

Creating value with maintenance

"What is the added value of maintenance?" - a frequently heard question in boardrooms the world over. Even though maintenance is critically important, few maintenance managers are able to answer the question convincingly, especially when they are asked to express the benefits in terms of economic value. Here, Mick Saltzer, managing consultant for Mainnovation UK discusses how Volvo in Europe adopted Value Driven Maintenance in order to help them answer the question.

With five manufacturing sites across Europe (four in Sweden and one in Belgium) Volvo is, as everyone will recognise, a major force in automotive manufacturing. The company's acquisition, by Ford in 1999, represented an opportunity to bring together the maintenance philosophies of the different organisations and also rationalize the operations at the five sites. In charge of this process and charged with aligning the business plan with the maintenance operation was Peter Decaigny (formerly of Volvo, now executive consultant for Mainnovation).

The first step Peter took, working alongside Mainnovation as a neutral partner, was to visit each manufacturing site in turn and to run workshops in order to identify what were the important issues that needed to be addressed. When asked, a maintenance manager is likely to say: "The value of maintenance comes from delivering maximum

availability at minimum cost" While this is true in theory, it's little help in the day-to-day operation. This is because it is vital to prioritise: is it better to reduce costs or increase uptime? Is a 1% increase of uptime just as valuable as a 1% reduction of costs? And how is the value of safety determined? Value Driven Maintenance or VDM provides answers by identifying the value potential of four value drivers in maintenance and enables management by those drivers (see figure 1).

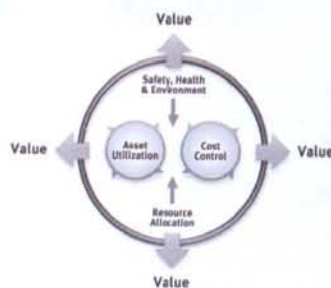


Figure 1: Maintenance Value Drivers

The workshops which were run at the Volvo sites were structured around The Value Driven Maintenance model which enables those involved in the maintenance operation to identify which of the maintenance value drivers is most important to their operation. Today's

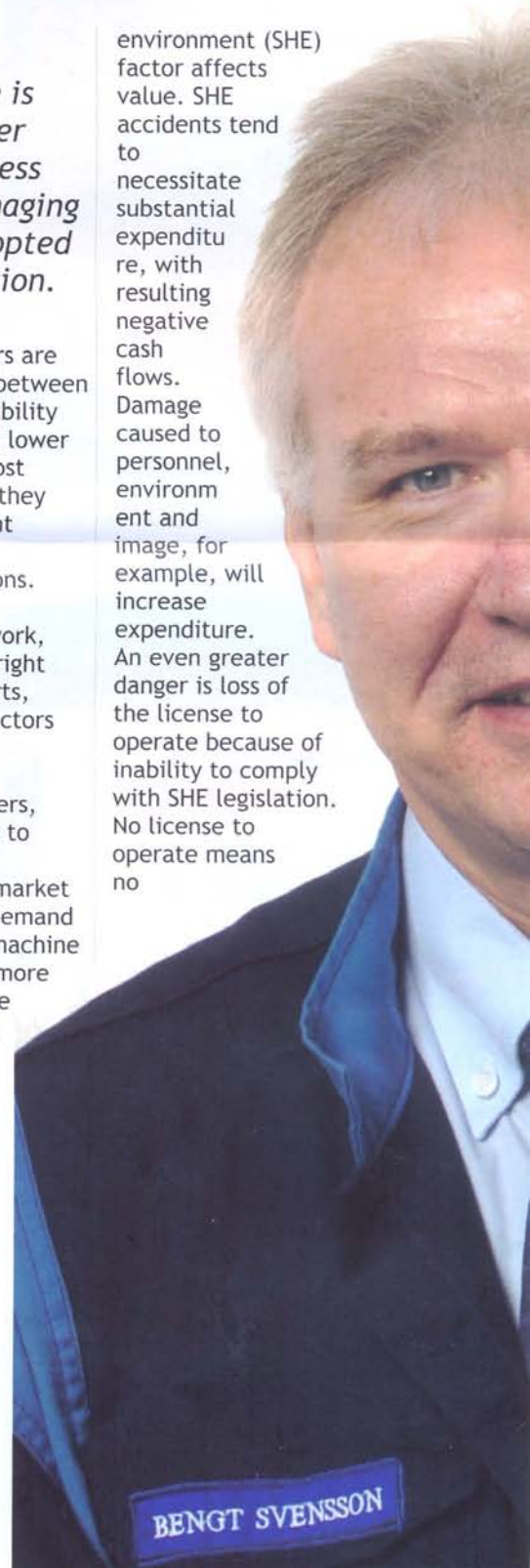
maintenance managers are constantly balancing between higher machine availability (asset utilization) and lower maintenance costs (cost control). In doing so, they must take into account safety, health and environment regulations.

To make everything work, they need to use the right technicians, spare parts, knowledge and contractors (resource allocation).

For all four value drivers, maintenance can help to increase a company's economic value. In a market where there is more demand than supply, greater machine availability results in more products, more income and thus higher value. On the other hand, lower maintenance costs produce higher value by avoiding expenditure. The same applies to resource allocation. One example is a technical storeroom. Smarter inventory management of spare parts can enormously increase value for a company.

Similarly, the safety, health and

environment (SHE) factor affects value. SHE accidents tend to necessitate substantial expenditure, with resulting negative cash flows. Damage caused to personnel, environment and image, for example, will increase expenditure. An even greater danger is loss of the license to operate because of inability to comply with SHE legislation. No license to operate means no



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production and no income.

For Volvo, at the time, global over-capacity in the automotive market was a major factor to consider and so, closer to home, was the introduction of new models at the different Volvo plants. The economic climate, external factors and market conditions all impact on determining which is the dominant value driver at any point in time - and the VDM methodology helps guide the way.

Once the value potential has been identified, the maintenance function must be organized accordingly. Which competences are, and are not, important? There will be little point in giving priority to reducing the stock of spare parts if the value potential lies in more uptime. VDM makes a link

between value drivers and core competences (see figure 2).

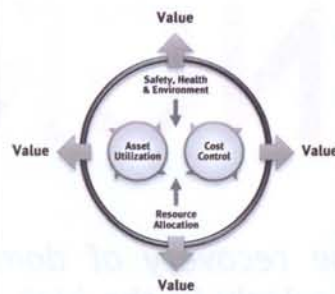


Figure 2: Maintenance Core Competences

Take again the example of Volvo. The market situation at that time meant that most value was achievable by controlling costs. So the right-hand value circle must be configured from maintenance budgeting to cost analysis. Interestingly, both value circles include the competences of reliability engineering, planning and preparation and maintenance execution. These competences are the link between the four value drivers and thus form the heart of VDM.

Now that the important competences have been identified, the next step is to organize and control them in the right way. For this purpose VDM puts forward best practices from leading maintenance philosophies. Total Productive Maintenance (TPM) enjoys a reputation as the best practice for registering, analyzing and improving production losses (asset utilization) in discrete production. In contrast, Asset Based Costing (ABC) is a proven best practice for properly controlling maintenance costs. Using these, a technical department can quickly become a professional maintenance organization that adds



value to the overall business performance.

For Volvo, according to Peter Decaigny, "The biggest change [across the five plants] was to get rid of diversity and to establish a common way of working where, for example, there was one way of ordering a spare part." Part of this process involved installing some new 'rules' and making maintenance less complex. To ensure this common way of working a Gatekeeper rule was put in place whereby all modifications coming from the production side and the maintenance side were overseen. The Gatekeeper communicated all proposed changes to all parties (i.e. different shifts, different departments) for common agreement that could then be enacted. Also, Peter Decaigny says, "There was a lot of small things that helped us. One example was the further professionalisation of the preparation process for planned maintenance activities. The new common process was a mix of internal best practices and some best practices from Mainnovation." The result was a 'blue box' system where spare parts, work orders, permits, risk assessments were collected prior to a task being actioned, which has increased the efficiency of the technicians.

Is VDM valuable? A growing number of multinationals in Europe and the United States think it is. For example Bengt Svensson, Maintenance Manager at Volvo says of the factory in Torshälla, Sweden that "The results speak for themselves. In 2003, the maintenance cost per car was

SEK 684 (£62). In 2009, it was down to SEK 344 (£31) per car, a 50% reduction in cost representing a saving of SEK 70 million (£6.35 million) per year."

Managing by value is not just a must, it is the only way to discover the true significance of maintenance. VDM makes maintenance more than a cost centre because it contributes in various ways to a company's economic prosperity. In fact, VDM confirms what we already thought, but now we have the proof.

For more information about Value Driven Maintenance visit: www.mainnovation.com



Article supplied by Mick Saltzer.