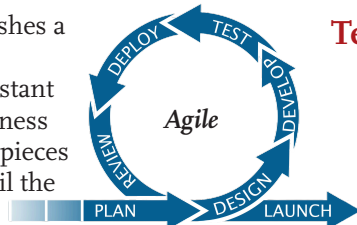# INSIGHTS

FOR THE PURPOSE OF SIMPLIFICATION

Mendix is widely recognized for its speed, collaborative capabilities, and scalability. It integrates seamlessly with DevOps and offers a model-driven development platform. With its no-code/low-code approach, Mendix enables high-level abstraction and is accessible through both web-based and desktop-based tools like Mendix Studio and Mendix Studio Pro, supporting one-click deployment. But what do all these features mean? Let's break it down.
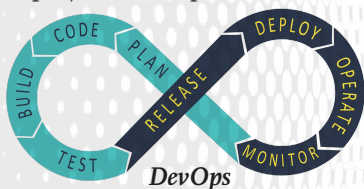
– Kent Lamb, Partner

Development Process:

Mendix is both a technology platform and a development process. As a twist, the development process is made possible by the technology platform. The iterative flexible development process is encapsulated in and enabled by the technology platform. The development process combines Agile Methodology and DevOps. Mendix knows that a crucial factor for success is that the business team and the IT team work together.

1. Agile Methodology – Agile establishes a way to manage a project by breaking the deliverables into many small pieces. Constant collaboration between stakeholders, business experts, and IT are vital parts. The small pieces are planned, executed, and evaluated until the project is completed.

2. DevOps – DevOps is a tactical approach for the continuous integration and delivery of an application. The goal is to eliminate roadblocks so that a single

team can develop, maintain, and support applications in production while observing enterprise requirements for compliancy and availability.

For a successful application to be delivered, it is essential that developers and business teams work together to understand the requirements. With this back-and-forth process, software can be developed more quickly, be responsive to user needs, and in the end, maximize ROI. Requirements are set by the business, who then work directly with the development team. Finally, the answer to the development process is encapsulated in the technology platform – Mendix has an integrated set of tools built into the platform to strengthen the application development lifecycle.

This technology bridges the gap between the business and the IT developers. Lack of collaboration is one of the biggest reasons software developments fail more often than they succeed. Mendix allows differing opinions of how the solution should operate, provides quick resolution involving all stakeholders, and streamlines communication. With Mendix comes a technology platform that supports the development process.

Technology Platform:

We were so immersed in explaining the Development Process that we nearly overlooked the core of it all – the Mendix Technology Platform. Let's take a moment to refocus and dive into what makes this platform so powerful.

The Platform utilizes visual Model-Driven Development (MDD) from start to finish. Mendix enables this MDD approach by focusing on two core principles: abstraction and automation. Instead of traditional coding, applications are defined at a higher level of abstraction. Then, users can convert the abstraction to a working model using automated transformations and

interpretations. The MDD approach supports model execution at runtime versus generating code. Because of this, the model is transformed into a working application by automatically interpreting and executing with the simple click of a button.

Elements of the Platform:

Model-Driven Development (MDD) – MDD is a drag and drop functionality development using pre-built components. MDD lets you observe how the application works during the app building process, because it is executable at run-time instead of after you compile the code. The visual components (blocks) give the business an up-close look at how the technical solution fulfills the business need. MDD simplifies through abstraction and reduces the human intervention through automation.

Abstraction – In Model-Driven Development, the model serves as a user-friendly development layer. It allows various functionalities to be added using drag-and-drop components, often referred to as building blocks. Because abstraction components are visual, it increases collaboration between the business and IT during modeling requirements.

Automation – Automation increases productivity and reduces errors. Each available component is a building block that provides some type of logic that would have to be coded in traditional application delivery. This automated functionality works seamlessly with the other building block components. If there is not a component for needed functionality, it can be built by a developer, added to the model, and placed in a library to be reused when needed.

> **Abstraction + Automation = no need to generate code**

Benefits of Model-Driven Development:

Mendix's Technology Platform and Development Process approach provides three important benefits for developing applications -- **Speed, Collaboration, and Control.** With the visual model, building block development, and component delivered functionality, we have already touched on Speed and Collaboration.

Control in Mendix is focused on delivering enterprise software. For enterprise applications, you must be able to integrate complex environments while maintaining security, performance, scalability, and governance. All of this is built directly into Mendix, ensuring that IT maintains full control over security, scalability, and performance.

In addition to that, Mendix has several ways to enable integration. This is when we call on the true techies, but

Mendix can be extended by exposing REST, APIs, SOAP web services, and OData Connectors to expand the platform and connect with third-party systems.

- **REST** – Architecture that defines a set of rules to be used for creating web services.
- **APIs** – Interfaces that allow one application to access the features of another application.
- **SOAP web services** – A method of transferring messages or small amounts of information over the internet.
- **OData Connectors** – Elements written specifically to integrate with all SAP back-end systems.

Market Differentiators:

Let's step away for a moment from the nuts and bolts about Mendix and understand why customers do or do not invest in their app development. It is simple – there are so many app development vendors, it can be overwhelming. **It is easier to stay with what you have, even if the development problems are not being addressed.**

There is a lot of competition, but the #1 competition is the status quo! Without naming names, let's understand the competition:

- **Low-Code** – There are hundreds of low-code vendors. These vendors build interfaces to only their core products, and do not provide a platform for true low-code development.
- **Business Process Management Systems (BPMS)** – These vendors are designed for complex activities and processes in an organization, often without UI capabilities.
- **SaaS** – These vendors usually do not have an approach for enterprise app development. For example, if a prospect has Salesforce data in place, and is looking for data on a non-Salesforce platform, Mendix can solve that problem. (Okay, we mentioned one competitor.)
- **No-code** – These vendors are extremely limited in what they can build. Any integration requires custom code, and Mendix bridges that gap.
- **High-end Spreadsheets** – These vendors are also limited and do not provide a no-code platform.

Mendix ranked on top of three analysts reports – Gartner LCAP, Gartner MXDP, and Forrester AD&D. Gartner predicts that by 2026, 80% of App Development will be done with low-code/no-code technology.

Mendix stands out from the competition, including the tendency to stick with the status quo, by addressing the core challenges in a company's development process. When businesses recognize these issues and are ready to embrace change, Mendix becomes the clear solution.

Unique Features of Mendix:

Unique Mendix features, like the buzz words in the first paragraph, make for a lengthy list. Too lengthy, in fact, to mention them all. For that reason, we will revisit one previously mentioned and focus on the key difference-makers.

First, **Mendix enables business experts and developers to collaborate.** The ability to deliver successful solutions in a fraction of the time it takes for alternative approaches is invaluable, especially when those alternatives may not align with the business's vision.

Business experts know the business; reading code is not what they do. This is why Mendix's visual development enables the business experts to be part of the development team (Mendix uses the term "Citizen Developers"). Using this model, errors and misinterpretations are identified sooner because everyone participates in all stages of the development. Establishing common language is the core of the Mendix development process.

The power of the second feature cannot be overstated – the range of solutions Mendix can deliver using their low-code approach is incredible. An online form is simple. A sophisticated integration between a 3rd party system and your core SAP system is not so simple. Both can be developed using the Mendix platform.

Mendix is an all-in-one platform. You no longer need separate developers for the internal user interface, mobile interface, logic, or data integration. Everything can be built using the components available in Mendix. This means less training, reduced reliance on specialized talent, and the ability to leverage a broader range of skills – ultimately enabling faster and more versatile solutions.

What are the take-aways?

1. Not only does Mendix promote collaboration between business and IT, but it also gives both sets of users a **bi-directional development platform**. Mendix

Bi-directional Development Platform
The sharing of the application models between Studio and Studio Pro.

Studio is for citizen developers, and Mendix Studio Pro is for the skilled developer. The cross-functional communication allows business needs to be met on the development journey. Feedback is available during and after production deployment to drive the next development idea.

2. By default, the Mendix platform is *cloud-native*. This allows Mendix-developed apps to run on a public, private, or hybrid cloud and take full advantage of cloud computing. Mendix apps are portable and scalable without redesign.

Fit-for-purpose applications
Based on touchpoint specific modalities (devices), these deliver responsive web apps across multiple platforms.

Immersive UIs
A Digital Experience environment that surrounds the user to make them feel they are part of it.

Conversational UIs
A program that takes human language and converts it to computer language for use in chatbots. Siri is a conversational voice-to-text example.

4. Mendix allows you to incorporate Artificial Intelligence to achieve data-driven solutions. Intelligent, proactive, and contextualized experiences can be delivered that transform the data into value for the business. The platform lets you connect AI and other cognitive services seamlessly, using Mendix's Connector Kit and Data Hub, to merge data to various systems.

Studio
A web-based, no-code environment with a drag-and-drop WYSIWYG editor intended for business experts to see the logic flow.

Studio Pro
A desktop-based, low-code environment that gives the ability to customize code with built-in editors that allows for building extensions and integration, which is not available with Studio.

Cloud-native
A cloud-native application is about speed and agility, and deployed using components that integrate into any cloud environment.

3. Multi-experience is simplified with Mendix, allowing development for Mobile, Web, Immersive UIs, and Conversational UIs. Mendix automates the process to create **fit-for-purpose applications based on touchpoint-specific modalities**.

Data-driven solutions
These have the ability to efficiently manage your data in one place and convert data from texts, images, and videos into formats needed by the business process.

Intelligent & proactive
Smart apps that use AI to make recommendations to guide users with push notifications, chatbots, and other tools.

Contextualized experiences
Apps that are personalized and embedded in users' processes.

Cognitive services
Services with the ability to build a smart app using speech-to-text, text-to-speech, language translations, and text analytics for detection sentiment, key phrase, etc.

5. Using Mendix's Data Hub, data integration and logic can be connected from any source, system, or service, making the data available to developers.

Data Hub
A catalog that is an open, standard-based repository that allows developers and business experts to explore data resources to connect data in their ecosystem.

Review of what we know:

We know the definition of the key words and phrases that are used to introduce Mendix.

We know the need for App Development has never been this accelerated before and the need will only intensify.

We know the differentiators – low-code, multi-experience, ability to extend data and systems, and ease to deploy to any cloud.

We know integration is the bottleneck and plows through the development budget.

We know that in order to create successful applications, IT and business experts must collaborate and agree to what is needed.

We know that businesses' ideas must be developed and deployed quickly to keep up with the market.

We know digitization is a challenge, but we need it now.

We know we can get there with Mendix.

Benefits of using Mendix:

- Business is demanding – to be competitive, smart apps are needed that can be used across mobile phones, handheld tablets, and web-based portals. **Mendix can build anything**.

- The platform development process allows for swift decisions with its collaboration dashboard and fast-moving development through delivered templates, pre-built components, and drag-and-drop widgets. **Mendix is Agile.**

- Businesses change every day, and they need a development tool that allows change when needed and quick deployment. **Mendix scales and utilizes one-click Cloud deployment.**

- Just like key metrics for the business, the health of your application needs metrics also. **Mendix has monitoring tools to check App Performance.**

- With the delivered development features, collaboration tools, templates, widgets, and one-click deployment, Mendix Integrated Development Environment (IDE) gives us digital automation. **Mendix delivers apps fast.**

The shortage of IT developers is a reality. Because of the business demand, that gap will continue to grow, which means your Digital Transformation has the odds stacked against it.

Ready to combat your custom application supply and demand problems? Visit our website to learn how Titan Consulting, together with Rapid App Werks as part of the Titan Consulting family, can help you embark on your Digital Transformation journey using the Mendix Low-code/No-code platform.