Your Guide to Holistic App Modernisation.

Strategies, recommendations and ideas to help you get it right.

Telstra Purple

Contents.

Foreword.

Today's apps power every part of the business.

From operational processes, to team collaboration or customer engagement – the need to digitise (especially in response to Covid-19) has truly accelerated application development.

But with most organisations still having a mix of on-prem legacy applications and cloud-native apps, there are immense complexities to overcome to develop a coherent, holistic roadmap that meets both the business' short and long-term needs.

How do you manage existing applications to work with new cloud-native ones? How do you maintain security without interrupting the business while still leveraging the scalability of modern cloud? How should you prioritise which applications to refactor or replatform, and what are the cost implications or long-term ROI?

Do it well, and utopia could mean optimised app performance that supports business needs, with a solid foundation for future innovation. Do it not-so-well and the consequences could mean revenue impacts, bill shocks, security loopholes and inability to seize new business opportunities.

This guide brings together best practice insights gathered from our consultants on the field who've helped hundreds of organisations modernise applications and adopt cloud.
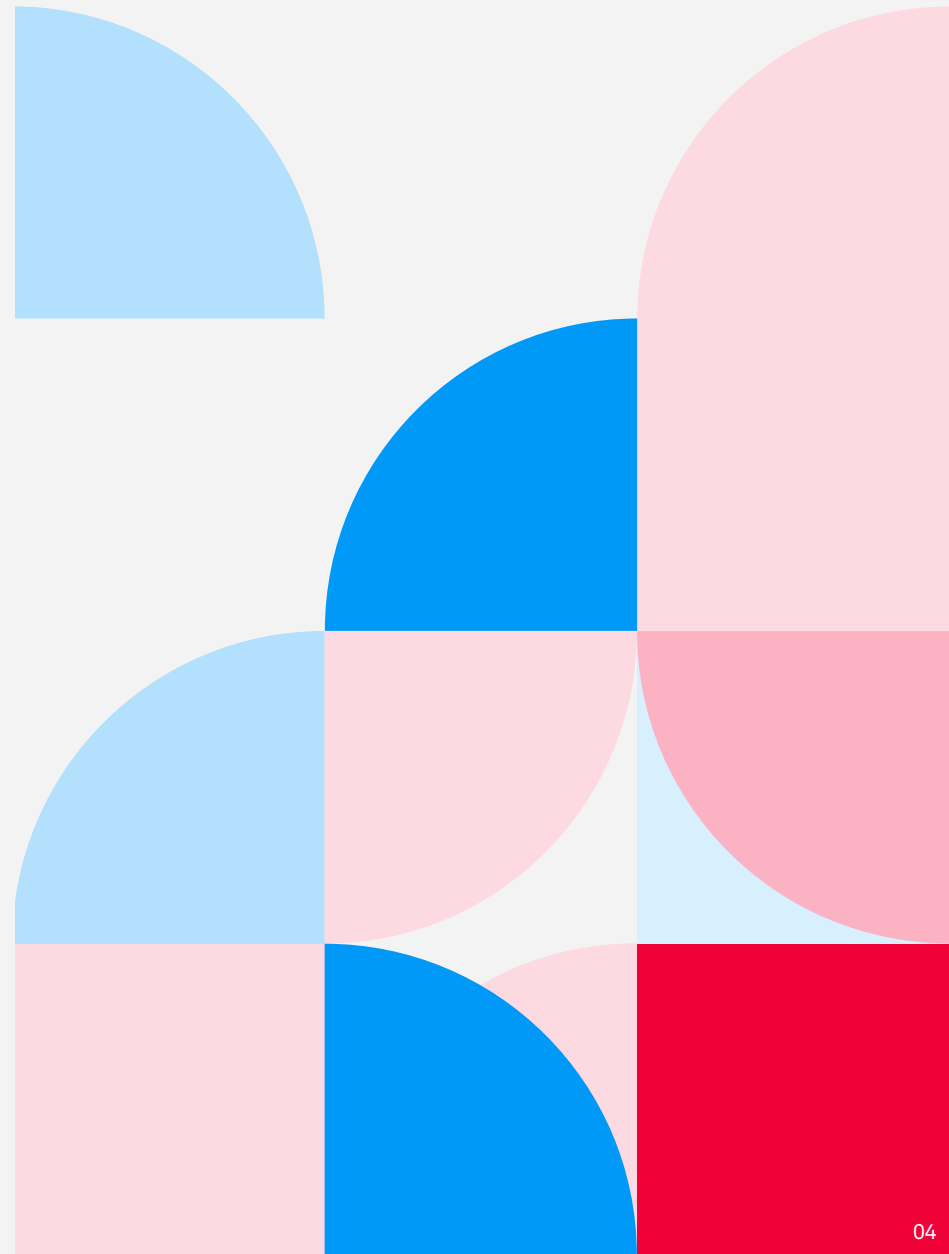
Take the next step towards a holistic, considered approach to app modernisation so you can get it right for your business, for good.

Introduction to app modernisation.

What is app modernisation?

Introduction to app modernisation.

What is app modernisation?

App modernisation is the practice of updating existing legacy applications so they can better support business functions. Making it for organisations to evolve their apps over time and improve app performance, resilience and security. It's hard to imagine digital transformation without transforming the underlying applications. The process can involve modernising app platform infrastructure, architecture, and/or the features of the app to ensure it is fit for purpose in today's cloud-driven world.

Modernisation vs migration.

App modernisation is much more than simply migrating on-premise business apps to an Infrastructure-as-a-Service (IaaS) provider such as Microsoft Azure.

This 'lift and shift' approach is just one strategy and it may not be the right answer in every case. Organisations should take a holistic approach to modernisation and consider how it will add the most value to the business.

We'll cover the approaches to modernisation in more detail in Chapter 3.

Challenges for legacy apps.

Legacy apps can pose a number of challenges to organisations.

- Data silos and a lack of integration with other apps can inhibit the development of connected teams and workplaces.

- Remote workforces can suffer a poor experience, which may limit their productivity.

- At the IT team level, legacy apps are more time-consuming and complex to manage and maintain. The inflexible nature of such apps means patching vulnerabilities or adding new features take longer than desired.

- A modernised suite of apps can deliver several important benefits to businesses.

Introduction to app modernisation.

Why app modernisation is beneficial.

Support greater productivity and deliver better customer experiences.

Don't let slow applications affect your end users. With greater application performance, your teams can get work done and collaborate without hindrance. Whilst your customers can get optimum digital experience when transacting with your business.

The cost of poor performing apps:

2 seconds or less	3 seconds to load	1 seconds delay
47% of consumers expect a web page to load in 2 seconds or less[1].	**40%** of people abandon a website that takes more than 3 seconds to load[1].	**7%** A 1 second delay in page response can result in a 7% reduction in conversions[1].

Innovate faster.

Modern architectures and applications enable easier, quicker addition and deployment of new features - something that's often cumbersome with legacy, monolithic applications. This enables businesses to more easily respond to changing needs, seize new opportunities or create new differentiation.

1. Sutter, B., 2021. Vrooom! Why Website Speed Matters.. [online] Entrepreneur. Available at: <https://www.entrepreneur.com/article/281986> [Accessed 20 May 2021].

Introduction to app modernisation.

Access and integrate your data.

Whether you want to deliver new products to delight your customers, focus on service improvement, or inform your strategic decision-making processes, you can gain more value when you break down silos and connect your teams to data, when and where they need it.

Scale seamlessly.

Your organisation can be more agile and readily seize opportunities when your business-critical apps and tools scale easily. Modern apps and databases enable you to support your organisation's expansion without worrying how the apps will scale to serve the growth.

Introduction to app modernisation.

Improve security to keep customer apps and data safe.

Cloud providers are incentivised to provide a multi-layered, state-of-the-art security for their services.

They have full-time teams of security experts monitoring and improving their security posture. Cloud-optimised apps enable you to take advantage of those in-built protections such as vulnerability scans, automated security and compliance checks, and fine-grained guardrails at every layer to reduce the risk of breaches.

Replicating such security practices are often impractical or costly for businesses.

Optimise your costs.

Streamlined cloud apps and services offer greater savings, enabling IT teams to respond to their business' changing needs and support strategic value-add activities while reducing the cost and time associated with app maintenance.

When to consider app modernisation.
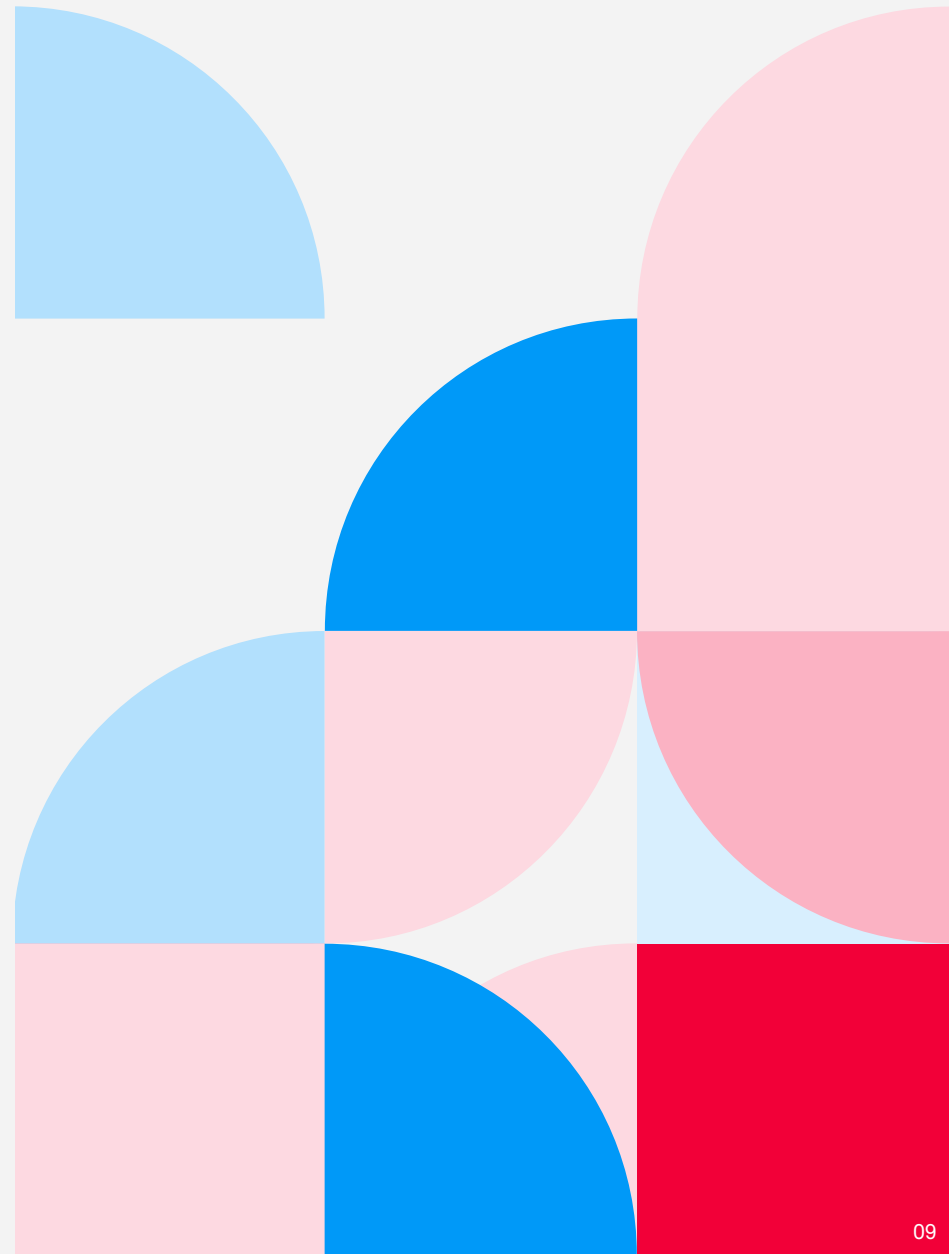
When to consider app modernisation.

Whether your business was prepared to respond to the disruption of COVID-19 or not, the reality is digital transformation is no longer a nice-to-have - it's business-critical.

At Telstra Purple, we have worked with organisations of every type to modernise their business apps.

While every organisation is different, with unique combinations of objectives and requirements, in our experience there are a few common scenarios which lead organisations to consider an app modernisation program.

# Four signs you may need to modernise your apps.

Scaling your apps cost a lot.

If you have had to rapidly lift-and-shift apps to run in the cloud, you may have done so by packaging them up and running them on Virtual Machines (VMs) in a cloud environment.

This offers the scalability and remote access you need but it can cost a lot to run.

Scalability happens at a wholesale level, meaning you have to spin up new VMs, which increases costs. Modern apps use cloud-native services, enabling you to pay for what you use at a more granular level and keep costs under control.
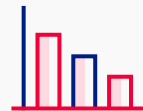
Your apps are performing poorly, are hard to maintain, or inhibit innovation.

The fundamental challenge posed by legacy apps is the time and complexity of enhancing or fixing them. Which can impede on your ability to innovate and adapt quickly.

If the app in question is a product for customers or clients, you may run the risk of losing market share to fast-moving, disruptive competitors.

If your teams are complaining about slow or unresponsive apps, this could be a clue that the apps require a more modern architecture or infrastructure.

You are thinking of transforming your processes.

If you have changed the way you operate (and nearly every organisation has had to since the start of 2020), then your legacy apps may not support the way you want to do business.

Whether you want to grow ecommerce offerings, offer new digital experiences or support distributed teams, your apps need to support your ambitions.

### You struggle with accessing data from silos.

One clear sign of the need for app modernisation is when users cannot access data where and when they need to.

For example, you have end users who don't have easy, direct or any access to the data because it is hosted in an app located in an on-prem data centre, behind a firewall.

This is a common problem for many companies with employees working off-site when their data resides in an on-prem system such as a customer relationship management solution (CRM).

Strategies for modernising business apps.

The ideal app modernisation journey.
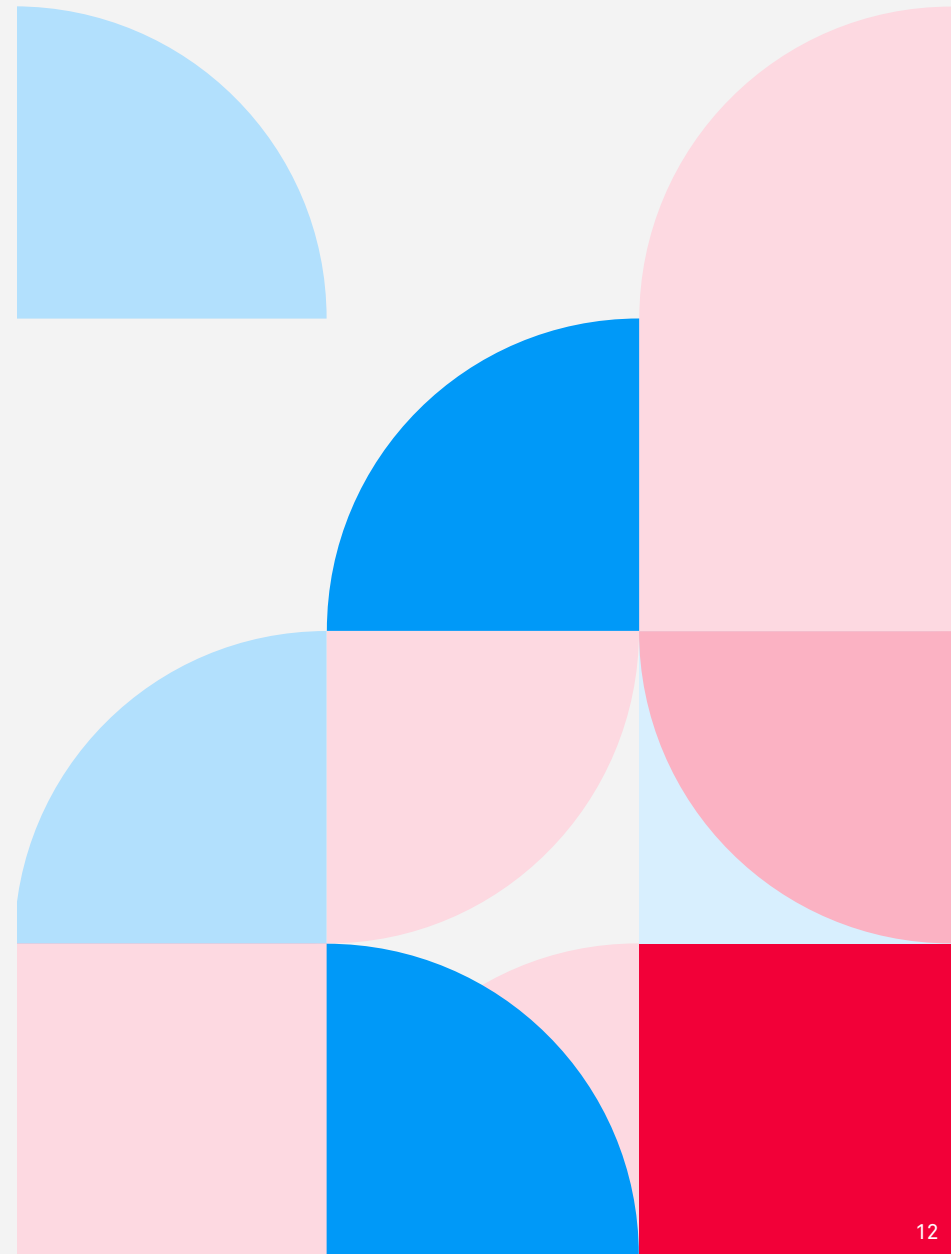
Strategies for modernising business apps.

The ideal app modernisation journey.

An ideal app modernisation journey requires a holistic approach to discover what apps exist today, what the business vision looks like for the next three to five years, and what processes, culture and apps are required to support that vision.

Sometimes though, the tactical priorities come first. If you have a business-critical app which is not working well, then that may be the place to start.

The right path from point A to point B is almost never about modernising every single application you have today.

It's about mapping your future needs and figuring out what role, if any, your current apps play. The next step is deciding which approach will deliver the best results for your business in the long run.

Hot tip:

Think big but start small. Pick an app that is both high value to the business and relatively quick to modernise. Demonstrate the results of the modernisation then iterate from there.

Strategies for modernising business apps.

Choosing the right app modernisation approach.

There are six strategies for app modernisation. The best approach will need to consider if an app's fit against short and long-term goals. Part of the discovery and definition stages of our framework is about understanding what approach will work best for each app. We work closely with Microsoft to modernise apps on the Azure platform because of Azure's market-leading capabilities, but these approaches are applicable to any platform.

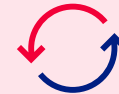|		
1. Rehost	**2. Replatform**	**3. Rearchitect**
4. Rebuild	**5. Retire**	**6. Replace**

Strategies for modernising business apps.

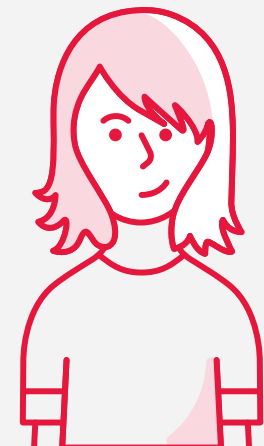Choosing the right app modernisation approach.

1. Rehost

Often referred to as "lift and shift" migration, this option lets you migrate existing applications quickly without the risks or costs of making code changes.

Use for:

- ☑ Moving apps to the cloud quickly
- ☑ When you don't have access to the application source code
- ☑ Apps that would benefit from IaaS scalability and security, and don't evolve often

Hot tip:

Rehosting is normally a short-term tactical move. Consider whether you get enough value from the apps being in the cloud without taking advantage of cloud native services.

Strategies for modernising business apps.

Choosing the right app modernisation approach.

2. Replatform

This cloud migration strategy involves some changes to the app design and code so it could run on cloud natively.

Use for:

- ☑ When you have access to the codebase
- ☑ A relatively quick and high impact way to modernise your apps

Hot tip:

Replatforming shouldn't lead to large refactoring of the codebase – just enough so it can run on the new platform. Configure the Continuous Integration and Delivery pipelines so you can iterate faster.

Strategies for modernising business apps.

Choosing the right app modernisation approach.

3. Rearchitect

Sometimes the existing architecture of the app or a suite of apps doesn't fit into your future direction. That's when you might need to change the app architecture or perhaps consolidate a few apps.

Use for:

☑ You should make this choice sparingly, as it could be costly.

☑ Use when the existing app architecture or solution architecture does not support your current or future business needs.

☑ Beware of the hype cycle. Don't leverage the latest and greatest architecture everyone's talking about because it looks good on paper.

☑ Consider code evolution techniques such as the Strangler pattern to enable you to evolve the app iteratively without causing disruption to your business.

Hot tip:

Microservices, serverless architecture, Kubernetes and other modern app architectures are great, only when they meet your unique needs.

Understand each approach's strengths and weaknesses to determine which one is fit for purpose.
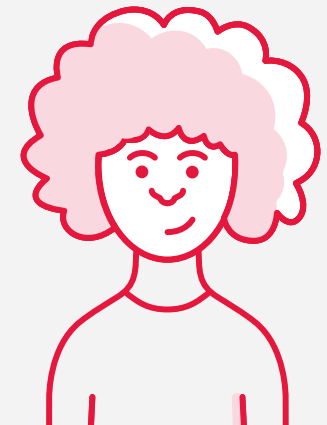
Strategies for modernising business apps.

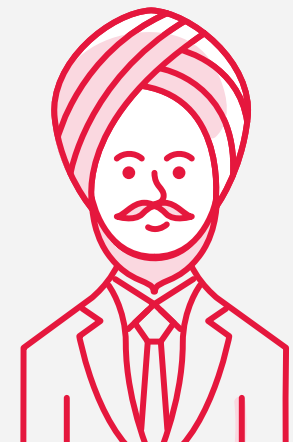Choosing the right app modernisation approach.

4. Rebuild

There are times when the cost or risk of maintaining a legacy app becomes prohibitive. This is typically the case when the technology used to build the app is no longer widely supported.
In that case you might consider rebuilding the app from the ground up.

Use for:

☑ Technologies that are discontinued, antiquated or are hard to hire for

☑ When you need to perform a business model pivot or innovation

Hot tip:

Businesses that don't have strong expertise in application rebuild tend to significantly underestimate the cost of rebuild.

Strategies for modernising business apps.

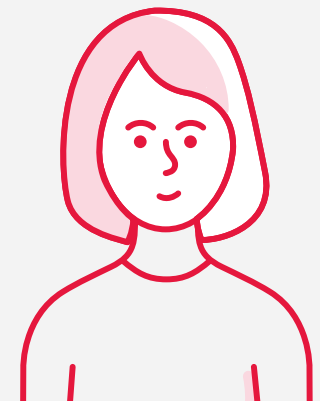Choosing the right app modernisation approach.

5. Retire

Not every app needs to be modernised. Once you have been through the discovery phase, your business will be able to identify the apps that will not support your desired future state, either because the functionality is no longer necessary, or it can be done by another app.

Use for:

- ☑ Reducing costs
- ☑ Modernisation programs
- ☑ Improving security

Hot tip:

Retiring apps can help reduce costs and build your business case for modernisation programs, while also improving security by reducing potential threat vectors.

Strategies for modernising business apps.

Choosing the right app modernisation approach.

6. Replace

Moving your bespoke, on-prem app to a cloud native SaaS product might be the perfect option for some use cases. For example, there are many SaaS solutions for customer relationship management from vendors such as Salesforce or Zendesk.

Use for:

- ☑ Reducing costs
- ☑ Optimising application performance
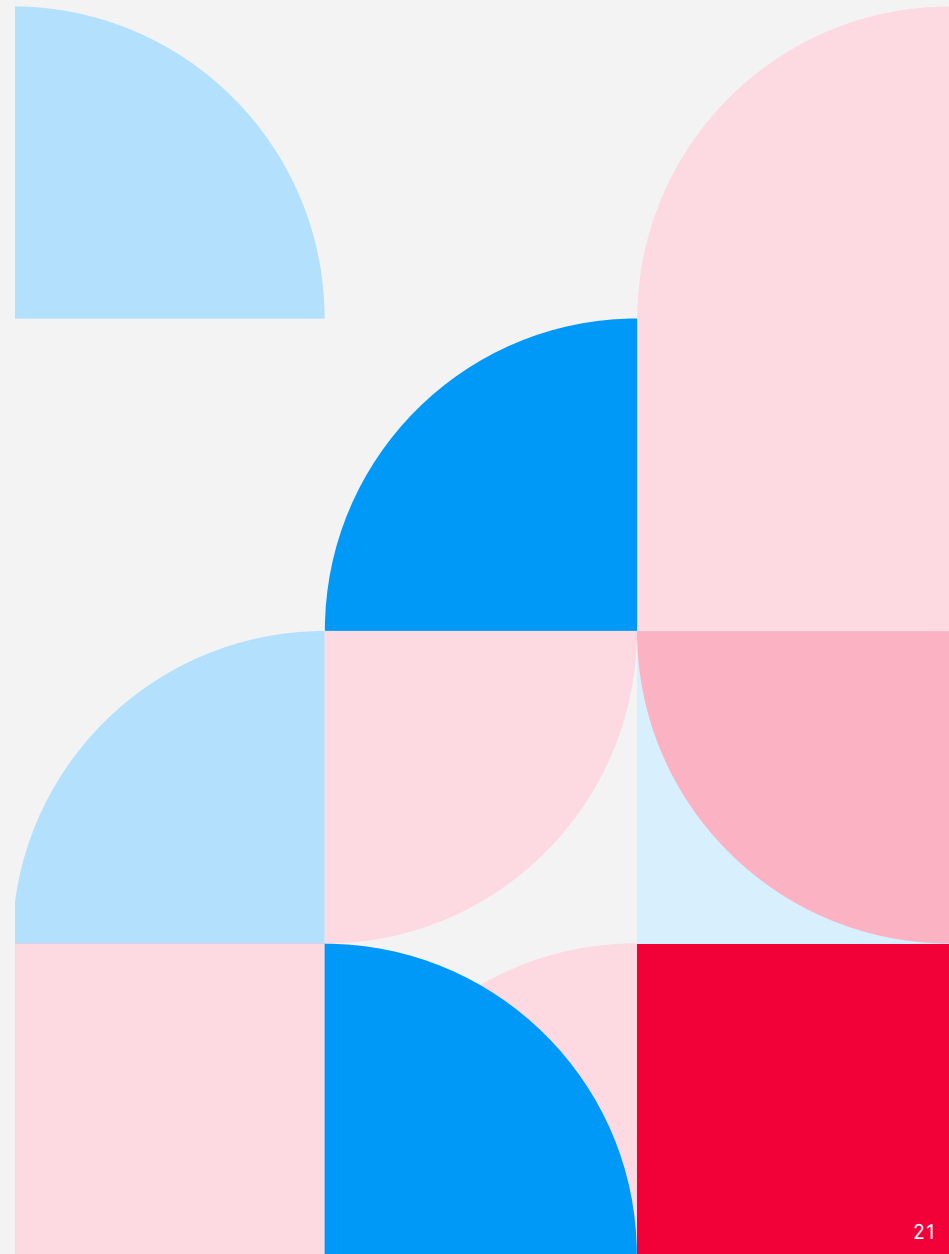- ☑ Flexibility to scale as your business needs change

Hot tip:

If the app is not core to your business or part of your unique value proposition, you shouldn't invest time and energy maintaining or modernising it.

Traps to avoid with your app modernisation project.

Traps to avoid with your app modernisation project.

Ignoring the connections between apps.

In some cases, you may be targeting a single app for modernisation as it's the one causing your business the most problems.

However, it's important to realise that apps rarely run in a silo, as they are almost always integrated with other apps. If you move ahead with modernising an app without paying due attention to the dependencies, it might bring down business-critical functions.

The scope of the project might balloon out if you have to modernise a growing sequence of apps to try to get the original app running.

Best practice:

Start by mapping the business, the underlying apps and their interdependencies to create a holistic view. Then you can plan your strategy to modernise the app(s) with a minimum disruption to your business-as-usual.

Traps to avoid with your app modernisation project.

Missing the business goal.

Not every legacy app will support your organisation's future state.

It is easy to waste time and resources on modernising every single app in your portfolio without considering which ones you can consolidate or retire.

Even for the apps that are fit for modernisation, you still need to articulate the goal of app modernisation in business terms and in alignment with your short and long-term goals.

Best practice:

Every technology project, app modernisation included, should start with a clear articulation of a goal which aligns to key business metrics (such as revenue and sales targets, customer experience or employee productivity).

Once you know your goal, you should create clear success criteria that allow you to measure your progress towards that goal continuously, so you can check if you're on the right track and also know once you get there.
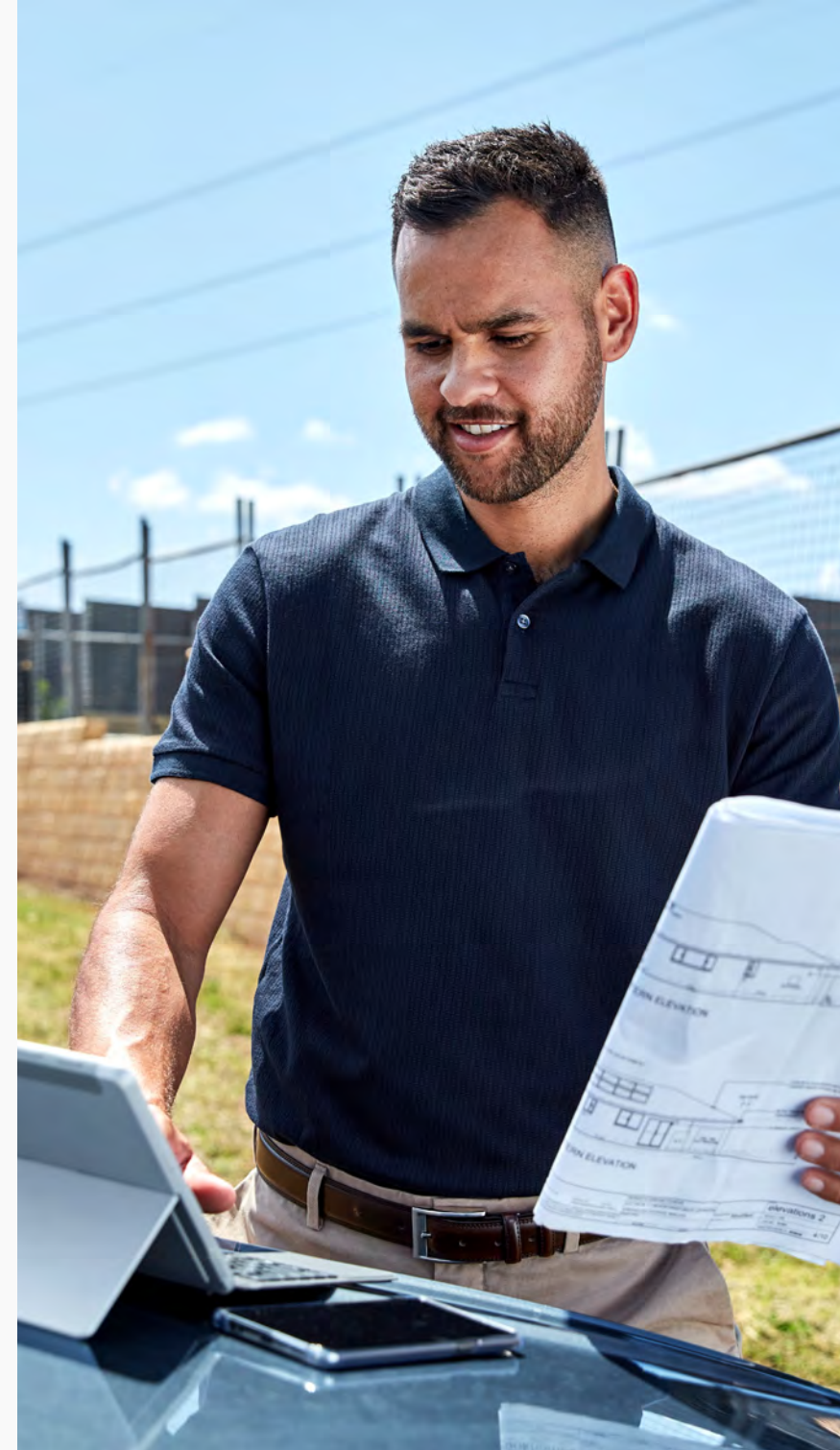
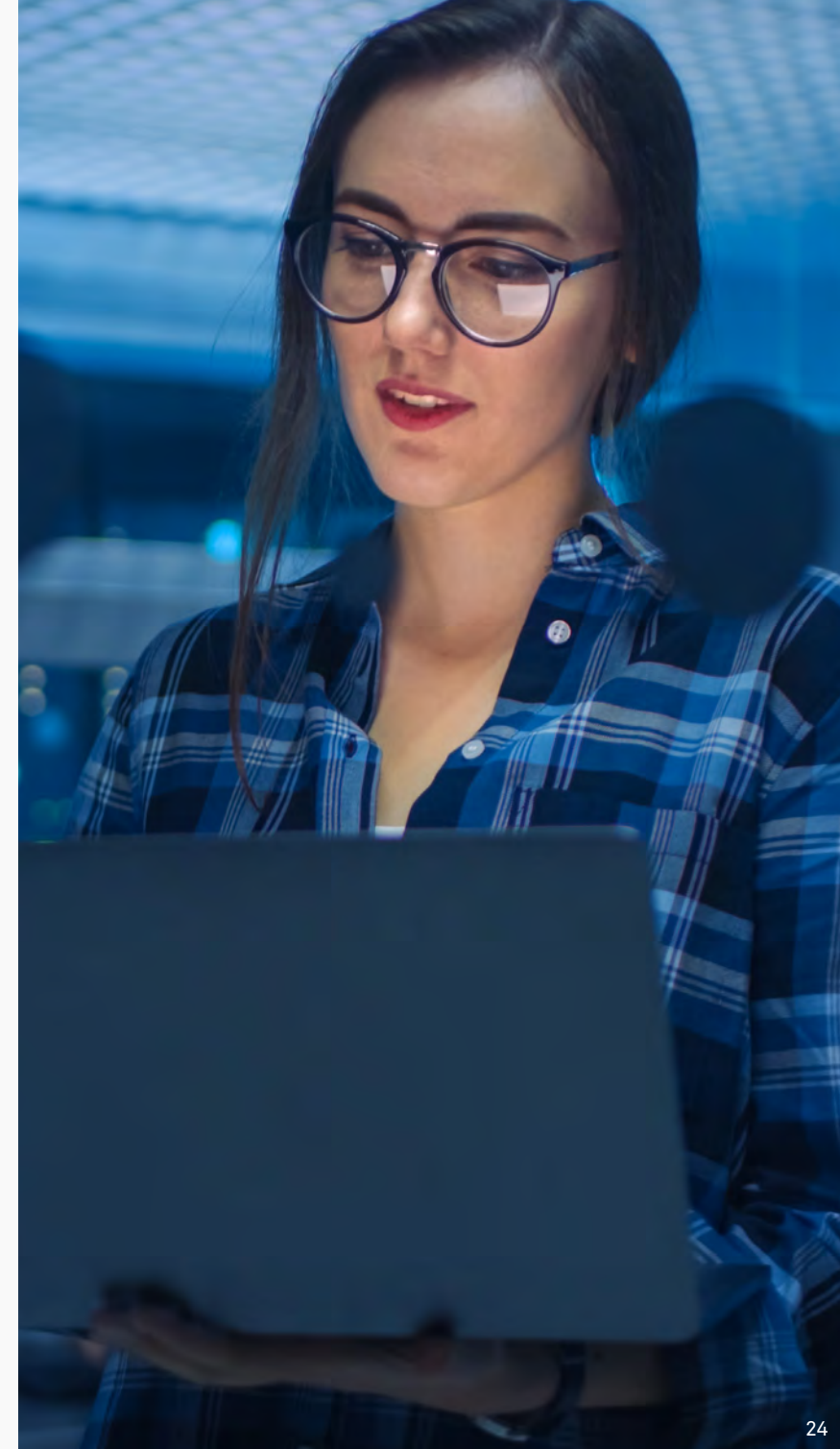# Traps to avoid with your app modernisation project.

Trying to reinvent the entire app at once.

Sometimes trying to reinvent an entire app is a recipe for delays and frustration. We have seen some teams take a year to modernise an app when they could have taken a different approach to start realising value a lot earlier.

Best practice:

Consider modernising the app in iteration. Migrate the app to the cloud then identify the pain points to work on, whether it's around scalability, security, performance.

Use continuous delivery to release high quality value to the end user rapidly, then seek feedback to prioritise and deliver future releases iteratively.

Traps to avoid with your app modernisation project.

Doing it alone.

It might be tempting to undertake app modernisation in-house, but there is a lot to be gained by working with experts who do this day in day out. They see recurring patterns of what works and what doesn't and can help you make the most of your modernisation program.
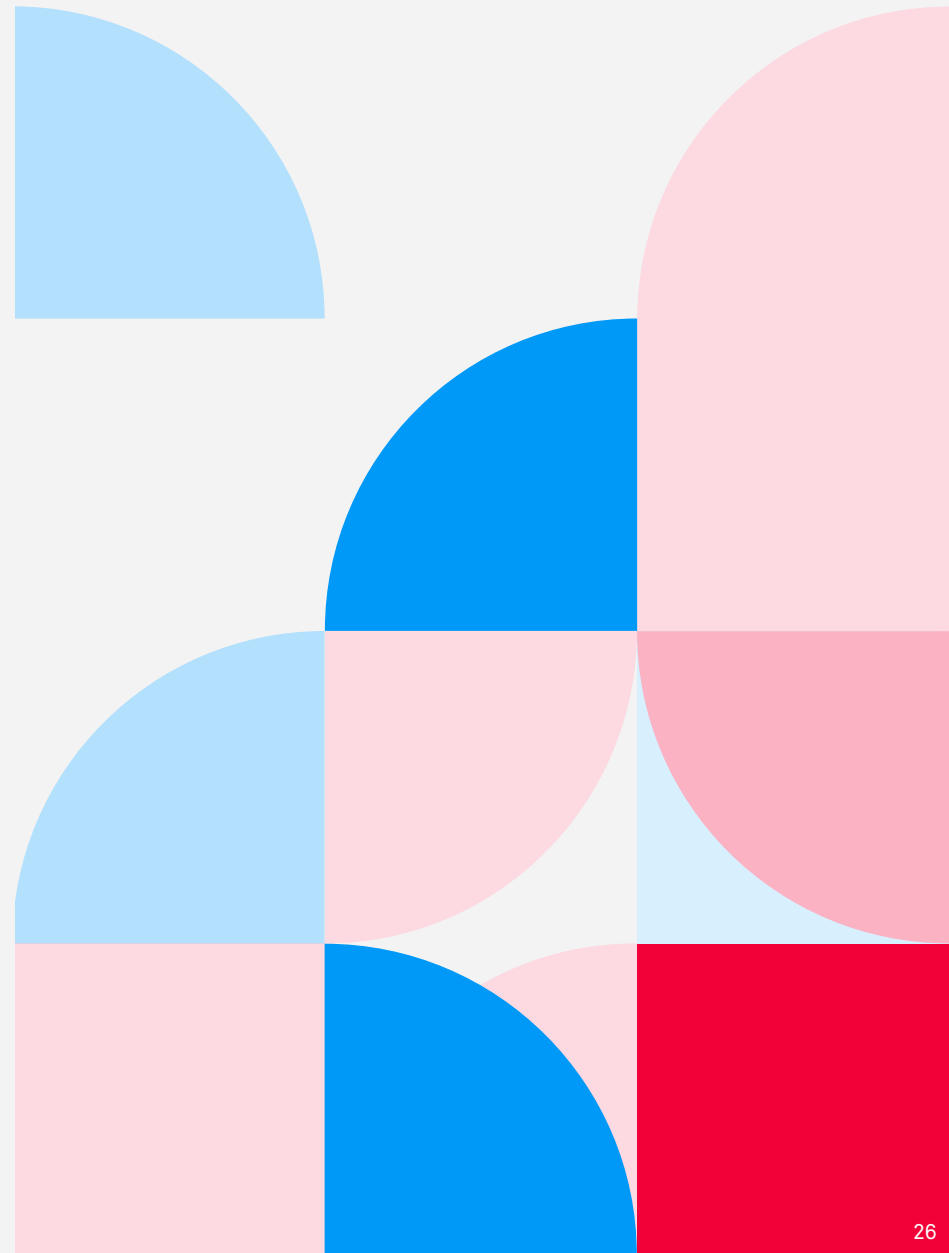
Best practice:

Consider whether you have the right skills and experience to deliver a successful modernisation or whether engaging a partner will help deliver success while enabling your teams to focus on priorities.

Ambulance Victoria.

A case study of app modernisation.

Ambulance Victoria.

A case study of app modernisation.

Transforming the treatment of critically ill patients across Victoria with ground-breaking technology.

Possibility	Key Issues

Possibility

Adult Retrieval Victoria (ARV) is a department of Ambulance Victoria responsible for coordinating doctors, paramedics, ambulances, planes, helicopters and equipment to transfer critically ill patients between hospitals.

The department's 30 clinical coordinators and retrieval specialists handle approximately 4,200 cases a year, working with almost 150 hospitals across the state.

See full Ambulance Victoria case study here.

Key Issues

Lack of up-to-date data.

Regularly updated, accurate data is critical in ensuring patient health and welfare — and Ambulance Victoria needed a system to see, in real-time, not only available beds but patient status and resource capacity to efficiently route people to the right hospital for the right treatment.

Inflexible technical system.

Although fit for purpose at the time, the web-based system was hosted on-premises, making it challenging to scale and expensive to run.

Ambulance Victoria.

A case study of app modernisation.

Solution

Telstra Purple built the Retrieval and Critical Health (REACH) Information System to help make connecting a patient with a hospital for the right level of care a simple and effective process. The platform is a real-time, web-based bed occupancy reporting tool that provides a statewide and hospital-level view of critical care and incident-specific bed capacity.

The system had to be built with the user at the centre, so Telstra Purple worked closely with Ambulance Victoria, as well as doctors, nurses, ambulance officers, and other frontline workers to build a real-time dashboard that addressed their needs – with the upmost care taken to design for optimal usability.

As COVID-19 surged nationally, the Australian Government sought healthcare solutions to help monitor the situation and manage patients and resources more effectively. The Australian and New Zealand Intensive Care Society (ANZICS), with support from the Federal Government, eventually chose the REACH platform as the best existing platform that could be redeveloped to meet the urgent need for a reliable solution.

See full Ambulance Victoria case study here.

Ambulance Victoria.

A case study of app modernisation.

Now through CHRIS, health services, the Department of Health, and all related third parties in Australia and New Zealand have a national view of critical equipment for intensive care including personal protective equipment, and hospital bed and ventilator capacity.

191 active hospitals and growing.

Sixteen hospitals used the REACH platform initially, but a week after CHRIS was launched, 60 hospitals were using the new platform. In two weeks, an additional 191 hospitals started using CHRIS with the number growing daily.

Joining the platform made fast and easy.

Telstra Purple automated the process for joining the CHRIS platform, allowing ANZICS and Ambulance Victoria to support new hospital profiles in minutes with minimal effort.

Excellent usability.

All hospitals that have adopted CHRIS were able to use the platform "right out of the box"—intuitively and without additional training. Feedback from frontline workers is positive: nurses report that it is extremely easy to use, with simple screens for data input and real-time results available to all users.

Equity of care.

The REACH and CHRIS platforms helped enable Ambulance Victoria and ANZICS to get patients the care they need.

With a national view of critical resources, facilities, and equipment, more lives are saved by connecting people and hospitals to what they need in the shortest possible time.

See full Ambulance Victoria case study here.

Why
Telstra Purple.

Holistic application modernisation
for true digital innovation.
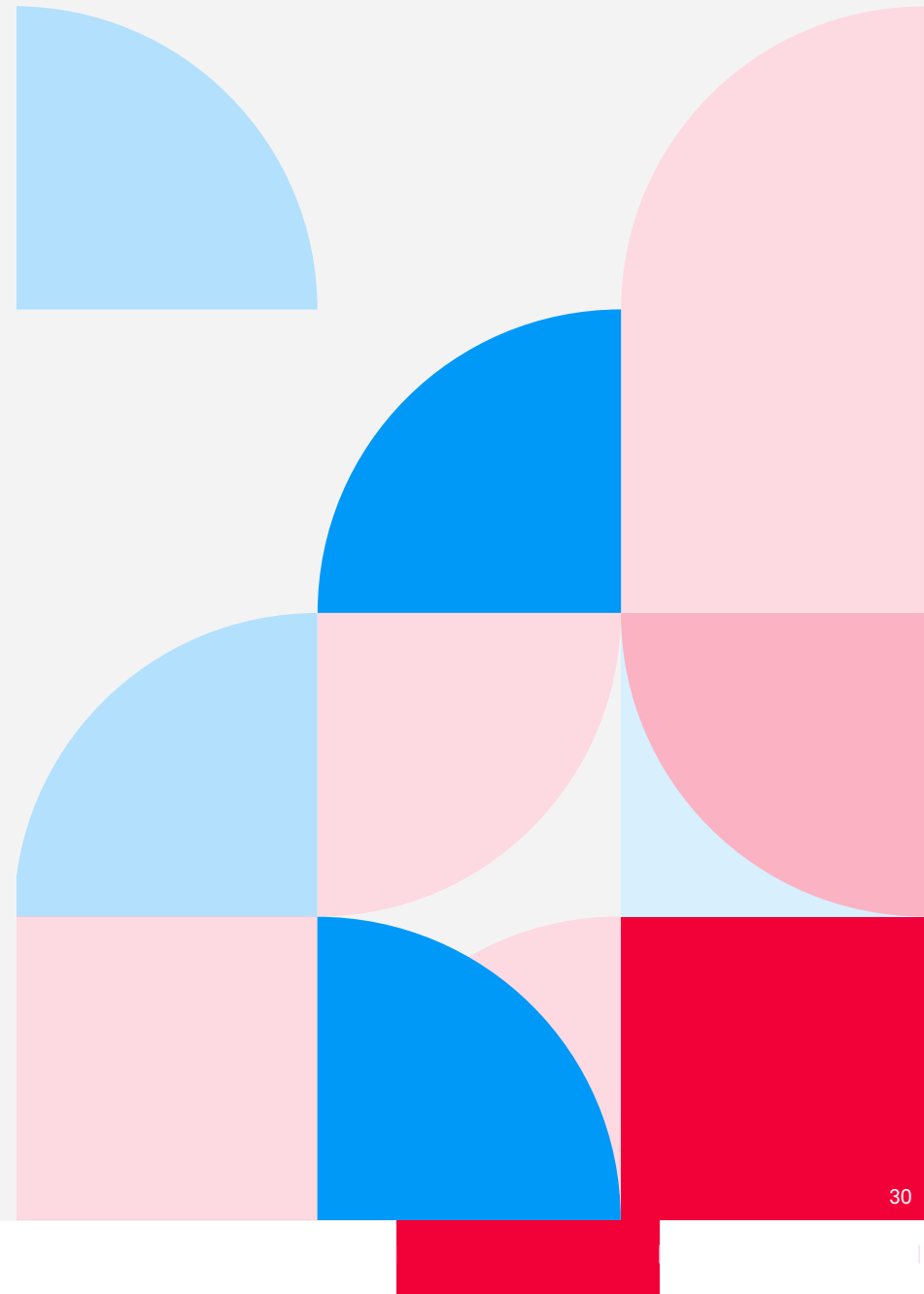
Provoke change. Inspire transformation.
It's Business Unusual.

Modernising legacy applications doesn't actually start with the application itself. It's about asking the right questions from the beginning. Understanding your business processes and how data flows. Learning your culture and technology roadmap. Then combining learned experience and deep technology expertise with a little ingenuity to solve real problems and spot new opportunities. Let us help you supercharge your applications for a cloud future and drive true transformation for your business.

True, holistic transformation.

Your business is unique. Your path towards modern cloud app should be too. At Telstra Purple, we take a holistic people-process-culture-technology approach towards digital transformation to help you meet your critical needs today and your innovation needs tomorrow.

Experts as your partners.

Our proud roots that brought together some of the best technology companies in Australia means you have access to hundreds of experienced (and certified) software development and cloud experts to help you drive business outcomes.

Access bleeding edge technology and know-how

Our extensive partnerships with global leading vendors like Microsoft means through our people, you can tap into the latest, best-of-breed developments in technology.

Gold
Microsoft Partner
Azure Expert MSP
Microsoft

Microsoft Partner
Gold Cloud Platform
Gold Application Integration
Gold Application Development
Gold DevOps
Gold Data Analytics
Microsoft

Microsoft
Partner Advanced Specialization
Modernization of Web Applications on Microsoft Azure

Articulate your vision. Harness your cloud.

Our proven Cloud Adoption Framework.

Having completed thousands of simple cloud integrations through to the most complex transformations, we've developed a tried and tested framework that helps achieve best practice.

Discover.

The discovery phase focuses on assessing the app portfolio in the context of your vision. The aim is to understand the opportunities for the organisation and identify which apps should be rehosted, re-platformed, rearchitected, rebuilt, retired, or replaced. We take a deep dive into an individual app before modernisation to uncover any risks and challenges around security, integration, and legacy components.

Define.

In this phase, we identify the best opportunities and define the ways we can deliver a desired outcome for you. We work with you to co-design a roadmap of application modernisation aligned to the business' strategy. The roadmap sets out the chosen modernisation approach and the end architecture for the app, along with its neighbouring apps.

Deliver.

This is where the migration and modernisation of the app happens. The roadmap is put into practice and we apply proven methodologies in partnership with you to accelerate implementation and get to value faster.

Drive.

Our fourth principle is there to keep apps and cloud workloads secure, up and running. We will perform monitoring, fixes and enhancements, and plan the next app to be modernised so your business can keep improving its agility, cost control and user experience.

Start your app modernisation journey today.

Let one of our Telstra Purple experts contact you today.

We'll help you get your apps flying in the cloud.

Request a call back.

Leave us your details and one of our experts will

call you back at a time that works for you.

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