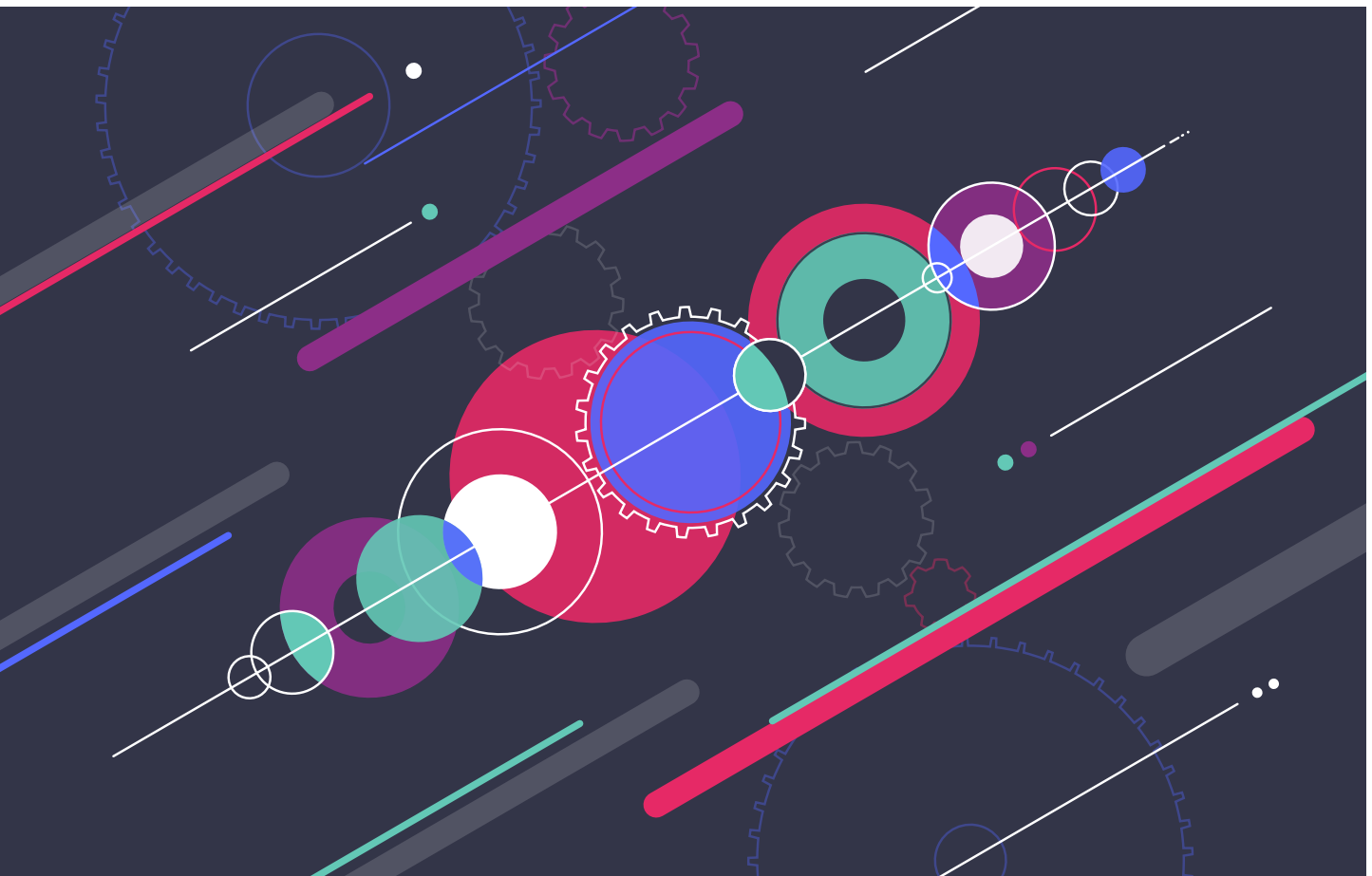




Retail

The New Headless Commerce Playbook

Today's headless commerce is not one-size-fits-all. Discover the approach that sends retail business loyalty and profitability soaring.





The way we shop has changed forever. According to [eMarketer](#), global retail eCommerce is on track to reach \$4.9 trillion this year. **Nearly 44%** of the Digital Commerce 360 Top 500 online retailers with stores now offer curbside pickup. And the mobile phone has become the beating heart of the shopping experience. Consumers use it to research and buy products, alert stores when they are arriving for curbside pickup, and get directions in stores.

Smartphones, social media, and eCommerce marketplaces have changed how customers shop online, leaving retailers scrambling to meet customer expectations.

Add to that the Amazon effect. Millions of people are used to seeing 40 or more personalized product recommendations on their Amazon home page. They keep coming back to shop on Amazon—and they also reward retailers that offer a similar level of personalization. **More than half (60%) of consumers** say they will likely become repeat buyers after a personalized shopping experience with a retailer.

Smartphones, social media, and eCommerce marketplaces have dramatically changed how customers shop online. This shift has left even the largest retailers scrambling to meet customer

expectations. Many retailers built their eCommerce foundation on legacy “everything-in-one” eCommerce platforms connected to antiquated systems that were designed to support in-store and distribution channels. These legacy technologies are often inflexible and require costly customizations for even the smallest changes. That leaves brands no choice but to pile on complexity and point solutions to deliver must-haves like product recommendations, social shopping, and loyalty programs.

The rapidly evolving technology landscape and escalating customer demands require a more flexible framework—one that gives retailers the flexibility to create truly unique branded shopping experiences and meet shoppers’ wants and needs in every channel. In response, a growing number of retailers are adopting a new framework—a modern, headless approach—and rebuilding their commerce strategy.

This Playbook makes the business and technical case for modern headless commerce and offers several paths for retailers looking to transition from a traditional “monolithic” commerce platform to a more flexible headless model.

The evolving technology landscape requires a framework that gives retailers the flexibility to meet shoppers’ needs in every channel.

The Commerce Shift to New Headless

To enable consumers to interact with retail brands across multiple channels, developers introduced the concept of “headless commerce,” a [term coined by commercetools founder Dirk Hoerig](#) in 2012. Headless decouples the front and back ends, eliminating the need to redesign the eCommerce experience for each channel. Instead, developers build or buy new front ends and use APIs to connect them to the monolithic back end, where transaction processing and other commerce logic reside.

For example, you could code different front ends for various digital experiences, including mobile devices, in-store kiosks, and mobile point-of-sale (POS) applications. Although this approach offers more flexibility than monolithic platforms, however, it can require a lot of custom development work and still may not encompass the best possible capabilities across all domains.

The modern version of headless commerce—often referred to by the acronym MACH, which stands for Microservices, API-First, Cloud Native, and Headless—takes a best-of-breed approach to the commerce tech stack. Rather than extending their full-featured legacy eCommerce platforms,

brands can adopt newer, more flexible technologies that are best for their business while building unified experiences with a shared experience management platform.

A MACH solution lets retailers add new capabilities to their environment with less work and quickly swap them in and out as requirements change. MACH does require resources to connect business services to commerce logic, but retailers can then adopt and adjust new functionality without having to conceptualize and write all-new code.

A HEADLESS GLOSSARY

MACH: An acronym for lightweight-modern technologies—Microservices, API-First, Cloud Native, and Headless.

Microservices: Independently deployed capabilities loosely connected via APIs.

API-First: Software that lets two applications communicate, grant access, and transfer data.

Cloud Native: Software-as-a-service that enables scalable, secure capabilities.

Headless: A front-end customer interface uncoupled from the back-end database.



Modern Headless Commerce and the Benefit to Retailers

A modern headless approach to commerce can help retailers create a unique multi-channel shopping experience and evolve it as their brand and customer requirements change. It also gives your development team more freedom, both to combine existing best-of-breed solutions and to develop custom solutions in whichever programming language they prefer.

Design a unique experience

With a single monolithic platform, you generally have to use its standard interface or undertake a complex development project. With modern headless, you can create a custom interface for your online store and other channels while continuing to use the commerce logic from your monolithic platform or a set of [modular back-end tools](#).

Scale quickly

Traditional commerce platforms, especially those that run on premises, can be difficult to scale when traffic and transaction volumes increase. A modern headless model, however, lets you create high-performance commerce solutions that run on hybrid and multi-cloud infrastructures. This means you can start improving your web store's performance even if you're still in the process of moving to the cloud.

PITCHING HEADLESS

When pitching modern headless to each of your principal audiences, tout the following key benefits.

Business users: Save time by giving teams the power to build experiences and create content only once, then publish it across all of your digital channels.

IT: Develop front-end code in the language you prefer, save implementation time with Packaged Business Capabilities (PBCs) that solve a particular business problem, and integrate commerce services easily with standardized data for fields like measurements.

Executives: Immediately boost site speed and conversion, iterate development to support continual improvement rather than taking a costly big-bang approach, and create a foundation built for scale to cut time needed to implement additional brands, geographies, or experiences.

HEADLESS AT WORK

66%

DECREASE
in production time

60%

INCREASE
in mobile share of
online traffic



An iconic UK department store created a powerful new online experience to engage customers and cut time to produce stunning content by 66%, while boosting mobile share of online traffic to 60%.

Bring commerce to new channels

While online shopping gets all the headlines, there's more to digital commerce than just your website and mobile app. Social platforms, public kiosks, wearable devices, and augmented reality are just some of the channels that retailers are using to reach their customers and add new revenue streams. Traditional commerce platforms are not built to work with these touchpoints.

With a modern approach to headless, your IT team can quickly create a bespoke commerce experience for each channel and respond immediately as buyer behaviors change. Plus, you can ensure that key elements of the commerce experience—the shopping cart, payment methods, and checkout process—are consistent across all your touchpoints.

Add commerce to content-first websites

Many large websites are built on a content management system (CMS). Most traditional commerce platforms have their own native CMS. In many cases, however, if you add commerce to your CMS-powered website without migrating all your content, you risk creating a disjointed experience. Headless commerce lets you easily add commerce elements to existing websites run on your CMS with no migration required. So, for example, you can quickly turn a high-traffic consumer-facing blog into a revenue center.

Is Headless Right for You?

Despite its many benefits, headless commerce isn't for every company. Businesses that reap the advantages tend to be large and growth-focused, with commerce capabilities across multiple channels, a commitment to first-rate customer experience (CX), and a determination to reduce IT workload and cost. You're ahead if you have a sizable IT team or the resources to hire an experienced partner. See if your organization meets the following qualifications for successful headless commerce.

ABOUT FEDERATED SEARCH

Federated search lets customers search all available resources, online and off, with one tool. Results—which can be apps, webpages, contacts, and documents, with layout depending on content type—provide superior relevance, engagement, and CX.

Themes that benefit the switch to headless commerce

Digital channel needs

Your enterprise has multiple brands, multiple channels (from B2B to B2C to D2C to marketplace), multiple sites, multiple regions with different currencies and content, and multiple entities.

Business model

Your roadmap has a heavy focus on themes like omni-channel strategy, personalization at scale, and/or support for cutting-edge technologies like IOT devices, digital stores, or augmented reality. You want to support features like unified inventory, loyalty, or order management across store, web, social, customer service, and marketplace.

Technical maturity

You have a technical advocate for headless commerce, like a solution architect or chief technology officer (CTO), and you plan to hire a team of front-end developers (or already have them), or you plan to leverage a headless development partner or systems integrator.

Best-of-breed application needs

Your digital team has started researching or already implementing newer technologies to solve specific business needs. For example, you have introduced a federated search platform, a headless loyalty platform, or a headless A/B testing platform. Your CTO may have issued a directive to “get rid of everything but the ERP system and implement all API-first applications.”

Re-Platforming versus Migrating to Headless

In our experience, some retailers that are highly qualified to succeed with headless are concerned about making the move. This hesitation stems from their previous investment in a traditional monolithic commerce platform. They're concerned that any transition from traditional to headless commerce would constitute "re-platforming."

You can use headless technologies to migrate your functionality in discrete phases.

Re-platforming refers to the long and costly effort required to switch from one monolithic commerce platform to another. For a large organization, this process can take months or even years, disrupting core business activities. Business and IT leaders have come to shudder at the word.

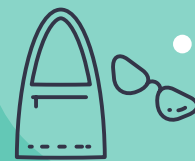
The good news is that migrating to headless commerce is not re-platforming. Instead, you can use headless technologies to migrate small pieces of your functionality from your traditional commerce platform in discrete phases.

HEADLESS AT WORK



1+
million

IMAGES migrated
in **2 months**



Lightning-fast time to market

A mobile-first Scandinavian fashion business migrated 1+ million images to the cloud in just 2 months to give business teams the ability to quickly search, filter, and gain instant access to any asset. Web performance increased too, by delivering the highest-quality image format based on the device.

5 Steps to Headless Migration

Migration to headless commerce should be a partnership between business and IT teams. You should start with a plan identifying which features and data to transition to the headless platform and when. We recommend starting with key areas like mobile and web content pages, where you can show value quickly. Then you can migrate more complex features like payments or shipping.

At a high level, a plan to take you from monolithic to modern headless should include these steps:



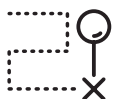
1 Define a purpose and get business buy-in

This may seem simple, but defining a purpose and aligning teams will ensure a path to success. You need to know what business or experience problems you're trying to solve and what internal and external features are critical for the business and technical teams.



2 Conduct a discovery and gap analysis

This step is most similar to traditional re-platforming. Take stock of existing platforms and tools and what the current platform supports. Then, determine the features you'll need to create a unified customer journey.



3 Build the migration roadmap

Focus on migrating technologies that combine the least risk with the highest impact on customer experience. Or start with an isolated project and expand to other business areas or channels.

Migration to headless commerce should be a partnership between business and IT teams.

HEADLESS AT WORK

60%

INCREASE
in conversions

66%

INCREASE
in customer
engagement

90%

DECREASE
in production time



By speeding updates and upgrading performance and CX, an international furniture retailer with a thriving online store increased conversion by 60% and customer engagement by 66% while cutting production time by 90%.



4 Define a data standard

Whether you're creating a homepage design or an order record, build a standard for modeling and consuming data with help from your IT and design teams. Keep both the experience and internal business processes in mind. For example, you may have a product that includes measurements like height and width. In your legacy system these may have been text fields. But now you might want to break them into multiple fields like height value (number), width unit of measure (enum), width value (number), and width unit of measure (enum). Then, the information can support multiple countries or be indexed within a search database.

When building a data standard, keep both the experience and internal business processes in mind.



5 Import, test, and update

Determine which data pieces, content, or elements can be automatically migrated and which need to be entered manually. Then test the customer experience and the internal business process to ensure your new features meet both sets of requirements. Continue to update, if needed.

Headless Implementation Strategies

Depending on your business needs, your specific migration to modern headless commerce will vary. Below we take a closer look at three ways for retailers to start: 1) modular content, 2) commerce platform, and 3) specific project or initiative. All of these approaches allow for a phased transition to headless without the risk and uncertainty associated with re-platforming.



1 Start with modular content and experience management

With a modular approach to content and experience management, you can publish content across many channels and platforms, scale up and syndicate brand content easily, and launch new features quickly. By starting your transition to headless with content and experience management functions, you can achieve rapid, measurable results that can help you get buy-in for more extensive changes.

For example, you could start by restructuring a few popular web pages to include content modules that can be instantly refreshed without code. You could then estimate the time and costs you'd save by automating content updates and the sales you'd gain from frequently updating product information.

⊕ **Advantages:** Faster time to market for new features or content changes, immediate lift in site speed and performance, ability to scale or create new headless channels faster, additive content for more content creation with fewer people

⚠ **Disadvantages:** In-house technical expertise needed, brand responsible for new front-end technologies, no best practices allow too much flexibility, slow for a full transformation

★ **Best applications:**

- Content-oriented organizations with multiple brands, channels, and geographies
- Highly promotional brands with numerous fast-changing SKUs or frequently changing promotions
- Branded web stores with heavy reliance on frequently changing content and imagery



Approach for crawl, walk, and run

- | | |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prep | <ul style="list-style-type: none">• Frame out design concepts and identify reusable design components.• Break down existing site content into elements, such as image, header, sub-header, call to action text, and call to action link.• Standardize and build into reusable objects or modules.• Add validation for governance (e.g., require all CTA links to start with/shop/*). |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Crawl	Build and develop content types and pages that are content only—no experience integrations.
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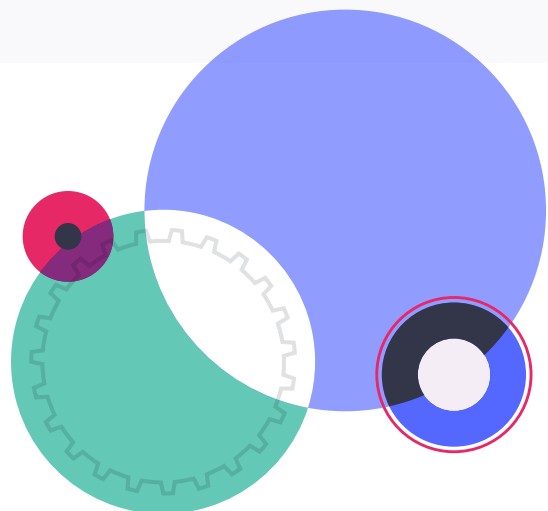
Examples: help and blog pages, how-to articles

Walk	Expand on existing content types, build complex content types, and begin to integrate moderate experience integrations, such as catalog, search, and localization.
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Examples: content sliders, category landing pages, product recommendations, and featured product pages

Run	Introduce complex experience integrations with catalog and search, such as promotions, pricing, customer segmentation, A/B testing, and inventory functions.
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Examples: product listing and product detail pages, targeted homepages, email segments





2 Start with commerce

In a commerce-first approach, you focus on incrementally adding select commerce capabilities to channels or improving particular aspects of your commerce experience, such as inventory or catalog management. Also, if you're already using a product information management (PIM) or CMS, a commerce-first approach allows you to seamlessly build commerce functions—such as a shopping cart or a checkout experience—on top of them.

⊕ **Advantages:** Use applications in existence, then differentiate with auxiliary commerce components.

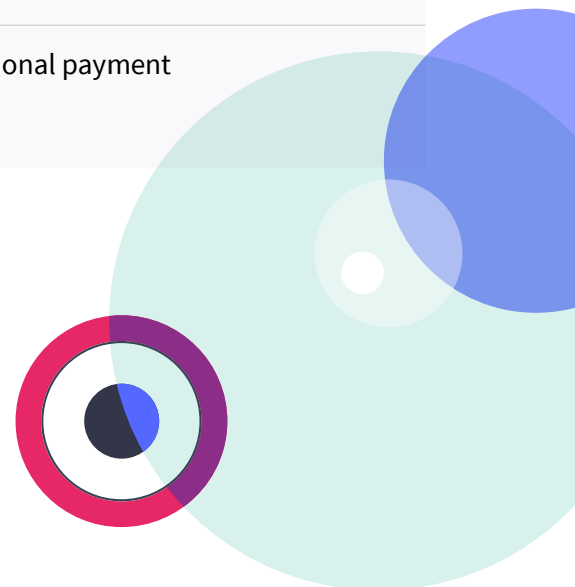
⚠ **Disadvantages:** Starting with commerce—the heart of the operation—can be daunting.

★ **Best applications:**

- Large and complex catalogs
- Migration from major eCommerce platforms
- Building out new sub-brands, markets, and territories
- Building out the back end for new touchpoints, front ends, and channels, such as kiosks and POS

Approach for crawl, walk, and run

Crawl	Examples: data model, Happy Path commerce experience, front end, and integration to payment service provider gateways
Walk	Examples: build out CMS, PIM, and additional features like discounts and promotions
Run	Examples: optimize discounts and promotions, offer additional payment methods, offer subscriptions if product allows





3 Start with a focused project

Many businesses have unique needs that may span multiple categories and involve a variety of experience- and commerce-related capabilities. Defining a specific project for your first MACH deployment can ensure you're working toward an easily measurable goal. This could be implementing a new blog, a native app, an in-store tablet, or a best-of-breed capability like federated search, loyalty, or recommendations.

In fact, because search and discovery are crucial to the eCommerce experience and can have a major impact on conversions, we often recommend that retailers add federated search as a first step in their transition to headless commerce. The rest of the section will focus on this use case.

⊕ **Advantages:** Back-end search and recommendation engine plus open-source user interface libraries let users build best-in-class CX with the speed and relevance of industry-leading search but without the massive development burden.

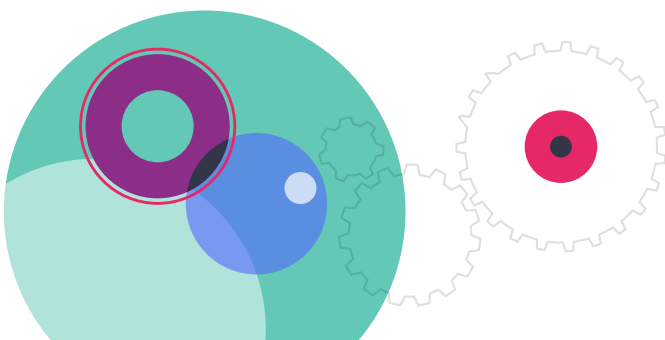
⚠ **Cautions:** High-quality search is not a substitute for well-defined product categories and thoughtful digital merchandising.

★ **Best applications:**

- Search scale so massive that it would overwhelm legacy search vendors
- Brands with frequent updates, large catalogs, and a desire for federated search

Approach for crawl, walk, and run

Crawl	Example: foundational search implementation that replaces the existing solution with a headless implementation
Walk	Example: smart search solution that uses analytic data to train AI and personalization features, including AI synonym suggestions, AI dynamic reranking, personalization, and AI recommendations
Run	Example: omni-channel solution that powers web, mobile, voice, and other advanced use cases



The Return on Headless Investment

eCommerce transformation calls for a flexible, connected, cloud-based digital platform that frees you from legacy limitations.

In the short term, modern headless commerce lets you choose the best-of-breed tools and solutions you want, from AI-powered search to third-party integrations. Your business can implement the user experience and design principles that embody your brand. You can confidently make changes and push releases live in hours instead of days, letting you react to market changes in the moment. Even small steps can lead to big changes.

Over time, you can scale and extend solutions as needed—without worrying about inflated response times. Customers get sub-second load times, improved SEO, and a happier experience overall. You'll be free to experiment without worrying about jeopardizing your entire ecosystem, so you can fail fast or succeed and continuously improve. With the right tools, business users can create, preview, schedule, and publish content without knowing a bit of code.

Customers get sub-second load times, improved SEO, and a better overall experience.

HEADLESS AT WORK



To replicate the brand spirit, personality, and community found in stores, an international activewear company incorporated imagery and videos online and tripled digital growth in 2020.

Headless commerce ultimately supports an unmatched customer journey because the customer data and experiences stem from a centralized set of tools. With the right data, you can tailor engagement no matter how customers interact with your brand, giving them the chance to easily convert on every channel. You also have options to add functionality that delivers relevant and personalized everything—content, products, and search results—to drive growth and your bottom line.

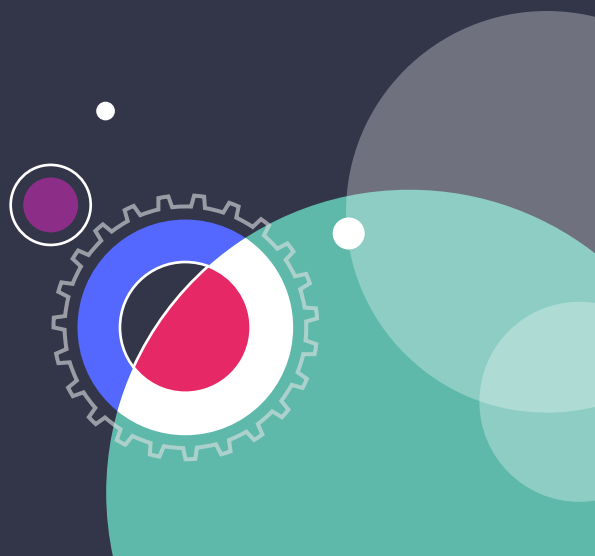
With modern headless commerce, you'll be able to quickly create compelling digital experiences that unite the physical and digital worlds and excite customers every time they connect with your brand, increasing loyalty and profitability at every touch.

To learn more about headless commerce, get in touch with our team of experts.

Algolia: hey@algolia.com

Amplience: contact@amplience.com

commercetools: [Use our contact form](#)



Algolia

Algolia provides an API platform for dynamic experiences that enable organizations to predict intent and deliver results. Algolia achieves this with an API-first approach that allows developers and business teams to surface relevant content when wanted—satisfying the demand for instant gratification—and building and optimizing online experiences that enhance online engagement, increase conversion rates, and enrich lifetime value to generate profitable growth. More than 10,000 companies including Under Armour, Lacoste, Birchbox, Stripe, Slack, Medium, and Zendesk rely on Algolia to manage over 1.5 trillion search queries a year. Algolia is headquartered in San Francisco with offices in New York, Atlanta, Paris, London, and Bucharest. To learn more, visit www.algolia.com.

Amplience

Amplience powers digital-first brands and retailers with the freedom to do more. Our low-code CMS, DAM and Digital Experience Management platform allows more than 350 of the world's leading brand teams to manage content, not code. The result is a rapid ROI for our clients who are delivering data and insight-driven customer experiences that drive deeper, more valuable customer relationships. Amplience supports the industry's transition to Microservice, API-first, Cloud, and Headless (MACH) technologies, is MACH certified, and is an executive member of the MACH Alliance.

Named a Strong Performer, Amplience was recognized by Forrester in The Forrester Wave™: Agile Content Management Systems (CMSes), Q1 2021 report with the highest possible scores attained in the criteria of decoupled delivery, deployment and system performance, components, and marketplaces.

Powering customer experiences for the world's most innovative brands, Amplience's customers include Ulta Beauty, Coach, GAP, Crate & Barrel, Harry Rosen, and Missguided. To learn more, visit www.amplience.com.

commercetools

commercetools is the world's leading platform for next-generation B2C and B2B commerce. To break the market out of being restrained by legacy suites, commercetools invented a headless, API-first, multi-tenant SaaS commerce platform that is cloud native and uses flexible microservices. Using modern development building blocks in a true cloud platform provided by commercetools, customers can deliver the best commerce experiences across every touchpoint on a large scale.

commercetools has offices across the US, Europe, and Asia Pacific, with headquarters in Germany. Since 2010, commercetools software has been implemented by Fortune 500 companies across industries, from retail to manufacturing and from telecommunications to fashion.

More information at commercetools.com.

