplier recovery costs, and preventing repeat defects by feeding real-world data back into product development.

This approach lowers modernization risk, accelerates time-to-value, and creates a foundation for sustainable innovation, without disrupting core operations.



Legacy Debt is Now a Competitive Risk

In the fast-paced world of manufacturing, legacy systems are no longer just outdated, they're legacy debt and they are actively holding companies back. From production inefficiencies to customer frustration, the cost of depending on aging technology is growing every day.

For manufacturing operations, this manifests as painful realities: warranty claims systems that take days instead of hours to detect and process, quality management processes are trapped in disconnected applications, and supply chain systems unable to communicate and orchestrate with modern ERP platforms.

The operational pain points are tangible, immediate and costly. Manufacturing teams struggle with outdated parts management systems that lack visibility into the product lifecycle. Engineers working on quality issues face a patchwork of isolated processes with limited collaboration capabilities and data visibility. Service departments managing warranty claims deal with manual handoffs, email-based tracking, and systems that can't support the real-time decision-making required in today's competitive environment.

KEY INSIGHT: These legacy systems don't just operate slowly; they actively prevent manufacturers from responding to market changes, implementing new technologies like AI-driven predictive maintenance, or meeting rising customer expectations for seamless service experiences.

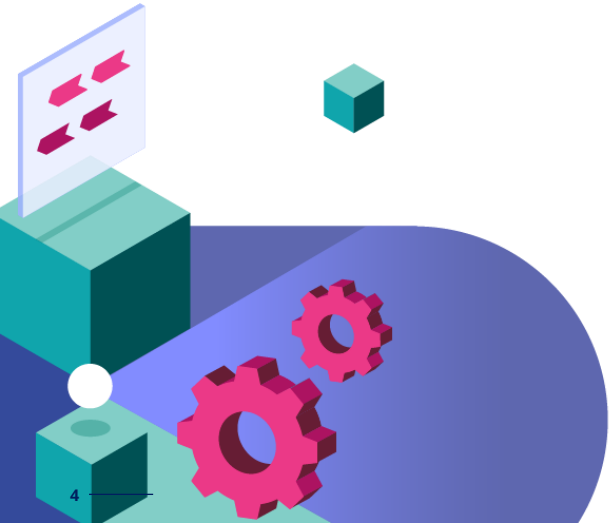
Legacy application modernization unlocks trapped business value by transforming legacy systems into scalable, secure, and resilient cloud-based applications that accelerate innovation and business agility. It helps orchestrate cross functional business processes, reduce technical debt, optimize costs, and enable faster time to market by linking new and legacy systems seamlessly. Additionally, modernization fosters new customer and employee experiences, supports cloud-native development, and enables organizations to capitalize on emerging technologies such as AI for sustainable growth.

Stop patching and start transforming.

The Hidden Cost of Legacy Systems in Manufacturing

Why 20% of Your Innovation Budget Disappears

Manufacturing companies rely on complex ecosystems of ERP, CRM, SCM, Distribution, Warranty, Quality, MES, and SCADA systems along with dozens of home-grown departmental systems that have morphed into enterprise-wide use many of which were built decades ago. The human and business costs of legacy systems extend far beyond IT budgets.



Multiple factors lead to technology's vicious cycle.

1. Increasing business demand leads to suboptimal point solutions; the business side's need to move quickly creates suboptimal requirements for IT; lack of coordination and collaboration prevents better decision making for the long term
2. Suboptimal point solutions lead to complex "spaghetti" of point-to-point solutions and one-off applications, adding more tech debt to the system
3. Vicious cycle makes future projects more difficult and adds hidden cost in the form of lost opportunities and wasted resources

McKinsey & Company

https://www.mckinsey.com/capabilities/tech-and-ai/our-insights/breaking-technical-debts-vicious-cycle-to-modernize-your-business

How Legacy Systems Erode Productivity and Data Driven Decisions

CRITICAL STATISTIC: Research from McKinsey reveals that more than 20% of technical budgets for new products are diverted to address existing technology issues rather than driving innovation.

This budget diversion represents just one dimension of the problem. The broader impacts include:

- **Integration costs that balloon** as teams try to patch new solutions onto outdated architectures
- **Project overruns** caused by hidden technical challenges
- **Missed business opportunities** as organizations prioritize managing technical debt over capitalizing on emerging markets

Employee productivity takes a significant hit. Engineers and IT staff spend valuable time on workarounds rather than innovation. Manufacturing teams that are dependent on cumbersome legacy systems experience decreased morale and efficiency.

The data collection and utilization problems are equally concerning, fragmented, siloed data systems prevent effective use of advanced analytics for decision-making, and manufacturing teams often rely on outdated datasets for critical product design and procurement decisions. For automotive manufacturers specifically, these inefficiencies directly impact their ability to manage warranty claims, optimize supplier recovery rates, respond to quality issues, and maintain competitive cost structures.

The cost of duplicate and inaccurate data, inefficiencies in front and back-office functions, and the overall burden of technical debt creates a compounding effect that hampers both operational excellence and strategic agility. This results in delayed product launches, inefficient supply chain coordination, negative customer sentiment, and inability to scale or innovate quickly.

Four Forces Making Legacy Risky to Ignore

1) **The Electric Vehicle Transition Is Reshaping the Industry**
2) **Supply Chain Pressures Have Intensified Dramatically**
3) **The Industry 4.0 Revolution Is Accelerating**
4) **Increased Regulatory Pressures**

Force #1: The Electric Vehicle Transition Is Reshaping the Industry

EV drivetrains and new component ecosystems require agile supply chains and modern warranty/quality systems. Legacy platforms slow detection, escalation, and supplier collaboration.

Force #2: Supply Chain Pressures Have Intensified Dramatically

Manufacturers face persistent global disruption and regionalization pressures. Legacy systems lack real-time visibility and flexibility needed for rapid supplier pivots and resilience.

Force #3: The Industry 4.0 Revolution Is Accelerating

AI, IoT, digital twins, and real-time analytics demand modern, cloud-ready architectures. Legacy systems block adoption and prevent end-to-end orchestration across operations.

Force #4: Increased Regulatory Pressures

Regulations like CSRD, ESPR, and Digital Product Passports require clean, traceable data and cross-functional process integration that legacy systems are not designed to support.

How Manufacturers Break Free from Legacy Constraints

Many manufacturers move legacy systems to the cloud expecting agility, but instead inherit the same delays, manual handoffs, and quality issues, just on newer infrastructure.

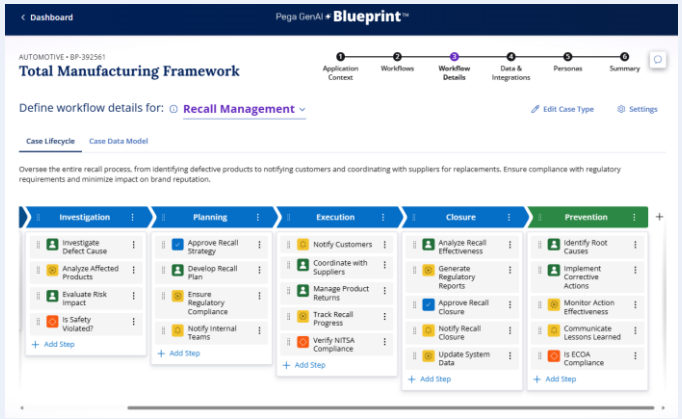
Manufacturers face a critical choice when modernizing:

- Recreate existing processes — accepting the same cycle times, rework, and escalation paths
- Reimagine work end-to-end — reducing delays, improving quality, and scaling automation with confidence

Reimagining warranty, quality, and engineering as one connected workflow changes what manufacturers can achieve:

- Identify product issues earlier — before recalls or reputation damage
- Shorten the feedback loop between the field, engineering, and suppliers
- Resolve claims faster while reducing supplier recovery costs
- Prevent repeat defects by feeding real-world data back into product development

Build a connected workflow spanning warranty, quality, and engineering, replacing fragmented systems and manual coordination.



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What Makes Modernization Lower Risk — and Faster to Value

Manufacturers reduce modernization risk when they can:

- **See how work gets done today**
  - Understand real workflows, rules, and dependencies, even across poorly documented legacy systems, before making change.
- **Reimagine processes before rebuilding them**
  - Redesign end-to-end workflows using proven industry patterns, rather than recreating outdated ways of working in new technology.
- **Automate decisions and workflows incrementally**
  - Introduce automation where it delivers the most value first, without disrupting core operations.
- **Continuously optimize using real operational data**
  - Identify bottlenecks, rework, and improvement opportunities as processes run, not months later.

Clearing Up the Biggest Misconception About Legacy Transformation

MISCONCEPTION: *"Modernizing legacy systems is too risky, disruptive, and takes too long."*

The most damaging misconception about legacy transformation is that it's purely a technology problem requiring only technical solutions. This misconception leads organizations to pursue "lift and shift“ strategies that recreate existing inefficiencies in new environments, or partial modernization efforts that leave fundamental workflow problems unaddressed.

THE REALITY: Effective legacy transformation is fundamentally about business process transformation and organizational change. When Pega approaches legacy transformation, we emphasize that modernization isn't just about updating systems, it's about transforming how work gets done, improving customer and employee experiences, and enabling new capabilities that weren't possible with legacy architectures.

For a manufacturing company, this might mean not just replacing an old warranty claim system but reimagining the entire claims and recall workflow to enable faster processing, early warning detection, better supplier recovery, predictive analytics on claim patterns, and seamless integration with quality management and product development systems. This distinction is critical because it changes the conversation from "How do we replace System X?" to "How do we transform our operations to reduce costs by millions while improving customer satisfaction?"

When organizations understand this difference, they make better investment decisions, achieve faster time-to-value, and realize returns that justify the transformation effort. IT leaders who grasp this distinction become trusted advisors rather than just technology providers, positioning them to drive strategic value across the organization.

Case Study: North American Auto OEM – Warranty Claims Transformation

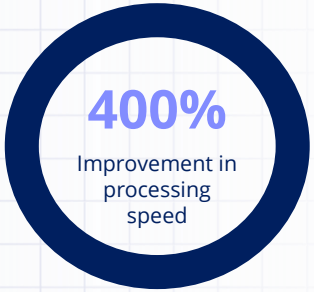
The automotive industry provides compelling examples of successful legacy transformation that demonstrate both the approach and the outcomes.

Real-World Success

Major North American Auto Manufacturer: Warranty Claims Transformation

RESULT: $53 million in annual reduction in operating and claims costs with 400% improvement in processing speed

A major North American auto manufacturer transformed their aftermarket services and warranty claims processing, achieving remarkable results. As their Global Strategy Manager explained:



> *Every day sooner that you know about a problem, you can save one day's worth of bad production. Every day improvement has huge cost savings associated with it. Using our new system, we were able to connect an engineer to a dealership, to a technician, to a vehicle that had that exact concern, the minute it was written up on the service drive.*

Case Studies: Quality Modernization & Legacy App Consolidation

Top-Ranked Global Auto Manufacturer: Quality Management Modernization

Another top-ranked global auto manufacturer modernized their quality management operations. Pega's no-code platform enabled rapid cloud-based deployment managing more than 700,000 parts for over 7,000 users.

RESULTS: 40% reduction in time from issue detection to assignment, with complete visibility through portals, dashboards, and out-of-the-box reporting

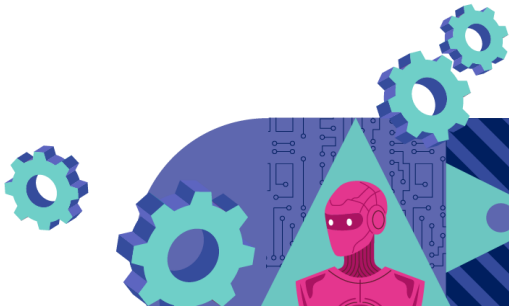
As their Senior Engineer for Quality Lifecycle Management noted:

"Our mission is to 'Build in Quality' from the start, and to never pass poor quality on to the next step in the process“ and their new system enabled mission accomplished.”

Global Industrial Manufacturer: Business Process Optimization – Legacy/Shadow IT Replacement

Enterprise Innovation: Pega’s visually-driven, low-code development environment was deployed to help modernize processes transcending a loose collection of over 1000 customer legacy apps.

RESULT: **$30 million annual savings** from reduced application support and maintenance costs, greater agility in response to rapid industry and technological change, and improved risk management across the supply chain



Case Studies: Supplier Recovery and Collections Optimization

Heavy Truck Manufacturer: Supplier Recovery and Warranty Optimization

RESULT: $40 million annual increase through improved recovery processes

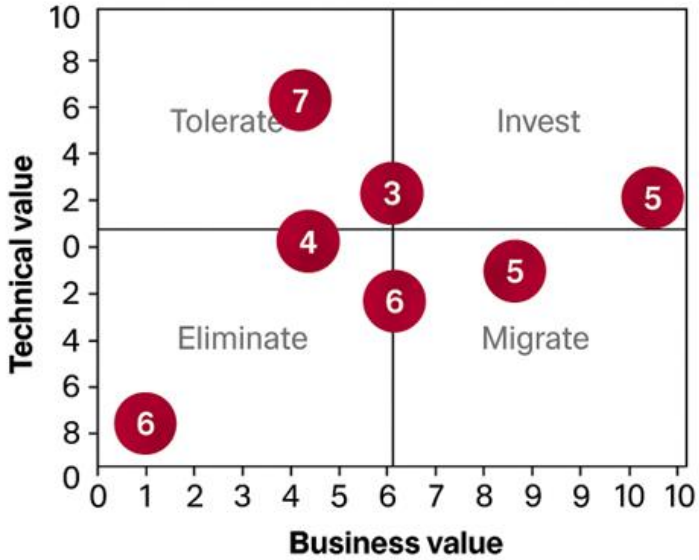
For heavy truck manufacturers specifically, one North American company achieved a $40 million increase annually through improved recovery processes, reduced cycle time for supplier claims, and faster, easier, more automated warranty claims processing.

SPEED TO VALUE: Live in 8 APAC sites plus North America in just 4 months

A top 10 global auto maker transformed their collections operations, going live in 8 APAC sites plus North America in just 4 months, replacing 10 legacy collections applications with a unified CRM, BPM, and analytics platform that delivered 200% faster time to implement changes while orchestrating and automating multiple channel activities to drive optimal customer contact.

Where Do You Start? A Practical Path to Prioritization

If you're not sure which legacy application or set of applications you need to modernize first, then we would encourage you to take inventory of your current application portfolio and go through an application rationalization process. You could leverage an application portfolio rationalization approach like the **Gartner TIME model** to assess your application portfolio and prioritize which applications to keep, enhance, replace, or retire.



https://www.leanix.net/en/wiki/apm/gartner-time-model

Pega can help you reimagine those applications that you want to replace or eliminate while wrapping around those you want to keep or enhance. Pega helps transform targeted applications through a structured approach.

A Proven Transformation Process for Manufacturing

Assessment & Discovery: Analyze legacy systems (even poorly documented ones), understand existing workflows and business rules, and create clear documentation of current state functionality using **Pega Blueprint™**

Rapid Deployment: Rather than months or years of traditional development, organizations can deploy initial capabilities in weeks

Seamless Integration: Integration capabilities ensure the new applications connect seamlessly with remaining systems in your environment, including ERP platforms, manufacturing execution systems, and external partner systems

Outcome: Faster time-to-value and reduced risk.

What Manufacturers Didn’t Expect — But Now Rely On

When speaking with clients who've completed legacy transformations, certain outcomes consistently surprise them with their magnitude and impact.

Surprise #1: The Speed of Value Realization
Organizations accustomed to multi-year IT projects with uncertain outcomes find that Pega transformations deliver working applications in weeks or months with clear, measurable benefits.

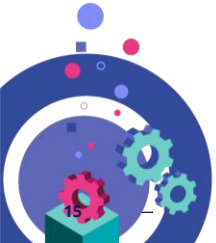
Surprise #2: The Breadth of Impact Beyond the Initial Use Case
A company starting with warranty claims transformation discovers the same platform and approach can rapidly address quality management, supplier collaboration, customer service, and internal IT service management. This reusability and extensibility deliver compounding value that wasn't factored into initial ROI calculations.

Surprise #3: The Cultural Shift Toward Agility and Innovation

Organizations trapped in legacy system constraints develop cultures of "we can't because the system won't let us." When those constraints disappear and business users can modify processes and build new capabilities, organizational mindsets shift dramatically. Engineers connect directly with dealership technicians and vehicles with quality concerns in real-time rather than waiting days or weeks for information to flow through rigid systems.

Surprise #4: How Quickly They Forget the Old Way

Clients are consistently surprised by how quickly they forget the old way of working once transformation is complete. The manual handoffs, email-based tracking, disconnected systems, and workarounds that seemed insurmountable problems fade into distant memory as teams adopt streamlined, automated processes. This psychological shift from "managing constraints" to "optimizing possibilities“ represents the ultimate validation of successful transformation.



Taking the First Step: Maximize with Confidence

The urgency is real.

- EV transition, supply chain volatility, Industry 4.0 and new regulations are not slowing down
- Legacy systems will not get easier or cheaper to manage over time

A pragmatic static point

- Assess your current application portfolio
- Identify systems that actively block strategic objectives
- Quantify the cost in missed opportunities, rework, and customer impact

Let’s discuss where legacy systems are holding your manufacturing operations back and outline a modernization plan that delivers measurable value in months, not years.

Contact us today