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# Transforming Business Operations with Next-Gen CMS Architecture.

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# Table of contents.

<b>1 Why do you need to modernize your content management system architecture?</b>	<b>4</b>
<b>2 Choosing the right CMS to future-proof your company's content and deliver real ROI.</b>	<b>8</b>
<b>3 Exploring the headless approach.</b>	<b>9</b>
<b>4 Translating to the API.</b>	<b>12</b>
<b>5 Headless CMS, security, and compliance.</b>	<b>13</b>
<b>6 Where is the data stored, and is it safe?</b>	<b>14</b>
<b>7 Content management and the future of digital transformation.</b>	<b>16</b>
<b>References and citations.</b>	<b>18</b>
<b>About Kontent.ai.</b>	<b>19</b>

Businesses today are facing a rapidly changing and uncertain landscape. Swift advancements in technology combined with the global economic and political climate are presenting exciting opportunities as well as obstacles. According to Forbes [1], “businesses will likely continue facing unique challenges and opportunities to evolve in 2023. Amidst inflation, geopolitical tensions and economic uncertainty, they can expect to tackle issues on multiple fronts, including the supply chain, increasing customer expectations and sustainability, to name a few.”

In order to tackle these challenges and seize the opportunities that come with them, organizations must be proactive and forward-thinking. This means staying informed about emerging trends and investing in technology and processes that support agility.

One of the key tools for businesses to achieve this is **a modern content management system (CMS)**, which enables organizations to manage their digital content, create personalized customer experiences, and streamline internal processes. Over the last three decades, CMS technology has evolved rapidly, and headless CMSs in particular are gaining popularity as a modern solution for managing and delivering content in a flexible and scalable manner.

**With the right tools and strategies in place, organizations can streamline their content creation process, saving time and resources for other important tasks.** One great example of the benefits of modern content management can be seen in [American Bath Group](#), a company that successfully “migrated 10 sites with over 50,000 products to a headless CMS in just 8 months.” [2] By leveraging the power of a headless platform, the company was able to manage its content more effectively, allowing its teams to focus on driving growth and delivering better experiences to customers. This demonstrates how investing in the right content management solution can pay big dividends for businesses, making it an essential consideration for any company looking to stay competitive in the years to come.

In this whitepaper, we will look at why you need to modernize your CMS architecture, how to future-proof your company’s content and deliver real ROI, what the common challenges of CMSs are and how to overcome them, cloud storage, GDPR compliance, and your role in the future of your company’s digital transformation.



# **1 Why do you need to modernize your content management system architecture?**

Having authentic, valuable content is a must if you want to satisfy your customer needs. Businesses need a clear content strategy, great tools that allow and encourage collaboration, and fast reaction times to respond to emerging trends in order to achieve visibility online.

With DevOps (Development and Operations) evolving and advancing at a fast rate, businesses everywhere are able to create pioneering solutions to offer their customers a brand new experience—with content playing a huge part in that—so your content management system architecture needs to be able to keep up.

When striving to adopt effective and efficient content management, organizations encounter a number of challenges. These include:

- **Missing a single source of truth:** A lack of a single source of truth can lead to a fragmented customer experience, as customers may receive conflicting information from different sources within the organization. In order to avoid these issues, large organizations need to establish a single source of truth for their content and ensure that all content creation and management processes align with it. This can help streamline content production, maintain consistency, and improve the overall customer experience.
- **Duplication of content:** When content is duplicated, it can create confusion among customers and negatively impact their experiences. This can also result in decreased search engine optimization (SEO) and decreased credibility for the business. Additionally, duplicate content can consume valuable resources, such as time and money, that could be better used to create new, unique content. For these reasons, it is important for businesses to identify and eliminate duplicate content and implement processes to prevent it from happening in the future. By avoiding duplication, businesses can ensure a consistent and positive experience for their customers and maintain their credibility and SEO.
- **Inability to provide localized content:** Localization refers to the process of adapting a product or service to meet the language, cultural and other specific requirements of a particular country or region. When a business is unable to provide localized content, it risks alienating its customers and missing out on potential sales. Failing to provide localized content can lead to misunderstandings, a loss of credibility, and damage to a company's reputation.
- **Overflow:** Especially for larger organizations, the sheer volume of content can become difficult to manage. With so many pieces in the mix, management can prove problematic and can result in the loss of content, which in turn has a detrimental effect on a company's ability to deliver the final product effectively.
- **Delays:** Where great numbers of employees across different teams are involved in the content creation process, disorder can occur. With lots of people producing large quantities of content, the workflows can become chaotic as confusion reigns over which version is the latest and who is responsible for that piece of work. These elements of uncertainty can cause potentially damaging delays in delivering content.
- **Versatility:** As businesses diversify their offerings and publish content across a wider range of platforms, a traditional CMS can make it difficult to circulate content across multiple channels without the need to go through an arduous and time-consuming process.



- **Maintenance:** Continued upkeep of a more traditional CMS can prove costly and onerous, which may impact a company's ability to deliver a strong ROI to its stakeholders.
- **GDPR:** Since coming into force in May 2018, the European Union's General Data Protection Regulation [3] has posed another challenge by reshaping the way organizations protect the privacy of their customers' personal information. That has raised issues with how data is stored or moved, and businesses need to comply or else risk severe financial penalties.
- **Integration:** Constant tech evolution makes integration more important than ever. The days of all-in-one solutions are coming to an end as more experienced developers and marketers prefer to use best-of-breed solutions that smoothly integrate with each other.

The questions you should be asking of your content management system are:

### **Can it easily manage a large volume of content?**

This is especially advantageous for larger enterprises whose operations can sometimes be complicated. Sizeable amounts of content can prove difficult to manage with a traditional CMS and can lead to duplications, errors, and other obstacles that prevent smooth workflows and will limit your ability to deliver strong ROI.

### **Does it enable you to reuse content effectively?**

Duplication can be a major issue for businesses, leading to inefficiencies and wasting valuable time and resources. The ability to reuse content, including PDFs and other materials used for print, can help streamline workflows—a CMS that enables you to create structured, modular content eliminates many of cumbersome processes.

### **Does it improve consistency and unity of content?**

Having all your content stored in a single, unified environment means it can be much more easily shared across multiple teams and ensures that everyone is always working on the latest version, which improves processes and, therefore, profitability.

### **Can it help you implement content governance?**

With the right CMS, you can define and enforce content standards, set up workflows for content creation and approval, and create and manage content policies. You can also track content changes and updates, and maintain a centralized repository of all content assets, making it easier to ensure consistency, accuracy, and compliance across all channels and touchpoints.

### **Can it deliver content across multiple channels?**

Do you have the capability to create content once and then use it across a whole host of platforms to satisfy your customers' varying needs? Platforms including websites, online stores, social media, and mobile apps? Your ideal CMS offers your business versatility without the painstaking process of repurposing content for various channels.

### **Can it deliver content across different regions?**

Can your teams in different locations access and manage their content from within one central hub? This can prove beneficial for large businesses, who might have a number of teams in different offices working on the same content.

All these factors can help contribute to greater efficiency in your company's processes and increase your ROI.

### **Does the CMS provide secure access to content and assets such as images, videos, etc.?**

Having the right CMS in place can ensure that your content and assets are secure and accessible only by authorized personnel. One of the key features to look for is the ability to integrate with your enterprise identity provider and use Single Sign-On, which can streamline the login process and reduce the risk of unauthorized access. Additionally, implementing multifactor authentication can provide an extra layer of protection against cyber threats, helping to ensure that your valuable content and assets remain safe and secure at all times.





## **2 Choosing the right CMS to future-proof your company's content and deliver real ROI.**

Once you're clear about the specific requirements of your content and the most effective ways for it to be managed, you can assess your CMS.





### 3 Exploring the headless approach.

A modern headless content management system provides businesses with a single, unified hub from which they can manage their content. While it might seem as though Headless CMS does less than a traditional CMS, what it actually does is simplify content management and give your business more flexibility. You don't need a separate solution for each channel—expensive from a development and maintenance point of view—and your business can have one content team and one software stack for all your platforms.

The features of headless CMSs are vast and designed to ensure your content management system architecture is geared towards delivering the best possible ROI. Content editors need

to get their content on all their channels as easily as possible. Headless platforms offer your content team numerous advantages when it comes to the following processes:

- **Content planning:** Collaborating with colleagues, reviewing content as a team and suggesting alterations are made easy. On top of that, content editors can define their own workflows and stay on top of the progress of a piece of content, while classifying their content, e.g., by type or region, and even repurpose any existing work.
- **Content creation:** The right CMS enables your editors to translate their work into a number of different languages, add various components such as images and videos, and preview any work before it gets published.
- **Content publishing:** Once it's ready to go live, content can be circulated from one central hub across a number of channels including mobile app, website, online store, or chatbot. No matter how your customers consume your content, it won't require your editors to make multiple changes to suit each individual platform.
- **Localization:** By delivering locally relevant content, businesses can build stronger relationships with their customers, increase brand awareness, and drive sales. Localization also helps businesses comply with local regulations and laws, ensuring that their content meets the standards and expectations of each country.
- **Restricting access to content:** By implementing access controls, businesses can ensure that their valuable assets are protected and only shared with those who are permitted to see them. Additionally, this level of control can also help maintain compliance with various regulations that may require secure handling of certain types of information.
- **Content customization:** Snippets can help your content editors tailor content by way of small editable chunks that can populate certain sections of a page. Businesses can use content dynamically, personalizing it via a custom set of rules rather than via project level for greater speed and flexibility. Furthermore, they can analyze the content's performance and experiment using A/B testing.
- **Insights:** Treating content as data, the headless CMS allows your team to measure how content performs across multiple platforms, e.g., website vs. app.

Developers are some of the primary drivers behind the implementation of headless CMSs. For your development team working within the technical structure, the headless approach allows them to be more productive and efficient using the tools they like.

It offers the following benefits:

- **Seamless CI and automation options:** The right headless CMS allows you to automate the migration of content, configurations, and application code to each of your environments as part of your existing CI/CD process. This ensures changes to your content structure are thoroughly tested and deployed safely and efficiently.
- **Easy content delivery:** Using a headless platform means separating the front end (content presentation) from the back end (content storage and delivery); simplifying the architecture with every piece doing its own thing. Fronted by a stable CDN, the architecture gives you a stress-free platform for your digital content so your developers can spend more time coding and less time managing an unwieldy CMS.
- **Cloud vs. servers:** A headless CMS moves the content from your servers to the cloud so you have a content hub hosted in the cloud for universal access. This means that you don't have to set up, maintain, and scale the infrastructure—the headless CMS vendor does this for you.
- **Integrations:** All headless solutions provide an API, so they are very easily integrated, whether via existing software stacks and services or choosing from a range of compatible integrations. With the right platform, you won't lose the value from your existing tools.
- **API-based workflows:** Control content programmatically both ways. Structured content provided by API is easier to distribute and be used by AI agents and chatbots. Both these prefer consuming structured content via API as opposed to screen scraping. MVC front-end frameworks, such as React, Vue, and AngularJS work well with content via APIs.
- **Short response time Service Level Agreements (SLAs):** Short response times and the ability to contact specialists help you get back up and running quickly.
- **Documentation and Software Development Kits (SDKs):** SDKs help developers get up to speed in no time no matter what their tech stack is. Depending on the chosen platform, developers may also benefit from other provided tools, such as model generators or rich text resolvers, which help them stay productive and avoid routine tasks.
- **Reusable knowledge & developer career path:** With a traditional CMS, a developer becomes an expert in that specific system as they work on customizing, maintaining, and extending it. But with a headless CMS and composable architecture, the data contracts and integrations are done using pure platform code. The developer only needs

to know the API details, and the touchpoints are often similar in other headless CMSs. This means the developer becomes an expert in their chosen language and platform, not just one system. If they choose to switch to a different headless platform, their skills and knowledge can still be used.

- **Customizable UX:** Forget design restrictions. Headless CMSs simply push content wherever it's needed so your designers can create first-class customer experiences on any platform. Each channel-specific stakeholder decides the visual representation of that content so that it works for them.

## 4 Translating to the API.

When you're choosing a new CMS, you also need to think about the API and whether it will meet the needs of your project. Will the new architecture work effectively with the API? Does the API follow the RESTful or GraphQL structure?

Will the SLA uptime be adequate?

The ever-evolving nature of the tech industry means implementing your new system is only the start of the process. Subsequently, you will need to make tweaks or alterations in line with your company's content strategy. This continual management of your CMS will avoid the need for a mass overhaul further down the line and simultaneously help future-proof your content.



## 5 Headless CMS, security, and compliance.

Security is one of the most critical areas enterprises need to assess when replatforming their CMS. Potential security flaws can have enormous consequences for the business functioning of the organization.

GDPR, PIPEDA, and other regulations are a huge part of any business system and the ways in which you protect the personal data of your customers stored within your CMS need to be carefully considered. Failure to do so could result in a fine of up to €20 million or 4% of the company's annual turnover [\[4\]](#), whichever is larger, having a massive effect on the future of a business.

## 6 Where is the data stored, and is it safe?

There is an increasing number of enterprises moving to cloud storage. “As of 2022, over 60 percent of all corporate data is stored in the cloud. This share continues to grow as companies increasingly shift their resources into cloud environments in the hope of improving security and reliability next to advancing business agility.” [\[5\]](#) It is critical that, when migrating to the cloud, businesses remain compliant with GDPR and other geo-specific regulations.

It is your responsibility, not that of your CMS, to ensure that your organization is GDPR compliant. However, your CMS can certainly help you by having more GDPR-ready capabilities, removing the need for developers to construct everything from scratch using custom code, which can be time consuming and increase the likelihood of potentially costly mistakes.

Some of the security and compliance capabilities you should think about building into your content management system architecture are:

- **Data flow mapping:** Organizations should map their data and information flows to assess their privacy risks and form part of their Article 30 documentation. This is also the first part of completing a data protection impact assessment (DPIA).
- **Choosing a location of data storage:** Most headless solutions offer multiple data storage locations. If you run mission-critical projects, having a dedicated infrastructure in place rather than running on a multitenant architecture is an important option to consider.
- **Personal data deletion API:** This allows your business to comply with the EU’s Right to be Forgotten requirement. This API will permanently delete any personal data that your customer requests be deleted. Once deleted, it cannot be restored. Data should be deleted within 20 days of the deletion request.
- **Consent:** To be GDPR compliant [\[6\]](#), your business must get permission from your customers before using their personal data. Does your CMS have the ability to track separate instances of consent?

- **Right to access personal data:** A subject access request (SAR) is the right of access of your customers to ask for records of their personal information that your business might hold.
- **Custom code option:** This covers any specific needs around security that your business has.
- **Portability:** This ensures data can be exported to other systems or organizations on request.
- **ISO and SOC 2 certificates:** If you want to have a bullet-proof assurance that your headless CMS of choice is safe and secure, it is always good to check if it has adopted the most common security standards, such as ISO 27001 or SOC 2.

Storing your business's data in a headless platform is often more secure than hosting the CMS yourself. If you choose a vendor whose CMS excels in all these security and compliance areas, the CMS will become a cornerstone of your organization's functioning security measures.



## 7 Content management and the future of digital transformation.

In the ever-evolving and fast-paced environment of the modern business world, speed, simplicity, and efficiency are becoming increasingly valuable, which is why it is especially important for companies to ensure their digital transformation strategy will serve them well into the future.

That demand for a simplified, API-driven approach pushes the modern headless approach right to the forefront of the conversation when it comes to future-proofing your content and, with that in mind, it's imperative that you select the right partner to help you build your business.



While creating a content model using a headless CMS is straightforward, what's more challenging is to adopt headless thinking and future-proof content modeling. Many businesses still have a web-first approach, which is becoming more obsolete and slowing their digital transformation. Headless CMS vendors, therefore, have a crucial role to play in educating their clients about headless-first thinking and helping clients with content modeling as a practice.

Forrester's VP and principal analyst Nigel Fenwick urges the need for organizations to transform from being product-centric to outcome-delivery [\[7\]](#) and to do that, he says you must "choose technology partners with the best assets and capabilities to help reshape your business and your technology... you want to find partners with the right set of capabilities to complement your own team and with the kinds of technology tools you can put to use immediately."

That's where a headless CMS can have a huge impact on businesses—making life easier for content teams and developers while ensuring that CTOs can deliver a strong return on investment that will satisfy stakeholders. By choosing the right headless CMS, you're implementing a digital transformation strategy that allows you to save time and money, helping you to deliver a significant ROI.

# References and citations.

1. Shah, Chintan. "Council Post: Businesses Need to Watch These Digital Transformation Trends in 2023." Forbes. Forbes Magazine, January 30, 2023.  
<https://www.forbes.com/sites/forbestechcouncil/2023/01/27/businesses-need-to-watch-these-digital-transformation-trends-in-2023/?sh=18ec62ba185d>.
2. "American Bath Group - Customer Success Story." Kontent.ai. Accessed February 11, 2023.  
<https://kontent.ai/customers/american-bath-group-success/>.
3. General Data Protection Regulation, Document 32016R0679.  
[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2016.119.01.0001.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.119.01.0001.01.ENG).
4. "What If My Company/Organisation Fails to Comply with the Data Protection Rules?" European Commission. Accessed February 11, 2023.  
[https://commission.europa.eu/law/law-topic/data-protection/reform/rules-business-and-organisations/enforcement-and-sanctions/sanctions/what-if-my-companyorganisation-fails-comply-data-protection-rules\\_en](https://commission.europa.eu/law/law-topic/data-protection/reform/rules-business-and-organisations/enforcement-and-sanctions/sanctions/what-if-my-companyorganisation-fails-comply-data-protection-rules_en).
5. Vailshery, Lionel Sujay. "Percent of Corporate Data Stored in the Cloud 2022." Statista, March 28, 2022.  
<https://www.statista.com/statistics/1062879/worldwide-cloud-storage-of-corporate-data/>.
6. "What Are the GDPR Consent Requirements?" GDPR.eu, May 26, 2022.  
<https://gdpr.eu/gdpr-consent-requirements/>.
7. Fenwick, Nigel. "How to Pick the Right Partners to Accelerate True Digital Transformation." Forrester, December 9, 2019.  
<https://www.forrester.com/blogs/accelerate-digital-transformation-2/>.



**Kontent.ai**

# About Kontent.ai.

Kontent.ai is the headless CMS that enables organizations to have complete control over content to speed up time to market and engage meaningfully with audiences across channels.

In the Kontent.ai platform, governance underpins all operations and workflows. Content creators collaborate in real time, making it easier to land on the best ideas, reduce bottlenecks, and maximize the impact of everything that's created. Kontent.ai is an API-first cloud-native solution, so developers can use their favorite technologies, languages, and frameworks to deliver seamless experiences that look and feel great on any channel.

With offices in New York, London, Amsterdam, Brno, and Sydney, Kontent.ai supports global customers including Zurich Insurance, Algolia, and Oxford University. Kontent.ai is a Microsoft partner and MACH Alliance member, recognized by both Gartner and Forrester. Learn more about who we are and how we empower leading organizations at [www.kontent.ai](https://www.kontent.ai).

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