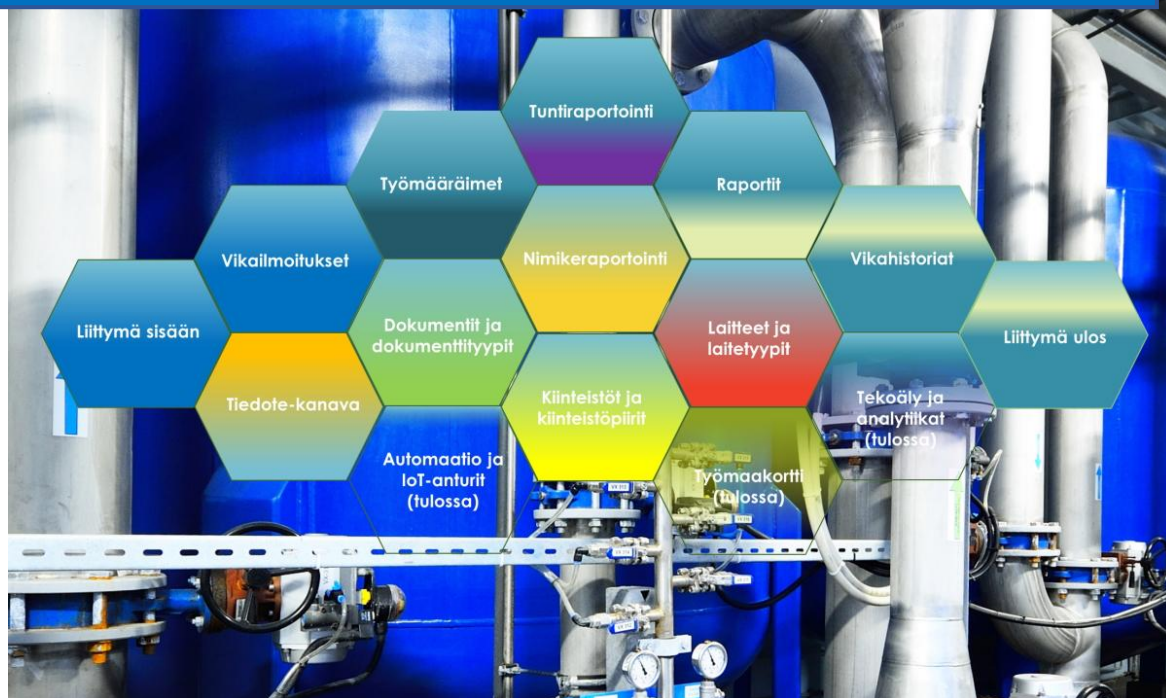


# JOPI-process plant benefits

JOPI – maintenance based on right  
data at right time and at right place



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Edapco Oy

JOPI-process plant benefits



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## Maintenance based on right data at right time and at right place

JOPI-maintenance management system is cloud based, **SaaS**, web system for different kinds of service work in various areas. **JOPI can be used on every device capable of running a browser.** It's UI and functions scales automatically according to a device used.

JOPI SaaS system is developed and deployed by people having a deep experience and comprehensive knowledge of maintenance work on process- and power plants and machine repair work.

**JOPI-maintenance work management system unifies the defect reporting tickets and service work.**

## Automatic tracking

Defect reporting tickets and service work status can be followed up easily using JOPI's flexible and dynamic UI. Every work step and the root cause of the defect as well as the service work done will be saved onto the database which will form the history database in long term.



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## Instructions and diagrams are always within

Defect tickets and work orders can contain photos, videos and other attachments like text documents, diagrams, pictures in almost any format. The documents can be diagrams, images, lists of items, links to external data sources (URLs), jpg, pdf, excel, docx etc. With the right documents and right document versions, the work is safe and easy, and the result of the work is of high quality.

Documents can be located anywhere, they can be in JOPI database, in the company's separate document management system (SharePoint, etc.). They can be on different servers globally (Azure DB and different type of file shares) based on document type, document class and document group, document owner or document security classification etc. or they can be any Internet links.

The screenshot displays the JOPI software interface. On the left, a list of defect tickets is shown with columns for 'Code' and 'Priority'. The 'Code' column contains values like V-40134, V-40135, V-40136, V-40137, V-40138, V-40139, V-40141, V-40142, V-40144, and V-40145. The 'Priority' column contains values like '3 = heti', '2 = mahdollisimman pian', and '1 = ei kireellinen'. An 'Extra information' pop-up window is open over the list, showing a photo of a machine and a table of document information.

Document type	Name	Document file name
35 Esite	ohje	Gebwell-G-Power@-kaukolämönjakokeskus-3-6.pdf
1051 Hallituksen kokouksen pöytäkirja	Hallituksen kokouksen pöytäkirja 5/2024	Hall_kok_Lahden_ruoriniemi.pdf
35 Esite	Hanhwa	Esite-eng-Hanhwa-SM2100-turbokompressorit.pdf
64 Jopi System Documents	Jopi Sarlin estyys	Jopi_Edapco_Sarlin_2411.pdf
64 Jopi System Documents	Jopi White Paper	Jopi_WhitePaper3_ver1_1.pdf



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## Amount of money lost due to time spent while trying to find right documents

According to various studies conducted in Finland and around the world, searching for documents takes 5–30% of the working time in companies. **Even a loss of five or ten percent of the time is significant**, as can be seen from the table below.

Maintenance margin percentage (%)	30						
	Number of workers	Maintenance work invoice price (€/h)	Time used on searching documents, percentage of the day's worktime	Lost turnover per month (€)	Lost turnover per year (€)	Lost income per month (€)	Lost income per year (€)
	10	75	5	5625	67500	1687,5	20250
	10	75	10	11250	135000	3375	40500
	10	75	15	16875	202500	5062,5	60750

Depending on the number of workers the yearly lost income will be of course more.

It is also good to note that the costs not finding the data, the right version of the document and using wrong information and instructions can cause risk to life by some malfunction of the process or device. Another thing to note is that having the right information at the right time and at the right place reduces the time used for repairs which shortens possible costly downtime due to lost production.

**Even a small amount of time lost (three quarts per a day) has a significant impact to the operating margin.**

**Wrong information and instructions can cause risk to life by some malfunction of the process or device.**

**Downtime costs can be high due to lost production or due to project agreement sanctions**



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## Finding the most common reasons for failures

**Defect and work tickets can be linked to the plant position and device. This makes it possible to find different types of defects or failure sensitivities caused by the same devices in general.**

Searching and remembering things with the help of context (all documents of the position or all the documents of the device) is also easy and natural for humans.

When the worker goes to defect position, he/she can get information of the position and device using the position code or device code.

A big benefit is that the company will get data collected whether there is some device type (on process plant some pump) which has often same kind of defect. By using JOPI the company will know all the positions (where) that pump is used. Or what documents and data is related to this position or pump type or even pump item (electric motor, seals of the pump, bearings etc.)

## The tacit knowledge of the company

As all defect and work tickets are defined and reported in unique way and they are in database it is easy to find them afterward and analyze and plan predictive maintenance work. **JOPI helps to gather the tacit knowledge** of the company too.

The companies and customers of the JOPI are satisfied due to the increased quality of the service work done and due to better profit achieved. JOPI is the system which unifies the defect tickets and maintenance work.

**JOPI helps to gather the tacit knowledge of the company.**

**JOPI unifies the defect tickets and maintenance work.**





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**With the JOPI maintenance work application, the company can develop its operations from reactive defect repair to proactive defect prediction and repair.**

## JOPI works with all browsers and on all devices having a web browser

JOPI-maintenance management system works wherever and whenever on all devices like mobile phones with browsers, tablets, laptops. JOPI is a sensitive and flexible HTML5/Bootstrap like system which defines itself by the size of user's device screen. By using the Settings of JOPI the UI and functions can be modified more.

## JOPI is suitable for different kinds of areas

JOPI is suitable for all kinds of maintenance work in process plants and power plants. JOPI is a cloud-based SaaS service that does not require any immediate equipment investments or own servers (installation is also possible in the company's own environment and machines if the company so wishes). The service is truly scalable, multilingual, and secure (Encryption, VPN, PKI). The application is distributed over a separate database server and the actual application server, i.e., the Internet server.

JOPI is a digital tool that is optimized for maintenance operations and the harmonization of maintenance records, whether it is a process plant, heating, or water plant.

## Benefits of JOPI

With JOPI the defect reporting tickets, and work data reported are unique and easy to find afterwards.

JOPI reduces the search time of information and instructions and thus makes work significantly more efficient. Because the management and workers can familiarize themselves with the defect in advance based on the picture and video attached to the defect ticket, they know what to take within for repair work.

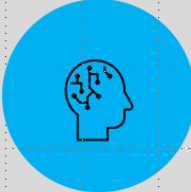
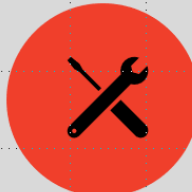


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With correct and sufficient instructions, work is quick and safe. The repair work can be done with high quality and without delays. With the help of JOPI-system the company's tacit knowledge is preserved and passed on to the new generation, to the newcomer workers.

### Main benefits



 <p>Fault reporting with an image tells more</p>	 <p>Work managers and workers knows the fault beforehand</p>	 <p>While knowing 'what is waiting' they know what tools they will need</p>	 <p>And what spare parts they need to take within</p>
 <p>Working is easier with the right documents</p>	 <p>No need to fetch anything afterwards from office</p>	 <p>History data will be collected almost automatically</p>	 <p>Faults and defects can be forecasted using the history data</p>

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### Main benefits (continues)



 <p>Lower maintenance costs...</p>	 <p>... Saved money</p>	 <p>More solved issues</p>	 <p>Time to something else</p>
 <p>Better forecasts of work</p>	 <p>Increased knowledge of defects</p>	 <p>Improved customer satisfaction</p>	

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Easy to localize, JOPI is working already in eleven different languages and can be translated easily to almost any language

JOPI works on several languages, currently in English, Swedish, Finnish, Germany, French, Spanish, Estonian, Latvian, Lithuanian, Ukrainian and Russian. JOPI can be localized to a new language in hours.

### JOPI as an investment

JOPI as an investment pays itself very quickly, even in less than half of the year. As JOPI does not require any company own servers being a SaaS system JOPI is convenient and cheap to start use. When usage expands, new users can be flexibly added to the system and server capacity can be increased especially on Microsoft Azure environment.



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## An example of lost margin

The example shown in the picture below is calculated with the following values (line highlighted in dark yellow).

Maintenance work margin percentage:	30
Number of workers:	10
Price of maintenance work (€/h):	75
Time used to search docs. per day (min):	45 (10 % of working time)

With these values alone, the value of the lost maintenance work profit is €40,500. Even if we take only half of that value, we are talking about a considerably large amount of money. Estimate what the value of the lost margin is in your own company and remember the indirect costs too.

Maintenance margin percentage (%)	30						
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	10	75	10	11250	135000	3375	40500
	10	75	15	16875	202500	5062,5	60750

Downtime costs can be very high due to lost production. Remember the reputational damage for the product or to the company brand too.

## More profit

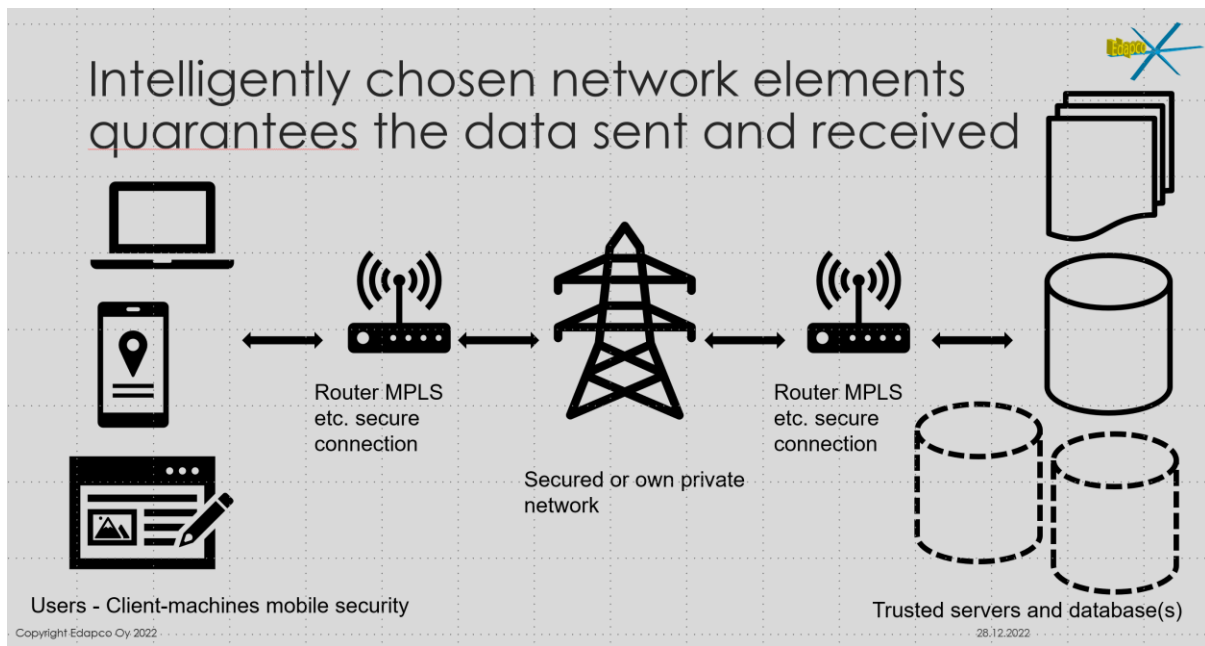
The previous evaluation vice versa. By using JOPI this much more profit is possible.

Maintenance margin percentage (%)	30						
	Number of workers	Maintenance work invoice price (€/h)	Time used on searching documents, percentage of the day's worktime	More turnover per month (€)	More turnover per year (€)	More income per month (€)	More income per year (€)
	10	75	5	5625	67500	1687,5	20250
	10	75	10	11250	135000	3375	40500
	10	75	15	16875	202500	5062,5	60750



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## JOPI environment



JOPI is a secure and convenient SaaS system working in 5G private networks and in any Wi-Fi or mobile IP-based networks. The architecture of JOPI is flexible and it is easy to grow when the usage increases. The systems servers and data servers are easy to separate, and they can be distributed geographically. JOPI supports Azure environment, Azure DB, Azure BLOBs and Entra ID. JOPI can be used anywhere and anytime and on almost any device, all you need is a browser and of course a reliable secure network.