

Globalization

Transparency  
& Comparison

Capacity  
Building

Governance

# USING BENCHMARKING IN THE ACCREDITATION TYPE DECISION – EXAMPLIFIED BY EUROPEAN UNIVERSITIES

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Chair of Metrology and Quality Management

Laboratory for Machine Tools and Production Engineering (WZL)

RWTH Aachen University

Structures  
&  
Processes

Strateg  
y

Excellence

Quality  
Management

KPIs

Accreditation

Vision & Mission

WZL

RWTH AACHEN  
UNIVERSITY



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# OUTLINE

Laboratory for Machine Tools and Production Engineering (WZL)  
Using Benchmarking in the Accreditation Type Decision

## WZL at RWTH Aachen University

*Cooperation  
Introduction*

## Benchmarking

*Motivation  
Phases & Approach*

## Accreditation

*Quality Assurance  
Accreditation System*

## Linkage & Further Research

*Benefits  
Research Focus*

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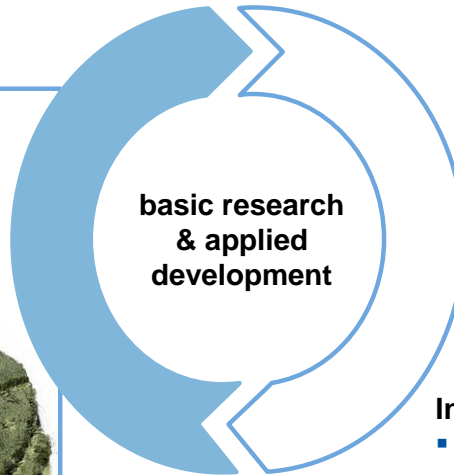
# Laboratory for Machine Tools and Production Engineering (WZL)

*Cooperations for Basic Research as well as Applied Development*



## Laboratory for Machine Tools and Production Engineering (WZL)

- Formed in 1906
- Institute of RWTH Aachen University
- Four chairs and six fields of research
- More than 800 staff members
- More than 10,600 m<sup>2</sup> laboratory and office space



## Institutes and Professors (from left to right)

- Production Metrology and Quality Management (Prof. Dr.-Ing. Robert Schmitt)
- Manufacturing Technology (Prof. Dr.-Ing. Dr.-Ing. E.h. Dr. h.c. Dr. h.c. Fritz Klocke)
- Production Engineering (Prof. Dr.-Ing. Dipl.-Wirt. Ing. Günther Schuh)
- Machine Tools (Prof. Dr.-Ing. Christian Brecher)

# Introduction

## *Problem & Need*

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- External conditions demand the implementation of valid QA tools and QMS
- Meeting various stakeholder expectations regarding quality
- Constant or decreasing financial resources for universities

- Comparison of universities by different stakeholders: Benchmarking, Rankings
- Official acknowledgements are demanded: Accreditation
- Establishment of competitive advantages to ensure long-term profitability

- Optimal resource allocation
- Gathering knowledge of own strengths and weaknesses compared to others
- Basis for decision making processes and strategic developments



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# Benchmarking

## *The Motivation*

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### Benchmarking...

- ... would allow higher education institutions to analyze their strength and weaknesses systematically and to create meaningful comparisons.
- ... could be used as instrument for the self control for an autonomous and independent organization.
- ... could help as toolkit to ensure that strategic decision process is as rational as possible.
- ... has advantages against rankings and evaluations as they are not methods of self-monitoring but of observation by others - both instruments measure results only in retrospect.
- ... is an efficient method as identified, strategic relevant key indicators allow a continuous monitoring of the benchmarking objects.



*Increase of Quality of Institutional Development and Strategic Performance  
by Best Practice Transfer*



Source: HQSL 2012; HIS 2007; ESMU 2010

# Benchmarking

## *Phases & Approach*

### Phase I: Preparation

1. Determine the benchmarking project
2. Determine the benchmarking team
3. Determine the relevant criteria for the performance evaluation
4. Determine the benchmarking partner

### Phase II: Analysis

1. Analysis of information sources
2. Identification of gaps in performance and costs
3. Analysis of causes
4. Communication of results

### Phase III: Implementation

1. Definition of goals and strategies to eliminate the identified gaps
2. Determine action plans for the realization
3. Realization of plans
4. Control of realization plans



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### Accreditations...

- ... ensure a basic quality within the study programs or the quality management system of a higher education institution.
- ... are an official seal and include governmental requirements.
- ... are not a method of self-observation and therefore benefit from the input of external reviewers.
- ... lead to a continuous use of quality assurance tools as well as the increased involvement of various relevant stakeholders.
- ... are an efficient method to translate necessary measures into action as they stick to governmental restrictions, show the point of action and have a strict time restriction.

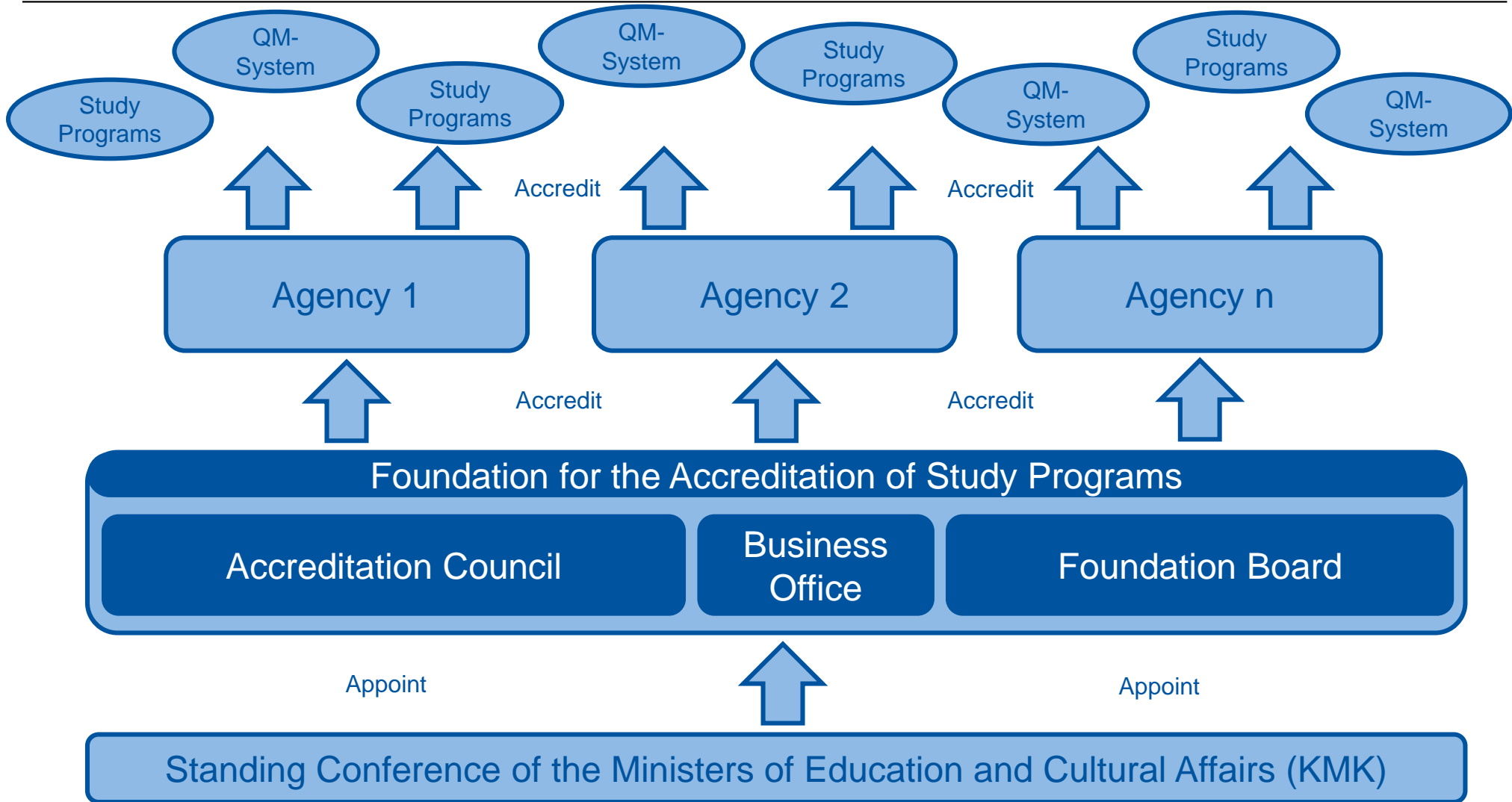


*Increase of Quality Assurance within the Higher Education Institution*



# Accreditation

## Accreditation System



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# Linking Benchmarking and Accreditation

## *Better Decision Making*

Accreditation  
Criteria  
(Program + System  
Accreditation)

- Determination of university's status quo
- Accreditation criteria as focus for improvement
- Include strategic and operational aspects

Benchmarking

- Pre-determination of several input factors
- Determination of missing inputs

Decision Matrix

- Includes all relevant decision aspects
- Flow chart leading to the best decision

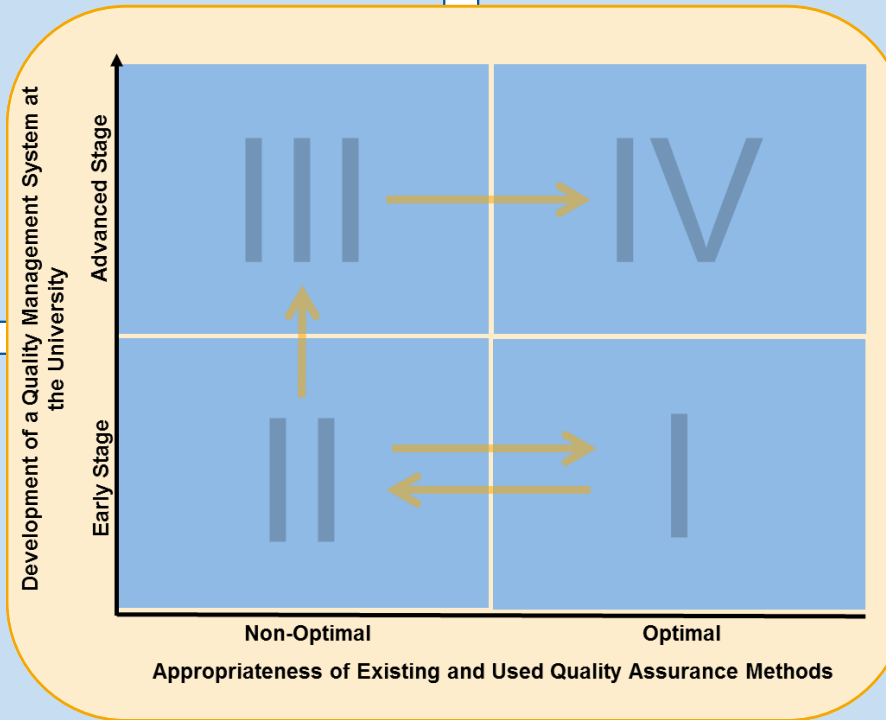
	Research Orientation	Practical Orientation	...
# Students			
# Programs			
...			

# Linking Benchmarking and Accreditation

## Classification & Portfolio

- QA methods & study programs are developed sufficiently
- Linkage between program individual QA methods is missing

- QA methods are not used optimal or do not exist
- Existing methods are not appropriate for structure & strategy



- All study programs are included in the QMS
- Optimization of processes is pursued

- QA methods are appropriate
- QA methods provide optimal level of information



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# THANK YOU FOR YOUR ATTENTION!

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# Higher Education Management

## Research focusing Management Systems

Research focus

### Coherent and Holistic Management Systems for Higher Education Institutions

Competence Areas

#### Structures

„Management tools for flexible, controlled and sustainable internal changes and external influences“

#### Benchmarking

„Innovative approaches and concepts for assessing organizational performance and standard strategies to improve performance“

#### Controlling

„Extensive approaches for implementing performance measurement systems to ensure efficient control of resources“

#### Analysis

„Simulation of interdependencies to identify opportunities for efficient performance and the use of full capacity of the organization“

Sub-Topics

- Robust Organizational Structures
- Definition and Characteristics of Management Fields
- Process Maps for Learning, Research and Administration

- Objective Performance Assessment
- Assessment of Organizational Maturity based on Criteria and Levels of Maturity
- Concepts for the Progressive Increase in Strategic Performance

- Indicators and Indicator Types
- Performance Measurement Systems
- Six Sigma and Performance of Improvement Projects

- Modelling Approaches for Causal Relations in Organizations
- Conceptualization of Optimization Projects
- Enhancement of Performance

