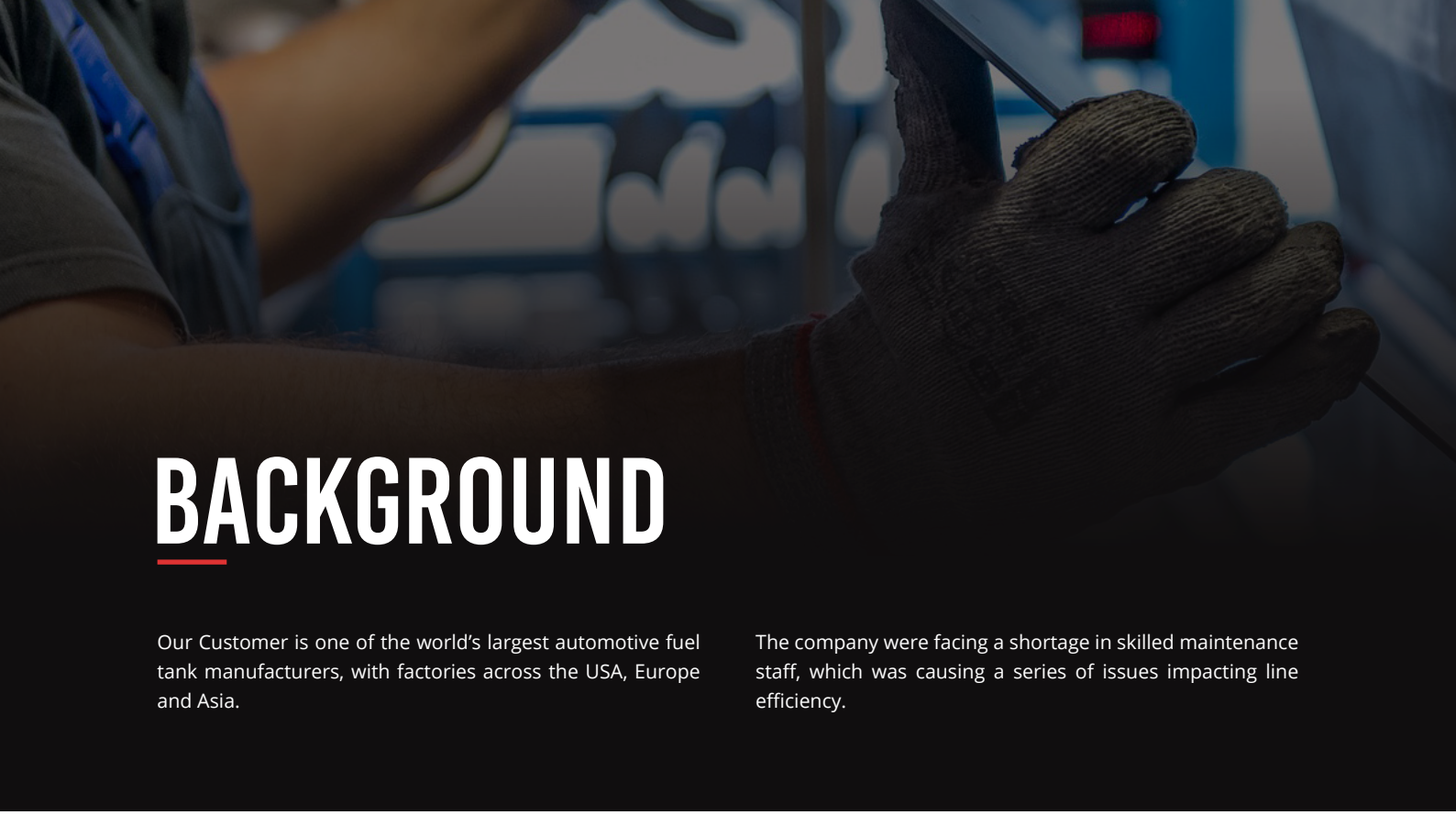
VACUUM ENGINEERING

CREATING A NEW SERVICE POLICY FOR AN AUTOMOTIVE FUEL TANK MANUFACTURER

CASE STUDY

"As soon as we started the service policy, we started seeing benefits. The policy also allowed us to improve the performance of our other machines, as the maintenance team have more time to look at other equipment. We just finished our first year with the policy and we all agree that renewal is a must!"

Maintenance Supervisor



BACKGROUND

Our Customer is one of the world's largest automotive fuel tank manufacturers, with factories across the USA, Europe and Asia.

The company were facing a shortage in skilled maintenance staff, which was causing a series of issues impacting line efficiency.

CHALLENGES

Due to a recent shortage in maintenance technicians, our customer was facing a rise in machine downtime. Without the specialist knowledge and staff numbers in place, diagnosis and resolution of problems within the maintenance department had become very long-winded, with maintenance problems only receiving temporary quick fixes. These short-term solutions were causing the bigger problem to worsen, meaning that the leak detection machine was failing more frequently.

Hiring more maintenance technicians could help to temporarily resolve the issue – however, this would require time and resources in order to train new staff in the complex systems. The specific machinery on this line had particularly expensive components, for example, the helium mass spectrometer costs around $20,000 and a vacuum pump between $13,000 and $33,000. Therefore, training would need to be intensive to avoid any potential misuse that could result in expensive damages.

As well as this, hiring new specialist staff did not guarantee long-term security. If team members left again, this would mean the process would need to be repeated, leaving the line open to risk once more.

With this in mind, the customer approached Vacuum Engineering Services for support. The company had heard about our service offer of unlimited technical support by phone and email. In addition to this 24-hour helpline, we could also provide;

- A guarantee on spare parts replaced during service activities
- Monthly visits on-site to perform preventative & predictive maintenance routines
- An on-site engineer in case of machine breakdown
- Access to local stock of spare parts

THE SOLUTION

To begin with, our solution involved an on-site assessment, inclusive of a health check of the machines. This looked into several areas such as;

- The age of the machines
- Mechanical conditions
- Electrical conditions
- Machine performance
- Plant maintenance routines

Once all areas had been sufficiently assessed, we were then able to create a tailored service policy plan for our Customer, based on the status of each machine.

We proposed an integral service policy for all 4 machines, with monthly visits that would include a major overhaul, and a 6-monthly immediate overhaul – inclusive of all spare parts.

As the Customer did not have access to spare pumps, we also offered a pump exchange program. This meant that while our engineers were servicing the pumps, we could provide a replacement that could be used during maintenance, reducing machine downtime and increasing the Overall Equipment Effectiveness [OEE].

Additionally, troubleshooting training was also included in our offer, so that new technicians could easily fix the most common problems.

To further support our Customer, we were able to spread the total cost of this service policy over 12 monthly payments, which was a big help for the finance team in cash flow planification.

The overall implementation took place over a period of 12 months. During this time, we were also able to identify further opportunities for improvement within processes. For example, an operator was frequently experiencing difficulty verifying one of the machines – this was due to the test piece disintegrating. To help overcome this, we manufactured a support nest for the test piece, in turn reducing load and unload time by 4 seconds.

RESULTS

As a result of the new service policy from Vacuum Engineering Services, our Customer has since achieved:

- 77% reduction in MTTR
- 1600% increase in MTBF [mean time between failures]
- 17% increase in line efficiency
- ROI achieved in just 6 months
- Over $29,583 cost-savings per hour