Bearings in special designs

Non-standard bearings I

Problem
A company of the steel processing industry requires for a specific application a special design of a tapered roller bearing. The production lead-time for this bearing amounts to ten months. Neither the bearing manufacturer nor the machine manufacturer nor the current bearing suppliers are in a position to improve on that 10-month delivery time. As machine shutdown seems inevitable, costs of 6.000 EUR per hour will then be incurred!

Measures
A search for a suitable item is conducted on the international marketplace. Investigations together with long-standing contacts abroad, in Europe as well as on the Asian and American markets, let us come to the following conclusion: The bearing can be produced with a production lead-time of 3-4 months in a European plant as custom-build product. On the US marketplace the tapered roller bearing can be procured from several dealers and distributors. Lead-time including transportation time is no more than 6 weeks!

Conclusion
The initial lead-time of 10 months that the customer was faced with was reduced by 76% to a mere 6 weeks. Through this the customer was in a position to avoid a six-digit sum of downtime costs.
Good international connections open new doors. With the right contacts it even becomes possible to procure or have produced special bearings on relatively short-term basis.

Non-standard bearings II

Problem
Due to a production change a machine manufacturer can no longer use the standard bearings that they had employed in the past. They therefore urgently require a customized solution that can be integrated into the existing production process and adopted without problem in their end-product. The leeway in time that they still have only amounts to a few weeks. The manufacturer of the currently utilized bearings however refuses to produce a custom-build non-standard bearing for them.

Measures
Engineering consultants of the Schmeckthal Group study the specific application and develop a concept for resolving the issue. A potential use of standard bearings is verified once more, but would only be feasible with major modifications. The estimated costs for these would however aggregate to a five-digit sum. The final proposal for solution submitted includes the redesign of the bearings, all required drawing works and the selection/use of a qualified bearing manufacturer. Shortly thereafter the customer receives initial prototype samples. The parts submitted are thoroughly tested and fulfil all requirements; the initial small batch of the special bearings can thus be launched in production.

Conclusion
The customer really received an optimum solution to their problem: they were in a position to handle their customer orders on schedule and equipped with perfectly appropriate bearings. Their production processes did not have to be changed in any way and there were no consequential charges.
The technical staff of the Schmeckthal Group has the know-how and necessary experience to look at a problem from all angles. The goal of all their activities is to indentify the most efficient and economic solution. Long-standing contacts with manufacturers and producers in all related industry lines then enable them to find and implement remarkably customized solutions on a quite timely basis.

Bearing failure due to lack of lubrication

Problem
A basalt processing plant needs at a critical location two large bearings. The dimension of the shaft amounts to 140mm. The price for the entire bearing assembly is in the area of about 8.000 Euro. For reasons that are not quite comprehensible the bearings have to be replaced at regular 5 to 6 months intervals. This each time implies a machine downtime of four hours. In case of unplanned maintenance, the costs incurred amount to about 4.000 Euro per hour.

Measures
The defective bearings are inspected, a lack of lubrication is determined as the root cause. As the bearings are however lubricated on a regular basis, the entire installation has to be appraised. It turns out that due to high temperatures at the location of the bearing assembly the lubricant employed can't perform to expectations. After a complete analysis of possible changes for the better, a decision is taken to implement an automatic lubrication system with a high temperature lubricant.

Conclusion
The live-cycle of the bearing assembly has been increased to about 18 months. Material expenditures were reduced by 75%. Future maintenance work can be properly planned, thus avoiding the downtime costs of unplanned production stops.
The professional competence of the staff that was on the customer's site lead to a permanent solution of the problem since the root cause was detected and the problem thus fixed at its origin. The implementation of innovative products leads to a simplification of the work processes and to a sharp reduction of maintenance costs.