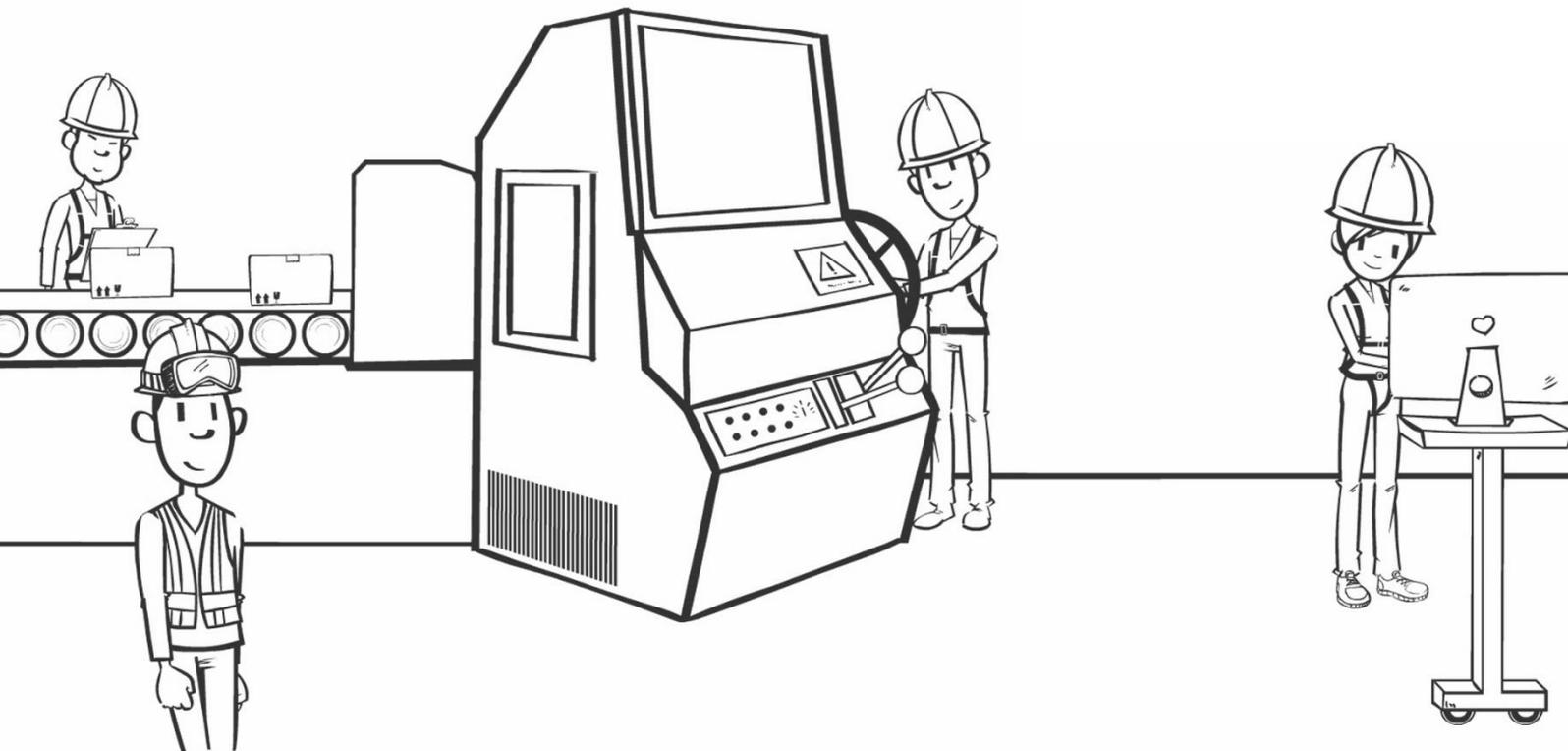
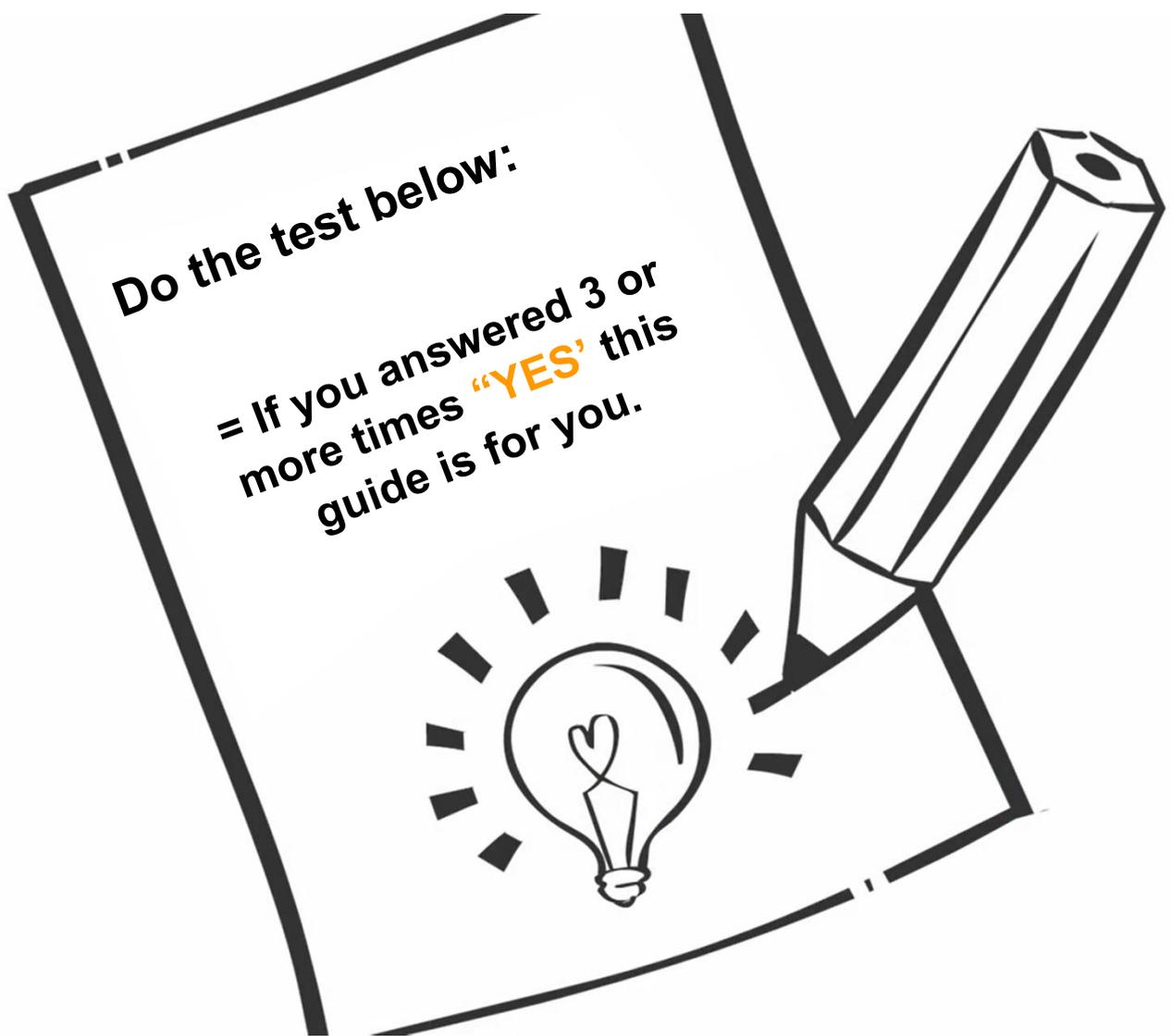


10 ideas

how to **produce** more efficiently
and regain control
over your **manufacture**
in 2020.





Check how to change your production in
2020.

Answer the questions below - circle the answer, if it is a “YES”:

- The revenue grows, but the profitability decreases, you have an impression that even though many people work overtime, things don't move forward as fast as they should.
- You got a large order, which should be profitable (at least in the theory) - but once you finished work, the balance on your bank account stayed the same.
- Your employees waste time on work cards/ order cards, but the information on efficiency does not translate into important decisions.
- There happened losses/ complaints/ production mistakes, which were avoidable if there was better communication and organization.
- There were again mistakes concerning the product / operation itself - even though this problem has been already solved.
- The knowledge and company's know-how is a domain of senior employees, training a new staff is a slow and laborious process.
- You feel torn between development of the company, controlling actual orders and managing the production.
- Once you are not physically present / monitoring work the production fails to be smooth, so you spend all your time at the production hall, neglecting other important matters.
- There aren't suitable tools, which will help you to delegate work - that's why your workers seem to be lost and they don't work efficiently.
- You feel stressed and burned out at times, because of the lack of control over your production and misinformation.
- You are not able to answer quickly and precisely what is the current situation of the production plan, orders and progress of work.
- You feel the need to order work/ introduce some kind of program, but feel overwhelmed by time / cost/ lack of flexibility.

YOUR SCORE - A TOTAL NUMBER OF “YES” ANSWERS.
If you answered more than 3 times positively - this guide is for you.



What happens with

your production in

2020?

**Are you ready for changes in
the next few years?**

Global changes which can have an influence on your business:

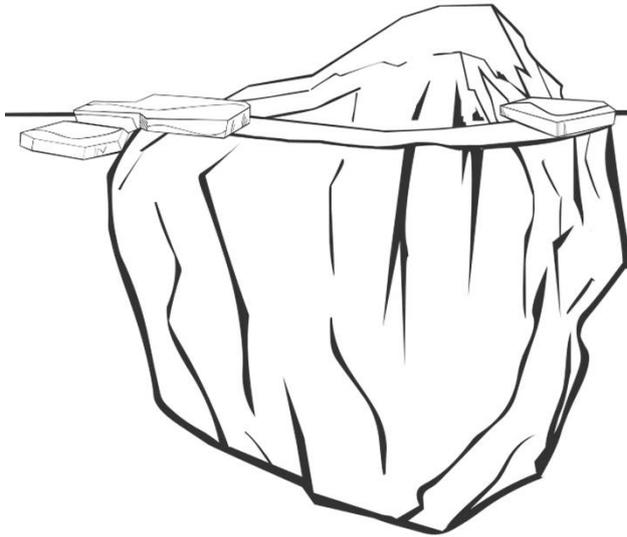
- Unrealistic stock exchange price, which will affect the price of raw materials, energy and remuneration or global market meltdown;
- International corporations will start using an artificial intelligence algorithms in planning of work and orders;
- It might be even more difficult to find the operators at the production then in 2019, so cost of labour will rocket;
- New ISO 9001/16949/13485 might influence the quality requirements and documentation for small manufacturers;
- It is possible, that your next accounting software will be in the cloud and you'd rather use your smartphone than your computer ;-)
- Covid19 epidemic will change drastically situation for many companies and many business will move online.

All of the above makes worth remembering 3 main changes:

1. **Higher cost of labour**, lack of qualified operators and difficulty in sourcing well trained staff,
2. Increased **fragmentation of orders**, competition from large firms and the greater **need of flexibility**,
3. An increase in fixed costs of running a business and the requirement of better documentation.

The higher price of raw materials is an annual "dark horse", as well as an increase in salary levels and the clients who want the job done faster, cheaper and more efficiently. **You will have to use 110% of your company resources.**

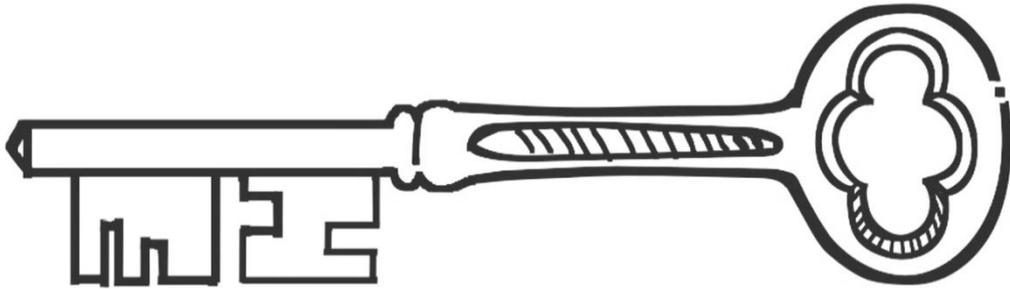
Check out our "10 ideas how to..." guide, which will not only help you to prepare for upcoming changes, but also implement them before your competitors do it.



GET A CONTROL OVER
YOUR COMPANY KNOW-
HOW

1. Collect CORRECT ONLY information about your products and share it at the production hall.

Imagine how much would you save on material, salaries and machine time last year, if various mistakes, or sometimes even the same mistake, didn't repeat?



The product knowledge is absolutely priceless, and not having your company know-how organized in one place can cost your business hundreds of dollars. And it doesn't matter if you produce a unique product or your production is repetitive.

Each time the information about the product is not passed, the drawing is outdated or the parameter faulty, it is a waste of time or potential complaint for bad quality or make.

Tricks, tips, nuances and the whole “secret know-how” these are the things you should collect regarding your product and technology. Sometimes the knowledge is closely connected with a person, and if they are gone, so is the company’s know-how.

But be careful - don't crowd the system with tones of unimportant manuals and universal guides. Write there only details specific for a particular product. Thanks to that you are sure, that your employee will see only the most important information and will not miss it.

What else can you collect?

Parameters and machine settings, specific requirements from your clients, quality nuances and photographs, expected efficiency or other comments - it is important that time invested in adding information will pay off.

How to do it?

IN THE WAY THAT YOUR EMPLOYEES HAVE AN EASY ACCESS TO IT!

Oldschool: A binder/ a folder + products cards (shared with the production)

Classical binder or folder with plastic pockets, where you collect documentation, photographs, etc. It is important to add to each product a simple technological card, where you collect data in a systematic way.

More modern approach: Spreadsheet database + printed technological cards

This is a more comfortable solution, as the information on products is kept in electronic database such as Excel or google spreadsheets, where each line indicates a different product and following columns contain parameters.

Karta produktu ID:52					
KLIENT	PRODUKT	RYSAW OK WŁW.	WAGA ELEMENTU	Data utworze	
MATERIAŁ	MFO30 szary	ILOŚĆ NA ELEMENT			
TECHNOLOGIA WYKONANIA					
I. P.	Krok technologiczny	Maszyna / stanowisko	Opis procesu		Materiał weźdź
1	montaż formy		Bez montażu na śrubach		forma
2	grzanie formy		góra 170 dołna 170		forma
3	Wykieszenie formy mieszanką		wisac wkładany do gniazda ręcznie		MFO30- miesz

1- the example of technological card in MS Excel

Modern: Simple production system displayed at the production hall

You have your products database, where in real time you can add photos, technical documentation and define customized product parameters. It is possible to create a production technology - set machines, efficiency, etc. and all information follows the order straight to an employee at the production hall.

Ps.

Even the perfect description of products mean nothing if you keep them in your

The screenshot shows the Prodio software interface. At the top, the logo 'prodio' is visible. The main content area displays a product card for 'Uszczelnienie PP120'. On the left, there is a vertical sidebar with various icons. The product card features a large photo of a blue ring-shaped gasket. To the right of the photo, there is a table with product details:

Produkt: Uszczelnienie PP120	
Klient	
Grupa produktów	Uszczelnienia
Nazwa	Uszczelnienie PP1
Dodatkowe oznaczenia	EE-30.4
Wymiar	120x3
Norma godzinowa	(not set)
Sposób pakowania	Worki po 100 sztuk
Dodatkowe informacje niewidoczne dla produkcji	Zwrócić uwagę na

Below the photo, there is a table with technical specifications:

Temperatura płyty	302 C
Ciśnienie robocze	50 HPA
Czas wulkanizacji	60s

2 - the example of product card in Prodio software, the same photo and parameter sees production.

office - they have to be easily accessible at the production hall.

2. Take a photo of the product with your phone and attach documentation

Instead of preparing lengthy product description you can use photos - it is easier than you think! You don't need a professional camera - your smartphone will be perfect for taking photos at the production hall.

Why photographs?

- 1. It is much easier and faster to pass information:** imagine the time you save, when instead of describing in words ex. how to mount a form on the machine, the type of quality defects or the way of painting, you simply add a photo.
- 2. The risk of making a mistake is lower:** the production has to prepare the product in a particular color. The risk of making a mistake will be higher if an employee will read a description only. Looking at the clear photo with said color will minimise that risk.
- 3. Better quality control:** here you can show a photo of correct make a swell as incorrect or defective product with highlighted places of possible mistakes, close ups or arrows.

Real life examples:

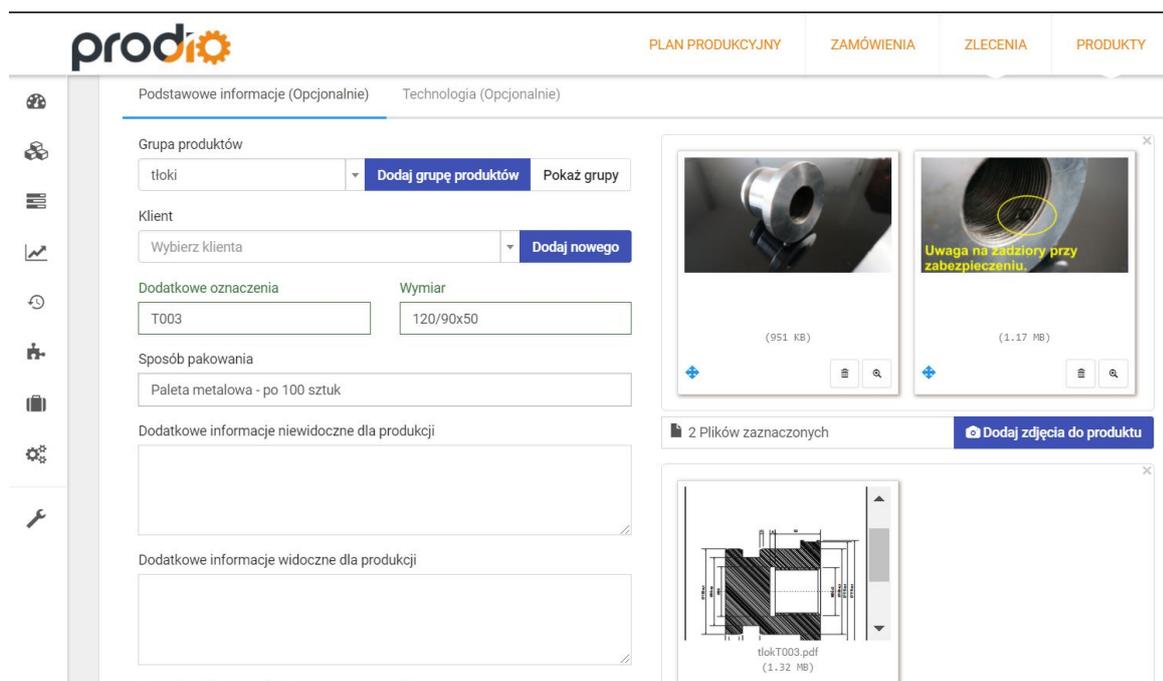
- while making elastomer good clients very often attach photos of the way the mixture is laid in the mold (because of its key importance) or give examples of burnouts.
- in printing / advertising there is a wide range of using photos, from a preview of a print on the leaflet to the way advertising stand is put together.
- in baking industry - the detailed look of occasional cakes / decorations
- in metal industry, showing the defects, which can appear on the product ex. the edge should be smooth not rough.

As you can see thank to this approach eben a freshman operator can work independently, and you will be sure that the job is done correctly.

Why should I attach documentation and other files?

1. **To minimize the risk of mistake** and not to use outdated information: if you can easily add to your product updated technical drawing you are sure that your employee will see the right version.
2. **To optimize communication** - if a technologist / graphic designer prepared the file ready to work on the machine, an employee can download it from the production hall or even machine level.
3. **The time needed to start work is shorter and products database is constantly built.**

It is important that apart from PDF files or photos you can also attach other files ex. software to operate numeric machine or ready to print files.



3 - an example of the product with added technical drawing, photos (general and detailed). Photos and a technical drawing are displayed for an employee at the production hall once they start to work on that element.

Ps.

If you have a production planning software accessible via Internet, you don't

even have to come to your computer to add photos - you can upload the directly from your smartphone.

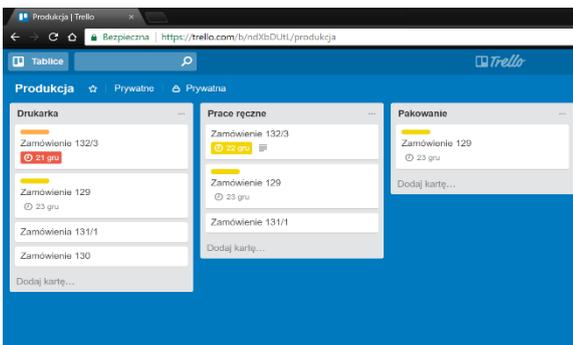
USE TECHNOLOGY
TO REGAIN
CONTROL AND
HAVE MORE TIME
FOR YOURSELF



3. Plan and manage your production online (for a few dollars!)

No more burning the midnight oil to watch the second shift working, instead of spending time with your family or friends. Finally you will be able to have a holiday, without cutting them short, no more dilemmas whether your production can manage without you!

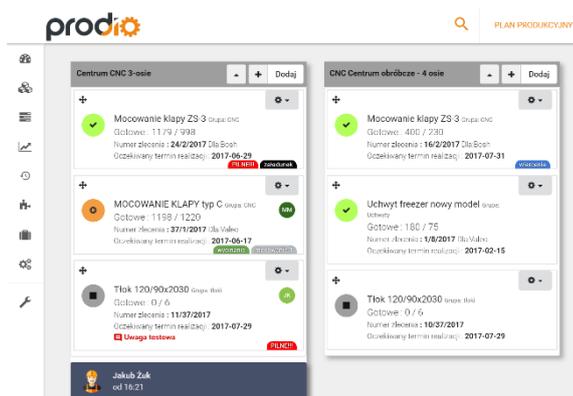
It's 2020 and displaying a production plan at the production hall is very easy, fast and costs almost nothing. It is enough to try one of the 3 tools described below.



Trello.com – simple and free canban board shared with production hall. The software is free, however there are some disadvantages such as the lack of work improvements or the missing analysis of ready pieces made (only progress).

PLAN PRACY ON-LINE			Produkt 1							
DZIEŃ	ZMIANA	PRACOWNIK	Wycinanie	Spenanie	CNC	Znakowanie	Szlifowanie	Pakowanie	Wycinanie	Spenanie
poniedziałek	I	A.K	200							
wtorek	I	P.Z		100	100					
środa	I	M.K				100				100
czwartek	I	L.Z								
piątek	I	M.G								
sobota	I	A.Z						50		
niedziela	I	K.K						50		
poniedziałek	I	K.Z								
wtorek	I	A.K	200							
środa	I	P.Z		100	100				100	100

Google Docs Spreadsheet (in any form) plus additionally google surveys (described in a different section). Great configuration possibilities, free, but you still need some time to configure it.



Getprodio.com – the easiest and the most user friendly tool on the market dedicated for small manufacturers. Production plan,

registration of work, information about products - the only disadvantage is the lack of free version, apart from the trial period (the price is just around 2 \$ per day per company).

Why is it so important to have an online access:

Experience shows that communication between shop floor and management floor can generate the biggest mistakes and losses in a small manufacture. Outdated technical drawing, not hearing things correctly over the phone, insufficient communication between shifts, mistakes, chaos, changes in the production plan – this is the perfect environment for complaints.

The lack of an online working plan and monitoring of progres means:

- The greater risk of using the wrong parameters / incorrect products
- Incorrect order of operations, unnecessary changeover times;
- Bottlenecks, when employees don't know what to do;
- Long hours spend on managing production hall instead of developing your company;

Ostatnie operacje

- ▶ 2017-12-16 00:55:36 Marek RFID (1/6/2017) Drukarka 3D - ATMAT **Prototyp uchwytu BOSH 4Dx**
- ▶ 2017-12-16 00:55:17 Jakub Żuk (2/1/2017) Prasa D-2 **MOCOWANIE KLAPY typ C**
- ➔ 2017-12-16 00:54:58 Wejście **Marek RFID**
- ➔ 2017-12-16 00:54:16 Wejście **Jan Kowalski**
- ➔ 2017-12-16 00:53:55 Wyjście **Marek Mrowiec**
Czas pracy 7 godzin, 15 minut
- 2017-12-16 00:53:40 Marek Mrowiec (2/23/2017) CNC Mitsubishi - 2 osie **Uchwyt lodówki**
Gotowe 10 (10/1000) / Czas pracy:5god

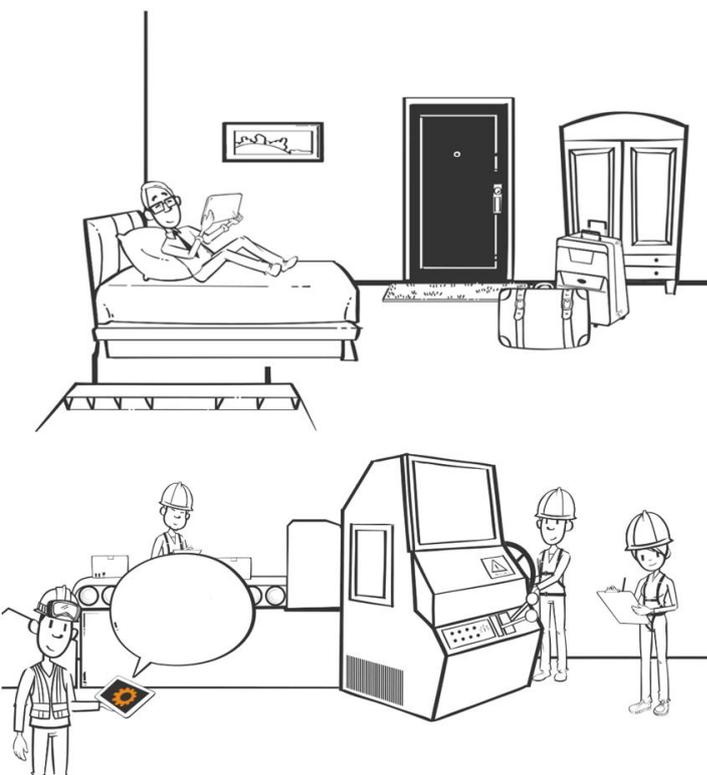
- Communication breaks between

The view of last operations in Prodio

different shifts

If you don't have a computer at the production hall you wste a lot of money.

The arguments I CAN'T AFOORD IT / I DON'T HAVE TIME / PEOPLE WON'T HANDLE IT are



no longer valid, considering the technological changes.

All you need is an online production plan and:

- One of the 3 software solutions mentioned above
- Second-hand laptop or cheap tablet
- Internet access (Wi-Fi from the office/3G)

1. Get control over orders and give them statuses

A simple test: when I visit your manufacture and ask how many orders are opened at the moment, what's the progress, and when is your first order due, and you won't be able to answer these questions quickly – it means you failed.

All you need is – **A SIMPLE LIST OF ORDERS WITH UPDATED INFORMATION, which you can make:**

- **In your accounting software**, it is possible, that there is a functionality which enables to check orders for different Clients (and later transform them into invoices)
- **Microsoft Excel / Google Spreadsheets:** when you create tables with

ID	Status	Dni do realizacji	Dział	Nazwa produktu	Sztuk do wyk.	Sztuk gotow.	Zlecona ilość	Termin oczekiwany	Termin potwierdzony	Uwagi do zlecenia	Klienta / własne	Numer zamówienia Klienta	Klient
1126	OK	--	CNC	Produkt 1	--	--	96	2017-12-12	2017-12-12		Klienta	ABC 1	Klient Sp z o o
1127	Polewana	12	Obrobka ręczna	Produkt 2	43164		43164	2018-06-15	2018-06-15		Klienta	170750 line 220	Firma A
1128	Zaplanowana	3	CNC	Produkt 1	800		800	2018-01-11	2018-01-11		Własne	--	--
1129	OK	--	CNC	Produkt 3	--	--	1120	2018-01-08	2018-01-08		Klienta	ABC 1	Firma 3
1132	PRODUKCA	11	Obrobka ręczna	Produkt 4	60		60	2018-01-19	2018-01-19		Klienta	1/1/2018	Klient Sp z o o
1133	OK	--	CNC	Produkt 1	--	--	48	2017-12-28	2017-12-28		Klienta	2/1/2018	Prodio
1134	Nowy	14	Obrobka ręczna	Produkt 2	108		108	2018-01-22			Klienta	telefoniczna	Firma 3
1135	OK	--	CNC	Produkt 3	--	--	192	2018-01-11	2018-01-11		Klienta	ABC 3	Prodio

orders and by using automatic statuses and function which counts down the days (check the box „due today”.

- **Simple production planning software** – such as Prodio, where the days left till deadline

ID	Pozostalo dni	Grupa produktow	Status	Produkt	Klient	Zewn. nr zamówienia	Termin potwierdzony	Gotowe/Wszystkich	Uwagi dla wszystkich
42/2017	24	CNC	Nowy	Mój produkt	Cichońska	Własne	(not set)	0/2	
41/2017	9	Domyślna grupa	Do wysyłki	Dysonans testowy	Bosh	BSC/21/2018	2018-01-17	0/1	
40/2017	3	Domyślna grupa	W produkcji	Dysonans testowy	Valeo	VSC3342/2017	2018-01-11	2900/3000	
39/2017	-2	Domyślna grupa	Częściowo gotowe	Dysonans testowy	Valeo	VSC3348/2017	2018-01-07	2/5	
38/2017	39	Domyślna grupa	Nowy	Dysonans testowy	Valeo	VSC0005/2018	(not set)	0/4	
37/2017	14	tloki	Potwierdzone	Tłok 120/90x2030	METALPOL	MTP/2/12/2017	2018-01-22	14/20	

count automatically, starting from the day when the order was

accepted, and statuses such as planned, in production, completed are assigned automatically as the prder goes through production process.

Additional fields worth having on the list of orders, on top of the popular ones, to have even better control:

- Updated order status (ex. in production, completed)
- Count down, how many days are left to the end of the project (preferably with color indicators)
- Precisely described product with its parameters
- Due dates and deadlines – when does the Client expect to have ready products / which date was confirmed
- Numer of pieces made (the best is to see a % of a total number ordered)
- Comments – this is the place for additional information and special requirements from Clients

What's important is to have automated as many elements as possible – ex. If something is being produced it should be automatically displayed as „in production“. If you use one of the software mentioned in our advice section, you will get a desired result and more organized production.

INTRODUCE A CLEAR PROCEDURE OF ENTERING A NEW ORDER.

Apart from passing on data about each new order, this is the second most popular stage of production process, where mistakes appear, especially in small manufactures. That's why it is important to make sure that there is a clear path of accepting new orders:

- Something which in ISO 9001 is called „Review of customer's demands“, and practically speaking means checking if all details were discussed prior to accepting an order, ex. payment date and method, type of material, technical drawing, form of delivery.
- Are we ready to keep the deadline our Client has in mind?

This type of review should result in decision and we should be able to point a person who said „YES WE CAN” and took the responsibility for the project. The order should change its status from new to confirmed.

TIP: In some manufacturing works very well a kind of a CHECKLIST with all details to check before accepting an order.



2. Follow working history and increase efficiency from your smartphone

Efficiency on the paper – it can't work well!

You wish to increase productivity and set higher norms, so you decide to introduce work cards for employees to fill their working time at the production hall. The month passes with ...no result.

If you have 1000 orders it is unrealistic to expect you to analyse page after page and calculate everything after your shift ends.

Delegating this job to the office floor does not make sense either. You won't work effectively if

you are tired, waiting for the weekend and if front of there will be a long Excel table to fill.

There is one more aspect: if you have 10 or more employees will you be able to remember what happened in detail at the production hall some weeks ago? If not, how can you work out who exceeded the norms in your analyses?

Electronic registration of work in 2020 is a must, without it majority of advice on how to improve worka the production hall, won;t make any sense, due to the lack of basic data.

Imagine how would your work change, when even being at home, having your morning cup of coffee you will be able to open the software and check in 2 minutes, what's happening in your manufacture – what, by whom and how

The image shows a handwritten work card form, likely a 'Karta Pracy' or similar production control document. It is heavily annotated with handwritten numbers and text, and a large orange 'X' is drawn over the central part of the form, signifying that this paper-based method is inefficient. The form includes the following sections:

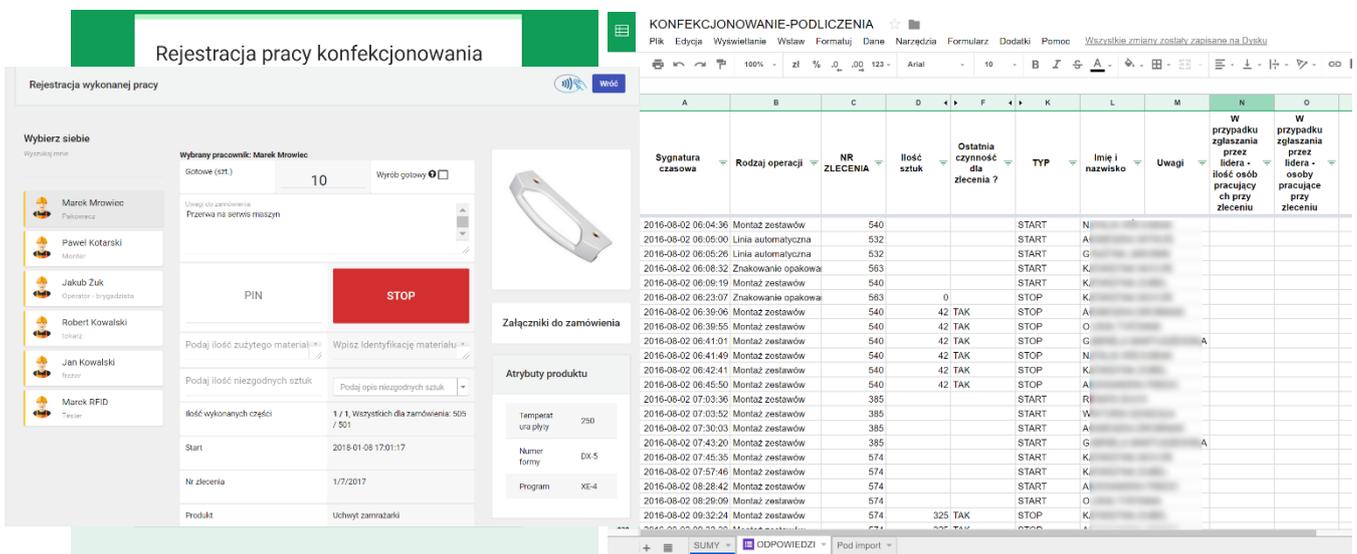
- Header:** ZLECENIE NUMER: 7 130, Klient: KARTON, WYKONANIE: 1500, 1, 3/E/BIALA/380, 1200x570.
- Table of Work Hours:** A table with columns for 'Data' (Date), 'Kod' (Code), 'Nazwisko wykonawcy' (Employee Name), 'Ilość' (Quantity), and 'Czas wykonania' (Execution Time). It lists various dates from 16.11 to 18.11 and codes like U, DDP, B, 18T, 210, P2, K39, K35, K35, K35, P1, C.
- Summary Table:** A table at the bottom with columns for 'Kod i opis usługi' (Code and description of service), 'Ilość' (Quantity), and 'Czas' (Time). It lists services like 'DRUKOWANIE', 'KASZKOWANIE', 'WYCINANIE', 'SZTANCOWANIE', 'KLEJENIE', 'ZWIĘZANIE', 'OBIĘTANIE', 'PARKOWANIE', and 'STRZELANIE'.
- Footer:** Sugeruje i uwagi pracownika (Suggests and employee comments).

efficiently was produced, who checked in at what time and what is being produced at that very moment.

Most importantly, all of the above you can 100% for free – and speaking from my experience, even a simple registration of work on the computer improves productivity immensely.

Free method of monitoring production online (Google Docs)

All you need is a computer and a free account in Google documents. You can create a work registration form, which you share with your employees. The data is saved to an online spreadsheet, where you can perform analyses.



On the left example of google form shared with employees at the production hall, on the right answers which register automatically in your online spreadsheet, ready to process further.

Complex method starting from 2 \$ a day (getprodio.com)

In Prodio workers at the production hall have an access to a production plan, where they register check ins and check outs, the start /end of an operation, write the number of pieces made, deficiencies, comments.

Nr zamówienia	Nr zlecenia	Produkt	Maszyna/Operacja II	Pracownik II	Sztuk II	Start II	Stop II	Czas [h:m]	Wydajność [szt/h]
67/2017	7/67/2017	Zawieszka...	Montaż	Paweł...	260	2017-12-15 14:03:36	2017-12-15 21:57:48	07:54	32,9 1102,8% (32)
67/2017	7/67/2017	d...	Montaż	Andrzej...	260	2017-12-15 14:00:43	2017-12-15 21:58:00	07:57	32,68 1102,14% (32)
65/2017	21/65/2017	H...	Prasa 30T	Konrad...	1 000	2017-12-15 11:50:37	2017-12-15 13:58:45	02:08	468,26 (0)
73/2017	6/73/2017	...	Montaż	Konrad...	150	2017-12-15 06:27:59	2017-12-15 11:40:56	05:12	28,76 (0)
64/2017	17/64/2017	...	Wypalarka plazmowa	Lukasz...	194	2017-12-15 06:27:43	2017-12-15 13:59:25	07:31	25,77 (0)
73/2017	5/73/2017	...	Spawarka	Adam...	60	2017-12-15 06:10:51	2017-12-15 13:52:09	07:41	7,8 (0)
64/2017	15/64/2017	...	Szlifierka kątowa	Wojciec...	500	2017-12-15 06:10:38	2017-12-15 13:57:39	07:47	64,24 (0)

On the left side registration of work screen for an employee in Prodio, on the right example of working history, you can access online in Prodio (check in and check out times).

3. Electronic registration of check ins and check outs at work: monitor the % of time wasted

Are you paying for sleeping shifts?

Not even 4 weeks passed after we added registration of check ins / check outs module to our software (to monitor attendance and compare it with time written on orders), when Clients started to call us: there must be a mistake in the function – it showed the least 55%!

We checked things thoroughly – everything worked like a dream. So did check our client. Hanging around at the production hall and pretending to be busy, searching for hours for the right tools, quick nap behind the machine at night shift – they were the consequences of the „investigation”.

Although the story of a sleeping worker is a bit extreme example, but it often turns out that the busiest workers at the production hall in fact work the least, wasting time on „so important things”.

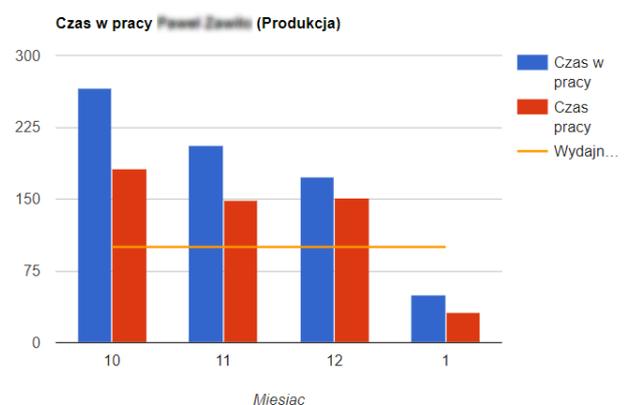
How much does it cost you 15 minutes?

Probably not a lot, but dividing it by 5\$ / h it is about 1.25\$, but multiplying by 10 people and 21 working days in a month it gives quite a substantial amount. And this is just a preview of savings you can make, when you register check ins and check outs.

How to do it? Look at the previous page: use Google docs / Office 365 form or basic functionality in Prodio system.

Monthly summary of time spent at work and on machines for a worker in Prodio.

Miesiąc	Work Time	Machine Time	Wydajność[%]
10	266 godzin, 13 minut	182 godzin, 18 minut	68.4
11	206 godzin, 18 minut	149 godzin, 7 minut	72.4
12	173 godzin, 17 minut	150 godzin, 43 minut	86.8



4. Look for savings, where no-one looks.

That's the end of the cult of efficiency of operations – because this is where everybody looks, when considering a breakthrough. It has its limitations, so better examine closely:

1. Preparation time / machine setting time

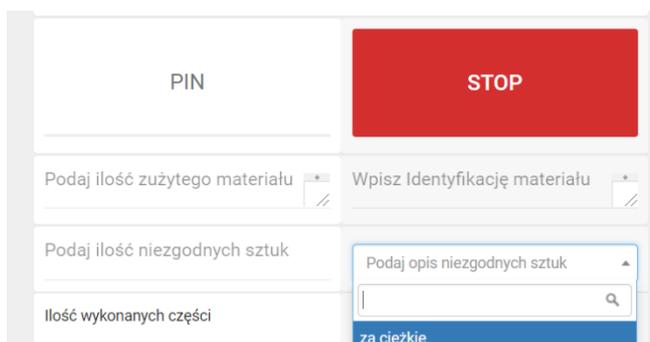
It could be machine changeover time, time needed for cleaning after the previous operation or the time needed for setting all parameters. In many companies workers realized, that their job is monitored from the point of efficiency – that's why they don't rush here and take their time while preparing machines.

How to monitor: if you insist on having work cards – let the employee write down the setting times, in Prodio / gogle forms you can create a setting operation / add tag.

2. The amount of deficiencies (including material leftovers)

Here is definitely a negative superstition of rewarding employees by their efficiency only. There was a situation that the best results = damaged equipment and faulty products worth thousands of dollars.

How to monitor: independently of system used, there should be an obligation to register all deficiencies. The key is not only to know the number, but also the



Additional boxes while registering – a worker can give the number of leftovers + choose the reason.

reason. Having such data in electronic system you are able to compare employees from deficiencies perspective, you will see the faultier per order and where the problems appear most commonly.

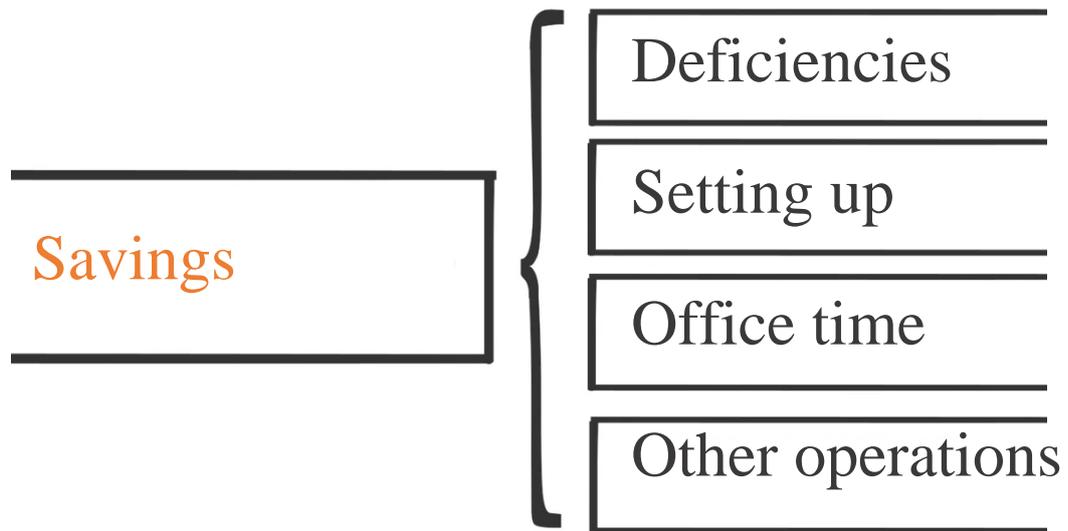
3. Working time for graphic designers / constructors

All right, the product is produced in 6 hours, but it is not the total time, as a constructor spent 2 days on documentation, as well as discusses with a Client the intricacies of the project. The question is wheter you calculated this time into a total production time, or paying for it from your own pocket.

How to monitor: use software (ex. Google Docs): let the technologer / graphic designer also register their work. In Prodio some clients create machines named ex. graphic department, where they delegate work, andthe office registers their progress (it is calculated to the total time needed to complete the order).

4. Other action connected with a product

Depending on the industry, these are all things, which aren't main processing, but you have to pay for them. There is a need to clean production hall, additional service, rearranging of space – there must be something in your manufacture.



Check out some good practices in bigger companies



5. Introduce clear rules on quality control

The easiest method of checking if you have a clear rules on quaiity control is possibility 0/1 of establishing who made a mistake: an employee or quality rules, each time the job botched was spotted.

In many small manufacturing companies the lack of clear quality regulations is a norm, so when the complain appear, it is always an employee who is gulty – „because if the owner was in his shoes he would have done it better”.

You might be shocked, but it is important to say that the role of an employee isn't guesising how to do things the best for the company, know everything, and perfectly balance efficiency with care to detail...

Dlaczego warto stworzyć i rozbudować jasne wytyczne kontroli:

- OPTIMIZE THE COST** - this is you not a coincidence, who decides which % of time is optimal for monitoring and ... of course there are less complaints.
- AUTOMATION** – with each job botched (and they always will happen) there is somethong youu can fix, to avoid it happening again;
- TIME SAVING** – you can introduce new employees much faster;
- BETTER RELATIONSHIP WITH THE STAFF** – everybody knows what to do and how good they work (it i salso a proof in labour court if you want to punish an employee).

ZPGA1-1

Strona 5 z 6

KONTROLA STANOWISKOWA

ZSZYWANIE

(STRONA 1 / 1)

Nr	Co sprawdzasz	Kiedy	Jak i czym sprawdzasz	Jak powinno być
1	CZY JEST RÓWNO ZSZYTE	Po pierwszym zszyciu W połowie zlecenia (lub po około 500 sztuk) Ostatnia sztuka	Złożyć karton po czym sprawdzić ułożenie powierzchni	Zszyte powierzchnie powinny być równe nie powinny wystawać ponad powierzchnie kartonu
2	CZY ZSZYWKI SĄ ??	Po pierwszym zszyciu W połowie zlecenia (lub po około 500 sztuk) Ostatnia sztuka	Lekko rozerwać karton – sprawdzając tym samym wytrzymałość kartonu	Karton nie powinien rozrywać się pod wpływem lekkiego nacisku



Przykład prawidłowo rozmieszczonych zszywek



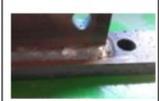
Przykład złego ustawienia zszywarki (zszywki rozrywają się pod wpływem lekkiego obciążenia)

Imagine how would you work, whether many daily used devices such as laptop, or car were made if thousands of people involved in production proces, were only guessing if they did their job correctly 😊.

How to create good quality control guidelines:

Speaking from 10 years of experience in consulting and observation of companies from automotive industry, there isn't a better option than creating and placing near workstations quality guidelines in a form of a table. Columns which may appear there can include information about:

- **Who:** so who is performing monitoring, because ex. an operation can be controlled twice: by an operator and at random by a foreman
- **What:** wheter a parameter is checked ex. color, weight, lack of sharp edges, etc.
- **How and What with:** the checked color ex. by using sampler, by naled eye, in the laboratory, against the light?
- **How often?** Each piece, 1 out of 100 or maybe first 5 and than every 10?
- **How it should look?** The difference of 1 shade, no smudges, 98% accurate?
- **Remarks?** Here you can write different tips based on your experience ex. that color has to be checked after 2 minutes from leaving te machine

WYTYCZNE KONTROLI JAKOŚCI						Z/KJ6/1-1		
+ NA STANOWISKU: Szlifowanie								
	Sprawdzany parametr	Kto sprawdza	Czym/ jak sprawdzamy	Co ile/ kiedy sprawdzamy	Jak powinno być	Przykład		Uwagi
						OK	NOK	
1	Zadziory	Operator	Oko nieuzbrojone	Każdy detal	Powierzchnia detalu pozbawiona widocznych zadziorów			
2	Nadlewy	Operator	Oko nieuzbrojone	Każdy detal	Powierzchnia detalu pozbawiona widocznych nadlewów			Zwrócić szczególną uwagę na spaw

In my opinion using photographs with examples OK / NOK to ovisualize

potential defects of the product is 100% necessary and it has the greatest influence on effectiveness of quality control.

6. Feel, that organization pays off

1. Designated areas and marking at the production hall and at the warehouse

The principle is very easy: designate the area near the machines and in your manufacture to:

- Use the space optimally and facilitate the transport of materials;
- Quickly recognize 4 types of products: in production, to be checked (if it is the last stage), Checked OK, Incompatible NOK



- Prevent mixing your products from different categories (particularly OK and NOK)

When you think about designated areas you probably have in mind painted lines on the floor, but the choice is much wider: markings on the walls, colorful containers, tags on pallets - it should be convenient and practical for you. There are few more TIPS below:

- Instead of directly painting lines on the floor it is better to test them with special floor tapes, where it will be easy to adjust the right setting;
- Regarding colors: **in production**; **items checked**; **incompatible**
- The best way is to have double areas by machines (for processing and after processing),

- Very clearly separated checked preproducts from other categories
- It is recommended to use some simple numeric system for the production hall and machines

Similarly you can use the area policy / other markings inside the warehouse (both for dispatching and collecting of materials). Exemplary areas to design inside the warehouse (depending on the industry):

- stock: keeping ready made goods / raw materials, checked by a stock boy, and indicated as „in stock” in a computer system
- unloading – unloaded from the truck, waiting to be checked and placed
- incompatible – incorrect deliveries to be returned / awaiting explanation
- to be dispatched – items prepared by the stock boy and ready to be send
- packaging / preparation: the area to complete the orders.

2. Mark items / batches with one number,

If I approached a pile of products being produced at your production hall, would it be possible without guessing to verify which products are they, for whom they are being made and what is the stage of that order?

In practice it is a piece of paper with a number of the order and alternatively the number of pieces is sufficient. Then it is possible to check on the computer / board with a production plan, who is working on them and how many are there ready made.

Regarding the number, it is best to use your own internal number, than the one provided by the Client. It is best to use



numbers like the ones used by Prodio, so the following order number / a year.

A common practice is putting the order number on the packaging / final product. Thanks to this approach, it is easier to respond to potential complaints, because you can find the order in the system and see the working history with 100% effectiveness.

7. Just **START**, and you'll see it is not that bad.

While reading previous advice you thought: „**WHEN AM I GOING TO DO ALL OF THAT? IT WILL TAKE AGES! WE HAVE TO PRODUCE, NOT PLAY MANAGERS**”. Please note, that there are 3 typical mistakes regarding development of your production:

- **Don't do it at all** – if you are scared but the amount of work to optimize your production, you put things off for the time when there will be less orders...but this will never happen and the chaos will prevail or you will be only searching for new orders and new customers.
- **It's a one off revolution in the company** (it is usually connected with an audit for a client / ISO 9001 / there was a big fuck up). New documents and new tools are created in a rush, but later everything goes to a folder, because nobody believes in it.
- **You analyse too much**: it is easy to see based on a software example, when you do many different tests searching for a perfect solution, but picking faults in each system, until you opt for customized solution, which is too expensive...

HOW TO DO IT IN 2020 TO BE SUCCESSFUL?

Superb know-how regarding products built in real time!

What you really need is a REAL TIME DATA and you have the whole 2020 for it.

That's why it is so important to do everything in real time.

With each product / type of product:

- Open a card / create a new product in your software – but write only absolutely necessary data for the worker to see.
- While producing something go down to the production hall, take a photo and write exact parameters – do it on your mobile phone best.
- Observe / talk to your employees – let them share some details with you, which are worth adding for the future use.
- After finishing production verify productivity based on the real production data and then enter them to your system.

...after 3 months you will have so much data, that it will pay for the effects

efekty 😊

Instead of looking for an expensive ERP-s start with something simple!

The discussion is it worth to spend huge amounts on ERP system is a longer one, because many companies after introducing such systems see more disadvantages than positives – so be wiser.

Instead of analysing and debating introduce Google Docs / Prodio in your firm today, test it and you know what... ...even if after 6 months you decide, that it is too simple for you, you will know exactly what data is needed in ERP system.

Wishing you all a productive production!

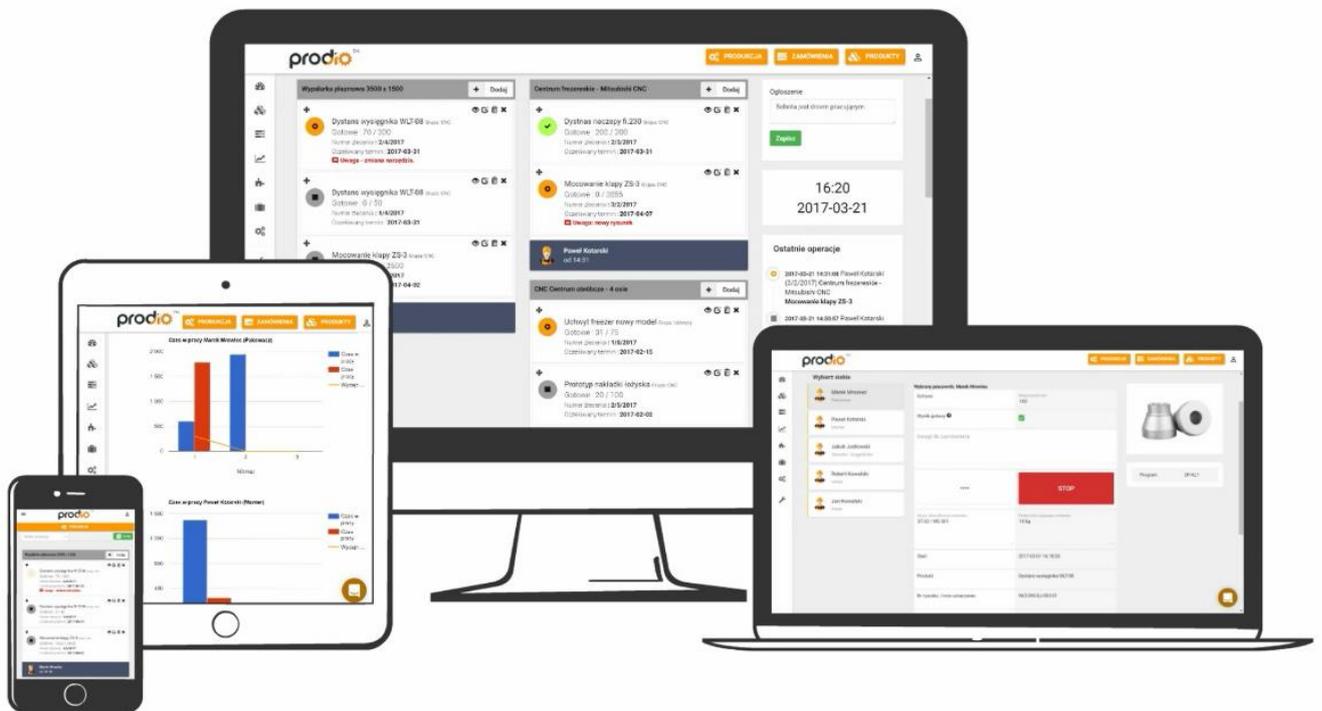


Marek Mrowiec
CEO getprodio.com

A handwritten signature in black ink, appearing to read 'Marek Mrowiec'. The signature is fluid and cursive.

START TODAY

Plan and monitor production online from 2 \$
per day!

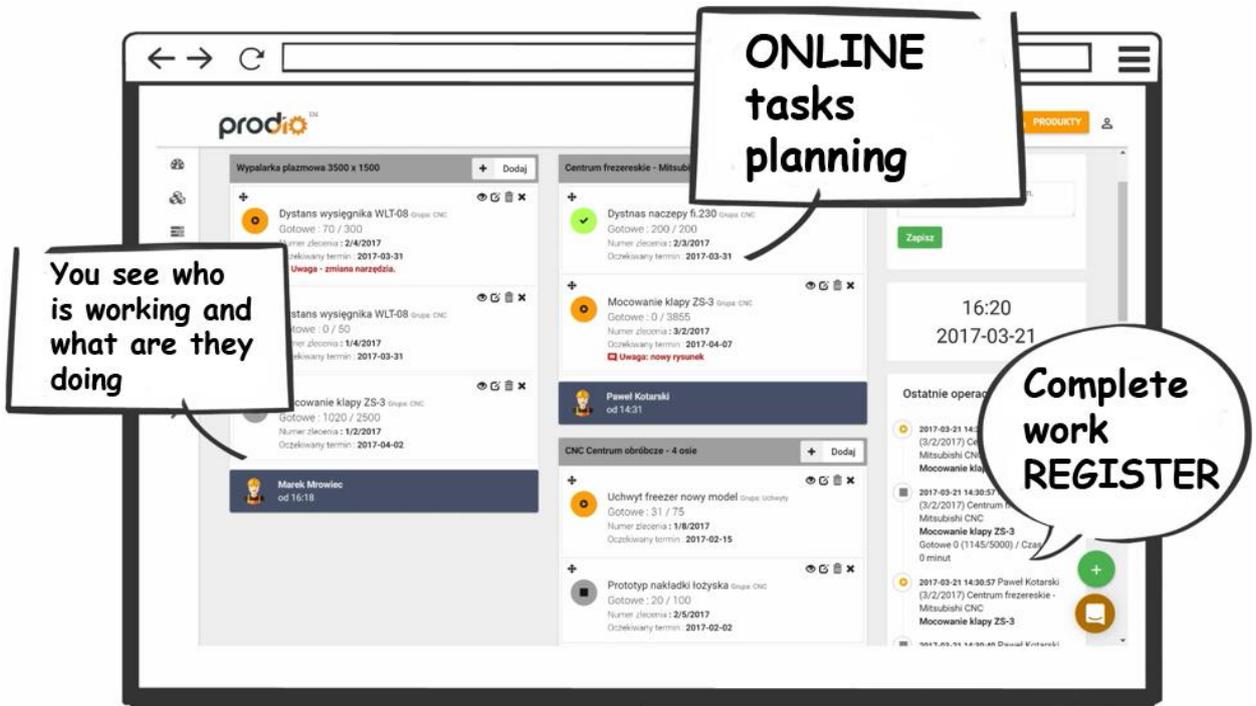


[CLICK HERE TO TRY](#)

prodiio

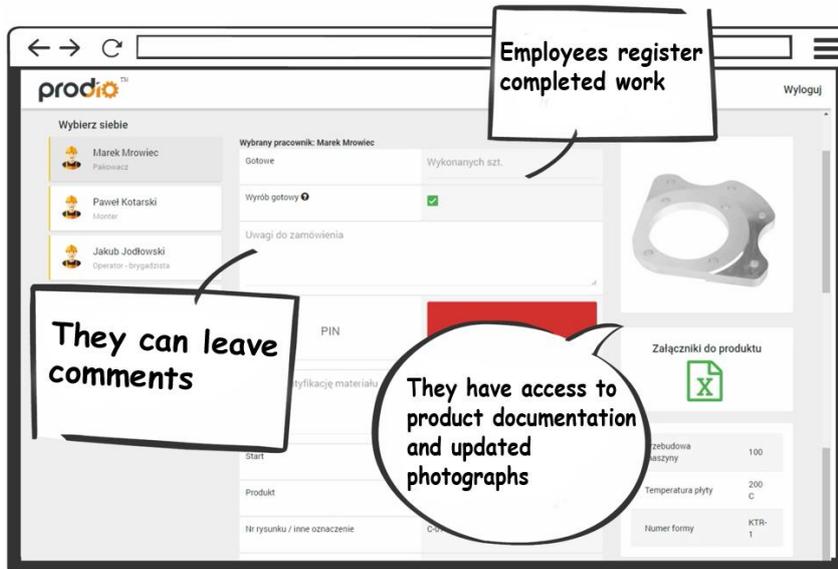
[FREE 14 DAY TRIAL](#)

[NO COMMITMENTS](#)



You can plan and monitor work from any place in the world.

You can collect the real-time data easily



You have completed working history and increase productivity of your company online.

