Truck driver

Administration

Production workers (Head operator)

Shift supervisor

Look at the paper and look what he needs to take just from a specific section

The truck driver.

They got every sort of the material from the drawings

the truck driver sees only the first part dosent care about the picture

which device will be the most comfortable:

for the driver is better phone wants to include a digital map for the truck driver

if they have the map they can see directly where is what.

When youre creating the application for the truck driver something about uno material?…. Started talking about things that the client (in the recording) is saying that is for the future and not the current system.

Says to consider making a tablet for the truck drivers as well and not a phone for future sake and improvements of the system (the next group after us).

In the production they want a tablet, both worker and client agree,

Very important for the worker that the picture of the pallets (the drawing) will appear in the tablet

They again express how important that all the papers from the current order pricess will also be in the tablet.

The drawing of the tablet needs to be on full page, big so it will be easier to see, and any extra information to be able to click and find out more about it later.

Want the picture to stay the same (from the ERP System)

Talks that there Is more information about the side bottom part in the second page of the drawing.

Wants when you click on the parts that more information and details will appear. - Problem with current system\*\*

Control list:

Pre control list, when the order Is getting into the ERP he goes and look in the warehouse (the administration is filling it).

Every order starts from number, so they want according to the order number to be able to open all the details and files related to the order from the details, drawings, control list for the person preparing the material.

In the second quality check they are checking to make sure the pallets are made properly that the material didn’t have fungi for example for each layer above, bottom and side.

Explaining about different types of planks and their differences. – something that is not related to our system (how they are built from how many planks and wood in the bottom and top.

The drawing details will also specify if they need to round the corners, how high it needs to be.

We made sure we will get all of this in English as well.

Second quality check:

The head operator is checking it, it’s very similar to the first quality check but not identical.

They fill it in normally after one or two samples (batches) if everything is okay.

They look at the pallets that they made and the picture and compare that everything is the same

The head production worker prefers not having to write many details but just options he can check/mark because he dosent have a lot of time to write it.

Wants an option to add comments.

The client reminded that he asked from us that if there is a problem with the production line that it will also be documented, timer for lost time to keep track of how much time the system was down, what happened and how they managed it.

The head operator added to this that he dosent have much time to open the tablet each time, so he prefers to have it as a lock screen the option to start the timer and document it.

Suggested options for stop start or pause and to be able to report a problem.

The client is explaining to the lead mechanic why this is important to the management side in order to log it the lead production answers that they cannot have it as a list because of the big variety of possible errors so the client says to him yes but you can then write down what was the problem.

We are asking then if they will prefer a list of errors to choose from to make it more time efficient the production leader answered negatively since there are too many possible errors.

We agreed on open text and the option to edit it later as well.

Document when the order was finished so than to press done, then they start changing everything the entire production line (adjusting the machines) for the next order that will not necessarily be the same as the previous one (if in measurements for example).

Sometimes the down time can be very short or will be for two hours, so they want to document it.

Jumped back to the truck drivers documenting the materials drop off and pick up in a map.

Client Shows me the hourly quality control:

Every hour during production time they check if there are no nails out for example from the pallets, explains that some costumers automize their pallets and work with sensors or optic eyes so it will cause errors for their clients.

So if the pallets are in stack so to make sure they don’t move too much.

Dust, fungi, quality of the planks, the measurements, positions of the nails, the corners and the stamps.

Every pallet gets a stamp, Den Doelder has their own stamp as well, so you make sure it was stamped, some pallets don’t need the stamps and just need the production date.

All is stated in the details paper of the production.

The hourly check is done by a supervisor (the client).

Heat treatment stamps also exist, the number of dendoelder is dnl-007

The also add the production week. Sometimes they also add a costumer stamp if they need.

Everything is stated in the drawings.

There are costumers who want the plank batches to be strapped as well so they make sure that is done too in the hourly check, all is stated in the documents (drawings)

Making sure again which papers are being filled in when by who.

The client adds that sometimes the truck driver while picking up the made pallets can see if there are errors or problems with them for example nails sticking out and he will either inform the supervisor/lead production to check up on that or he will edit the hourly check up as well.

Making sure that in our system as well he wants the truck driver to have access to this form, client says to put everything in one application so everyone can access everything.

Asking the client if he wants different passwords (logins) for different workers and the client says no everything in one.

Asked about the possibility to edit an order after the truck driver picked up the material, because in the initial interview he said that once its picked the order cannot be canceled or edited anymore and for any additional pallets a new order needs to be made.

The client did not understand me and proceeded to explain that once the order is marked as done in the production that amount of material needs to be updated as well.

After explaining again my question to the client he responded that canceling and editing is possible.

You can still edit the order until the complete order is done.

Asking for any additional features he would like (the client) to improve, if he had unlimited time and budget what would he like?

Client responded with that the application should be easy and accessible, that if they pressed stop there should be an option to record what is wrong. If its green its good if red than they can report that too.

Explains that this will help with logging – that if for example the administration gets complains about a problem with pallets like fungi then they can easily track when and where was the problem and what they did about it.

Because sometimes you can find all of the problems like with nails.

That is the most important feature for him.

Asked the client if he wants us to add a form that in case, they get complains from a client about an order to edit it and add to the system in relation to the order to track it, client responded with not yet, that it will be too much for this system.

the client tells me that there are 3 production lines we got a tour initially in the biggest and newest one, all of them work at the same time on different orders.

They have two shifts from 6 to 14:30 and from 14:30 – 23:00

Our client is a shift leader together with another colleague. His idea is that they are all together working so they all check up on it.

The client explains that the shift supervisor is in charge of all 3 production line so he walks between them all the time

I asked him if there is a way we can help him with this process, the client responded with saying that it will be better when the lead production (head operator) will take up on more of the checkups but right now he needs to keep track on everything, so the lead stays looking at the monitors and the robots so you cant ask everything from him.

Made sure again to understand the process so that there are production workers that are creating the pallets above them there is the head operator who supervises the machines and updates the first batch check, and above that there is the shift supervisor who will fill in the hourly check up.

Making sure the check is only after the first batch

That is it for the production phase line so.

I asked if everything goes well how much time will it take for one order the client says it depends and gives an example of being able to create 320-330 pallets in one hour.

Its also possible that they will also make only 280 pallets an hour, it depends on the material if its good than it will progress smoothly.

One pallet takes less than a minute, normally you make average of 4 pallets each minute.

The quantity check time (how much time it takes) was not answered by the client.

The administration only checks up on material not on existing pallets.

I asked if there are existing pallets that they can use for orders or if they are always specifically made for each one?

Customized pallets are specific for an order. But CP pallets (for example, 3 , 9 etc…) they make for stock as well because many costumers need it so they know it will not be wasted. Updates us that everyone is in more need for pallet especially with the war in Ukraine.

I asked about the administration doing the initial quality check if they also count how many pallets are already in stock and not just material?

The client answered that they just count the material and after the order is produced than the same guy goes to count the pallets that were produced because always there will be a difference between the factory counter (a machine who keeps track) and the reality because of problems like a broken pallet. So, he counts everything again also the existing pallets already in stock from the same type, then he looks in the ERP and if there is a big difference than he goes to count again. If its small difference, he just updates it.

The head operator came and asked if the program will be connected to the internet, and connected. And asks about the availability of the tablets we answer that is more the client answer not for us.

The head operator says that he gets the amount to produce from the administration already so he makes exactly that.

In the details page of the order there is an area which is for the truck driver to tell them in which location there is already a number from those same type of pallets existing so he can stock them there, if that is full, he can put it in a new location and then he needs to update that on the paper (so in our system as well)

That makes the quantity check of the number of pallets easier on the administrative worker, s he knows where to count and preferably in just one location.

Only if it’s a CP pallet type than it will be produced fully if they have all the materials (fully meaning the amount needed for the order) even if there are existing pallets from that type in stock.

If it’s a special order its always from the beginning they have contract with the clients about how many pallets they need in a year (for tailored pallets) and then they send an email for example that by the end of January, February etc they need a certain number of pallets. Then if they have enough material from advanced, they produce the maximum amount they can so they can have in stock for multiple months from advance. But if they don’t do that, they will need to make it every time and change the complete line each time so its easier in order to not change the production line each time.

We did a tour around the warehouses as well the client showed us different storage locations of pallets, make around 200- 250 different kinds of pallets.

The locations are usually separated with numbers and lines.

They get long wood and cut it as well on site to the right sizes.

The truck drivers record where they drop off the pallets in the papers, only after the location is full they go to a new location.

The administration will then update in the ERP system the location of the pallets.

In the future they are going to use the waste wood to burn for heating of the water they later use for heat treatment of the pallets. (Dry chambers)

There you kill all bacteria and fungi. Especially in England they only use heat treated pallets.

Currently they are on gas to heat the water for the dry chamber.

They showed us the other two production lines KAP1 and 2

1 is the oldest one – maybe they’ll use it for 2 more ears and than replace it because its too old already

And in 1 they make big series so 10,000 pallets form 1 type like cp7 cp9 because it’s a lot of work to change between the different order preparation it takes 4 hours to change.

In contrast in KAP2 and 5 it takes 50 minutes.

2 is almost the same as 5 just a little bit smaller and it produces less pallets than 5.

When they need to dry them they put them in the dry chambers

They have 3 dry chambers and planning on building 2 more, they fill them and choose in the program if they want only heat treatment which takes 4.5 hours or 24 hours and than the pallets are completely dry.

It can be that 90% of the pallet is dry but the blocks are wet so they can as well use the heat treatment for that to dry those blocks.

When they are dry they put them in a different shed and then they are ready to load.

Outside they have storage for all the wet wood. They only dry the pallets not complete packages of wood because that will take longer.

Administration Interview:

Describe what you do please?

I look in the planning which pallets are needed for the next few weeks, and then she makes a production planning and her colleague will look if they have all the material needed.

You plan for how much time in advance usually?

Usually, 1-2 days if possible will look further up to a week. But material only 1-2 days In front.

So you go and count the material and make sure you have enough for two days? Yes

Can make the production for tomorrow and the day after.

Sometimes the wood will arrive sometimes not so its important to make sure.

Youre filling the first two pages of the order right?

Yes together with my colleague, he does the quality check if the material is in stock and the measurements are alright.

Right now she uses the ERP to select the material they need.

How do you use the system for what how do you think our system can help you?

ERP has everything they need if its broken they cannot work anymore, it has the production planning, the transport planning, pallet planning, arrival of wood planning basically everything.

All the materials and pallets in stock as well.

Should our system control the amount of pallets added to stock or material used since its appearing in the papers?

Its in the papers and when they finish the order and fill in the amount of pallets they made than the ERP start to count how much material was used.

When the administration closes the order the ERP also closes the material so then what you have in stock will be less than before and the amount of pallets will rise.

With our system we still don’t know if it will communicate with the ERP fully so if the wood needs to be updated?

Now the client said he will try to give us a demo version of the ERP if its possible, because when the truck driver arrives with wood they need to count that as well so in the ERP they just press a button and add the correct amount to the system.

The client said that they originally thought about putting the new system in big tv screens instead of tablets but it will not be useful.

What device will the administration staff will be using?

Computer but when they are going to do the quality and quantity check they’ll need a tablet

Currently they can also check the ERP system in their phones as well so the other forms as well should be shown in the tablet.

The idea now is to get their demo and try to connect the demo of the ERP to the new system to get the stock amounts, drawings, etc

The client dosent want everyone to have access to the ERP system so they will not change something they aren’t related to only supervisors and administrative staff should be able to change things in the ERP so important if we connect them.

So maybe its better that our system will just keep track of the current order process and the final numbers (material used, pallets produced) will be presented and then the administrative staff will update it in the ERP so not a full connection. It will also be less complicated for us.