

# Scientific Report

## Short Term Scientific Mission, COST C18

Reference-Code: COST-STSM-C18-01307

<http://www.ita.upv.es/cost/index.htm>

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Beneficiary: **Andreas Hein, IWW Water Center**  
Host: Peter Stahre, Malmo Water & Wastewater ("6-cities-group")  
Period: from 5/06/2005 to 11/06/2005-06-05  
Place: Malmo (SE)

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Andreas Hein

Mülheim an der Ruhr, 17/06/2005

## 1 Introduction

The STSM of COST-Action C18 (reference-code COST-STSM-C18-01307) was accepted by the COST office on 14/04/2005 by the grant letter.

The STSM was realised without any changes from the application.

Herewith Andreas Hein presents the Scientific Report of the above named STSM.

## 2 Topics

The following topics were addressed in the Work Plan Summary:

1. Integration of performance indicators into management systems
2. Applying performance indicators in process Benchmarking
3. Applying performance indicators in regional co-operations
4. Contributions with relevance for Benchmarking schemes
5. Aspects from other members of the 6-cities-group

## 3 Timetable

Time	Topic	Participant
05 - 06/06/2005	Arrival at Malmo via Copenhagen	-
06/06/2005	<ul style="list-style-type: none"> <li>- Starting the discussions concerning actual proceedings in Sweden and Germany</li> <li>- Experiences and results of activities of the 6-cities-group</li> <li>- Experiences of IWW-activities in Benchmarking projects</li> </ul>	Andreas Hein Peter Stahre Stig Sjögren (partly)
07/06/2005	<ul style="list-style-type: none"> <li>- Integration of performance indicators into management systems: the case of Malmo</li> <li>- Applying performance indicators in assessing the potential in regional co-operations: the case of Malmo-Lund co-operation</li> </ul>	Andreas Hein Peter Stahre Jan Adamsson
08/06/2005	<ul style="list-style-type: none"> <li>- Exchanging of ongoing activities in developments of performance assessment procedures in Sweden</li> <li>- Discussing new methods in performance assessment (possible research fields)</li> <li>- Preparation of the visit to Svenskt Vatten</li> </ul>	Andreas Hein Peter Stahre Jan Adamsson
09/06/2005	Travelling from Malmo to Stockholm	Andreas Hein
10/06/2005	Discussions about the Swedish Benchmarking system VASS and related topics	Andreas Hein Hans Bäckman
10/06/2005	Departure from Stockholm to Germany End of STSM	-

## 4 Report of Topics (acc. to Working Plan)

We discussed the Benchmarking systems of 6-cities-group, IWA-Fieldtest in Germany, VASS-System, activities of different groups like Nordic Benchmarking Group (S, DK, N, FIN, NL invited as guest), European Benchmarking scheme. There are some activities of the Nordic branch organisations to form a club of Benchmarking network.

More information about the state-of-the-art of the different Benchmarking activities in the countries of COST-C18-group is delivered in the State-of-the-art report of Frøydis Sjøvold (<http://www.ita.upv.es/cost/downloads.htm>).

The results of this STSM will also be presented in a Working Group of COST Action C18.

### 4.1. Integration of performance indicators into management systems

The integrated management system of Malmo Water and Wastewater is based on the principle of management by objectives. This means that the general direction in the development of the organisation is determined by management by objectives. This is accomplished with the help of a so called “balanced scorecard”. Balanced scorecard is a tool that is applied in order to obtain balance between efforts in a selected number of focus areas. At Malmo Water the following focus areas are utilised: customer, environment, personnel, internal efficiency, economy and development.

One main conclusion of an integrated management process for municipal companies is the direct link between management system and budget process.

Performance indicators are used for both management by objectives and for detailed analysis of the operation. Applying management by objectives Malmo Water has set up goals for selected focus areas. For each goal measurable targets are identified, against which the fulfilment of the goals is monitored. To set up goals that are not measured or that are perhaps not even measurable is of limited value. Performance measurements that do not have any corresponding target levels can be questioned.

Important is a close link between identified goals on one hand and performance measures and other operational indicators on the other. Different types of indicators are applied in order to follow the development and to quantify how far the improvement work has progressed.

Performance indicators are an important tool in conducting detailed analysis of individual processes of the operation.

## 4.2. Applying performance indicators in process Benchmarking

Both, IWW and 6-cities-group work with approaches in process Benchmarking. But there are some differences in detail.

### Understanding of process Benchmarking of 6-cities-group:

Process Benchmarking as unique Benchmarking activity with focus on network, goes deep into details in a very narrow field (e.g. sewage blockages, leakages, customer service etc.). It is more problem oriented and uses technical performance indicators. The idea is to improve the routines in the analysed field. Process Benchmarking also creates motivation and inspiration to the personnel working in the field and is initialising a network for the operational personnel.

The goal is to identify the critical explanatory factors answering the question “what is causing the costs?”

6-cities-group starts from the technical side, defines Benchmarks for two companies and compares these two. A third company plays the moderator role. With the discussions the companies explain their best practice and get ideas for improvement.

### Understanding of process Benchmarking of IWW:

Process Benchmarking is a second step for performance improvement concerning the core processes (8 technical and 4 administrative core processes). Currently, it has a main focus on increasing efficiency of supply in a manner of economically orientated analysis. Process Benchmarking is good for deeper analysis of actual developments that are identified by the compulsory and precursory metric Benchmarking activities.

Participants of the Benchmarking projects can decide on recommendations of IWW what core processes will be the most interesting ones for the group to analyse in more detail.

The goal is to identify the critical explanatory factors answering the question “what is causing the poor, medium or good performance concerning the dimensions economic efficiency, quality, sustainability, reliability and customer-service?” Main focus in process Benchmarking is economic efficiency, deviating from metric Benchmarking that covers all dimensions equally.

During process Benchmarking companies get suggestions for improvements and a catalogue of measures that raises these improvements.

### **4.3. Applying performance indicators in assessing the potential in a regional co-operation**

The regional co-operation between the cities Malmo and Lund is an initiative from the organisations based on a pre-study including selected metric performance indicators. This pre-study gave a first estimation, if the co-operation will give benefit to both of the cities. The analysis was done by Peter Stahre and a college of Lund Water and Wastewater Works.

The political decision towards the co-operations supported a second study that went much more into detail comparing the organisation by comparing metric indicators over the whole organisations. This study was finished with a full report of metric indicators. These indicators are a selected set from the system of the 6-cities-group: e.g. different cost numbers, quality indicators, prices etc. The second study closed with recommendations for implementing the co-operation.

A third report analysed the type of organisation for a joint. Different alternatives were analysed and the outcome is the recommendation to implement a public organisational scheme analogue to the organisation in Malmo. There is no need for tenders.

In summer 2005 a decision paper for the politicians will give a final report and will prepare the final political decisions. In the meantime a second city (Vellinge) is interested in joining the Malmo-Lund co-operation

The main conclusion of the application of performance indicators in launching regional co-operations are the following:

- The biggest problem in regionalisation activities will be caused by cultural differences in the partner cities/companies.
- Performance indicators are the best instrument for gaining information about the potential co-operation partners and to find out the most important topics to work on; statistics of performance indicators are usually accepted as an important data source.
- It is important to involve the relevant people already from the beginning of the process.
- Many initiatives failed, because politicians are afraid to loose their influence on "their" water and wastewater company.

### **4.4. Aspects from the 6-cities-group**

The Benchmarking activities of the 6-cities-group have become a yearly continuous activity for 9 years now. The basis is a Metric Benchmarking that was advanced with some specific process Benchmarking topics, in 2004 with main focus on networks.

The dimensions covered are customer satisfaction, technical quality and availability, environment, personal and organisation and economy. 6-cities-group uses a reduced number of aggregated metric performance indicators continuously, added by several process indicators in the process Benchmarking.

The 6-cities-group developed the following report structure that is pragmatic and gives the needed information to the addressee. There exist 3 types of reports:

- Management report: Metric Benchmarking for Water and Wastewater covering the over all activity of the 6 companies (yearly, addresses to Top Management level)
- Network Report: Extended Metric Benchmarking (yearly, addresses the responsible persons on operating level)

- Process Benchmarking as unique Benchmarking activity with focus on network, goes deep into details in a very narrow field (e.g. sewage blockages, leakages, customer service)

The Base of this Report structure is documented in a manual.

All directors of 6-cities-group were very keen on further developments. Further detailed aspects from other members of the 6-cities-group were not discussed.

#### **4.5. Aspects of the Swedish VASS-system**

The VASS system is developed by Svenskt Vatten (Swedish Water association). It supplies metric performance indicators for water and wastewater. Data collection starts every year on basis of the online-platform of Svenskt Vatten ([www.svensktvatten.se](http://www.svensktvatten.se) using the link Statistik).

There is a high degree of transparency in the data and in the results of performance indicators, for example the price statistics (taxestatistik). Companies have online access to their own and comparable PI results. VASS has the character of an information platform. Performance assessment is the job of each company. Stockholm Water for example is working with special reports on basis of VASS data.

VASS offers 5 levels of PI-reports (so called Driftstatistik): Level 1, 2a, 2b, 3a and 3b. The different levels contains different numbers of performance indicators and/or data from very few (level 1) to very many (level 3b). Each level has the same structure and applies different categories of data and PIs:

1. Technical data
2. Water balance data
3. Economic data
4. Administrative indicators
5. Technical indicators
6. Environmental indicators
7. Economic indicators

Most of the companies are joining level 1 to 2b. The idea is to integrate the existing 5 levels into 3 levels concerning the following structure:

- Level 1: Overview
- Level 2: Medium level (comparable with metric Benchmarking of 6-cities-group)
- Level 3: extremely ambitious level

For further information see the website.

## 5 Conclusions and lessons learned

### Lessons learned

- All Benchmarking systems have to be accepted for their special applications
- Regulatory systems can't point out the improvement needs, it is a kind of ranking that gives room for improvements. Regulatory systems can not find in what fields improvements will be most effective
- Benchmarking schemes follow certain indicators and are independent from potential regulator views. There do exist different perspectives on Benchmarking and performance assessment:
  - Regulator perspective: ("black goat")
  - National or branch perspective: overview and needs for statistics, no improvements
  - Improvement perspective (optimisation)
  - Company perspective (implementation)
- First step for measuring performance is the choice of the perspective, followed by taking a set of indicators that faces the needs of the analysis.

### Conclusions

The following future research needs have been identified concerning the question "what is the next evolutionary step in performance assessment?" They are listed as follows:

- finding instruments for overall performance assessment
- quantification of explanatory factors
- number of participants is a relevant figure of targets for Benchmarking activities
- further research topics (quantification expl. Factors) primarily addresses to improvement and company perspectives in more individual projects; new knowledge of course can and should be used in the other perspectives as well

17/06/05

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