

Safer process.  
Safer profit.



## Fluid Management

Key cornerstones for ensuring successful implementation

Fluid management involves all services associated with the use of coolants and other fluids, such as hydraulic fluid or slideway oil. In addition to the use of fluids, it is also important to analyse and optimise the fluid process and other associated services, such as procuring and disposing of coolants. Long-term costs can only be reduced when all of the influences on the fluid process are taken into account

**personnel costs**  
health productivity tool costs

**surface quality** **replacement costs**  
disposal **downtimes** machining volume recycling  
servicing costs **streamlining the product line**  
**consumption** **output**  
**health and safety** hourly costs  
unit costs

### Fluid management in detail: sub-areas

Professional and comprehensive fluid management is becoming a task of increasing importance within companies. In addition to the reliable care and maintenance necessary for fluids and their associated systems, more sophisticated fluid management processes are characterised by ongoing process optimisation, during which previously hidden improvement potential is discovered and exploited. This requires comprehensive process expertise and an understanding all of the parameters involved in the production process.

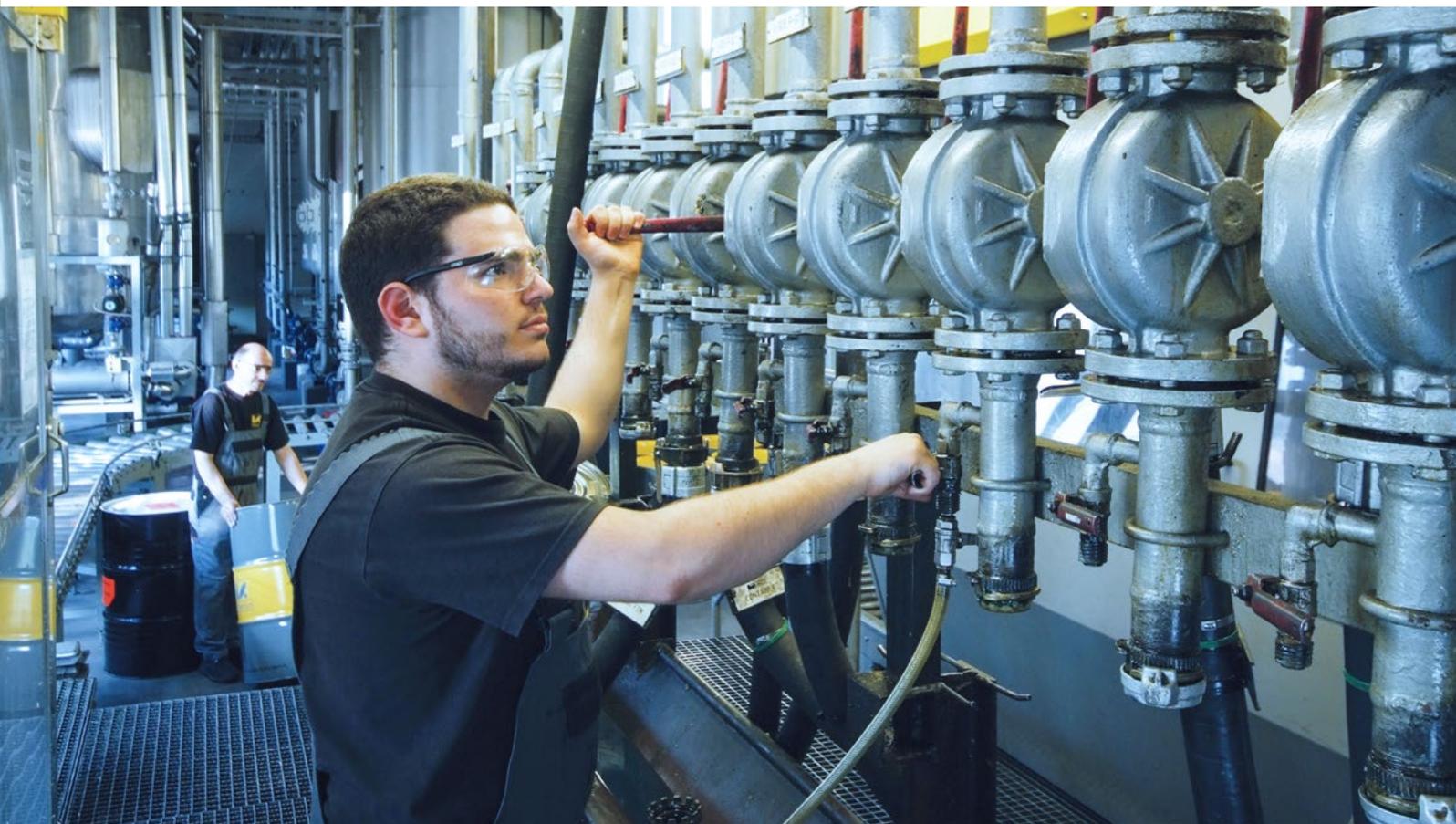
Companies involved in production should always realistically identify the tasks that can be undertaken by their employees and the tasks that could be better handled by qualified partners

## Part 1:

# Administration, service and maintenance

For their fluid processes to run smoothly, companies must ensure that numerous basic tasks are reliably executed. These include the key tasks of reliably filling and refilling production facilities with coolants, maintaining and changing fluids, cleaning machines and process media and properly disposing of coolants that are no longer useful. Likewise, a sufficient amount of resources must be available in addition to coolants, be they additives, cleaning media, slideway oil or hydraulic fluids. The coolants used are of particular relevance, since they are primarily responsible for the smooth operation of working processes. During these processes, a legal requirement for documentation is not the only reason for recording measurements. The coolant status should be continuously monitored so that companies can identify trends associated with the fluids and ensure performance.

This can be very time consuming and sometimes require specific expertise on the part of employees tasked with this responsibility. However, consistent and reliable operation is required in order for the fluid process to function smoothly. An external fluid manager can provide assistance if needed. It is their job to ensure that everything is consistent and reliable at all times. Production employees therefore do not have to shoulder responsibilities associated with fluid process and can give their full attention to their actual responsibilities within the production process.



## Part 2:

# Analysis and process optimisation

As a key element for effective fluid management, process optimisation requires thorough groundwork. A three-step system that seeks to reduce cost over the long-term while simultaneously improving work-piece quality has provided promising results:

- Step 1** Identifying and analysing the overall fluid process, including all relevant processing equipment and their associated processes
- Step 2** Developing a specific and practical approach for fluid management
- Step 3** Permanent process optimisation

### Step 1: Identifying and analysing the current situation

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The total costs of the fluid process are influenced by specific factors representing a specific proportion of the overall costs. In order to reduce long-term costs, these individual factors first need to be identified and clarified for the current situation.

Calculating the cost may include the following process elements:

- Fluid consumption
- Frequency of replacement
- Downtimes
- Disposal

The optimisation potential for the various process elements is determined in the subsequent analysis. To ensure successful fluid management, the parameters relationships with each other and the overall fluid process must be correctly assessed and quantified, and appropriate strategies for improvement must be outlined.

## Step 2: Developing a specific strategy

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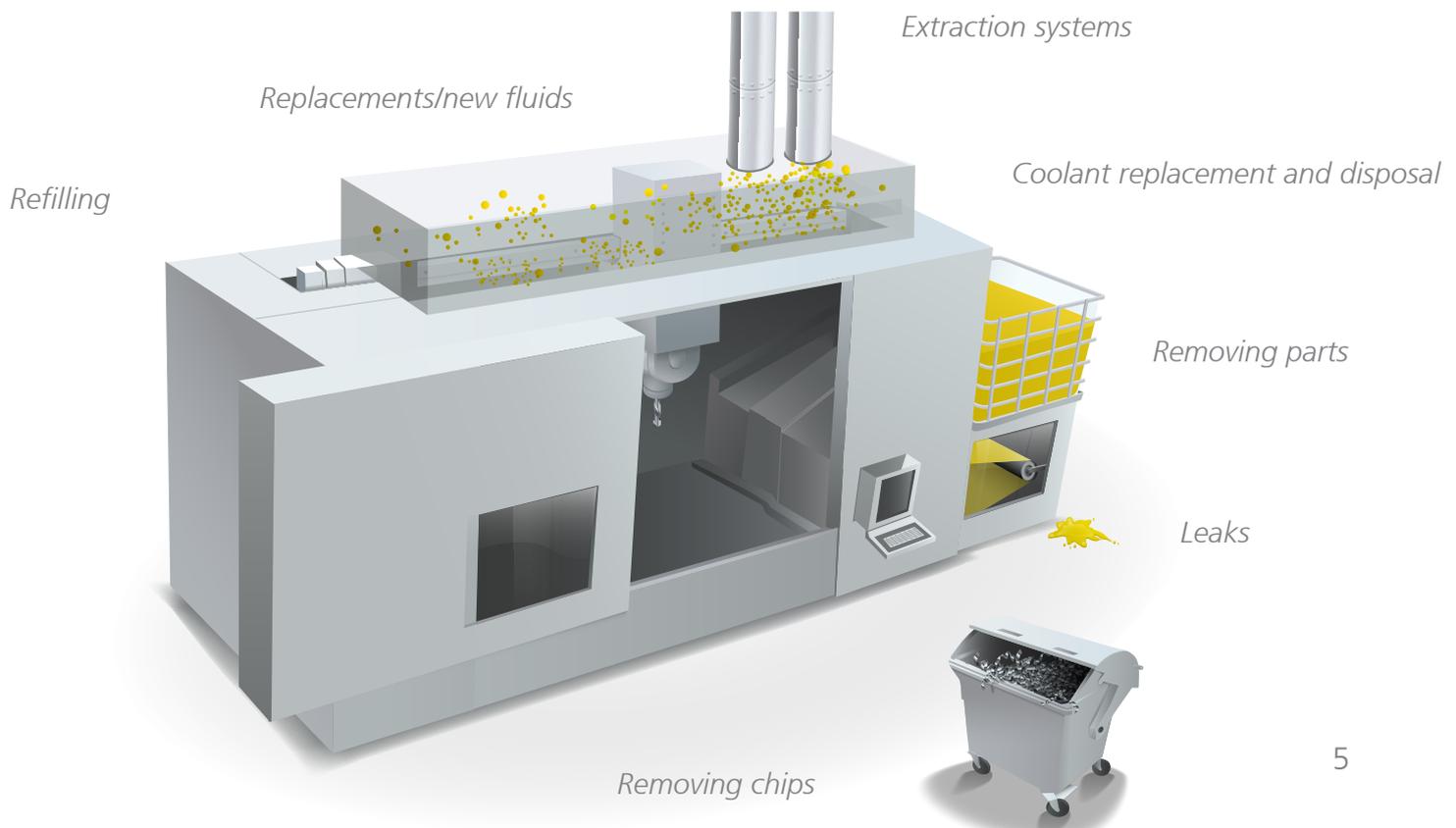
Once the analysis is completed, it can be used as a basis for developing a specific fluid strategy. Even if the entire fluid process is monitored, it is generally changes in the details of certain parameters and process elements that can lead to long-term savings. Potential cost reduction should be identified on a case-by-case basis and included in an overall optimisation plan.

## Step 3: Permanent process optimisation

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The parameters that have been identified can be continuously improved during subsequent process optimisation. It is advisable to implement improvements gradually and test new fluids or associated equipment in testing and transition phases. Since process stability takes highest priority during optimisation, each change must be approved by the producing company.

The long-term optimisation strategy must be based on a situation analysis undertaken by an expert, including a precise itemisation of parameters and a clear assessment of their interrelationships. This is the true key to a reliable and economic production process.



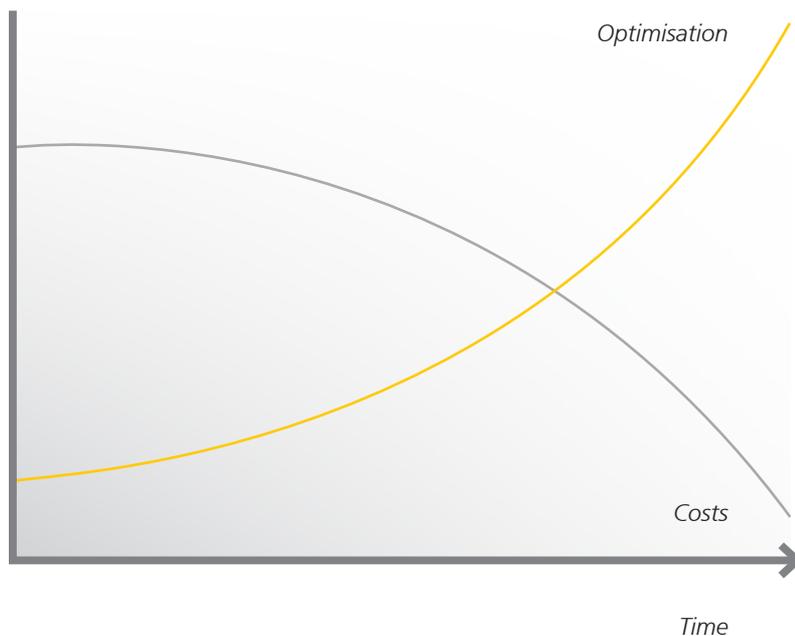
## Successful fluid management means more than just addressing coolant costs

For fluid management to be successful, an overall perspective on the fluids and the associated parameters is needed. Coolant costs are not the only thing that needs to be considered; each stage of the process needs to be analysed and optimised. Effective fluid management stabilises the process and increases workpiece yield and quality. This allows overall workpiece costs to be reduced.

Generally speaking, the aim is to reduce the tolerance limits of individual parameters and increase fluid longevity by means of appropriate maintenance procedures. This has a beneficial effect on more than the overall costs: The fluids last longer, less strain is placed on the environment and occupational safety is improved by reducing the risk of damage to employees skin.

## Added value from Rhenus Lub

With the Premium Fluid Management program, Rhenus Lub is offering specialised rhenus lubricineering process knowledge for managing and optimising existing fluid processes, as well as guaranteeing savings through its unique added value strategy. The coolant and process specialist understands all of the factors associated with using fluids in the machining industry and renders them comprehensible thanks to the Rhenus Lub identification number system.





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