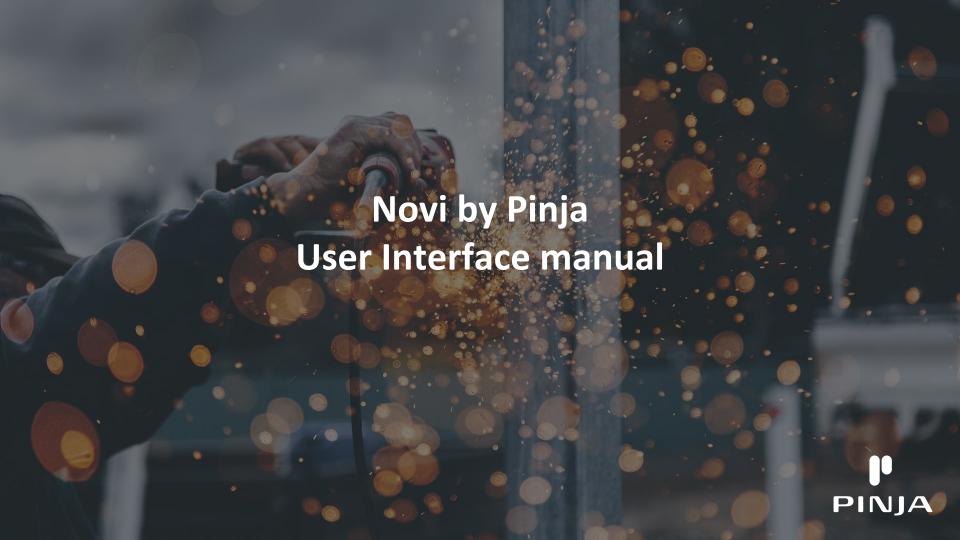
PINJA



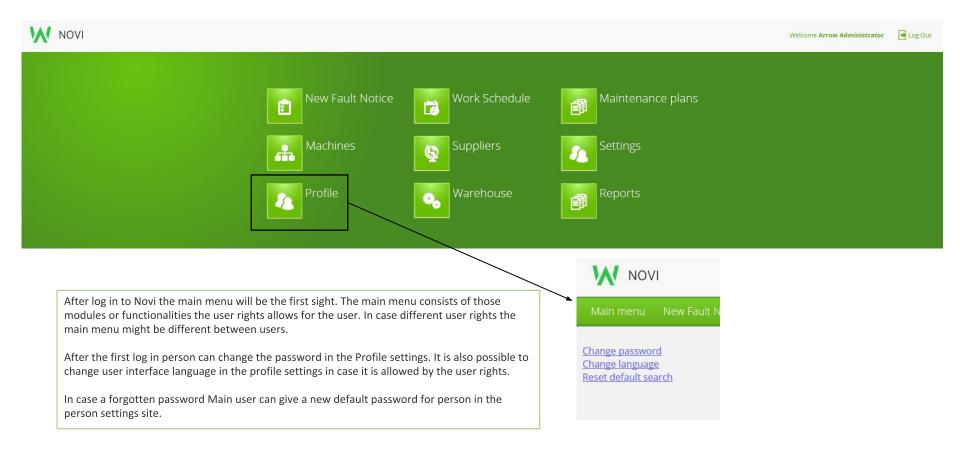
User Interface manual

In this user interface manual are shown and explained basic functionalities of the Novi maintenance system. Example views in the screen shots used in this manual may be different than in the user interface of yours. Basic functionalities are the same in every environment and this guide concentrates to those.

Function of the warehouse and the route maintenance module are included in this basic guide because those options are very common in use.



Main menu – Profile settings



Machines

The machine registry is the foundation for the system. Fault notices, work cards and maintenance plans are always linked to machines in the machine registry.

Settings to the machine registry can be given for View, Edit or Delete in the person right group. The machine registry can be visualized in a machine hierarchy tree or in a grid view.

Grey levels shown in the hierarchy are machine levels and these are managed in the Setting site. The blue, actual machine cards are managed in the Machines module.

Machine registry functionalities

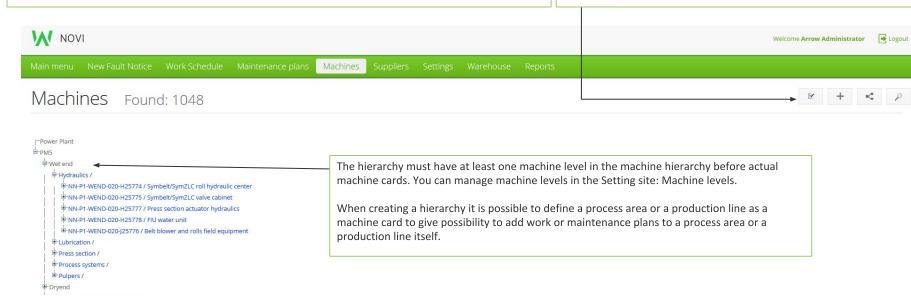
Print: you can print for example QR codes for machines shown in the

grid view

Add: create a new machine card

Toggle: change view to tree or grid view

Search: open search options



Machines – Add a new machine card

Machine - Add Manufacturer Code Manuf. Year Name Serial no Type Model Adding a new machine starts from the + button at the top right corner of Machines site. Level When adding a new machine card * symptom is information about a mandatory field. The machine card view and mandatory fields are managed in the Setting site: Machine settings Information A code for a machine is unique in the system so adding a code existing is prevented and the system will remind if the code is already used. Level opens the machine registry to make a selection for the level of machine. A machine can be linked both to level (grey) or as a child machine under a another machine (blue). Leveling can be changed later at edit mode. Cancel

Machine card

† Child machine open work cards - 3

Machine - NN-P1-WEND-020-H25774 NN-P1-WEND-020-H25774 Manufacturer Symbelt/SymZLC roll hydraulic center Manuf, Year Name Serial no Type Basic data of a machine like code, name and level are informed at the info area. Manufacturer and supplier information can be added in case the supplier is founded at Supplier registry. Level Hydraulics / **Type** list for a machine is managed in Settings: Machine types. Information Grey headers under the basic data fields are for machine extra information like type specific extra info linked to machine type, bill of material, documents and history data of the machine, open work cards and maintenance plans. 1 Model specific extra info - 0 ↑ Spare parts - 1 In case to update or adding data for a machine remember change the view status to edit mode from the button Edit. After needed changes are done you can save changes from the button Save. In edit 1 Documents - 0 mode it is also possible to add a machine image for a machine card from the left top corner's image Work history - 2 Show in calendar adding function (detele by activating the option Delete machine image and save the card). ↑ Open work cards - 2 In case user rights allows it **Delete** funcion is available at edit mode. Deleting the machine card will remove the machine from user interface but in the database the machine data will be archieved. In 1 Machine maintenances - 0 case a deleted machine need to be reactivated to the user interface please take contact to ARROW 1 Machine workcard spare parts - 1 support. 1 Machine work card documents - 0 From machine card it is possible to report a new fault notice or a new work cards with a machine link ↑ Child machine documents - 0 to the machine. 1 Measurements - 0 From the right top corner it is possible to **print** for example QR codes for the machine.

All data

Compact

Sticker print

with OR-

(machine card)

Sticker print

with QRcode (fault

notice)

Sticker print with QR-

code (new work card)

Machine registry - summary

- A fault notice, a work card or a maintenance plan requires a machine card defined to the machine hierarchy. Notice that a process area or a production line can also be a machine at the hierarchy.
- User group settings defines the rights to machine card. Those are View, Edit and Delete.
- The minimum mandatory fields in the machine card are code, name and level. With these information it is possible to add a new machine card to the hierarchy. Adding all defined machine information like documents and spare parts are highly recommended.
- After adding a machine to the registry it is possible to add new fault notices, work cards and maintenance plans to it.



Fault notice

Machine Min-P1-WEND-020-H25774 / S Fault started S/13/2019 12:56:08 PM Orderer Arrow Administrator WR - Work Request Machine halt No

Save Calice

Machine open workcards - 2

By Fault notice funtion it is possible to inform a malfunction or failure noticed at a machine. The fault notice itself will not be saved but it generates after saving a work card to the work schedule with the input given. This fault notice view is one model.

In case the fault notice is done from the main menu's fault notice function you need to add **Machine** by clicking the machine field to open the machine registry for selection.

In case the fault notice is generated from the machine card or from route maintenance work card the machine selection will be automatically right.

In case there are any open work cards linked to the machine selected grid view below will inform from those to give a view to check if there is a notice already from the issue.

Mandatory fields are given with * symptom after a field. The fault notice view and mandatory fields are managed in **Settings** site: **New fault notice settings**

Fault description field is a text field to inform the fault as descriptive as possible to the maintenance organisation.

From the **Browse** button it is possible to add documents from files to the generated work card. In case using a mobile device browse allows to use also mobile device's camera function to add for example a photo from the situation straight to the fault notice.

Save button will generate a new work card to the selected machine with information input in the fault notice form. After saving a fault notice the system will give the work card number generated to the work schedule.

Work card code Machine code		Order date	Work can begin	Work status	Fault description	Urgency	Comment
22	NN-P1- WEND-020- H25774	8/23/2017 10:55:33 AM	5/10/2019 6:25:00 AM	Noticed	Roll needs to be checked	1	
18	NN-P1- WEND-020- H25774	8/22/2017 8:43:04 AM	5/7/2019 6:43:04 AM	Noticed	hose is broken	2	

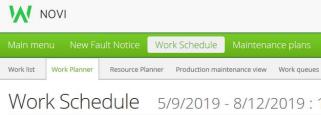
Work schedule

Work Schedule is crusial function in daily usage of the system while all work cards generated from fault notices or from maintenance plans will end up there. Work reporting and work planning and resourcing are done in Work Schedule.

There are different views to visualize the maintenance work flow. Basic views are Work list, Work Planner, Resource Planner, Production maintenance view and these can be selected to each user. Work queues are a view for main user level cause in that view it is possible to make changes and updates for a bigger work card volume at time.

With different views it is possible to visualize the same search data in different point of views. For example to production people it is reasonable to check the data in Production maintenance view while maintenance people will more or less use Work list or Work Planner views. For a maintenance planner Work planner, Resource Planner and Production maintenance views are the most important. Views for person are given by the user group settings.

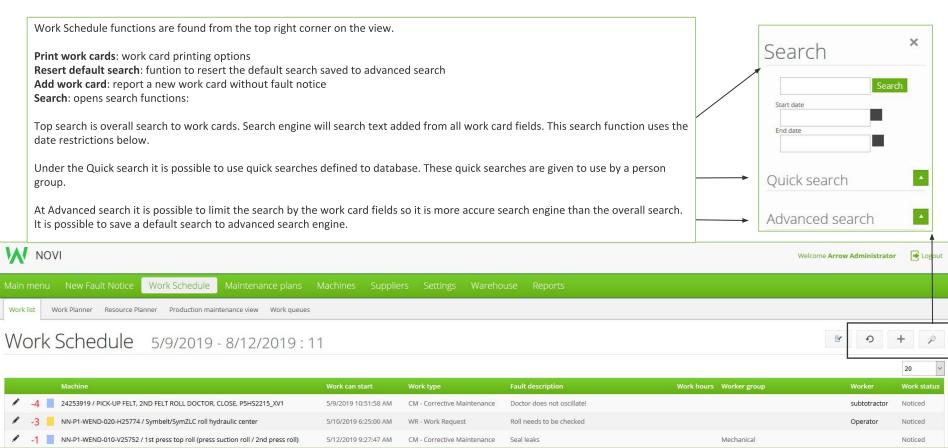
Gantt view is limited to "three month period. In case the search result is from a wide time range it is not possible to show all work cards at the gantt view. The work card search result in this case is eleven and it is possible to visualize ten of them at the gantt view. Time range next the result informs the dates of the first and the last work card of the search. It is possible to change the examination time range by choosing the date from the calendar. The Work list view will always give the oldest search result first.





Work number Machine code Machine name 24253919 PICK-UP FELT. 2ND FELT ROLL DOCTOR, CLOSE, Doctor does not oscillate NN-P1-WEND-020-H25774 Symbelt/SymZLC roll hydraulic center Roll needs to be checked Seal leaks 1st press top roll (press suction roll / 2nd press roll) 24253800 NN-P1-WEND-010-V25752 1st press top roll (press suction roll / 2nd press roll) HP SHOWER MAINTENANCE 3rd press top felt guide roll (felt lead roll-12) FELT ROLL MAINTENANCE ELECTROMECHANICAL STRECHER MAITNENANCE NN-P1-WEND-010-V25755 1st press top felt stretcher roll (felt lead roll-7) WORM GEAR MAINTENANCE WEB BREAK DETECTION, DRYER CYLINDER 7, DS. Does not detect the WEB NN-P1-WEND-010-V25759 1st press bottom roll 1ST ROTTOM ROLL PREVENTIVE MAINTENANCE

Work schedule functions and search



Work schedule – defining the default search

At the advanced search it is possible to define a default search for a user. The default search is saved for a user and it is a work schedule's default view for a log in session.

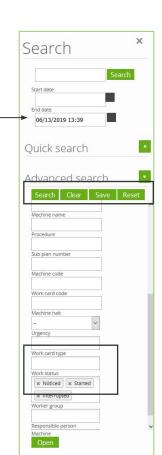
Defining the default search can be started by clearing all search definition from Clear

Next choose limitations from the advanced search list for example all open work statuses. In case you want to see open work cards resourced to you choose yourself from the list Worker as a limitation. Machine Open at the end of the list opens a machine hierarchy to make hierarchy limitation fro a search in case needed.

Start and End date option can be used to define the time range used in the default search. It is reasonable (in case searching open work cards) to leave the start date open to ensure that all open work cards will occure in a search and to select for example one month to the future.

After defining needed limitation for a default search save the default search to your user ID from the button Save. Advanced search can be used also with other limitations during the log in session but it is good to remember that the last saved advanced search will be the default search. So the advanced search can be used widely with different limitations and you can always go back to your last saved default search by clicking the Reset button.

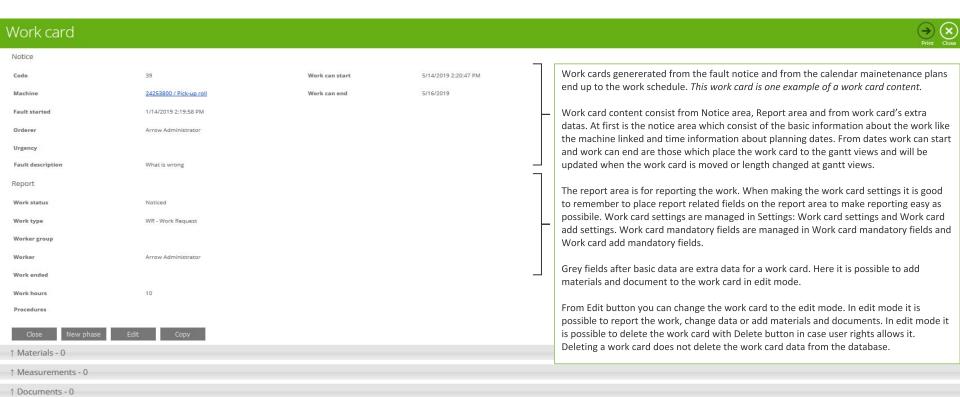
Notice that advanced search engine uses Start and End date functions!



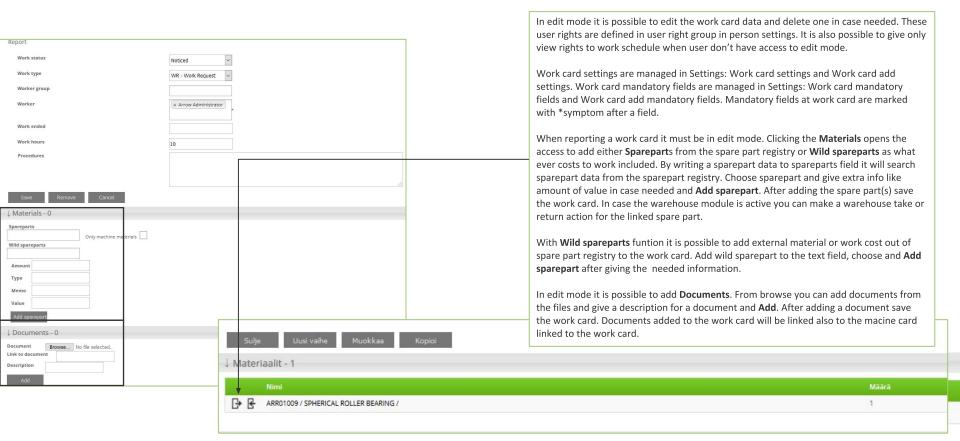
Work card

1 Machine docs - 0

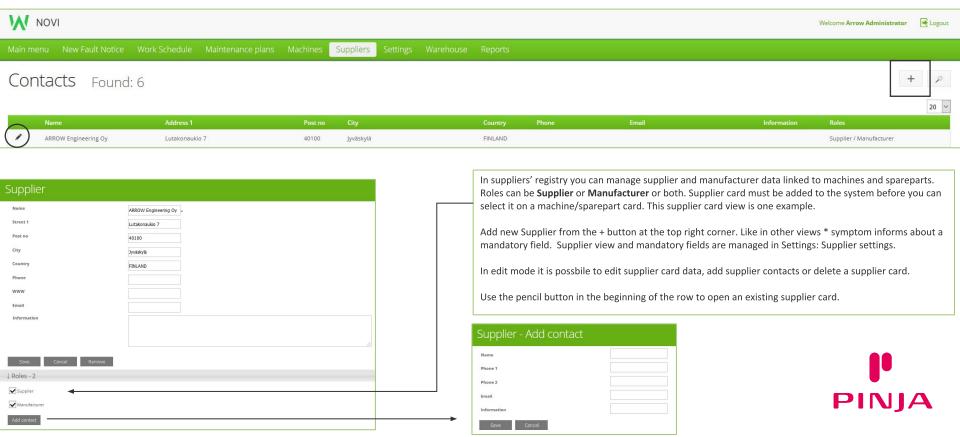
↑ Maintenance documents - 0



Work card - edit mode



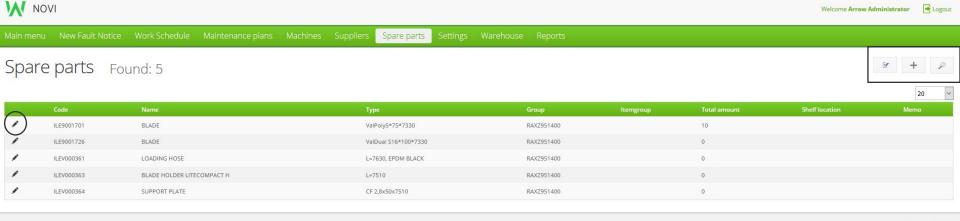
Suppliers' registry



Spare part registry

In sparepart registry it is possible to manage sparepart data. In case the warehouse option is active you can use also only the warehouse view.

Adding a new spare part is done from the + button at the top right corner of the registry. From Search next to add function you can use sparepart registry search functions. Print opens printing functions for bar codes and csv prints. Use the pencil button in the beginning of the row to open an exisiting sparepart card.

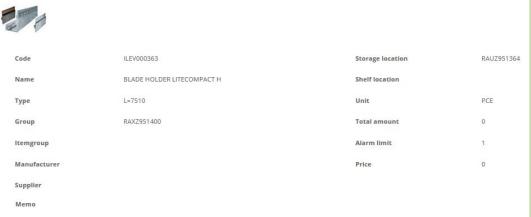


Welcome Arrow Administrator

Spare part card

Spare part - ILEV000363





Like a machine card the spare part card includes basic data and extra data areas. In spare part basic data area you can give for example spare part code, name etc for the spare part. In grey fields below the basic data area you fill find extra data about the spare part. The spare part view varies in case what options are active in Novi and this is one example of the spare part view.

Edit opens the spare part card in edit mode in case the user rights allows it. In edit mode you can change spare part data, add documents and machine links or delete spare part in case the user rights allows it. With **Copy** function it is possible to make a copy from an existing spare part data for a new spare part.

Spare part view and mandatory fields are managed in Settings: Spare part settings. Group, itemgroup, storage location and unit drop down lists are managed in Settings: Spare part types

In case the warehouse option is active you can make warehouse actions in a sparepart card.

Take Return

Arrive Invent

Change value Transfer

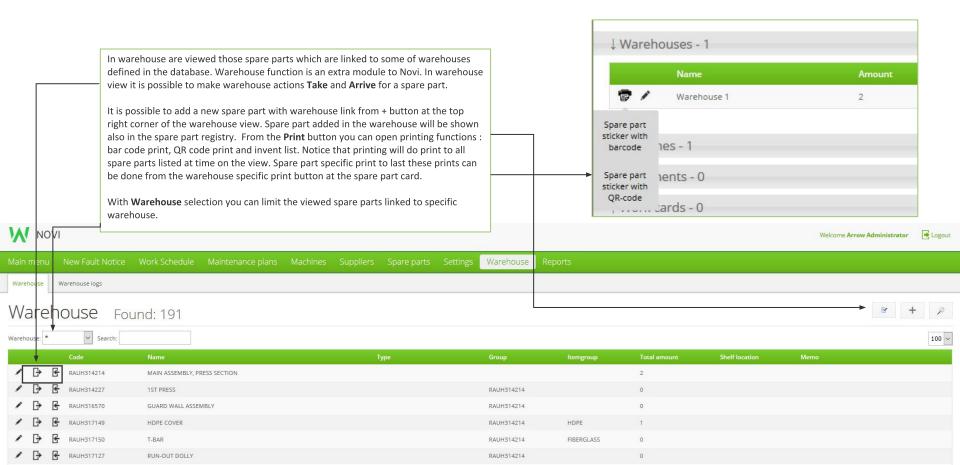
↑ Warehouses - 1

1 Machines - 2

↑ Documents - 0

↑ Work cards - 0

Warehouse



Search functions



Search functions are found in all registries and from work schedule. Search functions work more or less the same in every views. At the top is the overall search. This search engine search input text from the cards of the functionality on view. In case the overall search is used without any input it will search all data from the functionality. This might give longer response time for a search because for example to bring the whole work card data from database might take time in case the work card amount is big.

To quick search is possible to define searces which are there for user to help in daily usage. There quick searches are based on SQL clauses and are linked to quick search person group. Quick searches can be given in use to person with a quick search group at person settings. All quick searches are defined to database by a system vendor.

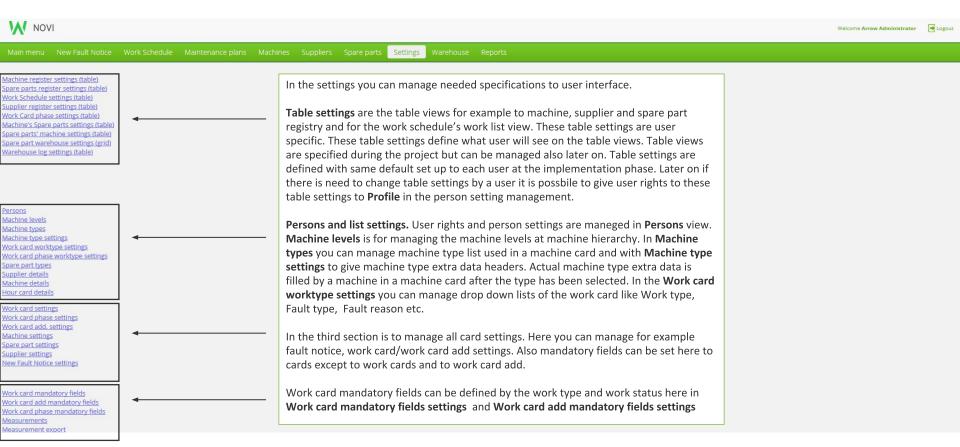
Advanced search is a search engine where you can limit the search by the fields used in a card of the functionality. It is possible to save a default search by the user to each functionality like to work shedule, spare part or machine registry. Last saved search for a user will be shown first after log in to the system. To define a default search: Clear all limitation from the advanced search and add the limitations by fields in use. After making search limitation save the search from the Save button. Last saved advanced search will be the default search as long it is saved over. You may use the advanced search during the log in session how ever wanted and in case need to get back to last saved default search use button Reset to activate it. Notice that for the advanced search eingine there is own Search button.

Last done search is active in each functionality during the log in session if you change a functionality from one to other and back.

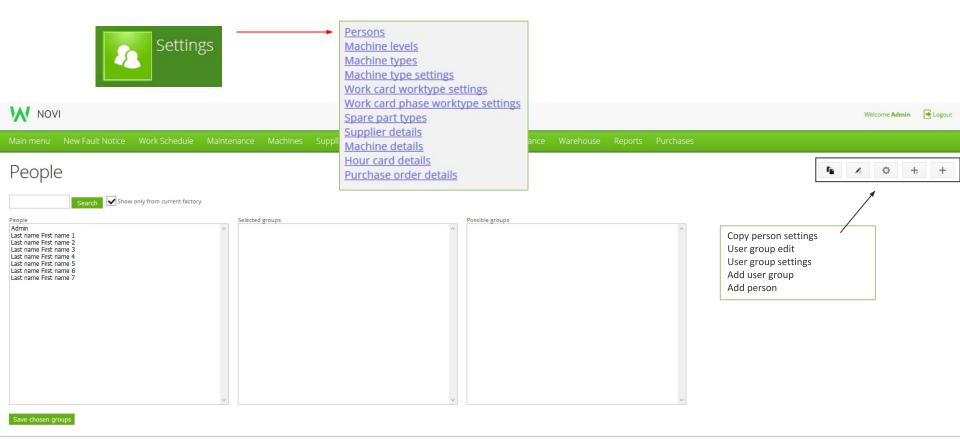




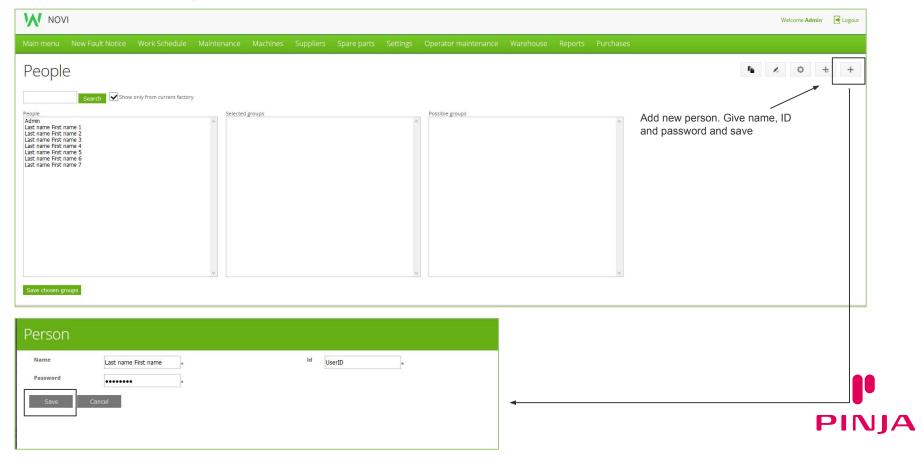
Settings



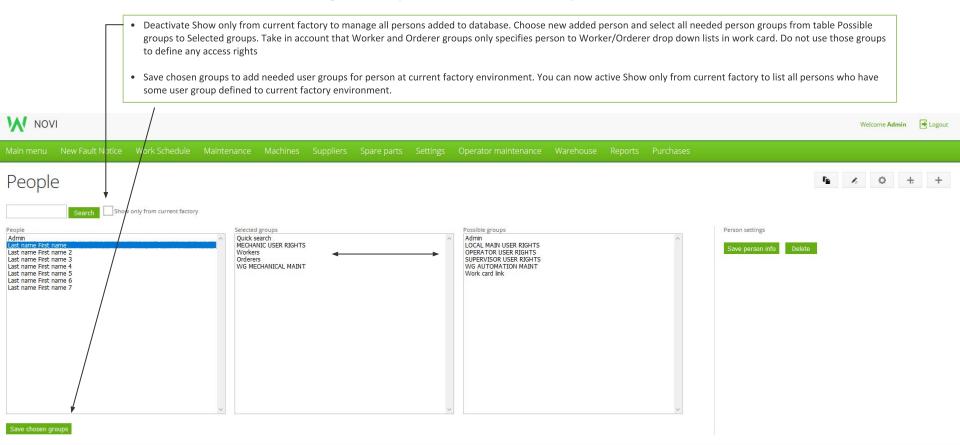
Person and user group setting tools



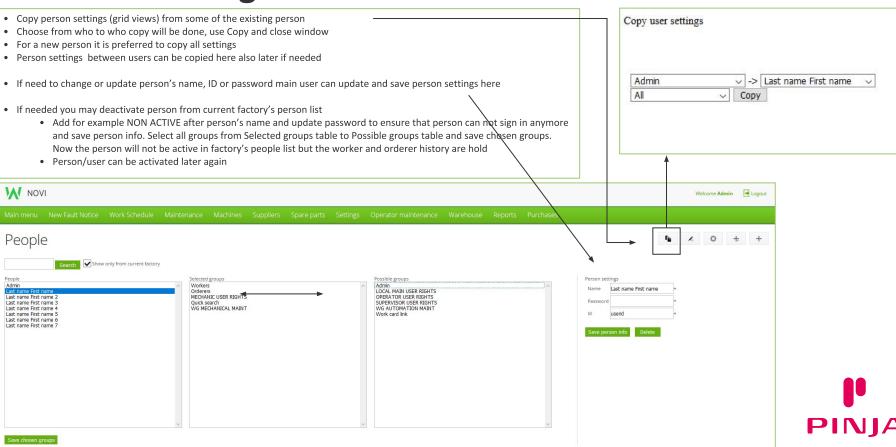
Add new person



How to add user groups for new person



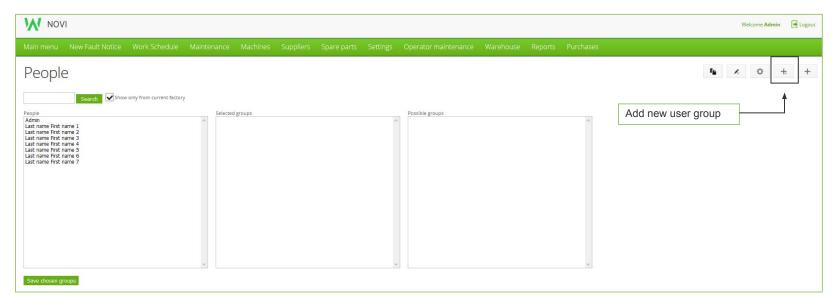
Person settings



Add new user group

- · Add new user group in case needed
- If the new user group will be used as a worker group select Worker group and save
- The policy of user group naming should be decided to ensure which user groups are defined as user right groups / worker groups
- Guideline is that worker groups and user right groups are kept seperate



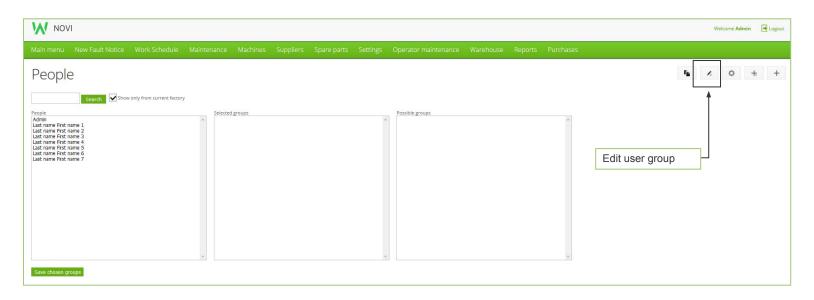




Edit user groups

- In user group edit menu you may edit user group names or delete user groups not needed
- Worker group might be used as conditions in quick searches' or reports' SQL clauses so renaming could cause an error to mentioned functions

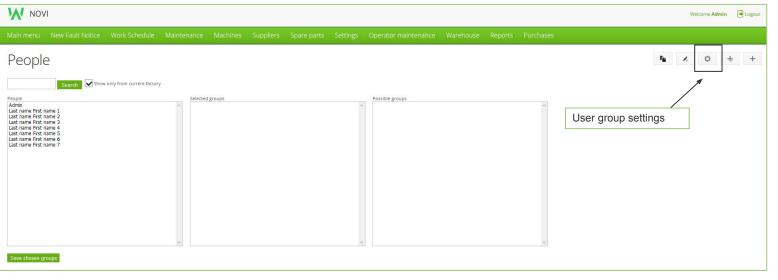






User group settings

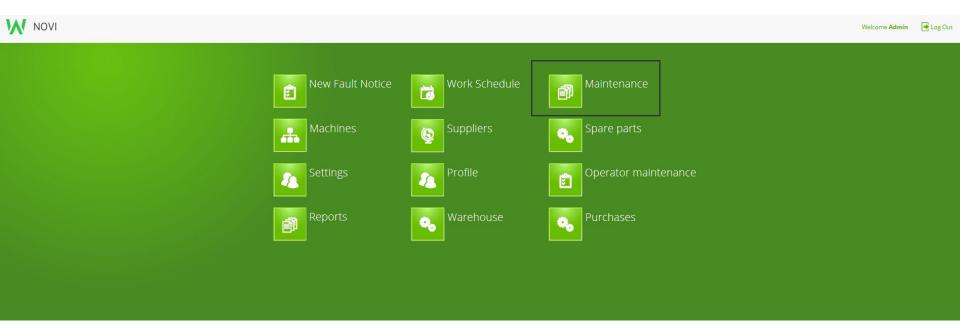
- Access rights to user interface are managed in User group settings menu
- Define group by group what access rights user group should have to user interface. Save button in the end of the list
- It is preferred that user interface access rights are defined only to user right groups. For example if any access rights are defined to Orderer group those access rights are allowed to all who are linked to group Orderer





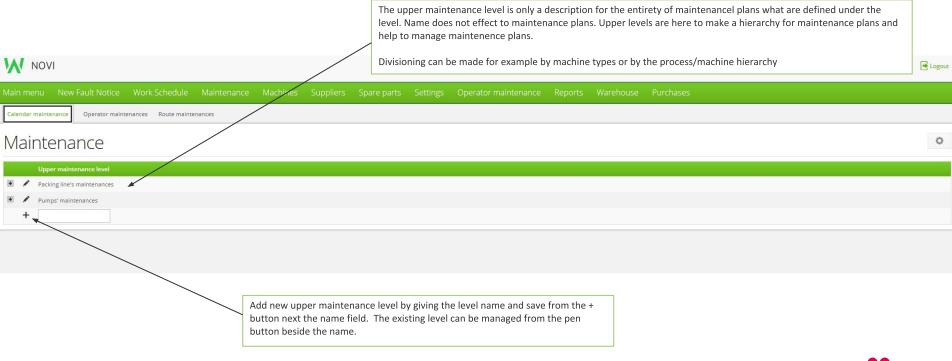


Maintenance module



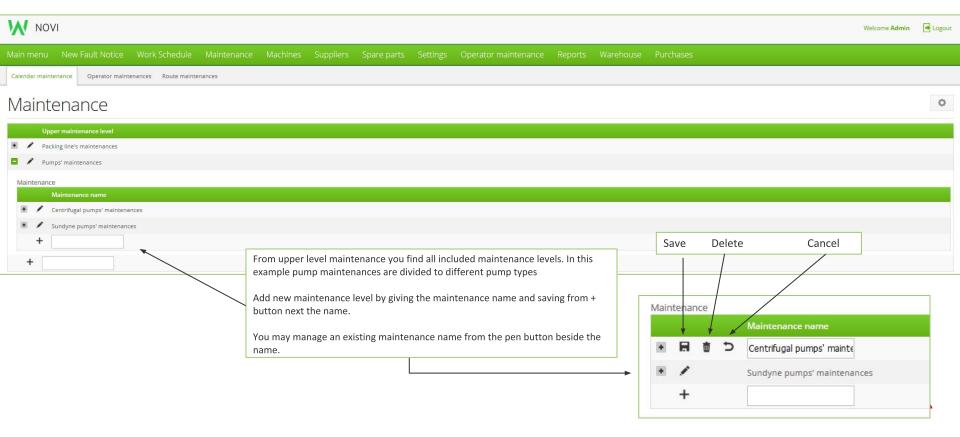


Upper maintenance levels

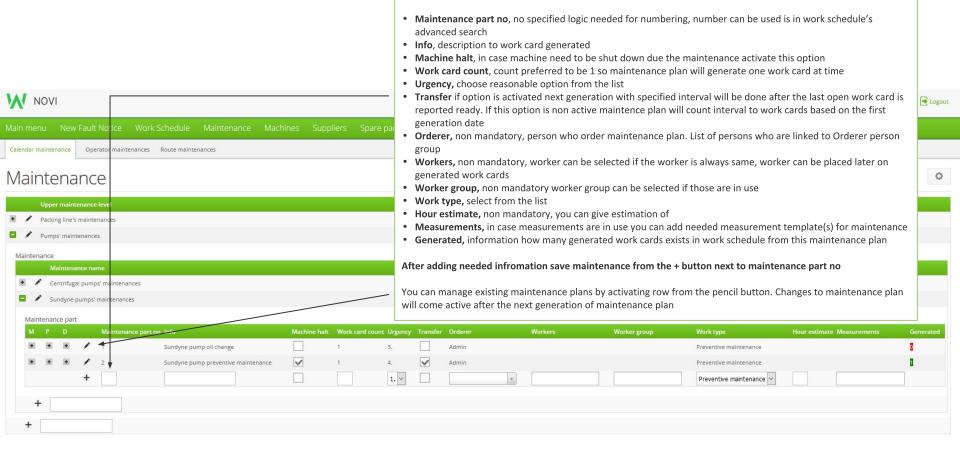




Maintenance names







Adding a new maintenance plan

Maintenance plan - Documents

You can add documents to maintenance plan from D column's + button. Add document give desctription and save from Add document. NOTE Documents added to machine card are linked always to work cards which are generated to machine so you can manage machine related maintenance documents also in machine card







Maintenance plan – Operations

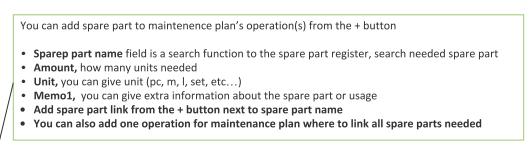
You can manage maintenance plan operations from T column's + button

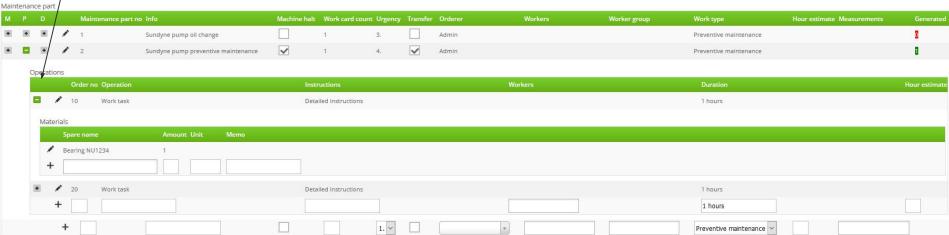
- Order no, numbering can be for example 1,2,3 or 10,20,30. By numbering you can define the order of tasks
- Operation, heading for operation, is shown in the work card as a phase
- Instructions, you can add more detailed intructions for the operation, is shown in the work card phase next to operation.
- Workers, can be defined non mandatory
- Duration, can be defined non mandatory
- Hour estimation, can be defined non mandatoryvoidaan antaa tarvittaessa
- Add new operation from + button next to order no. The existing operation can be managed from the pencil button next to order no

Main	intenande part														
М	P /			Maintenance part	no Info	Machine halt	Work card coun	Urgency	Transfer	Orderer	Workers	Worker group	Work type	Hour estimate Measurements	Generated
•	1	٠	-	1	Sundyne pump oil change		1	3.		Admin			Preventive maintenance		<u> </u>
•	•	•	-	2	Sundyne pump preventive maintenance	✓	1	4.	~	Admin			Preventive maintenance		1
	Operations												è		
				Order no Operation							Workers				Hour estimate
	19		1	0 Work task		Deta	iled instructions						1 hours		
	8	E /	2	0 Work task		Deta	iled instructions						1 hours		
			+										1 hours		
			+					1. ~			•		Preventive maintenance ~		

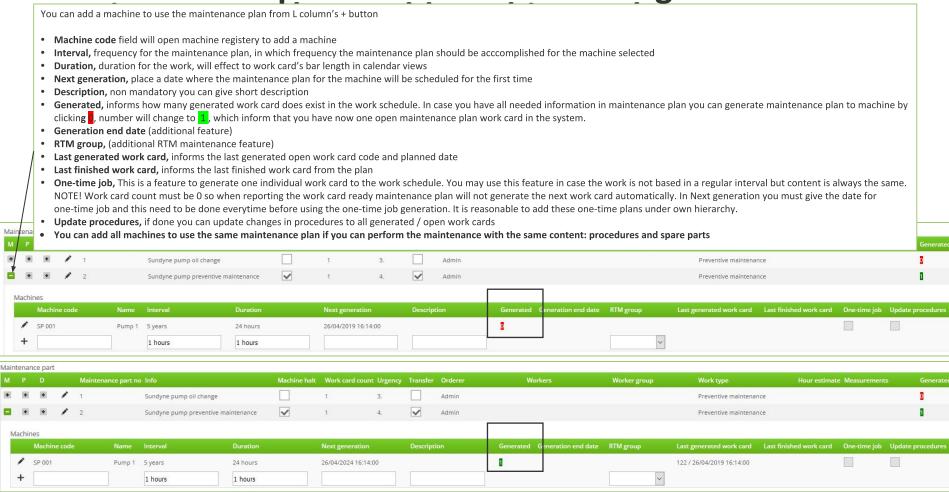


Maintenance plan – spare parts

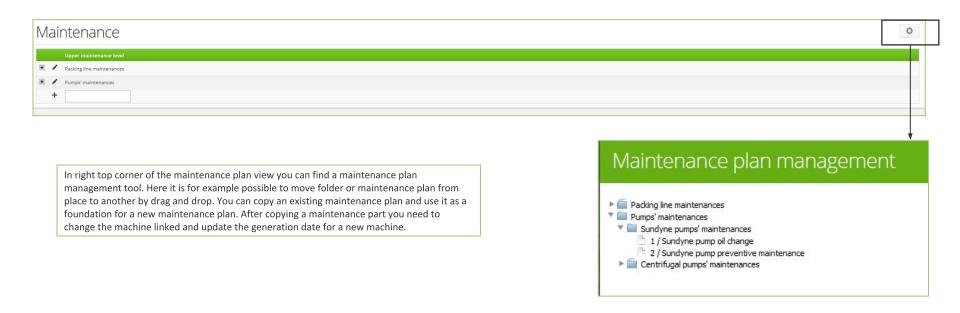




Maintenance plan – add machine and generate

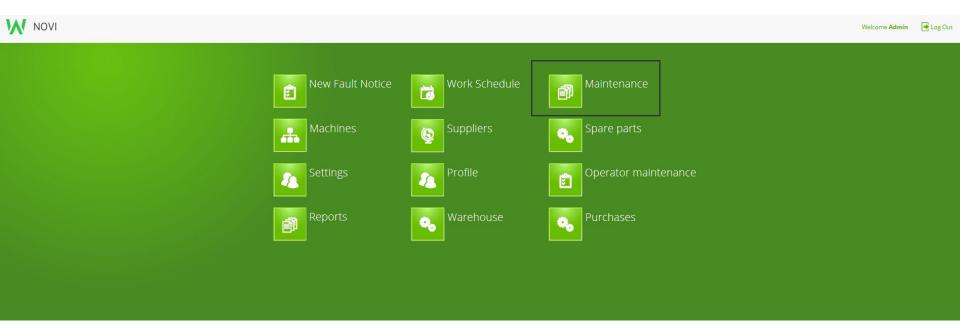


Maintenance plan management



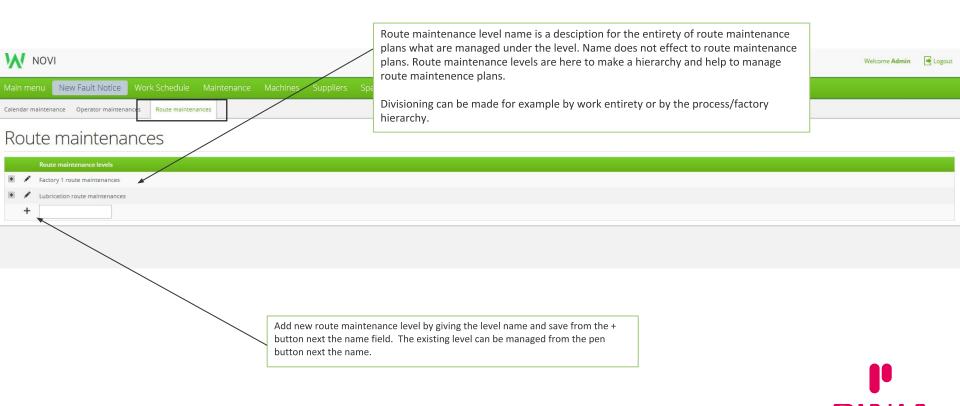


Maintenance module





Route maintenances



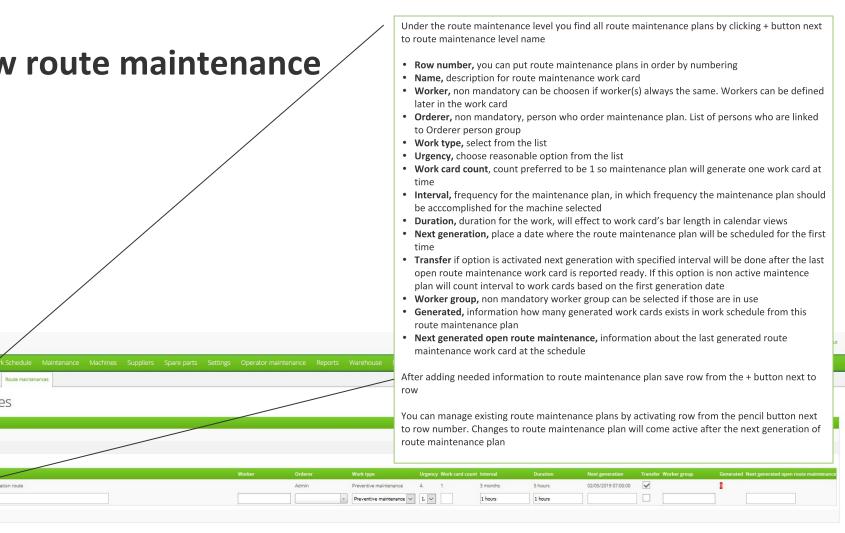
New route maintenance

NOVI

Calendar maintenance Operator maintenances Route maintenances

nths' lubrication route

Route maintenances

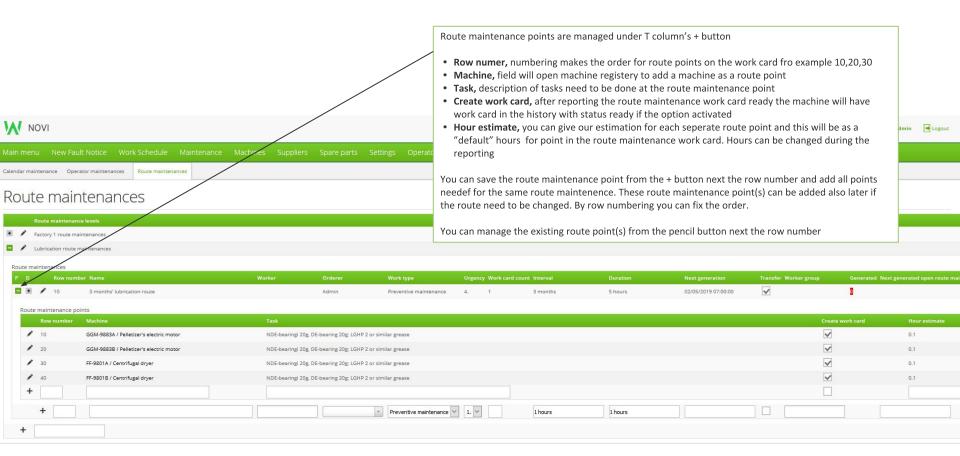


Route maintenance - documents

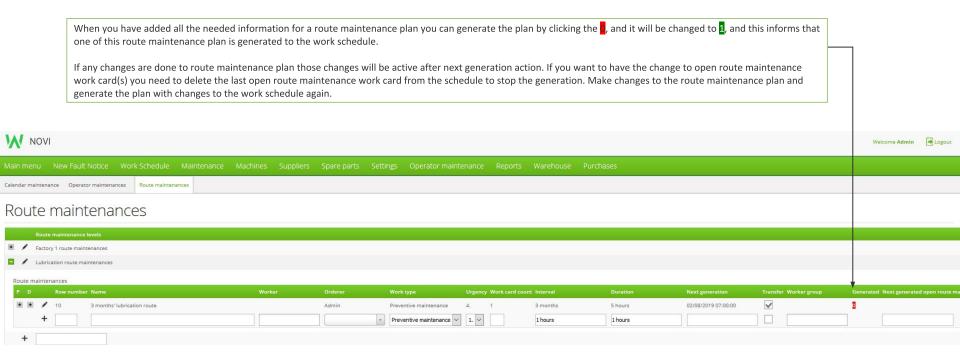
You can add documents to route maintenance plan from D column's + button. Add document give description and save from Add document. These will be shown in each route maintenance work card.

Route	ute maintenances												
		Row number	r Name	Worker		Work type	Urgency Work card cou			Next generation	Transfer Worker group		
٠	8	10	3 months' lubrication route		Admin	Preventive maintenance	4. 1	3 months	5 hours	02/05/2019 07:00:00	✓	0	
De	ocume	ante.											
	1		Document description										
	A	dd document											
		·				Preventive maintenance ~	1. 🗸	1 hours	1 hours				
	Docur Link t Descr		t addition Browse No file selected.										

Route maintenance – route maintenance points



Route maintenance – generation





Route maintenance work card

The route maintenance work card diverges from a normal work card by its functionality. The route work card itself will not be saved after it has been reported ready it will generate a new route maintenance work card with defined interval to the future. In case Create work has been selected in the route maintenance plan for a route point system will save a work card for a machine with reported data.

The route maintenance work card code has always – character before code number

For the route maintenance work card it is not possible to take or link spare parts. This need to be take into account when planning route maintenances.

Work Schedule 02/05/2019 - 02/05/2019: 1											
D	Code	Machine	Urgency	Machine halt	Fault started	Work can start	Work status	Work type	Fault description	Maintenance part	20 V
1	-1050	GGM-9883B / Pelletizer's electric motor GGM-9883B / Pelletizer's electric motor FF-901 A / Centrifugal dryer FF-901 B / Centrifugal dryer	4.	No	rauit started	02/05/2019 07:00:00	Noticed	Preventive maintenance	3 months' lubrication route	ман ие панс е рагс	worker



Route maintenance work card - reporting

Route Maintenance × Admin Done Skipped Counters NDE-bearingi 20g, DE-bearing 20g; LGHP 2 or similar greass 02/05/2019 09:51:53 Fault notice 02/05/2019 09:51:53 Fault notice 02/05/2019 09:51:53 Counters Fault notice There are two mandatory field while reporting the route maintenance work card: Worker(s) and selection Done / Skipped 1 Documents - 0 Worker, mandatory field select from the list Worker group, non mandatory Comment, you can add comments and those will be saved to the work card saved for the machine in case Create work has been selected in the route maintenance plan for a route point Work hours, can be set already in the route maintenance planning but work hours can be updated while reporting Done date time when reporting the route maintenance point Done, when reporting done the system will save a work card with status ready for a machine with reported data in case Create work has been selected in the route maintenance plan for a route point Skipped, as a default the system will save a work card with status canceled (status can be changed with a parameter) for a machine with reported data in case Create work has been selected in the route maintenance plan for a route point. Counters, function in case a RTM option in use Fault notice, you can add a fault notice to the route point's machine in case some deviation is noticed during the route. Fault notice will open a fault notice form with the machine link for reporting It is not mandatory to report the route maintenance work card at once. In case not all route point has been reported with Done/Skipped the route work card will be saved like open work card as long as all route points are reported with Done or Skipped. After reporting Save the route maintenance work card. After all route points are reported to Done or Skipped the system will generate a new route maintenance with defined interval in the future. In case the Transfer is activated on a route maintenance plan the interval will be counted from the date when the whole route maintenance card is reported ready. To stop the route maintenance generation action you need to delete the last open work card from the route maintenance plan

THANK YOU!

