Expert Paper

JCL
Redefining Quality

# Up to **35% Lower Spare Part Costs** & **80% Less Downtime:**

## How we **Re-engineered** over **200 Components.**

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# Summary


## **Spare Parts delivered Fitting to Maintenance** Intervention Start **– 35% More Cost-Efficient,** Without Production Interruptions

Maintenance managers in the chemical, food, and oil & gas industries are constantly under cost pressure while striving for maximum plant uptime. OEM components are often expensive, difficult to source, and lead to unplanned downtime due to slow reaction, sluggish project attitude, coordination, or reconstruction efforts. This expert article outlines how operators can access re-engineered parts up to 35% cheaper – and according to the schedule they are bound to.

Using proven re-engineering methods, combined with turbomachinery know-how and calculative power and expert tools, components are independently designed, manufactured, and quality-tested – completely detached from OEM dependencies.

# Outline

# 200+ Components, 140+ Clients, 40+ Machine Types

JCL Plant Solutions GmbH is a **global provider of re-engineered spare parts for turbomachinery**, serving industries such as chemicals, oil & gas, geothermal, air separation, and food processing. **With over 140 customers worldwide** – including eight global market leaders – JCL leverages more than 100 years of combined service and engineering expertise.

To date, the company has successfully reverse-engineered over **200 components across 40+ machine types**. These are available on-demand, fully certified, and documented. In **80% of cases, production is possible without machine downtime** thanks to JCL's extensive machinery experience.

# Outline

# **Downtime Costs Up to $260,000 per Hour –** OEM Dependence Risks Production Security

Unexpected downtime can incur massive costs. According to the Aberdeen Group, a single hour of downtime in process industries averages $260,000. In highly networked production environments (e.g., chemical parks), additional opportunity costs arise due to delays, penalties, or missed delivery commitments.

The challenge: OEMs dominate the supply chain and control critical technical data. Spare part and aftermarket prices of the OEM's have risen since Corona Crisis up to 200-300% and the timeline to receive a quotation can make re-stock prior to a planned maintenance window unrealistic. Non-OEM providers face further hurdles: measuring or scanning part does not empower to produce a working item.

JCL bypasses these bottlenecks. Its Years of experience, combined with calculative power, enable JCL to produce parts with exchangeability guarantee, proven by over 200 measured and certified parts - Parameter-based manufacturing with minimal need for measurement.

# Outline

# **Reverse Engineering Without Downtime – 80%** of Parts Readily **Available**

JCL's reverse engineering method uses a data-driven methodology to reproduce parts with high precision – without requiring OEM templates or drawings. By extracting information from OEM databook, combined with systems for aerodynamic simulation, experience in impeller design of various manufacturers and a vast network of producers, over 80% of clients demands can be met - without disassembly of the machine. No downtime. No risk.

For new parts not yet in the database, contactless mobile measurement is performed – usually within 48 hours. All resulting components meet applicable industry standards and are traceably certified. Customers also benefit from flexibility in our supply chain. If you name your goal, we can make it happen. Compared to OEM timelines (often exceeding 8 months), this delivers a critical time advantage.

# Outline

# **Average 35% Cost Savings –** Re-Engineered Parts **Without Compromising Quality**

Based on customer feedback and internal evaluations, JCL's approach results in cost savings of 20–35% versus OEM list prices. These savings stem from lean processes, reduced communication cycles, and the elimination of brand or licensing markups.
At the same time, quality is ensured through rigorous testing aligned with highest industrial standards and client standards. All components come with documented material conformity, OEM-equivalent tolerances, and certified inspection trails – often exceeding OEM quality, for example through superior surface finishes or coatings.

For end-users, this means expanded flexibility in maintenance planning, spare part stockholding, and production scheduling – without compromising on quality or binding contracts with OEMs.

# **200+ critical components reverse engineered –** yours can be next

From bearings and shaft seals rings to complete rotor assemblies: the JCL database currently contains over 200 fully reverse engineered and certified components – including more than 80 impellers. This inventory continues to grow based on customer demand and new machine types.

In practice, this means around 8 out of 10 customer inquiries require no disassembly – the part can be reproduced and delivered directly.
For new or unknown machine models, the component is scanned on-site using laser or optical 3D measurement – in over 90% of cases within two days after order confirmation.

Logistics benefit: urgent deliveries to critical regions such as MENA, Ukraine, or Sub-Saharan Africa are ensured via strategic partner networks.

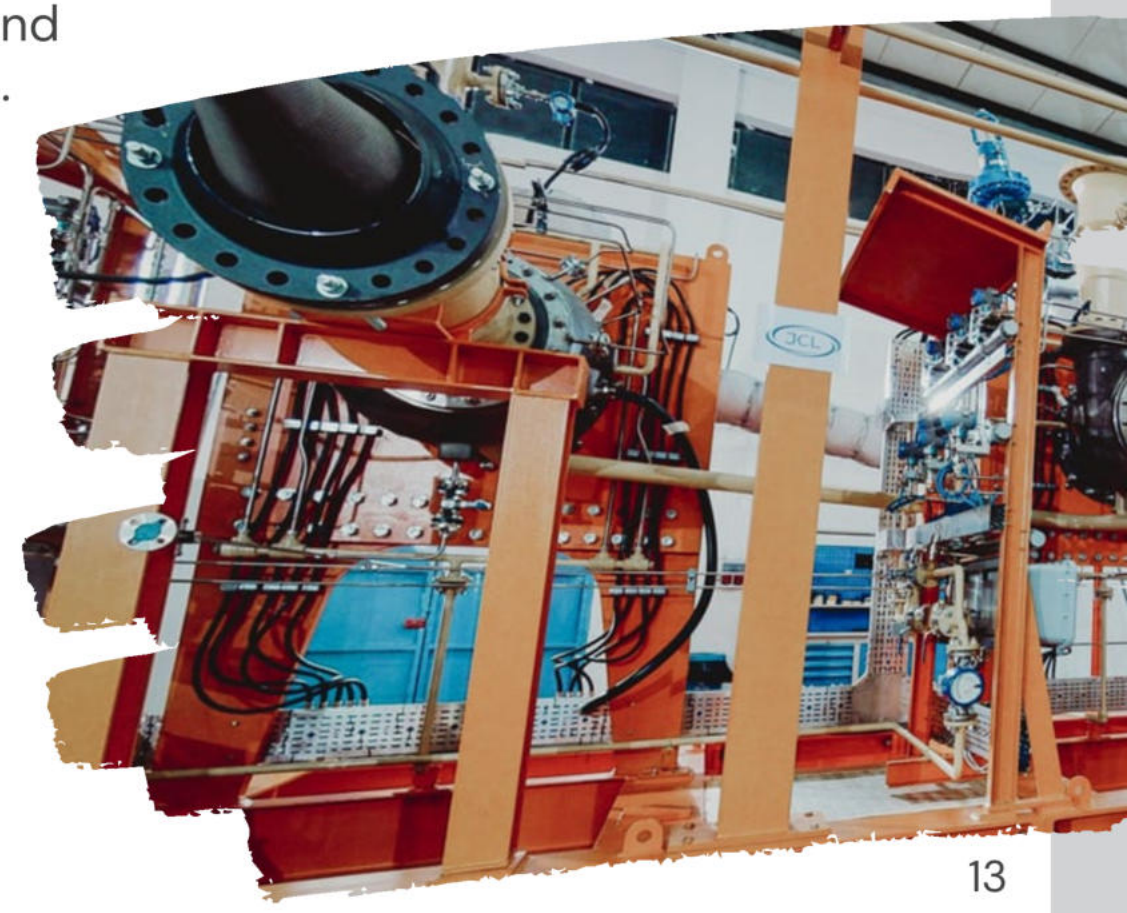
# Outline

## **Your Spare Part in 8 Steps** – Fast and Structured

Typical project workflow at JCL Plant Solutions:

1. Initial contact & demand identification
2. Technical feasibility check
3. Offer & project kick-off
4. Engineering & Design
5. Sourcing & Production
6. Inspection, testing and Certification
7. Delivery
8. Site Acceptance Test, Installation Supervision & Training

Thanks to standardized processes, the full cycle from inquiry to installation can be adjusted to client necessities and expectations.



# Outline

# HOW CAN I START?

## **Rethink Your Spare Part Strategy –** Start Risk-Free

OEM-based spare part strategies are often too slow, too expensive and put your production on the line. In a non-binding initial consultation, we identify your challenges and find solutions to your needs - often without production stop, delays or operational risk.

Whether for a pilot project or a strategic overhaul of your spare parts supply: JCL supports you on your journey to OEM-independent availability and security.

## Schedule your expert call now:

**Jakob.Buschmann@jclps.eu**

**Here is my appointment link**