

On-site repairs of damaged metal surfaces
Example:

Surface Of Printing Cylinders

Badless electroplating special process
very inexpensive & time-saving

Content

Part 1: Process description

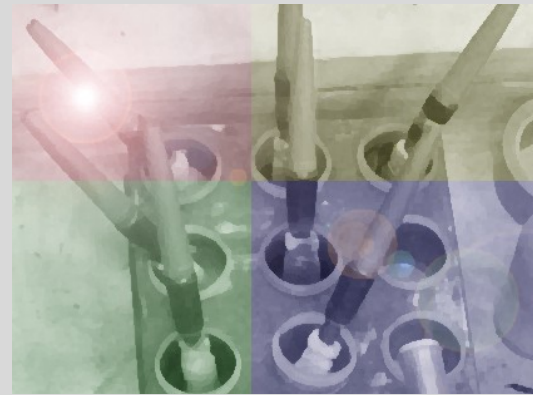
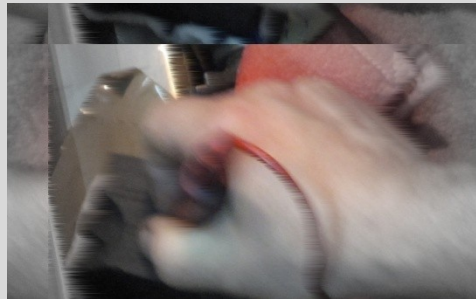
Part 2: Areas of application

Part 3: Examples for a better understanding:

- Different types of cylinder damage
 - Cylinder repair with cost calculation
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Part 4: Summary

Process description



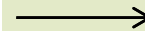
Process / technology

On-site repair of damaged surfaces using

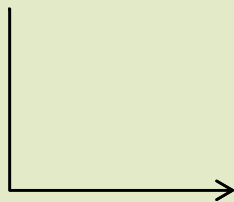
locally electrolytic coating

The electrolyte is applied locally in a circular manner

→ The quantity of liquid electrolyte is limited to the damaged area



No immersion in a galvanic bath!



... the damaged part is

→ cathodic

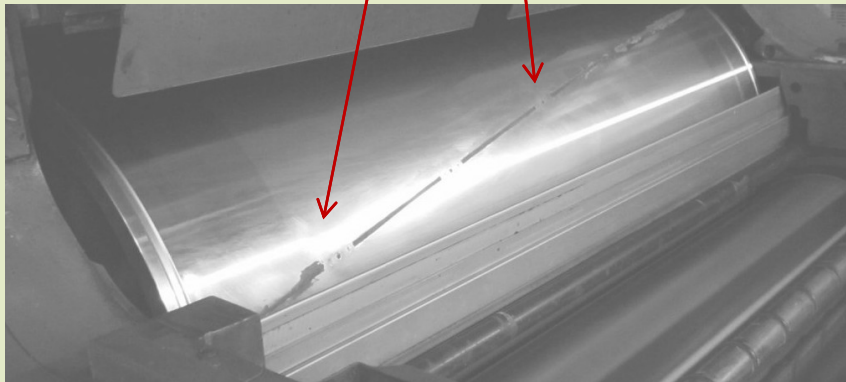
... the special tool we use is

→ anodic

Areas of application

Printing industry / sheet and web printing machines

On-site repair of damaged cylinder surfaces



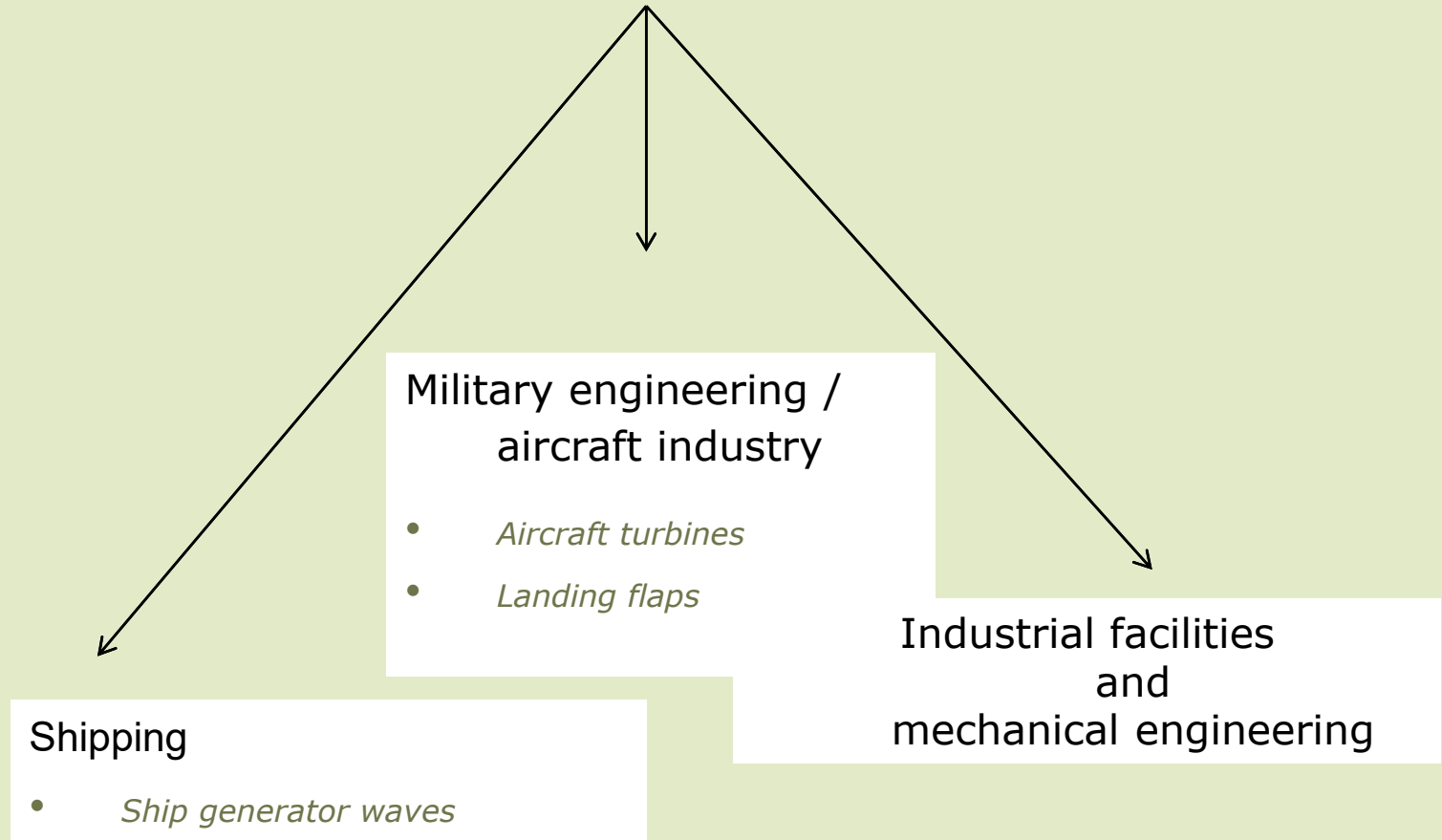
Damaged cylinder of a Sheet printing machine



Sheet printing machine

Areas of application

On-site repair of damaged cylinder surfaces



Shipping

- *Ship generator waves*

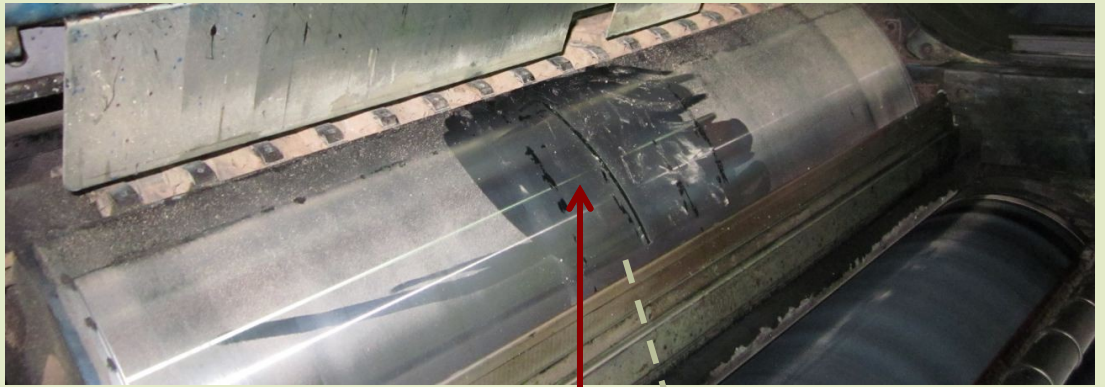
Military engineering / aircraft industry

- *Aircraft turbines*
- *Landing flaps*

Industrial facilities and mechanical engineering

Practical examples

Damage on Printing cylinders

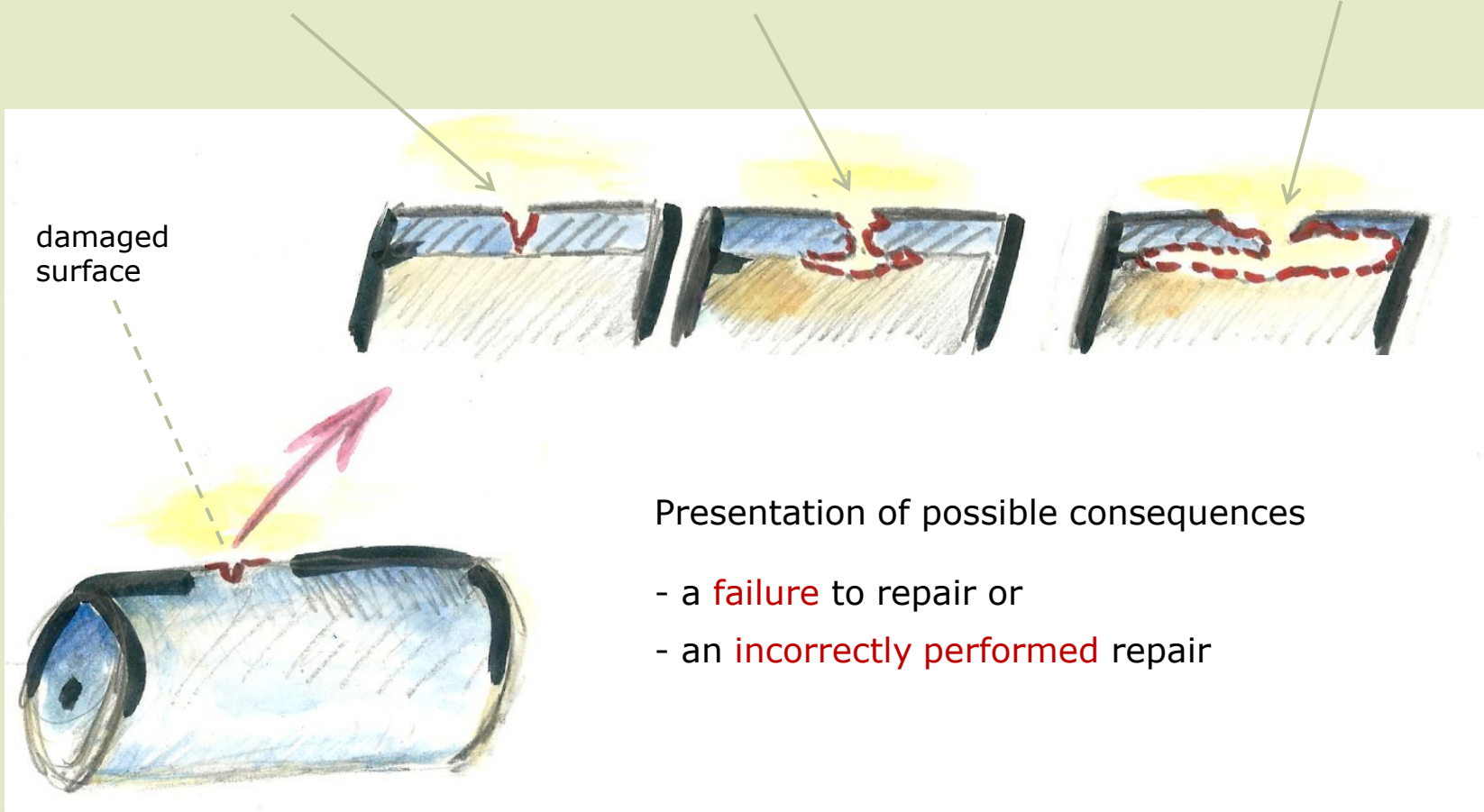


Consequences of a repair that has not been carried out

In the beginning it is often just a **small** damage.

The damage **gradually spreads** through corrosion.

At this point the cylinder **can no longer be repaired**.



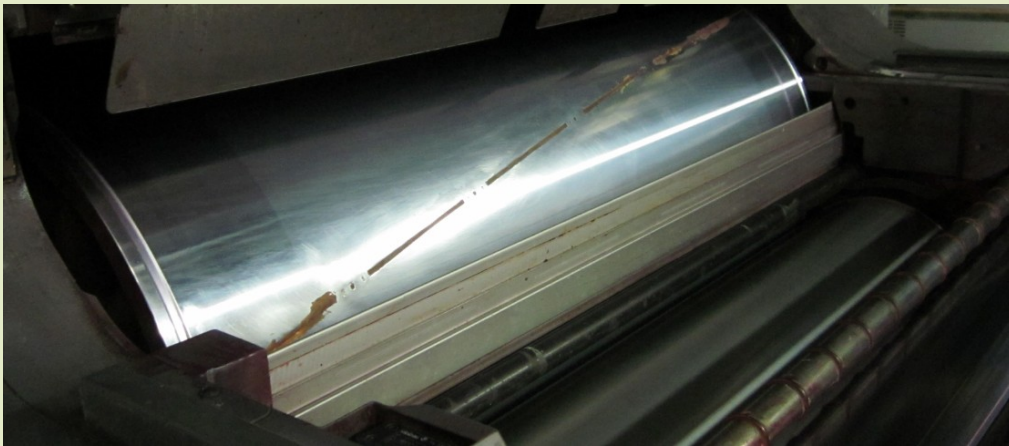
Presentation of possible consequences

- a **failure** to repair or
- an **incorrectly performed** repair

Practical example

Repair of Printing cylinders

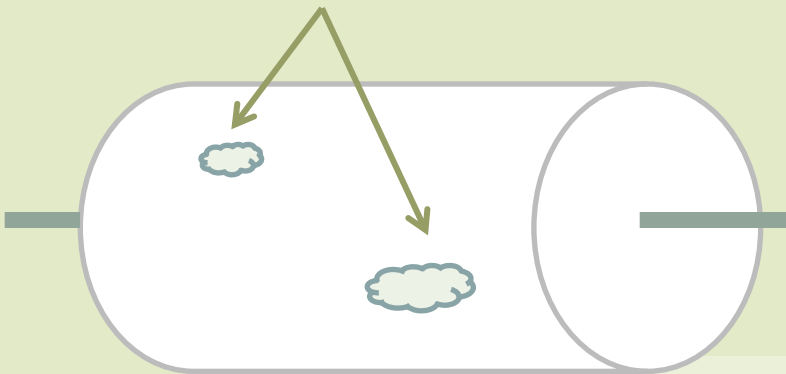
Repair of damaged printing cylinder surfaces in a state printing house



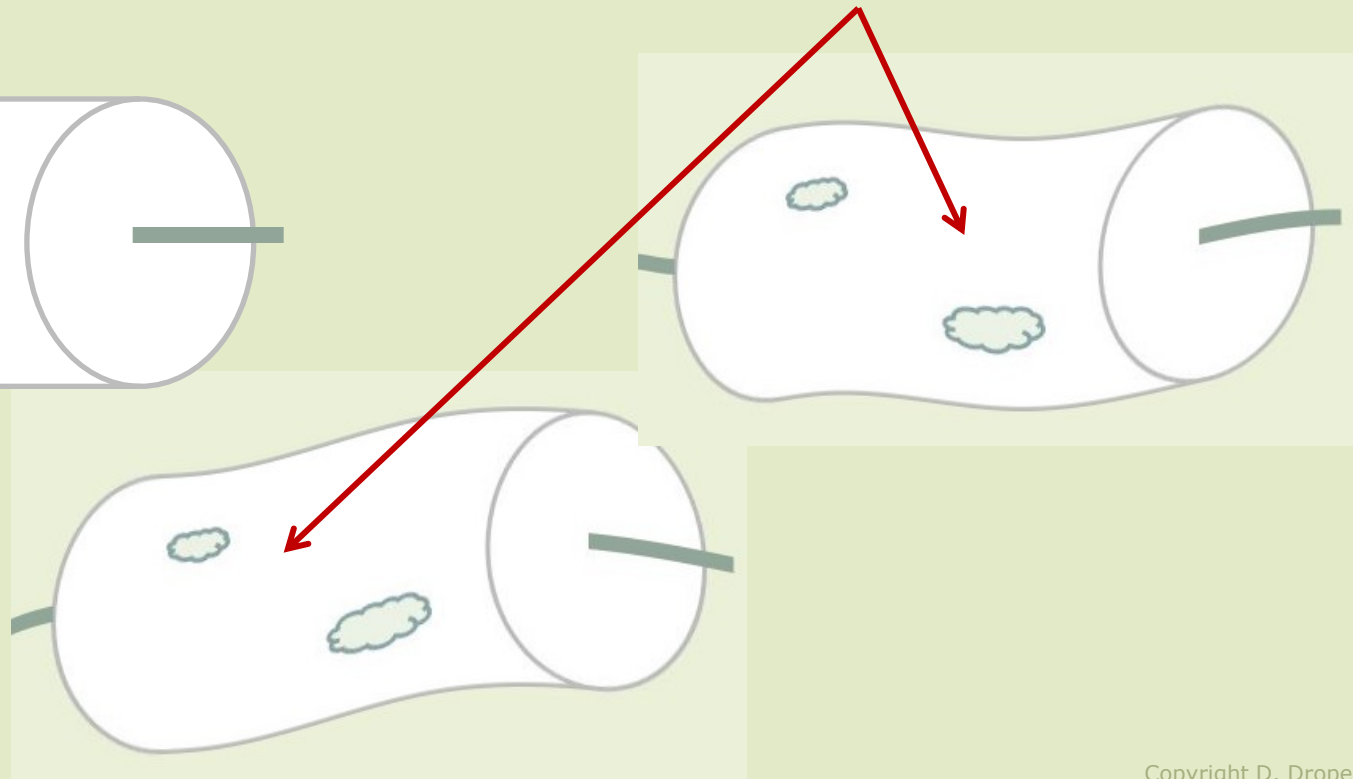
Concentricity measurements on the damaged printing cylinders

- Checking the degree of damage
- Tolerance concentricity max \therefore ± 0.01 mm, otherwise bearing / journal damage could result

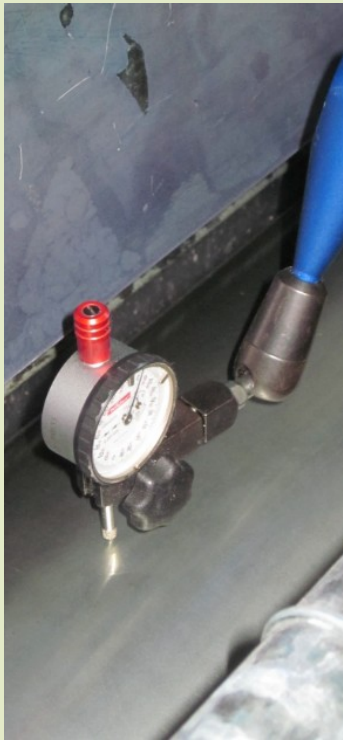
Repair possible



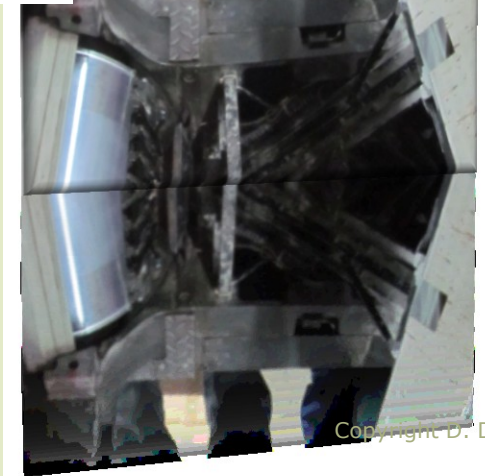
Repairs are no longer possible



Determine the extent of the damage



Checking the concentricity of the cylinder





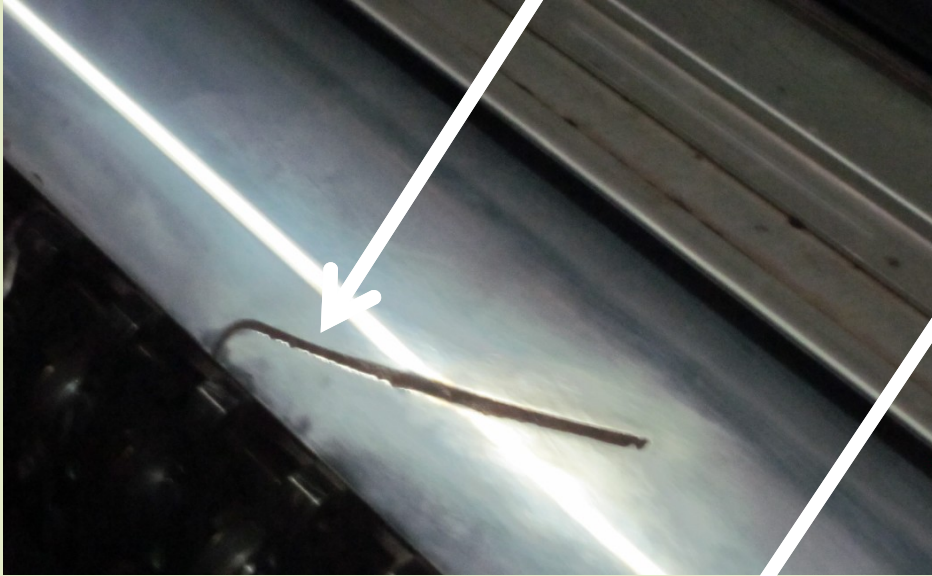
Advice on repair measures and scheduling



... At the repair



before



after



Example Of Cost Calculation

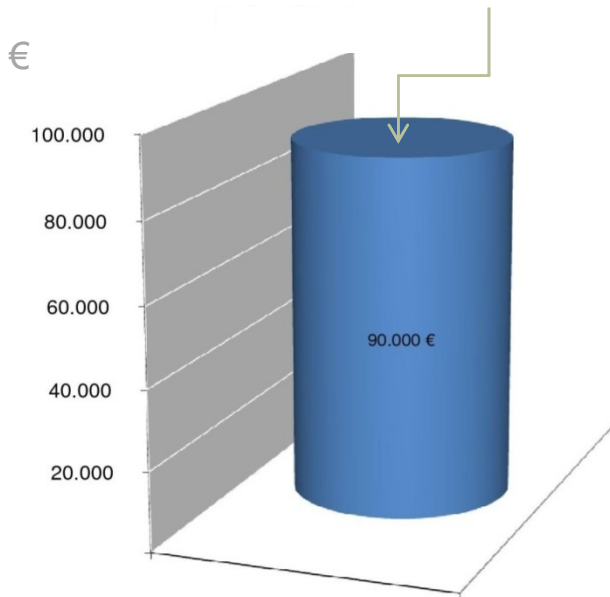
Client: Customer Not Insurance

Cost comparison for new acquisitions, external electroplating baths and on-site repairs

New acquisitions or usual external electroplating baths

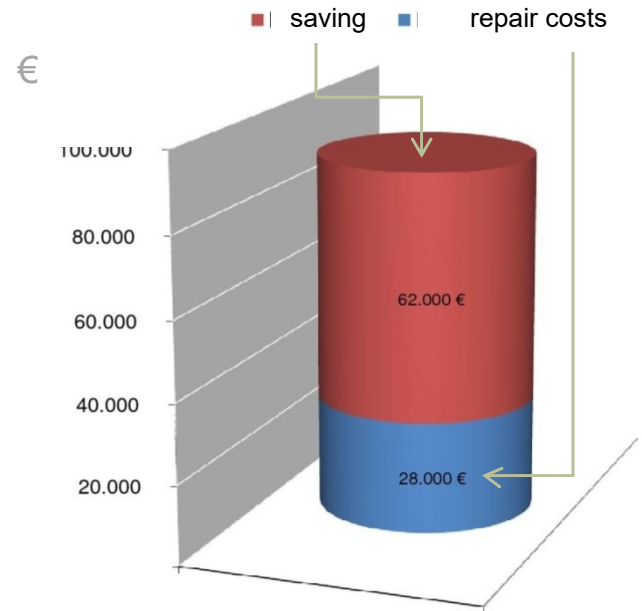
costs estimated by the insurance appraiser and paid by the insurance for

- a new purchase or
- a normal repair in an external electroplating bath



Badless on-site repairs

costs on-site-repair



Cost calculation

for the example above

Damage, according to the insurance report 90 000 EUR

our repair costs

Repair including additional costs such as material and travel

28 000 EUR

Savings

62 000 EUR

→ around 70%

Summary

On-Site Repairs

Compared to a conventional workshop repair, it is no longer necessary:

Money and
time expenses for

1. Removing the damaged parts
2. Transport to the workshop
3. Return transport
4. Replacement



There is no need for a new purchase:

Money and
time expenses for

1. Purchase price new parts
2. Removing the damaged parts
3. Logistics (transport to the customer)
4. Replacement



Time savings

... through on-site repair



Costs savings (up to 70%)

... through on-site repair



On-Site Repairs

Part 5 / Foil 2(2)

Extensive worldwide experience

- Europe
 - North and South America
 - Asia
-



Practical experience

- appr. 40 Years
-



High security for our customers

- the parts are as good as new after the repair

- 21 up to 24 months **guarantee !**



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