

# The performance level makes the difference

**INDUSTRIAL PARKS IN GERMANY** A broad benchmarking evaluation and best practice discussions with eight German chemical and chemical-related industrial parks showed large differences in the performance levels. This is a clear indication that there are still significant cost saving potentials in this area.

After transforming traditional chemical sites into new industrial parks, the whole German industrial park landscape is, in the meantime, in a phase of restructuring and consolidation. With regard to restructuring, the issues to realise cost saving potentials are further increasing focus on core activities and the sale of non-core areas, the increase in efficiency through further improvement of organisational structures and business processes as well as other possibilities like benchmarking and best practice initiatives.

Therefore, between 2005 and 2008, Festel Capital organised an exchange of experiences including a detailed benchmarking in which 8 German chemical parks and chemical-related industrial parks participated. The participants learned from each other using a pragmatic benchmark and best practice approach (Fig. 1). Almost all relevant areas of an industrial park were covered. The main focus was on maintenance and in many areas also the operation of selected infrastructures and various services were considered:

- ▶ Supply of electric energy and steam
- ▶ Supply of water (industrial and drinking water) and gases (compressed air, oxygen, nitrogen)

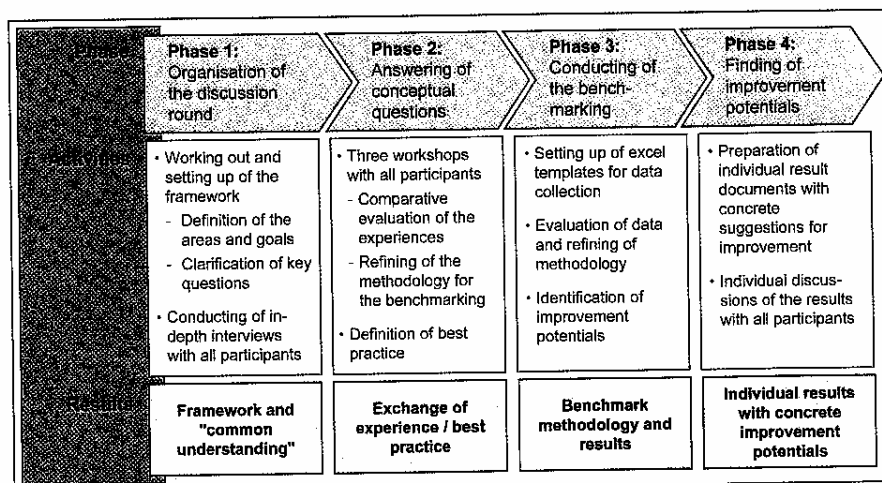
- ▶ Traffic infrastructure (roads and tracks, including street lighting)
- ▶ Data and telecommunication networks
- ▶ Facility management with special focus on investments and maintenance
- ▶ Works fire and security services

Conceptual questions such as operating and maintenance budgets and costs as well

important aspect for all the areas was to take into account the different histories and factors by using appropriate complexity correction factors.

## Selected performance indicators

To determine the maintenance rates of electricity grids, the maintenance costs in relation to the size were taken. The range of the maintenance rates of 6 to 39 euros per metre based on total costs and 1 to 17 euros per metre based on influenceable costs showed the cost saving potential of this area (Fig. 2). After considering the special aspects and taking into account the complexity of the networks, a cost saving potential of up to 10 euros per metre for some of the participants could be identified. Especially through an extension of the revision cycles of the electricity networks costs could be saved. While the average revision time span is 5 years, a yearly revision is



Approach for the benchmarking and best practice discussion.

as pricing models were discussed. The goal was the evaluation of the operational competitiveness and the identification and characterisation of cost saving potentials. Much time was spent in developing an industrial park specific methodology to process the input data in a well structured way and to allow a comparison of the results. Therefore, more than 50 key performance indicators were defined and calculated.

Workshops were organised to give the participants the chance to share their experiences and best practice examples with peers. The benchmarking made a discussion based on comparable and comprehensible figures possible. In general, only costs (total costs and, separately, influenceable costs) and not prices were considered. An

norm at many of the participating parks. At best, the revision cycle could be extended to 10 years. The range of the maintenance rates of steam networks in relation to the length of the network was between 17 and 28 euros per metre based on total costs and 11 and 24 euros per metre based on influenceable costs. The cost saving potential of a maximum of 5 euros per metre is clearly lower than that of the electricity networks.

Within a continual optimisation of water networks, the many weak spots and leakages, which lead to significant losses, are of relevant importance. Some of the participants have systematically set up a network of water metres which has led to an improvement of the identification of weak spots and a decrease in losses. Also the installation of energy efficient pumps is

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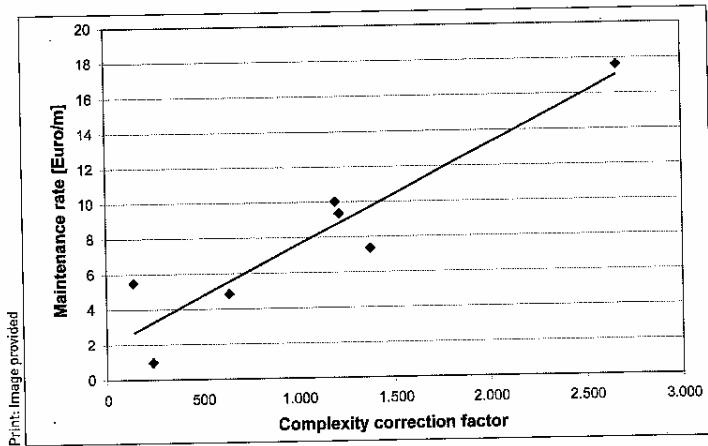
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**Maintenance rate of the grid in relation to the length calculated based on the influencable costs, adjusted with a complexity correction factor.**

becoming important, due to the ever increasing energy prices. The costs for electricity for the generation and distribution of industrial water lie between 15 and 45 euros per thousand cbm, whereby the specific electricity costs were corrected by the discharge and production volume.

Respective key performance indicators

(and not based on replacement value) made the customer specific allocation of maintenance costs possible.

#### Conclusion and outlook

The few examples show that there are still significant cost saving potentials in some industrial parks. The performance

level makes a clear difference between high performance industrial sites and sites which have to be more consequent in their restructuring and cost saving efforts. For example, the activities of the works fire and security services were standardised and analysed in detail so that comparability could be achieved. The standardisation of maintenance costs for buildings on the basis of standard production costs

were also defined and calculated for all other areas. The standardisation of maintenance costs for buildings on the basis of standard production costs

level makes a clear difference between high performance industrial sites and sites which have to be more consequent in their restructuring and cost saving efforts. The developed benchmark and best practice methodology is well suited to evaluate best practice in the field of industrial park infrastructures. It should be necessary for each park to understand the individual performance level and to adapt best practice in all areas. Therefore, the benchmarking and best practice discussions will be continued. The next steps are the recruitment of new participants to widen the network (data basis and experiences) especially outside Germany (e.g. Austria, Belgium and the Netherlands – the DSM site Chemelot has agreed to participate) and the further development of methodology towards an integrated analysis tool.

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