



Whitepaper

Agile CPQ implementation



Overview

Software project: what determines success or failure? 3

Agile approaches are the key to success 4

How does CAS implement configurators? 10

Reference report: successful configurator implementation with Scrum 13

Our tips for your CPQ project 15

About CAS Merlin 16

Further sources 17

Software project:

What determines success or failure?

The implementation process is a deciding factor

The development and implementation of a new software is in many ways a challenge for all involved parties. Time and budget constraints, quality defects, or failing to comply with the customer's requirement during development can all be deciding factors that doom a software implementation project to fail.

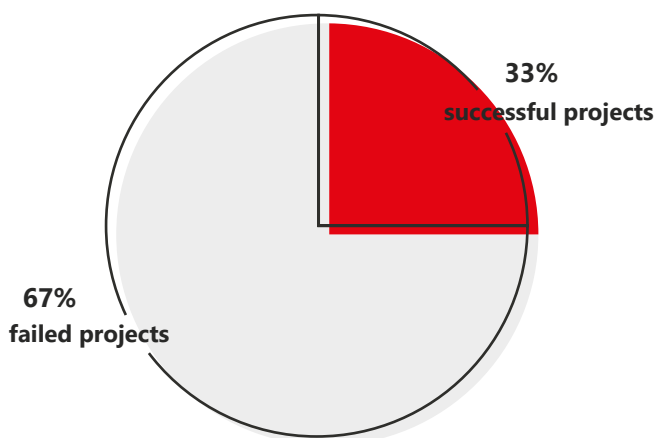
When starting such a project, the challenge is that not all processes and requirements are predictable at the start of the project. A tendency to fortune telling creeps in. These tendencies emerge especially when you are approaching the project traditionally according to the waterfall model. This model is characterized by a linear phase progression from the requirement definition to launch and system maintenance.

Typically, the waterfall model includes detailed planning at the beginning of large and mostly still unmanageable projects. When introducing a CPQ solution, you additionally need to identify all product knowledge in your company and bundle it at one central location. In many cases, the product knowledge is only available as implied, scattered knowledge. Thus, intensive communication between the different company departments is very important.

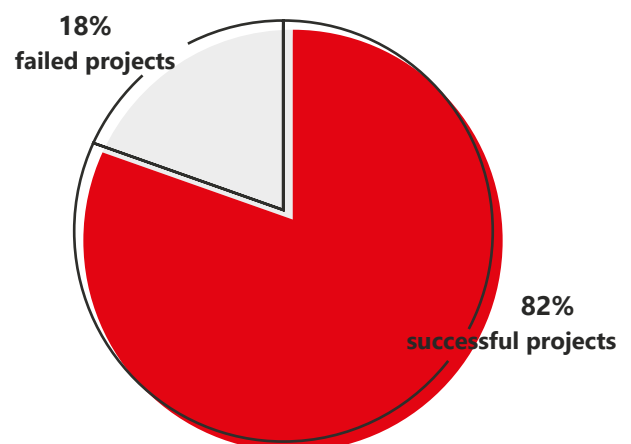
Agile methods as an alternative

According to „The Chaos Manifesto“ study by The Standish Group from 2012, agile projects are three times more successful than projects that utilize the traditional approach according to the waterfall model. Furthermore, the number of failed projects is much lower for agile projects than for traditional approaches.

**Traditional approach
Waterfall model**



Agile approach



▲ The success rate of projects with traditional and agile approaches
The CHAIS Manifesto, The Standish Group International Inc., 2012

The agile approach as the key to success

Agile facts

In traditional project management, you define the scope of the entire solution that is about to be developed during a planning and specification phase at the beginning of the project. It is not uncommon that you notice during the project: time and budget do not suffice to provide all desired functions. Or worse: the project does not fulfill the actual requirements of the customer.

Whereas with the agile approach, you define time, costs, and quality at the beginning of the project and then evaluate which functions can be implemented within the defined scope together with the customer. Therefore, when using the agile approach, project and process management can become dynamic and more flexible. The approach is also characterized by its user-orientation and its attention to social aspects. Contrary to the sequential approach of classical models, agile models are iterative.

✓ Agile fixed price

- Customers have budget security
- Requirements and contents can be changed flexibly
- High transparency

Excursion: agile fixed price

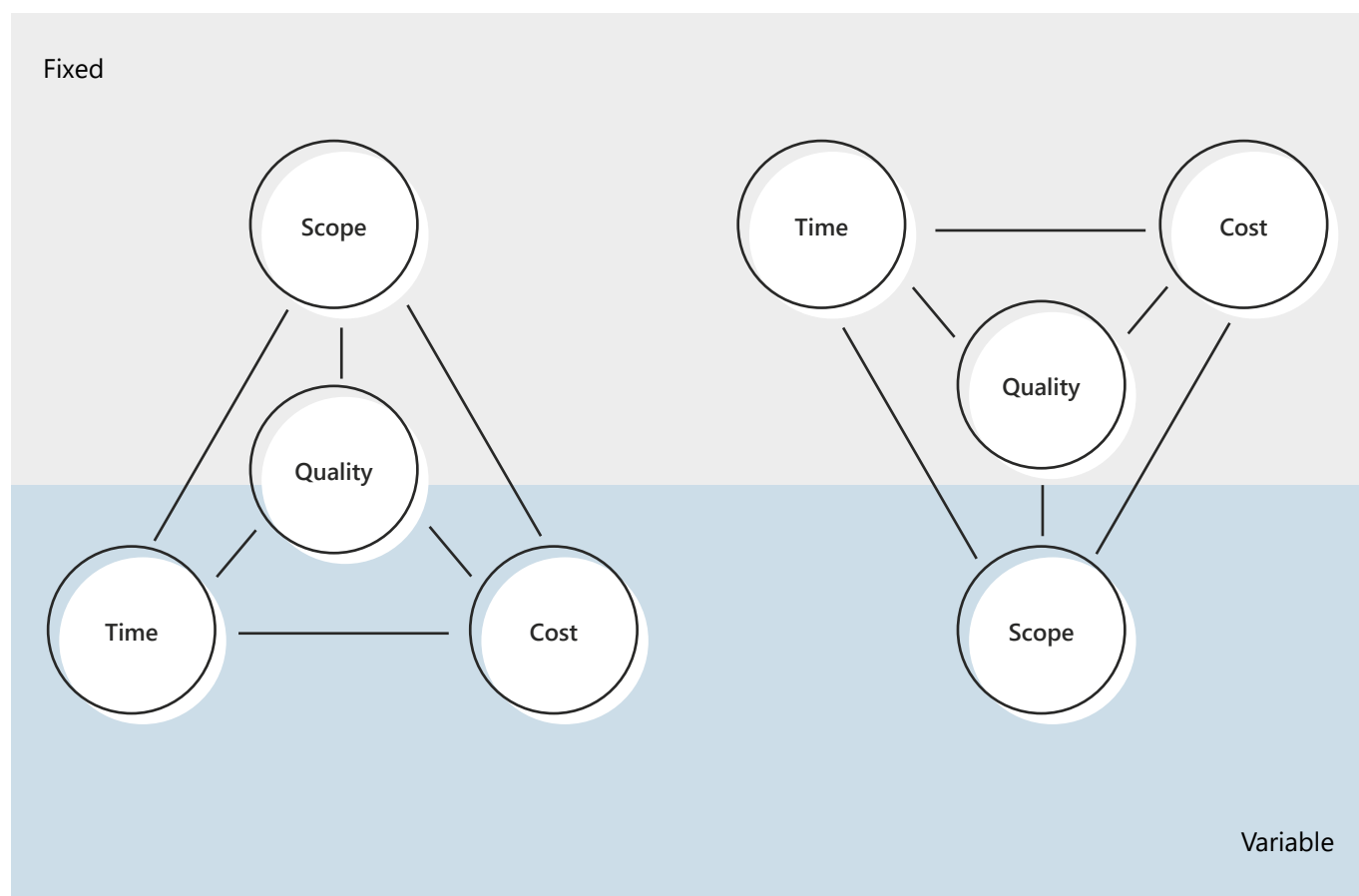
How can we stay within a fixed budget if the scope of the project is not defined in detail at the beginning?

One solution is the agile fixed price: end date and project costs are agreed on by contract. However, the content of the project is still open. The individual price for any possible, selectable requirement is estimated by the software developer. Thus, the customer receives a transparent overview of the individual prices of the respective requirements and can variably replace the requirements that have not yet been implemented with other requirements. In case of price differences, the delta value is calculated below the requirements.

By repeating the same development stage multiple times, you can not only better implement retrospective changes, but also increase the learning effect and solution quality. Procedure models, such as Scrum, Extreme Programming, or Kanban, support the agile approach.

Traditional approach

Agile approach



▲ Comparing software project components
Scrum Alliance, Mikro Kleiner: Simple Arguments
for Scrum to Support Sales People, 2013

From software development to entire companies

Agile approaches originate in the software development sector. Since as early as the beginning of the 1990s, the sector is based on agile principles and methods.

Their benefits and high efficiency are considerable: agile companies are 87 % more productive. Product implementation time is shortened by 83 %. 82 % of the companies report software quality has gone up.

Why shouldn't we adopt such a successful method in other areas and business sectors?

You can find such adopted approaches i. a. in general project management, marketing, or human resources. In these sectors, the agile methodology Scrum helps to establish process transparency and promotes independent work among employees.

Agile approaches also support the process of acquiring product and process knowledge from customers to implement a CPQ solution. The knowledge need not be available in its entirety at the beginning of the project but is identified, processed, and centralized step by step.

You can identify progress and missing information by regularly checking the current working state and supplement it during the next iteration cycle. Thereby, internal processes can specifically benefit from agile methodology.

Our experience: agile marketing at CAS Software AG

For more than 1.5 years, CAS Software AG organizes its marketing processes according to Scrum. Every two weeks, the team comes together at a planning meeting during which they discuss pending tasks and analyze the events of the past weeks. Additionally, short, daily coordination meetings take place.

- ✓ Each team member has an overview of all current activities
- ✓ Tasks can be better distributed between the individual team members
- ✓ Synergies are discovered, work quality increases

▼ 8th Annual State of Agile™ Survey, VersionOne, Inc., 2014



Agile project organisation using Scrum

Scrum is an agile methodology which is also labeled as an agile management framework. Using Scrum, your project organisation becomes agile and flexible. Since 1993, the model has been utilized in countless software projects. Even software giants, such as Apple or Google, count on Scrum. Using iterative procedures and regular improvement processes, the product is developed step by step in close communication with the customer.

Any Scrum project starts with the creation of the **Product Backlogs**, a prioritized task list. The **Product Owner** is a person on the contractor's side.

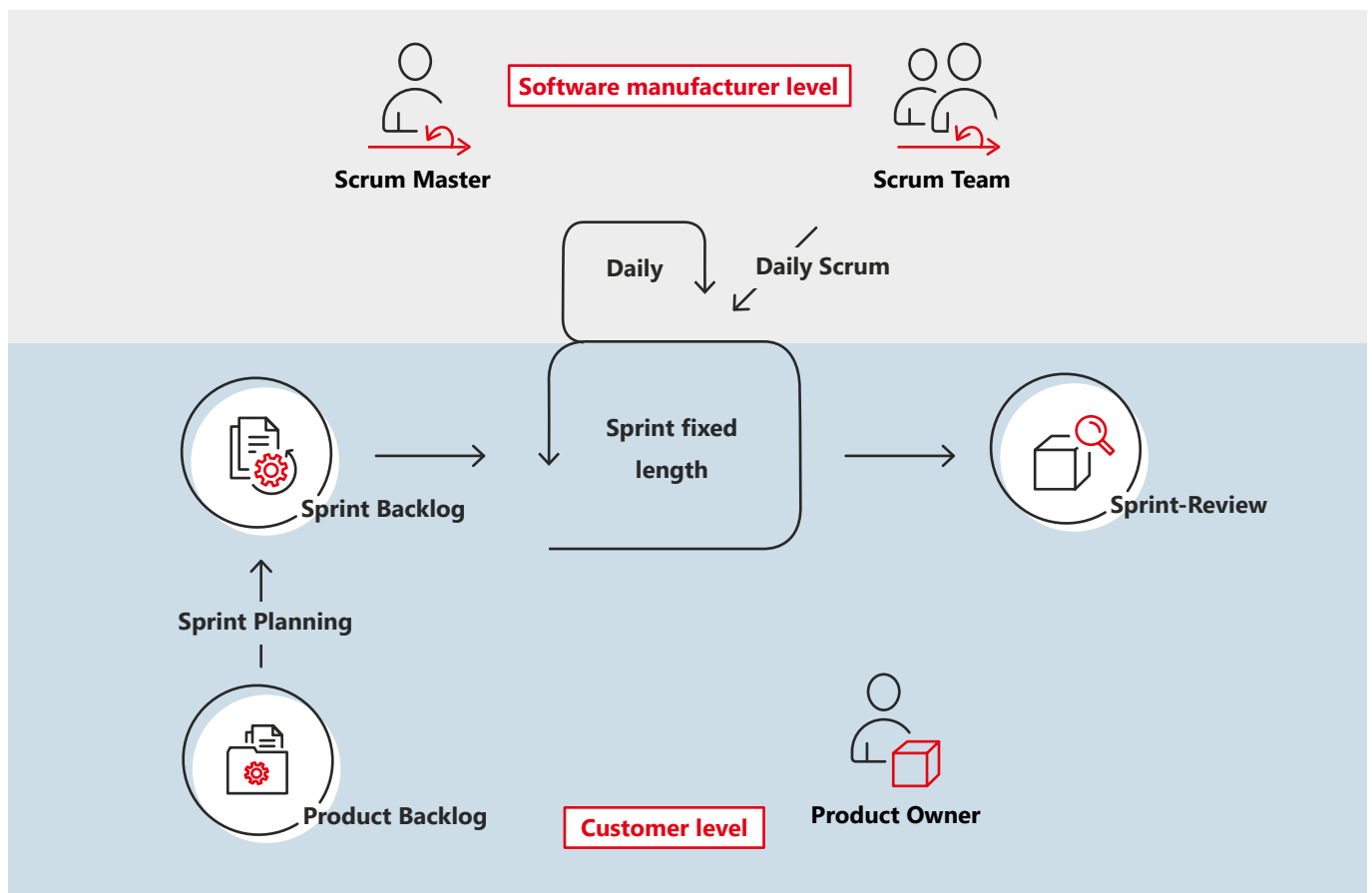
Tasks are implemented during so-called **Sprints**. Sprints are smaller, periodically repeating subprojects that extend over a fixed period of 3-4 weeks. During sprint planning, the team

takes tasks from the Product Backlog they can implement during the defined period.

The **Scrum-Masters** makes sure that all team members understand and follow the process and the team can work undisturbed. Risks and concrete problems are made transparent during the daily meetings.

During the **Sprint-Review**, the work result is presented to the Product Owner and further interested parties. The result of each Sprint is a project increment that has passed the sprint review process and can be delivered to the customer.

After each Sprint, the **Scrum-Team** evaluates the quality of the completed **Scrum-Sprint**. With criticism and suggestions, the process is improved after each iteration.



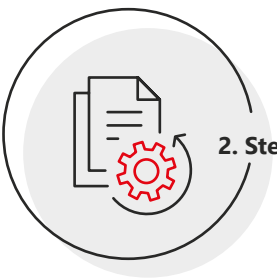
▲ The Scrum process

Scrum benefits at a glance



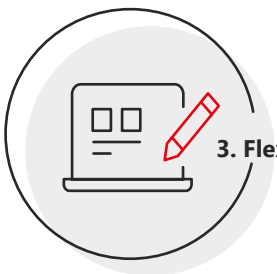
1. Transparent development progress

The progress and challenges of the development process are recorded - daily and visible to everyone.



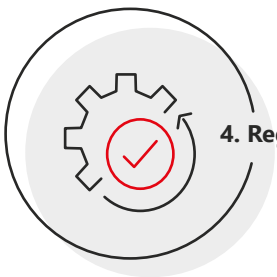
2. Step by step definition and continuous improvement of requirements

It is difficult to foresee the final project scope at the beginning, thus resulting in assumptions about the uncertain. Scrum helps you to minimize assumptions as requirements and information are developed step by step. It also eases the internal processes for information gathering on the customer's side.



3. Flexible reaction to requirement changes and unexpected events

During any project, the priorities and requirements are changing. SCRUM takes this fact into account. The customer can change their priorities or modify their requirements during the course of the project.



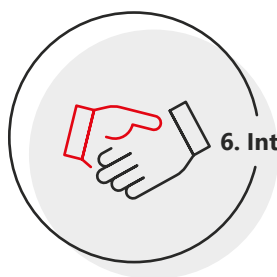
4. Regular delivery of functional software

Product functions are implemented and delivered in regular intervals. Thereby, progress becomes visible and can be evaluated. You can identify further requirements (that you might not have recognized before) in the interim version and better discern the need for change.



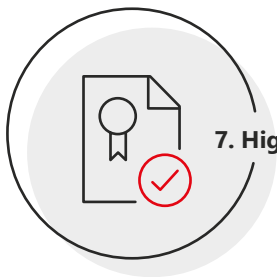
5. Early software deployment creates acceptance

The software can be deployed early through the regularly delivered, functioning, and current state of development. Employees can get to know the software. This not only shortens the training period but also helps to increase acceptance for the software among employees.



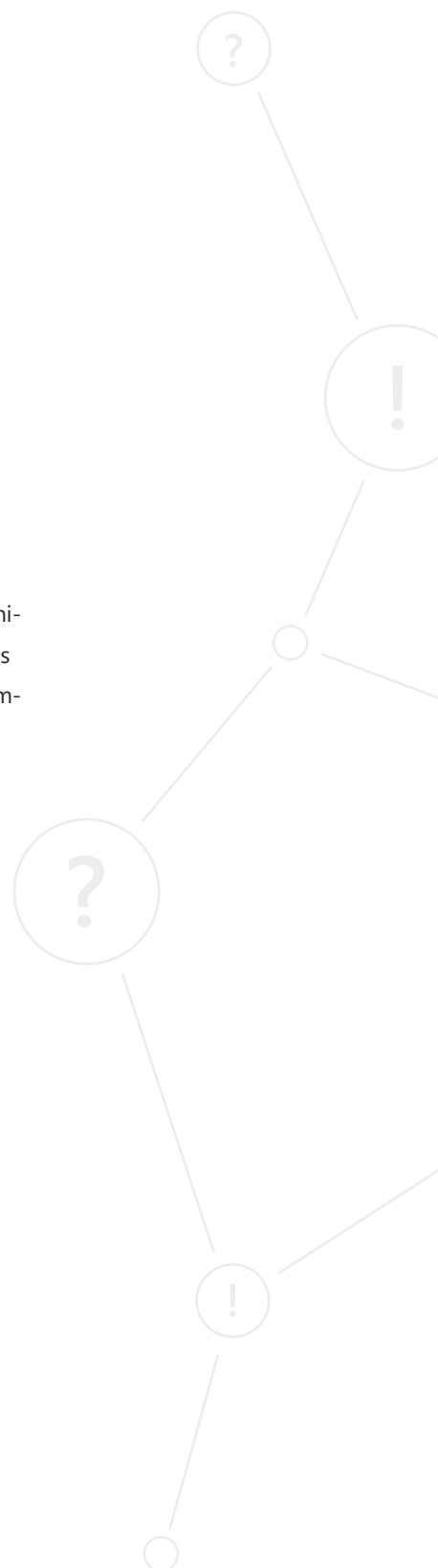
6. Intensive cooperation and meeting the customer's needs

Regular meetings and intensive cooperation foster the communication between customers and software companies. The focus is not on the process but the customer and their needs: in full compliance with our „Customer Centricity“ mission statement.



7. Higher result quality

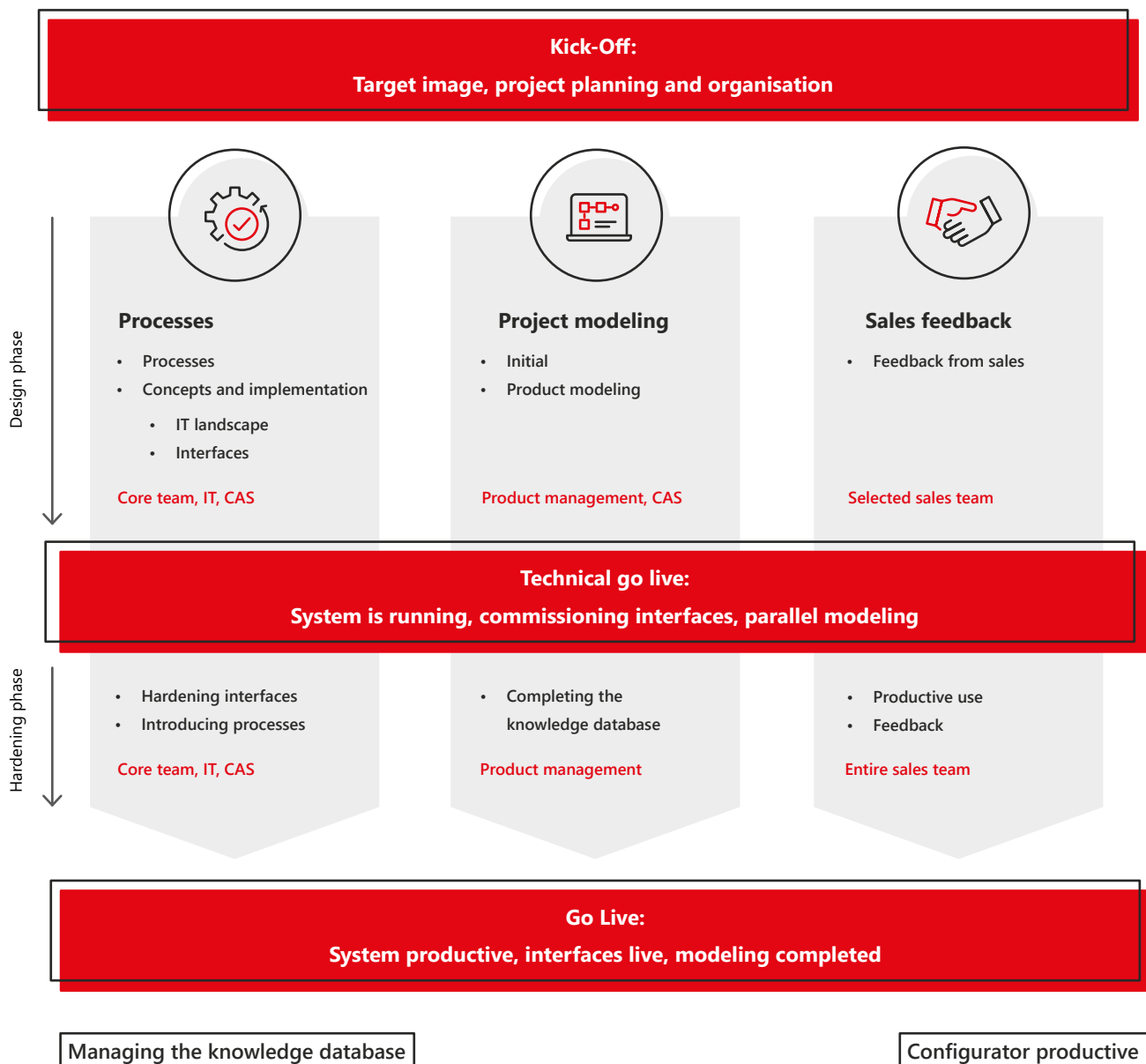
Scrum is quality management in practice. This is reflected in a high software quality and satisfied users.



How does the configurator implementation work at CAS?

Every product is different, which is why a configuration system has to fit the needs of the company using it. As a software company, we are following our „Customer Centricity“ mission statement. In doing so, the needs of the customer are our focus - even during the implementation of the CPQ solution CAS Configurator Merlin.

The implementation of CAS Configurator Merlin is based on three pillars: processes, product modeling, and sales feedback. The iterative process and the utilization of Scrum enable us to evaluate interim results and customize requirements to perfectly fit the customer's needs already during the introduction phase.



▲ Configurator implementation according to the 3 pillars principle

Implementation of different phases



Design phase

First, CAS Merlin employees conduct a requirements workshop with the customer to get a feel of the scope of your individual requirements. Thus, you can create a rough estimate of the entire endeavor and a quote that is customized to fit specific customer needs.

Once the target vision, the project plan, and the organization are defined, the design phase can begin. Internal (sales) processes are analyzed and taken into account in the configurator or adjusted to fit the utilization of the product configurator. An integration into the existing IT landscape is realized and interfaces are identified. In the course of multiple iterations, first functioning interim states are created and can already be tested by part of the sales team.

At the same time, the product management as well as CAS employees work on the initial product modeling during multiple workshops. Here, the product structure is analyzed little by little and then processed in the configurator. The knowledge is transferred from the minds of your employees into the new CPQ solution.

Hardening phase

The technical Go Live is the first milestone. The system is running; the interfaces are put into operation and then hardened. The product modeling process simultaneously continues until all products are completely modeled in the configurator. As of the technical Go Live, the entire sales team can use the configurator in addition and parallel to their previous methods and provide feedback for its use.

With the second milestone, the product configurator can be used from sales without constraints. Continuous improvements and maintenance ensure that the configurator is always up-to-date with current technology. The knowledge database is maintained and cultivated on a regular basis so that you can always configure error-free products even if the product structure has changed and new products or variants have been introduced.

Our recipe for success: agile project management instead of stiff plans



The process of software implementation is viewed critically and not without good reason. However, with agile approaches, anyone can overcome the biggest challenges during the implementation phase with intelligence. Scrum as an agile methodology not only provides transparent progress during development, but also enables flexible changes, ensures better software quality, and directs focus to the individual requirements and wishes of the customer.

CAS Software AG as the manufacturer of marketing-leading solutions for relationship management in companies and organizations has applied agile methods for six years already and can rely on extensive experience. This experience benefits our project and development teams and, above all, our customers.

When implementing CAS Configurator Merlin, the software is created, customized, and implemented iteratively in close collaboration between software developer and customer. The implementation is aided by multiple workshop phases during which a working software version that adapts to increased or changed requirements is created step by step.

Our customers confirm our success:

„We would choose CAS Configurator Merlin and CAS Software AG again, every time,” Andrea Waizenegger, Product manager, Herbold Meckesheim GmbH.

Reference report: successful configurator implementation with Scrum

At the mechanical engineering company Herbold Meckesheim, the CAS Configurator Merlin has been implemented using Scrum. With this methodology, the implementation project could be customized to fit the company with early access and use of the product configurator, the promotion of step-by-step progress, and the immediate implementation of any desired changes. At Herbold Meckesheim, the configurator implementation was split into an orientation and a prototype phase.

» *Through the workshops, we were able to perfectly communicate the complexity and required efforts internally, which would come along with the implementation of the software. The benefits and saving potentials had become obvious quickly as well* «

Roland Tasca

Head of IT and Communication
Herbold Meckesheim GmbH

» *The collaboration with CAS has always been very productive. We felt very well cared for during this time and the quick reaction to any demands or inquiries contributed to the seamless communication.* «

Andrea Waizenegger

Product Manager
Herbold Meckesheim GmbH

Custom implementation project

When implementing a CPQ solution, the first step is to analyze the as-is state. The analysis focused on questions such as: who is equipped with the know-how on machine assembly? Who creates the quote? Who defines and analyzes customer requirements? Who creates the corresponding bills of materials and construction manuals and how do they create them? We quickly realized that the required information was distributed across many different persons. Furthermore, the information was available in different forms: in many cases in Excel files, in part in the ERP system.

This information that belonged together was supposed to be gathered in one system. The knowledge of the company experts was supposed to be bundled in the software. This was supposed to achieve not only higher independence from sick leaves or the departure of individual employees, but also drastically shorten the training period for new employees.



We created an interface to the existing ERP system as well as the newly implemented CRM/XRM solution CAS genesisWorld so that product data and customer information could be linked efficiently.

Herbold Meckesheim deploys CAS Configurator Merlin since 2013. With the help of the graphical modeling functions, the integrated document generation, and a short training period, we were able to accelerate our quite process by 50 percent.

Learning by doing

Based on its extensive project experience, CAS recommended starting the project with a series of collaborative workshops. During those workshops, the first products were modeled together with Herbold employees. Soon after the start of the first workshops, the employees were able to continue the modeling process by themselves and make their first independent changes. The insights gained during these collaborative workshops in the prototype phase exceeded a mere user training for Herbold Meckesheim: they were very quickly able to identify benefits and savings potentials. The Merlin starter package helps you to clearly communicate the complexity and required efforts of the software implementation internally.

Besides the workshops, the Merlin starter package also includes the delivery of a first operable system by CAS Software AG. „As we were immediately able to access the full scope of functions of CAS Configurator Merlin, the configurator became tangible for us from the first day,” explains Roland Tasca.

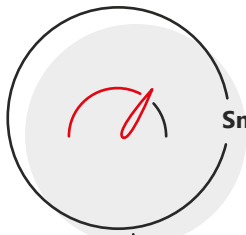


» The human aspect is a deciding factor for the success of software implementation projects. That is why close collaboration with our customers is important to us: to be able to meet their needs exactly and understand their priorities. Scrum helps us to achieve that. «

Torsten Biskup

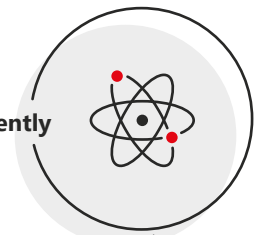
Project manager
CAS Software AG

Our tips for your CPQ project



Smart organization of the workshop phase

- ✓ Plan for a workshop phase to identify the as-is state and define the goals of the project. Depending on size and complexity, you can anticipate 3-10 workshops.
- ✓ The time between workshops should not exceed 2-4 weeks.
- ✓ Optimal groups consist of 4-6 people.
- ✓ Divide the contents into thematic blocks (e.g. IT, product knowledge, documents).
- ✓ Define the employees responsible for completing the „homework“ for the next workshop.



Collect knowledge efficiently

- ✓ Budget specific time slots for the collection of knowledge.
- ✓ Collect all knowledge at one central location, for example, in mind maps.



Find the right mindset for your project

- ✓ View the project as a process and define intermediate steps.
- ✓ Long-term company goals should be included in the basic configurator concept.
- ✓ If you agilely adopt to requirement changes, the process becomes much easier.
- ✓ Present intermediate results regularly to employees beyond the project team to promote project acceptance.

CAS Merlin

Configuration driven by passion



35

Successful
years



10+

Years standard
product



25%

Investment in
innovation
of turnover



70%

Equity ratio



44Mio.+

Turnover of the
CAS group 2020



450+

employees in the
CAS group



120+

Employees in the
configurator unit



70+

Users of the
configurator unit

For more than 30 years, we have been developing successful CPQ solutions for SMEs and larger customers. We specialize in the introduction and customization of CPQ solutions so that our software can bring your digital variant management to a new level. What sets us apart? We combine powerful technology with emotional relationships. We are passionate about the simplification and digitalization of complex products and services to increase your sustainable success.

We are actively shaping the digital future: more than 450 co-creators of CAS Software AG develop innovative CRM/XRM and CPQ solutions for successful companies from all sectors across the world on the CAS Campus and at the CAS App Center.



Further sources

- Opelt, Andreas et al.: Der agile Festpreis – Leitfaden für wirklich erfolgreiche IT-Projekt Verträge (The Agile fixed price – A guide to really successful IT project contracts, in German language), Carl Hanser Verlag publishing house, Munich
- Oestereich, Bernd: Der agile Festpreis und andere Preis- und Vertragsmodelle (The Agile fixed price and other price and contract models, in German language), www.oose.de/downloads/oestereich_OS_01_06.pdf
- Scrum Alliance: Simple Arguments for Scrum to Support Sales People, [http://www.scrumalliance.org/community/articles/2013/august/a-changed-view-to-scrum-while-sales-process+](http://www.scrumalliance.org/community/articles/2013/august/a-changed-view-to-scrum-while-sales-process-)
- Scrum Foundation: About Scrum Foundation, <http://scrumfoundation.com/about>
- t3n digital pioneers: Agiles Projektmanagement: Scrum, Kanban und Scrumbuts im Einsatz (Agile project management: Scrum, Kanban and ScrumButs, in German language), <http://t3n.de/magazin/praxisbericht-scrum-kanban-scrumbuts-agiles-232822/>
- TU Ilmenau, faculty for informatics and automation, FC system and software engineering: Agile Vorgehensmodelle (Agile process models, in German language), <http://www.tu-ilmenau.de/gross/sse/lehre/winter-201213/softwareprojekt/agiles-vorgehensmodell/>
- VersionOne Inc.: 8th Annual State of AgileTM Survey, 2014, <http://www.versionone.com/pdf/2013-state-of-agile-survey.pdf>



CAS Software AG
CAS-Weg 1 - 5
76131 Karlsruhe, Germany

+49 721 9638-901
merlin@cas.de
www.cas-merlin.de/en/

