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Quality Development and Standards in e-Learning
International ASEM Lifelong Learning Conference in Bangkok

Christian M. Stracke (University of Duisburg-Essen, Germany)
Convener ISO/IEC JTC1 SC36/WG5 and Vice-Chair CEN/TC 353

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International ASEM LLL Conference in Bangkok, Thailand (2009-07-21)
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Christian M. Stracke
About the speaker

- Assistant Prof., University of Duisburg-Essen <www.wip.uni-due.de>

- Adjunct Prof., Korea National Open University <www.knou.ac.kr>

- Convener of the international ISO standardization committee
  SC36 WG5 "Quality Assurance and Descriptive Frameworks"
  <www.iso.org/jtc1/sc36>

- Vice-Chair of the European standardization committee
  CEN/TC 353 "IT for Learning, Education, and Training"
  <www.cen.eu/isss/TC_353>

- Co-Founder of D-ELAN The German E-Learning Association and
  Member of the D-ELAN Excecutive Committee <www.d-elan.net>

- Director of eLC Institute, Bonn (Germany) <www.elc-institute.com>

- Expert for: E-Learning, standardization, quality, competencies, HR

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Agenda

1. Quality Development and Quality Standards

2. RFDQ: The first international quality standard for LET

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University of Duisburg-Essen
Institute for Computer Science and Business Information Systems

- **Essen - Where is it? Just in the center of Europe ...**
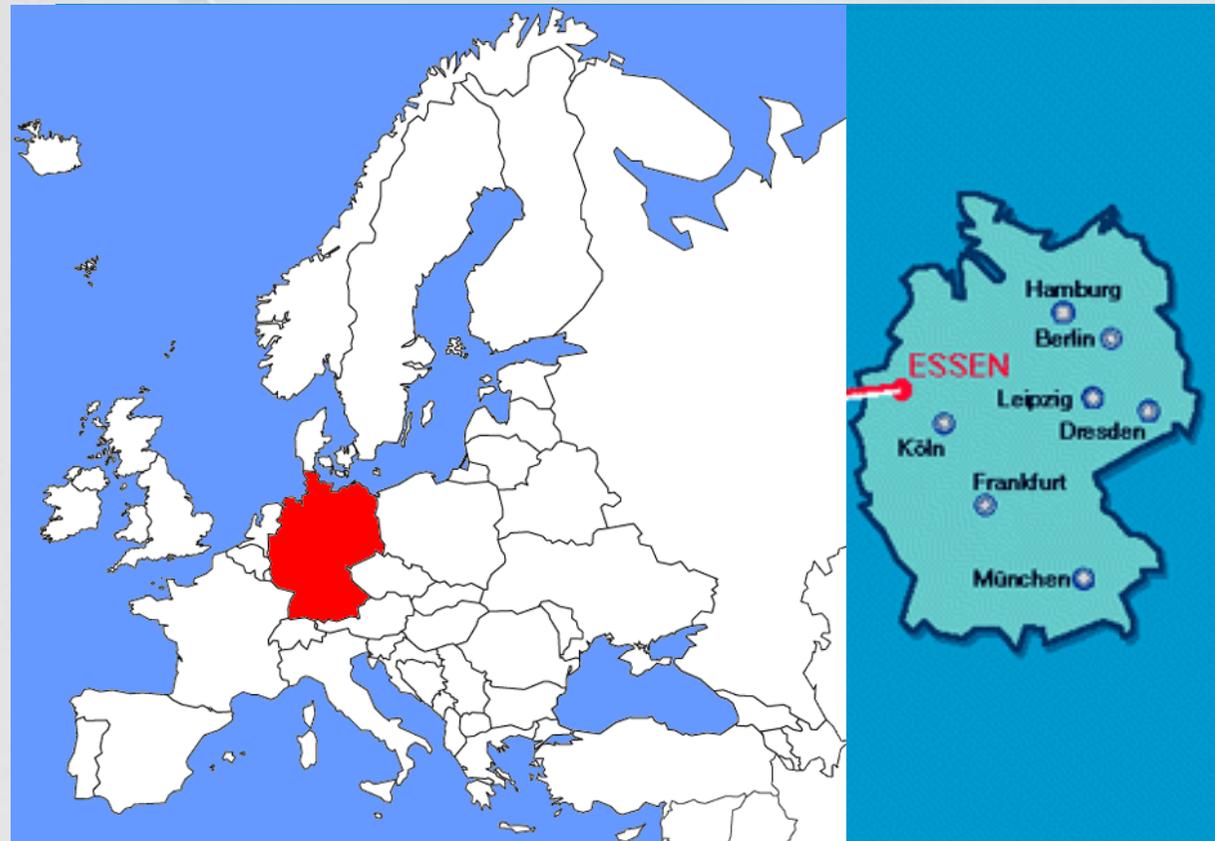
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University of Duisburg-Essen
Institute for Computer ... nformation Systems

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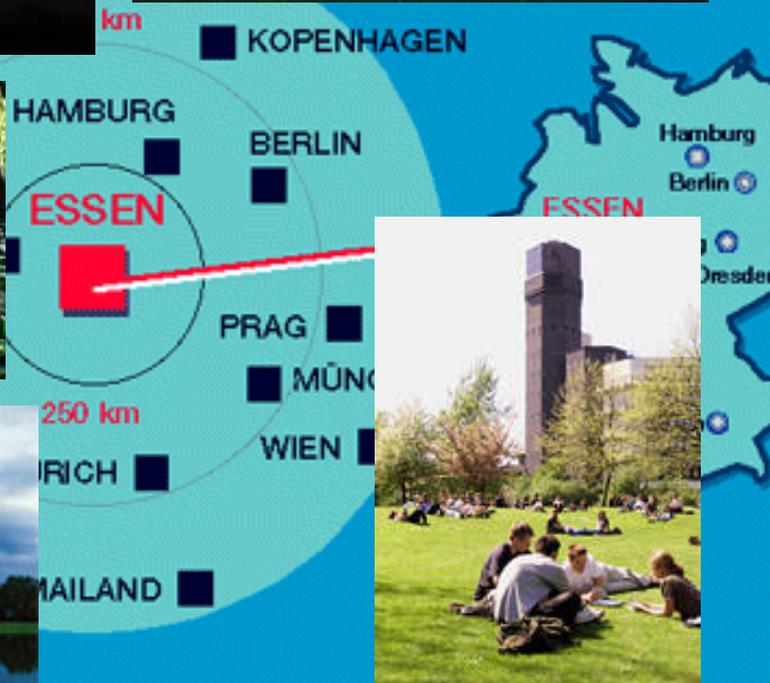
University of Duisburg-Essen
Institute for Computer Science and Business Information Systems

What are we doing?

- **Online and E-Learning**
- Knowledge Management
- Workplace-oriented Learning and Information Sharing
- Didactical Modeling and Learning Design

- **International standardization for LET standards**
- Quality management and development for HR
- Measurement, quality assurance and controlling for LET
- E-Business and Business Integration

- **Development co-operation**
- International LET policies and strategies

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Quality Development and Quality Standards

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LLL – What is most important?

Web 2.0 or classroom?

Informal or formal?

Innovation or tradition?

It's customer orientation!

Learner, students, employees, or ...

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Lifelong Learning
What is most important?

LLL – Why Focus on customer?

For best fitting quality!

International standards as instrument

Quality standards are always to adapt:
To the given situation and customer

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LLL – Why ISO Standards?

Developed in consensus

Delegations from UN countries

Open access with worldwide acceptance and harmonization

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Lifelong Learning
What is most important?

Thus the title of this speech:

Quality Developement and

Standards in e-Learning

The benefits of quality standards for LLL
and Guideline for Implementation

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Current status of e-Learning
Opportunities and potentials for future developments

- According to the Gardner Hype Cycle:

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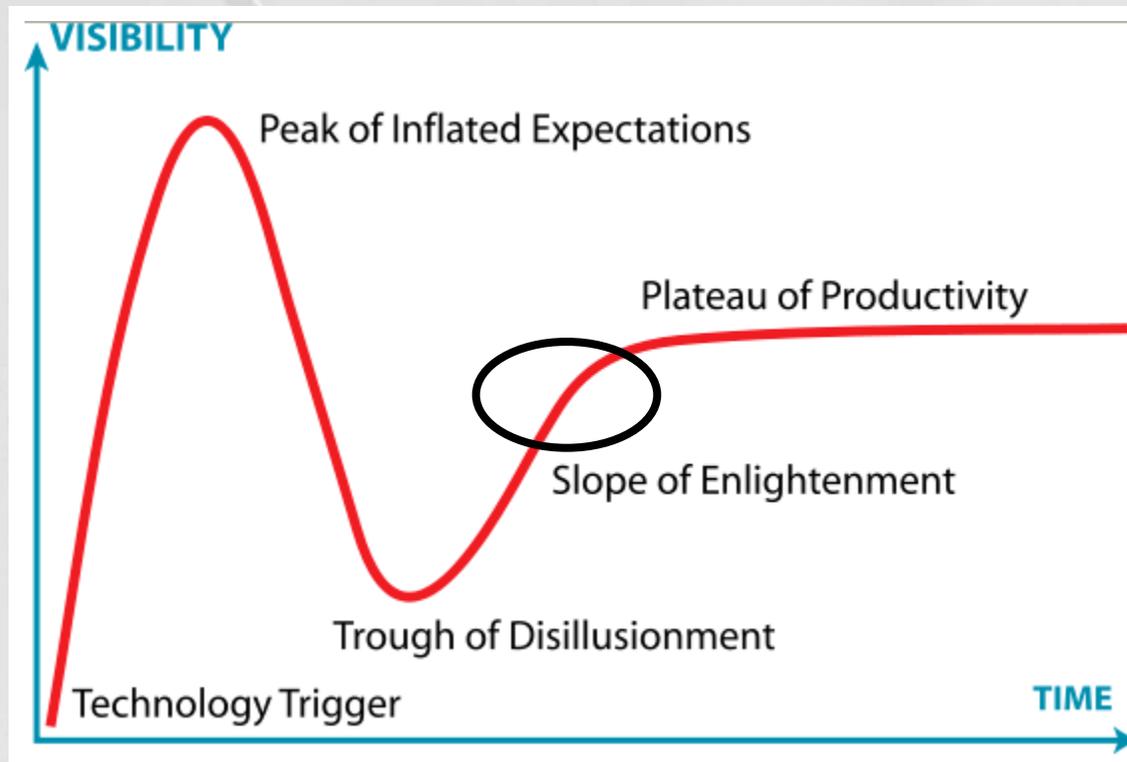
The definition of Quality Development
Not only for Learning, Education, and Training (LET)

The general definition of "Quality Development":

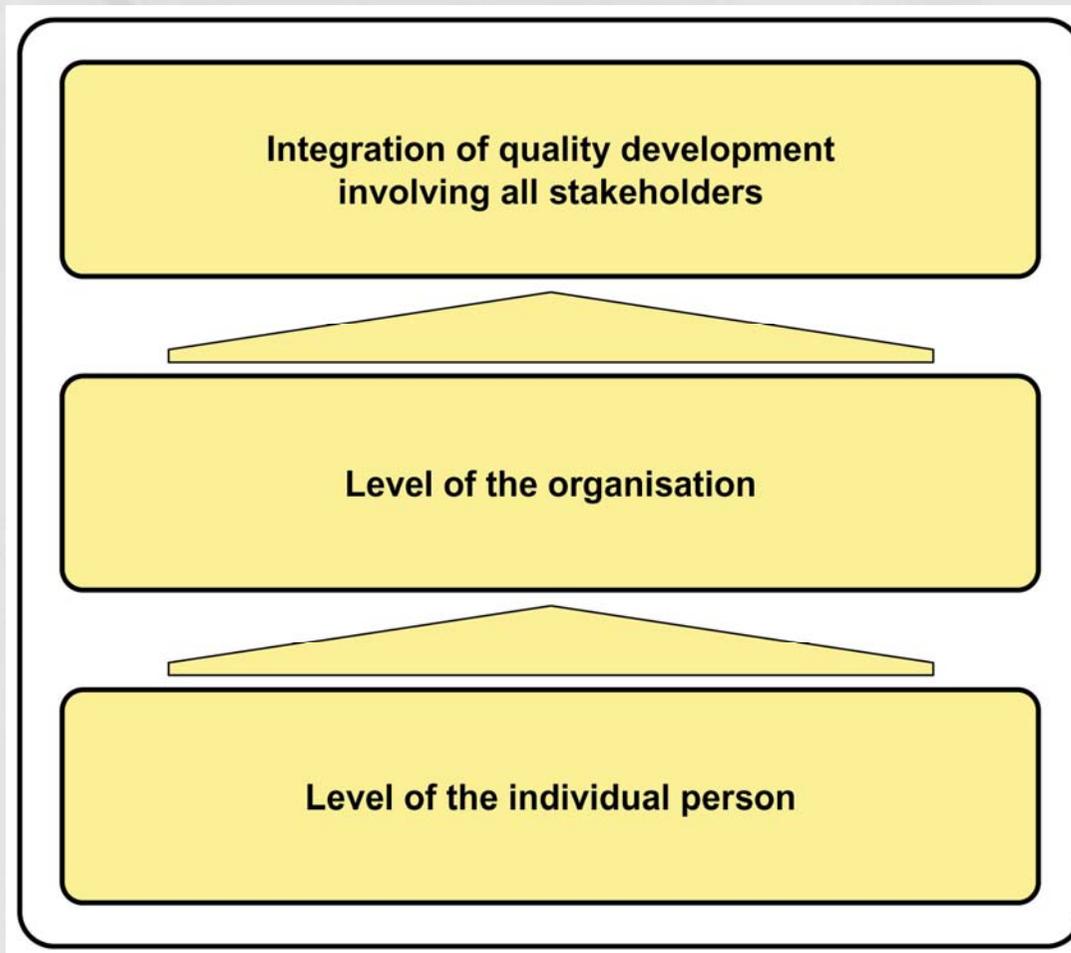**Quality development ...**

**... covers every kind of the
strategy, analysis, design, realisation,
evaluation, and continuous improvement
of the quality within given systems.**

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Quality development within your organisation
The three levels for adoption, implementation, and adaptation

Integration of quality development
involving all stakeholders

Level of the organisation

Level of the individual person

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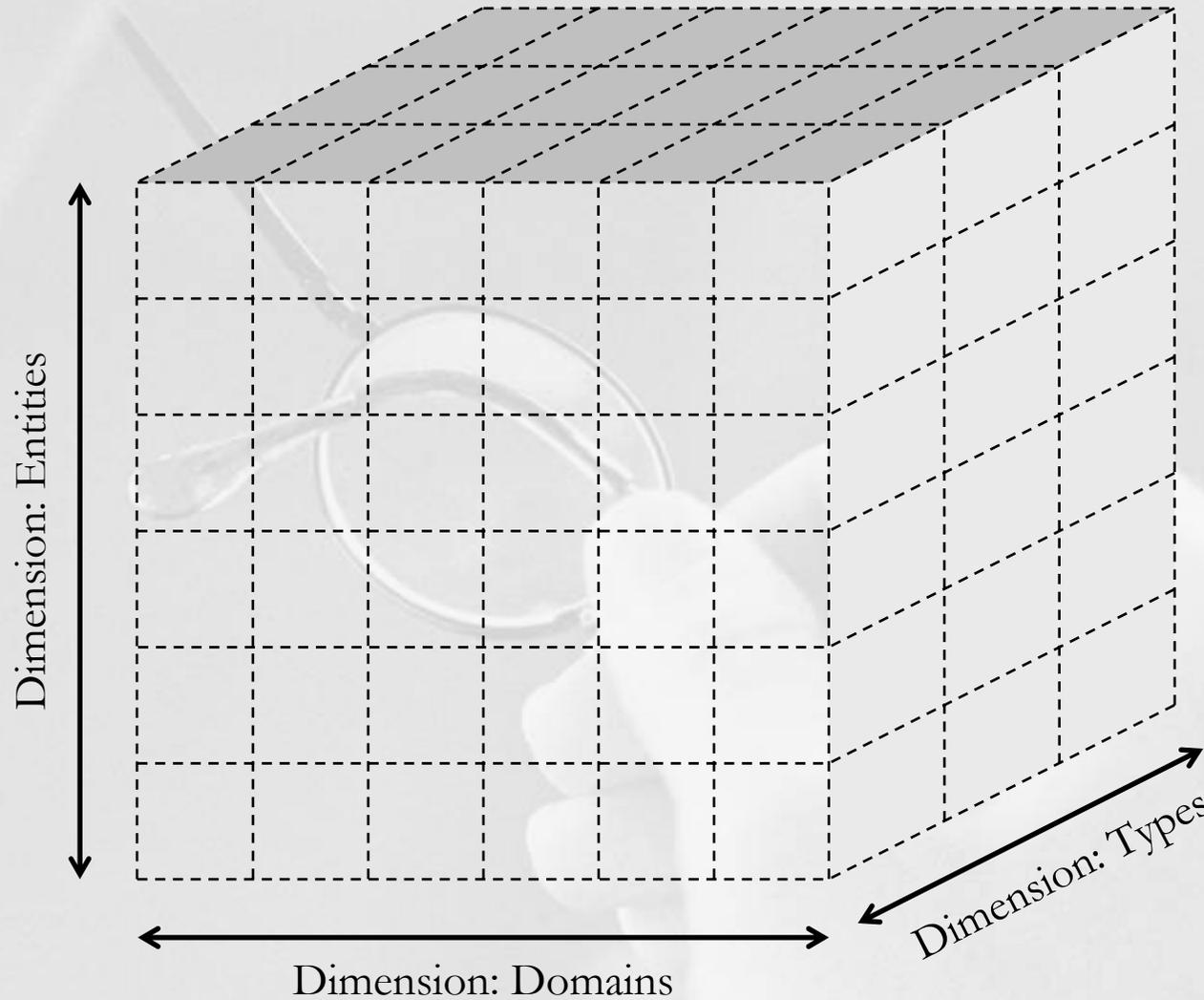
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Quality Standards support E-Learning and your business
Your benefits for interoperability and quality development

The seven main benefits of quality standards:

1 **Competitiveness:** Benchmarking of performance

2 **Economics:** Clear processes and reduction of failures

3 **Motivation:** Transparency and involvement of all stakeholders

4 **Image:** International accepted quality standards and marketing

5 **Planning reliability:** Risk management by standardization

6 **Customer orientation:** Equal partnership

7 **Continuous improvement cycle:** Evaluation and optimization

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Generic Reference Model for E-Learning Standards

Dimension: Entities

Dimension: Types

Dimension: Domains

© Christian M. Stracke 2006

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Generic Reference Model for E-Learning Standards
The dimensions

- **Dimension Types:**
  - **Implementation standards**
  - **Conceptual standards**
  - **Level standards**
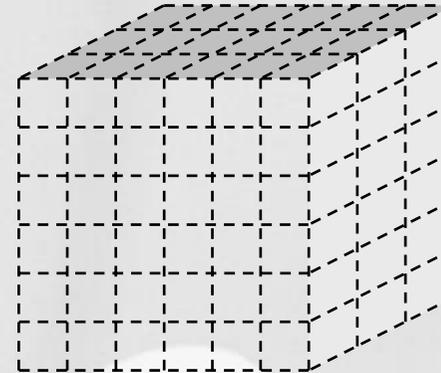
- **Dimension Domains:**
  - **Meaning**
  - **Quality**
  - **Didactics**
  - **Learning technology**
  - **Learning content**
  - **Context**

- **Dimension Entities:**
  - **Learning environment**
  - **Roles**
  - **Methods**
  - **Learning systems**
  - **Learning resources**
  - **Practice**

From:
Stracke, Christian M. (2006): "Interoperability and Quality Development in e-Learning";
in: Proceedings of the Asia-Europe e-Learning Colloquy. Seoul (Korea).

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Interoperability and Quality Development
Different types of LET standards and their purposes
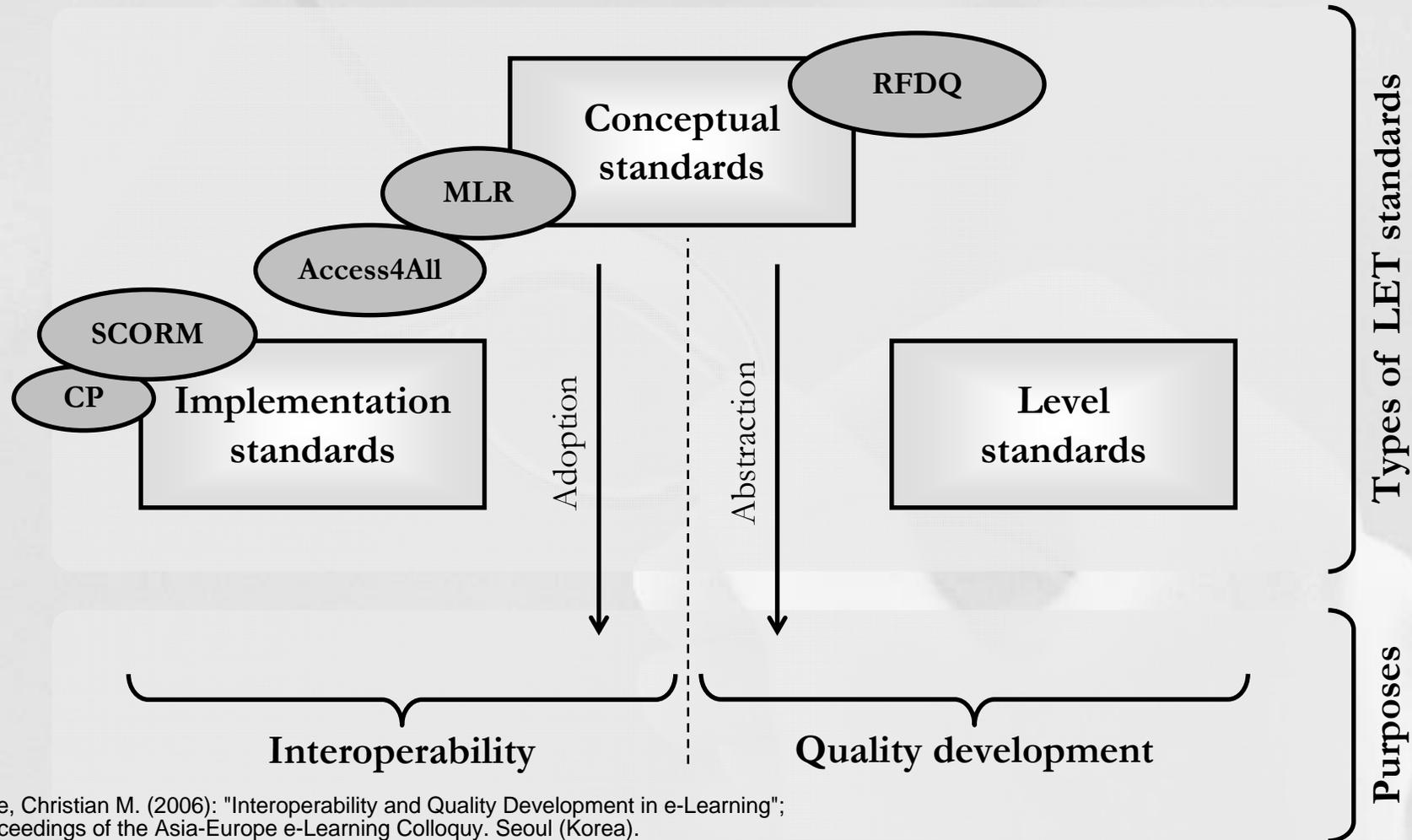
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Standardization Committees and initiatives worldwide
Official standards vs. specifications

	Official Standards	Specifications
Inter-national	**only ISO and IEC:** **SC36**	**IEEE LTSC / IMS / ADL / AICC / W3C / DC...**
European	**only CEN and CENELEC:** **CEN/TC 353**	**CEN/ISSS Workshop Learning Technologies** **several CWAs**
National	**only DIN and DKE:** **DIN NI-36**	**DIN Workshops** **several PAS:** **PAS 1032-1/-2, 1068, 1069**

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International Standardization
The unique de-jure standardization organization worldwide

inter-national	ISO/IEC JTC1 SC36: „IT for Learning, Education, and Training (ITLET)"

http://jtc1sc36.org

- Leading international standardization organization in the field of information technologies for learning, education, and training

- Established 2000-03 in London (UK), current status: 7 WGs and participation by 31 National Bodies + 23 Liaisons Organizations (last plenary: New Zealand 2009-03; next: Sweden 2009-09)

- More information online:
  http://www.iso.org/jtc1/sc36 or:
  http://jtc1sc36.org

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European standardization
The unique de-jure standardization organization in Europe

European

**CEN/TC 353:
„ICT for Learning,
Education, and Training"**

http://www.cen.eu/isss/TC_353

- The European de-jure standardization organization in the field of ICT for learning, education, and training

- **EN Standards: Obligation to use within European Union**

- Established 2007, first meeting 2007-05 in Milan (Italy), current status: participation by >10 National Delegations + >30 experts, (next meeting: 2009-10-01 in Lyon, France)

- More information online:
  http://www.cen.eu/isss/TC_353

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RFDQ: The first international quality standard for LET

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RFDQ: The quality standard ISO/IEC 19796-1
What is the LET standard about?

ISO IEC
JTCI SC36
QA-LET

Learn from your e-mistakes...
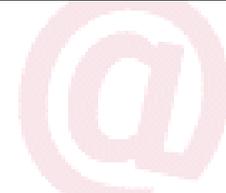
...or avoid them by following e-best practice.

ISO/IEC 19796-1:2005
benchmarks the quality of e-learning.

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RFDQ: The quality standard ISO/IEC 19796-1
What is the LET standard about?

- **First ISO-standard** for quality management in educational and vocational training

- **Reference Process Model** for providers, producers, customers and all users developed by SC36 WG5

http://www.iso.org/jtc1/sc36
http://jtc1sc36.org

- **Process and product orientation** (based on German PAS 1032-1) with international consensus: Adopted as **EN** + in many countries!

- Covering **all processes** of learning projects and opportunities

Learn from your e-mistakes...

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RFDQ: The Reference Process Model
ISO/IEC 19796-1 and PAS 1032-1

Needs Analysis	Framework Analysis	Conception / Design	Development / Production	Implementation	Learning Process / Realization	Evaluation / Optimization
Initiation	Analysis of the external context	Learning objectives	Content realization	Testing of learning resources	Administration	Planning
Stakeholder identification	Analysis of staff resources	Concept for contents	Design realization	Adaptation of learning resources	Activities	Realization
Definition of objectives	Analysis of target groups	Didactical concept/ methods	Media realization	Activation of learning resources	Review of competencies levels	Analysis
Demand analysis	Analysis of the institutional and organizational context	Roles and activities	Technical realization	Organization of use		Optimization / improvement
	Time and budget planning	Organizational concept	Maintenance	Technical infrastructure		
	Environment analysis	Technical concept				
		Concept for media and interaction design				
		Media Concept				
		Communication concept				
		Concept for tests and evaluation				
		Concept for maintenance				

RFDQ: Quality Profiles of the Reference Process Model
How to use: Building Quality Profiles

Needs Analysis	Framework Analysis	Conception / Design	Development / Production	Implementation	Learning Process / Realization	Evaluation / Optimization
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Demand analysis	Analysis of the institutional and organizational context	Roles and activities	Technical realization	Activation of learning resources		Optimization / improvement
		Organizational concept	Maintenance	Organization of use		
		Technical concept		Technical infrastructure		
	Time and budget planning	Concept for media and interaction design				
	Environment analysis	Media Concept				
		Communication concept				
		Concept for tests and evaluation				
		Concept for maintenance				

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RFDQ: The information model for the description
How to use the reference process model

ID	Category	Process	Description	Relation
NA.1	**Needs Analysis**	**Initiation**	**Initiation of an educational project; description of necessity or demand for learning / education / training**	*FA.4*

Sub-process(es) / Sub-aspects	— Identification of demands and requirements — Identification of necessities
Objective	Description and indication of the processes goals and aims *Needs for teaching*
Method	*Methods of marketing research, trend analysis, need analysis, interviews, balanced scorecard, skill gap analysis, assessments, work place analysis, auditing*
Result	Definition and documentation of the needs, necessities, and demands (for learning / education / training)
Actors	*Final user* *Education and training manager* *Experts in education and training*
Metrics / Criteria	*Review of description validity*
Standards	*ISO 900x:2000; ANSI/PMI 99-001-2000 5.1 Initiation*
Annotation / Example	

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RFDQ: The information model for the description
How to use the reference process model: Adaptation

ID	Category	Process	Description	Relation
NA.1	Needs Analysis	Initiation	Initiation of an educational project; description of necessity or demand for learning / education / training	*FA.4*

Sub-process(es) / Sub-aspects	— Identification of demands and requirements — Identification of necessities
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Implementations of RFDQ (ISO/IEC 19796-1)

What are the benefits and current status?

- **> 100 implementations worldwide in Europe, Asia, and America**

- **Big holdings as well as SMEs, Universities and research institutes Governments and public administration**

- **First global adopter: UBS, Switzerland**
  140 activity maps with 1,400 defined requirements based on selected 25 sub-processes of RFDQ (for all 65,000+ employees)

- **Guidelines for adaptation and implementation:**
  Developed by Q.E.D. (www.qed-info.de) and by SC36:
  ISO/IEC 19796 Part 4 = Best practice & implementation guide

http://www.iso.org/jtc1/sc36
http://jtc1sc36.org

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Guidelines for the implementation of RFDQ

Your steps for the necessary adaptations

1. **Creating a context-specific quality profile:**
   Individual selection of the 38 processes with reasons

   Quality Profiles for standard situations are defined and developed
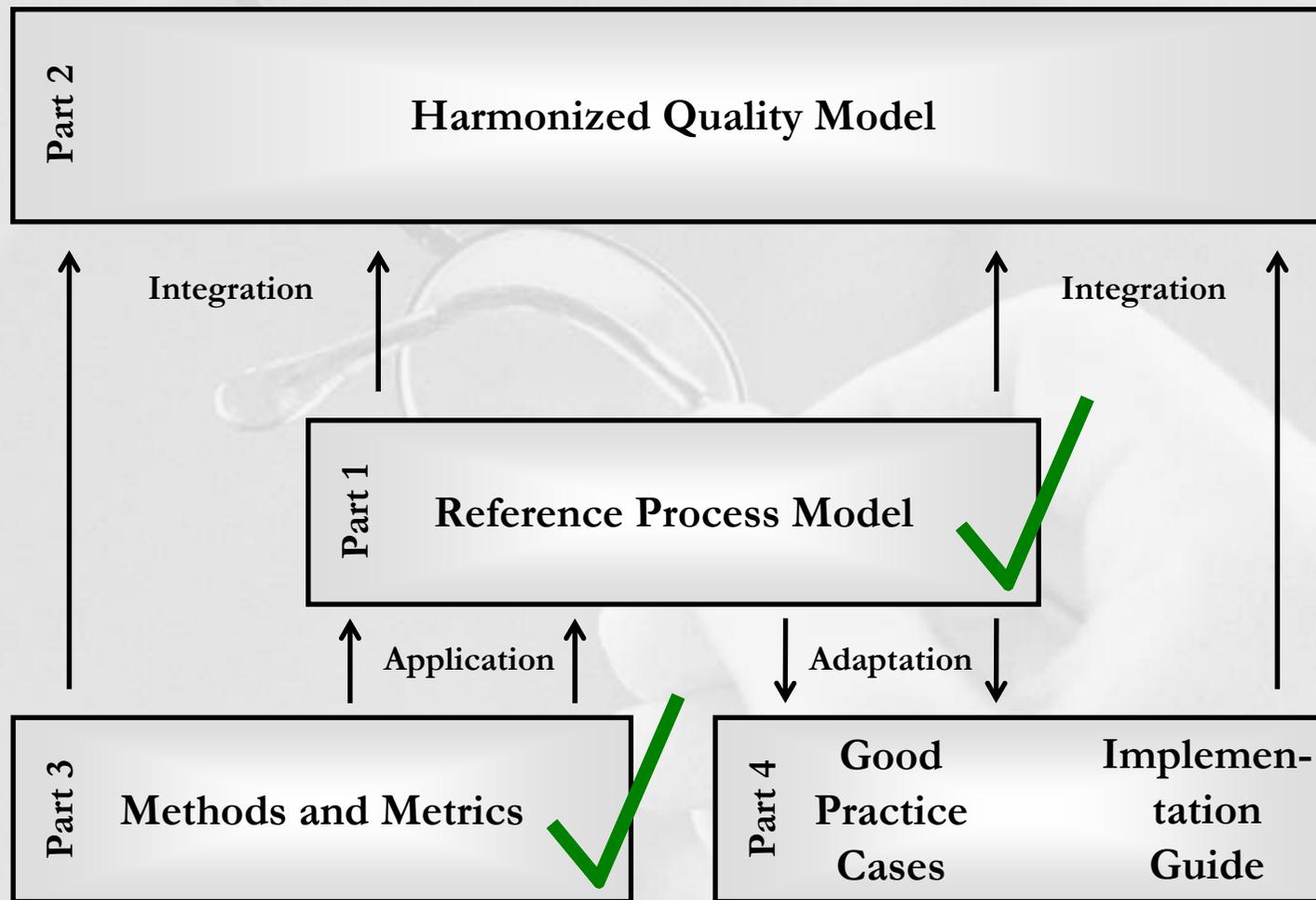   in Germany (published in German DIN specification PAS 1069)

2. **Specifying the individual process descriptions:**
   Adaptation of the process descriptions and definitions according
   to the given situation and organization

   Part 3 "Methods and Metrics" as an instrument for the
   adaptations developed by SC36/WG5 and published as ISO/IEC
   19796-3

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Harmonization - The next steps within SC36 WG5
The schedule for quality standards development

Part 2 — **Harmonized Quality Model**

↑ Integration   ↑   ↑ Integration   ↑

Part 1 — **Reference Process Model** ✓

↑ Application ↑   ↓ Adaptation ↓

Part 3 — **Methods and Metrics** ✓

Part 4 — **Good Practice Cases**   **Implementation Guide**

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Quality Standards support E-Learning and your business
Your benefits for interoperability and quality development

The seven main benefits of quality standards:

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2. **Economics:** Clear processes and reduction of failures

3. **Motivation:** Transparency and involvement of all stakeholders

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5. **Planning reliability:** Risk management by standardization

6. **Customer orientation:** Equal partnership

7. **Continuous improvement cycle:** Evaluation and optimization

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LLL – What is most important?

Web 2.0 or classroom?

Informal or formal?

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Thank you very much for your attention!
More information?

- Contact:

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  Vice-Chair CEN/TC 353

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