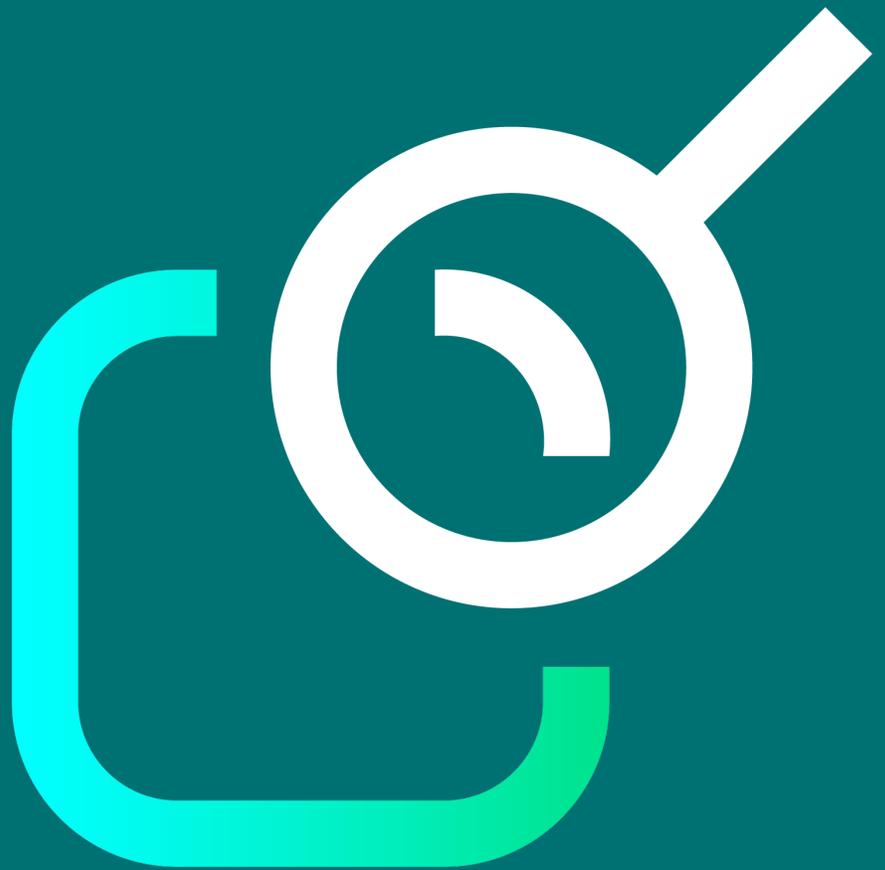


# Choose wisely:

How to make (or break) your  
application modernization initiative



# Don't let your legacy systems be the reason your competition beats you.

Modernizing legacy applications is a proven way to deliver value to your business and can keep you on the cutting edge of innovation and efficiency.

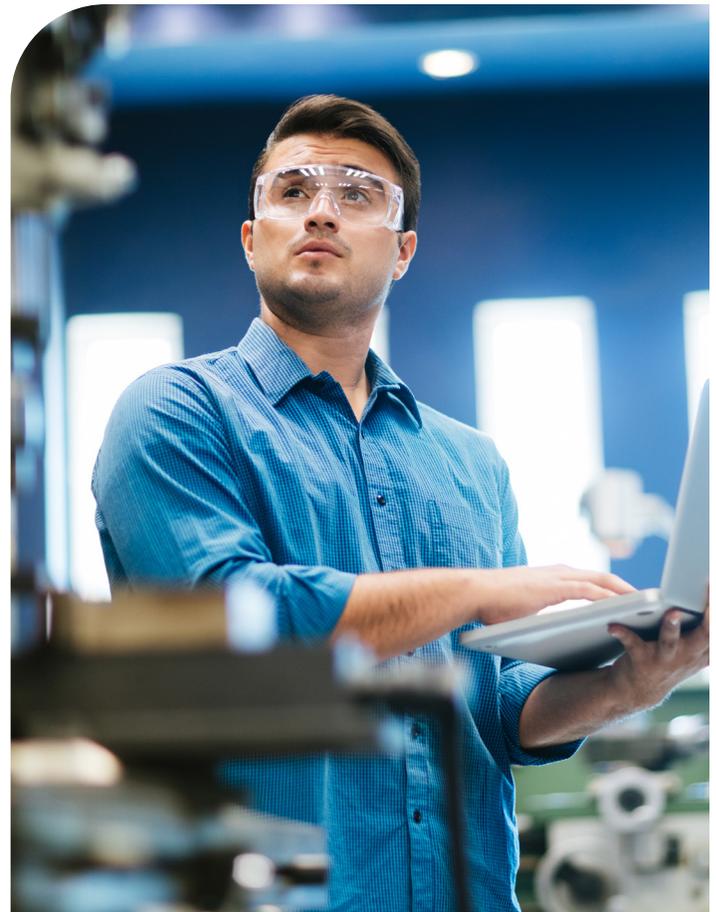
Updating older software to a cloud-first model that accommodates newer languages, frameworks and infrastructure platforms can boost your company's agility, flexibility and resiliency.

Whether using a public, private or hybrid cloud, these solutions make it easier to address line-of-business requests and support desired outcomes. And most important, modernized applications can keep you from falling behind your competition.

But there's a catch. Not every application modernization initiative benefits the business.

Some initiatives succeed in simplifying application maintenance and reducing cost. Yet far too many introduce new risks and increase IT complexity. Facing the choice to stay in your legacy-system comfort zone or tackle the inevitable can be daunting. But doing so is unavoidable.

How can you ensure your project doesn't become a case study "fail"? Make informed choices.



How can you ensure your project doesn't become a case study "fail"? Make informed choices.

## Start yesterday

Updating your legacy technology is a giant undertaking you can't take lightly. You can't copy what others have done, and decisions about when to begin must be based on your specific requirements. It's not one-size-fits-all.

Sooner is better for most organizations to start this journey. You know the time is right when your competition begins to outpace you, your customer experience is subpar or you need to improve scalability, speed or responsiveness. When those conditions emerge, there's no time like the present for application modernization.



## Build cushion into your plans

Application modernization is never a one-and-done project. Technology considered advanced today will become standard or obsolete tomorrow. You must continue addressing your organization's changing needs and assess how evolving solutions can help you meet and exceed customer expectations. Staying ahead of these evolving requirements is the best way to remain competitive.

It's impossible to freeze your modernization wish list. Vendors continuously introduce new technology bells and whistles. Your users will ask for new features after experiencing them in consumer applications. Even if your modernization project goes perfectly, there will always be more to do.

This constant update is good news because, let's be honest—not many projects execute perfectly. Despite your best-laid plans, project team members will create change requests. Users will request new functionality that benefits their processes. Management will pressure you for faster deliveries and budget cuts.

Your costs will be higher, and your project timelines will be longer than anticipated. Budget generously and plan accordingly to reduce the likelihood of sticker shock and delivery disappointment.

## Shift from bottom-up to top-down thinking

Legacy systems were built from the bottom up. Companies traditionally deployed computing technology then added networking, middleware, communications and applications. The follow-on customer and employee user experiences were hard-wired into the infrastructure, with minimal room for improvement.

Modern technologies have turned that model upside down. Look at fintechs. They start by designing an end-user experience from the customer's perspective and build the technology to support it. And consumers love it.

Too often, companies getting ready to modernize their applications want the business benefits of top-down thinking, but they limit themselves by reverting to bottom-up approaches. They'll say they want to move to the cloud, but continue using server farms or their legacy infrastructure. That's like buying a modern sports car but telling the dealer you want to run it with a coal-powered steam engine.

When planning for application modernization, get ready to change your IT "lifestyle." Instead of designing applications that fit your current technology infrastructure, you need to consider what types of development work best, plan where your business systems should reside and evaluate the efficacy of the entire solution.



Companies say they want the business benefits of the cloud but want to continue using server farms. That's like buying a modern sports car and trying to run it with a coal-powered steam engine.

# Design your modernization program from the customer experience, working back to the technology and forward from the legacy solutions.

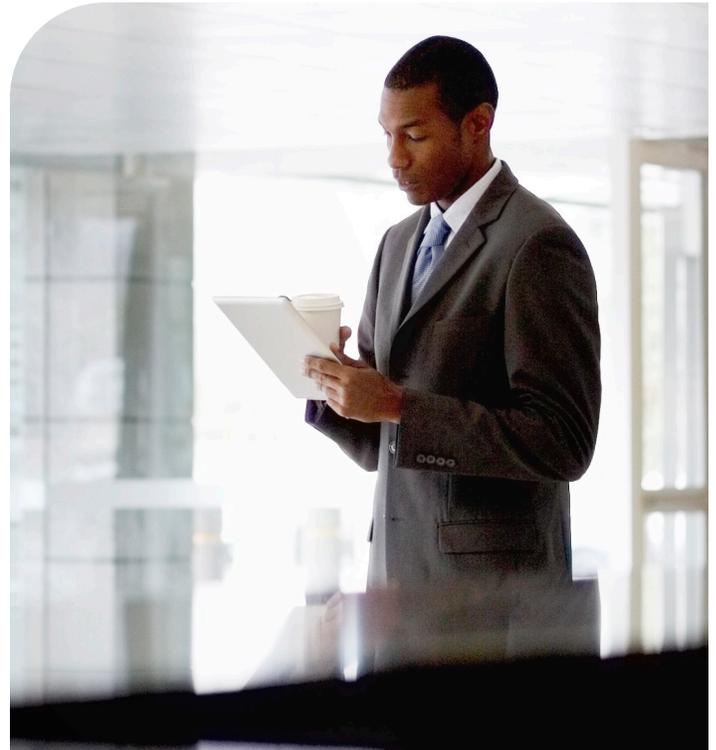
## Prepare for personnel challenges

Supporting your application modernization initiative requires the right personnel—during the project and after. While it's tempting to skimp on preparation when it comes to people, don't.

Skilled engineering resources are essential to handle cloud adoption and cloud-native development. Updating applications with minimal disruption requires personnel who understand DevOps processes, continuous delivery methods and agile principles.

Carefully match your personnel skill sets with the exact technology you're deploying. Many companies underestimate the importance of this, choosing instead to hire workers who have experience with "cloud-native applications." Let's say you want someone who understands container technology.

Seems pretty simple. But there are many types of containers—Kubernetes, Docker, Jira and so on. If you standardize your application environment on Kubernetes, you need personnel with Kubernetes skills.



Would you hire a Mercedes-Benz mechanic to work on your Tesla?  
Hire a painter to run piping through your house? No.  
The correct technical skills are equally important for application modernization.

You wouldn't hire a Mercedes-Benz mechanic to work on your Tesla, right? The correct technical skills are equally important.

Personnel issues are also important after you modernize— especially for your existing infrastructure team. Should you reassign workers to other roles? Reskill them? You can train a painter to be a plumber, but would you hire that painter to run new piping throughout your house? Many companies hire new workers to manage the updated application infrastructure.

To get the initiative over the finish line, you need to ensure that your entire team—not just developers but also user interface workers, quality engineers and customer-facing personnel—are on board with the project. You also must prepare them to respond to the opportunities and responsibilities modernized applications present.

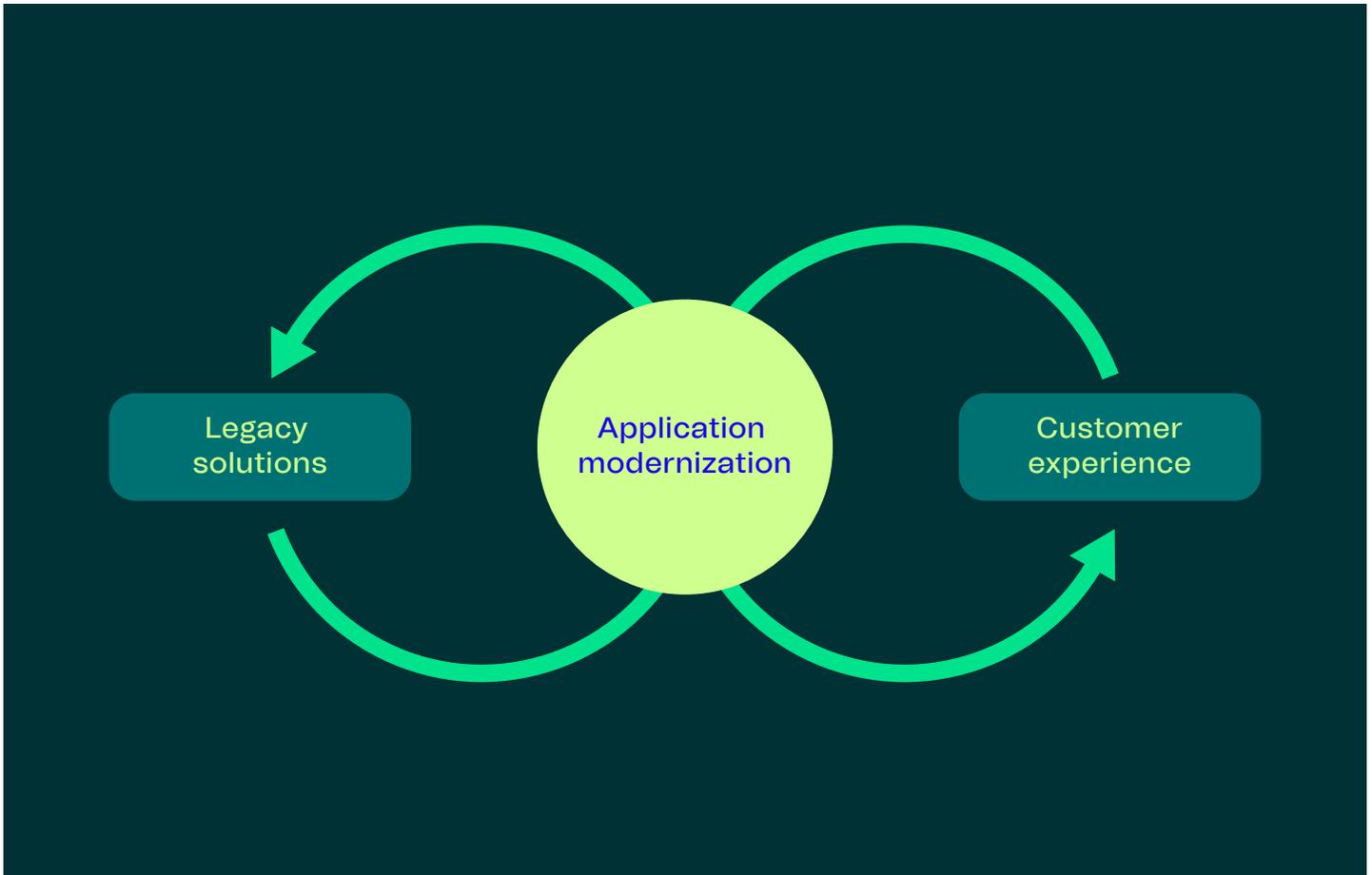
## Travel bidirectionally

Most IT modernization efforts are viewed as a one-way journey you map from a starting point to a destination. But application modernization should be approached as a bidirectional journey.

You need to design your program starting from the customer experience, working back to the technology. At the same time, you need to work forward from your departure point, which is the legacy solutions that currently run your business.

Every journey is different with unique departure points, technical debt and destinations. To plan your road, begin with the “why” behind your application modernization effort. What will your business gain by modernizing an app? Focus on business goals—not IT benefits.

Then, clearly identify the goals you want to achieve and plan your approach in a way that best addresses those goals. Perhaps you have 500 applications. Do they all need to move to the cloud? Probably not. Which ones are the best candidates?



**Do both to succeed. Design your modernization program from the customer experience, working back to the technology and forward from the legacy solutions that currently run your business.**



On top of legacy applications holding back your organization's innovative spirit, they're costing money. Organizations commonly dedicate 15% to 20% of their budget to maintaining legacy applications. For some companies, that number is closer to 40%. What are you sacrificing by spending significant resources on outdated technology?

If you decide to move an application to the cloud, decide on the most effective way to execute your plan. For example, moving large monolithic applications to the cloud as one app doesn't harness the cloud's power.

It makes more sense to break up the app into modules or microservices and then migrate it piece by piece. That way, a breach in part of the application doesn't bring down the full functionality of the software. This improves both security and reliability.

Create small modernization goals and revise your plan as necessary based on your value proposition, return on investment results and business requirements.

No one has a crystal ball at the beginning of your planning process, and you can't anticipate everything. Instead, you must respond to changing needs and conditions as they become apparent.



# 5

## Avoidable pitfalls of application modernization initiatives



### Moving forward blindly

Starting an application modernization initiative without a plan and the proper skillsets is like starting your car without knowing your destination, cost or fellow travelers. Why bother getting behind the wheel? Begin your modernization journey with an adaptable roadmap.



### Starting your project without an ROI

Too often, companies struggle to articulate the business value of their initiative. If you can't explain the value of your efforts, how can you win the hearts and minds of your team? Identify how the initiative will benefit the business and communicate it often.



### Ignoring cultural change

People can help facilitate your project, or they can stand in the way. Assess your organizational readiness for change before modernizing legacy applications. A readiness assessment framework can identify gaps between your organization's current state and where it needs to be.



### Deprioritizing automation

Embrace an automation-first approach or risk the slow death of your enterprise. Manual processes won't go away overnight. As you modernize your applications, look for opportunities to build in automation using machine learning, robotic process automation and artificial intelligence. Cloud-based solutions can be a great equalizer by providing a built-in abstraction layer that helps you automate processes and tasks faster.



### Compromising on security

Denial-of-service attacks, ransomware and cyber threats are in the news all the time. Plan for your security needs from the beginning of your application modernization initiative, embedding security in each part of your process. Choose a partner who understands your business, can help you identify security weaknesses and has the expertise to develop essential protection.



**Even if your  
application  
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### **Conclusion**

Companies around the world are embracing application modernization. Some opt to gradually migrate legacy technology, while others break everything they have and start again. There is no right way.

Smart choices that build on the experiences of other successful companies can help you make—and not break— your application modernization initiative.

Modernizing your legacy applications can be daunting. Let an industry leader help you ease your journey. Contact a Unisys expert today.

For more information visit [www.unisys.com](http://www.unisys.com).



[unisys.com](http://unisys.com)

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