



Configure to order

Roadmap for the manufacturing industry

In cooperation with:

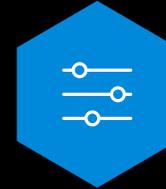
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Market trends

You cannot turn a **blind eye** to the marketing trends of Industry 4.0. Still working with engineer-to-order is not only outdated, it also forms a **threat to the right to exist** for businesses that could just work modularly. Working configure-to-order is the **chance to survive for manufacturing businesses**. We show you exactly why, along with what exactly it entails and what concrete steps you should take to work CTO.

Are you **still** working engineer-to-order? Then this whitepaper should enlighten you.



Demand for customization



Product variance increases



Customer demand is unpredictable



Product package is becoming increasingly knowledge intensive

Why this whitepaper?

Manufacturing businesses that work configure-to-order can excellently respond to aforementioned market trends. With a fully automated pre-production process these trends should no longer pose a threat to the manufacturing industry. Instead, they become the most important USPs. By always being able to deliver in quick fashion, adhering to customer wishes and flawlessly working within all of your business activities.

Ridder Data Systems and Elfsquad support companies in the transition from engineer-to-order (ETO) to configure-to-order (CTO). This is badly needed, because the market does not sit idly. We do not just use our software for this, but also share our experience and expertise. In the form of this whitepaper, among other things. We have set up a generic roadmap to pilot manufacturing businesses through this transition. With concrete examples from practise.



What is ETO?

Engineering-to-order is the order process where businesses design, engineer and produce the product for each individual customer order. When an order is incoming, the technical requirements are yet unknown, since salespeople do not have the complete knowledge for the engineering process in their possession. Leading to a complex sales process and long runtimes.

What is CTO?

CTO stands for configure-to-order. CTO aims itself at composing orders from existing modules. Ahead of things, products are modularly built. And within these static modules a limitless amount of customer specific compositions can be built, flawlessly. Resulting in peace of mind and predictability.

What does CTO yield?

First of all, it is good to note that CTO contributes to chain integration. To tackle the challenges of engineer-to-order as good as possible, manufacturing businesses increasingly transition to the CTO-principle. Within CTO it remains possible to adhere to specific customer wishes in certain contexts, and as such the unique worth as a manufacturing business remains guaranteed. The CTO process yields more benefits still. Foremost, it is not prone to errors because processes are often repeated. Errors in these processes are traced quickly as a result, and consequently solved, leading to a much smaller chance of repeating these mistakes. Furthermore, delivery times are shortened. By reducing the engineering phase, valuable time is saved and delivery time is mostly dependent on how long production takes. With this CTO allows for cost reduction since the engineer does not have to draft a new design time upon time again. Finally, CTO also increases your products' quality significantly.



The danger of ETO

Frustration

The complicated quotation process is like a snowball-effect felt by the entire supply chain. Faulty compositions get sold sometimes. Leading to a lot of contact and friction between sales, engineering and production. In other words: frustration.

Long runtimes

The customer is intimately involved throughout the entire process. This means back and forth contact between the customer, sales and engineering. Disagree with the design? Back to the drawing table goes the engineer. Weeks pass by and production has not even started.

High pressure on engineers

Customer specific orders have to be drawn out one at a time. And solutions must be thought of for faulty compositions that have been sold. While very short delivery times have been promised. This creates anxiety during the engineering process.



The success of CTO

Everyone knows where they stand

Salespeople always compose the correct product. Even quotations for the most complex of machines and installations all make sense. No more long-term contact, no frustration.

Extremely short runtimes

The customer is solely involved in the first contact with Sales. Sales and customer configure the perfect customer need, directly resulting in a flawless quotation, BOM, and schematic. Production can take off after a matter of minutes.

Flawless production follow-up

Said errorless quotations are converted into bills of materials and production orders, through integration with ERP. And did you know an integration with CAD provides automatically readymade blueprints? Customer-specific orders can enter production with the push of a button.

The danger of ETO

Innovation is paused

There is no time at all to focus on what engineers prefer to do: R&D. Product development and innovation come to a halt. And by always engineering a different product, knowledge transfer and attaining competitive benefits become difficult.

High costs

Technical risks within ETO are likely, and costs flowing forth from this are high. Your employees work on projects that are significantly less valuable than projects that are enabled when working CTO. Additionally, customers will raise high claims when not receiving their product in time due to very long runtimes.

Growth is slowed down

Globalization and competitive scaling effects exercised by competitors ask for low cost levels. Cost levels you cannot realize. And in turn, you cannot focus on growing.

The success of CTO

Time for a breakthrough in innovation

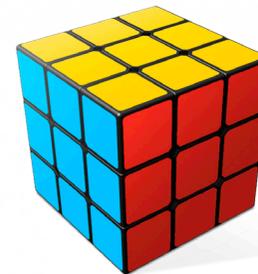
By automating the pre-production process, time for R&D is finally freed up. Engineers can let their lust for innovation speak and develop product solutions that will truly advance your business.

Low costs

There is no risk in CTO. Human mistakes are taken away from the process, and costs of errors as well. Delivery times can be met, and customers are satisfied. Employees spend their valuable time more useful than ever before.

The basis for growth

You are able to comply with cost levels and delivery times which the market asks for. Customization has become the new standard. As such, you can focus on upscaling production. And expanding your dealer network.



Approach the optimal pre-production process in 7 steps

1 Choose a partner who is familiar with the market

The transition to CTO is valuable, but also drastic. Not just internally, but your regular customers, dealer network and prospects will deal with a much more effective way of cooperating. It is important to be guided through this process by a partner who understands the market. A partner who knows what your competitors are up to. Where your chances lay. And what your next steps should be. For nothing is as disastrous as investing in a party that does not suit your business at all.



"We were simultaneously working on both implementing Ridder iQ as well as replacing our old ERP system. Because we were in the middle of implementation we already had viable people at our table, both internally and externally. This makes you truly notice progress in the implementation process."



Mark Ravenswaaij

Head of Marketing and Communication Movexx

2 Know what it means for your organization

Automating the pre-production process by working CTO should not cause your employees to lose confidence. They should not get the feeling that their jobs are threatened by increasing automation. Sales employees, engineers and work planners should realize that they will gain more time for their preferred work.



"As a company, we have had the vision to use a product configurator and the CTO principle for quite some time. Using a product configurator frees up a lot of time for our employees. Especially long-term. We can focus on what truly matters."

- Movexx



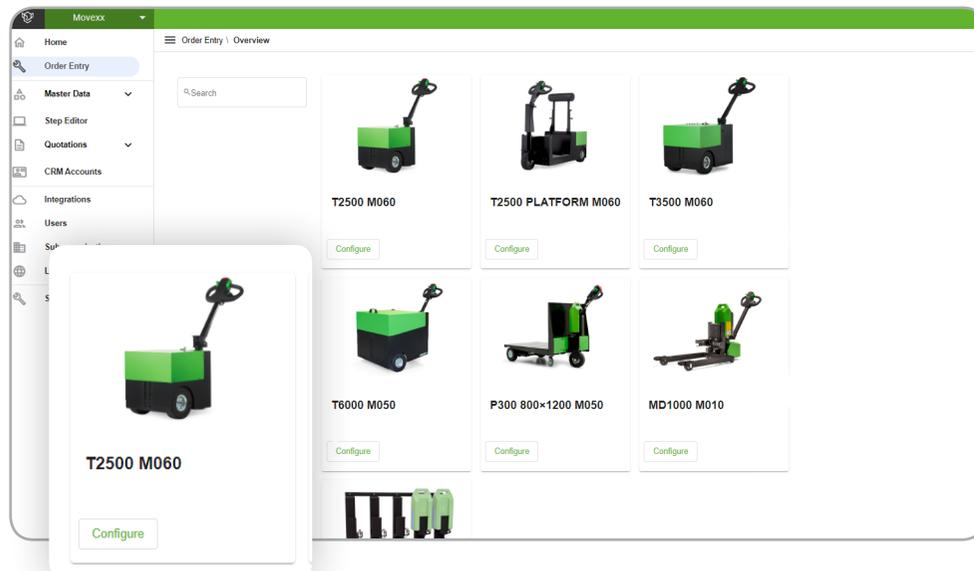
3 Build in modules

Within your product offer, too, you can start working modularly. It is important to identify different modules within your product package. First of all, try to gain insights into which quotations for which products cost a large amount of time. By starting with these products you will swiftly be able to start taking steps. Resulting in more time and space afterwards to start building remaining products modularly.



“Working modularly means going back to basics. Our engineers have rebuilt the machines from the ground up. This has cost us time, but now bears its fruits. Every option has been replotted. What fits? What does not? How are bills of materials built up? All sorts of pressing matters that we have converted to ready knowledge.”

- Movexx



4 Make someone responsible for the standard

It is of utmost importance to appoint someone to be responsible for standardizing the product range. With CTO a standardized product is always central. This standardized product must remain sufficient for market demand. In turn, the person responsible must keep the standard up to date.



“We have from the very beginning appointed two employees to be responsible for filling in the product configurator. They keep this responsibility and we remain topical. The standardization goes parallel to the market.”

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5 The Product Configurator becomes your basis

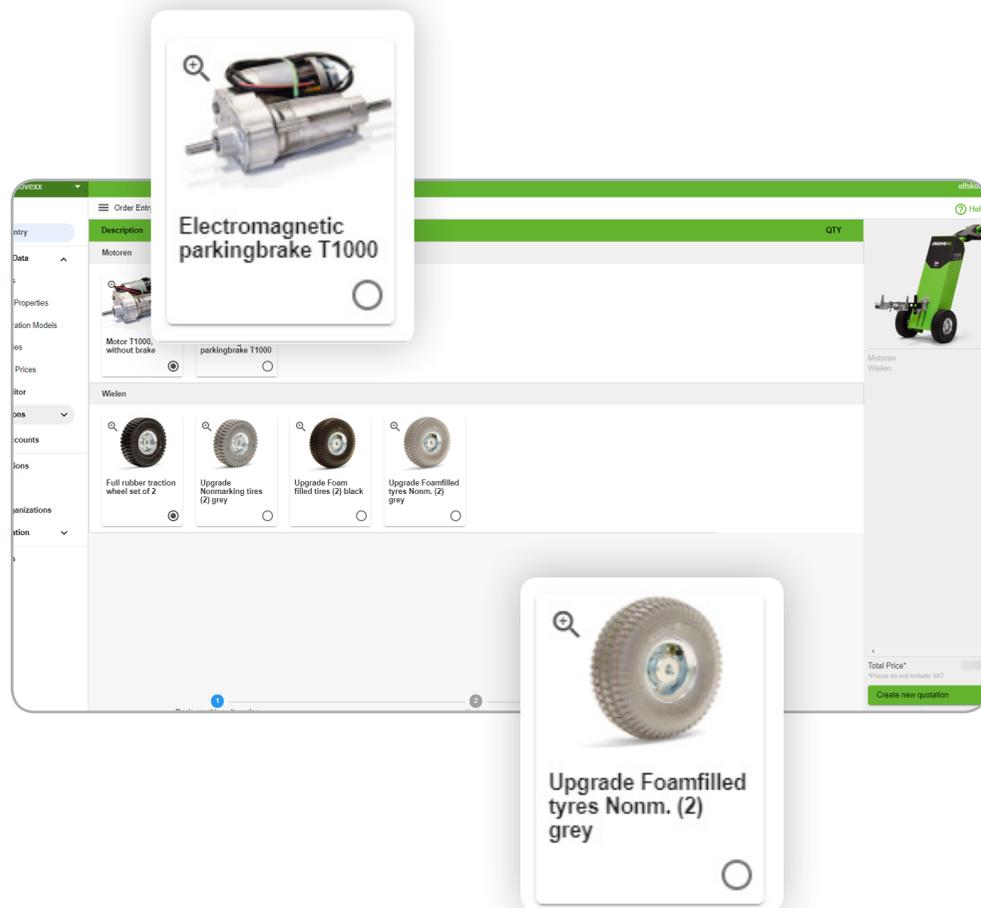
The built modules and standardization of products needs to be captured in an application: a product configurator (also called sales configurator or CPQ software). A lot of configuration software requires programming work. If you are aiming to focus on customer needs and not programming work, the eventual result will suffer from this division of attention. Go for intuitive and flexible software. You will want to see immediate results. And you will want to be able to handle required adjustments in quick fashion.

Choosing for customization in your configurator? Then you are dependent on this very party. And from dependence, frustration may appear if action is not taken swiftly.



"Using a product configurator saves us seas of time. Elfsquad allows our dealers to implement their quotations directly into our system. It frees up a lot of time."

- Movexx



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Combine marketing, sales and engineering during your CTO transition

Engineers will understand links within product structures like no other. But your engineers are not your best salespeople. While a product configurator should support sales in the first phase. In other words: it is very important to also involve sales in the process. Because a product configurator should be filled with customer needs as a starting point.

The technical product has to be translated to the end customer. And who knows the end customer the best and has the easiest access to the online platform? Your marketers. Marketing, too, should contribute.



"Utilizing knowledge from earlier years we first drafted a top 10 of machines ordered. Along with the best sold options and parts. Our engineers then went to work, together with sales. This was our focus in the beginning phase. Make sure the machines are correct, together. Afterwards we went on to set priorities by taking a good look at what the market demands."

Employing a configurator is done in phases. During the last phase we offer potential customers the possibility to configure on our website, online and in 3D. Marketing, visualized."

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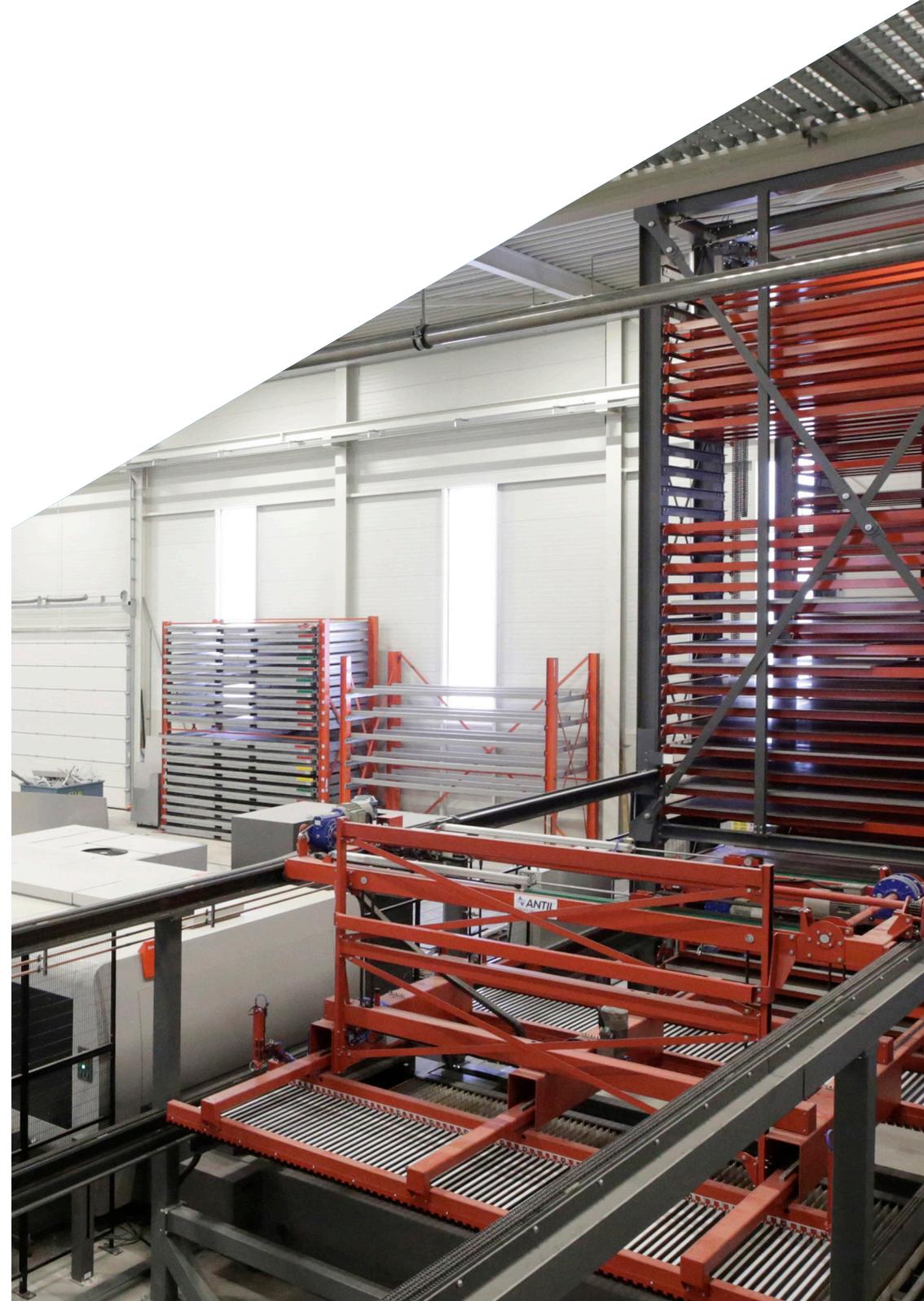
Connect the chain

Industry 4.0 demands a tight connection within your entire supply chain. When you have poured your modular product into the configuration software, customers can flawlessly configure product compositions. It is important to choose configuration software which directly integrates with your current IT landscape, such as ERP, CAD, CRM and PDM. To also flawlessly connect the production process with the sales process and drastically reduce runtimes.



"Based on our CAD blueprints from Solidworks a product is given out through PDM. With Ridder iQ, a quotation is created. Through a direct integration this quotation is filled with configurations from Elfsquad. Next up, the quotation is directly loaded into Ridder iQ again. When the end customer gives the green light, a definitive order is made which can then be further processed."

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But, I have been working with ETO for years...

In practise we sometimes hear phrases such as “I have successfully been working with ETO for years, why should I change that? Answer: because development after development flies by in the manufacturing industry. We simply want you to keep on working successfully. This asks for an automated pre-production process. Working with obsolete software or partners that do not have their eyes on the future of the manufacturing industry is simply outdated. And if you do not take the step? Your competitor will.

I cannot start working with CTO because...

... I only sell customized products.

Especially for companies selling customer specific products, CTO is a godsend. The focus of these kinds of businesses is already aimed at the customer’s needs. These needs go further than just the product. Sharp prices and swift delivery, too, are prerequisites. By working with CTO you can both sell customer-specifically, and adhere to their strict requirements. You realize Mass Customization.

... nobody has time for this.

Companies with this thought do not look far enough ahead. A transition to customer orders on the basis of configurations does require some time, and you should not rush this. But the time saved by drastically reduced runtimes weighs much, much more heavily. Keep the 80/20 rule in mind. 20% of the most tedious orders cost 80% of your total time. By directly tackling this 20% you will quickly start taking steps to free up more time.

... my products cannot be built 100% modularly.

Even if the last 20% of your product will have to be engineered, CTO will still serve you well. Through CAD-integrations with a product configurator you can set up the pre-configured part in your CAD software in advance. After which you can finish up the remaining 20%.

... I supply system integrations.

Manufacturing businesses that supply system integrations often deliver CAD drawings along with them for further engineering of the complete product. When rolling out a quotation (in the product configurator) you can send a CAD drawing along with it. Fully based on parameters, which are supplied by the configurator.

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