



CHEMICAL AND PHARMACEUTICAL PROJECT STUDY

VALUE ORIENTED MAINTENANCE AND ASSET MANAGEMENT

Highlights

- Importance of maintenance
- Value oriented Maintenance as the basis and driver for sustainable success
- Evaluation of maintenance and asset management performance by managers and operational staff in 67 chemical and pharmaceutical companies on site
- Benchmark with ideal situation and industry-specific value creation areas
- Key success factors and results in the chemical and pharmaceutical industry

Excursus: Overall Equipment Effectiveness (O.E.E.)



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Preface

The huge significance of both the chemical and the pharmaceutical industries for the economy is beyond question. In 2012 alone, the two industries turned over more than four billion euros worldwide. Are they different or similar? However different the products of the chemical and pharmaceutical industries may be, they still have numerous points in common. Both have a high level of equipment intensity¹ and automation, sophisticated process technology, complex value creation processes and extensive regulatory requirements.

The chemical industry primarily produces intermediate goods and is therefore heavily dependent on its user industries. Accordingly, its development tends to be ahead of the overall economy. Thus, for example, the sector was able to recover relatively quickly from the serious setbacks caused by the financial crisis of 2009 and report two record years in 2011 and 2012. At the same time, growth is distributed very unevenly. In particular, some Asian countries – with China ahead of the rest – were able to grow disproportionately. The forecasts of the VCI² are even predicting that by 2030, almost half of the chemical production in the world will be located in China, while especially in Europe, the slice of the cake will become ever smaller (see Figure 1). Even so, China is currently faltering somewhat as an engine of growth. Although a decline is anticipated worldwide in the polymer and specialist chemicals segments, production remains at a high level. On the cost side, the chemical companies are confronted with constant pressure as a result of increasing raw material and energy prices.

The pharmaceutical industry is very important because of demographic change and medical advances alone. It is one of the most dynamic industry sectors in the world. In 2011, more than three quarters of its total turnover was still generated in North America, Europe and Japan. But here too, countries such as China and Brazil are catching up. Overall, the sector is characterised by less sensitivity to economic fluctuations. At the same time, the rate of expansion has slowed noticeably in recent years. This is linked, among other things, with the requirements and regulations of health policy, which have a strong impact on the basic conditions and earnings potential of the pharmaceutical industry.

There are certainly some factors that have a negative effect on business development and thus on long-term competitiveness in both industries. The chemical and pharmaceutical companies should now focus on pushing their efficiency to sustainably withstand the increasing cost and relocation pressures and to defend their market shares. The ConMoto project study makes it clear that chemical and pharmaceutical companies do have a future in Europe, too. The key to this is Value oriented Maintenance and Asset Management – as one of the most important cost blocks in production that is susceptible to influence.

Yours sincerely,



Nils Blechschmidt

CONSULTING GROUP

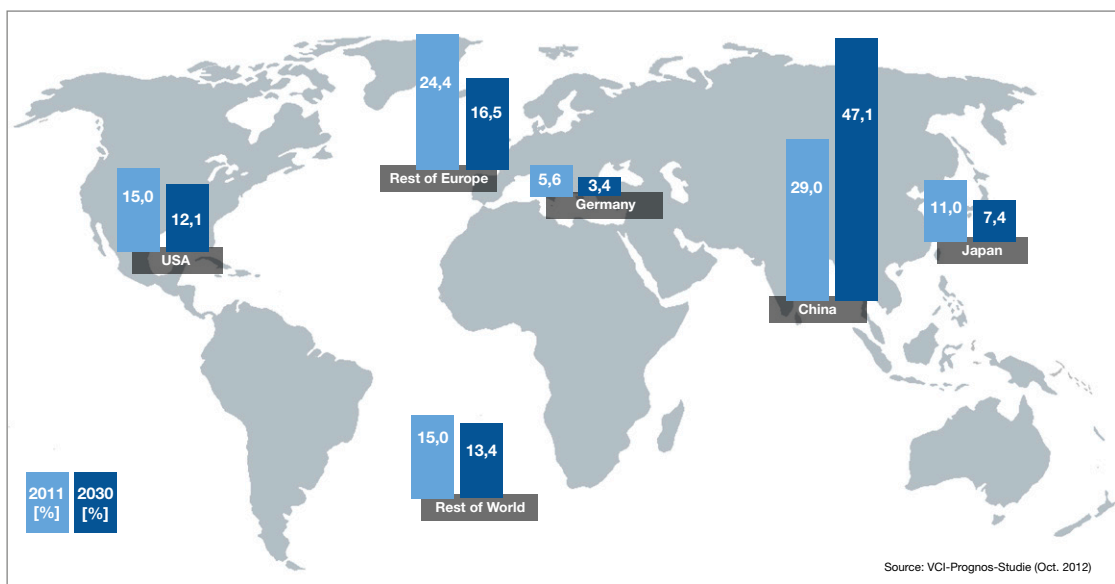


Figure 1: Distribution of worldwide chemical production in 2011 and 2030 in percent

1) Intensity of equipment (investment rate) = Fixed assets ÷ Total assets

2) Verband der Chemischen Industrie e. V.

Chemical and Pharmaceutical project Study

Executive Summary

There is hardly any other industry in which production systems and equipment have such a huge importance as in the chemical and pharmaceutical industry. And yet, in many companies, those systems are too often shut down. The cause is frequently inadequate Maintenance and Asset Management – companies waste billions in this way.

One thing is clear: the importance of maintenance increases as the equipment intensity and interconnection or the automation of production increases. In the investment-intensive companies of the chemical and pharmaceutical industry, up to 60 percent of the total production costs can be influenced directly and indirectly by the efficiency of maintenance and asset management. This is a significant lever for the success of the company. But what is the benchmark for top performance in maintenance and where are the companies today?

The ConMoto Consulting Group has examined in detail the Maintenance and Asset Performance of a total of 158 companies and production sites on four continents over the recent years. This was not completed on the basis of questionnaires but of several weeks of project work with each of our clients on site. In the industry sector chemicals and pharmaceuticals, the efficiency of 67 different sites in Germany, Austria, Switzerland, France, the USA, Brazil and India was analysed and optimised. These include both concerns and corporations listed on the stock market as well as medium sized companies from the segments basic inorganic chemicals, petrochemicals, polymers, silicones, fine and specialist chemicals, detergents and body-care products, basic pharmaceutical materials and specialities.

The companies are currently a long way from first-class maintenance and asset management. The average evaluation of the chemical/pharmaceutical sector is just 47% in comparison to best

practice. Even the best company in the class still has considerable room for improvement at 70 percent maintenance ma-

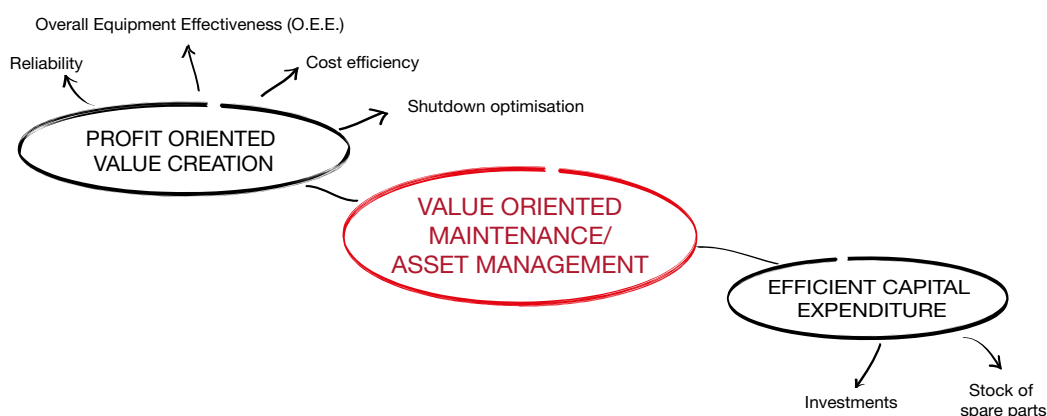
turity.

The question now arises as to what is to be done to set new standards for value creation with efficient capital expenditure. Forward-thinking de-

recognise the necessity, above all, of pushing forward with increasing technical availability and reliability while reducing life-cycle costs of production systems and equipment. Both the industry-specific value creation areas and the key factors in successful implementation are summarised in this study.

The successes achieved in the chemical and pharmaceutical industries speak for themselves. The companies were able to move up a good 1.5 levels on average on their way to Maintenance and Asset Management Excellence. The implementation projects completed also show that in all relevant Key Performance Indicators, objectively measurable improvements were achieved. For example, it was possible to improve the Overall Equipment Effectiveness by between 2 and 15 percentage points. As a consequence, one of the central profitability indicators, the maintenance cost rate, was cut by between 7 and 27 percent. In other words, it was possible to achieve a significantly higher availability and therefore additional value creation with lower resource costs.

These advances in operational performance also had a sustainably positive impact on financial results: companies that combine a high level of effectiveness and efficiency are among the most economically successful in their industry. The chemical/pharmaceutical project study by ConMoto points out the way forward.



The pages 5 to 15 are not included in this preview.
Should you be interested in the whole study "Chemical, pharmaceutical projekt study - value oriented maintenance and asset management", please contact:

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ConMoto Consulting Group

We have been supporting companies for more than 24 years to secure and improve their competitiveness and sustainability. Around 80 consultants, distributed across our offices in Munich, Stuttgart, Vienna, St. Gallen, Bratislava and Shanghai, work competently and with commitment to realise the best possible benefits for our clients.

We create advantage!

This is the guiding approach of our implementation-oriented consultancy.

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