

# SKOLEPORTFOLIE HF1

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Af Mathilde Matthiesen, elev hos PLM Group. Udsnit af projekter produceret i perioden 1/8-22 til 15/2-23. Begge produkter er gate-de og links vil derfor lede videre til downloadformular. Produkterne vedhæftes også dette portfolio og må derfor ikke distribueres frit.

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**Grafisk design**

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**Typografi og ombrydning**

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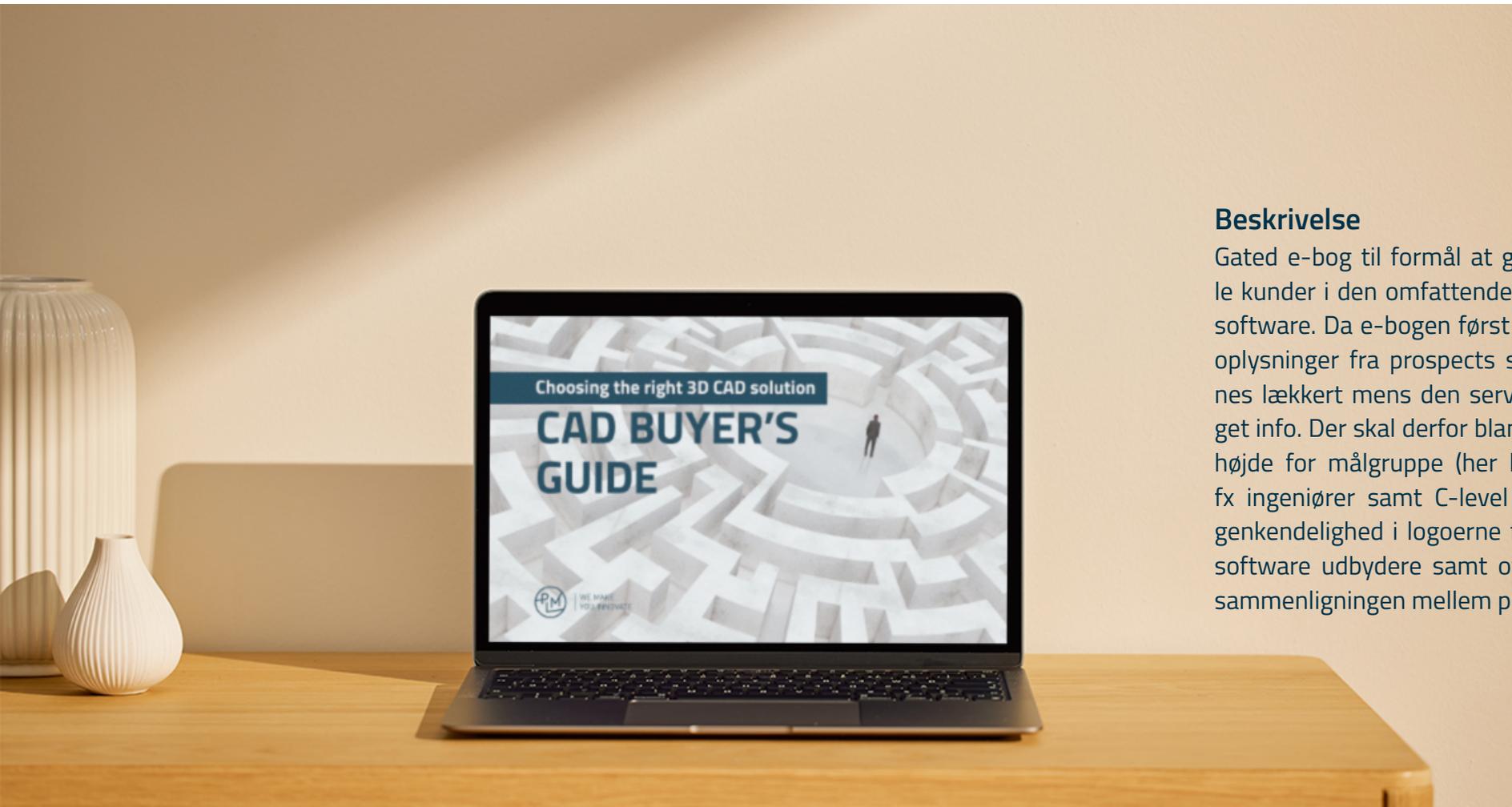
**Grafik og billedbehandling**

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**Grafisk produktionsforståelse**

# DIGITALT PRODUKT

[Link til formular](#)



## Beskrivelse

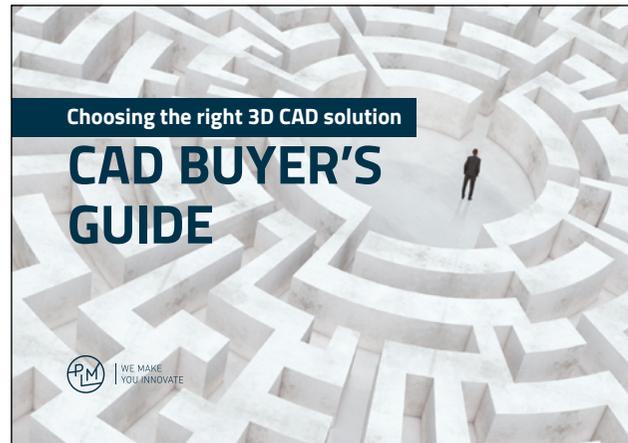
Gated e-bog til formål at guide potentielle kunder i den omfattende verden af CAD software. Da e-bogen først udleveres mod oplysninger fra prospects skal den designes lækkert mens den serverer rigtig meget info. Der skal derfor blandt andet tages højde for målgruppe (her både brugeren, fx ingeniører samt C-level management), genkendelighed i logoerne fra de udvalgte software udbydere samt overskuelighed i sammenligningen mellem produkterne.

## Grafisk design

Jeg arbejder indenfor PLMs Brandguide i forhold til font og farvespektrum. Visse elementer bruger jeg i alle e-bøger for at skabe sammenhæng og brand identitet/genkendelighed – fx cirkel med streg (hjælper også med loven om forbundethed) samt arbejdet med bokse (hjælper med at inddele teksten så den synes mindre tekstung, dvs. loven om lukkethed).

Jeg har forsøgt at forene design og funktionalitet blandt andet med at fremvise hvert CAD produkt ens og mindre teksttungt (overskuelighed), guide øjet i form af ikoner (manipuleret i Illustrator), skabe genkendelse ved at inkorporere firma logoer (målgruppe).

Jeg har bygget hver side asymmetrisk op, blandt andet med henblik på at opnå så meget white space som muligt. Dette, for at servere bogen så lidt tekstung som muligt. Orden og læsbarhed var stort fokus. Jeg benytter mig af farve- samt størrelseskontraster for at tydeliggøre hierarkiet i teksten. Dette ses tydeligst på forsiden.



CAD BUYERS GUIDE | PAGE 3/18

### INTRODUCTION

Deciding on the right 3D CAD solution for your company is not an easy task. It can be a jungle to navigate between the offers and which concrete tools you need, that can help you accelerate innovation and strengthen the product development process.

To make it easier for yourself you can always consider your next 3D CAD solution based on what companion tools are included, for example simulation and PDM tools. If changes are needed, there is the possibility to upgrade on most of our solutions and tools.

In this guide, we will identify the most common criteria for buying a CAD solution based on your concrete needs. We will go through the software tools for making 3D models that we are offering in PLM Group.

### WHAT IS CAD?

CAD (computer-aided design) is the tool that brings a design to a manufacture-ready state. It is the all-important software environment where designers and engineers translate concept sketches into three-dimensional models which are then visualized, optimized, simulated, and can be directly 3D printed or produced with traditional manufacturing tools.

CAD BUYERS GUIDE | PAGE 7/18

### SOLIDWORKS Standard

**IDEAL FOR COMPANIES WHO WORK WITH** Simpler parts and assemblies and drawings where built-in revision control is not necessary. Mechatronic industry, sheet metal and weldments-based manufacturing, 2D drawings.

**COMPANY SIZE** Smaller companies with design/engineering departments of 1-5 people.

**WORTH TO CONSIDER** If you need Toolbox, which is Solidworks' database of standard fasteners, consider upgrading to SOLIDWORKS Professional or higher.

**PRICE** Quarterly subscription prices starts from 947 euro. Please contact your local reseller for individual plan and price.

CAD BUYERS GUIDE | PAGE 9/18

### SOLIDWORKS Premium

**IDEAL FOR COMPANIES WHO WORK WITH** Parts and assemblies with fasteners, and need for Physical simulation (Static linear studies). Comes with SOLIDWORKS PDM Standard (installed and implemented separately) which helps you manage your data by controlling revision and state of any product, as well as access to it. Contains tools to create rendered pictures of your products.

**COMPANY SIZE** Design/engineering departments of any size where organising and sharing work internally is important.

**WORTH TO CONSIDER** If you need something else than static linear studies, you can upgrade to packages for Flow Simulation, and time-based studies like deforming, frequency etc.

**PRICE** Quarterly subscription prices starts from 1.500 euro. Please contact your local reseller for individual plan and price.

### 3DEXPERIENCE CATIA



Ideal for companies who work with 3D content and 2D drawings with specific modelling needs that needs a robust tool that can handle both high complexity in geometry as well as large number of components.

**Company size**  
Larger companies

**Worth to consider**  
Although most of the basic modelling functions can be learned quite easily, some of the more specialized tools requires more training to master. For beginners in 3D modelling, there are other tools that are easier to start with.

**Price**

### DraftSight Enterprise



DraftSight started as a competitor to AutoCAD some years ago and is now Dassault Systèmes' 2D editor for DWG files, with some 3D capabilities. DraftSight comes in different packages for different needs. We consider DraftSight as a companion tool for editing DWG files, rather than a tool for making 3D model, and as such we would not recommend using DraftSight as the main CAD tool in a company.

**Ideal for companies who work with**  
Manufacturing definition where 2D Drawings need to be exchanged with partners.

**Company size**  
Larger companies

**Worth to consider**  
Although there are some possibilities in creating 3D Content with DraftSight Enterprise, it is to be considered a 2D solution.

**Price**

### What does the different 3D CAD offerings include?

#### SOLIDWORKS Desktop



This is the CAD workhorse of many companies worldwide. Being a well proven tool in daily use among many thousands big and small companies, SOLIDWORKS is one of the most popular CAD packages there is and has held that position for more than two decades. SOLIDWORKS is a one-stop solution when it comes to making 3D models. Models are parametric and feature-based, which means that editing and reusing models is easy. SOLIDWORKS comes in Standard, Professional and Premium packages – where the main difference is addins and additional tools like Toolbox, PDM and rendering. All modelling tools however, like Sheet Metal and Weldments and all surfacing and solid modeling tools, are included in the Standard package.

Licensing for SOLIDWORKS desktop has a couple of options. Licenses are either purchased as standalone, meaning the license is locked to a specific workstation that the software is used on, or network-based, where the licenses can float between several workstations connected to the same network in a company. Standalone licensing is better suited for smaller teams up to 10 people. Network license is the best option when you need to share a few licenses in a team.

#### SOLIDWORKS Standard



SOLIDWORKS Standard contains all the tools needed to create 3D models of any kind; solid – and surface models, sheet metal and weldment models, and 2D drawings.

**Ideal for companies who work with**  
Simpler parts and assemblies and drawings where built-in revision control is not necessary. Mechanical industry, sheet metal and weldments-based manufacturing, 2D drawings.

**Company size**  
Smaller companies with design/engineering departments of 1-5 people

**Worth to consider**  
If you need Toolbox, which is Solidworks' database of standard fasteners, consider upgrading to SOLIDWORKS Professional or higher.

**Price**

### SOLIDWORKS Standard

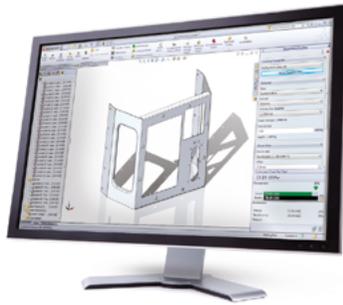
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**Worth to consider**  
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**Price**



### INTRODUCTION

Deciding on the right 3D CAD solution for your company is not an easy task. It can be a jungle to navigate between the offers and which company can provide the most innovative solutions.

To make it easier to choose the right 3D CAD solution, we have created this guide. In this guide, we will look at a CAD solution from the software PLM Group.

**What is CAD (Computer Aided Design)?**  
CAD (computer-aided design) is a software environment where designers and engineers translate concept sketches into three-dimensional models which are then visualized, optimized, simulated, and can be directly 3D printed or produced with traditional manufacturing tools.

**Every need is unique – so is the right solution for you**  
Choosing the right solution usually starts with looking at the functions of the available solutions and your preferred reseller and their service.

In many cases, several departments are involved, in addition to financial managers. That means that needs to be aligned. It is important to take a closer look at the thoughts behind the solution for your company.

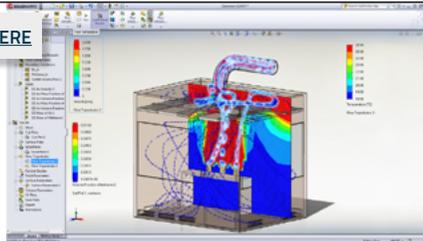
**Make the right decision?**  
The cost of making a wrong decision can be high, at the same time it can be hard to foresee the company's need in the future – and if you are not prepared for that, it may not be good for the future of your company.

For this reason, it is good to know that our solutions in most cases can be extended, upgraded, and customized so that it can grow with you.

On the following pages you can see a summary of what the different packages can do for you, and a comparison between the different options.

## Afprøvninger

### COMPARE PACKAGES HERE



### SOLIDWORKS Premium

SOLIDWORKS Premium is the top product in the SOLIDWORKS CAD series. It contains the same tools as SOLIDWORKS Professional, but also comes with simulation tools that let you create static linear studies.

**Ideal for companies who work with**  
Parts and assemblies with fasteners, and need for Physical simulation (Static linear studies). Comes with SOLIDWORKS PDM

Standard (installed and implemented separately) which helps you manage your data by controlling revision and state of any product, as well as access to it. Contains tools to create rendered pictures of your products.

**Company size**  
Design/engineering departments of any size where organizing and sharing work internally is important

**Worth to consider**  
If you need something else than static linear studies, you can upgrade to packages for Flow Simulation, and time-based studies like deforming, frequency etc.

**Price**



**Every need is unique – so is the right solution for you**  
Choosing the right solution usually starts with looking at the specific CAD need, the features and functions of the available solutions, the competence and skill of your preferred reseller and your budget. It's also a choice, where different departments are involved, in some cases it is both the technical and financial managers. That means that they are a lot of considerations that needs to be aligned. In the following section, we will take a closer look at the thoughts behind choosing the right 3D CAD solution for your company.

#### What do you need to consider to make the right decision?

The cost of making a wrong decision can be high, at the same time it can be hard to foresee the company's need in the future – and if a solution which seems perfect today, may not be good for the future version of your company. For this reason, it is good to know that our solutions in most cases can be extended, upgraded, and customized so that it can grow with you.

No matter what you choose, we got experts ready for you. We support and train our customers in all the solution that we sell, and we take pride in keeping our experts certified so that you can expect to get answers on any question that you might have. It is in PLM Group's interest that you select a CAD package you are happy with today and tomorrow – and we want to support you through the journey.

#### REACH OUT TO US

+45 70 22 22 80  
info@plmgroup.eu  
www.plmgroup.eu



### SOLIDWORKS

(Standard/Professional/Premium)

3DEXPERIENCE is Dassault Systèmes' brand name for the software in their portfolio that is connected to the cloud. Almost all software products that are delivered by Dassault Systèmes comes with this option – and the advantage of being connected to the cloud is that sharing 3D content is a lot easier, both within the company and with outside stakeholders. Everyone working on the same dataset is another big advantage, and tools for managing data and organising your work is included – without the need for a server.

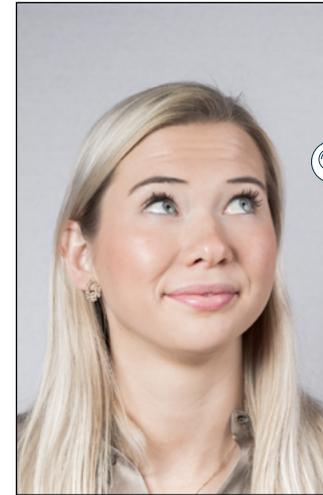
3DEXPERIENCE SOLIDWORKS is a locally installed version of SOLIDWORKS which is connected to the cloud. It is also licensed through the cloud with a named user licensing, so the user will have access to the license on any workstation he or she is logged into. The user experience of 3DEXPERIENCE SOLIDWORKS is identical to traditional SOLIDWORKS Desktop, with a few minor differences; file management is done in the cloud and not through SOLIDWORKS PDM.

**Ideal for companies who work with**  
Parts, assemblies and drawings which they need to share easily through the included cloud-based data management solution.

**Company size**  
Design/engineering departments of any size where organizing and sharing work internally as well as externally, is important.

**Worth to consider**  
The license is tied to a specific user. The solution can not be downgraded to an older year version. This solution can not be connected to an existing PDM SOLIDWORKS PDM. Instead, it is to be used with the included 3DEXPERIENCE ENOVIA based PDM/PLM solution.

**Price**

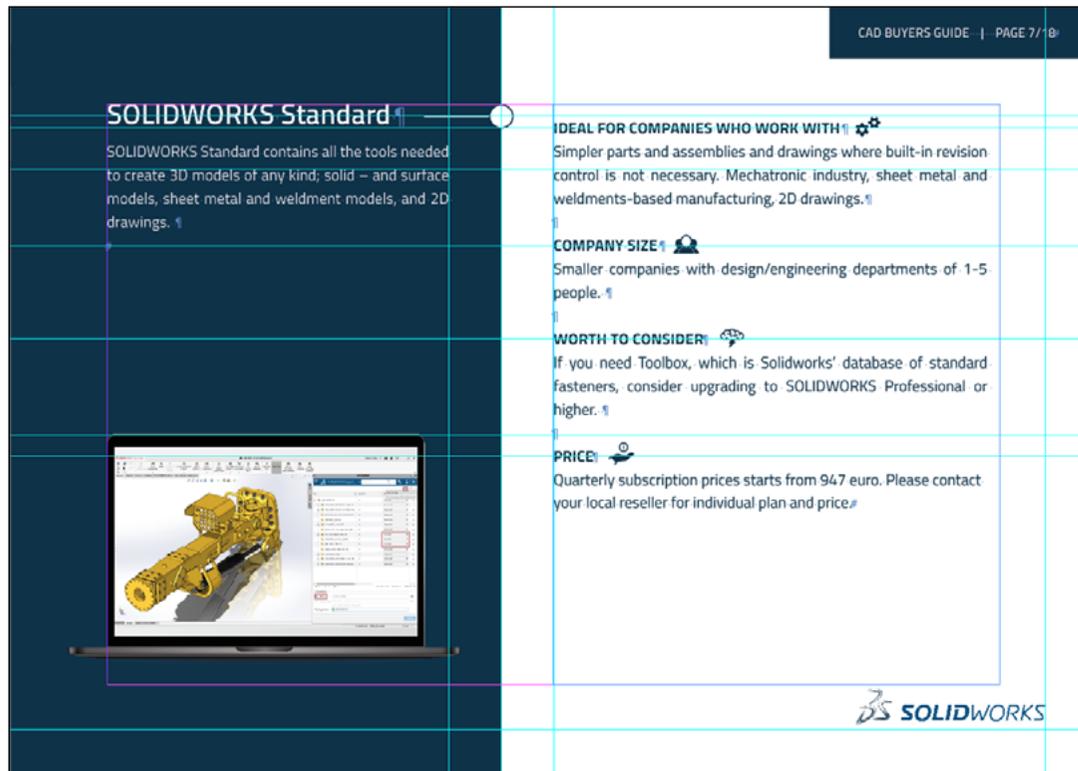
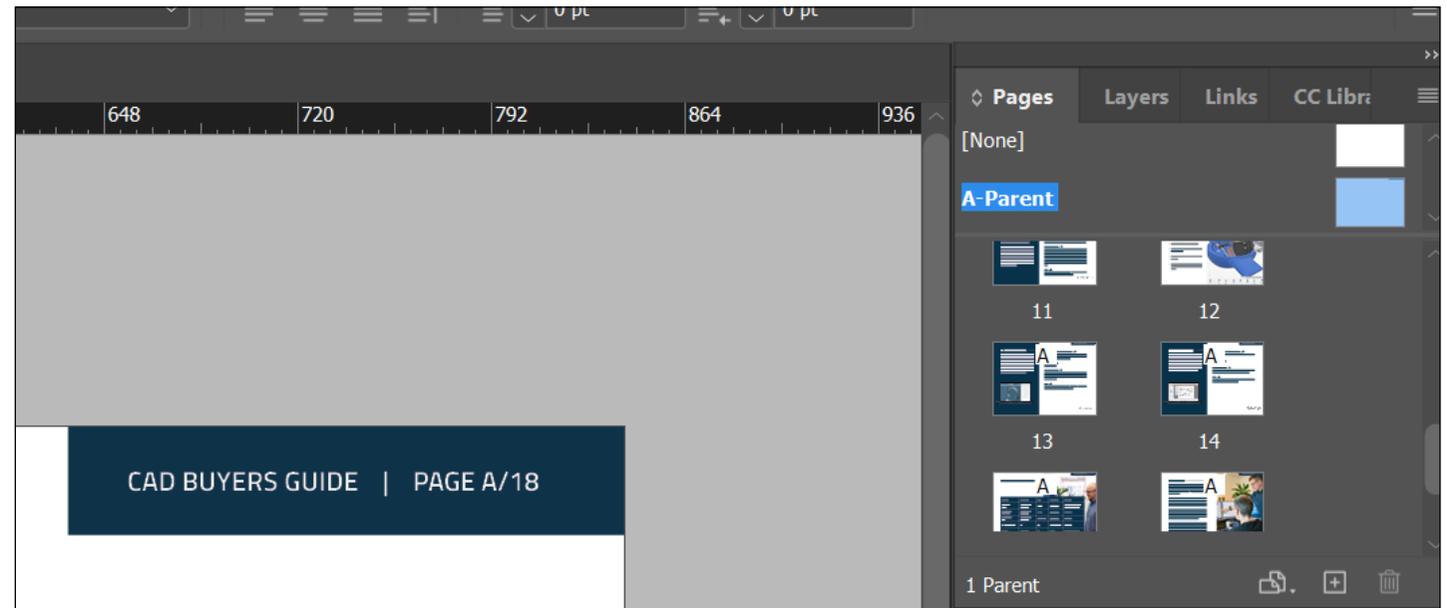


### COMMON QUESTIONS TO ASK YOURSELF WHEN CONSIDERING DIFFERENT CAD TOOLS

- What kind of design content do I need to make – are 2D drawings important or do I only need parts and assemblies?
- What is a common CAD tool in my area of business?
- Am I going to be the only user of the solution in our company?
- What file formats do I need to be able to send to my business partners?
- What solutions do my business partners use?
- If I recruit new people with CAD competence, what competence is most widespread out there?
- What is my budget?

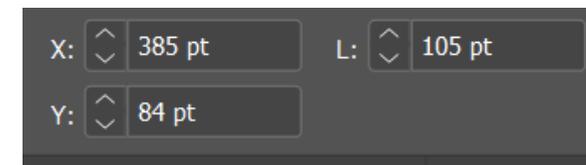
## Typografi og omrydning

Det liggende format er udvalgt på baggrund af at e-bogen skal læses på skærm. Brødteksten, hvis font er brandbestemt, er alignet til grid for at sikre god orden på tværs af kolonnerne. Der er bevidst indarbejdet kolonner for linjelængden og læsbarhedens skyld. Brødteksten er Left Justified og tabellen er bygget nemt med Table. Masterpages har hjulpet med pagina og vigtige hjælpelinjer.



## Grafik og billedbehandling

Jeg har blot lavet simple mockups af screen shots fra CAD programmer der tales om, samt manipuleret ikoner fra stock. Til disse, og mange andre elementer, har jeg været glad for at kunne sikre mig at alt stod helt perfekt og ens i XY koordinaterne.



## Grafisk produktions forståelse

Med en ret ubarmhjerterig preflight kan jeg let sikre mig at produktet er klar til afgang. Jeg pakker min InDesign fil med fonte og links og placerer den i Sharepoint så den er tilgængelig for alle i marketing. Det, på trods af at det denne blev min egen tur til at bygge landing page op og få placeret min interaktive pdf (da jeg har hyperlinks) i medie biblioteket. Jeg får lavet den rette formular i Marketo af en partner og tjekker min SEO igennem med Yoast.

De billeder jeg bruger på min landing page har jeg både givet en description og keywords for SEO samt gjort opløsningen mindst mulig uden at miste kvaliteten. Jeg har også produceret mockups som png som skal ligge på oversigten over vores e-bøger. Disse skal linke ind til min landing page.



### Buyers Guide to CAD

Deciding on the right 3D CAD solution for your company is not an easy task. It can be a jungle to navigate between the offers and which concrete tools you need, that can help you accelerate innovation and strengthen the product development process.

[READ MORE](#)



### 6 steps to digitalize your value chain

Digital transformation is no longer a new phenomenon — it's a proven path to innovation. And today's digital solutions are unlocking new opportunities to meet the rising market demand for smarter, greener products.

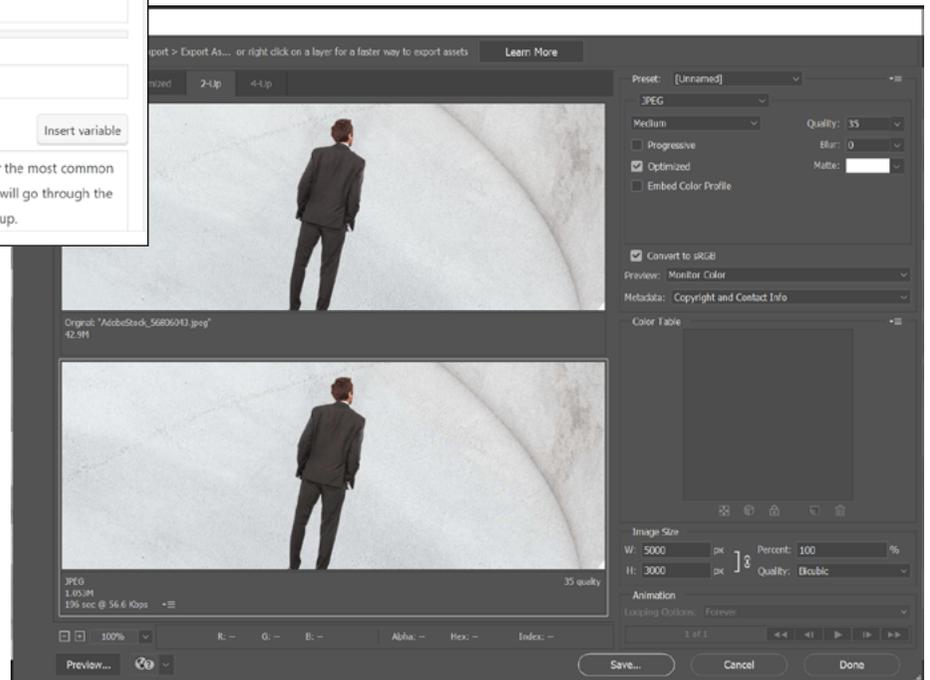
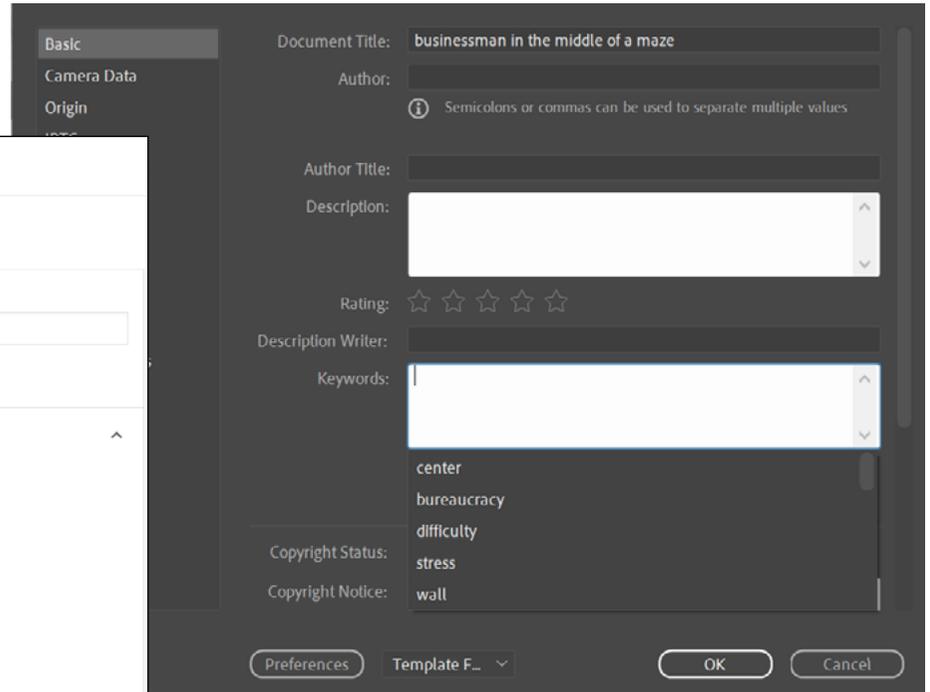
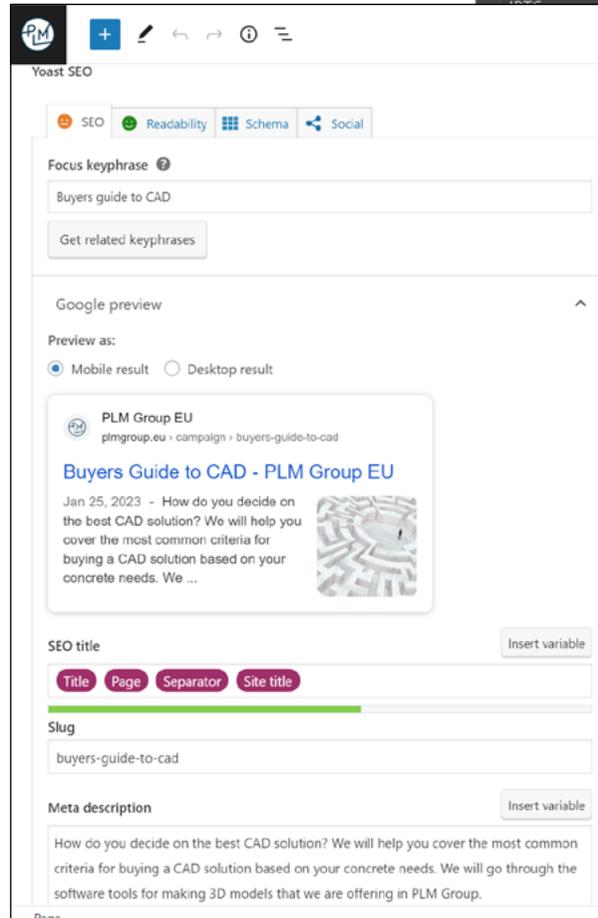
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### How to become a leader in sustainability

This e-Report will guide you through six steps towards a greener future and how you can implement digital technology into sustainable design and manufacturing.

[READ MORE](#)



# TRYKT PRODUKT

[Link til formular](#)

## Beskrivelse

Trendrapport udarbejdet af uvildig tredjepart kaldet Kairos Future og sponsoreret af både PLM Group og Dassault Systèmes. Rapporten blev oprindeligt designet hos et svensk bureau, men med så mange interessenter inde over var alle ikke tilfredse nok med designet til at kunne publicere. Noget af kritikken gik på at den følte tung og ikke-læsbar, samt at den mørkeblå PLM farve var for dominerende. Graferne følte lidt old school og illustrationerne lidt off. Rapporten kom derfor først på markedet ca. 9 måneder efter udarbejdelse da jeg tog det i mine – noget – prøvede hænder.

Dette understreger vigtigheden af et inhouse designbureau for at samle alle produkter under én tydelig designlinje. Med designelementer i forening med brand guide. Rapporten skal gates på hjemmesiden men bruges også i mange forskellige afskygninger på sociale medier og Google Ads. Den er derfor både til trykt og digitalt brug.



## EXECUTIVE SUMMARY

This is a report on the future of the manufacturing industry. It's an industry facing transformative times. Increased turbulence and complexity have arisen in 2022 with a new risk: excessive energy and primary resource costs, supply chain problems, upcoming inflation, and increased financial costs.

At the same time, the two megatrends, digitalization and sustainability, continue to change the business landscape for manufacturers steadily. These megatrends harness several specific trends that will reshape business models and production terms. This development will call for new business models for many small and medium-sized manufacturing companies.

Sustainability trends are driven by increased consumer demands, the financial industry, and regulators, especially in the EU. The demands will likely widen to more subjects and extend beyond one business. These needs will deepen and new levels of traceability

for the products and services the manufacturing industry provides to the market will follow.

Digital development leads to hyper-automation in every department of every organization. It creates a data-driven business landscape that, together with servitization, currently profoundly changes most industries' business models. Digitalization combined with an up-levelled material revolution are on the verge of creating an additive manufacturing situation that enables increased localization in the years to come.

This development leads to a future where blurred lines will be part of the transformation process for businesses and organizations. The future calls for future-proof strategies to ensure short- and long-term success. True innovation will become a necessity. This report presents five points of advice for manufacturers that want to ensure a future-proof business.



An overview of the content of the report

## BUILDING A SUSTAINABLE BUSINESS

# 79%

of consumers are changing purchase preferences based on social responsibility, inclusiveness, or environmental impact.

### SUSTAINABILITY AS A BUSINESS DRIVER

Many people still think of sustainability primarily in terms of environmental sustainability, yet it has come to incorporate many more aspects. Businesses today must be environmentally, socially, and economically sustainable. It means being a business that can be profitable in a changing world and survive in the long term. Sustainability is also no longer just about regulatory compliance.

According to a study by Caggenini, 79% of consumers are changing purchase preferences based on the social responsibility, inclusiveness, or environmental impact of their purchases, but only 36% of organizations believe that consumers are willing to make this change.<sup>2</sup>

As customers change their behavior based on the impact of their purchases, companies need to see sustainability as a business driver. This will be the case for everyone, not just for B2C companies. Large manufacturing B2B giants are driven by their B2C clients, and today a vast majority of them consider sustainability a valid business driver with both risk and opportunity. Their sustainability ambitions will therefore trickle down to all subcontractors down the line. In the future, most businesses need to become sustainable to survive and attract customers. For manufacturing companies, sustainability can lead to innovation, competitive advantage, cost savings through operational efficiencies, lower energy use, and less waste.



Over the last few years, sustainability has developed from mainly a brand risk issue to business-driven sustainability.

Our purpose is to drive the shift towards a sustainable transport system, creating a world of mobility that is better for business, society, and the environment<sup>3</sup>

THE OFFICIAL PURPOSE OF SCANIA, SWEDISH TRUCK AND BUS MANUFACTURER

## DRIVERS OF CHANGE

Sustainability, innovation, and digital transformation are the most critical and crucial challenges in the next three to five years, according to top executives in the manufacturing industry in Denmark, Finland, and Sweden 1. In the upcoming year, the strategic priorities instead are accomplishing growth, managing economic downturn, and dealing with supply chain issues.

The above underlines that even though a turbulent and uncertain year like 2022, sustainability issues and digital transformation have become the main drivers that will shape the future of the manufacturing industry towards 2030. These trends drive the necessity of true innovation further. Even though there has been plenty of focus on buzz words like Industry 4.0 and similar, this is now becoming a reality. Therefore, it's necessary to have the following drivers as a starting point when finding out what the future of the manufacturing landscape will look like.

### Top priority in 3-5 years

1. Sustainability and ESG initiatives
2. Innovation
3. Digital transformation
4. Finding and keeping the right competence
5. Growth

# 65%

of top leaders in manufacturing companies have defined actions on digital transformation.

### DIGITALIZATION

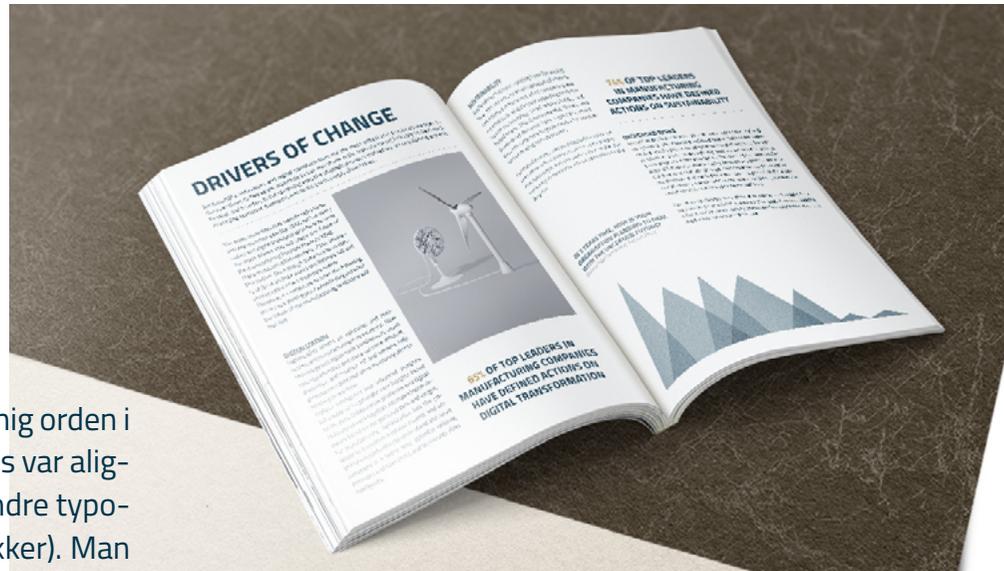
Digitalization affects all industries and businesses, and manufacturing is no exception. New technology and digital tools continuously unveil new opportunities and make us more efficient, productive, and creative. IoT and sensors help generate new data that allow measuring almost anything in real time. Artificial intelligence and advanced analytics will enable us to generate new insights based on the data. Collaborative platforms and digital tools help us work together and make better decisions based on our gathered data and insight.

For manufacturing, digitalization has the potential to transform business models and unlock new opportunities to understand and serve customers in a better way, optimize existing processes and save costs, and to manage risks intelligently.

## Grafisk design

Målgruppen er ingeniører og andre brugere af CAD software. Selve rapporten har et par års brug i sig og skal adskille sig fra vores normale sortiment af e-bøger. Jeg ønskede at layout repræsenterede et klassisk printet medie med enkelte små variationer der kunne bryde det lidt op. Det er blandt andet derfor jeg har forsøgt at inddеле noget tekst som underrubrik og bruger citater og white space som opbrud i teksten for at hvile øjet samt skabe afbæk. Det er også af samme årsag jeg har valgt kolonnerne at ligge i det gyldne snit. Denne er lagt som en lineal i masterpages for at sikre præcis ensartethed ned igennem siderne.

## Udsnit af tidligere design



## Typografi og ombyrning

Med så relativt mange sider skulle jeg sikre mig orden i paragraph styles, at de rette paragraph styles var alig-ned til grid uden at gå på kompromis med andre typografiske regler (fx luft omkring mellemrubrikker). Man vil også kunne se hierikiet i byline og billedtekst da det er valgt med mindre læsbar farve. Efterfølgende har jeg opdaget enkelte typografiske grundregler som jeg kender – men ikke har været fuldt opmærksom på.



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## EXECUTIVE SUMMARY

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At the same time, the two megatrends, digitalization and sustainability, continue to change the business landscape for manufacturers steadily. These megatrends harness several specific trends that will reshape business models and production terms. This development will call for new business models for many small and medium-sized manufacturing companies.

New levels of traceability for the products and services the manufacturing industry provides to the market will follow.

Digital development leads to hyper-automation in every department of every organization. It creates a data-driven business landscape that, together with servitization, currently profoundly changes most industries' business models. Digitalization combined with an up-levelled material revolution are on the verge of creating an additive manufacturing situation that enables increased localization in the years to come.

This development leads to a future where blurred lines will be part of the transformation process for businesses and organizations. The future calls for future-proof strategies to ensure short- and long-term success. True innovation will become a necessity. This report presents five points of advice for manufacturers that want to ensure a future-proof business.

03

**Executive summary**  
The future calls for future-proof strategies to ensure short- and long-term success. True innovation will become a necessity.

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**Drivers of Change**  
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Sustainability  
Increased risks

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Cloud and  
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## Afprøvninger

# DRIVERS OF CHANGE

### Kairos Future says:

"Top priority in 3-5 years will be: Sustainability and ESG Initiatives, Innovation, Digital transformation, finding and keeping the right competence and Growth"

Sustainability, innovation, and digital transformation are the most critical and crucial challenges in the next three to five years, according to top executives in the manufacturing industry in Denmark, Finland, and Sweden. In the upcoming year, the strategic priorities instead are accomplishing growth, managing economic downturn, and dealing with supply chain issues.

The above underlines that even though a turbulent and uncertain year like 2022, sustainability issues and digital transformation have become the main drivers that will shape the future of the manufacturing industry towards 2030.

These trends drive the necessity of true innovation further. Even though there has been plenty of focus on buzz words like Industry 4.0 and similar, this is now becoming a reality. Therefore, it's necessary to have the following drivers as a starting point when finding out what the future of the manufacturing landscape will look like.

### DIGITALIZATION

ABBAS FUTURE | Consultants to Strategic Future

BOOK | THE FUTURE OF MANUFACTURING | Page 3

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Sustainability trends are driven by increased consumer demands, the financial industry, and regulators, especially in the EU. The demands will likely widen to more subjects and extend beyond one business.

These needs will deepen and new levels of traceability for the products and services the manufacturing industry provides to the market will follow.

Digital development leads to hyper-automation in every department of every organization. It creates a data-driven business landscape that, together with servitization, currently profoundly changes most industries' business models. Digitalization combined with an up-levelled material revolution are on the verge of creating an additive manufacturing situation that enables increased localization in the years to come.

This development leads to a future where blurred lines will be part of the transformation process for businesses and organizations. The future calls for future-proof strategies to ensure short- and long-term success. True innovation will become a necessity. This report presents five points of advice for manufacturers that want to ensure a future-proof business.

### CHANGE



### DIGITALIZATION

ABBAS FUTURE | Consultants to Strategic Future

BOOK | THE FUTURE OF MANUFACTURING | Page 3

3

### NO TIME TO DIE

The surrounding world is becoming more complex and diverse. Skill sets and company one needs, backgrounds, experiences, and digital tool mindsets are essential. People, enabling them to work together, and cloud people, enabling them to work together, are essential. Mentoring, taking time to learn from each other, and customer collaboration are essential.

True innovative organizations are reliant on three different layers of innovation infrastructure. The foundation consists of a bottom-up culture that empowers and engages coworkers, partners, and customers in innovation. This culture also does not immediately kill new ideas but instead encourages them.

The second layer consists of well-functioning processes. An innovative organization has stable and well-known formal operations and infrastructure for innovation to make it a daily habit rather than an ad hoc event.

The third level is about having an "innovation posture attitude". Such posture is often inspired by inspirational leadership with true grit regarding innovation.

In a future where every manufacturing company needs to be even more forward-leaning regarding innovation, collaboration will be crucial to success. As we have seen, most trends point to greater collaboration between people internally and externally in the company and between companies in the value chain.

### Forming the Organization and Business Model

### Embracing Digitalization and Technology

### Building a Sustainable Business

### Learning from Moneyball

### Good Will Hunting

### Find Your Place in the Innovation

### Collaborate to Innovate

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### Collaborate to Innovate

### HOW TO MEET THE FUTURE

Say hi to PAL  
Personalized Additive  
Localized Future

Rethink and recycle

## 74% of top leaders in manufacturing companies have defined actions on sustainability

### INCREASED RISKS

Recent years have shown us that we cannot take anything for granted. The COVID pandemic has disturbed our supply chains and forced us to adopt new ways of working. The war in Ukraine came unexpectedly just as we were beginning to emerge from the pandemic. The current concerns revolve around inflation, cybersecurity, food crises, and the existential threat of climate change. Our dependency on critical infrastructure and each other has been exposed. In these uncertain times, people and companies are looking for ways to minimize risk and find long-term stability.

For manufacturing, this means building sustainable businesses that can withstand rapid changes. It means creating robust and resilient supply chains and ensuring that data and digital infrastructure is secure.



### Processes

### Culture

These layers of innovation infrastructure must be in place to accomplish a truly collaborative and innovative organization.

The coordination of this collaboration will be a challenge that should not be underestimated, and the role of the product manager in guiding and setting a vision for this work will be a critical factor for success.

Collaborating with external partners will also be crucial. On the one hand, manufacturing companies need to build close relationships with their customers and end users to understand their needs and behaviors better, especially if they want to explore the B2C market or engage in open innovation with their customers. On the other hand, the network of suppliers, partners, and resellers is key to enabling traceability, circularity, and resilience in the supply chain. Thus, collaboration, both internal and external, is vital for building a sustainable business.

# The Future of Manufacturing

## Sustainability will shape manufacturing companies

Sustainability has been a driving force for a long time, and now we see an acceleration of efforts and activities in this arena. Most companies are expected to do what they can regarding environmental sustainability, social responsibility, and inclusiveness. ESG (Environmental, Social, and Governance) demands from regulators, investors, and customers to guide capital for companies embracing this opportunity.

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For manufacturing, this means building sustainable businesses that can withstand rapid changes. It means creating robust and resilient supply chains and ensuring that data and digital infrastructure is secure.

Our approach is an example of an emerging trend: consumers are becoming creators and actively involved in the product development process. Unlocking this next level of innovation in networks of people within the company itself requires platforms where information and ideas are shared and worked on. It also requires a collaborative, mindset, and willingness to try new things. The case is an example of how the innovation process has aged in recent years, where innovation is becoming more gradual and in many cases, driven by an innovation leader. Ask of the innovation leader is often to make the whole organization develop an innovation mindset, to depart from a model where innovation is a job for the R&D department.

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### KAİROS FUTURE



### ABOUT THE REPORT

This report is produced by Kairos Future in cooperation with PLM Group. The report's findings result from thorough research carried out during the winter and Spring of 2022. The result of the research was then analyzed and discussed with PLM Group representatives and customers.

In addition to this research, Kairos Future has conducted a survey among 58 top executives in manufacturing companies in Sweden, Denmark, and Finland, where questions and issues regarding this report were investigated and discussed. There are also some results from the EGN Leadership

Report based on a survey of 2200 leaders in Western Europe in late 2021, where 250 respondents were from manufacturing SMEs in the Nordic Countries. The facts and figures in the report referring to the EGN Leadership report are from these 250 respondents.

### ABOUT KAİROS FUTURE

Kairos Future is an international consulting and research company that helps companies and business leaders to understand and shape their futures. We work as consultants for strategic futures, providing our clients with trend analysis and scenario planning, strategy and innovation, strategic change, and capability development.

### ABOUT PLM GROUP

More than 25 years ago PLM Group was born out of a need for 3D CAD. Today the company empowers people in manufacturing companies with knowledge and tools to bring product innovators to life.

PLM Group is the largest Dassault Systèmes SOLIDWORKS partner in Nordic and Baltic. The company has close partnerships with industry-leading 3D Printer suppliers like HP, Markforged, and 3D Systems to create best-in-class additive manufacturing solutions from prototyping to end user parts for PLM Group has local offices in Denmark, Norway, Estonia, and Latvia and business customers in 4 countries. The company was founded by its head office in Stockholm and partners

### KAİROS FUTURE

Our purpose is to drive the shift towards a sustainable transport system, creating a world of mobility that is better for business, society, and the environment"

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# BUILDING A SUSTAINABLE BUSINESS

Our purpose is to drive the shift towards a sustainable transport system, creating a world of mobility that is better for business, society, and the environment"

Many people still think of sustainability primarily in terms of environmental sustainability, yet it has come to incorporate many more aspects. Businesses today must be environmentally, socially, and economically sustainable. It means being a business that can be profitable in a changing world and survive in the long term. Sustainability is also no longer just about regulatory compliance.

### SUSTAINABILITY AS A BUSINESS DRIVER

According to a study by Capgemini, 79% of consumers are changing purchase preferences based on the social responsibility, inclusiveness, or environmental impact of their purchases, but only 36% of organizations believe that consumers are willing to make this change.

As customers change their behavior based on the impact of their purchases, companies need to be sustainable as a business driver. This will be the case for everyone.



Over the last few years, sustainability has developed from mainly a brand risk issue to business-driven sustainability.

Their sustainability ambitions will therefore trickle down to all subcontractors down the line. In the future, most businesses need to become sustainable to

# EXECUTIVE SUMMARY

This is a report on the future of the manufacturing industry. It's an industry facing transformative times. Increased turbulence and complexity have arisen in 2022 with a new risk: excessive energy and primary resource costs, supply chain problems, upcoming inflation, and increased financial costs.

At the same time, the two megatrends, digitalization and sustainability, continue to change the business landscape for manufacturers steadily. These megatrends harness several specific trends that will reshape business models and production terms. This development will call for new business models for many small and medium-sized manufacturing companies.

Sustainability trends are driven by increased consumer demands, the financial industry, and regulators, especially in the EU. The demands will likely widen



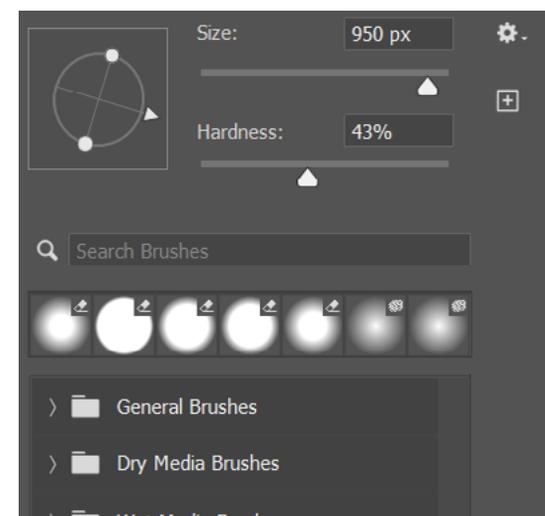
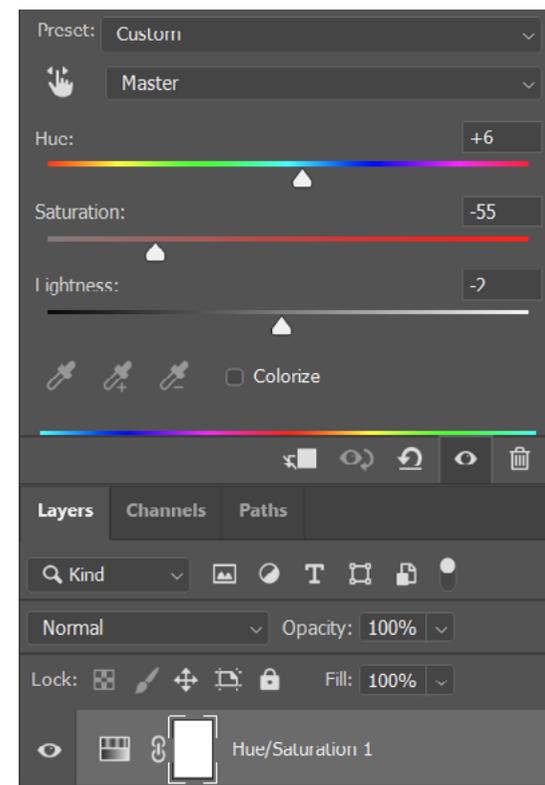
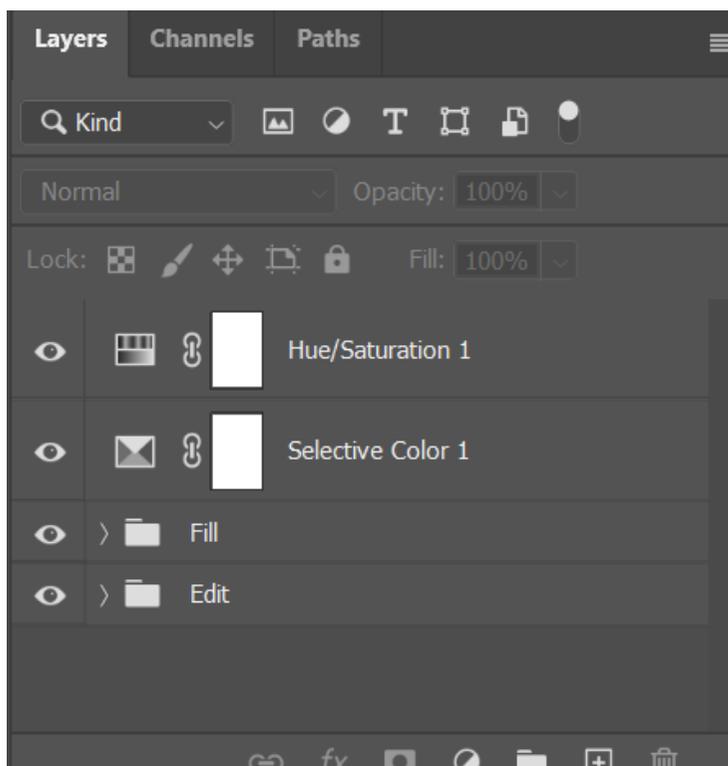
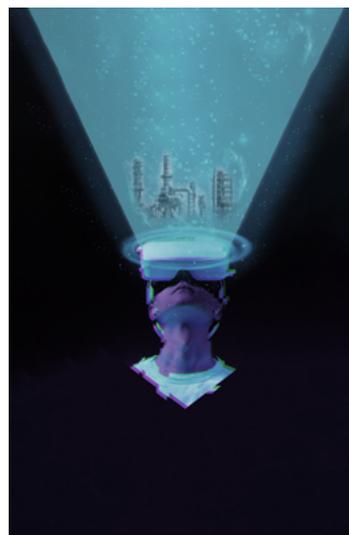
## Grafik og billedbehandling

Forsiden er skabt ud fra samkopiering af to billeder som meget tydeligt viser budskabet "future of manufacturing". Den originale fil kom egentlig med en masse fine stock billeder til formålet, men med få værktøjer i Photoshop (såsom Eraser, Content Aware Fill samt farvejustering) kunne jeg skabe dette sigende billede.

Skulle jeg genoptage denne opgave nu ville jeg gøre enkelte ting anderledes. Jeg ville prøve at inddrage flere værktøjer i Photoshop jeg er blevet lidt mere fortrolig med senere hen, fx blending options og måske gradient tool. Jeg ville se om jeg kunne gøre baggrunden mere ensartet samt lave min fill endnu mere identisk med original billedet. Fx med Content Aware Scale.

Graferne er stock design jeg har editeret i Illustrator så tallene naturligvis afspejler vores undersøgelser.

Jeg har også lavet diverse mockups og image assets til vores Google Ads. Disse har jeg lavet i de tre størrelser som Performance Max ads arbejder med.



### Manufacturing trends report from Kairos Future

Kairos Future is an international consulting and research company that assists companies and organizations to understand and shape their futures.

Want to learn how Digitalization & Sustainability will shape the Business Models of Manufacturing Companies by 2030?

[GET THE REPORT →](#)



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Compression

Image Compression

Compression: JPEG 2000 (Lossless)

JPEG Quality: High

Resolution (ppi): 144

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03

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> 3DX@plmgroup.eu

## Grafisk produktions forståelse

Jeg har som altid pakket en folder til fællesbrug på sharepoint. Heri har jeg også lagt forskellige komprimerede PDF alt efter medie, således at vi til print har en tung fil hvor billederne er i høj opløsning (300 ppi) og til online brug er noget lettere. Den til online brug gjorde jeg interaktiv, da jeg har en del Hyperlinks. Derudover bruger jeg dele af bogen til forskellige marketing relaterede opgaver såsom carousels på LinkedIn.



### BUILDING A SUSTAINABLE BUSINESS

Our purpose is to drive the shift towards a sustainable transport system, creating a world of mobility that is better for business, society and the environment

### EMBRACING DIGITALIZATION AND TECHNOLOGY

Data analysis has become one of the most important tools for our growth strategy. It ties innovation, sales, and production together. It helps us be more efficient and customer driven

### TRANSFORMING THE ORGANIZATION AND BUSINESS MODEL

We need to have our subcontractors deeply involved in the product development process. They need to have in-depth understanding of how IKEA works to be able to achieve efficient, low-cost manufacturing

Want to know more about how Digitalization & Sustainability will shape the Business Models of Manufacturing Companies by 2030?

[Get your report](#)



**FIVE STEPS TO BECOMING A FUTURE-PROOF MANUFACTURER**

**1 SAY HI TO PAL**  
A personalized, additive, localized future



**2 RETHINK AND RECYCLE**  
Ensure a strategic approach to sustainability

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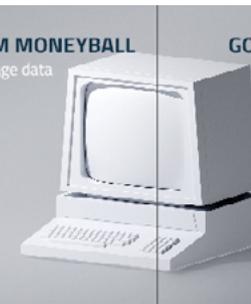
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**3 NO TIME TO DIE**  
Collaborate to innovate

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**4 LEARN FROM MONEYBALL**  
Secure and manage data strategically

4



**5 GOOD WILL HUNTING**  
Find your place in the ecosystem

5

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