Ninetech
Our way of working with technology

This is a brief overview of our way of working with tech. It doesn't cover everything but encapsulates many things our tech team think of daily. All these topics are essential to build resilient, scalable and awesome user experiences. But, we are not dogmatist. If you want 100% code coverage we will ensure that or if you prefer the Atlassian suite instead of Azure DevOps thats fine. Let's co-create the best tech environment for your solution!

.NET **Vue.js** **TS**

Technology stack

We are committed to delivering robust and scalable digital solutions. We use a wide range of tools, libraries and technologies to solve different type of problems. But in the center of our technology stack we use the powerful combination of .NET for backend/API systems and Vue.js with TypeScript for frontend development. This blend of technologies allows us to create highly responsive and interactive web applications, ensuring a seamless user experience.

Partnerships

We combine the power of leading platforms with tailored, smart solutions, giving you a competitive edge.

Optimizely — The World leading Digital eXperience Platform we use to build awesome solutions.

Microsoft — We have certified Microsoft developers with focus on Cloud Solutions on Azure. As a Cloud Solutions Provider you can buy Azure from us.

inriver — Turn your product data into a profit maker with the inriver PIM solution. We've been in a partnership with inriver since 2010.

Google — As a Google partner and the toolchain in Google Marketing Platform we strengthen leading brands online presence.

Psst! We were rewarded as Customer Choice Partner of the Year 2023 by Optimizely

Architecture

Technical architecture of a system can look very different depending on it's size, complexity or specific needs. But in general, when building larger systems, our technical architecture is structured in a three-layer model, designed for efficiency and scalability. At the bottom layer, we have backoffice systems, which include essential enterprise resource planning (ERP) systems, product information management (PIM) systems, and other internal applications. These systems are crucial for managing core business processes, data storage, and internal workflows.

The middle layer is the API layer. This serves as a vital link between backoffice systems and the applications users interact with. APIs in this layer handles data and logic for specific capabilities in your business. E.g. if you want to calculate price for a product you query the pricing API, if you want to create a new business lead you interact with the leads API. Each capability in your business is modelled in these APIs. This is a powerful strategy where you can transform processes and manual tasks into a digital representation and have a single source of truth, not only for data but also for logic.

At the top layer you have applications with user interfaces (UIs). This is where customer or external users interact with your business through web applications, portals etc. These UIs are designed to be intuitive and user-friendly, providing a seamless experience whether on desktop or mobile devices.

This three-layer architecture allows for a clear separation of concerns, making it easier to manage, update, and scale different parts of our system independently, while ensuring overall system integrity and a single point of interaction for each of you business capability.

Using this modular approach for crafting APIs we have identified a set of APIs for which there is a recurring need. E.g. APIs for handling product catalogs or keeping audit trails of important activities. We have a set of pre-build APIs that can be used to get a running start on a new solution.
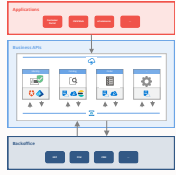
Microsoft Azure

Our solutions are created with a cloud first strategy based on Microsoft Azure. We have the history and knowledge of on-premise hosting but left that many years ago. Now we fully use serverless technologies in cloud environments.

Small solutions can easily be created and deployed to Azure with minimum effort. Building larger applications or complete eco-system for enterprise solutions requires a bit more infrastructure. We use a proven blue print with a set of Azure resources that creates a secure, resilient and agile environment. It follows many of Microsoft best practices.

As a Microsoft Azure CSP you can buy Azure from us. This way we can setup suitable subscriptions (production and test separated) that you own and manage these with full privileges. Billing and support is handled by us. If you already have an Azure environment or partner we are happy to work with that.
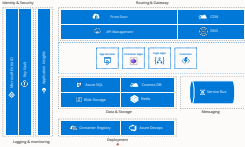
Clean code

Writing clean code is important for us. In the rapidly evolving world of software development, the importance of code quality cannot be overstated. Well-structured and maintainable code not only enhances the efficiency of the development process but also reduces the likelihood of bugs, security vulnerabilities, and technical debt. We believe this is fundamental to create maintainable, efficient and consistent software. Some key factors to produce code with quality:

- Teams with high seniority
- Practice code reviews
- Share knowledge and best practices with colleagues
- High degree of education and certifications

Testing

We adopt a comprehensive test strategy to ensure the highest quality in our software development process. This strategy encompasses a range of testing methods, each tailored to validate different aspects of the applications.

We use automated **unit and integration testing** to guarantee function on each code change. Some put value in 100% code coverage while we think the quality, scope, and thoughtfulness of tests matter much more to than hitting arbitrary coverage targets.

To assess the performance of the application under heavy load, we employ **load testing**, which is crucial for understanding how the application behaves under high traffic and stress conditions.

We also implement **web quality testing**, which encompasses a variety of checks, including performance, accessibility, best practices and SEO.

95 Performance **91** Accessibility **86** Best Practices **100** SEO

Once deployed, **availability tests** reflects our commitment to delivering robust, efficient, and user-friendly software that stand the test of time and usage.

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DevOps

To manage the whole development cycle we prefer using Azure DevOps for planning, collaboration and shipment of software. It connects nicely to Azure hosting environment and helps us to automate, orchestrate and manage application and service delivery. If you don't have a DevOps instance we can help you get up and running.

- **Wiki** - Collaborate and share documentation
- **Boards** - Plan, track and discuss work across teams
- **Pipelines** - Build, test and deploy with CI/CD
- **Repos** - Store and version code in private Git repos
- **Artifacts** - Share packages between solutions

We use GitFlow as branch strategy and GitVersion to control semantic versions of releases

Security

With the ever growing cyber security threat we understand the critical importance of protecting data and systems. To structure and enhance our security we work with NIST Cybersecurity Framework to ensure all aspects are covered regarding govern, identify, protect, detect, respond and recover. We believe that a robust security strategy is a collective effort, and by partnering with your IT department, we aim to create a secure and fortified digital environment that supports your business objectives while safeguarding your critical assets. Here are some examples of tools and services we use when doing secure development:

- **Static Application Security Testing** analyses the code and finds potential errors, bugs and security issues before deployment. We use GitHub Advanced Security for Azure DevOps that provides tools for secret scanning, dependency vulnerabilities and code analysis.

- Once deployed applications should continuously be tested for the latest vulnerabilities. We recommend the use of a **External Attack Surface Management** (EASM) service for this.

- **Threat modelling** is a tool we use to identify, communicate, and understand threats and mitigations for an application.

- **Secret management** is a key concept to securely store sensitive data such as passwords, cryptographic keys and tokens in a secure environment with strict access controls. We use Azure Key Vault to manage secrets for cloud apps and services we build.

Want to know more?
Contact me!

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