



MAINTENANCE OPTIMISATION

The purpose with maintenance is to maintain a sufficiently high level of operational reliability. One can formulate this as that Maintenance is one of the most important means to reach the ends of the business or organisation. Since these two perspectives are so tightly connected to one another, they are often hard to separate – to analyse the operational reliability one has to consider how maintenance is handled and to "optimise" the maintenance activities one must know what level of operational disturbances to expect, alternatively wants to achieve. In spite of these strong connections, we have chosen to describe these two perspectives separated from each other in two fields of expertise, why other relevant information might be found under Reliability analysis.

The role of maintenance

A maintenance organisation and related processes, tend sometimes – unfortunately! – to be a bit unfairly treated. It is seen as a necessary evil, that is needed since "the stupid machines tend to muck things up all too often!". If one is of that point of view, the 'reactive hat' is firmly placed on ones head, instead of (as often is to prefer) choosing the 'proactive one'.

A maintenance organisation (which can vary from one individual part-time to a large number of employees, depending on company and situation) can – if it is allowed – be an important piece in the puzzle to secure productivity and in the end profitability. If a parallel is made to nursing, it depends on whether one views oneself (and is viewed upon) as working with care of the sick or keep-fit activity! In the former case one is only a trouble-shooter that is called upon when something has gone wrong. In the latter, one most likely cooperates with the ones with a quality perspective and is engaged in both TQM projects (Total Quality Management) and Kaizen initiatives (Continuous improvement)!

Both corrective and preventive maintenance is of course needed, but what is important (and usually difficult) is to find the right balance. Since the ones working with maintenance often constitute the experts in the organisation in issues related to operational reliability, it is important to utilise this competence at a number of occasions that do not belong to the regular maintenance work. One such example is when investing in new major machinery or automation (or deciding upon which contractor to settle for). Then the characteristics when it comes to reliability and effect

on maintenance work for each option should carry weight (see Reliability analysis). Another is the development of new products, where the chosen construction and design might affect future availability in the production process!

Projects in this field

While reliability analyses can more or less entirely focus on technical issues (when studying a single unit/construction or a limited system), working with Maintenance optimisation implies almost always the need of a more organisational and process analytical perspective. One has to grasp the big picture and understand the connections to manning principles, inventory strategy, production, and logistics – and it therefore follows that there are strong links to projects in the field of Operations research (as well as when it comes to Operations management and Operations strategy).

To work with these types of issues is something that has been an important part of the historical account of Trilogik as a company. We have often with success used Simulation as the main tool and have in our projects (when targeting on maintenance related to aviation) often used the program ASTOR (owned by FMV) for the analyses. Astor is by the way also developed – and developed further – by employees in Trilogik.

