
	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 1 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

## Table of Contents

<b>1. PURPOSE OF THE PROCEDURE....2</b> <b>2. INTRODUCTION.....2</b> <b>3. DEFINITION OF BENCHMARKING.....2</b> <b>4. TYPES OF BENCHMARKING.....2</b> <b>5. PURPOSE OF BENCHMARK TESTS.....2</b> <b>6. THE BENCHMARKING PROCESS...3</b> <b>6.1 Success Factors for Benchmarking3</b> <b>6.2 Benchmarking Procedure .....4</b> 6.2.1 Planning .....4 6.2.2 Data collection .....6 6.2.3 Analysis.....6 6.2.4 Implementation .....7 <b>7. CONSEQUENCES FOR THE MANAGEMENT.....7</b> <b>ANNEX 1.....8</b>	<b>BENCHMARKING CODE OF CONDUCT ..... 8</b> Principle of Legality ..... 8 Principle of Exchange..... 8 Principle of Confidentiality ..... 8 Principle of Use ..... 8 Principle of First Party Contact .... 8 Principle of Third Party Contact... 9 Principle of Preparation..... 9 Principle of Completion ..... 9 Principle of Understanding and Action..... 9 <b>ANNEX 2.....10</b> <b>Checklist for benchmarking activities ... 10</b> <b>ANNEX 3...CHECKLIST FOR PROCESS MAPPING.....11</b>
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	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 2 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

## Guidelines for Benchmarking

### 1. PURPOSE OF THE PROCEDURE

To illustrate basic understanding of benchmarking activity, explain the processes of benchmarking, and list the common rules to be kept by participating organisations during the benchmarking activity.

### 2. INTRODUCTION

As far as ITTC is concerned several benchmark tests have been performed, aimed to compare processes of relevance to our community. Since the purpose of the benchmark tests is normally restricted to find means to improve our collective knowledge or performance standard, the ITTC procedure on benchmarking is focused on the technical and scientific side of benchmarking, disregarding the logistic and economic aspects of our business.

A benchmark test always represents an opportunity to learn something; for this reason, and in order to maximise the probability of success of the benchmark, it is important that participating partners approach the exercise with a positive attitude and not only because they are forced by their company do so.

A benchmark test should be carried out using one's best capabilities and a great dedication in order to provide guidance for best practice. Results obtained with poor dedication or attention could offset the outcome of the comparison and lead to a waste of time and money.

### 3. DEFINITION OF BENCHMARKING

- Benchmarking is the process of comparing something with something comparable.
- Benchmarking is the process of comparing different methods, procedures, physical models meant for obtaining the same goal in order to achieve a better standard of performance


### 4. TYPES OF BENCHMARKING

Three relevant types of benchmarking can be defined:

- *Internal benchmarking* is a comparison between processes carried out within one organisation.
- *Collaborative Benchmarking*: in the collaborative method, entities study each other and work together to improve.
- *Process ( or Generic) benchmarking*: the comparison of own processes against the best processes around, regardless of industry.

### 5. PURPOSE OF BENCHMARK TESTS

Benchmarking is not simply a process of data collection and analysis, used to rank different levels of performance (for example of different member organisations), nor is it a process of sharing ideas and practices with others working in the same field. Data collection, comparison and sharing information

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 3 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

are elements of the benchmarking process. However, rigorous benchmarking is a much more comprehensive process which is motivated by a desire to improve and which leads to the implementation of changes.

## 6. THE BENCHMARKING PROCESS


The willingness and commitment of all participants in a benchmarking exercise is essential as benchmarking is not an easy or quick process that brings immediate results. Participants must have full understanding of the requirements of the process and a willingness to improve in order to enable the process to work successfully.

It is important for those involved in benchmarking to understand fully the main principles and the aim of the process. These principles remain the same regardless of the sector in which benchmarking is applied.

### 6.1 Success Factors for Benchmarking

The following list of key success factors is based primarily on papers of Ken Watling (HM Customs and Excise) and Paul Leonard (Paul Leonard Consultancy). (Source: Recommendations to DG TREN, European Commission, Resulting from BEST Conference 1: 'The State of the Art of Benchmarking in all Sectors', October 2000).

- **Choice of topic:** the topic or area to be benchmarked must be clearly defined and must be directly relevant to the objectives of the organisation.
  - **Good communication flows:** good communication between those carrying out the benchmarking exercise is essential to ensure its success. It is also important to keep all management and staff involved in the process, wherever possible, and informed of the progress made. This will ensure comprehensive support for and commitment to the process.
  - **Planning and recording:** careful planning is required to ensure that the timescale of the exercise is manageable (not too long or too short), that the exercise is integrated with the organisation's working culture and its other improvement initiatives, and that the results are accurately recorded in sufficient detail to support recommendations.
  - **Credible recommendations:** the benchmarking process must be rigorous and fact-based in order to ensure the credibility of the recommendations produced. Shortcuts in the process undermine the validity of the findings. Recommendations should be practical and take into account other initiatives and strategies.
  - **Training:** those undertaking the benchmarking exercise must be properly trained in the benchmarking process and have the stamina and enthusiasm necessary to ensure that the (often substantial amount of) work required is carried out.
  - **Management Support:** commitment and active support from senior management are necessary to ensure that adequate resources (human and financial) are provided to carry
- **Clear objectives:** the objectives of the benchmarking exercise must be clearly defined from the start. Emphasis should be given to achievable and practical outputs. A clear set of objectives will assist the identification of the topic to be benchmarked.

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 4 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

out the benchmarking exercise and that recommendations are implemented.

## 6.2 Benchmarking Procedure

Application of benchmarking involves four basic phases. Firstly, a careful planning is required, which implies understanding in detail the targeted process. The second phase consists in collecting the required data. The third phase resides in the analysis of the processes of

participants and in the comparison of performances. The final phase comprehends the implementation of the actions necessary to close the performance gap.

In the following table a breakdown of the benchmarking process is illustrated together with the correspondence with W. E. Deming's Cycle of Improvement (Plan - Do - Check - Act) known also as the PDCA cycle.


PHASE	STEP	PDCA
Planning	1. Determine what to benchmark 2. State motive and purpose of the benchmarking 3. Agree a benchmarking partnership 4. Identify key performance variables 5. Identify the benchmarking team 6. Determine data collection method 7. Establish the format of the data exchange	PLAN
Data collection	8. Collect data	DO
Analysis	9. Identify the deviations 10. Identify the causes for the deviations	CHECK
Implementation	11. Communicate the findings from the analysis 12. Establish goals for the improvements 13. Implement the improvements in procedures	ACT

### 6.2.1 Planning

The first step in the benchmarking process is to plan. Planning is the most important of all the benchmarking phases. Thorough planning builds the foundation for an effective benchmarking study that produces good results. During this phase a clear understanding of the process must be assured. Key measures, and definitions have to be established and clearly documented. Furthermore, it must be decided what kind of data is needed, how data will be collected and how they will be evaluated.

Additionally all members of the Benchmarking Team have to be identified. Due care should be focused on assembling a team with the right mix of skills, especially valuable are those with experience in the process being studied. It is of great importance that the Benchmarking Team gets an adequate training before it starts to work.

A key step in the planning phase is process documentation, (e.g. flow charts, process maps, etc.). By means of proper documentation the Team will be allowed to understand the targeted process clearly and how it can be

	<b>ITTC – Recommended Procedures and Guidelines</b>		<b>4.0 - 01</b> Page 5 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>		Effective Date 2002	Revision 01

measured, both in their own terms or in the customer's terms.

The kinds of measurements (or metrics) chosen have to be useful to compare performance among benchmark partners. If the metric chosen uses information that could be sensitive to either partner, it is not a good measure.

- ❑ A poorly planned benchmarking is doomed to failure from the start.
- ❑ Too large a number of participants escalates effort and costs.
- ❑ No purpose defined.
- ❑ No gain for the participants.
- ❑ Too many subjects, too many parameters or non critical ones

Possible pitfalls:

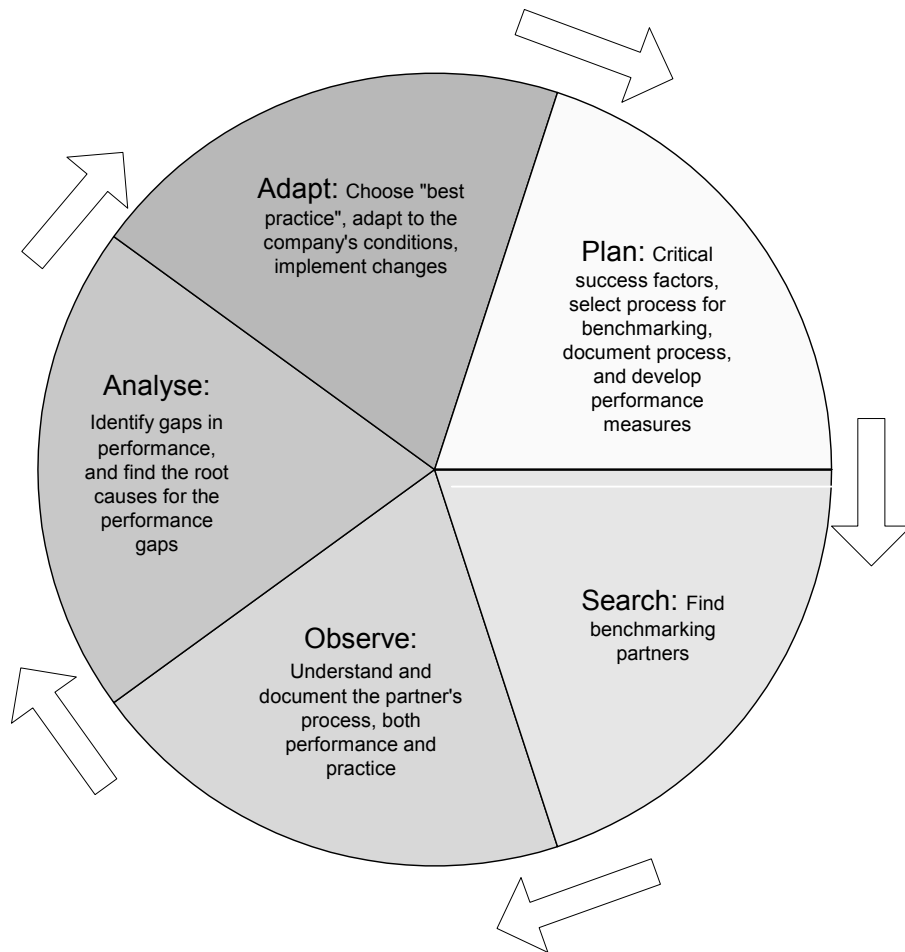



Fig 1. The Benchmarking Process

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 6 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

### 6.2.2 Data collection

The data collection can be performed in several ways for instance, a questionnaire can be used or participants can be visited by the benchmarking team, a meeting can be organised .

It is good practice to mail any questionnaires in advance of the visit or of the meeting to provide the benchmarking partner enough time to prepare the data in the format requested. It is also important to specify the data at the proper aggregation level and specify the data in terms of units and intervals (Kilos of scrap per month) to make comparison easier in the analysis phase.

To save embarrassment, it would be helpful if the Benchmarking Team reviewed the principles found in a Benchmarking Code of Conduct or similar document (see Annex 1). This will ensure that benchmarking efforts are not spoiled by etiquette breaching.

There are measurement pitfalls to avoid as well. The Team needs to have uniform collection methods (same forms seeking the data in the same way).

Possible pitfalls:

- ❑ Questions not directly related to the subject.
- ❑ Questions which are difficult to answer even for the creator of the benchmark test, and which make a comparison at any level impossible.

### 6.2.3 Analysis

Besides the planning phase, where the foundation for a successful benchmarking study is built, the analysis phase is possibly most important and difficult. The main purpose of the analysis is to discover:

- differences and inaccuracies.
- the root causes of discrepancies.


Analysis of the collected data usually takes several steps in order to summarise and interpret the data:

- Identify the differences:
  - > analyse the data, which indicate how well the partner compares with the other participants.
- Identify the causes for the discrepancies:
  - > Analyse practices or methods which make it possible to achieve better performance levels and the means that make it possible to perform the process according to these methods.
  - > Analyse practices or methods which produce poor performances.
- Analyse things that were not on the agenda.

It is recommended to apply quality control to information and data.

Possible pitfalls:

- ❑ Analysis paralysis: make sure that the data collected is only those required for the study and they, of course, must have an explicit link to the purpose of the study.
- ❑ Not comparable data presentation.
- ❑ Reasons for differences not identified.
- ❑ Not sticking to the subject.

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 7 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

#### 6.2.4 Implementation

The main purpose of any benchmarking study should be to produce improvement. If this is not the result, the potential of benchmarking has not been fully utilized. The findings from the analysis should be implemented in existing or new procedures. This includes the following tasks:

- Communicate the findings from the analysis and possible causes of deviations.
- Establish goals for the improvements, e.g. suggesting that some particular procedure or technique should be adopted by the Conference.
- Implement the improvements in procedures.
- Close the benchmarking study with final report.

Possible pitfalls:


- Limited dissemination: the outcome of the exercise should be widely disseminated, in order to make sure that institutions that do not take part in the exercise, can also benefit from the outcome. This will also possibly motivate them to participate in future benchmarks.
- Lack of formality: if the proposed improvements are not formalised in procedures their implementation could be hampered by different interpretation by different institutions.

#### 7. CONSEQUENCES FOR THE MANAGEMENT

As a process improvement technique, benchmarking requires the same change in management framework that all improvements need. The key change management techniques used are:

- Communicate the benchmark findings widely.
- Translate the findings to a few core principles.
- Work down from principles to strategies to action plans.

Adapting the results of benchmarking can be the most difficult step. Benchmarking is about improving processes. Each process has a process "owner," and process owners and other stakeholders need to have a voice in the changes recommended. Before developing strategies, it is important to communicate with all who might be involved in the change. Choose the strategies that allow for feedback to be certain the recommendations are effective. Whatever is chosen, there should be strong linkages between the original purpose in the benchmarking plan and the strategies selected.

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 8 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

## ANNEX 1

### BENCHMARKING CODE OF CONDUCT

This is a common Code of Conduct for benchmarking that has been adopted by the International Benchmarking Clearinghouse (a service of the American Productivity & Quality Centre) and the Strategic Planning Institute Council on Benchmarking. All individuals and organisations that are performing benchmark studies are encouraged to abide the nine principles in this Code of Conduct.

#### Principle of Legality

1. If there is any question on the legality of an issue, do not do it.
2. Avoid discussions or actions that could lead to imply an interest in restraint of trade, market, and/or customer allocation schemes, price fixing, dealing arrangements, bid rigging, or bribery. Do not discuss costs with competitors, if costs are an element of pricing.
3. Refrain from the acquisition of trade secrets by any means that could be interpreted as improper, including the breach of any duty to maintain secrecy. Do not disclose or use any trade secret that may have been obtained through improper means or that was disclosed by another violation of a duty to maintain its secrecy or limit its use.
4. Do not, as a consultant or client, extend one benchmarking study's findings to another company without first obtaining permission from the parties of the first study.

#### Principle of Exchange

1. Be willing to provide the same type and level of information that you request from your benchmarking partner.

2. Communicate fully and early in the relationship to clarify expectations, avoid misunderstandings, and establish mutual interest in the benchmarking exchange.
3. Be honest and complete

#### Principle of Confidentiality


1. Treat benchmarking interchange as confidential to the individuals and companies involved. Communication must not be communicated outside partnering organisations without the prior consent of the benchmarking partner who shared the information.
2. A company's participation in a study is confidential and should not be communicated externally without its prior permission.

#### Principle of Use

1. Use information obtained through benchmarking only for purposes of formulating improvement of operations or processes within the companies participating in the benchmarking study.
2. The use or communication of a benchmarking partner's name with data obtained or practices observed requires the prior permission of that partner.
3. Do not use benchmarking as a means to market or sell.

#### Principle of First Party Contact

1. Initiate benchmarking contacts, whenever possible, through a benchmarking contact designated by the partner company.
2. Respect the corporate culture of partner companies and work within mutually agreed upon procedures.
3. Obtain mutual agreement with the designated benchmarking contact on any off-hand communication or responsibility

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 9 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

to other parties

**Principle of Third Party Contact**

1. Obtain an individual’s permission before providing his or her name in response to a contact person.
2. Avoid communicating a contact’s name in an open forum without the contact’s permission.

**Principle of Preparation**


1. Demonstrate commitment in the efficiency and effectiveness of benchmarking by completing preparatory work prior to making an initial benchmarking contact and following a benchmarking process.
2. Make the most of your benchmarking partner’s time by being fully prepared for each exchange.

**Principle of Completion**

1. Follow through with each commitment made to your benchmarking partners in a timely manner.
2. Complete each benchmarking study to the satisfaction of all benchmarking partners as mutually agreed.

**Principle of Understanding and Action**

1. Understand how your benchmarking partners would like to be treated.
2. Treat your benchmarking partners in the way that each benchmarking partner would like to be treated.
3. Understand how each benchmarking partner would like to have information he or she provides handled and used, handle and use it in that manner.


	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 10 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

## ANNEX 2

### CHECKLIST FOR BENCHMARKING ACTIVITIES

The following checklist is intended to assist with the planning phase of the benchmarking process, in order to achieve proper execution of the benchmarking exercise.

1. Define the topic
2. Define the objectives
3. Identify the Benchmarking Team
4. Provide adequate training for the Benchmarking Team
5. Establish a document control system
6. Establish quality control procedures for information and data
7. Provide a thorough documentation of the targeted process (see also annex 3)
8. Establish definitions that apply to the benchmark test in order to insure full comprehension of the process to all participants
9. Establish key measures of the process (metrics) within the benchmark test
10. Define the kind of data to be collected
11. Define data collection procedures
12. Define evaluation Criteria
13. Define evaluation procedures
14. Check the consistency of collected data and, if necessary, ask for integration
15. Analyze the data
16. Issue credible recommendations
17. Issue a proposed procedure to implement the recommendations
18. Issue a final report with particular emphasis on findings and proposed course of action

	<b>ITTC – Recommended Procedures and Guidelines</b>	<b>4.0 - 01</b> Page 11 of 11	
	<b>Quality Management System Guidelines for Benchmarking</b>	Effective Date 2002	Revision 01

## ANNEX 3

### CHECKLIST FOR PROCESS MAPPING

The following checklist is intended to assist with the planning phase of the benchmarking process, in order to achieve proper documentation and understanding of the process being benchmarked.

1. **Process “Name”**   
This will assist in identifying the process.
2. **Identify “Clients” of the process**   
Who are the immediate primary beneficiaries of the outputs of the process.
3. **Find process “Ownership”**   
Who is responsible for the process.
4. **Identify “Boundaries” of the process**   
It is helpful to have an appreciation of where a process starts and finishes and how it interacts with other processes. Knowledge of process boundaries will highlight the need for management of the "interfaces".
5. **Produce a process “Map”**   
Flowchart in sufficient detail to allow an informed observer to understand the flow of work in the process.
6. **Identify “Critical Inputs”**   
What are the inputs to the process. (e.g. people, materials, methods, equipment, other processes).
7. **Identify “Critical Steps”**   
Identify the steps where completion is critical (e.g. to be completed in a particular way, at a particular time or at a particular level of skill or authority).
8. **Identify “Critical Outputs”**   
Are generally in different classes, e.g.:
  - outputs for the immediate clients of the process
  - outcomes for clients (e.g. longer term and possibly a wider stakeholder base)
  - process measures
  - process improvements (via a continuous improvement cycle e.g. PDCA).
9. **Enforce “Document Control”**   
The process map and associated documentation should at the least identify the version of the document, its date of origin, pagination and total pages. Authority for the document may also be included.