Nodero

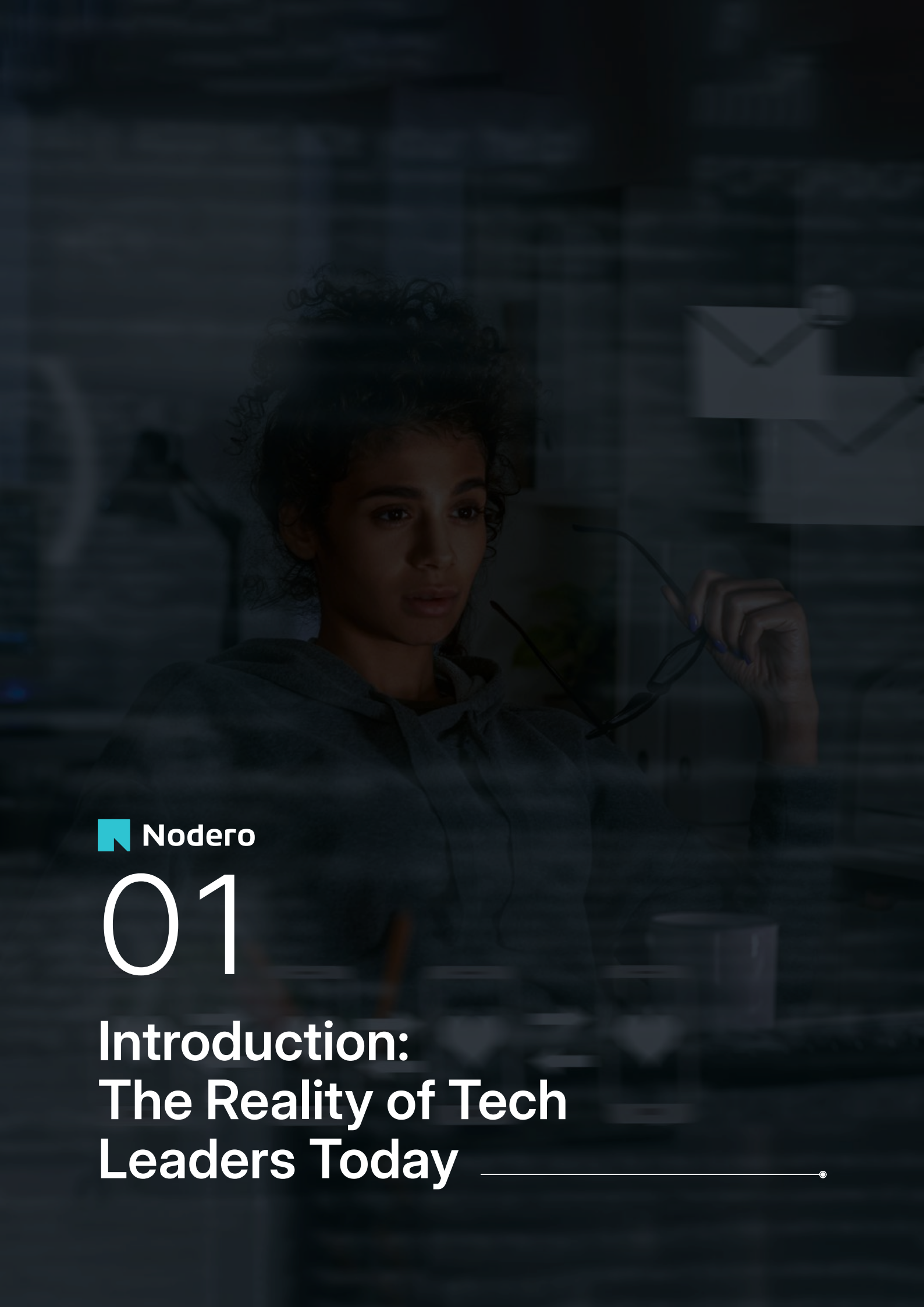
The Application Modernisation Playbook

A practical guide for tech leaders in enterprises to modernise systems to cut costs, fuel growth and unlock true agility

www.nodero.com

ebook

Table of Contents



Nodero

01

Introduction: The Reality of Tech Leaders Today

Introduction:
The Reality of Tech Leaders Today

Across many sectors, tech leaders are under pressure to deliver more with less. Budgets are tight, boards expect results, and teams are stretched. At the same time, AI and digital transformation dominate boardroom agendas. Leaders are told to be AI ready, yet many are still running critical operations on systems built decades ago.

A recent survey found that **62 percent of organisations still rely on legacy software systems**, despite known risks and performance issues.

Many core applications were never designed for today's pace of change. They are expensive to maintain, slow to adapt, and hard to integrate with modern platforms.

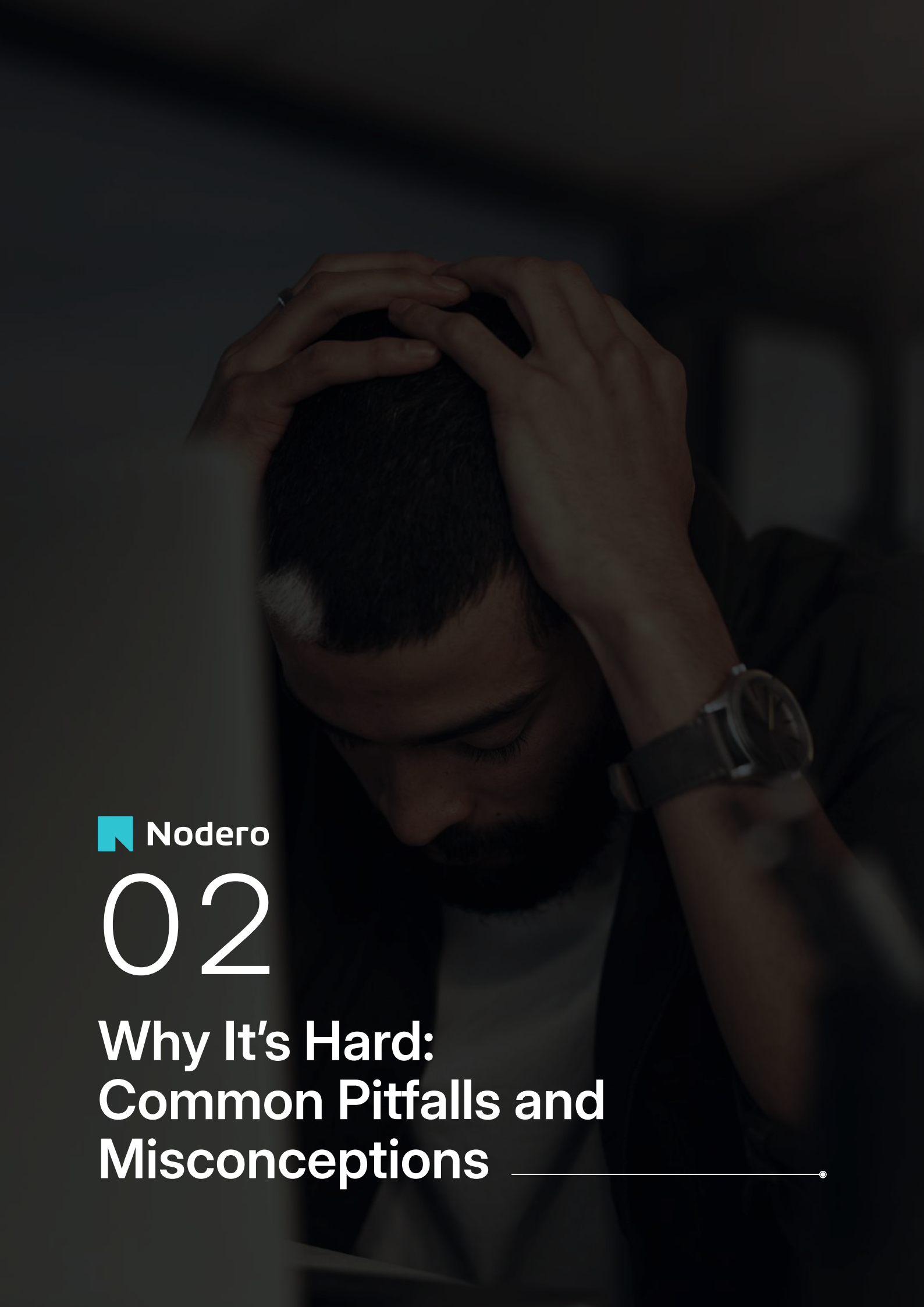
The effects are clear:

- Projects take longer than planned because of complex integrations.
- Simple changes require weeks of testing to avoid system crashes.
- Staff waste time switching between siloed systems that cannot talk to each other.
- Security patches are harder to apply, leaving gaps.

Modernisation is the practical way forward. Done well, it reduces costs, improves agility, and clears the path for innovation.

By modernisation, we mean the structured enterprise-wide process of updating not just individual applications, but the wider ecosystem they sit in - the platforms that host them, the integrations that connect them, and the user experiences that make them usable. It is less about fixing one system in isolation, and more about cataloguing, prioritising, and transforming the multitude of interdependent applications so that the whole environment becomes more agile, resilient, and future-ready.

This playbook is a practical guide on how to approach modernisation, avoid common pitfalls, and apply solutions that will bring you success. It is based on Nodero's 13+ years of experience, modernising critical systems. By the end, you'll know how to approach this endeavour systematically, unlock agility, and prepare for AI and the future with confidence.



Nodero

02

Why It’s Hard: Common Pitfalls and Misconceptions

Why It's Hard:
Common Pitfalls and Misconceptions

If modernisation was simple, most organisations would already be finished. These are the traps we see most often:

Overwhelm: Where to Start

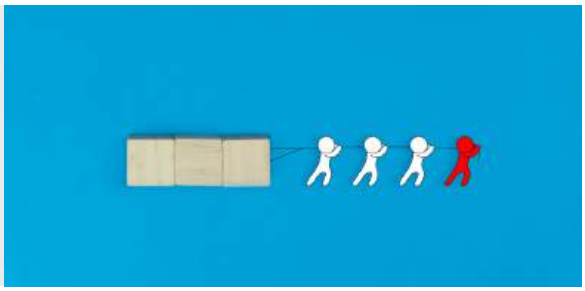
Large enterprises often run hundreds of applications, each with their own dependencies, quirks, and users. The scale alone can feel paralysing, like trying to eat an elephant in one bite. The only way forward is to break it down: catalogue, prioritise, and tackle the journey step by step. Without that structure, leaders delay decisions and momentum stalls.

The Big Bang Myth

Related but distinct - modernisation is not a one-off project; it's a journey. Attempting to replace everything at once often leads to budget blowouts, missed deadlines, and exhausted teams. More importantly, it ignores the reality that change takes time, technology choices evolve, and people need space to adapt. A phased approach allows organisations to learn as they go, refine processes, and bring people along for the ride. Each phase builds capability and confidence, setting up the next for success.

Misguided "Lift and Shift"

Too often, modernisation is treated as simply moving apps to the cloud. If workflows, processes, and user experiences aren't reimagined for modern platforms, organisations end up with the same problems — just hosted elsewhere.

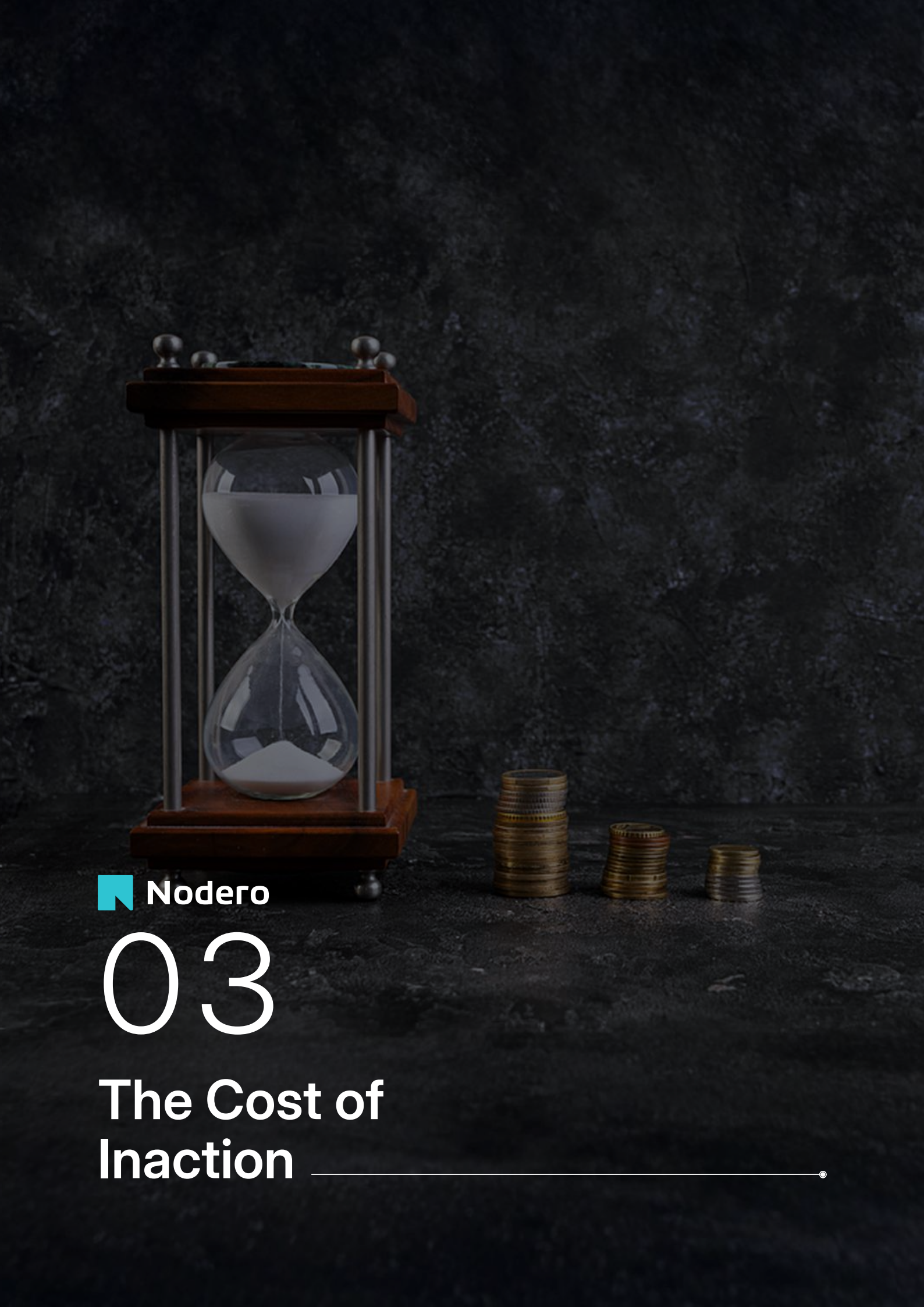


UX Neglect and Poor Adoption

Staff won't embrace a "modern" system if it makes their work harder. Legacy tools often had hidden strengths, like keyboard shortcuts or lightning-fast movement between screens, that helped power users work faster. Stripping those away leads to frustration, slower work, and resistance.

Treating It as Purely a Technology Problem

New systems won't deliver value without the people side. Change management, training, and governance are as important as code. Neglecting these creates systems that technically "work" but fail to be adopted.



Nodero

03

The Cost of Inaction

The Cost of Inaction

Putting off modernisation is not a neutral choice. Every year spent on outdated systems adds cost, risk, and frustration. The impact grows larger the longer you wait.

Rising operational costs

Legacy systems are expensive to run. Support contracts climb each year. Skilled staff who know how to maintain them are harder to find and cost more. Fixes take longer and downtime becomes more common. The cost of standing still rises quietly but steadily.

Security and compliance risk

Older systems were never designed to handle today's security demands. Patching becomes more difficult. Gaps remain open longer. Breaches or outages do more than disrupt operations. They can damage trust with customers, staff, and regulators. Compliance rules also tighten over time, making outdated systems even more of a liability.

Staff frustration and wasted time

Slow systems frustrate staff and manual workarounds eat into productive hours. Teams are forced to re-enter data or chase reports that should be instant. Retention also suffers: today's workforce is conditioned by the speed and simplicity of platforms like Netflix and Facebook. When workplace tools feel slower and harder, talented people disengage, and eventually move on.

Missed opportunities and lost ground

Competitors are not waiting. They are moving forward with automation, cloud, and AI. They scale faster, adapt quicker, and use data better. Customers notice. Staff notice. It is harder to incorporate new innovation into legacy systems and each delay makes it harder to close the gap.

Modernisation is not just about fixing what is broken. It is about creating the space to grow. The cost of inaction is measured in money, lost momentum, and missed chances to lead.

Nodero

04

Enterprise App Modernisation Solution

Enterprise App Modernisation Solution

Modernisation works best when it follows a structured process. Each stage builds on the last, reducing risk and proving value along the way.

1. Define Where You Want To Go

Start with business objectives. What are your key drivers - speed to market, regulatory compliance, resilience, cost efficiency, AI/automation readiness?

Once objectives are clear:

Sketch the high-level model:

data flows, integration strategy, security posture, and operating model.

Define "good enough":

be clear on minimum thresholds in each domain, while accepting that not every area needs perfection at once.

Align leadership on trade-offs:

IT, business, and finance must agree on what to invest in now, what to defer, what to replace, and what to retire.

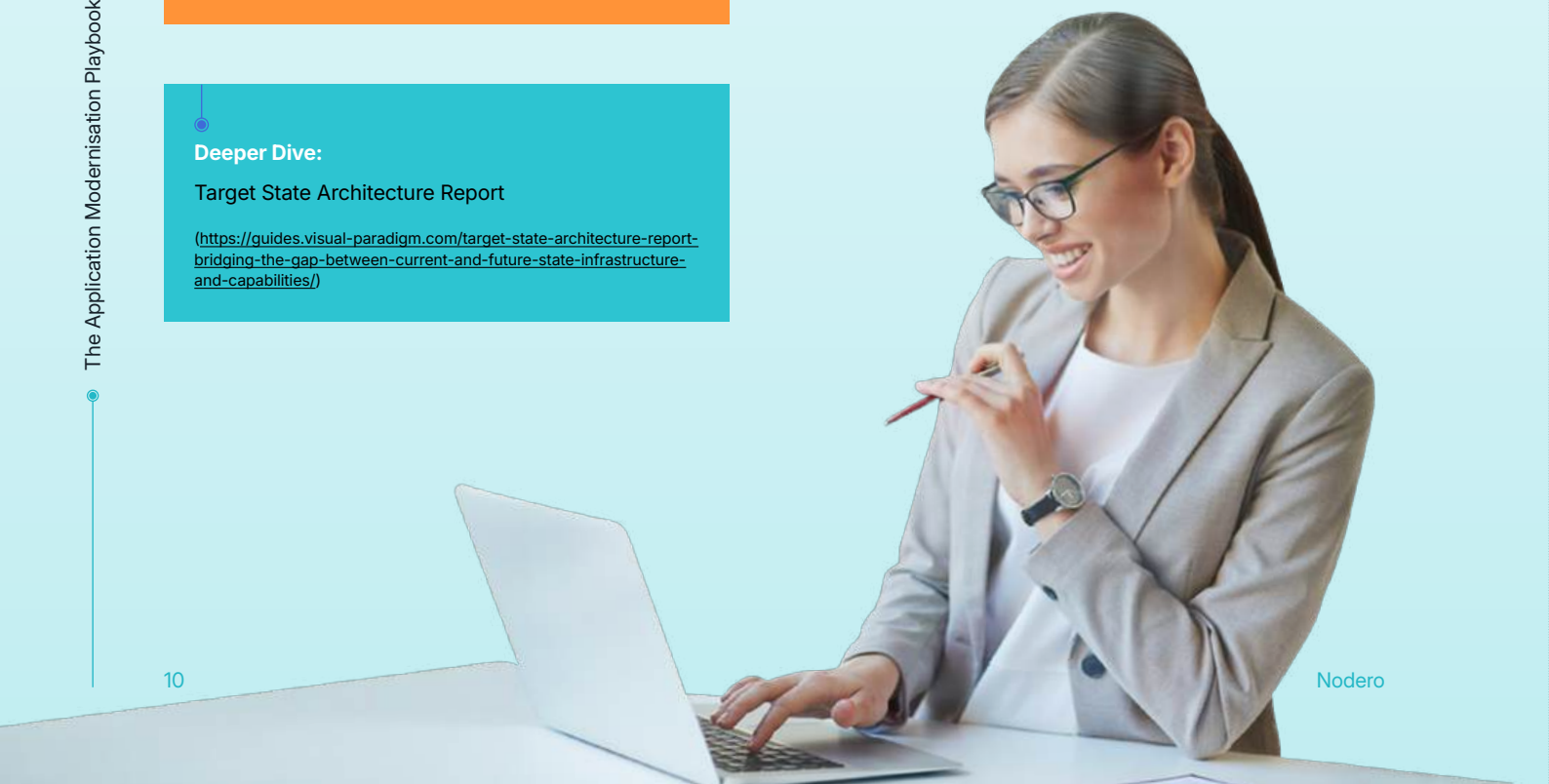
Top Tip:

Don't aim for perfection before you begin. Set direction with a few guiding principles, then work toward the vision in stages so you can deliver value early and learn as you go.

Deeper Dive:

Target State Architecture Report

(https://guides.visual-paradigm.com/target-state-architecture-report-bridging-the-gap-between-current-and-future-state-infrastructure-and-capabilities/)



2. Assess and Prioritise

Before you can modernise, you need to know what you have. Most organisations don't. Systems accumulate over decades: duplicates, outdated platforms, fragile integrations. The goal here isn't perfect detail, it's a usable baseline you can score, prioritise, and build decisions on.

Key Actions

Catalogue the estate:

List every application with its owner, number of users, and integrations.

Score with simple categories:

Use a quick, repeatable scale (1–10 or High/Medium/Low) across just a handful of factors:

- Business Risk – what happens to revenue, compliance, or operations if the system fails?
- Cost to Run – is it cheap, moderate, or expensive to maintain?
- Technical Health – how hard is it to change, patch, or integrate?
- User Experience – do staff find it helpful, tolerable, or a daily pain point?

Calculate a total score:

Add the factors together to give each application a single score.

- Keep it simple (straight addition), or add weights if certain factors matter more (e.g. Business Risk ×1.5).
- This makes it easy to sort in Excel and see which apps demand attention first.

Tools such as Azure Migrate or AWS Migration Hub can speed up discovery and assessment, helping you map applications, dependencies, and resource usage.

Top Tip:

Don't over-engineer scoring. Four factors are enough. Use simple scales, get to a first cut quickly, and refine later if you need more detail. Progress beats perfection.

Deeper Dive:

Gartner – Application Portfolio Management Primer
(https://www.gartner.com/en/documents/6125159)

3. Prioritise and Decide

Once you've catalogued and scored your applications, the next step is to decide which ones to act on, and how. Not every system deserves the same level of investment. Some can be tolerated, some retired, some merged, others need urgent modernisation. Prioritisation gives you a clear sequence and builds momentum by focusing on quick wins as well as strategic systems.

Key Actions

Classify applications:
Apply simple frameworks like TIME (Tolerate, Invest, Migrate, Eliminate) to group applications by their future direction.

Choose the right outcome:
Use the 6Rs of modernisation (Rehost, Refactor, Rearchitect, Rebuild, Retire, Repurchase) to define the best path for each priority application.

Build a roadmap:
Balance quick wins (to prove value early and build confidence) with strategic priorities (core systems that unlock long-term change).

It's important to remember that not all the R's are equal. To avoid turning the 6Rs into theory, treat them as a decision workflow. At each step, ask a simple question. If the answer is yes, you have your decision. If not, move to the next step. This keeps modernisation practical and prevents over-engineering when simpler options exist.

Modernisation Outcome Decision Workflow

Top Tip:

Don't try to decide the future of all systems at once. Focus first on the 10–15% that matter most — the ones with high business risk or clear quick wins. That's enough to create a meaningful roadmap and show progress without getting lost in the long tail.

Deeper Dive:

- AWS – 6 Strategies for Migrating Applications to the Cloud (the "6Rs")

  (https://aws.amazon.com/blogs/enterprise-strategy/6-strategies-for-migrating-applications-to-the-cloud/)

- Gartner – TIME Model (Tolerate, Invest, Migrate, Eliminate): TIME Framework Summary

  (https://www.gartner.com/en/documents/3905663)

4. Establish the Foundations

Without the right foundations, modernisation can quickly turn into a hot mess - a patchwork of new apps bolted onto old ones, fragile integrations, and inconsistent UX and data practices. The result is just another mess, only shinier and more expensive.

The flip side is that modernisation is also the best chance you'll ever get to put your house in order. By setting clear guardrails for security, data, and integration, you not only prevent chaos but also create a cleaner, simpler environment that will pay off for years to come.

The foundations should be lightweight, "good enough" to support the first wave, and then matured with each cycle.

Key Actions

Set guardrails early:

Define security standards, access controls, and governance principles that every modernised app will follow.

Enable clean data and consistent integration:

Use APIs, connectors, and common integration patterns so new systems connect cleanly without creating more silos.

Create reusable assets and standards:

Build shared components, publish design patterns and documentation, and promote consistent UX where possible.

Standardise delivery practices:

Put in place CI/CD pipelines, automated testing, and monitoring so modernised apps are delivered and run with consistency.

Warning

Don't let foundations become a massive task that quickly drains all momentum. Equally, don't shelve this step as a task to put in place later. Foundations should evolve with each wave. You don't need a complete data strategy or fully integrated layer before modernising your first app, just enough to ensure stability, security, and a consistent approach.

Top Tip:

Keep the foundations visible. Document your guiding principles in one page e.g. "APIs first," "secure by default," "reuse over rebuild." This helps teams make consistent decisions without endless debate.

Further Reading

Microsoft – Azure Well-Architected Framework

(https://learn.microsoft.com/en-us/azure/well-architected/)

5. Modernise in Phases

Deliver modernisation in manageable waves that prove value, build skills, and reduce risk.

Trying to modernise everything in one go is the fastest path to blown budgets, disruption, and loss of confidence. Modernisation works best as a cycle: deliver in phases, learn from each stage, and carry that experience into the next. This approach lowers risk and creates steady momentum instead of a single high-stakes gamble.

Key Actions

Start small to build confidence:

Teams can only absorb change at a certain cadence. Deliver too much, and adoption fails. Deliver too little, and momentum stalls. The art is finding a rhythm that moves the programme forward while bringing people with you.

Start small to build confidence:

Begin with one or two lower-risk systems. Show tangible results early to gain trust from leadership and users.

Run in parallel until stable:

Keep old and new systems side by side where needed. This reduces business disruption and gives users time to adapt.

Treat each phase as a learning loop:

Refine processes, improve technology decisions, and strengthen change management with every wave.

Scale up to critical systems:

As teams grow in skill and confidence, move progressively toward the more complex and business-critical applications.

Top Tip:

Digital modernisation is as much about people as it is about technology. Engage users early, keep them involved in each phase, and show them the benefits as quickly as possible. Projects succeed when people feel part of the journey, not when change is forced upon them.

Further Reading

McKinsey – How to build momentum for application modernisation in waves

(https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/modernizing-it-for-a-digital-era)

6. Drive Adoption and Change

Technology can be delivered on time and on budget yet still fail if people don't embrace it. Adoption isn't just about training sessions at the end. It's about involving staff early, redesigning workflows around how people actually work, and making sure the new way feels better than the old one.

Key Actions

Involve users early:

Gather feedback during design, testing, and rollout to ensure systems fit real workflows.

Preserve the good from legacy:

Carry over efficiencies staff relied on (like shortcuts, forms, or tab-driven navigation) so the new tools don't feel like a step backwards.

Provide training and support:

You need clear, accessible learning tailored to different user groups, from frontline staff to power users.

Communicate benefits:

Show how the new system reduces friction, saves time, or enables new opportunities. Adoption grows when people see "what's in it for me."

Monitor and adjust:

Track adoption metrics (usage, satisfaction, support tickets) and adapt quickly where uptake is low.

Top Tip:

Adoption is not a one-off launch event. Treat it as a continuous dialogue with users. The more staff feel ownership of the change, the faster and deeper adoption will be.

Further Reading

Prosci – ADKAR Model for Change Management

(https://www.prosci.com/methodology/adkar)

7. Measure Outcomes and Improve

Modernisation doesn't end when an app goes live. Each phase should prove value and teach you something. By reviewing results and acting on them, you keep momentum, build trust, and make the next wave smoother.

Key Actions

Measure outcomes:

Focus on costs saved, performance gains, adoption rates, or user satisfaction.

Share wins:

Show leadership and staff what's working to build confidence in the journey.

Capture lessons:

Note what slowed you down or created friction, then adjust.

Update the roadmap:

Use what you've learned to refine priorities and foundations for the next wave.

Top Tip:

Don't just tick off "projects done." Show the business impact. That's what earns support for the next phase.

Key Areas to Think About As You Modernise

Clean up your Data

Legacy systems are often full of duplicates, errors, and gaps. If you don't address data quality up front, you'll just carry problems forward. Cleansing and governing data early creates trust, speeds up migration, and makes every future step easier.

Data First

Old applications treated data as a moat — locked inside the system. Modernisation flips this: data needs to move freely through APIs, event streams, or GraphQL, not CSV downloads. This shift is also what makes your organisation ready for AI and the next wave of digital innovation.

User Experience is Key

Adoption depends on usability. Staff compare work tools to consumer apps — they expect simple, intuitive interfaces. But line-of-business systems also need to respect power users, who repeat the same actions all day and rely on shortcuts and efficiency features. Get both right, and you win trust and productivity.

Bonus
How AI Can Help

1

Define Where You Want to Go

Use AI to draft target-state principles. Example prompt: "List five guiding principles for an enterprise modernising to reduce costs and improve agility." Refine with your leadership team.

2

Understand Your Current State

Feed AI a list of applications (from a spreadsheet export) and prompt it to group them into categories (finance, HR, customer, etc.) or flag duplicates. This speeds up initial cataloguing.

3

Prioritise and Decide

Ask AI to suggest prioritisation based on your scoring sheet. Example: "Given these scores for risk, cost, and user pain, which 10 applications should be tackled first and why?" It won't make the final call, but it surfaces logical sequences quickly.

4

Establish the Foundations (Right-Sized)

Use AI to summarise architectural patterns or generate draft "guardrail" documents. Prompt: "Create a one-page policy draft for 'APIs first' integration standards." Cuts down blank-page time.

5

Modernise in Iterative Phases

Ask AI to create communication drafts for each wave. Prompt: "Write a two-paragraph staff update explaining why we're starting with HR systems and what staff can expect in the next month." Keeps messaging clear and consistent.

6

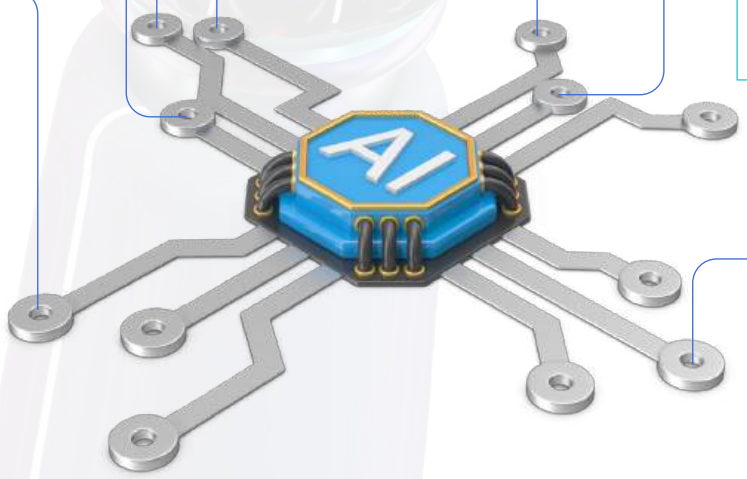
Drive Adoption and Change

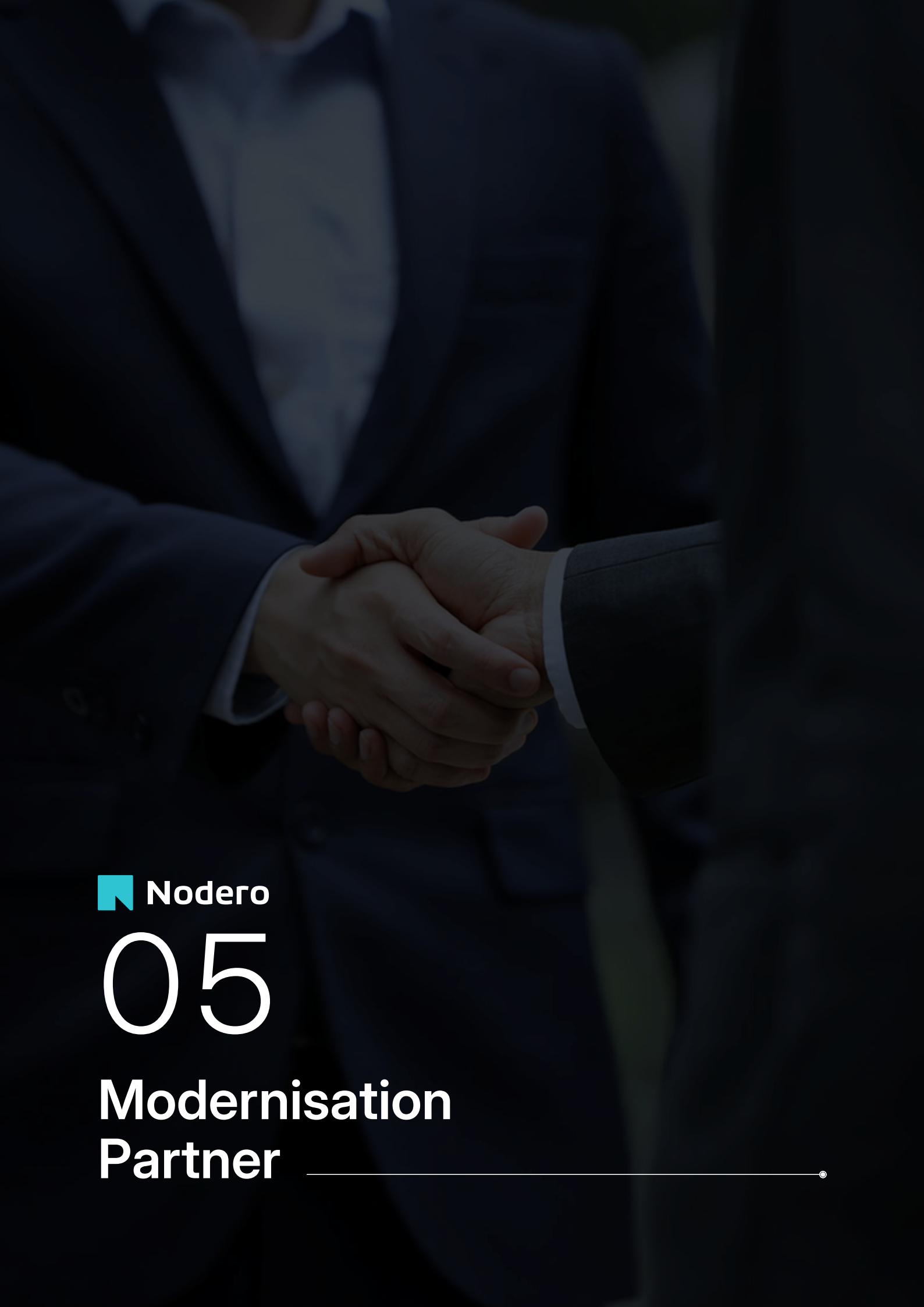
Use AI to draft training materials, FAQs, or quick-start guides. Prompt: "Explain this new workflow in five bullet points for frontline staff with limited technical knowledge." Great for tailoring comms to different audiences.

7

Review and Improve

Feed AI a set of adoption metrics, support tickets, or survey comments. Prompt: "Summarise the top three issues users faced after rollout and suggest improvements." Turns raw feedback into actionable insights.





Nodero

05

Modernisation Partner

Modernisation Partner

Modernisation is complex but you don't have to do this alone.

With Nodero you get a partner who bridges the gap between the transformation you envision and the outcomes you need

Why Nodero?

We are the right size for organisations like yours. Large enough to handle complex enterprise modernisation, small enough to stay agile, personal, and accountable. With Nodero, you work directly with the people who design, build, and deliver your systems. No hand-offs, no offshore churn.

Our approach is business-first and human-centred. We don't push platforms or one-sizefits-all packages. Instead, we focus on solutions that reduce cost, improve usability, and unlock long-term value. We co-design with your teams, keep egos low, and build partnerships that last years, not projects that fizzle after go-live.

Nodero

Proof in action

We have modernised applications for councils, universities, and major enterprises across New Zealand for more than 13 years. Our reputation is built on delivering modernisation projects that reduce cost, improve usability, and unlock long-term value.

Local Council: Weighbridge Modernisation

One council relied on a dated MS Access weighbridge application. Staff found it clunky and time consuming. Data was stored locally, leaving no real time reporting and little integration with other systems. Manual collation slowed decisions in waste and recycling.

We built a modern application using JavaScript frameworks. It integrated with weighbridge hardware and thermal printers. Data was centralised in the cloud and available instantly. Training time dropped, accuracy improved, and leaders gained real time insight into waste volumes. Decisions that once took days could now be made immediately.

University Veterinary Department: Pathology Application

A New Zealand university managed critical pathology data in an outdated MS Access system. Security was weak, functionality limited, and collaboration difficult. External veterinarians and the Department of Conservation had to wait on manual processes to access data.

We rebuilt the application in Azure. Secure, role based access gave staff and partners the information they needed. Intellectual property was protected within the university's cloud environment. Self service reporting replaced manual exports. Staff saved significant time, and collaboration with external partners became faster and easier.

Nodero

Bringing together the right humans & technology to empower organisations to solve the right problems, better & faster

Legacy systems will not improve with time. They will only grow harder, riskier, and more expensive to manage. The sooner you act, the sooner you reduce cost and unlock capability.

Book a strategy call with Nodero today. Let's talk about where you are, where you need to go, and how to get there.

Book a strategy call with Nodero

Contact Infomation

0800 466 633

contact@nodero.com

www.nodero.com