WÄRTSILÄ

Ship maintenance: 5 strong reasons why you really need to plan it

| White paper

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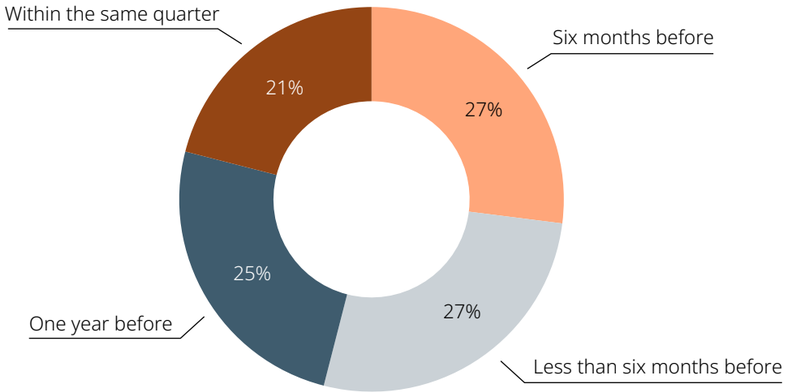
Maintenance planning makes sense

As a ship owner or operator you want reliable operations and to avoid costly downtime, especially unscheduled downtime. You also want to extend the lifetime of your ships. Regular maintenance and overhauls can improve the reliability of your ships and minimise the risk of unexpected equipment failures.

But regular maintenance and overhauls do not always go as planned. You might face unexpected delays or budget problems, for example, because of parts and service technicians not being available. The best way to avoid these kinds of issues is to plan maintenance in advance so you can keep your ships operating and your business profitable.

Many ship owners and operators already do this, as revealed in the Wärtsilä webinar: Planning maintenance in a changing environment. In a webinar poll, around 50% of respondents said that they planned maintenance either six months or a year in advance. Only 21% said that they planned maintenance within the same quarter.

When do you plan your maintenance?



What is maintenance planning?

Proper planning helps you to get high-quality maintenance and repair work done in the shortest possible time and for the lowest possible cost.

Maintenance planning typically involves:

- Assessing the condition of the equipment
- Defining the scope of the work
- Prioritising and scheduling tasks
- Allocating resources (human, material and financial)
- Communicating the plan

This all needs to be done before you start any maintenance work. A well-designed maintenance plan helps you understand when maintenance will be required, what parts and skills will be needed, what it will cost, how long it will take and how the work should be done.

Why you need to plan maintenance – five strong reasons

So, why not take the time to plan your maintenance and make your job easier? Let's take a look at five strong reasons why you really need to plan ship maintenance.

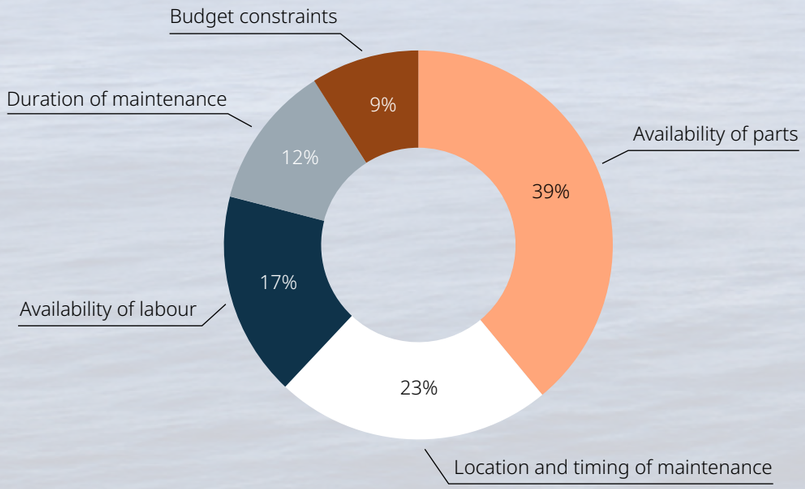
Reason 1

Secure the right high-quality spare parts

When it's time for maintenance or an overhaul, it's essential that you have the right spare parts in the right place and at the right time. You have to plan because if you don't, you may not get the parts in time. Planning helps you avoid costly delays.

The availability of parts is one of the biggest challenges ship owners and operators face when it comes to maintenance. In the webinar poll, nearly 40% of respondents agreed.

What is your biggest challenge relating to maintenance at the moment?



While maintenance planning takes time, this will not be wasted time because it will help you get the right parts to the right place at the right time. Planning will also minimise the risk of costly delays. You'll have more time to identify what parts are needed and order them to arrive in time.

If the scope of the work is unclear you might end up with too many or too few spare parts, or even the wrong parts altogether. This could negatively impact your maintenance schedule and budget. This can happen if, for example, you have bought a used vessel with an incomplete (or even non-existent) service history.

It is essential that you know how your installation has been modified over time, and this is where maintenance inspections can help. They are an integral part of many maintenance programmes, especially in cases when the service history of the vessel is unknown. They can help you evaluate the condition of your equipment and what needs to be done to overhaul and maintain it. Many ship owners and operators underestimate the time needed for inspections and planning – it is certainly worth making sure you reserve enough time for these activities.

Learn how genuine, high-quality original equipment manufacturer (OEM) parts offer value that goes far beyond the initial cost. Download this white paper: Why genuine spare parts are the best choice for your vessel – 5+1 great reasons

Reason 2

Secure the right people with the right skills

People have an important role in successful maintenance planning and execution. Just as with parts, you need to have the right people with the right skills in the right place at the right time.

Properly planned maintenance will give you the best chance of securing the right skills well in advance. This is particularly important if the work requires special skills or knowledge that might be hard to source at short notice. If you leave everything to the last minute you could be faced with significant delays that will lead to major problems with your maintenance schedule and budget.

But planning maintenance requires time. The shortage of qualified marine engineers and mechanics has become a pressing issue globally. This is backed up by the results of the webinar poll (see graph on page 6), which revealed that for around one in five participants, availability of labour was their biggest challenge related to maintenance.

Good maintenance planning can help you ensure you have the best possible resources available exactly when you need them. But to be able to do that, you first need to have a clear understanding of the scope of work: what needs to be done. You can then identify and allocate the appropriate technical skills for the maintenance tasks in advance, and even optimise labour to work in two shifts if downtime is tight. This reduces the risk of errors and delays.

Reason 3

Save time and avoid costly surprises

Good maintenance planning will save you time because you can optimise your resources, including spare parts, by matching skills and expertise with the appropriate maintenance tasks. This improves efficiency and reduces the risk of delays. The bigger or more complex the maintenance or overhaul project, the more important it is to allocate time for planning. For example, if you need to fly in parts or labour from different locations or make changes to the scope, you will have time to make arrangements without causing delays. This could include, for example, arranging the necessary visas for technical personnel, which can take time.

Planning can also save you time because you have the opportunity to perform upgrades at the same time as regular maintenance. Upgrades can have a surprisingly big impact on your ship's overall efficiency, fuel consumption, operational costs and emissions. If you take advantage of the opportunity to perform upgrades alongside regular maintenance you will not only save time but also money. Lifecycle upgrades can also reduce your engine's overall fuel consumption and emissions, which can bring you even more savings.

Reason 4

Save money

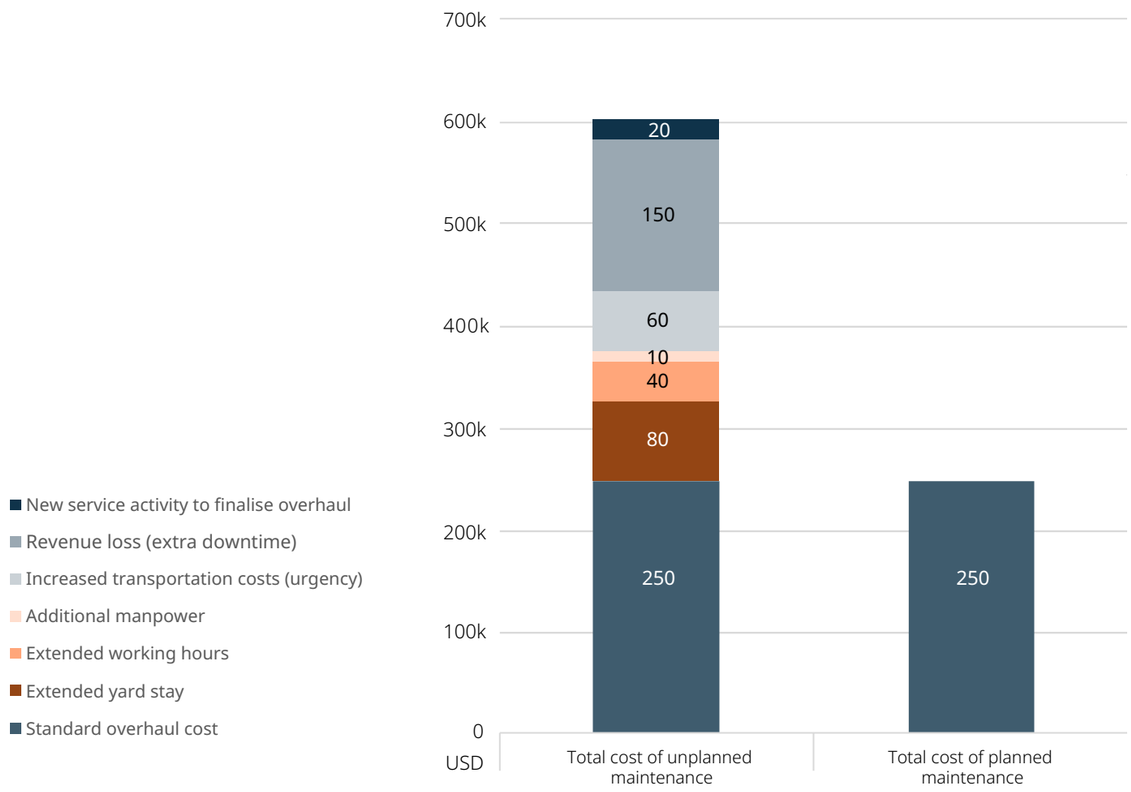
Maintenance planning is the smart choice when your budget is tight and needs to be controlled carefully. It helps ensure you have the right resources in the right place at the right time, minimising costly delays.

Planning early also gives you other opportunities to save. For example, you have the chance to use sea freight instead of air freight for delivering parts, which is usually the cheapest and most environmentally friendly option. Ordering parts at the last minute can also mean they are more expensive to deliver, so getting your order in early helps keep your budget under control. Early planning could also allow you to combine tasks in such a way that you can reduce the number of service technicians or experts needed, saving even more money.

If you purchased your ship from another owner and its service history is incomplete or non-existent, good maintenance planning offers another opportunity to save money. This is because you will have more time to assess the actual condition of your asset and determine what maintenance work it needs.

As a rule, planned overhaul work will consume roughly half the amount of resources (yard cost, labour cost, transportation cost and costs associated with equipment down-time) that are needed for unplanned work. This can bring you significant savings.

Figure 1. Example cost comparison of unplanned vs. planned maintenance



You can save even more money if you plan maintenance activities as a whole rather than simply focusing on service intervals. For example, if you're also looking to improve the efficiency and performance of your engine or other equipment, it might be worthwhile to perform lifecycle upgrades when your ship is in dry dock. This saves you money because it allows you to do two things in the same downtime period: equipment maintenance and lifecycle upgrades.

Figure 2 (see page 15) shows how proper planning saves you money. The example shows the costs associated with planning and performing a turbocharger overhaul and upgrade separately vs. when these activities are planned and performed at the same time.

Because the turbocharger requires a complete overhaul at 48,000 running hours to keep it operating within acceptable safety standards, it makes sense to perform the turbocharger compressor upgrade at the same time. This is because the overhaul and the upgrade mostly use the same parts or components. This can bring you significant savings, as shown in Figure 2 (see page 15). You can also expect an immediate reduction in fuel costs after the work is completed.

But this is just one example of the possible savings you could make by planning and executing maintenance and upgrades projects so that they can be performed at the same time. You can save even more time and money by performing other lifecycle upgrades together with maintenance and overhaul work.

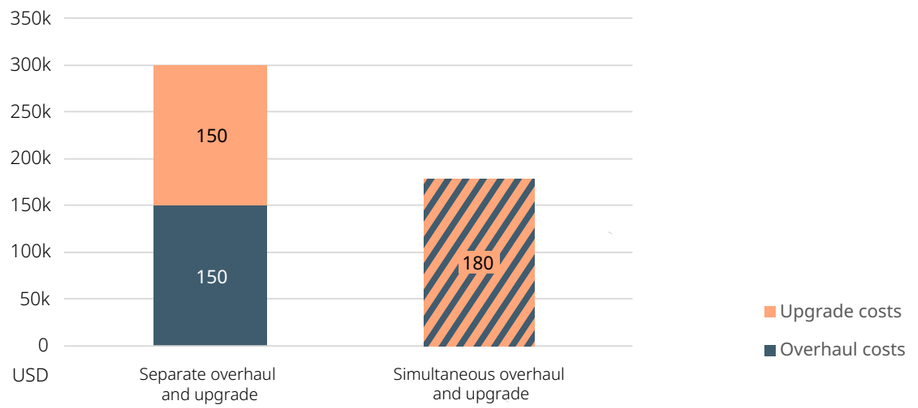
Some examples include greenhouse gas (GHG) emissions reduction upgrade, fuel injection equipment upgrade, wireless big-end bearing temperature monitoring upgrade and oil mist separator upgrade. Combined, these savings will help you stay on budget – or maybe even come in under budget.

A fixed-schedule maintenance planning service or a service agreement with your original engine manufacturer (OEM) can give you cost predictability and ensure that your assets are maintained to the highest standard. Knowing the fixed fee makes budgeting easy for you.

Some OEMs, such as Wärtsilä, can also offer predictive maintenance services that use cutting-edge artificial intelligence and advanced diagnostics to help vessel owners improve asset efficiency and reduce both operating costs and emissions. With an OEM expert continuously monitoring your ship's performance, they can help you make the most of scheduled port calls and improve the predictability of maintenance costs.

Complementary services like data-driven maintenance can help you save even more money. The idea is to take a condition-based approach to maintenance rather than adhering to a fixed overhaul schedule based on logged running hours and reporting. Critical engine parameters can be monitored based on real-time engine data, analytics and inspections. This makes it possible to extend the time between overhauls if the data shows that everything is in order. This eliminates the need for some time-consuming and costly intermediate inspections.

Figure 2. Example cost comparison of unplanned vs. planned turbocharger maintenance.



Reason 5

Have more flexibility

Good maintenance planning can provide you with more flexibility. For example, instead of ordering and paying for all the spare parts you need in one go you could spread the costs out over a longer period.

If you do decide to order everything in a single batch, planning ahead might mean you can pay for parts when they are delivered instead of when you order them.

Another way to increase flexibility is to look for a tailored offer with a more fine-tuned scope instead of going for a one-size-fits-all standard offer. But this requires time. If you end up rushing the process you will have to settle for a 'standard' offer that may not give you what you need.

How to get it right

Proper maintenance planning can improve efficiency, reduce the possibility of delays and help you stay on budget. It will also give you more flexibility.

With proper maintenance planning you will:

1. **Secure the right high-quality spare parts**
2. **Secure the right people with the right skills**
3. **Save time and avoid costly surprises**
4. **Save money**
5. **Have more flexibility**

Talk to Wärtsilä!
Wärtsilä has an excellent understanding of the requirements and needs in the marine market, with decades of experience helping ship owners and operators to maintain and upgrade their vessels.

The Wärtsilä portfolio includes a full suite of expert services for your needs. This, combined with technical expertise and a deep understanding of the opportunities offered by the latest technologies, makes Wärtsilä an excellent partner for your maintenance and upgrade projects.

With Wärtsilä as your partner you can rest assured that your maintenance project will run on time and on budget.

To learn more about fixed-schedule maintenance planning service, contact us:
https://www.wartsila.com/contact

Learn more about data-driven maintenance:
https://www.wartsila.com/marine/services/lifecycle-agreements/data-driven-maintenance-planning-service

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Work with Wärtsilä to navigate decarbonisation with confidence.

Build your success on Wärtsilä's broad portfolio of engines, propulsion systems, hybrid technology, exhaust treatment, shaft line solutions and digital technologies, as well as integrated powertrain systems. These building blocks offer you efficiency, reliability, safety and world-class environmental performance.

The offering includes performance-based agreements, lifecycle solutions and an unrivalled global network of maritime expertise.

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Wärtsilä is a global leader in innovative technologies and lifecycle solutions for the marine and energy markets. We emphasise innovation in sustainable technology and services to help our customers continuously improve their environmental and economic performance.