starcode

HOW DO YOU MAKE ORGANIZATION AND IT RESPOND FLEXIBLY TO CHANGE?

Make your organization and IT agile

CONTENT

INDUSTRY PAINPOINTS

Starcode has years of experience in the manufacturing industry, particularly in the areas of process improvement and information technology. Over the years, much knowledge has been accumulated within small and large companies about problems and possible solutions related to the application landscape. This chapter elaborates on the main pain points.

> Current application and workflow do not support the process (optimally).

One of the major pain points in the industry is the lack of applications that optimally support the business process.A landscape has been developed for a specific organization, with different applications such as ERP, PLM and MES. A thoughtful implementation with the necessary customization should support the organization. Yet core users continually run into problems in the software.

Why does this occur?

That such problems occur can have several reasons. Organizations often work with severely outdated systems that were implemented years ago. In a constantly changing organization and environment, that customization is no longer a customization. The customization of the past does not fit into a constantly changing organization and environment.

Recently, many software vendors have been using standard applications. These applications are created to provide the ideal business process and associated technology to all organizations in the same domain.

Because this software is so generic, it works primarily well as an administration tool. However, it does not yet contribute to making a process smarter. Take as an example that companies would like to see optimal utilization of the production department while meeting all lead times. In most cases, a standard ERP cannot bring this together.

Every organization is unique. Although it largely matches the software, it is often the specific support of processes that ensures that an organization can leverage the value of software.A possible solution could be to update the applications, and modify the standard applications so that it contains the right functionality. Unfortunately, this is often very difficult because not only implementations, but also the technology is outdated. The well-known ERP systems are not flexible and not ready for the future.

Machine builder about an ERP system:

"We administer instead of organize"

"Quick is always difficult in ERP"

Calculations & quotations

Stefan creates his quotes in Excel and stores them in Sharepoint. "It works much faster than in Ridder IQ. Furthermore, we have more overview there and I can also open Sharepoint on my phone or tablet. This way I am much more flexible on location with the customer. After a deal, we do still put this data in Ridder IQ. For the administration then, haha."

Production planning

Mark wants to create a production schedule in his current ERP system. However, it is only possible to schedule machines. Now he has to schedule people in another system. This work takes extra time and is error-prone. The software is administrative and more of a burden than a tool.

The endless search for improvement

Many organizations experience problems that arise because their applications do not optimally support the process. This is why they are looking for solutions that, together with the core system (ERP), support the entire process. However, this turns out to be an extremely complex task. To begin with, organizations often already have a complex information system. If applications are then added or replaced, this means changes for the users and an increase in complexity. As long as solutions are developed on outdated environments with a lot of customization, problems will continue to arise. The question that arises for these organizations: How do we create a manageable, flexible and compact application landscape that does support our processes?

The return is negative

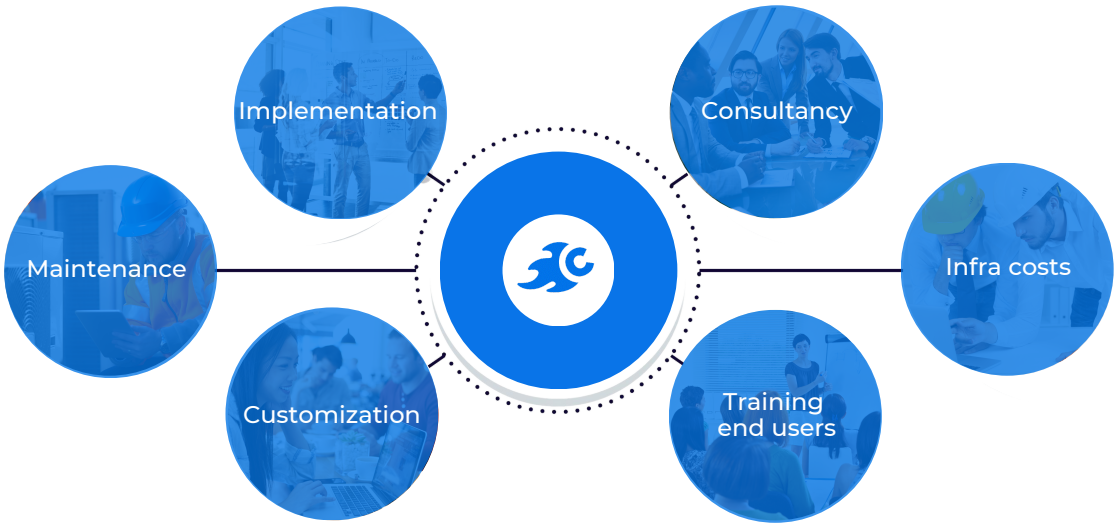
A complete information system in an organization is something costly. The so-called Total Cost of Ownership (TCO) can be high. A number of components are named in the figure to the right. Especially with many different applications from various vendors, the chance of a negative return is high.

That costly information system is what an organization should be optimizing. Instead, one has an administration tool in which orders must be entered or looked up manually, for example. It is time-consuming and takes effort to work with the system.

The return should be positive. For example, an application in which orders are automatically linked to a customer and that information is immediately visible with the customer data. The application then serves as a tool and saves time.

TCO (Total Cost of Ownership)

The total amount of the cost of acquiring and using a product throughout its life cycle.



Suppliers are not sufficiently future-proof

It is partly the cause of other pain points, but the inability of technology or core system vendors to innovate is also part of it. Systems such as Ridder, Isah, SAP and Navision are unable to make the software flexible enough. However, this is a requirement in the rapidly changing market. Therefore, creating a future-proof solution is something that organizations want. But if a vendor cannot meet this requirement, it is a brake on innovation.

For example, in traditional ERP systems, it can already be a challenge to make an item stocked or project specific. One cannot dynamically make decisions on this property.

Making a solid Material Resource Planning or Forecast is also sometimes very difficult. For example, in Knight, only orders can be counted. This while quotations and changes in a supply chain are just as important for such tools. This can cost an organization a lot of money.

Company data is worthless

In recent years, the power of data has become increasingly apparent. With the rise of technology giants such as Google and Facebook, the importance of data is quickly becoming apparent. These companies use data to improve their products and services and to optimize the user experience. But smaller companies, from start-ups to SMEs, can also gain valuable insights from data analytics. From sales forecasting and smart production planning to reporting and customer profiling, data can be used in many ways to improve business performance.

However, using data is not always as simple as it seems. Often the data needed is scattered in different locations and difficult to access. Moreover, the format of the data is not always compatible with the reporting tools used to gain insights. Not surprisingly, many companies struggle with collecting, storing and analyzing data.

But why spend time and effort administering data if you can't use it properly? It is important to understand that it is not enough to simply collect and store data. It is critical to use the right methods and tools to analyze this data and extract valuable insights from it.

SOLLUTIONS

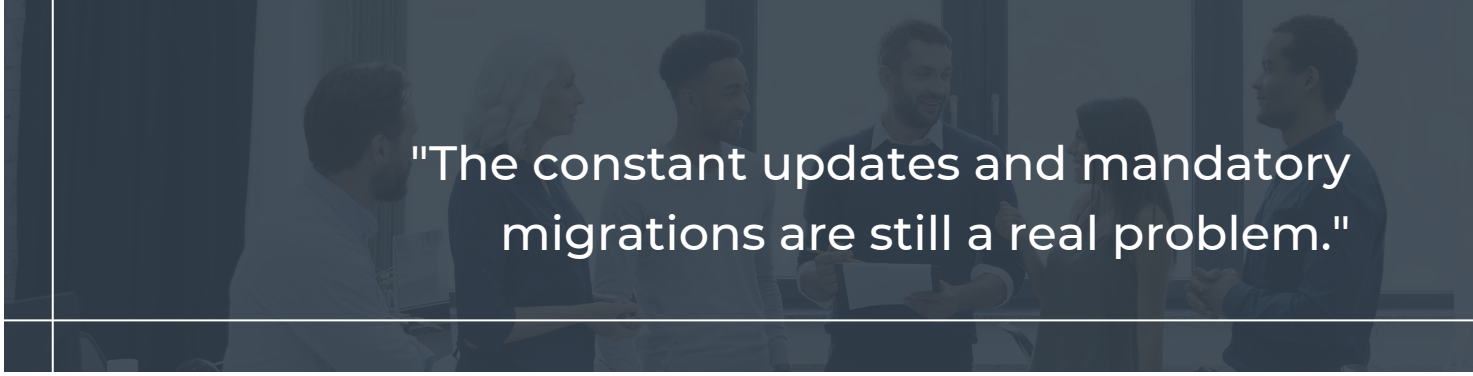
Further develop on existing platform

Major ERP vendors today offer proprietary solutions for easily adding additional functionality. This is true, for example, of Microsoft's Power platform and SAP build. Both are powerful tools for easily developing functionality in the form of flows, low-code apps or reports. The idea is to stay with the core system and build it into a dynamic environment with sufficient process support and the latest and simple technologies such as cloud technology and lowcode.

However, this is a limited vision. Here we forget the smaller players in the market that are not able to offer modern technologies, as Microsoft and SAP do. Even if they can, it is still tied to a traditional way of thinking. The core system is not flexible and relies on high code (customization). Consequently, constant updates and mandatory migrations are still a real problem.

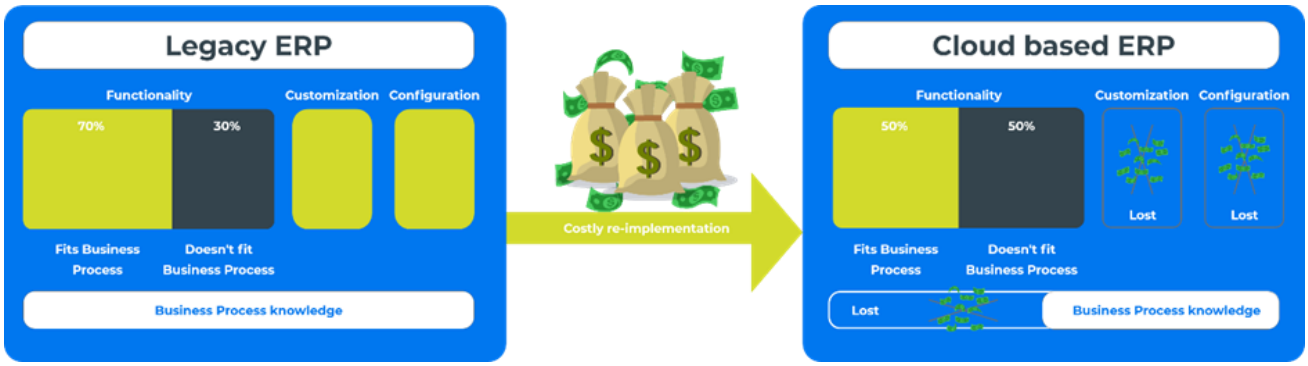
The migration to cloud technology

This is the solution to all problems. A ready-made ERP system, to be used whenever and wherever one wants. Automatic updates, enhanced integrations and endlessly expandable. It's a wonderful scenario. Unfortunately, the reality is different.



Loss of customization & furnishing

Organizations have been working with a core system for years. An enormous amount of time, energy and money has been spent setting up and customizing these core systems. Over the years, more and more functionality has been developed and further customized based on the unique business processes. Most of this is lost in this migration, but the customization and set-up has certainly not become obsolete.



Loss of knowledge

Manuals, training and other documentation. Some organizations will have collected more than others. One thing is certain. Knowledge of how to use systems no longer applies to a completely new application in the cloud.

Loss of confidence

People in the organization. Change is all about psychology. Migrating an entire, embedded system to a substantially different application in a short period of time is not something a change manager can recommend. Also known as the "Big Bang migration." Even if all functionality and design were to be preserved, the business would still have to get used to a new way of working in a new, totally different application.

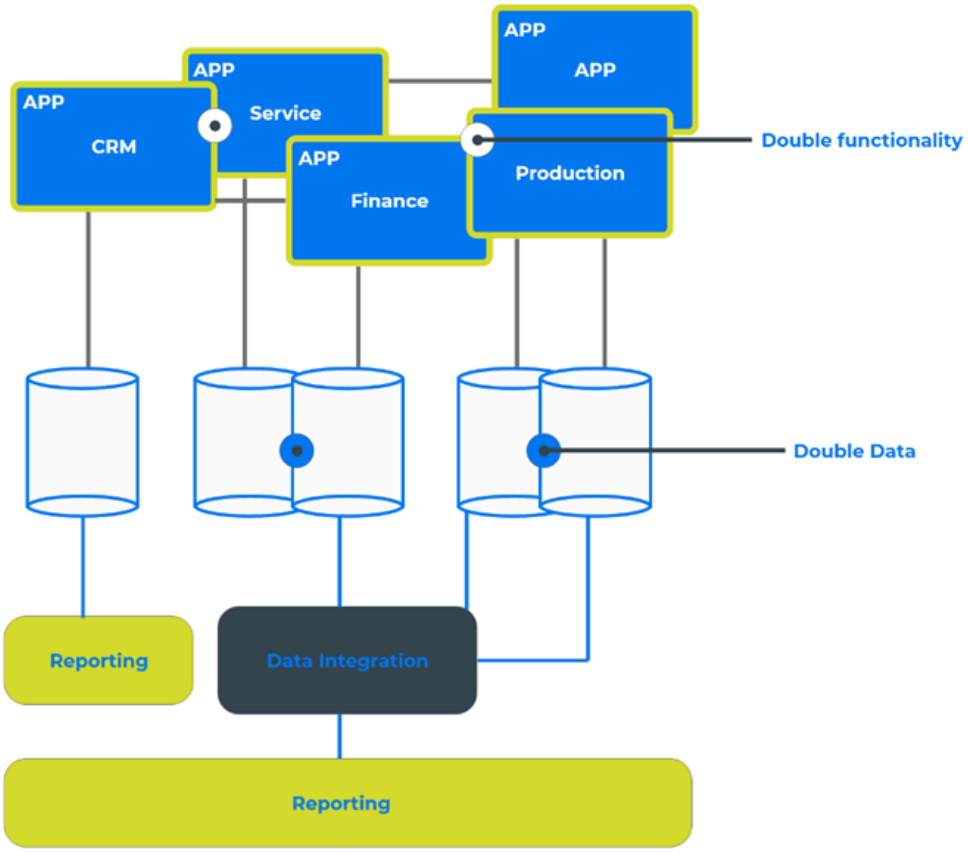
Loss of money

Such a migration costs a lot of money on all fronts. The training and support required to migrate, to get users acclimated, and all the technical costs are necessary to use a new technology. But in functionality, the system does not move forward, perhaps even backward.

Best of breed

A popular strategy is the "best of breed" approach. Here, a company does not choose one or a few software vendors, but looks at each domain to see which solution best fits the process. This results in applications that are better aligned with the business process. Moreover, one is likely to get more specific domain knowledge that fits the task for which the application is deployed. In addition to these benefits, this strategy also provides a more secure feeling, with relatively little risk. Because multiple partial solutions are used, the overall risk is low.

Reality often shows that the various solutions have overlap in both data and functionality. This creates the challenge of deciding which solution to use. Customer data often occurs in different systems, such as the financial, project and CRM systems. This can lead to integration problems, incorrect data and difficulty in reporting. Each software vendor works in its own way and each application requires technical and functional support, resulting in high costs.



Flexible business process driven software

Starcode goes for a flexible solution based on the business process. By means of a well thought-out method of working, we develop an application landscape that is fully aligned with business processes now and in the future. That's flexible! For each domain we develop templates based on years of experience in the manufacturing industry. Every organization is different but much of both processes, and software comes across a. Why start all over again when we've already done it 20 times?

There are a number of important things that make software rigid. These have been mentioned earlier. Consider outdated technology, customization that, standard applications that are not fully compliant or poor integration capabilities. When something changes in the market or technical field, a change, if at all possible, takes far too long. As a result, the change is too late, the company is behind the times and may not even change at all.

Starcode uses the latest technology based on the Thinkwise platform. This platform is built in such a way that application development is 10 to 20 times faster than the traditional way. As a result, adjustments can be made quickly and an application can easily adapt to any situation.

Develop faster with Thinkwise

Function point analysis (FPA) is a method for measuring the functional size of an information system. The unit of measurement is the function point (fp) and thus the size of a system is expressed in number of function points.

Programming language	Hours per function point	Average
Java	10.6	10,8
C#	15.5	
SQL	10.8	
ABAP	19.9	
Other low-code platforms	2.5	

Average Thinkwise: 0.3 hours per function point

This is also evident from independent research conducted by benchmarking firm QSM. QSM compared eight Thinkwise projects with more than twelve thousand validated software projects from the QSM industry database.

This research showed that realizing software with Thinkwise leads to faster implementations, easily extensible applications, shorter turnaround times and significantly lower costs.

Business process driven

Every organization is unique. In order for an application to truly support an organization, it must seamlessly fit the business processes. To realize this, Starcode develops applications based on these business processes. Based on process knowledge and associated data, we generate software with Thinkwise. In this way an application provides optimal support for end users.

A business process consists of tasks that a user performs in the system. We map out these actions. Each task requires functions in the software. For example, creating a quotation. We describe the data needed to perform this function in the data model. For a quotation, for example, these are customer and product data such as name, address or item number. With this information, we generate an application that supports these functions.

APPROACH

With our flexible solutions, we would like to truly help organizations. Technology is only a tool. To optimize organizations and actually make them smart requires more. We as Starcode deliver that through our Strategy.

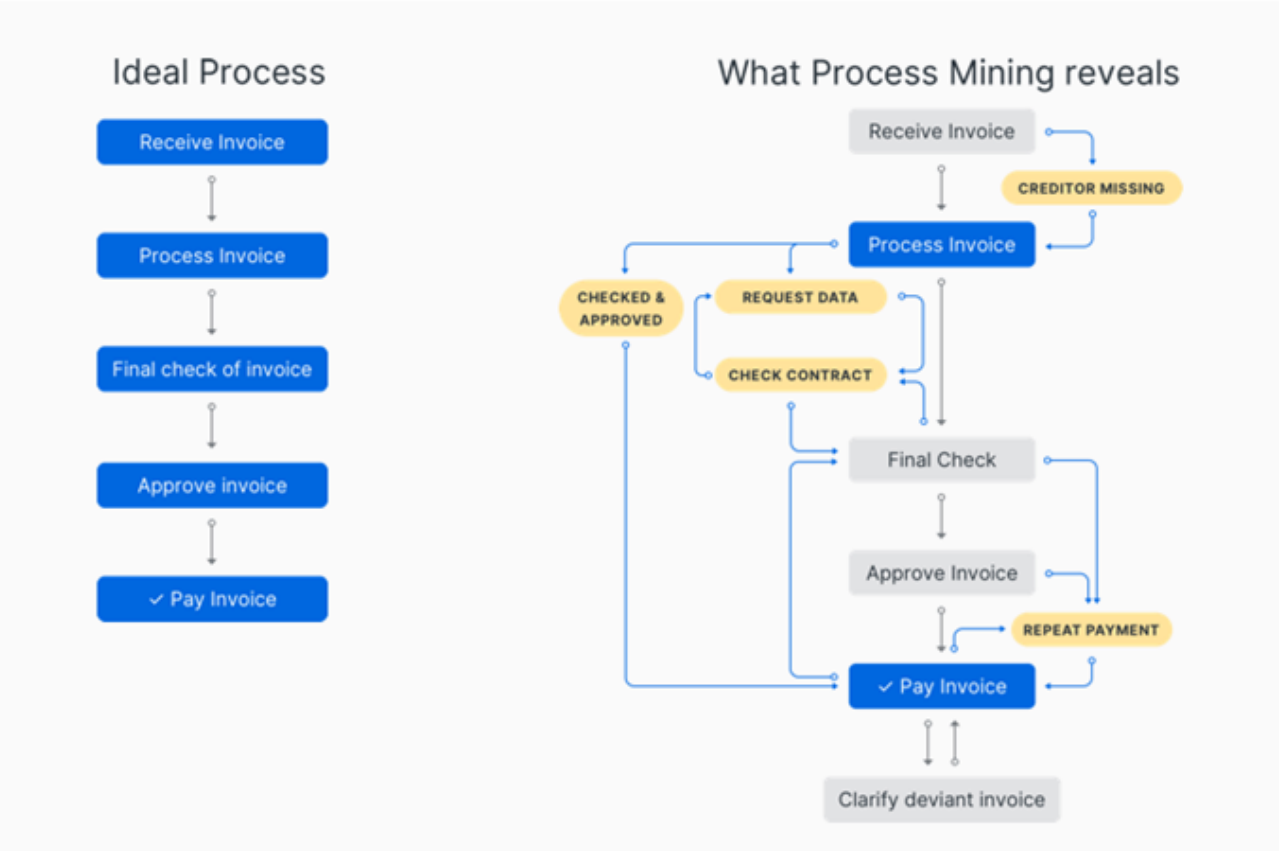
Analysis of current situation

One of the very first steps is an analysis of the current business processes. Before we start, the current situation must be clear. To do this, Starcode uses several techniques

Process Mining

Process mining is a technique that can use data from applications to map processes. This is possible because many systems keep so-called "event logs. This is information about what was done when in an application. This can be augmented with information about the user or other relevant data. For example, an employee creates a new quotation and sends it to a customer. The quotation is created. A log is then also created of the fact that the employee performed the relevant action.

Process mining is particularly good for discovering outlines in processes. In addition to a process flow, this is also a tool for detecting bottlenecks, peculiarities and errors in the process.



Task mining

Task mining is a technique in which a user's interactions with a computer screen are recorded and then analyzed to map the business process. This technique allows us to discover what users do click by click, how they do it and where they get stuck in the process. It can be used to generate hypotheses on how to improve the process or reduce user frustration. This technique identifies the details of a process.

Brown paper sessies

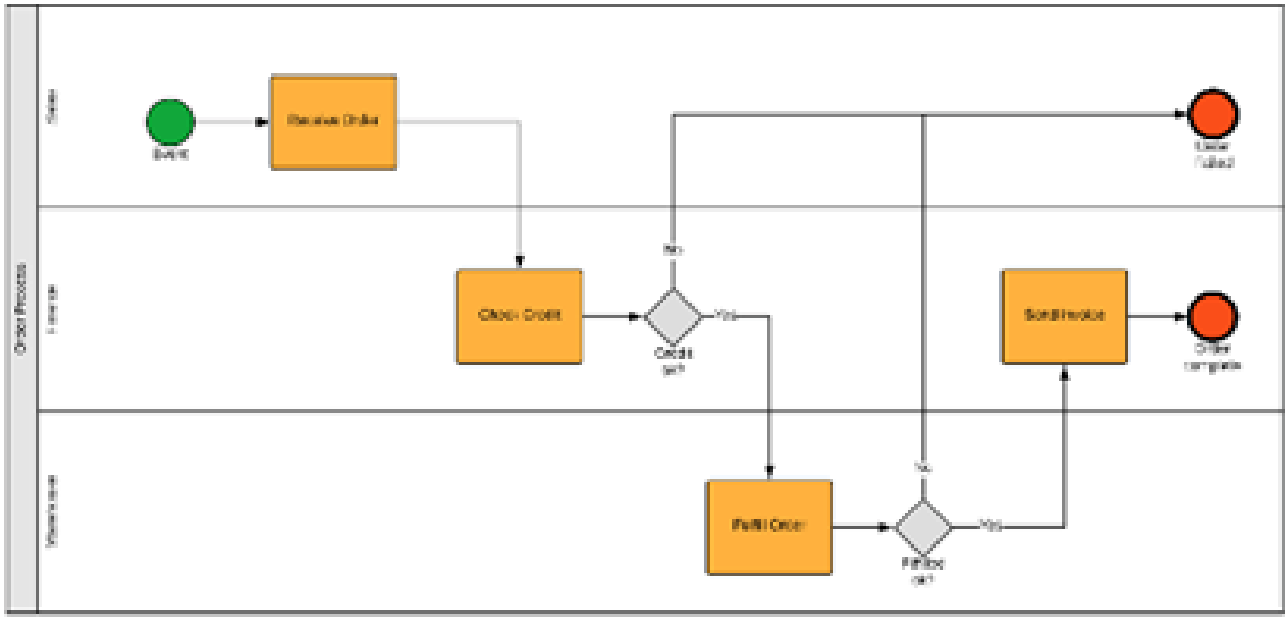
Talking to users is a crucial part of the design process. It helps us map out how the process is working now, and where things are going wrong, so we can see where we can improve. We always use the data that emerges from Task and Process mining for these conversations.

Both management, and core users are involved in this process. Management helps set the context for the project. They also provide appropriate resources and support. In addition, we talk to core users, the people who use the process on a daily basis. They know best how it works now and where it can be made easier or more efficient.

Optimizing processes

The various processes are mapped using BPMN. This is a technique for graphically representing processes. These processes are described at different levels. From outlines to details. In this way one gets a clear picture and also the details in processes become clear.

Now it is important to improve these processes. For this there are different methods such as Lean, Lean Six Sigma, TQM and many more. Starcode uses different methods to achieve the following results, among others;



Process templates

Starcode has as a great advantage a lot of experience in the manufacturing industry. For that reason, there are so-called process templates that fit processes of this industry. Many sub-processes of organizations are very similar. Why start over when proven knowledge is at hand.

Example: almost all organizations have an inventory and purchasing process. With these templates we test a unique business process and see how it can best be set up to achieve the above optimization.

Process validation

Right from the start, it is important to involve core users and management in this approach. Together with different stakeholders, we map the process and it can be optimized. Now it is important to validate this process with all users. In addition, the existing applications must be tested against the process. Is there sufficient support? Do the processes fit? A fit/gap analysis is made. This indicates for each process step whether or not it fits in the current software.

Now the consequences of gaps in the software become clear. If the optimal process cannot be supported. What does that mean? How much value does it provide to support the process optimally. These are questions that are answered on a situation-by-situation basis.

RPA as a temporary solution

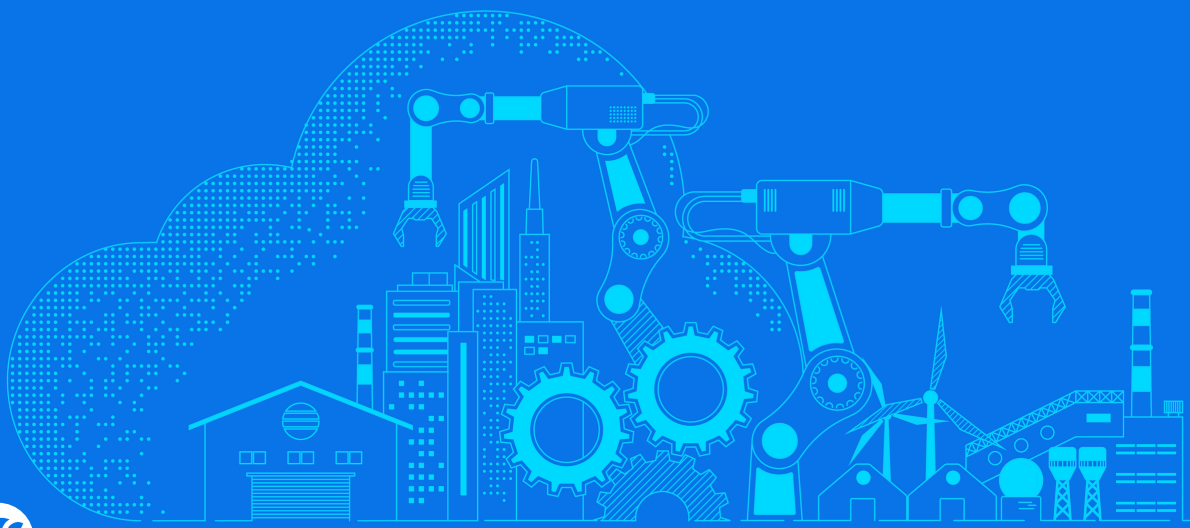
In many cases, technical support will add a lot of value. Many tasks are not yet automated and employees are busy with repetitive work. Implementing new flexible software is fast and can be broken down into small parts. Still, there will always be a period to think about architecture and develop the solution. During this period, sometimes a lot of gains can be made from RPA anyway.

RPA is an abbreviation for Robotic Process Automation. It is a technology designed to automate certain repetitive tasks in an organization. These might include entering data into a computer program, performing simple mathematical operations or navigating a Web site. RPA robots are able to perform these tasks faster and without error than humans. This can save significant time and money.

Develop a flexible and reliable application landscape

The optimal process is transparent, the bottlenecks are clear, employees have time to spare because of RPA. Now it's time to work on a reliable and flexible application landscape. Step by step, we develop a powerful platform from which people actually get support.

Within the organization, we develop a roadmap for this development. For each department or team, we tailor the software to fit the process. Through this approach, we reduce problems and provide a number of benefits;



Big bang implementation

Traditional implementations cause systems or even entire departments of an organization to temporarily fail. Large parts of an existing structure are replaced in a short period of time. A so-called big bang implementation causes upheaval and forces users to switch to a new way of working in a short period of time. With a step-by-step approach, it remains manageable for both management and other layers in the organization.

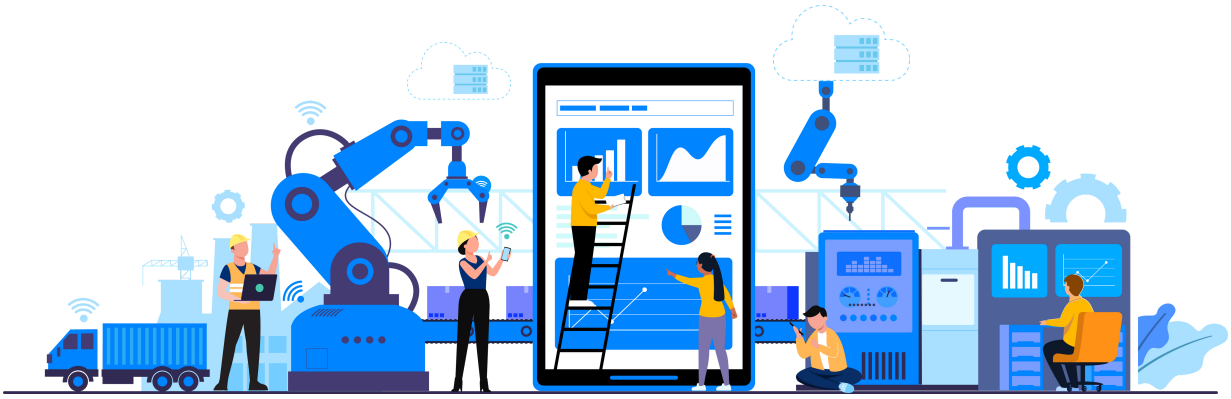
Resistance

Change evokes resistance. Especially when technology is involved. People are used to processes or systems. A big bang implementation will certainly not remove that resistance. That is precisely why it is so important to implement changes one at a time over a longer period of time. That gives people more time to get used to it. It also allows more time to ask questions and explain why it is actually the right approach.

Another important factor that reduces resistance is involving users in all previous steps. Something Starcode always does. People in an organization ultimately determine the success of technology.

Better adoption

Because the landscape is set up step by step, there will be better adoption of the software. Users can get used to the new software slowly, per functionality. In this way, users can also experience short-term successes and spread this throughout the organization. Nothing is as powerful as a colleague who enthusiastically tells about new software.



Improved quality

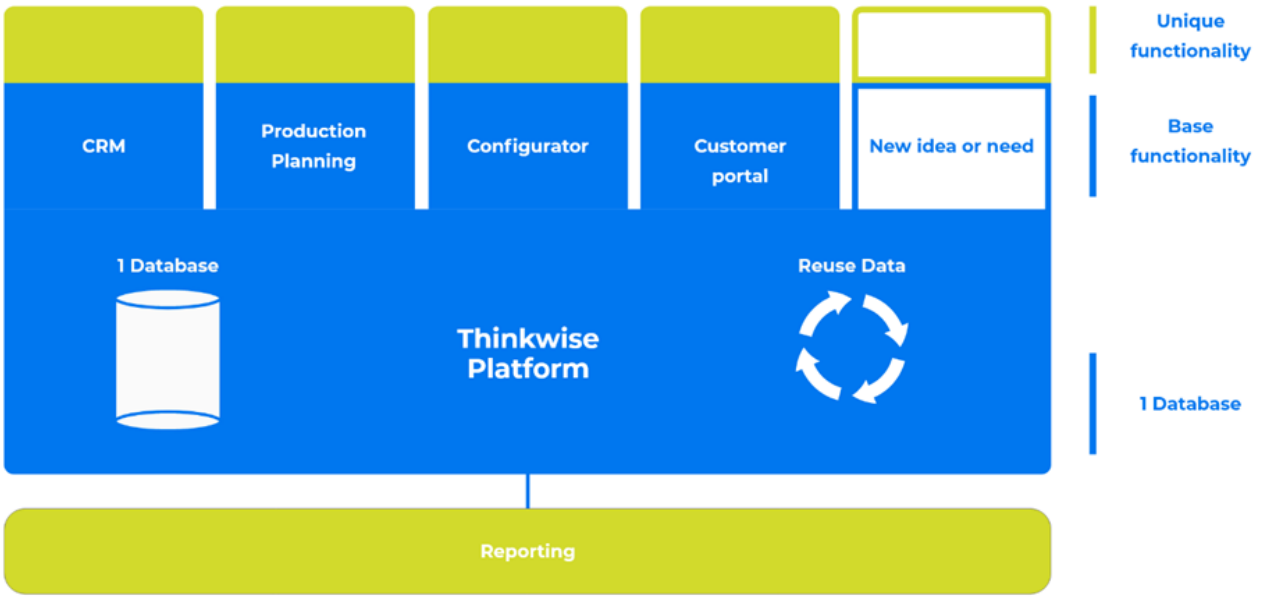
Flexible software offers many advantages when it comes to the quality of the software being rolled out. This is because development is much faster than traditional software. This means that changes and updates can be made more quickly, which means that the quality of the software can be constantly improved.

One of the biggest advantages of our way of working is that it is based on stakeholder experiences. This means that the software can be adapted to users' specific requirements and wishes. This improves usability and user satisfaction. In addition, flexible software can also be used to improve software quality through continuous user feedback. This makes it possible to quickly identify and resolve problems, which allows for constant improvement in the quality of the software.

Application templates

Application templates based on a low-code platform are pre-designed templates for building applications. The idea is to combine the goodness of standard software with the flexibility and intelligence of custom software. This means that application templates contain pre-built components and functions, such as forms, workflows, dashboards and integrations with other systems, that can be customized to an organization's specific needs.

A key advantage of application templates is that they are based on market best practices and principles. This means that the templates are designed based on years of experience and knowledge from software development experts. This allows for faster development time and fewer errors because organizations do not have to start from scratch when building their own application.
However, using application templates does not mean that organizations are stuck with the pre-designed templates. Instead, they can modify and extend the templates to meet their specific needs. This makes building custom software easier and faster than traditional software development.



Example

Develop incrementally

A company begins development of a product configurator that allows customers to assemble a finished product using different items. The configurator is implemented on a platform where users can also use other functionalities, such as item management, quote generation and CAD integration.

After launching the configurator, the company begins collecting feedback from users and stakeholders, such as sales and engineering. Based on this feedback, the corresponding functionalities are worked on step by step. For example, an item management function will be added first, making it easier to manage items. After this, work is underway on a quotation generation function, allowing sales to work more efficiently. Finally, CAD integration will be added, allowing engineering to work faster.

The configurator and its functionalities are developed on the same platform, this ensures an efficient workflow and good cooperation between the different functions. The flexible software makes it possible to incrementally build new functionalities that work well with the configurator. This ensures continuous improvement of the platform and a more efficient workflow for the users.

Continuous improvement

An important aspect of flexible software is the opportunity for continuous improvement. This can be achieved by implementing a continuous improvement process where users themselves can suggest problems. This allows problems to be quickly identified and resolved, allowing for constant improvement in software quality.

Unlike traditional implementations, where software is modified only once, continuous improvement is possible with agile software. This means that the process of improvement is never finished, but points of improvement can be made again and again. If the software does not meet user requirements, this can be addressed and improved in the next cycle.

WHY THINKWISE?

1 The Thinkwise Platform never ages

With Thinkwise, applications are technology independent; in fact, you only need to maintain the model. The underlying technology, such as User Interfaces, Service Tiers and databases are periodically updated by Thinkwise, without affecting the previously built applications. This means that in all these aspects, a Thinkwise application always remains technologically modern and will never become legacy.

Companies that started using Thinkwise 20 years ago are still working with the same blueprint, but have effortlessly survived various new technologies: from Windows XP with Visual basic 6, to web (formerly Java, later ASP.NET, now React), to mobile with HTML5. Because Thinkwise relieves you of all your technological worries, you can focus on functional (continued) development.

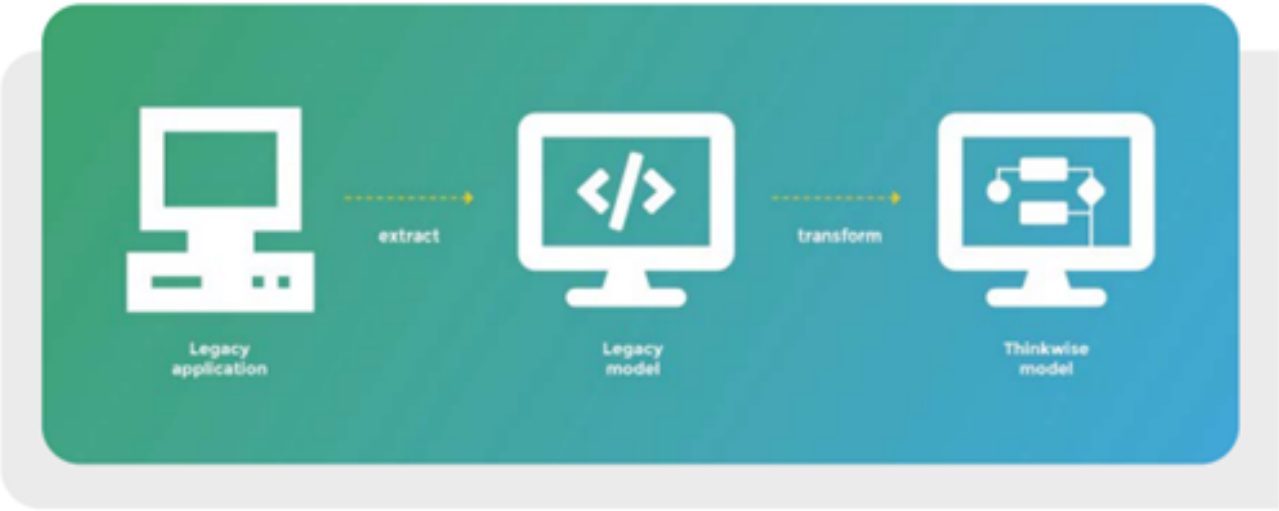
Responsive design

All of Thinkwise's user interfaces are fully responsive. This means that any application migrated to Thinkwise is immediately available on Windows, Web and mobile devices. There is no need to build and maintain a separate Web or mobile application for each environment. Still want to continue working with Windows? No problem, Thinkwise applications can also be installed locally as a Progressive Web App (PWA).

Furthermore, in addition to the Dutch language, all standard screen elements are available in five world languages; English, German, French, Spanish and Portuguese (Brazilian). In addition, all parts of an application can be translated individually, allowing you to make your application available in any desired language without limitation.

② The Thinkwise Upcycler

A major additional advantage is that the Thinkwise Platform comes with a standard solution for modernizing legacy applications. The so-called Thinkwise Upcycler enables you to import the metadata of existing applications into the development environment. With the Upcycler it is possible to very quickly lay the foundation for the new application. An obsolete application can thus be migrated to a modern application in a very short time.



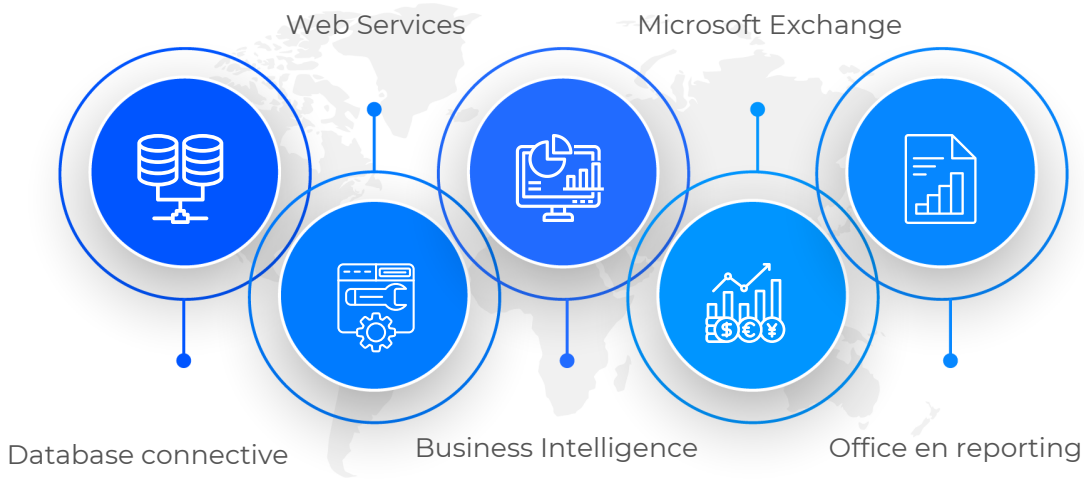
De Thinkwise Upcycler

3 Highest productivity

The Thinkwise Platform specializes in developing large and complex applications. When you build large applications, you need high productivity. The Thinkwise Platform is distinguished by exceptionally high development productivity, the highest in the entire low-code market. This is also evident from independent research conducted by QSM. This research shows that realizing software with Thinkwise leads to faster implementations, shorter lead times, easily extensible applications and significantly lower costs.

4 Full integration with your IT landscape

It goes without saying that your software must be able to communicate with other systems. Through Thinkwise's integrated service tier, all desired data and functionality can be securely accessed through an open API based on the OData protocol. The Thinkwise Platform offers extensive integration capabilities such as:



5 Designed for large and complex applications

The platform is designed for the realization of large and complex applications. Whereas other low-code platforms are used to develop apps and solutions that are complementary to an ERP system, the Thinkwise Platform is capable of completely replacing core systems.

Het Thinkwise Platform is geschikt voor complexe applicaties vanwege:

The modular architecture: The platform is composed of several modules that can be connected to each other to create more complex applications.

The flexibility: The platform can be easily adapted by adding, changing or removing components.

Powerful development environment: The platform has an extensive library of building blocks for advanced functionality and an intuitive development environment that allows developers to efficiently develop comprehensive applications.

The scaling capabilities: The platform is designed to scale and adapt to the growing needs of organizations and the changing needs of end users. For example: load balancing support and support for different data storage technologies.

Responsive design: All of Thinkwise's user interfaces are fully responsive. This means that any application migrated to Thinkwise is immediately available on Windows, Web and mobile devices. There is no need to build and maintain a separate Web or mobile application for each environment.

Efficient agile collaboration

The platform provides built-in tools for smooth collaboration. It supports branching and merging, and models can be shared and reused within teams. The development environment also provides functions to define requirements and user stories for agile development. This allows business and IT to collaborate effectively to achieve a perfectly fitting solution.

Incredible adaptability

The platform is designed to reduce software development time and maintenance. It provides a development environment where users can create and customize applications without too much technical knowledge. By using models and configuration instead of coding, customizing and extending applications becomes easier and faster.