VML ✕ THE POWER OF MACH

Embracing MACH: a guide to getting started for the MACH Curious

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Introduction

If you're reading this, we're going to assume you are familiar with the concepts and guiding principles of MACH, but have only just begun your journey into a composable future. You are, to all intents and purposes, MACH Curious. And you are not alone.

MACH approaches to IT architecture – also known as 'composable', as in composed of multiple individual components – are growing in popularity and prominence across the commerce and experience ecosystem. According to research launched in January 2025 by the MACH Alliance, 82% of organizations have become more positive towards MACH in the past 12 months. 90% of those who have pushed ahead with MACH report that they have increased MACH infrastructure in the past year, suggesting that almost all organizations recognize the benefits of Composable and MACH technologies. But that brings us to the topic of this guide. What does pushing ahead with MACH look like? How do you guarantee success in the long term? A lot of organizations jump into taking a composable approach in a fanfare of hype. They run a handful of deployments, congratulate themselves – and then wonder what happens next.

In this guide, our aim is to lift the veil on the 'what next?', explain what success with MACH looks like in the long term, and demystify some common assumptions. More than anything, we want to emphasize that MACH has so much more to offer than the short-term buzz of quick wins. When you approach MACH as a long-term strategy, and as a shift in mindset about how you work with technology, that's when the real magic happens.

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Join us on the MACH journey

Over the course of the last decade, we have been helping businesses transition from all-in-one monolithic commerce platforms to much more agile composable architectures. In that time, we've noticed that journeys into MACH evolve in three distinct phases:

➜ **Targeted,** specific deployments of decoupled features that are added onto a legacy system with little overall impact to the existing tech estate.

➜ **Mature** MACH deployments start to involve extensive migrations of multiple parts of the ecosystem, with significant changes to the service and integration layer.

➜ **Innovating** with MACH takes place when companies have completed the organizational and mindset shifts that composable approaches demand, not just the technological shift. This is when businesses can leverage the principles of MACH to drive significant gains through full bespoke solutions.

Let's dive into these three phases one by one, highlighting examples, benefits, and common pitfalls that organizations experience at each stage, and conditions for success.

Targeted deployment

MACH transition doesn't happen by throwing out your existing commerce platform and replacing it with a new, updated, fully-fledged composable version. It's a journey, an evolution.

"It starts with a business problem that manifests itself technically," says Mark Bartlett, Executive Director for Technology. *"Something like 'search is much slower than our competitors', or 'we can't do what we want with our CMS', or 'we don't have the right tools for our loyalty program'."*

Taking a MACH approach means you can isolate a particular function and break it out. Choose a best-in-class SaaS product that offers better functionality and performance, and plug it in via an API. Or custom-build a new microservice yourself. That's the start of the journey.

At first, this has minimal impact on your existing tech estate. If it's only one or two features of the platform you want to improve on, why go to the trouble of replacing the whole thing? You don't have to knock down the whole house just to redecorate one room.

An example of a targeted deployment

As Glen Burson, WPP Open CTO says, headless is the starting point for most MACH journeys. *"Pretty much every platform brief we take on has elements of MACH in it, but it's heavily weighted to headless. Building an API to break out a feature or function gives you more flexibility and more control of the user experience.*

A headless approach can also be used to fix performance issues with a monolithic platform. For example, we worked with a luxury retailer that had years and years of customer data from abandoned carts, wish lists and more stored in their platform. That data still had a value, but it was slowing down the whole system. So we implemented a specific, targeted solution that took all of this data out of the platform, but kept it connected, available and usable via an API. Problem solved – platform back up to speed, data kept."

Benefits

- **Greater flexibility:** Once a function or feature has been separated from the main platform, you can make changes faster without worrying about what happens to the rest of the platform.

- **Better control leads to a better user experience:** Whether you are plugging in best-in-class SaaS products or building bespoke applications from scratch, headless empowers businesses to create the experiences they want their customers to have.

- **Higher conversion rate:** When you can adapt and improve the experience at pace, and you are more in control of delivering what your customers want, you see customer satisfaction, conversions and loyalty rise.

Pitfalls

- **Approaching MACH projects in isolation as a long-term strategy:** MACH journeys often start with one or two implementations. But if you continue with a piecemeal approach for too long, you end up adding complexity and inefficiency into operations, the opposite of what you set out to achieve. Everything still needs to be governed by a solid business strategy, and the technological foundations to deliver it.

- **Not being prepared for a different way of working:** MACH isn't just a new-fangled technology, it's a whole operational approach to IT. This has implications across the business, including how you organize processes and the mindset of your teams.

- **Choosing tech for tech's sake:** A MACH approach is not a fix-all. A common mistake many businesses make at the start of their journeys (and indeed throughout) is saying they want to go headless, they want to make use of the hottest new SaaS solution on the market, because they have been caught up in the hype. Everything must have a clear purpose and be aligned to your business goals.

Conditions for success

- **Taking a holistic approach:** Even at the early stages of embracing MACH, businesses have to move on quickly from a one-and-done approach. As with any step change in business operations, aligning people, processes and technology is critical to success and laying the foundations for further growth.

- **Clarity of vision about your business objectives:** One thing we cannot emphasize enough with clients is that MACH itself isn't the solution or the goal. It's a means to an end, an enabler of a vision. And those ends are achieving your business objectives. Everything you do on your MACH journey should be driven by them.

Client case study

Domestic & General

We helped insurance company Domestic & General adopt a more forward-thinking approach to customer experience and insurance claims by building a chatbot to connect to the company's existing commerce platform. The front-end user interface for customers made use of Google's natural language processor. The chatbot can resolve queries in a fraction of the time it would take a person, minimizing the need for customers to call the contact center. Adding this new feature, enabled by a MACH approach, resulted in an increase in customer satisfaction while costs have been significantly reduced. As well as a slicker online process, this innovative approach contributed to a record rise in registered users month on month.

Mature implementation

Once organizations start making targeted MACH implementations to address specific business needs, it soon becomes apparent to most that the benefits can be scaled. Speed, agility, reduced costs, greater freedom to focus on the customer experience – none of this is confined to specific builds.

At the same time, by continuing with a piecemeal, project-by-project approach, you risk undermining the real value of MACH by introducing complexity and significant operational change without having the right controls in place. It's not just the technology that has to shift, it's an entire mindset. These are the drivers that are seeing more businesses enter a more mature phase of MACH adoption. This phase is characterized by more extensive builds or migrations across multiple parts of the ecosystem, significant changes to how services are provisioned, and widespread adoption of best-of-breed SaaS components.

Examples of maturing MACH implementations

- **Composable front-ends:** Breaking up the decoupled front-ends you get in headless deployments into further composable services for greater agility.

- **Single Page Applications:** Web-based applications delivered in a single page, making them faster and more stable than a traditional web page.

- **Unified APIs:** A management layer that handles communication across the multiple APIs you have running in a MACH environment for greater control and simplicity.

- **Accelerators:** Development tools that offer plug-and-play component parts for building software, speeding up deployment.

It's so easy to be prescriptive about the fact that once you do A, the next step is always B. It's also easy to keep making changes just for the sake of it. To mature with MACH, you have to have a clear understanding of your key business values and what you're trying to achieve.

Miriam McGinty-Lowe
Head of Engineering, WPP Open

Benefits

■ **Tailored solutions:** The further you go in breaking down and breaking out your stack into very specific features and functionality, the more freedom you have to tailor each component to your specific needs.

■ **Faster releases:** MACH lets you make changes without having to change everything. Plus, the smaller the components are, the faster you can build, test and release them. You can release more frequently, which means you can focus on adding value for your customers more frequently. And because of that agility, if something isn't quite right, you can 'fail fast', too – you can quickly back up and pivot to something else.

■ **Resource efficiencies:** When you keep adding products one by one in response to arising operational needs, you end up with duplication and with functionality you never use. A mature MACH approach is a holistic approach, one that looks at requirements end-to-end. You get what you need and you get the control to only pay for what you need.

Pitfalls

What catches organizations out as they progress their MACH journey is just how much of a shift it is beyond technology. People, processes, even investment models – MACH is a different way of working and thinking about IT delivery. And if you're not prepared for the mindset shift, if you try to graft MACH onto old ways of working, you don't get the value you expected. We see this hold businesses back in the following ways:

■ **Confined to certain areas, agility is compromised:** Development is "agile" but teams cannot release on their own cadence and are subject to dependencies on other teams, legacy release schedules and having to align with internal release processes.

■ **Continued reliance on manual processes:** You carry on with manual testing and quality control, because you don't trust automation. This undermines the benefits of speed and agility. Project-based investment: Investment is still authorized on a project-by-project basis when a MACH approach is not project-based at all. It's a continuous evolution.

■ **Not putting appropriate operational controls in place:** When you're used to a monolithic platform, it just works. In a composable world, there are all sorts of moving parts that can go wrong. You have to understand the nature of the environment to stay in control.

Conditions for success

■ **Putting business and operational objectives first:** Just as with early MACH implementations, whatever you decide to do as your journey progresses, you have to make sure there is a business case for it. What matters is not that you are getting to a point of maturity with a MACH commerce stack, it is the functionality and experience you deliver.

■ **Good management of your environments:** Working fast, flexibly and in potentially complex composable environments, means you have to double down on strategy and process. You need clear definitions of roles and responsibilities, clear understanding of goals, and clear communication throughout.

■ **Good technical governance:** People sometimes believe 'agile' means no governance, that rules just get in the way of flexibility and speed. That's not the case at all. What you need is the right kind of governance that holds together distributed layers of responsibility so everything can still work at pace towards the same objectives.

■ **Automation:** The faster you want to go with smaller and smaller decoupled services, the more you need to rely on automation as an integral part of your test and release cycle to optimize the benefits.

■ **Observability:** In the past, performance monitoring might tell you whether a home page was down or live in simple yes/no terms. But in a MACH world, there might be 10 to 15 different components feeding into that home page. You need observability and traceability across them all. You need to pull all the data together, and dig down into what each is doing, how it is performing, and how it is impacting on overall performance.

Client case studies

Sogrape

Through the effective use of MACH technologies, we have successfully transformed global wine brand Sogrape's online presence, enabling them to serve their B2B audience better and thrive in a competitive industry. Our efforts have demonstrated an expanded market reach, improved customer satisfaction, and business growth for Sogrape. The increased website traffic, longer session durations, and cost savings are all tangible outcomes of their customer-centric digital infrastructure.

Wolseley

Wolseley, one of the UK's leading plumbing, heating, cooling and infrastructure specialists, wanted a revamped B2B website that would help trade customers manage sourcing and purchasing materials and equipment more efficiently. We built and implemented a composable commerce platform designed to make the customer journey easier, shorter, and more accessible. The new site has increased Wolseley's active online customer base to greater than 40% of its trading customers. The company is also seeing a significant increase in the number of SSE's – 'self-serve events', considerably reducing the need for branch colleague involvement, and leading to substantial savings per month. Hannah Foley, Director of Digital Customer Experience, Wolseley UK, commented: *"Our audience is complex and we believe we have created a unique B2B digital offer which delivers the best online experience and the best eSolutions for our customers' business. The new platform we created not only grows with our customers but ultimately helps them to grow as well."*

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One of the biggest changes when clients move further into the MACH world is how to observe a MACH system. We've been able to use our experience to put together an observability framework for clients that works for the MACH paradigm. It's not just about building unified dashboards, but pulling all the data together from all the different components. Technically, that's the hard part.

Mark Bartlett

Executive Director for Technology, VML

Leveraging MACH to drive innovation

The third and final phase in a company's MACH journey is where businesses go bespoke – because they realize the world is their oyster. But it's important to stress that MACH in itself doesn't cause innovation. It doesn't magic up great ideas for carrying your business forward.

"I can create an innovative microservices environment that does amazing things within an organization," Mark Bartlett *"But it's neither innovative nor amazing just because it's MACH. It's because I thought of a cool thing to do."* What a MACH approach does do is open doors to making great ideas achievable. It strips away technological and operational barriers.

At this stage, we see MACH being applied to domains beyond the commerce platform – marketing automation, CRM, PIM, OMS, MarTech. Indeed, the idea of a commerce 'platform' itself melts away. The focus is on a family of connected services that collaborate to deliver the experiences and outcomes you want.

At the same time, iterative delivery of new or newly optimized services speeds up to the point where you don't really have the concept of a release anymore. What you have instead is continuous change in response to need, continuous improvement, continuous innovation.

Examples of MACH-driven innovation

- **Event-driven architectures:** An application architecture model that replaces linear processes with simultaneous data-sharing across multiple applications, based on the creation of an accessible data 'event'. This improves responsiveness, scalability and agility, while establishing workflows that complete in near real-time.

- **Advanced personalization:** Data-driven tailoring of the customer experience to the individual user based on known preferences and behavior.

- **AI innovation:** Realizing the value of AI across the tech stack and customer experience. For example, plugging large language model generative AIs like ChatGPT into your infrastructure to power next generation 'smart' help assistants and chatbots to handle customer queries.

Benefits

- **Easier integration of new technologies:** The further you go with composable architectures, the easier it is to plug in other innovation enabling technologies like AI to have maximum impact.

- **High availability and high resilience:** No system is immune to downtime, but in a distributed system, one component going down doesn't drag the rest with it. Advanced MACH architectures lend themselves to highly resilient software with excellent error handling.

- **Cost efficiencies:** At the cutting edge of cloud and service-based architectures, you start to reduce your reliance on infrastructure through things like serverless cloud. With autoscaling and pay-on-demand subscriptions, what costs you do incur are based on what you use only.

Pitfalls

- **Making assumptions about cost/performance benefits:** Pushing forward into a fully composable environment does not in itself guarantee success. Again, MACH is the tool, not the solution. Yes, it can be a means of revolutionizing your performance and driving significant cost efficiencies. But, as with any tool, you have to know how to use it to get those benefits.

- **Pushing for innovation without a business case:** Tech for tech's sake, innovation for innovation's sake. Neither lead to success if they are not targeted at specific business goals. You can also end up damaging your operations by rushing to rip out perfectly good, functional technology from your stack that still serves your needs well.

- **Failing to consider the impact on business users:** The central teaching of change management is that you have to put your people first and take them with you through any change, otherwise it is doomed to fail. Especially at its more advanced stages, the overhaul in working methodology and mindset that a MACH approach requires could provoke a backlash if people are not on board with the journey from the start – and if they are not empowered to make a success of the journey through training and skills development.

Conditions for Success

- **Identifying and nurturing new specialist skill sets:** Picking up on the importance of people highlighted above, one of the reasons you need your people to make MACH work is that you require their skills. MACH represents a new model of working with digital technology, so to have it fully embedded in your business, you inevitably need new skills. An example would be skills and expertise in the area of observability of distributed architectures, knowledge and understanding of the data flows and interactions between components.

- **Building the right relationships to support upskilling and adapting approaches to working:** Running a MACH environment is not easy. Whereas with a monolith there is essentially one tool and one set of skills and accompanying knowledge needed to run it effectively, with MACH you multiply that many times over. That's not a skills base that you can expect to develop in-house overnight. You need support from the right partners in the right areas.

- **Aligning your commercial and technical teams:** At its core, MACH is a paradigm for making technology more effective at delivering against business goals. But to achieve that, you also need to have the commercial and technical teams in your business working in tandem. They should be aligned on defining and delivering value through ongoing dialogue around what the commercial and business goals are, versus what the technology can deliver.

Client case study

DFS

Furniture retailer DFS is a long-standing client and over the past 10 years we have been on a journey with them leading from a monolithic commerce platform to a fully composable MACH environment. Pushing forward with composable solutions and applying MACH principles to wider areas of the business has allowed DFS to leverage data in numerous ways, from improving service and customer experience to opening the door to new revenue streams. Overall, the commercial optimization achieved during the course of the journey has seen platform revenues increase by 133% since 2020.
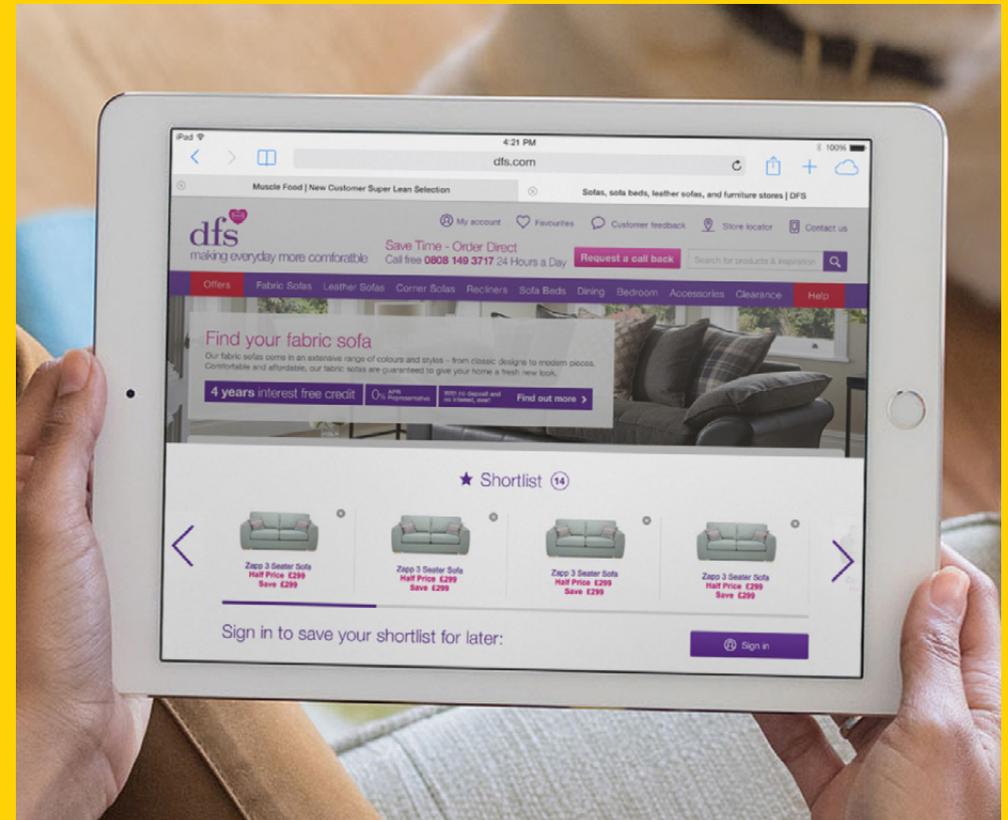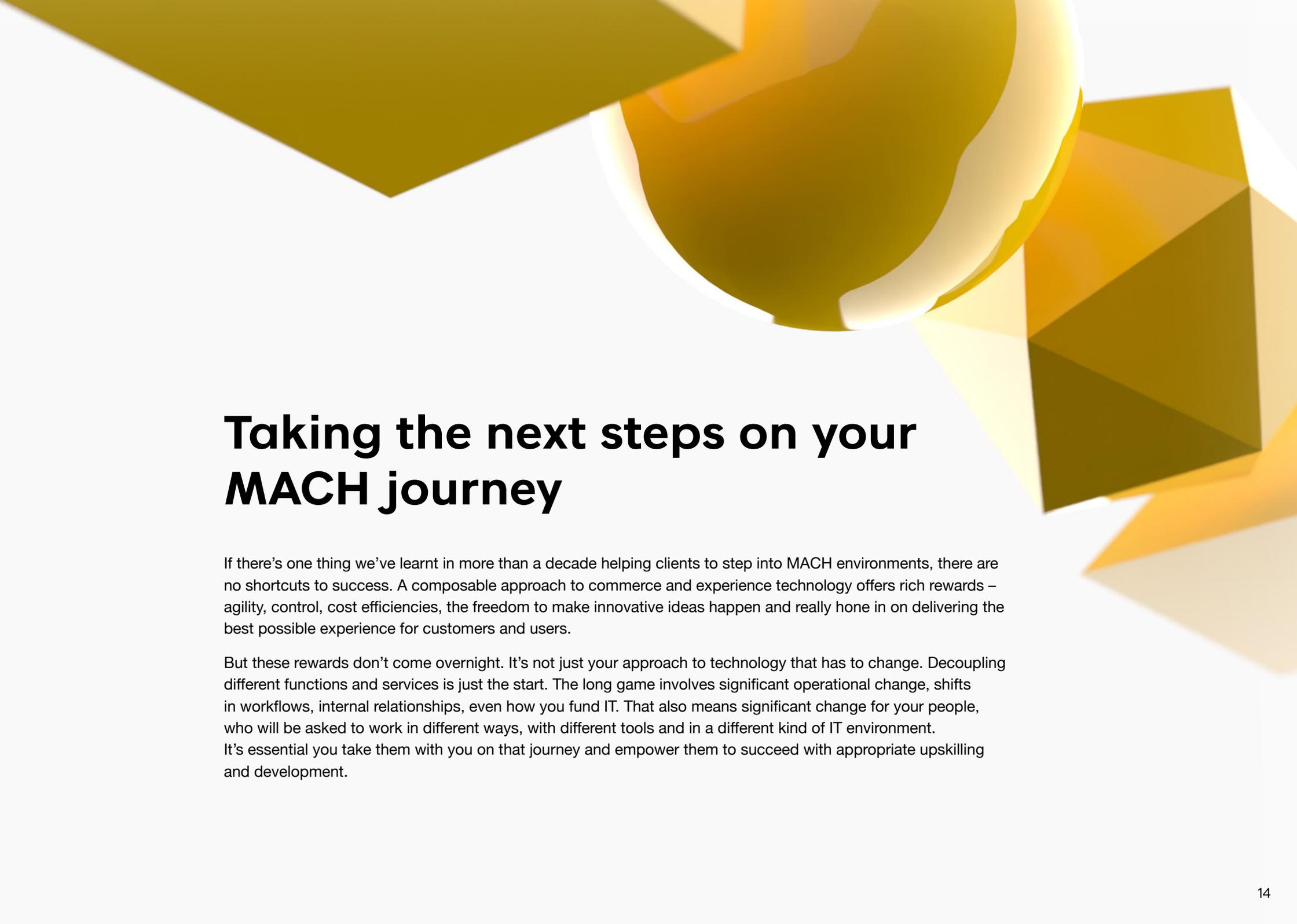
Taking the next steps on your MACH journey

If there's one thing we've learnt in more than a decade helping clients to step into MACH environments, there are no shortcuts to success. A composable approach to commerce and experience technology offers rich rewards – agility, control, cost efficiencies, the freedom to make innovative ideas happen and really hone in on delivering the best possible experience for customers and users.

But these rewards don't come overnight. It's not just your approach to technology that has to change. Decoupling different functions and services is just the start. The long game involves significant operational change, shifts in workflows, internal relationships, even how you fund IT. That also means significant change for your people, who will be asked to work in different ways, with different tools and in a different kind of IT environment. It's essential you take them with you on that journey and empower them to succeed with appropriate upskilling and development.

How VML can help

For all these reasons, if you want to make a success of your MACH journey, we strongly recommend finding a partner who can help you on the way. We have the experience, the track record and the end-to-end capabilities to guide you from your very first commerce feature break out, right the way through to operating in a continuous state of innovation in a fully bespoke, composable ecosystem. We've done it plenty of times before.

More than anything else, we take a pragmatic approach to MACH. Delivering value against your business goals comes first, no matter how that is achieved. We don't advocate change for change's sake – to us, it's the end, not the technology, that matters most. When you combine that with a rigorous approach to engineering, expertise in service-led architectures, and a sharp focus on scalability, reliability, security and observability, you get a recipe for driving success in the long term, not just ticking off quick wins.

Ready to find out if you're MACH-ready? We're offering a free, no-strings-attached consultation to review where you are on your composable journey and to highlight the next steps to take.

➡ Get in touch **here** to find out more.

About VML

VML is a leading creative company that combines brand experience, customer experience, and commerce, to create connected brands that drive growth.

Underpinning all of this is VML Enterprise Solutions, bringing together our consulting, technology, data and innovation capabilities. Over 9,000 employees across VML's key offices and local markets contribute to the Enterprise Solutions offering to deliver on the increasing market demand for applications of AI, technology-driven transformation and operational efficiencies, brought to life via robust technology solutions.

The agency is celebrated for its innovative and award-winning work with blue chip client partners including AstraZeneca, ColgatePalmolive, Ford, Microsoft, Nestlé, The Coca-Cola Company, and Wendy's. VML is recognized as a Leader by Forrester Wave™ reports for Commerce Services, Marketing Creative and Content Services, and is a Strong Performer in the Forrester Wave™: CX Strategy Consulting Services.

VML's global network is powered by 26,000 talented people across 60-plus markets, with principal offices in Kansas City, New York, Detroit, London, São Paulo, Shanghai, Singapore, and Sydney. VML is a WPP agency (NYSE: WPP). For more information, please visit **www.vml.com**, and follow us on **Instagram**, **LinkedIn**, and **X. #WeAreVML**

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