

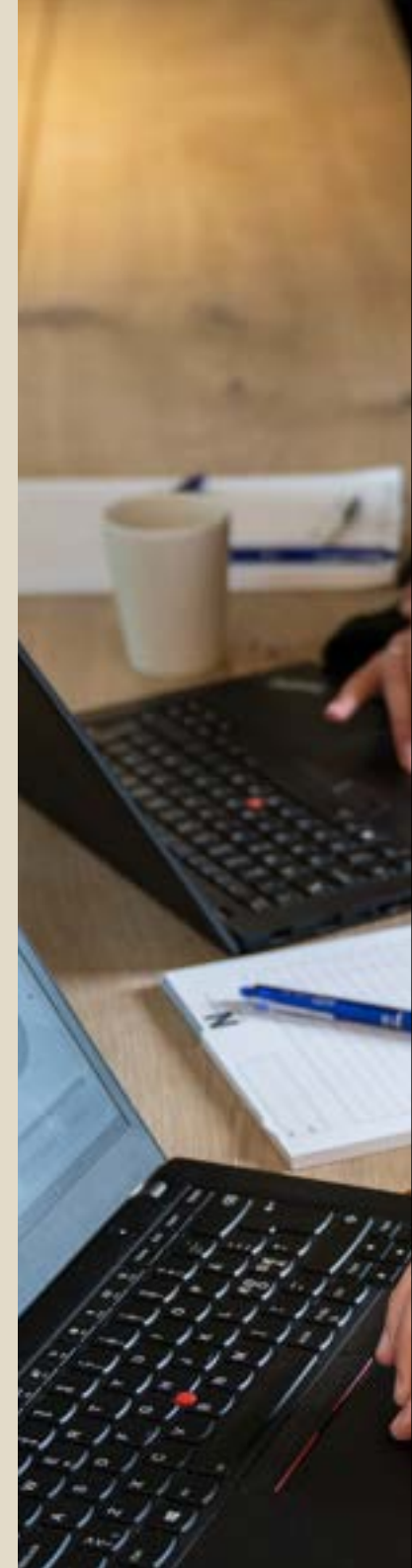


SOLID WOOD INDUSTRY

# CREATING VALUE FOR YOUR COMPANY — TOGETHER

## INTRODUCTION

# HELPING YOUR COMPANY SPREAD ITS WINGS





At Nicholaisen A/S, it is our vision to become the preferred and value-creating partner. Whether we provide advice on how to streamline the current production plant or deliver equipment in connection with new solutions, this is always our vision.

We make a virtue of challenging the usual way of thinking within our line of business, which manifests itself in various projects where a digital and fact-oriented approach is in focus. In addition, it is our mission to help you increase the production capacity and reduce costs by means of intelligent optimisations and profitable investments.

Do you want to get to know us better and see how we can make your company more competitive based on a sustainable foundation? Continue reading and get an insight into our approach and see examples of projects we have completed in collaboration with other customers.

**- YOUR EFFICIENCY PARTNER**



# YOUR AMBITIONS — OUR SOLUTIONS

Nicholaisen A/S was established in 1993 with focus on sale and service of machines. For a number of years, there was a specific focus on sale of the best machines from German manufacturers, but since then, competencies and experience have been acquired across a very broad spectrum of machines.

Since the establishment, Nicholaisen A/S has been driven by a very strong customer focus. This has led Nicholaisen A/S to evolve into a solution provider, to better serve the needs of our customers. Based on close dialogue and collaboration, we now function as advisor and sparring partner for our customers – always with a focus on valuable solutions that can unleash untapped potential and on a sustainable foundation strengthen the competitiveness.



### **YOUR PREFERRED ADVISOR AND SPARRING PARTNER**

We can ensure you that we always listen to you and your needs. In addition, we know that investments and optimisations in production are motivated by many different challenges. As a result, we have – in close dialogue and collaboration with our customers – developed various solutions. Among others:

- A software company, OptiPeople, that can assist with data collection and efficiency improvements.
- An analysis department that ensures the correct fact-oriented foundation for developing new solutions.
- Methods to find the best investments for increasing your company's competitiveness.
- A project department that ensures successful projects.

CASE

# CLOSE COLLABORATION AND NEW TECHNOLOGY ENSURE HIGHER VALUE OF RAW MATERIAL

**An uncompromising approach to the best possible drying of hardwood was the starting point for a development project between a Danish customer, Nicholaisen A/S, and the supplier of the drying equipment.**

The vision for this project was clear – to ensure drying of hardwood from fresh to ready for woodwork under 100% controlled conditions. But it was equally important to ensure least possible damage of the raw material and ultimately a reduction of the value.

In addition, the project had a sustainable aspect, as it had to be completed with minimum climate footprint and lowest possible energy consumption. In other words, the process had to maximise quality and minimise resource consumption. That is not an easy task, but a task that Nicholaisen A/S helped find a solution to.

The project was based on the supplier's advanced tech-platform for control and surveillance of all parameters during the drying process:

- **Relative level of humidity in the chamber.**
- **Control of heat, air velocity, measurement point in the tree, and ventilation.**
- **WIFI-measurement points for flexible placement in the whole chamber.**
- **Energy-efficient inverter technology regulating the speed and valve.**

Through the work with this tech-platform, a new software function was developed – STOP & GO. STOP & GO ensures that the drying process stops during the ventilation of the fresh wood. In addition, special needles ensure more precise and correct measurements of the fresh wood.

Since the beginning of the project, a capacity of more than 2,000 m<sup>3</sup> has been installed, and both in terms of improved quality and reduced energy consumption, the results have been impressive.

Through dialogue and close collaboration, we have ensured a solution that not only benefits the customer and their production, but also takes the environment into account.









## CASE

# ESTABLISHMENT OF A NEW FACTORY — NICHOLAISEN A/S TOOK PART FROM START TO FINISH

Establishing a new factory requires the right guidance from start to finish. At Nicholaisen A/S, we know that. Therefore, we were involved throughout the whole process when we helped the Danish manufacturer of plank floors, Dinesen A/S, with the establishment of a new production plant for oak floors.

Dinesen A/S had big ambitions of establishing a production plant for oak floors and therefore, they contacted Nicholaisen A/S. When our customers have big ambitions and dreams, we make a virtue of turning them into reality. And this was also the case here.

In such a project where there is a high focus on visions and strategy, it was very important with a fact-oriented approach. Therefore, we completed an in-depth analysis of the turnover figure from Dinesen A/S, which gave us an overview of the primary production that the solution had to handle.

Thereafter, we took a deeper look into the engine room of the different aspects of the production. The factory's processing and refinement of the raw material was centred around data collection on the individual floorboard. In this way, it was possible to trace a finished floorboard throughout the whole production, back to the subcontractor, and all the way back to the forest where the tree was cut down. This was possible with the use of a unique Radio Frequency Identification label (RFID), which contains all information about the floorboard: dimensions, quality, colour, production time, subcontractor and much more. With this solution, a great level of transparency throughout the production is ensured as well as a high level of quality from start to finish.

Establishing a whole new factory requires the right guidance and sparring throughout the whole process. The success of this project was to a high degree driven by a proactive and engaged team involvement across customers, suppliers, and Nicholaisen A/S. That is, the recipe for a successful partnership.

# OUR EXPERIENCE — YOUR POSSIBILITIES

Our long tradition and great experience within the solid wood industry is your shortcut to the right sparring and guidance. We always work with a solution-oriented approach in relation to your needs, and we always make sure to bring both our own and external competencies into play when deciding on the right solutions.

In close collaboration with our customers, we have completed various projects within the solid wood industry. Among others, we have been part of a project centred around machining of components for the most beautiful furniture, we have been part of creating a new layout and production equipment for production of packaging material, and we have also been part of ensuring a whole new and streamlined factory for production of exclusive floors including modern handling of the heavy floorboards.

As an example of our commitment within processing of solid wood, we have developed a new concept and a new software for drying of fresh wood. Since the beginning, this concept has developed and resulted in many improvements in terms of getting the most out of the raw materials used. In addition, the customers will also experience significant reductions in terms of the overall energy consumption during the drying process.

Throughout all our projects, we have gathered plenty of experience and knowledge that we always have with us when starting up new projects.





## 1 – INNOVATION AND EFFICIENCY

# YOUR SHORTCUT TO AN OVERVIEW OF THE COMPLEX

Our innovative approach and focus on data and analysis is your shortcut to innovative solutions and increased efficiency. We handle the complex and create an overview, and we always have a focus on optimising production, processes, and finances instead of machines.

### **A CUSTOMISED AND DATA-BASED SOLUTION FOR YOUR PRODUCTION**

Based on data collection via OptiCloud-software and PLC-measuring equipment on machines, we create the foundation for making the right decisions tailored exactly to your production. In connection with onboarding in OptiCloud, we also ensure that your machine operators are trained in navigating and using the platform so that you will quickly gain high data quality and registration of the right stop causes.

### **DATA ENSURES OPTIMISATIONS**

Based on the collected data, we will identify potential areas in the production where we see optimisation possibilities – so-called ‘Quick Wins’. In collaboration with you, we always work towards unleashing the potential of your company. We provide you with an overview of the complex and enable you to make fact-based and rational decisions ensuring continuous development and growth of your company.

### **GET AN OVERVIEW OF THE FINANCIAL SITUATION AND FUTURE INVESTMENTS IN THE PRODUCTION**

An analysis project of your company’s potential can show you the way and provide you with the overview you are missing. Here, you will get a so-called **growth report** that reflects your company’s situation, future goals as well as new initiatives that can help develop and move your company in the right direction.



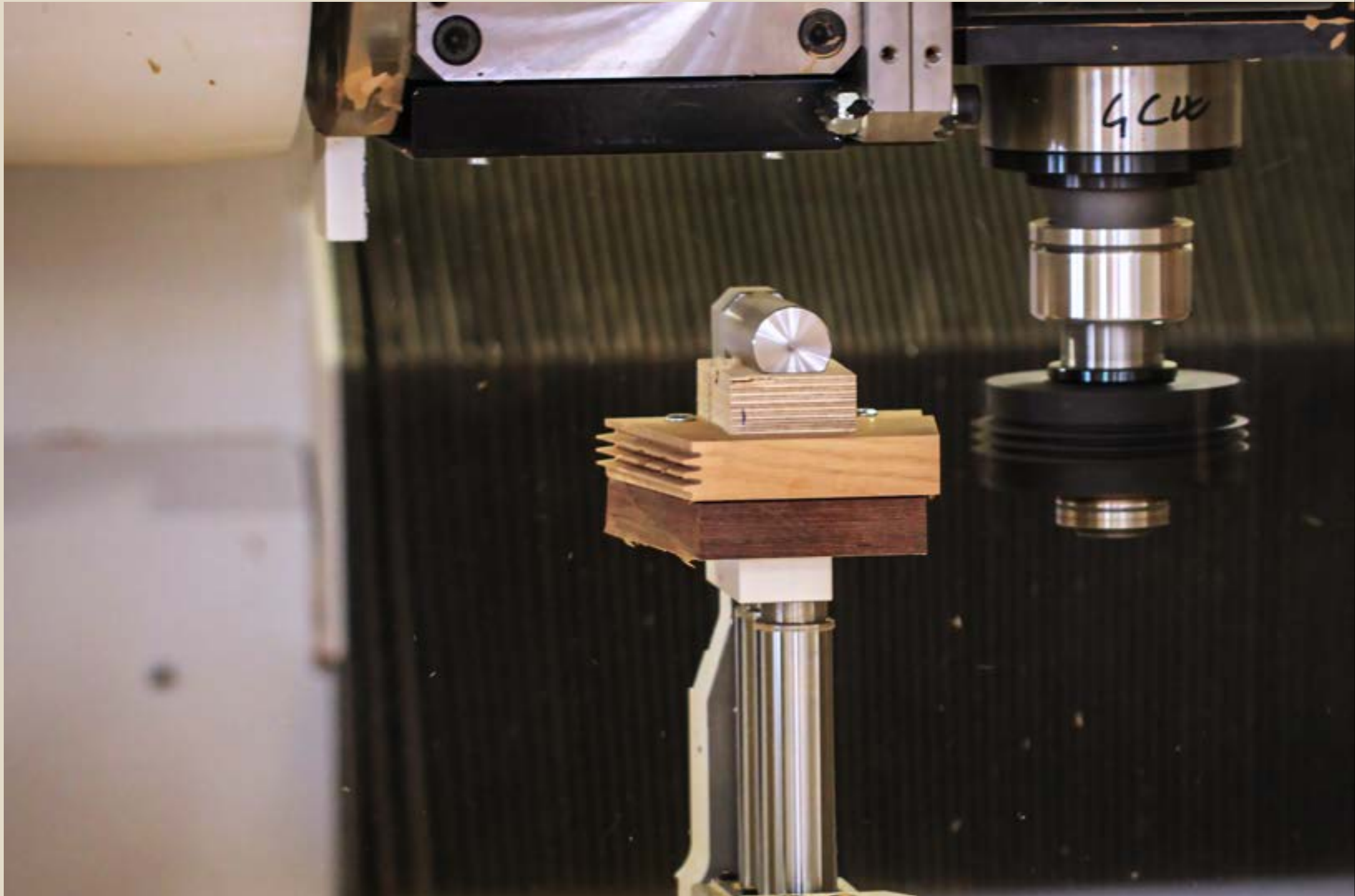
**THE GROWTH REPORT FUTURE-PROOFS YOUR COMPANY**

Among other things, **the growth report** ensures that the production capacity can keep up with sales. This is done by carrying out capacity calculations which highlight what your company can produce with the current production equipment and whether the equipment will become a bottleneck over time. These calculations are done with the use of the OptiCloud-software, which can map out the efficiency of the current production equipment (Overall Equipment Effectiveness). In this way, you will get the full overview of your production, which then can function as the basis for the investment plan.

**A LONG-TERM INVESTMENT PLAN**

The investment plan provides you with a clear overview of when it makes sense to invest in new machines. It does so both from a perspective of needs that will ensure that the production capacity can keep up with sales, but also from a financial perspective in relation to when it is most profitable to make the investment.

**The growth report** ensures you a digital and fact-oriented approach to optimising your production, your processes, and your finances. In this way, you have the right prerequisites for growing your company long-term.





## 2 – MACHINERY AND SOLUTIONS

# OUR EXPERTISE AND EXPERIENCE – YOUR VALUE GUARANTEED

We know that investments in machines and optimisations are motivated by many different reasons depending on your company's needs. But we can assure you one thing – that we can always find a solution that fits your needs. The keywords for us are open dialogue and collaboration. And it has been this way since the beginning. Therefore, Nicholaisen A/S is a safe choice when seeking a business partner. We will be by your side from start to finish.

### **AT NICHOLAISEN A/S, NO TWO SOLUTIONS ARE ALIKE**

We know that an investment in a new machine or a new plant is not just a matter of the purchase cost. Payback time, uptime, service, and much more are equally important and must be adjusted to you and your production's needs.

In collaboration with several manufacturers of machines and software, we always work with the newest technology and production methods. In this way, you are guaranteed state-of-the-art production equipment and competent sparring from our side from start to finish. In addition, our broad network of suppliers ensures that you are not tied to specific suppliers. Instead, you always have the option to choose the right suppliers for the solution.

Our solutions are not fixed in a standard concept of machines, which creates far more flexibility. We can supply the complete solution or individual machines depending on your needs – always with an eye for the increasing digitalisation in the production.

### 3 – PROJECT MANAGEMENT

# WE ENSURE SUCCESSFUL PROJECTS

Through project management, we ensure that our customer's projects are always completed successfully and on time. To us, successful projects are all about bridging the gap between the customer's needs and the task at hand as well as involving all parties in the best way possible. No projects are the same, and it is always up to you as to how much you would like us to be involved and at what point.

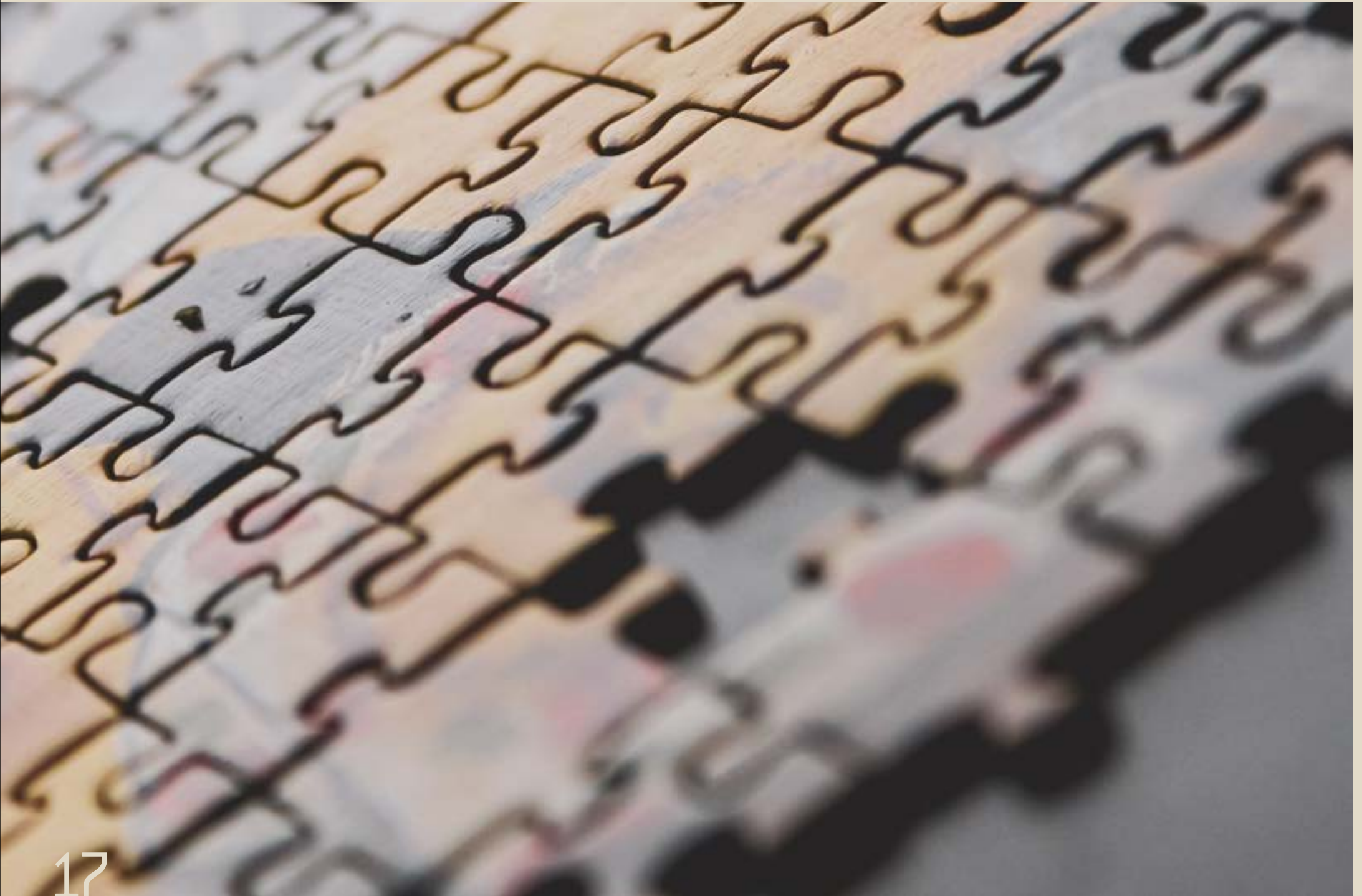
However, common for all projects is that we always start out by aligning the specifications of the task in accordance with your needs and wishes. In this way, we have the right prerequisites for finishing the project successfully.

#### **THE NICHOLAISEN A/S MODEL**

We have developed a stage-gate project model called the Nicholaisen A/S model. This model contains standardised stages and milestone meetings, which help ensure a high and consistent quality of our project work.

The Nicholaisen A/S model breaks down the overall goals into smaller and more operational sub-goals to provide you with a better overview. Depending on the extent of the project, we have different tools to ensure that we reach the final goal. In this way, you can easily follow the progress of the project – from start to finish. And we guarantee you, that we are involved and have the overview from start to finish of the project.



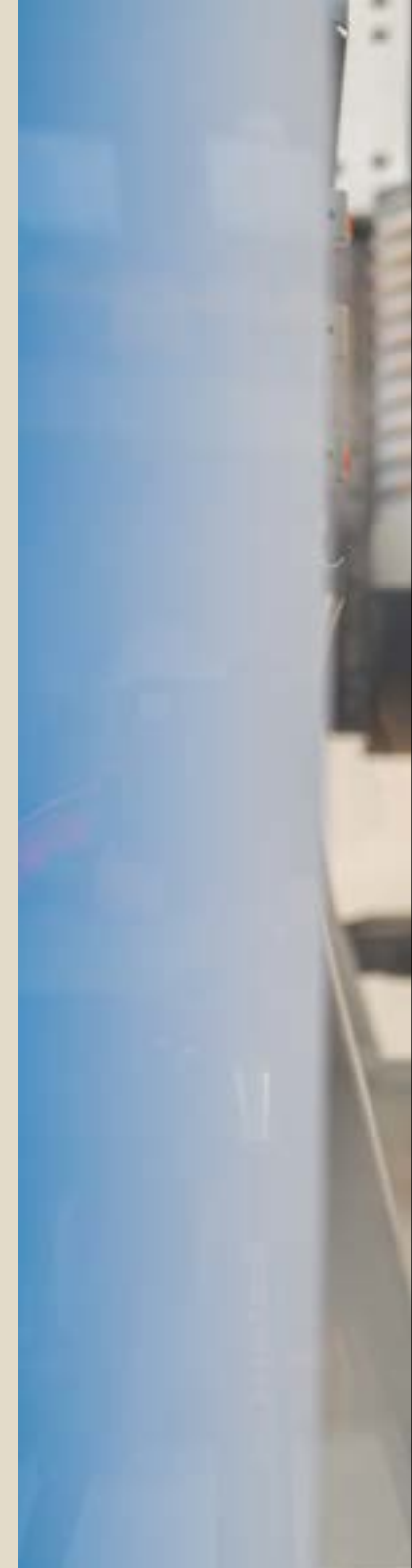




#### 4 – SERVICE

# SERVICE CONCEPTS ADJUSTED TO YOUR AMBITIONS

It is our goal to help you create a high-performance production through optimisations and maintenance. Therefore, we offer three different service concepts adjusted to your ambitions and needs.



**RUN TO FAILURE**

Run to failure means that we are at your disposal when you contact us. Here, we will help you to the extent you need within opening hours.

**STABLE OPERATION**

Stable operation means that we manage the specific service tasks that we in collaboration have agreed on in the partnership contract. Here, we are in continuous dialogue, and we schedule your service for you. Among others, this could be scheduled cleaning, continuous maintenance of machines or training of employees. By being proactive on your behalf, you will get the opportunity to get a higher production time on your machines as we are always one step ahead in terms of service and maintenance.

**OPTIMAL OPERATION AND OVERALL ECONOMY**

If you want both service and the full insight into your production via data, this service concept is the right choice for you. Here, we enter a partnership contract where we – via data on the machines – gain an insight into where the service efforts will create most value for your production. In this way, we ensure that a focused effort to continuously optimise your production is always in place. In addition, you will have access to our network of specialists always providing you with the right guidance.

Regardless of which service concept suits you the best, we always bring our great expertise and experience to the table when we guide you. Together, we create value for your company.



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