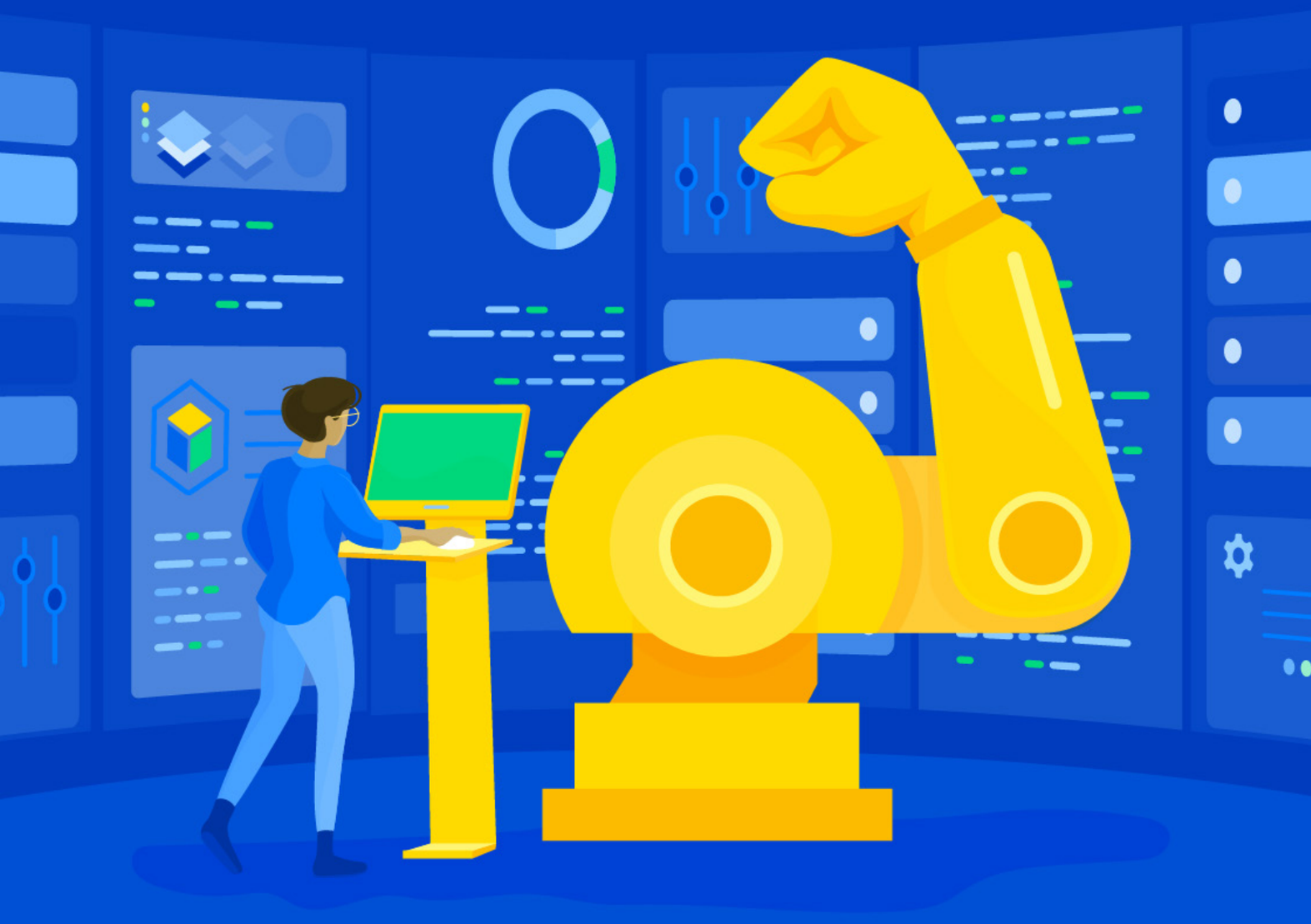
contentful

The rise of the digital factory

Why enterprise teams are transforming to deliver digital products



The market has shifted gears

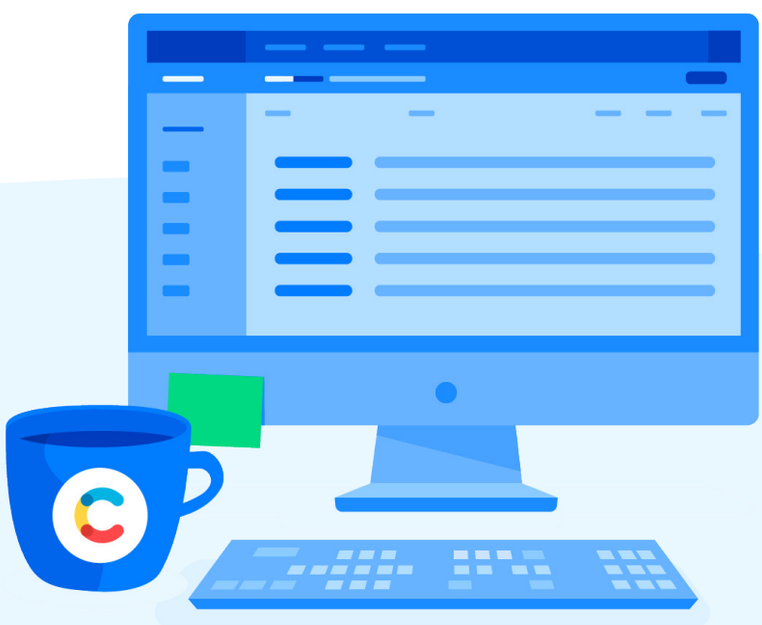
There is a seismic shift happening in how enterprises create websites and other digital products. To create a competitive advantage, they need to move from project-focused iteration to innovation and continuous deployment.

This white paper covers how companies are adapting to this shift by creating digital factories. You'll learn about:

1. The digital factory model
2. How companies are building digital factories
3. Key lessons from the digital factory transformation

Customers expect to have a contextual experience throughout their relationship lifecycle with a company or brand. To achieve those experiences in an omnichannel world, organizations are creating more software than ever before, and are becoming digital product companies in the process.

The digital product umbrella includes much more than just pieces of software – spanning everything from websites to apps to wearables to digital signage to customer touchpoints that haven't been invented yet.



As customers expect these kinds of interactions, companies must enable their enterprise to achieve it. Telus, Scotiabank, Lloyds Banking Group and many other enterprises are recognizing that they generate the greatest amount of competitive advantage when they unite their formerly siloed tech, IT, developer, business and marketing departments into fast- moving, cross-disciplinary digital teams.

Digital products are now core components of businesses, brands, markets and customer value. Companies are moving to provide employees and teams with the modern tools to create these engaging experiences for their customers. Now, even marketing teams need developers.

The digital factory concept is about cross- functional collaboration and reusable architectures. This shift to prioritizing software and a digital-first strategy means companies need to reevaluate how their teams, processes and technologies interact.

Companies are standardizing the common architecture in which these experiences are built so they can spin up a new experience for whatever channel, persona or surface comes next.

How we build software has changed. Now, companies are building on top of specialized cloud services instead of reinventing each component.

The future of how websites and apps are built is all about stacks, not one-size-fits-all solutions. Companies can pick and choose the best service for each need, rather than buying a monolith that solves 80% of key needs, but requires some painful adjustment or customization for the other 20%. Sometimes, a customization option doesn't exist.

Cloud-based services can be chosen based on how well they accomplish a specific task, whereas monolithic software forces teams into committed, long-term technical decisions. Assembling modern digital experience stacks means choosing more flexible tools that perfect core competencies. That way, rather than playing catch-up with technology and trying to add feature upon feature into an already bloated offering, teams can pick and assemble the exact tools they need for every job.

Thanks to the cloud, it's easier to decouple services and deploy software continuously with a custom digital experience platform. Since companies are fundamentally changing the way they approach building and shipping software, it stands to reason that they should run their organizations differently too.

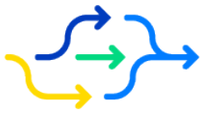
...the end of SaaS as we've known it could be coming if modern tools make it easier for companies to build software themselves.

Ron Miller
TechCrunch

The digital factory solution

The concept of a digital factory arises from the demand for shipping new digital products faster. Companies that fail to do so risk being disrupted and losing market share, or even the entire business. Agile digital teams enable organizations to react to threats and be the first to pursue new opportunities.

FLEXIBLE DATA



MODEL INTEGRATION-FIRST

Context-agnostic and API-first

CLOUD-FIRST ARCHITECTURE

SCALABLE

Supporting the largest mission-critical projects

FAST ITERATIONS

BUSINESS AGILITY

Gradual adoption and flexible process

Contentful's content platform supports content across any channel.

All companies are now, by necessity, digital companies. For example, even Nike doesn't see itself as just a shoe company. "Nike's chairman and CEO, Mark Parker, and its CFO, Andy Campion, together said the words 'digital' or 'digitally' 69 times during a conference call announcing the company's most recent quarterly results." This was a 39 percent increase over the mentions of digital in the previous quarter's call.

By inventing new ways to blend digital and retail, Nike is undergoing a dynamic shift within its organization to deliver more digital products. Many forward-thinking companies are following suit. In a discussion between Telus Digital's Shawn Mandel and DisruptTV host Ray Wang, they agreed that the primary goal is ultimately to get new digital products and digital experiences from POC to P&L as fast as possible.

Cloud-based software stacks are part of that speed to market solution. When digital teams can outsource a large part of their needs to an ecosystem of purpose-built services, they can spend more time focusing on their company's core business value. That way, teams can move faster and have greater impact.

However, DXPs are only part of the larger digital transition. The holistic solution to the need for rapid and constant recalibration? Build a digital factory that connects developers, designers, content creators and other strategic digital contributors. Agility comes from breaking down silos.

[The digital factory] approach enables large organizations to incubate a new digital culture and operating model while allowing the broader business to touch and feel the change and see the power of a new way of working.

"Scaling a transformative culture through a digital factory,"
McKinsey and Company

What makes a digital factory?

In the old way of doing things, it would take a long time to make a monolith solution work to specifically tackle the creation of each new digital product. The digital factory model, on the other hand, promotes flexibility and mobility above all, and helps companies stay competitive. Thanks to solution stacks, teams can choose the right tools for each job.

According to Will Hancock, senior technical delivery manager at AKQA, building a stack with best-in-class services enables businesses to move quickly, experiment and build new products: "One of the biggest factors in ensuring success for our clients is the velocity at which we can iterate, pivot or even change direction entirely."

The digital factory provides a useful framework by which digital teams can effectively combine their skills with the new digital stack. Multiple teams and business units can each use only what they need for their particular products. Continuous deployment is possible thanks to modular, services-oriented architecture – breaking everything into small pieces means you can move a lot faster and not break things.

Adopt the builder ethos

The rise of service-based architecture means that iterative development is the norm, enabling teams to confidently ship constant updates and improvements. This requires a paradigm shift on how organizations view innovation and how teams work together to deliver that innovation at scale.

The builder ethos is an operating philosophy that puts innovation in the hands of the people who work with your product daily – your builders. Yes, builders are your developers, but also your content creators, marketers, editors, designers and strategists. To support a digital factory that delivers on rapid product diversification, both technical and non-technical creators need an environment where they can work in parallel.

The builder ethos encourages teams to take risks, fail fast and pivot as necessary to position companies as leaders in emerging markets and new channels. This spirit of innovation helps attract and retain engineering and creative talent, but also supports organizational alignment on a cultural level. A safe and supportive space empowers employees to ask questions, connect unexpected dots, and build fearlessly.

Brought to life in the form of flexible tools, the license to build and cross-functional collaboration, the builder ethos creates an innovation flow where cost per delivery is low in terms of both money and time and ensures companies are not locked into aging systems that are no longer competitive.

How do you build a digital factory?

Every factory needs power. But what powers a digital factory?

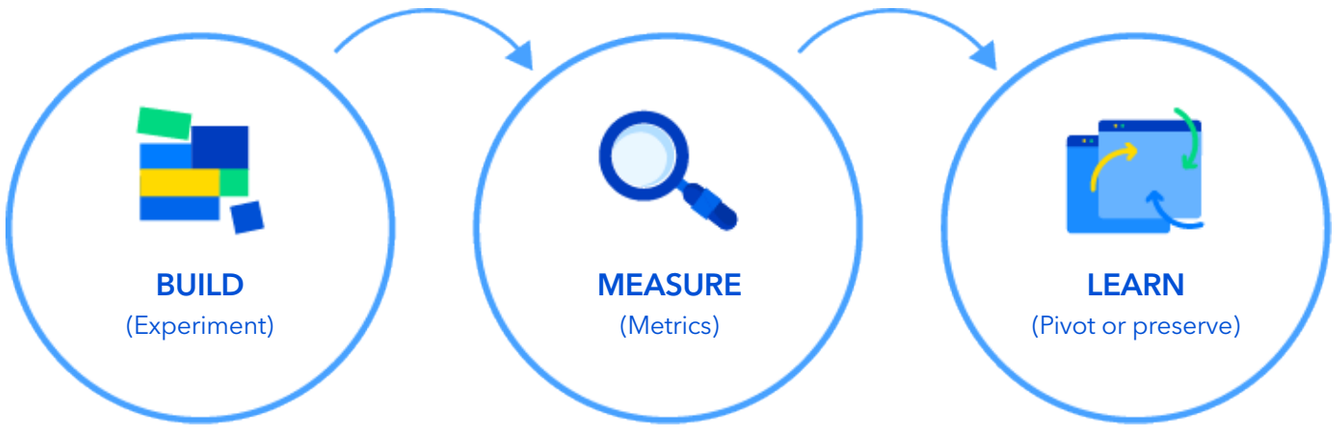
Content.

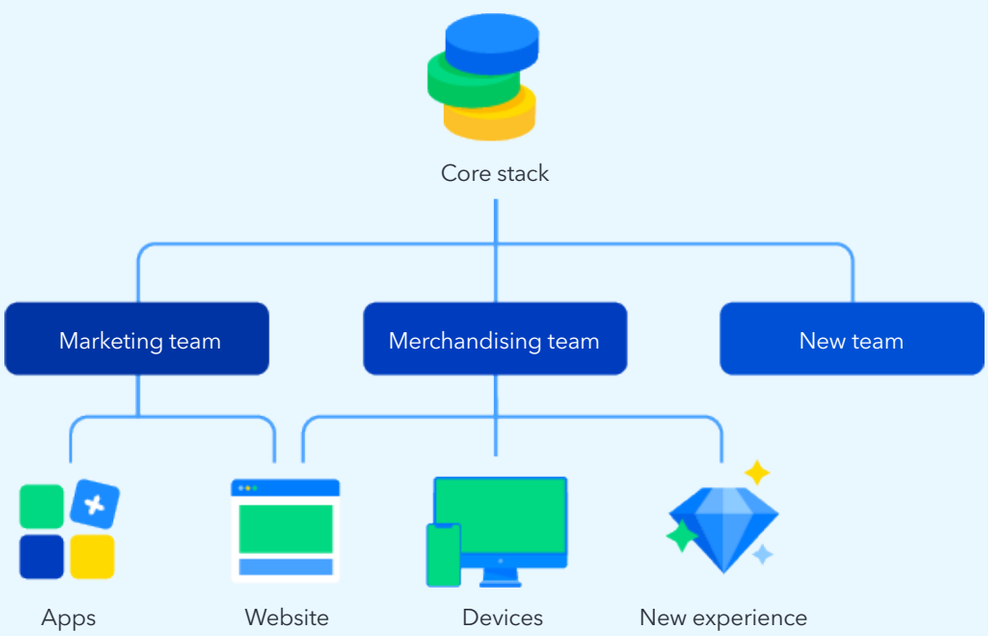
All digital experiences have content at the core. Unfortunately, when companies began to shift away from monoliths and toward a more curated stack of assorted services, content got left behind.

Traditional CMSes don't fit the new digital factory model because they require an extra layer of development to enable content creators and designers to modify content, killing the benefits of agile, in-parallel development. With a traditional CMS, teams are forced to shove their content into inflexible frameworks. Content is painful to both migrate and reuse; it becomes trapped behind the high walls of a monolithic system that comingles content and code, making both almost impossible to use in other contexts.

Under the hood, a delivery platform provides agility

Launch digital products and experiment in new channels with a reusable, modular stack.





Reference architecture
A blueprint for launching new products or digital touchpoints with a modular tech stack

Teams / business units
Digital teams select the modules of the stack they need for each new digital product they launch

Digital products
Engage customers, test new technologies or channels, and incorporate successes back into core stack for use across teams

A modern stack powers agility. Reusable architecture enables teams to quickly release new products and experiment in new channels.

Digital teams need a way to free themselves and their content. The solution? A content platform that decouples the content from the presentation layer, and lets both developer and content teams work in parallel.

Contentful is purpose-built for solving the pain points of traditional CMS, and it integrates seamlessly into an existing agile DXP.

Make a content platform the beating heart of your digital factory

While it may be tempting to use the label, a content platform is not a CMS.

A platform, rather than a CMS, reframes how digital teams store, structure and deploy their content, with access points for each person in the digital factory.

For example, with Contentful, developers access the content layer through code using the language of their choice, while content teams have access through an editor app that allows them to easily add or edit content. This allows teams to work in parallel, rather than being dependent on each other's workflows.

This is about rethinking the building blocks of your digital products, including both content and code. Structured content is at the core of the digital factory. An API-first content platform turns content into components that can be reused across products, teams and channels.

Why does that matter? Your content isn't tied up in data models defined by a CMS creator or specific programming languages. Everything can be powered from a single, agnostic content hub. While CMSes can hinder processes, a content platform runs in the background and speeds up a digital factory's production by giving each member of the team power over their content or code.

1. TRADITIONAL CMS

- ✓ Developer sadness
- ✓ Dominates ecosystem
- ✓ Restrictive reuse/adaption
- ✗ Non-technical authorship
- ✗ Reasonable speed to market

2. CONTENT IN CODE

- ✓ Limited developer happiness
- ✗ Fractured across ecosystem
- ✗ Restrictive reuse/adaption
- ✗ Technical authorship
- ✗ Poor speed to market

3. CONTENT PLATFORM

- ✓ Developer happiness
- ✓ Compliments ecosystem
- ✓ Flexible reuse/adaption
- ✓ Non-technical authorship
- ✓ Fast speed to market

The digital factory transformation: key lessons

Just as building a physical factory doesn't happen overnight, building a digital factory takes time and planning. Here are a few lessons to keep in mind:

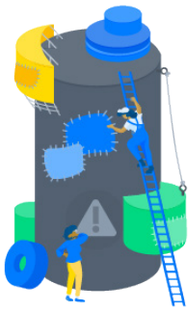
Plan to lay the groundwork. It takes investment in organizational change as well as the modern software stack to reach agile speed, and acceleration isn't linear. Involve stakeholders who will be part of the digital factory in its planning.

Think differently about software delivery. No more big bets or releases – everything is focused on incremental and iterative change. This will require new expectations from managers and a different approach to planning, with shorter cycles and benchmarks to enable midcourse corrections.

Extend the builder ethos. The builder ethos should be applied to your tech stack too, encouraging the testing of a variety of integrations. This frees companies from the burden of procuring or building the "perfect platform," and gives them the flexibility to focus on getting started. This change in perspective might require you to educate colleagues in finance or procurement about how a big contract with a software monolith can be riskier than smaller contracts with a variety of best-in-class services.

The future of innovation is democratizing development. It's not having more developers code, it's getting non-technical people [closer to the] code.

Michel Feaster
CEO and co-founder of Usermind



- On-premise / self-hosted
- Monoliths
- All-in-one solutions
- Rigid data model
- Sioled content
- Prescriptive tools
- Content management

FROM:CMS

- Cloud-native
- Mircoservices
- Best-of-breed stacks
- Flexible, structured content
- Portable, reusable content
- Choose your own tools
- Content operations

TO: CONTENT PLATFORM

Transforming from a locked-in legacy CMS to a flexible content platform offers myriad benefits.

Looking ahead

The digital factory should be at the heart of a digital-first strategy for modern companies that seek to continuously deliver and iterate on digital products like websites, apps and other experiences. This is driven by the adoption of bespoke services as part of the modern DXP, but its effects will be far-reaching in driving organizational and cultural change as companies shift to a more agile delivery model.

The adoption of a content platform as a key enabler of the digital factory will help people create, code and deploy content more rapidly and with greater relevance to the audience. The future holds fresher, bolder and more interesting digital products when experimentation is enabled and encouraged.

The final takeaway: There is no single recipe to follow. Your digital factory must be shaped by your situation.

Building an optimized digital factory is an adaptive challenge. The factory can look beautiful and run well, but it will never be fully finished. Ultimately, the key is to stay dissatisfied with the status quo, and use that dissatisfaction to avoid stagnation and drive experimentation and innovation.

Want more background on how forward-thinking enterprise technology companies are using omnichannel experiences to engage and convert customers? Check out our ebook here.

Schedule a product walkthrough with a Contentful expert

Reach out today