Digitization checklist

Where do you stand in the digitization of your production?

Digitization and Industry 4.0 are the talk of the town everywhere. Many manufacturing companies are already well advanced or have implemented smaller digitization projects. With this checklist we would like to give you the opportunity to assess your degree of digitization and to get ideas for further steps.

Question 1: **Do you have specific ideas about the goals you want to achieve with digitization?**	Points
☐ We've heard a lot about digitization and Industry 4.0 so far, but no concrete ideas about it.	0
☐ We are familiar with digitization and Industry 4.0. We already have a rough idea of what we want to achieve with digitalization.	5
☐ Digitization is high on our priority list and we already know exactly what we want to achieve.	10

Question 2: **Are there already sub-areas in which you have digitized your production?**	Points
☐ In our production, we still do everything manually and on paper.	0
☐ We already work with accounting software in the office and our production uses a CAD/CAM system.	5
☐ We already have an ERP/warehouse management system in use and our machines are equipped with modern controls.	10

![MESSER SOFT logo]

Question 3: Have you defined a budget for your digitization project?	Points
☐ No, we have no idea if we can afford it.	0
☐ We know that the digitization of our production is pending and will create a budget when it becomes more concrete.	5
☐ Since digitization is a high priority for us, we have also set a budget for it.	10

Question 4: Should specific areas of your production be digitized?	Points
☐ In our case, we would first have to equip production planning with a calculation tool and CAD/CAM functionality.	0
☐ The networking of our existing business management systems with our machines is important to us.	5
☐ We can imagine a holistic solution of networked systems including material handling systems.	10

Question 5:	Points
Are you already in contact with potential partners with whom you want to implement digitization?	
☐ We haven't thought about that yet. Does that make sense now?	0
☐ We will contact our machine manufacturer.	5
☐ We are already in contact with our machine supplier and/or the supplier of our ERP system.	10

Question 6:	Points
Do you know the project participants who are driving the digital transformation in your company?	
☐ No idea. We have to think about that.	0
☐ From our point of view, the management should decide who is involved in the project.	5
☐ We are aware that the team consists of internal and external participants and that employees should be involved at an early stage.	10

Question 7:	
Do you know the processes, data streams, interfaces, transmission media affected by digitization and their current situation?	Points
☐ No. What should it be?	0
☐ We roughly know the processes in our company. But that's all not documented.	5
☐ Since we already work with IT systems, we have this information and already have concrete ideas for the future.	10

Question 8:	
Have you already thought about which requirements digitization should meet?	Points
☐ We want to become faster with the digitization of our production.	0
☐ It is important to us that we always receive up-to-date data from production with digitization to better control processes.	5
☐ We expect significantly higher utilization of the machines, relief for the employees, optimized calculations, better customer service.	10

To question 1

Do you have specific ideas about the goals you want to achieve with digitization?

0 points

Companies that are digital become more productive, save time and money through digitization and automation, and make fewer mistakes. In this way, they can use competitive advantages, for example in terms of price or deadlines. These firms are more flexible and more meaningful to their customers. Order status, meeting deadlines, premature partial delivery, changing an existing order are decisive competitive advantages, to name just a few examples.

With so many advantages, you should think about whether this might not also be of interest to you.

5 points

That's a good approach. Surely you already know that with digitization in your company you avoid duplication of work and thus reduce sources of error through automation. Especially with the connection of different systems, such as your ERP or CMS system, you avoid data breaks. This makes your decisions faster and safer.

The next step will be the implementation. We are happy to provide tips on how to do this successfully.

10 points

You've come a long way. But have you also thought of these following goals?

Numerous manual activities are eliminated and replaced by automation (e.g., selection of process data). This gives your employees more freedom and time for relevant activities and makes their task profiles more interesting. Interesting tasks bind your employees more closely to your company. This is particularly important in times of a shortage of skilled workers.

Sustainability is becoming an increasingly important competitive factor. With the provision of digital information, you replace printouts and thus gain important points in terms of environmental protection.

Some processes are well-established, but often no longer up to date. With digitization, you rethink existing processes and workflows and discover potential for improvement. This has a positive effect on your resources and time quotas.

To question 2

Are there already sub-areas in which you have digitized your production?

0 points

If you still do everything manually, you waste a lot of time and money. That is why you should urgently start digitizing. Here are a few ideas on what this gets you:

Digitization ensures transparency in your company from the offer, through the order and its processing in production to delivery. You are always able to monitor every step and can always inform your customers about the status of the order. This willingness to provide information strengthens confidence in your professionalism. Your customers will give you credit for this.

All employees involved receive the same level of knowledge about current jobs and their priority. This engages them more and boosts motivation. Motivated employees are more productive and stay with the company longer.

All data is also available to you on the go at any time. If you are on the road, you always have an overview of what is going on in your production. Day and night 24/365 and from any mobile device. All you need is internet access and a standard web browser.

With digitalization, you get real-time data from your production. With the right digitization solution, this data is refined and can become crucial for the future of your company. You recognize errors or weaknesses early on and you are able to fix them quickly.

Automated processes significantly reduce manual intervention. This saves you time and money. Your customers will thank you for that.

5 points

You are currently working with isolated solutions and therefore have many media breaks and sources of error. An ERP or merchandise management system would be helpful to optimize business processes. You can also integrate your CAD/CAM system. Once you have done this, you are ready for the next step towards digitization.

If you don't want to wait that long to digitize production, there are numerous intermediate steps that can connect your "islands" with each other.

10 points

You are already well on your way. The next step is: connect your production to your ERP, MRP or merchandise management system to avoid double entries and errors. Use real-time data from production for your work preparation. Recognize weaknesses and errors at an early stage and rectify them as quickly as possible. Create more transparency in your production. This is how you gain satisfied and informed employees, because now all employees involved receive all the necessary information in real time.

Use the data collected from the machines for predictive maintenance and thus prevent machine failures. In this way, your machines will run fail-safe often and for a long time. Cost transparency is

important to you, also for exact pricing. To do this, you need an exact post-calculation of orders using information collected from production.

Check already existing processes that no longer bring the desired result. Change existing process flows to become more productive.

To question 3

Have you defined a budget for your digitization project?

0 points

Many companies are of the opinion that digitization is only worthwhile for large companies. In our experience, small and medium-sized companies with 30 to 250 employees are already successful in digitization. Even as a small business, you can digitize. Your own, manual, or semi-automatic solutions are just the thing for you.

However, a budget is essential for planning a digitization project.

5 points

Sometimes there are events that force you to go digital. It therefore makes sense to set the budget in good time, especially
* with the introduction of an ERP, MRP or merchandise management system
* if you want to replace an existing ERP, MRP or merchandise management system
* with new managers in the company
* when existing processes no longer bring the desired result, and it is time to change existing workflows in order to become more productive
* if you see an attractive offer on the websites, social media channels, at in-house exhibitions or trade fairs from digitization providers such as Messer Cutting Systems, which will open up new perspectives for you and inspire you.

10 points

Once the financial resources are available, you can move on to selecting the right solution provider. We recommend that you consider the following aspects when searching:
* Does the supplier understand you and are your requirements clear?
* Is the supplier listening to you or is it just trying to sell their solution?
* What competence and experience can the supplier show?
* Is the supplier able to integrate your existing systems?
* How many solutions has the supplier already successfully established on the market? Which?
* Do the solutions cover your requirements?
* Are the solutions scalable to your needs? Will you grow with you?
* Will the solutions be further developed, and can they be updated?
* How accessible is the support for the solutions? Is there support near you?
* Can you contribute your ideas and ideas to the further development of the solution?
* Has the supplier been on the market long and big enough to survive crises?

To question 4

Should specific areas of your production be digitized?

0 points

You practically start from scratch. In this case, we recommend that you contact your machine manufacturer directly, inquire with experienced CAD/CAM software manufacturers, research on the internet and get an overview of the market at trade fairs and exhibitions.

5 points

A certain sequence of steps has proven itself in digitization projects.

1. The first step after deciding on a digitization project is to take stock of your current solution or situation.
2. Define what goals you are pursuing with digitization. You can find [many ideas here in the FAQs](#) under "Why should I digitize?"
3. Make a list of requirements based on your established goals. Here you can already include your partners / suppliers.
4. Clarify who the project participants are and what their availability is in your company, but also with your project partners.
5. Inform your employees.
6. Create a market overview and clarify which supplier can meet your defined goals with their solutions.
7. With this information you check possible suppliers and their solutions. You put the remaining candidates on a "shortlist" with the aim of deciding on a solution.
8. Analyze which of your systems and machines are involved.
9. Consider which partners (ERP, MRP WWS, IT, CAD provider, machine manufacturer) are involved.
10. Define workflows, processes, interfaces, and data.
11. Specify the type of documentation for the project.
12. Together with your employees, partners, and suppliers, create a project plan with milestones including those responsible and contact persons.
13. Start your project and document milestones.
14. Train your employees.
15. Think of a test installation and test processes and data until your goals are achieved.
16. Install your production system. Test processes and data again.
17. If everything is running and in order, give the release.

10 points

Your digitization project is already very complex and includes numerous requirements and characteristics. The implementation will depend on many factors such as

- the complexity of your solutions

- the number of modules and software packages involved (ERP, MRP; MRP, 3D CAD, CAD/CAM software, IT)
- the availability of the project participants
- the will to implement the project
- the competence of the partners involved in the project
- the budget

A digitization project can be completed within 6-12 weeks. However, there are also examples of projects lasting more than 52 weeks. Larger projects are often broken down into sub-projects.

To question 5

Are you already in contact with potential partners with whom you want to implement digitization?

0   points

You always need partners for digitization projects, as they are very complex and usually several systems are involved. You need ERP, MRP or merchandise management system contacts from your suppliers to coordinate interfaces, their characteristics and process flows.

Just think for a moment who it could all be. This is the first step.

5 points

Great, you have already identified important partners. But also think about the manufacturers of the hardware and software you use. Since digitization projects affect many processes, there are also internal departments and people who should be informed in good time and, in some cases, permanently involved in your project.

- Your management, who, as a decision-maker, evaluates information, post-calculates and approves the budget
- Your ERP, MRP, WWS managers, as they contribute to the decision
- Your IT managers, especially when system requirements for the solutions need to be clarified
- Your sales, as the preparation of offers, order entry and deadline tracking will change
- Your work preparation, which is integrated via timely nesting, NC generation, provision of operating resources such as digital plan layout or digital dimensioned drawings
- Your production, which executes cutting orders, collects operating data, creates flame-cut parts, produces rejects, reports back used material
- Your production management, which evaluates the information gathered, plans preventive maintenance, eliminates weaknesses, documents errors and trains those involved

10 points

Very good. But please also think about internal processes and possible resistance. Our customer projects have shown that sluggishness when rethinking - especially when work processes are

redefined - can become a serious challenge. There may be traditionalists in your company who oppose digitization according to the motto "What's new isn't good".

Project participants often do not understand the complex relationships or cannot abstract them. The age and education of employees can also pose challenges.

Appoint an employee who will manage and drive the digitization project internally.

To question 6

Do you know the project participants who are driving the digital transformation in your company?

0 points

It is important to put the team together in good time during digitization processes and to involve everyone concerned. This is where the first mistakes are often made.

If employees are excluded from the outset or their concerns are not considered, this can quickly lead to problems. Make sure that your project participants have enough time for the project in addition to their daily work, including later during commissioning and testing.

5 points

In principle, it is correct that the management decides who is involved in the project. However, you should consider that there should be some internal project participants in the team that you do not always think of immediately.

Internal IT contacts are necessary to check the system requirements for the solutions, for releases, to define and set up authorizations and to determine the protocols and interfaces during installation and commissioning.

Your internal users are important for testing process flows, ensuring data completeness, and testing usability and the GUI.

10 points

You are spot on with your assessment and there is a high probability that you will put together your team sensibly with everyone involved. We can write from experience that your team will be successful if you consider the following tips:

- Show mutual respect.
- Communicate at eye level.
- Check and evaluate all arguments as neutrally as possible.
- Keep track of your project phases.
- Control your efforts, times and costs and adjust them accordingly.
- Thoroughly prepare for acceptance because successful acceptance is the goal of all measures.
- Also plan after the project with software life cycle, updates, and support.

To question 7

Do you know the processes, data streams, interfaces, transmission media affected by digitization and their current situation?

0 points

Either you are not yet using any information technology, or you simply have not thought of documenting processes, data streams, interfaces, transmission media. However, this is an important prerequisite to be clear about your digitization project. But don't worry, your external project partners will be happy to support you. Perhaps you trust yourself to do the same. Then you should get started as soon as possible.

5 points

Complete and up-to-date documentation of processes, data streams, interfaces and transmission media make your work on the project easier. One of the most important milestones is your decision for a solution and the supplier. It is also important to define who is responsible for the project on all sides and to name their responsibilities.

But even if it is difficult at first it's worth the effort. It is therefore best to start with the documentation right away and determine the form of communication for the project team straight away.

10 points

You are well organized and know your production in detail. You probably already work with IT systems, have detailed current information from production and have already documented processes, data streams, interfaces and transmission media.

A project manual for your digitization project can then probably be created quickly, including

- listing of those responsible with contact details and absences that are already known
- a chapter on escalation management; name any conciliators
- process Diagrams
- milestones, deadlines, and plans
- definition of the test installation (date, test period, result approval)
- the installation of the production system (tests, release, and acceptance documentation)
- the implementation of your project, possibly in stages
- the test installation with tests and releases
- the installation of your production system including checking and commissioning, release, and acceptance

To question 8

Have you already thought about which requirements digitization should meet?

0 points

Wanting to go faster is a sensible goal, but you can achieve far more by digitizing your production. Processes and routines improve and relieve your employees of routine tasks. That goes down well. With digitization you avoid monotonous multiple entries. Your processes are clearly defined and known to everyone. Everyone knows what to do. Mistakes are largely avoided. All information is always available to everyone, also in real time. Constant phone calls and inquiries are no longer necessary.

5 points

Always up-to-date data from production, with which you can better control processes, is a good thing. In addition, you reduce a lot of costs.

Weak points are revealed and avoided through process analyses. Optimized processes ensure faster throughput and save valuable production time. The transparent machine planning improves the use of the machines, so that the downtime costs decrease. By providing information in digital form, printouts are no longer necessary. You reduce printing costs, use less paper, and thus contribute to sustainability and save resources. By comparing the pre-calculation and post-calculation, you submit real prices in your offers. Orders do not slide into the red so quickly. With predictive maintenance, you avoid machine failures and thus high costs. Have you thought of that?

10 points

You expect significantly higher utilization of the machines, relief for the employees, optimized calculations, better customer service.

It's good that you're so ambitious about digitalization because you can do all of that. But much more:

You avoid double entries and thus incorrect entries. You create transparency. You make all information available to stakeholders in real time. You will recognize and eliminate weak points and errors at an early stage. You increase your productivity. You work faster, more effectively and save costs. You bind your employees to the company through more interesting tasks.

Overall Result

0 to 25 points

You probably already guessed it: there is still a lot to do on your way to digitization. But don't let that unsettle you. It doesn't always have to be the big hit. We have a lot of experience with large and small digitization projects and would be happy to introduce you to the topic, also with concrete examples. [Just get in touch with us](#). In an appointment you will receive a non-binding (online) presentation of the digitization solutions. Together with us you determine your needs and clarify with us which problems should be solved. If you wish, you will then receive an individual offer.

25 to 55 points

Actually, you are already in the middle of the digitization project. You have already given a great deal of thought and have already clarified and decided on a number of strategic cornerstones. Now you can start directly with the networking of the various systems, interface definitions, web applications and the use of mobile devices. Are you still not sure or don't know how to reconcile the whole thing? As a provider of "Solutions Beyond Machines", we are very familiar with project management for digitization and are used to orchestrating many participants. Since you already know and appreciate our machines, [your contact person](#) will be happy to help you.

55 to 80 points

With this number of points, you already belong to the digitization professionals. Either you have already digitized parts of your production, or you are already using information technology on a larger scale. Congratulations! This makes you one of the most innovative representatives in the industry. [We would be happy to inform you](#) about the latest development technologies and methods, solutions from a single source, scalability, and the ability to update solutions. Together we can take your digitization project to the next level.