

Kvalitet Softvera

Hans Hartmann,
OBJENTIS 2014, 17th
October, 14:00



AGENDA

- 1) Tenders and criteria for evaluation of the offered software solutions - **Tenderi i kriterijumi za vrednovanje ponuđenih softverskih rešenja**
- 2) Methodology of Working Group on Quality of software for the Serbian market - **Metodologija Radne grupe za kvalitet softvera za tržište Srbije**
- 3) International standards and practices in the field of software quality - **Svetski standardi i praksa iz oblasti kvaliteta softvera**

Tenderi i kriterijumi za vrednovanje ponuđenih softverskih rešenja

General questions

- Who wins the tender
- The best bid
 - Best is decided by a mixture of price and qualification



The screenshot shows the website of AgrarMarkt Austria (AMA). The main heading is "Ausschreibung: Überlassung von Softwareentwicklern 2015 - 2018". Below this, there is a table listing two documents:

Datei	Name	Größe
	Angebot samt Ausschreibungsunterlagen zur Ausschreibung "Überlassung von Softwareentwicklern 2015 - 2018"	403.6 kB
	Ballagen 1 - 7	256.4 kB

Below the table, it states: "Fristende: Ende der Angebotsfrist ist Dienstag, 11.11.2014, 09:20 Uhr Einlangen." At the bottom, there is a copyright notice: "© 2014 AgrarMarkt Austria | Impressum".

The Best Bid (1)

The criteria of the best bid

- „**Must have**“ – **criteria**
- „**nice to have**“ – **criteria**

If the requirements of „must have“ – criteria can not be met, the offers of the company are not taken for further investigation. These can be:

- Proof of similar project in the last three years
- Personal qualifications of the specialists needed
- Administrative tax and social security documents
- Criminal records of specialists offered
- A minimal number of available specialists when they are called on duty

The Best Bid (2)

„nice to have“-criteria will affect the calculation scheme to evaluate the bidding

Normally they are concerning the skills of the specialists to be working in the project.

Skill profiles will have to be documented by certifications and personal profiles that describe the professional life of the candidates. There can be various classes of skill profiles.

**Generally, certificates like ISTQB are Must-have criteria
Special points are issued for IREB certificates.**

Numerical evaluation

General evaluation key: (AMA)

Price evaluated to 70%

Skills evaluated to 30% of the offers value

The company with the lowest price gets 70%

Prices are adjusted by discount based on the specialists' skills.

Skills are evaluated by evaluation keys:

Skillblock	Skill group 1	Skill group 2
Project management	5%	25%
Business analysis / reqs	20%	20%
Technical analysis	15%	10%
Architecture	5%	10%
Test	10%	10%
Progr. Languages / Devtools	45%	25%

A different „best bid“

Uses a different general evaluation key: (WIEN IT)

Price evaluated to 50% contribution of the offers value

Skills evaluated to 50%

Note: very detailed working tasks described in the tender

Example:

Tasks of Test planning:

- o Writing test strategies
- o Estimation of test efforts for a certain requirement
- o Planning of test activities based on the requirements specification
- o Selection of tools vor certain testing tasks
- o Selection of test metrics for the actual testing task

A German tender (financial services)

Wirtschafts- und Infrastrukturbank Hessen

Some additional must-have criteria

- Report of bidding enterprise
- Commercial and financial capability of bidding enterprise
- Technical capability
 - Qualification Senior Consultant
 - At least 5 years consultancy in leading position in comparable projects, proven by references
 - Managing experience with teams with at least 5 colleagues
 - Command of the German language, spoken and written
 - Etc.

Sometimes personal references help, if there has been already a previous project done for the company issuing the tender.

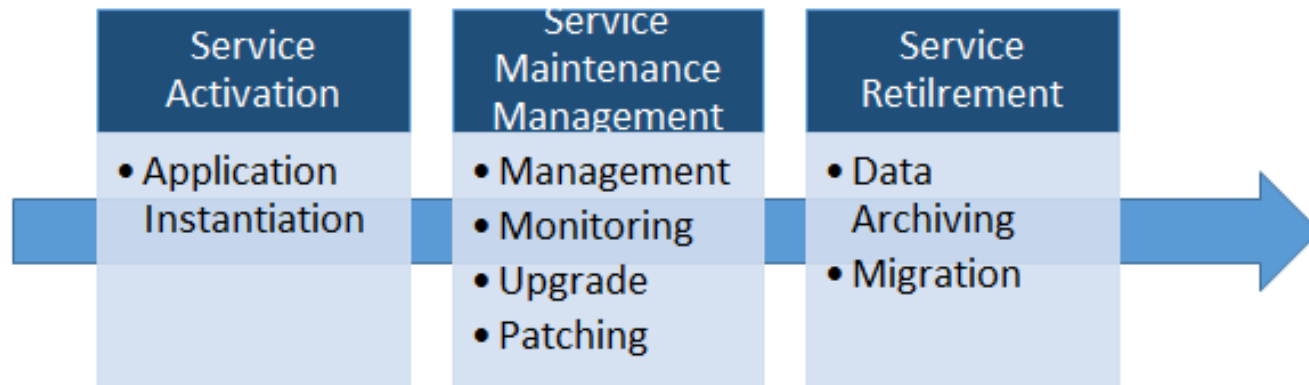
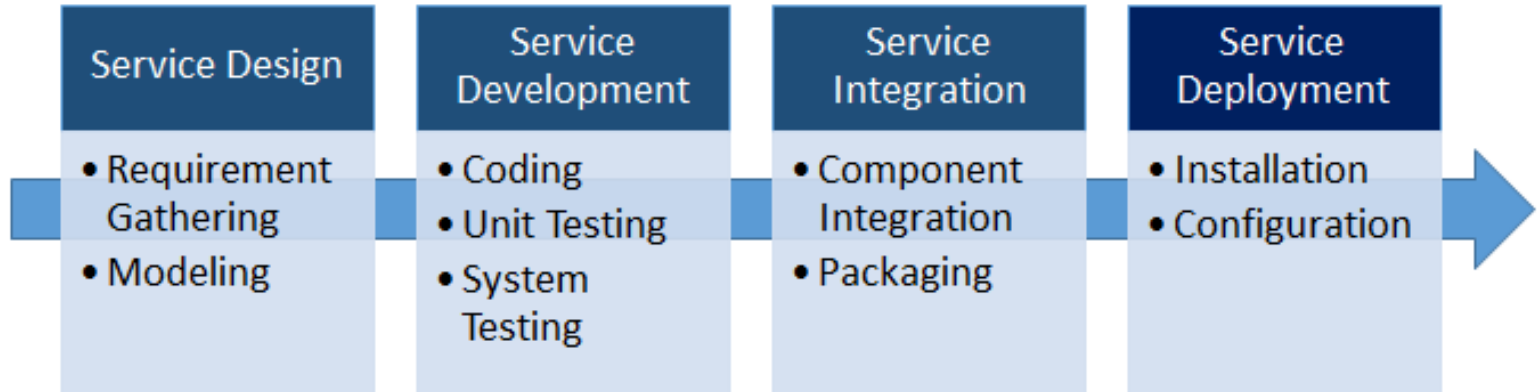
Methodology - What is ALM?



Maria Alm, Hochkönig, Austria © by Gemeinde Maria Alm und Tourismusverband Maria Alm

Did you encounter the word „application life cycle management“ until now? Isn't it rather a matter of process?
You can here more about that on 21st and 22nd October 2014, if you manage to get registered ...

Establishing a Base Line



Did you hear about Scrum (= one agile method) The Agile Manifesto (Srpski)

Manifest Agilnog Razvoja Softvera

Otkrivamo bolje načine razvoja softvera razvijajući softver sami i pomažući drugima pri njegovom razvijanju. Kroz taj rad naučili smo da više vrednujemo:

Pojedince i interakcije od procesa i alata
Primenljiv softver od detaljne dokumentacije
Saradnju sa klijentima od ugovornih aranžmana
Reakciju na promenu od pridržavanja plana

Drugim rečima, iako cenimo značaj činilaca predstavljenih na desnoj strani, stavke prikazane na levoj strani vrednujemo više.

Kent Beck	Mike Beedle	Arie van Bennekum	Alistair Cockburn
Ward Cunningham	Martin Fowler	James Grenning	Jim Highsmith
Andrew Hunt	Ron Jeffires	Jon Kern	Brian Marick
Steve Mellor	Ken Schwaber	Jeff Sutherland	Dave Thomas
Martin Fowler			

Identification of Practices

Best practices versus used practices

There are reasons why (good) practices should be used?
What can be identified along the application life cycle development.

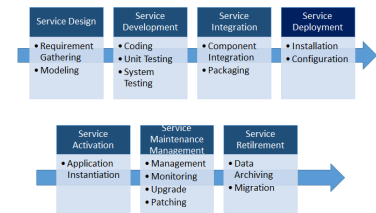
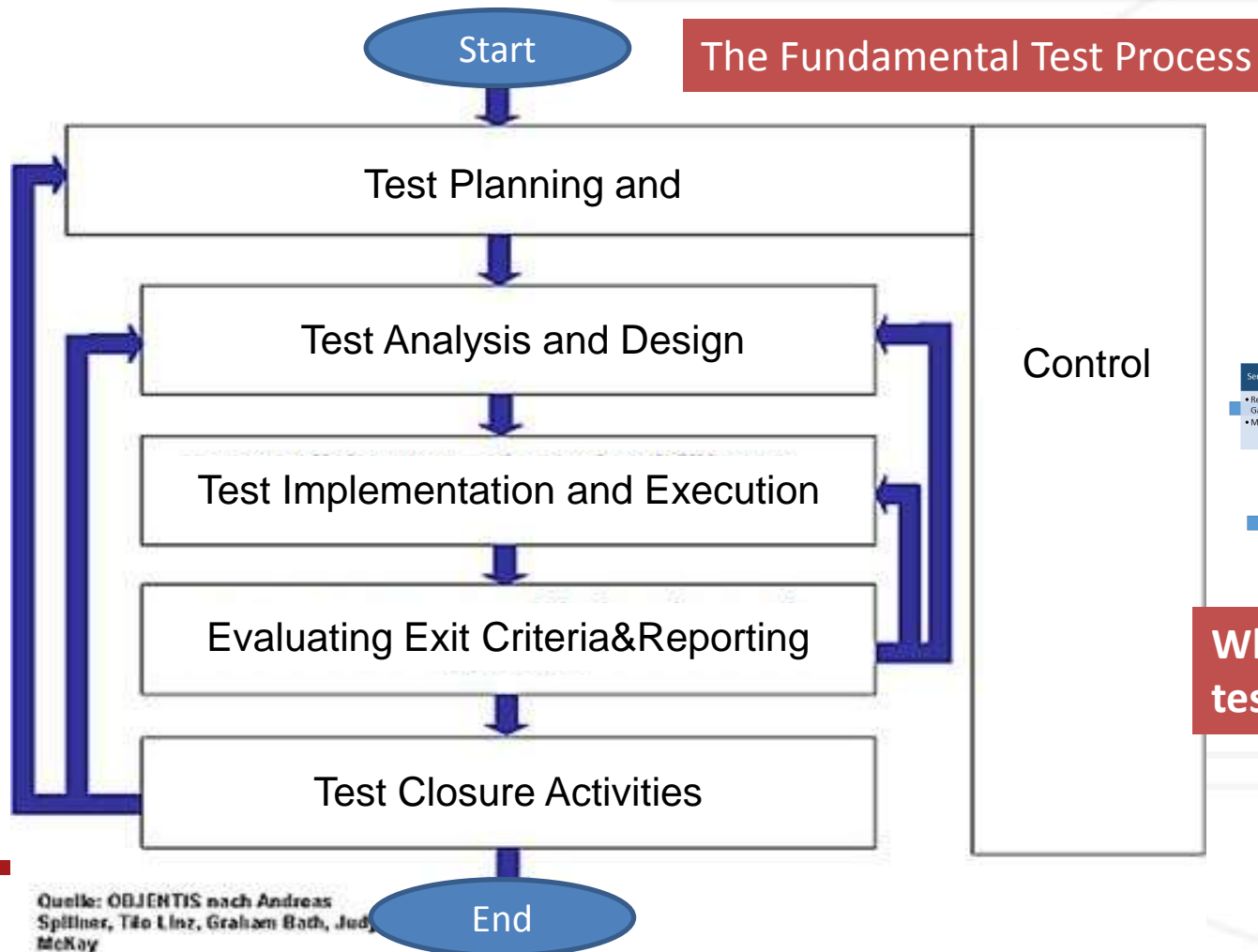
Where will you get the information about good practices?

- a) Books by the authors of the Agile Manifesto
- b) The ITIL description
- c) The CMMI description

But this is taking a lot of time

- a) Who will be responsible to know about processes and practices?
- b) In your company
- c) Generally
- d) Do you know something already?

Svetski standardi i praksa za kvaliteta softvera



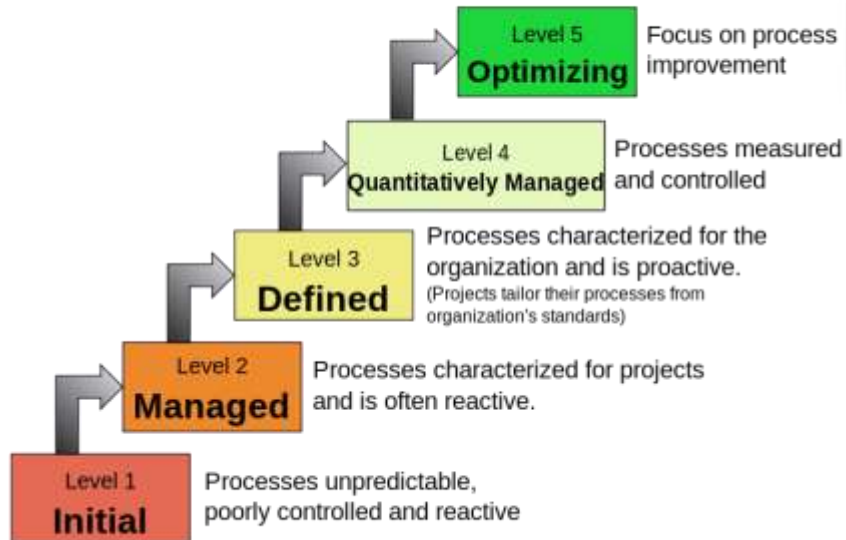
Where does early testing fit in?

Quelle: OBJENTIS nach Andreas Spillner, Tilo Linz, Graham Bach, Judy McKay

Certifications – company level

CMMI - **Capability Maturity Model Integration (CMMI)** is a [process improvement](#) training and appraisal program and service administered and marketed by [Carnegie Mellon University](#) and required by many [DOD](#) and U.S. Government contracts, especially in software development. (Very good but expensive to reach the basic levels you must count on 2 years of organizational change. Some governmental tenders require CMMI level 3 which is provided by companies like IBM or Siemens.)

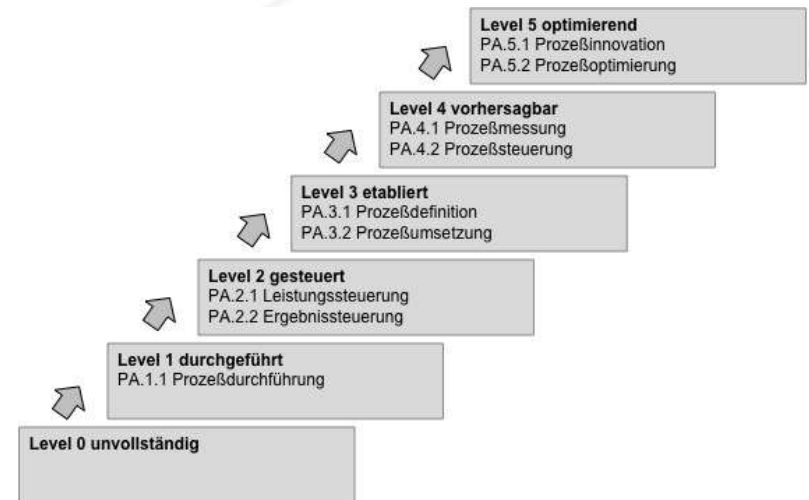
Characteristics of the Maturity levels



Certifications – company level

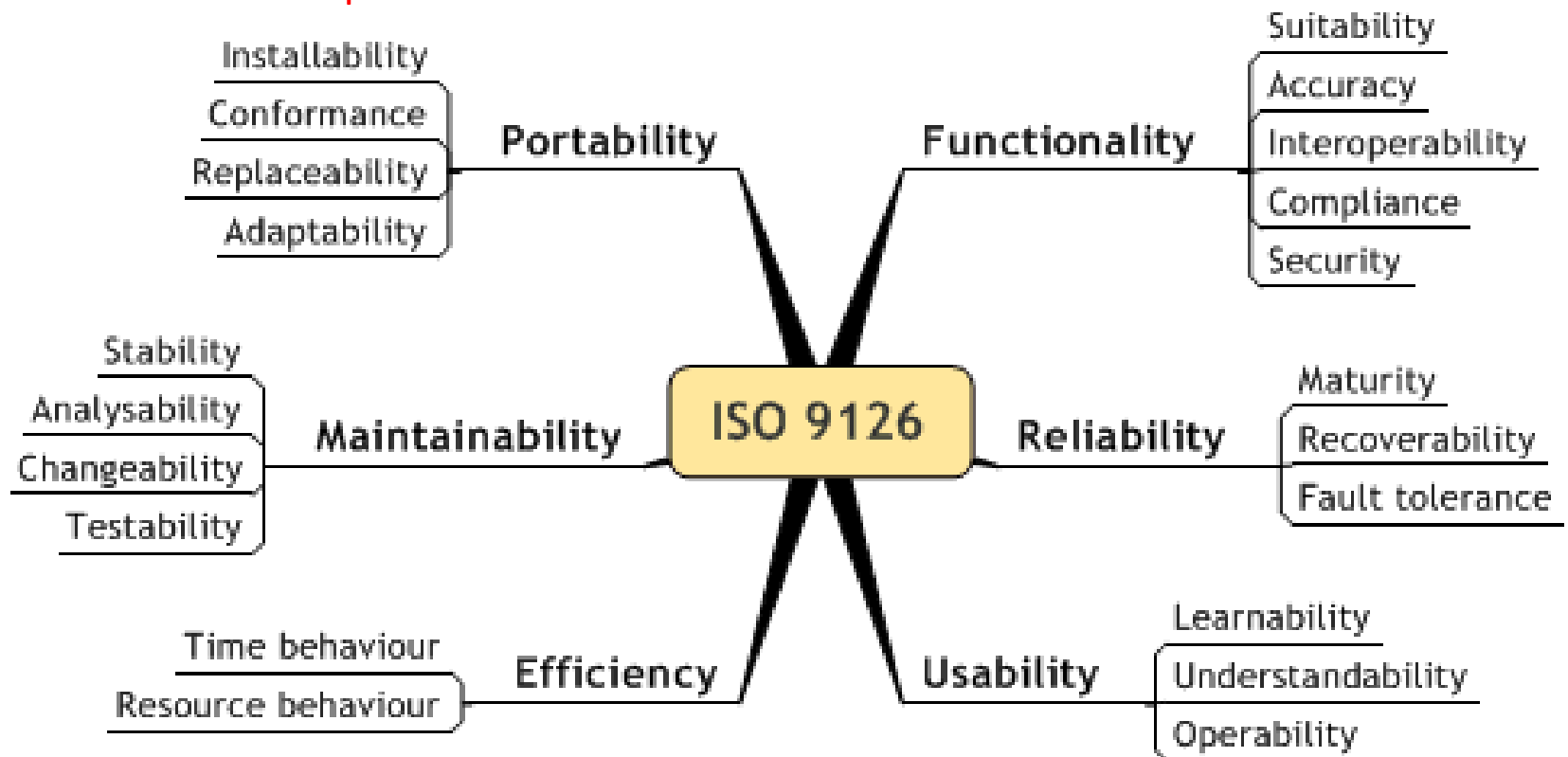
ISO/IEC 15504 Information technology — Process assessment, also known as **SPICE (Software Process Improvement and Capability Determination)**, is a set of technical standards documents for the computer software development process and related business management functions. It is another joint International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) standard, which was developed by the ISO and IEC joint subcommittee, ISO/IEC JTC 1/SC 7.

ISO/IEC 15504 initially was derived from process lifecycle standard ISO/IEC 12207 and from maturity models like Bootstrap, Trillium and the **CMM**.





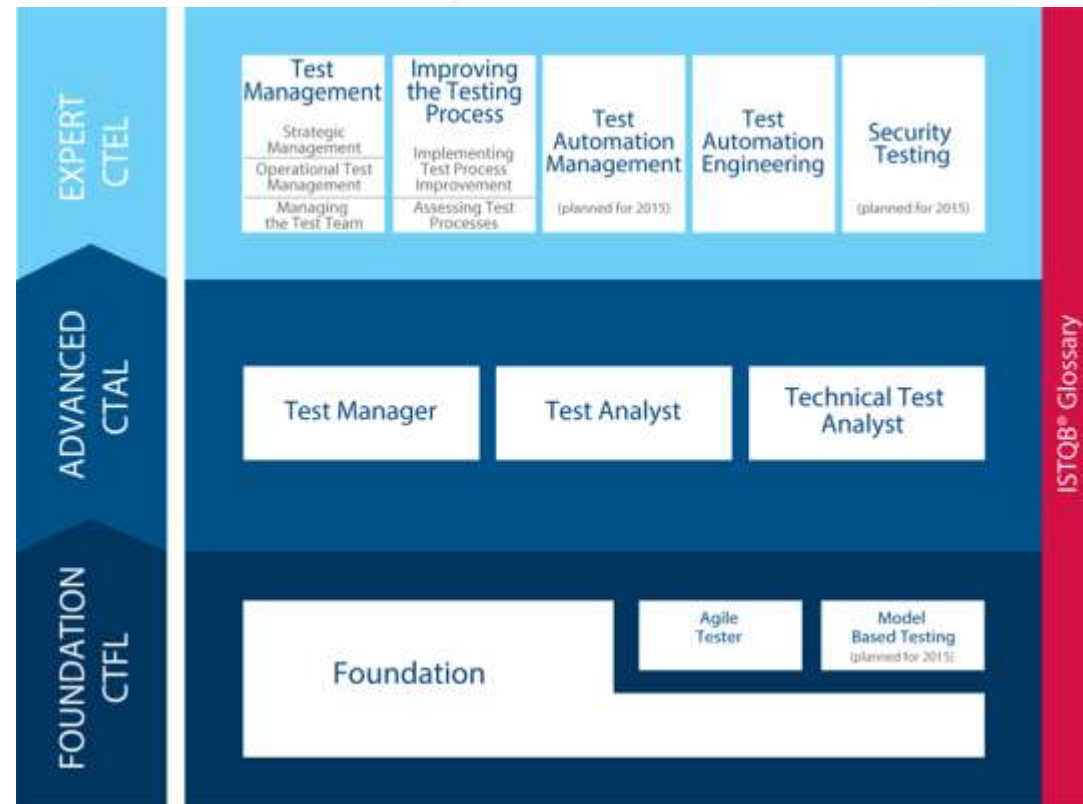
ISO-9126 Quality criteria, part of ISTQB-teaching, also absolute necessity for software development



Certification – personal ISTQB®

The International Software Testing Qualifications Board (ISTQB) is a software testing qualification certification organization that operates internationally. Founded in Edinburgh in November 2002, ISTQB is a non-profit association legally registered in Belgium.

OBJENTIS is accredited trainer for ISTQB®



Certification –personal IREB®

The IREB is the holder for the international certification scheme Certified Professional for Requirements Engineering (CPRE).

It is IREB's role to support a single, universally accepted, international qualification scheme, aimed at Requirements Engineering for professionals, by providing the core syllabi and by setting guidelines for accreditation and examination. The accreditation process and certification are regulated by the steering committee of IREB. The steering committee of IREB is built out of the personal members of IREB. Personal members of the IREB are international experts in requirements engineering from universities, economy and education.

OBJENTIS is accredited trainer for IREB®

Questions and Information

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