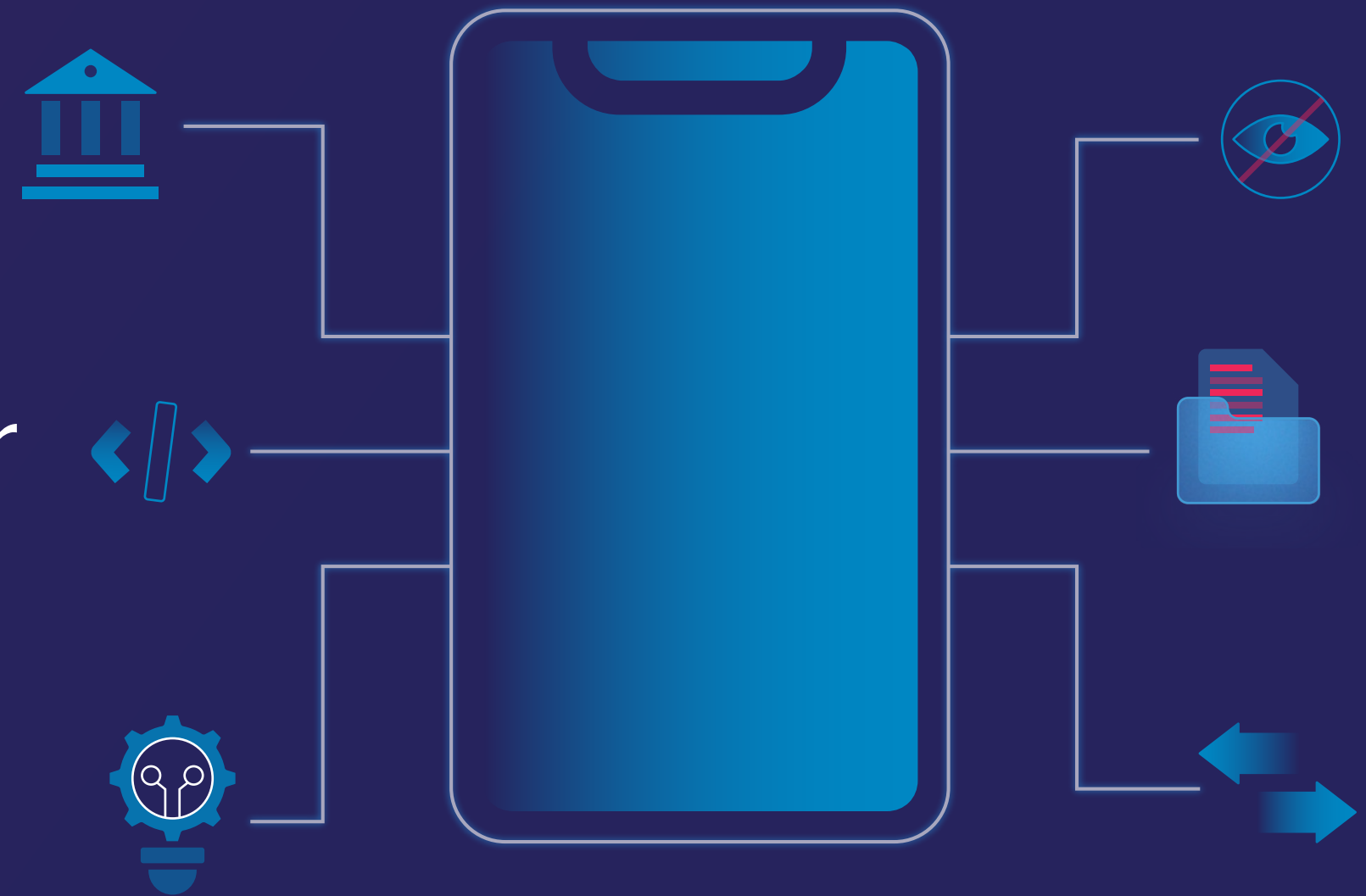


DIGITALIZING CORE CAPABILITIES

A Strategic Framework for Application Modernization and Migration





Technology's disruptive power isn't just about the latest innovations. It's about rethinking the very foundations that **keep organizations competitive.**

With \$3.4 trillion projected to be spent globally on digital transformation by 2026, the real challenge for enterprises lies in modernizing and migrating the core applications that drive daily operations¹.

The evidence is everywhere. In retail, smart inventory and logistics platforms enable chains like Walmart to tailor product offerings to local demand, responding quickly to market shifts. In financial services, advanced data systems allow institutions to customize credit products, approve loans faster, and personalize marketing at scale.

These examples are possible because the underlying core systems have been modernized to support agility, scalability, and continuous innovation.

Yet for many enterprises, outdated core applications remain the single largest barrier to achieving these outcomes. While digital transformation strategies promise speed and flexibility, legacy systems often slow innovation, limit scalability, and increase operational inefficiencies.

Without modernization, even the most ambitious transformation initiatives risk being built on an unstable foundation—making it harder to compete in an era defined by rapid technological change.

The Business Impact of Legacy Applications

In an era where competitive advantage is in no small part defined by digital agility, no enterprise can afford to be weighed down by a legacy IT system that suppresses innovation and slows growth.

And still, this is all too common.

Legacy applications, built in years gone by to support core functions and services – and kept on life support since then due to their importance for daily operations – pose a trifecta of headaches. They're expensive to maintain, difficult to integrate with modern technologies, and vulnerable to security threats.

As much as 70% of the software used by Fortune 500 companies was developed more than 20 years ago.² And yet, 80% of enterprises recognize inadequate or outdated technology is holding back their growth and innovation efforts.³

¹ Spending on digital transformation technologies and services worldwide from 2017 to 2027

² Fix it, even if it 'ain't broke': the price of legacy technology

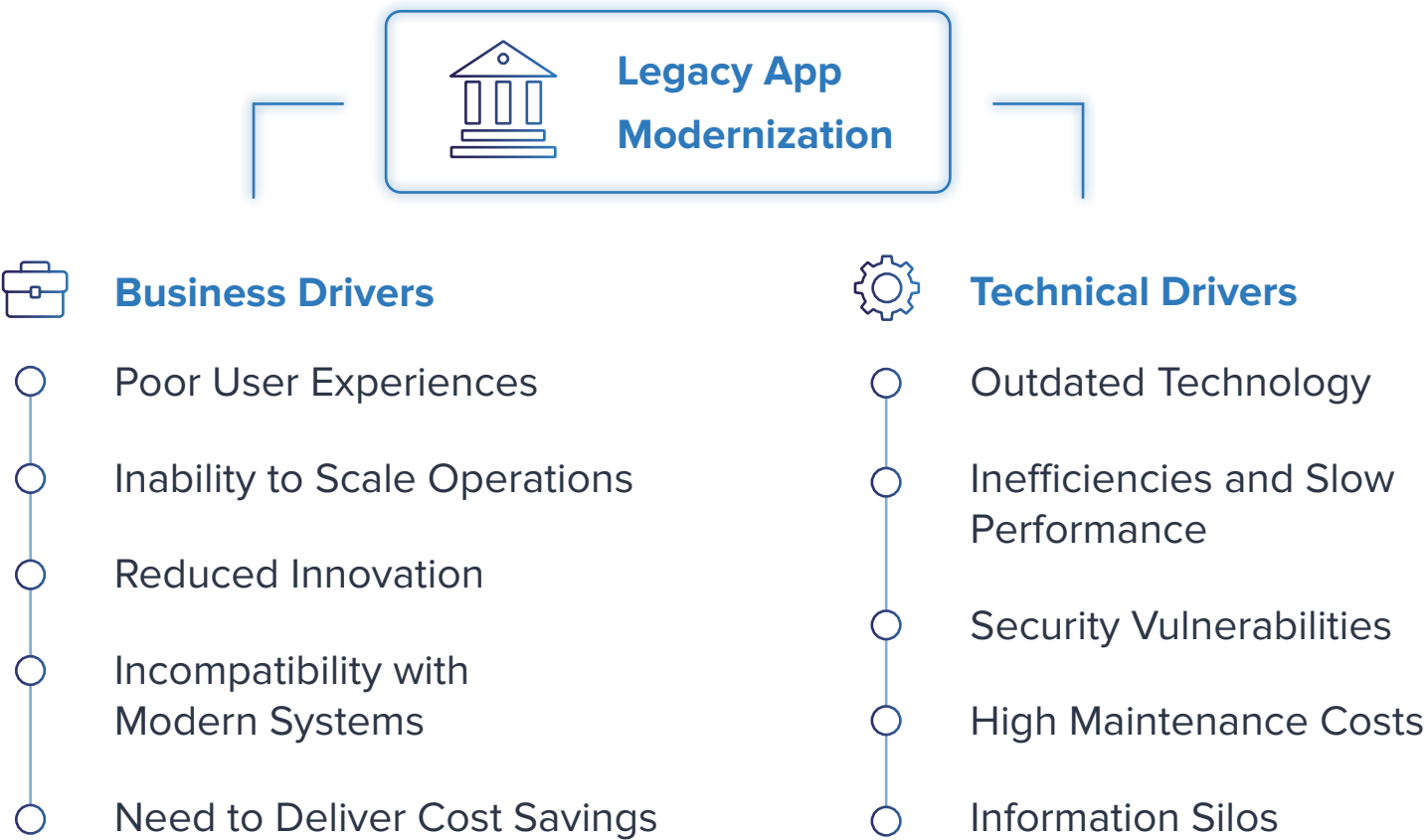
³ NTT DATA: Outdated Tech Holding Back Global Organisations

A Key Tenet for Digital Transformation Success




When you account for the fact many upcoming transformation initiatives will center around scaling AI adoption, a lack of modernization makes it prohibitively hard to stay competitive.

As organizations optimize their cloud environments, establish robust data pipelines, and enhance the user experience across the board, ensuring interoperability between applications through modernization and migration becomes critically important.

Why Legacy App Modernization is Important



This POV will outline a strategic framework for application modernization and migration – one of the six essential steps in digitalizing core capabilities. We will explore:

-  The hidden business impact of continued reliance on legacy applications.
-  Why overcoming these hurdles is critically important for any successful digital, cloud, and AI transformation effort.
-  Practical steps for creating an agile IT ecosystem designed for new digital initiatives that deliver results faster, more efficiently, and with greater resilience.

By connecting the business imperative to a clear modernization and migration strategy, this framework provides leaders with a roadmap to unlock the full potential of their core capabilities and sustain a competitive advantage in a fast-changing digital economy.



How Legacy Applications Derail Digital Transformation Efforts

Legacy applications come with a range of hidden costs. A lack of modernization presents **four main issues** that restrict an enterprise's ability to **innovate and transform**.



ISSUE
#1

Interoperability Roadblocks
Dealing With Integration Inertia

Aging applications create a cycle of inefficiency. Enterprises get stuck making incremental improvements on applications that operate in silos, struggling to create custom pathways to share data between them rather than dealing with the root cause. This makes new data-driven use cases, such as real-time decision-making based on actionable intelligence, difficult to unlock.

Legacy systems typically only support 15-20% of modern integration methods. And in nearly 60% of cases, enterprises can't integrate these systems with cloud services.⁴ Instead of a unified IT ecosystem, the result is a series of disjointed applications that don't play nicely together because they were never designed to do so. As a result, scaling AI, cloud, and automation initiatives becomes harder as business-as-usual approaches are kept in play, despite being slow and fragmented.



Embracing microservices and an API-led approach makes it easy to create a unified and seamless data layer between applications. Adhering to common integration standards, this helps set the foundation for AI-driven predictive analytics.



⁴ Why Modernizing Legacy Systems is No Longer Optional
⁵ CIOs: Stop Spending on Bad Tech

ISSUE
#2

Technical Debt
The Real Cost of Legacy Applications

Slow-to-adapt applications make it hard to keep up with market changes. And the cost of doing nothing is often higher than the cost of change.

US enterprises waste \$85 billion each year dealing with maintenance issues associated with bad tech.⁵ These systems weren't built for today's demands, and each 'quick fix' adds to technical debt. Every patch, workaround, or incremental update contributes to an often already bloated codebase that's difficult to maintain, which only delays the inevitable. Subsequent updates become increasingly complex as a result, pulling resources away from new digital, cloud, or AI initiatives.



Rebuilding systems from the ground up based on modern principles reduces technical debt, while shifting a large chunk of IT spend from maintenance to innovation.



ISSUE
#3

Performance Penalties

An Inability To Scale and Support Modern Workflows

Legacy applications were designed for stability, not change. The rigidity this brings makes it hard to keep up with business needs, resulting in slow performance and bottlenecks.

More than half of companies cite increased agility and efficiency as the main reason driving modernization efforts.⁶ This is becoming a pressing concern as outdated technology can't meet the performance demands of modern workflows, such as processing data at scale for AI use cases.



Built for scalability, modern applications can easily meet spikes in demand, delivering the agility businesses need at scale. In the context of digital transformation, this sets the stage for continuous innovation – enabling new business models and enhancing user experiences through hyper-personalization.



⁶ Main reasons driving companies' modernization of legacy applications and data worldwide in 2023
⁷ Overcoming The Chronic Condition Of Cybersecurity In Healthcare

ISSUE
#4

Security Vulnerabilities

The Risks of Outdated Architecture

Legacy applications are easier to exploit. Running on aging architecture and lacking ongoing support, they often harbor critical vulnerabilities that can make them easy targets for bad actors.

This issue is prevalent across all sectors. 80% of healthcare institutions, for example, still rely on legacy technology.⁷ From stolen data to systems being taken offline for several days, exploited vulnerabilities have a huge operational and reputational impact. Introducing robust protections to outdated systems is difficult and not always possible, opening enterprises up to regulatory fines when things go wrong.



Rearchitecting legacy applications takes a proactive approach to security, baking in advanced protections. Equally, migrating applications to the cloud to enable automated updates and real-time threat detection can help further reduce the enterprise risk profile.



How to Overcome Legacy Roadblocks and Drive Digital Initiatives

New challenges, particularly in the age of AI, require a new approach to modernizing applications.

As every enterprise is different, it's sensible to start by reviewing your current IT landscape and conducting a strategic tech debt and modernization priority assessment.

From there, the following four considerations will help in creating a strategic framework to overcome the issues posed by legacy software, establishing a holistic approach to digital, cloud, and AI transformation success.



**PRINCIPLE
#1** Take Advantage of
**AI-Enabled Application
Modernization**

Start by focusing on monolithic applications that can be more easily transitioned from a legacy system to microservices in the cloud.

Combining software modernization with AI at this stage brings several benefits. Firstly, AI-enabled development is faster and more streamlined. This reduces overall complexity and speeds up development cycles, allowing you to take advantage of new features, enhanced performance, and greater scalability.

Baking in AI functionality helps to further extend the value and lifespan of existing systems. This results in more efficient, adaptive, responsive, and cost-effective applications able to deliver measurable impact across the entire value chain.

Together, this approach makes big strides toward reducing technical debt while integrating new technologies to shift to a more unified environment.

Practical steps



Identify application modernization priorities and core issues, and establish whether the strategy should focus on encapsulating, rehosting, replatforming, re-architecting, or beyond.



Leverage AI capabilities for intelligent code refactoring, automating improvement suggestions and reducing human error while enhancing the structure and maintainability of core applications without changing their external behavior. Elsewhere, AI-powered dependency mapping can identify hidden interdependencies and make re-architecting smoother.



Implement cloud-native principles, adopting an API-led approach to enhance the integration capabilities of existing systems and take advantage of cloud flexibility, scalability, and resilience.



Integrate new technologies and predictive analytics for continuous improvement and to support the seamless connectivity layer needed for real-time data flows.



Integrating AI into business processes is increasingly prevalent, and for good reason. Sutherland's cutting-edge, **AI-enabled cloud-native application development solutions** can help you reap the benefits of AI while significantly reducing modernization complexity.



PRINCIPLE
#2

Adopt **Agile Application Development**

Agile methodologies are the cornerstone of modern development practices. However, simply adopting an agile approach isn't enough. Success will depend on optimizing development workflows, taking advantage of automation, and fostering a culture centered around user-centric design to ensure high adoption.

AI-driven tools can predict bottlenecks, suggest improvements, and automate code reviews. Machine learning algorithms can also analyze data and enable predictive analytics to speed up development cycles, cutting time to market and the overall financial outlay.

To set the stage for ongoing innovation, it will also be vital to break down silos by democratizing application development. Allowing business users and citizen developers to contribute directly to the creation of digital, cloud, and AI solutions will support the move to responsive and scalable development.

Practical steps



Adopt optimized agile methodologies such as the Scaled Agile Framework (SAFe). This will bring agility to large-scale projects, maintaining control for enterprise-wide delivery and aligning with IT governance and DevSecOps practices to mitigate the risk of vulnerabilities.



Introduce cross-functional teams to enhance collaboration and navigate organizational barriers. This supports rapid iterative development and speeds up time to market without impacting quality.



Design robust, scalable applications that can quickly adapt to market changes, using AI code assist tools to help streamline development.

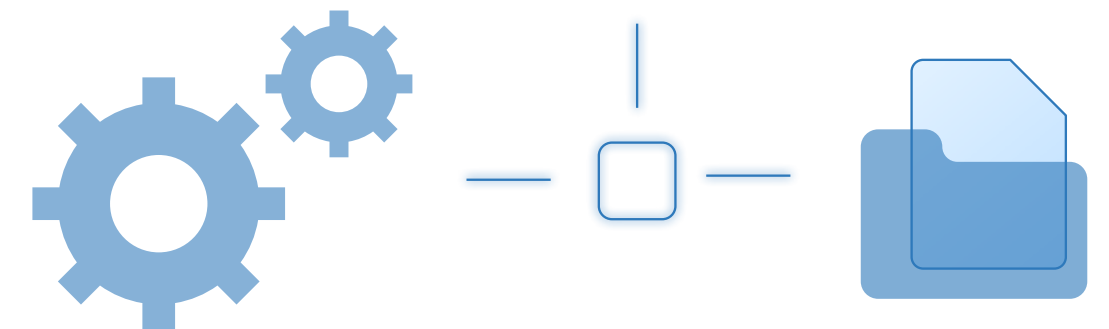


Embrace low-code/no-code models to empower citizen developers and tech-savvy business users, further driving innovation.



Agility is a business imperative in today's rapidly evolving business landscape.

Sutherland's agile application development capabilities and unrivaled technology expertise can help design, develop, and build flexible, scalable applications to enhance your digital outcomes.



PRINCIPLE
#3

Drive Digital Assurance Through Autonomous Testing

Ensuring software remains secure, compliant, accessible, and ready to support new digital, cloud, and AI initiatives is paramount. This means replacing slow and expensive manual efforts with responsive, cost-effective continuous testing designed to keep pace with business needs.

Moving from manual to automated testing without impacting current development efforts requires an entirely new process: frameworks have to be built, test cases have to be written differently, employees have to be trained, and buy-in needs to be secured across the board.

Navigating this will ultimately come down to choosing the automated testing tool that best fits your needs. More advanced solutions can strip away complexity, eliminating the need for extensive training or certifications and accelerating automation journeys by onboarding automated testing in weeks rather than months.

Practical steps



Adopt an AI-driven end-to-end test automation platform to simplify, customize, and scale enterprise software testing. AI-powered remediation and self-healing capabilities can help automate error correction and predict defects before they occur, boosting efficiency and productivity.



Streamline test data access with test data management, enabling the generation and persistence of synthetic data tailored to specific test cases. Doing so will optimize performance, reduce dependency on live databases, and ensure consistent and accurate test data availability.



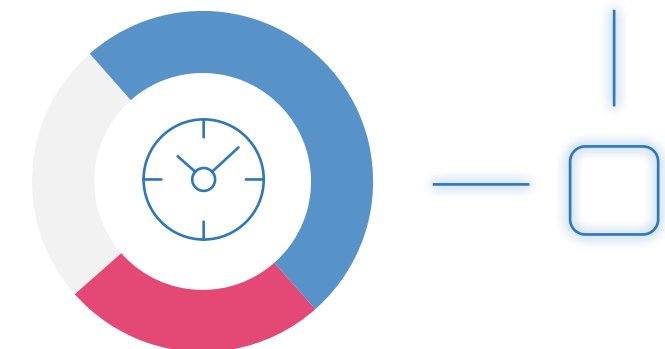
Implement smart testing frameworks into CI/CD pipelines, tapping into pre-built test libraries and self-healing scripts to further reduce complexity and manual effort.



Automate compliance checks and performance validations to catch potential issues early and support the smooth delivery of updates.



Looking for a cost-effective, scalable quality engineering platform that can supercharge your automation journey with end-to-end test automation? **Sutherland CloudTestr** makes software testing easier across all applications and technologies, delivering results in record time.



PRINCIPLE
#4

Maintain Peak Performance With **Proactive Application Maintenance**

Proactive maintenance is a strategic approach that involves fixing what's on the way to becoming broken – i.e. addressing emerging issues before they become business-wide disruptions – while optimizing and improving what's already working well.

Continuous monitoring sits at the heart of this. Real-time tracking of application KPIs, resource utilization, and user interactions is a strong foundation for establishing how an application normally behaves and any instances where it falls outside that norm. This contributes to cost efficiency and seamless operations, reducing expensive downtime and allowing employees to continue to work efficiently.

Ongoing performance improvements come next. Whether that's fine-tuning configurations, optimizing database queries, or streamlining live processes to drive greater efficiencies, enhance the overall user experience, and maintain peak performance.

Regular updates that stem from proactive maintenance will also help protect critical enterprise systems from security vulnerabilities and other threats, protecting user data and maintaining trust.

Practical steps



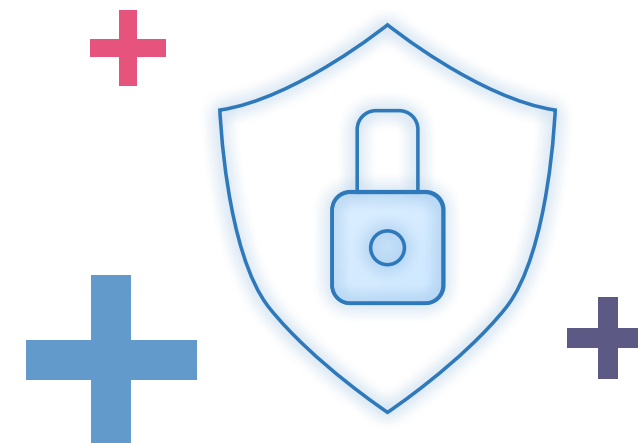
Invest in AIOps and real-time monitoring tools to detect and resolve issues before they impact operations. This will help maintain performance and business continuity, while reducing OpEx through fewer costly breakdowns.



Establish a framework for continuous maintenance and enhancements. Continually optimize to ensure reliability and streamline the integration of new technologies aligned to evolving business needs.



Sutherland offers a suite of **advanced application maintenance and support** capabilities to ensure seamless performance and continuous evolution of your mission-critical applications, giving you a competitive edge.



Conclusion

As digital, cloud, and AI transformation becomes a continuous cycle of adaptation and innovation, the same must apply to enterprise software. There's no room for legacy applications that hold enterprises back.

By taking advantage of AI-enabled and cloud-based modernization, adopting optimized agile development strategies, and a proactive approach to ongoing maintenance, enterprises can build a robust and scalable software foundation that can easily adapt to changing business needs.

Not only will this help transform IT ecosystems from a source of friction to a driver of sustainable innovation, it'll help power advanced decision-making and real-time intelligence while reducing technical debt and establishing secure protocols.

With our unique combination of market-leading technology and domain expertise, Sutherland is the ideal partner for your application modernization journey.



See how we can help you strip away complexity when it comes to application modernization, powering digital performance and engineering measurable business outcomes.

[Learn More](#)



Artificial Intelligence. Automation. Cloud Engineering. Advanced Analytics. For Enterprises, these are key factors of success. For us, they're our core expertise.

We work with global iconic brands. We bring them a unique value proposition through market-leading technologies and business process excellence. At the heart of it all is Digital Engineering – the foundation that powers rapid innovation and scalable business transformation.

We've created over 200 unique inventions under several patents across AI and other emerging technologies. Leveraging our advanced products and platforms, we drive digital transformation at scale, optimize critical business operations, reinvent experiences and pioneer new solutions, all provided through a seamless "as-a-service" model.

For each company, we provide new keys for their businesses, the people they work with, and the customers they serve. With proven strategies and agile execution, we don't just enable change – we engineer digital outcomes.

