

# STUDY OF THE PULP & PAPER/ WOOD INDUSTRY

## VALUE ORIENTED MAINTENANCE AND ASSET MANAGEMENT

### Highlights

- Maintenance as a factor worth billions
- Value oriented Maintenance as basis and driver for sustainable success
- Evaluation of maintenance and asset management performance by managers and operational staff
- Benchmarking for deriving substantial areas of action
- Key factors and practical solutions in successful implementation
- Results in the pulp & paper and wood processing industry



### Excursus: Shutdown Management



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## Authors

### Markus März

Director Business Development ConMoto Consulting Group GmbH  
maerz@conmoto.de

### Nils Blechschmidt

Senior Partner ConMoto Consulting Group GmbH  
blechschmidt@conmoto.de

### Dr. Leonhard Weck

Managing Director ConMoto Consulting Group GmbH  
weck@conmoto.de

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For repeat orders and reprinting authorisation please contact:

ConMoto Consulting Group GmbH  
Boschetsrieder Str. 69  
81379 Munich  
Germany

Tel.: +49 (0)89 78066-138  
Fax: +49 (0)89 78066-101  
Email: pressestelle@conmoto.de

# Preface

Change and transformation – these are the keywords that currently characterise the development not only of the pulp & paper industry, but also the wood processing industry. These sectors are undergoing a difficult process of change which is confronting companies with numerous challenges.

While in most of the industrialised countries in the west, the markets are increasingly saturated and are hardly growing at all, potential growth is still being forecast above all for the so-called emerging markets. This is connected on the one hand with the increasing private consumption, but on the other with the growing export rates of these emerging countries and the greater demand for transport packaging that goes along with it. Paper is still a long way from exhausting its potential as a packaging material and it could increasingly replace other, less sustainable materials (especially in the food sector).

Moreover, the financial and national debt crisis has had significant effects. Although a certain basic need for graphic papers as well as hygiene and packaging papers offsets economic effects to an extent, the international paper industry showed a noticeable slow-down in production and a low growth rate into 2012. Even though various institutions, such as the world bank, are currently predicting that the economic situation will improve throughout the world, significant fluctuations in demand are also to be expected in the future.

Furthermore, it is very difficult to find a consensus of opinion, especially in the paper market. Extremely varied market conditions are evident in the four traditional segments of graphic papers, cardboard and packaging papers, hygiene papers and special papers, and the individual companies must confront these.

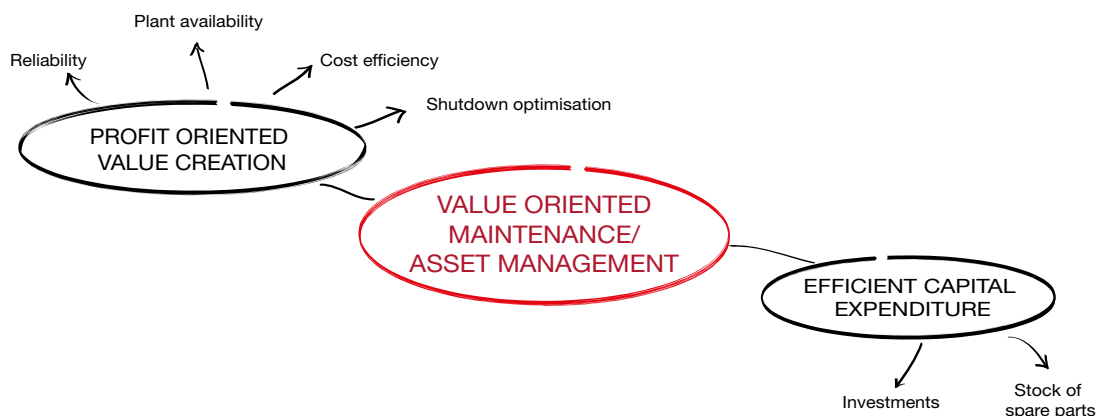
Also the wood processing industries have to adapt permanently to new circumstances in order not to be left behind. So the development of intelligent products and system solutions on a basis of high-tech and ecologically advantageous materials, which for example provide new opportunities for lightweight construction of products and buildings, rates among the much discussed topics of the research landscape. Especially wood-based materials take on a key role and promise sustainable growth potential for the wood processing industry - which is under pressure by suppliers as well as by its customers.

One thing is clear: the challenges – such as higher material costs and energy costs that are leaping up and that hit the paper and wood processing industry particularly hard as energy-intensive sectors – are not getting any smaller. Both factors have a negative impact on company profits. It is certainly possible to speak of an erosion of profits over recent years, which is accentuated by the over-capacity that exists in some areas. But for those who know how to approach change and transformation, there are opportunities. Value oriented Maintenance and Asset Management represents one possible way to approach the problem areas of the industry and to create a decisive competitive edge for sustainable, profitable enterprise development. This is precisely the focus of the ConMoto study into the pulp & paper/wood processing industry.

Yours sincerely,



Nils Blechschmidt  
Senior Partner



# Study of the pulp & paper/wood industry

## Executive Summary

The importance of maintenance increases with equipment intensity in production. For the companies in the pulp & paper and wood processing industry, up to just under 50 percent of production costs could be influenced directly and indirectly by the efficiency of maintenance activities. This is a significant lever for the success of a company. But what is the benchmark for sustainable maintenance and asset management and where do the companies stand 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 recent years. The efficiency of 26 different mills and plants in nine countries was studied in the pulp & paper/wood industry cluster. These include both concerns and corporations listed on the stock market and medium sized companies in the fields of paper manufacturing (including special papers), cardboard and packaging, hygiene products, pulp production and wood processing.

Overall, the study of the pulp & paper and wood processing industry gives a clear signal that things could be significantly better. Expressed as school grades, the production sites examined lie between a grade of 'poor' (level 2 'stragglers') and 'satisfactory' (level 4 'upper midtable') in the ConMoto level model of Maintenance and Asset Management Excellence. In terms of the ratio of the overall points score achieved to the maximum possible score (corresponds to best practice), the average in this industrial sector is just 42 percent. Even the best company in the class has considerable room for improvement at 56 percent maintenance maturity. This failure to make gains in efficiency is surprising. However, the result simultaneously shows that production still has a future in high-wage locations if the opportunities of Value oriented Maintenance and Asset Management are used consistently.

In an overall comparison, the equipment-intensive and safety-sensitive chemical and pharmaceutical industry does best (average 47%). The pulp & paper and wood processing industry (average 42%) is in third place in the industry ranking, but is already below the overall average (44%) of all the companies examined. The automotive industry brings up the rear with an average Maintenance and Asset Performance of just 39 percent.

The question now arises as to what is to be done to set new standards for profit oriented value creation with efficient capital expenditure. The aim is to increase the technical availability and reliability, while simultaneously reducing the life cycle costs of production systems and equipment that require high investment. To this end it is necessary to establish a self-sustaining development in maintenance and asset management, i.e. transfer best practice concepts and methods sustainably into the 'maintenance culture' of companies or production sites. Ultimately, the staff must be put in a position where they can operate in new and better ways, 'live' and stabilise them in the long term. Both the industry-specific value creation areas and the key factors in successful implementation are summarised in this study.

The successes achieved in the pulp & paper and wood processing industry speak for themselves. The companies were able to move up a good two levels on their way to Maintenance and Asset Management Excellence. The implementation projects completed also show that in all relevant 'Key Performance Indicators' (KPIs) significant, objectively measurable improvements were achieved.

Effectiveness, for example, measured by the indicator 'planned and unplanned downtime as a percentage of available time' (-30 to -60%) improved significantly. Subsequently one of the central economic performance indicators, the maintenance cost ratio, was lowered by 15 to 25 percent. A key reason for this is the increase in value creating activities in the maintenance area by reducing wasted time. At the same time, the stock of spare parts was cut by 30 to 50 percent. The result was considerably higher availability and reliability with lower resource costs. These undeniably significant advances in operational performance also had a sustainably positive impact on operating income: companies with the highest effectiveness and efficiency are among the most economically successful in their industry.

This provides the foundation for operational excellence in the future. Decision-makers who recognise this and take account of the competitive factor of maintenance and asset management in a proactive way will have a clear advantage over others. ConMoto's industry study points the way here.

The pages 5 to 15 are not included in this preview.  
Should you be interested in the whole study "Study of the pulp & paper/wood industry - value oriented maintenance and asset management", please contact:

ConMoto Consulting Group GmbH  
Boschetsrieder Str. 69  
81379 Munich  
Germany

Phone: +49 89 780 66-138  
Fax: +49 89 780 66-101  
**Email: [business@conmoto.de](mailto:business@conmoto.de)**

# Your contact person

Head of ConMoto Competence Centre  
Value oriented Maintenance and Asset Innovation

**Nils Blechschmidt**  
Senior Partner  
ConMoto Consulting Group GmbH  
Managing Director  
ConMoto Strategie und Realisierung



Tel.: +49 (0)89 78066-114  
Fax: +49 (0)89 78066-101  
Email: blechschmidt@conmoto.de

Nils Blechschmidt has been a management consultant since 1995 at ConMoto Consulting Group GmbH and since 1999 he is a Senior Partner and shareholder of the company. He is responsible for the field of 'Value oriented Maintenance and Asset Innovation'. As an expert in this area and with well-founded knowledge of various sectors, such as the aerospace industry, engineering and plant construction, the car and component supplier industry, process industry (chemicals, steel, semi-conductors, pharmaceuticals, food), plastics processing industry and transport technology, he gives numerous lectures. Since 1997 he has been speaker in renowned expert forums, such as PlantMaintenance, EuroMaintenance, World Maintenance Forum and conferences of VDI with particular emphasis on Maintenance Excellence and Lean Production. Before his time at ConMoto, Nils Blechschmidt was employed as the Technical Head of an aircraft maintenance business for seven years. He completed his education as a Dipl.-Ing. (graduate engineer) in aerospace technology at the University of the Bundeswehr in Munich and gained his MBA at Henley Management College (UK).

## 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.

### **ConMoto Consulting Group GmbH, Munich**

Boschetsrieder Str. 69  
81379 Munich  
Germany  
Tel.: +49 (0)89 78066-0  
Fax: +49 (0)89 78066-101

### **ConMoto Consulting Group GmbH, Stuttgart**

Gerokstr. 11  
70184 Stuttgart  
Germany  
Tel.: +49 (0)711 76779-0  
Fax: +49 (0)711 76779-205

### **ConMoto Consulting Group Ges.m.b.H, Vienna**

Schottenring 16  
1010 Vienna  
Austria  
Tel.: +43 (0)1 5850274-0  
Fax: +43 (0)1 5850274-11

### **ConMoto Consulting Group GmbH, St. Gallen**

Notkerstr. 10  
9000 St. Gallen  
Switzerland  
Tel.: +41 (0)71 2440871  
Fax: +41 (0)71 2431881

### **ConMoto Consulting Group GmbH, Bratislava**

Na vršku 8  
811 01 Bratislava  
Slovakia  
Tel.: +421 (0)2 54413304  
Fax: +421 (0)2 54410635

### **ConMoto Consulting Group GmbH, Shanghai**

Unit 1606, Time Square  
93 Huai Hai Zhong Rd.  
200021 Shanghai  
People's Republik of China  
Tel.: +86 (0)21 614152-75  
Fax: +86 (0)21 614152-76