



# The Advanced IT Training System (APO / AITTS): Concepts and Structure

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- **A**rbeits**P**rozess**O**rientierte Weiterbildung

(Work-Process Oriented System of ICT Training)

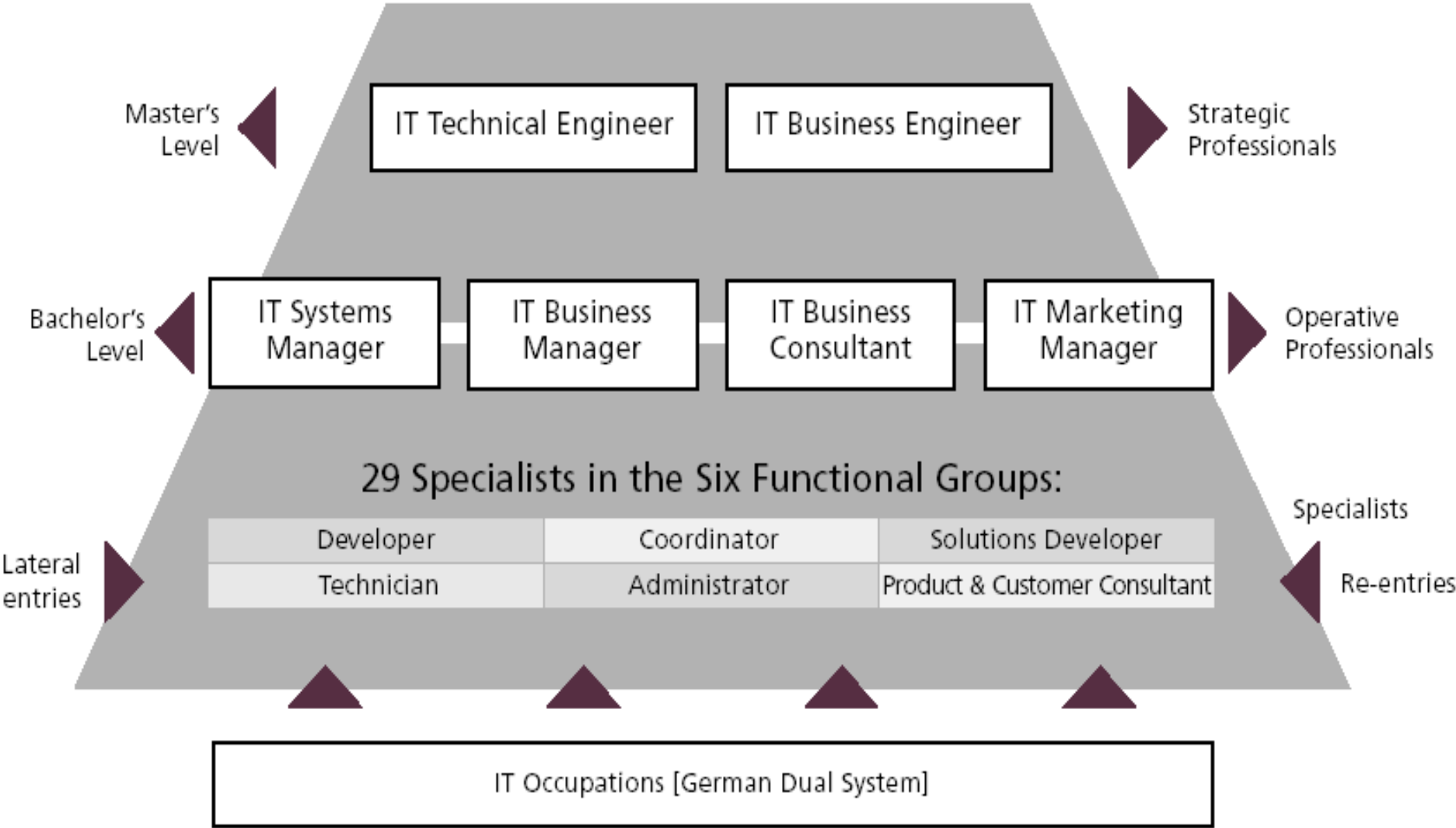
- AITTS: The Advanced IT Training System

- ICT boom during 1990s
- ICT skills shortage
- New IT occupations since 1997
- High percentage of lateral entrants
- Growing number of training providers
- Numerous certificates and job titles of only regional recognition
- Obstacles to mobility

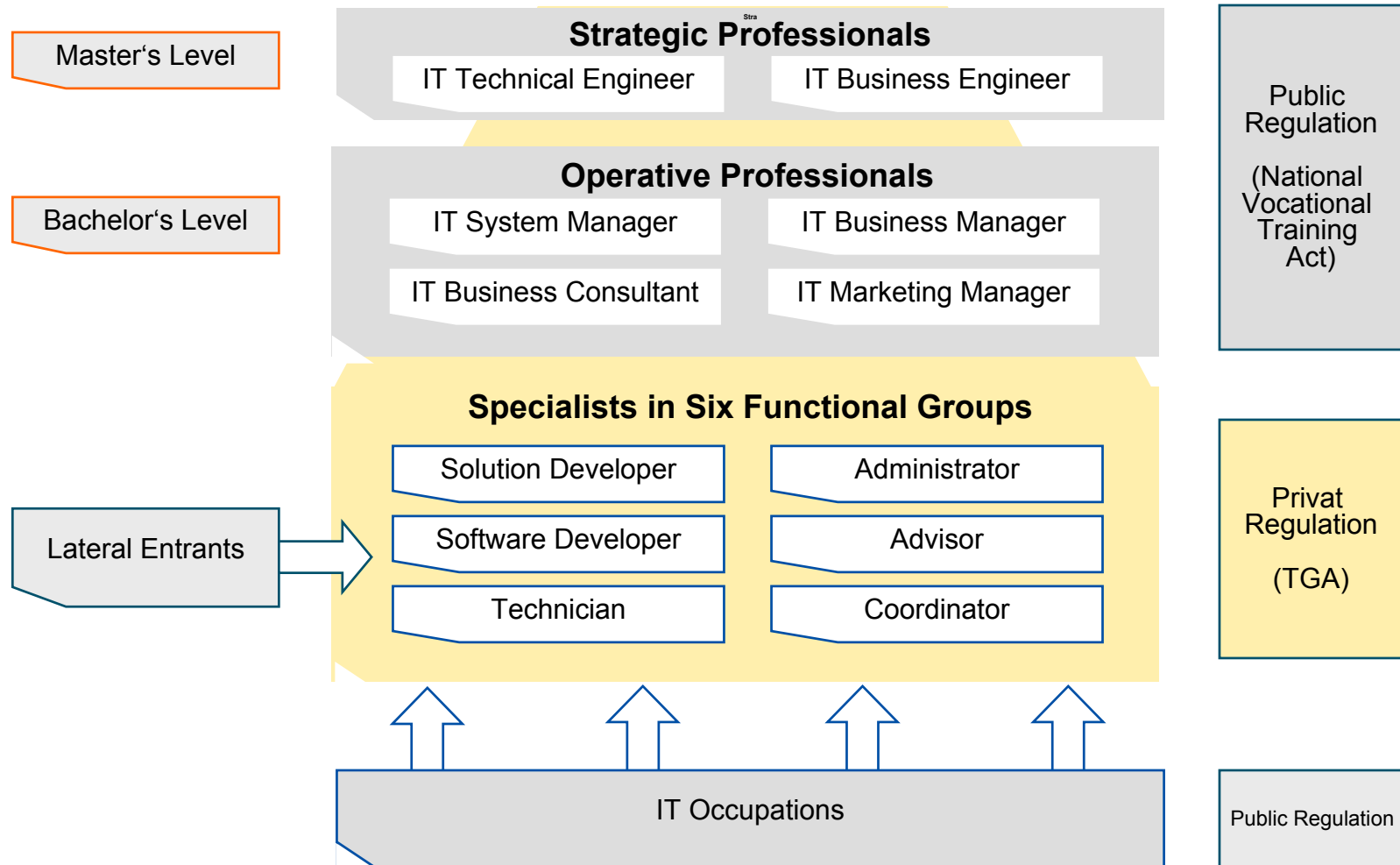
- 1999: Guideposts
- Joint initiative of social partners
- Business associations, labour unions, companies
- Fraunhofer Society (concepts, didactical framework)
- Political backing by Federal Government /  
Ministry for Education and Research

- strengthening work-process orientation
- enhancing transparency of qualification levels
- securing quality assurance
- establishing a coherent system of vertical and horizontal mobility
- creating a link to the academic sphere (Bologna Declaration)

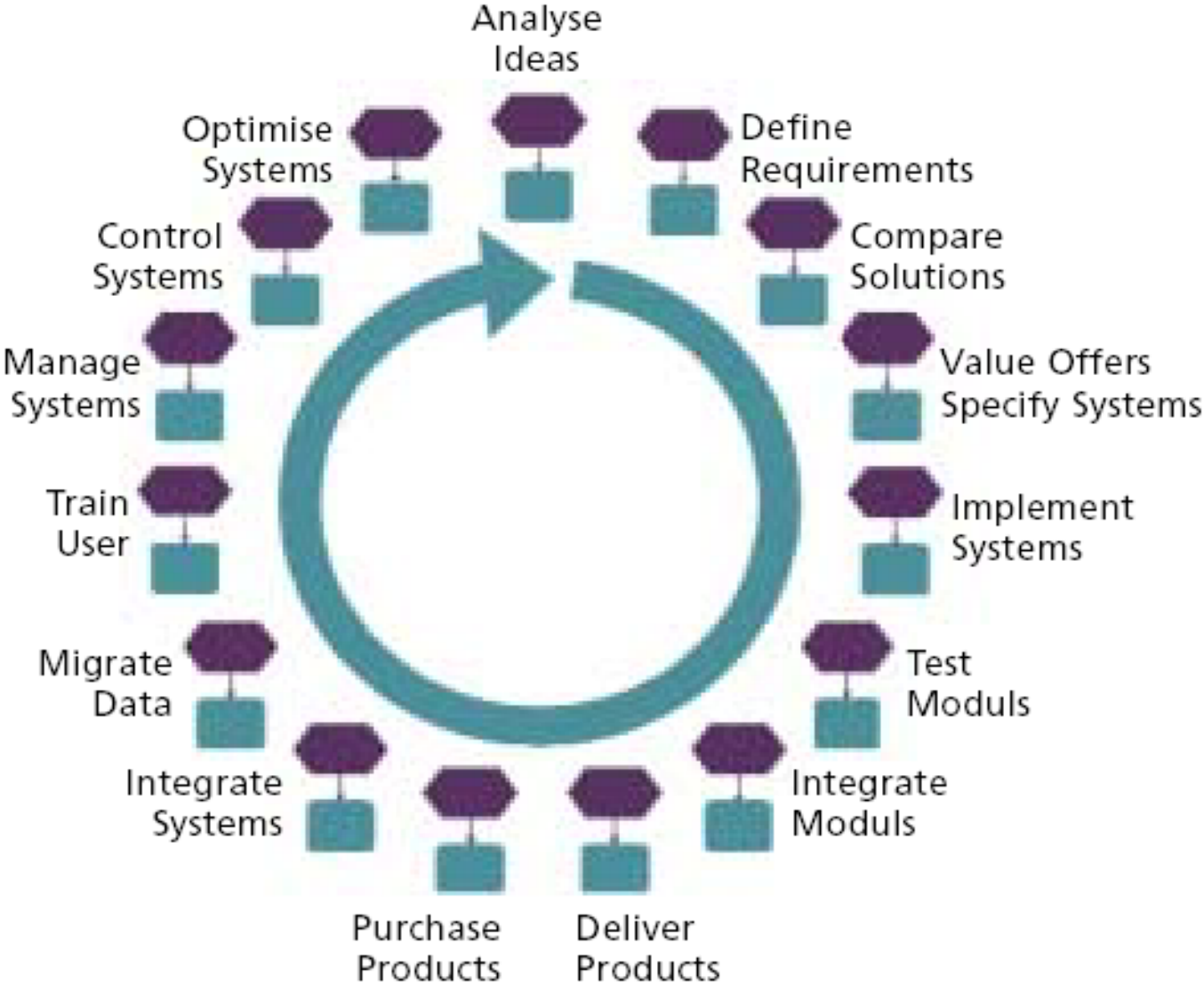
# IT Training System: Levels and Profiles



# The Advanced IT Training System: Levels and Profiles



- 4 ICT Profiles (Dual System)
- 29 Specialists in Six Functional Groups
- Professionals  
(four ,Operative Professionals': Bachelor's level)  
(two ,Strategic Professionals': Master's level)



## Software Developers

IT Systems Analyst  
IT Systems Developer  
Software Developer  
Database Developer  
User Interface Developer  
Multimedia Developer

## Solutions Developers

Business Systems Advisor  
E Marketing Developer  
E Logistic Developer  
Knowledge Management  
Systems Developer  
IT Security Coordinator  
Network Developer

## Solutions Administrator

Network Administrator  
IT Systems Administrator  
Database Administrator  
Web Administrator  
Business Systems  
Administrator

## Coordinators

IT Project Coordinator  
IT Configuration  
IT Quality Management  
Coordinator  
IT Test Coordinator  
IT Technical Writer

## Technicians

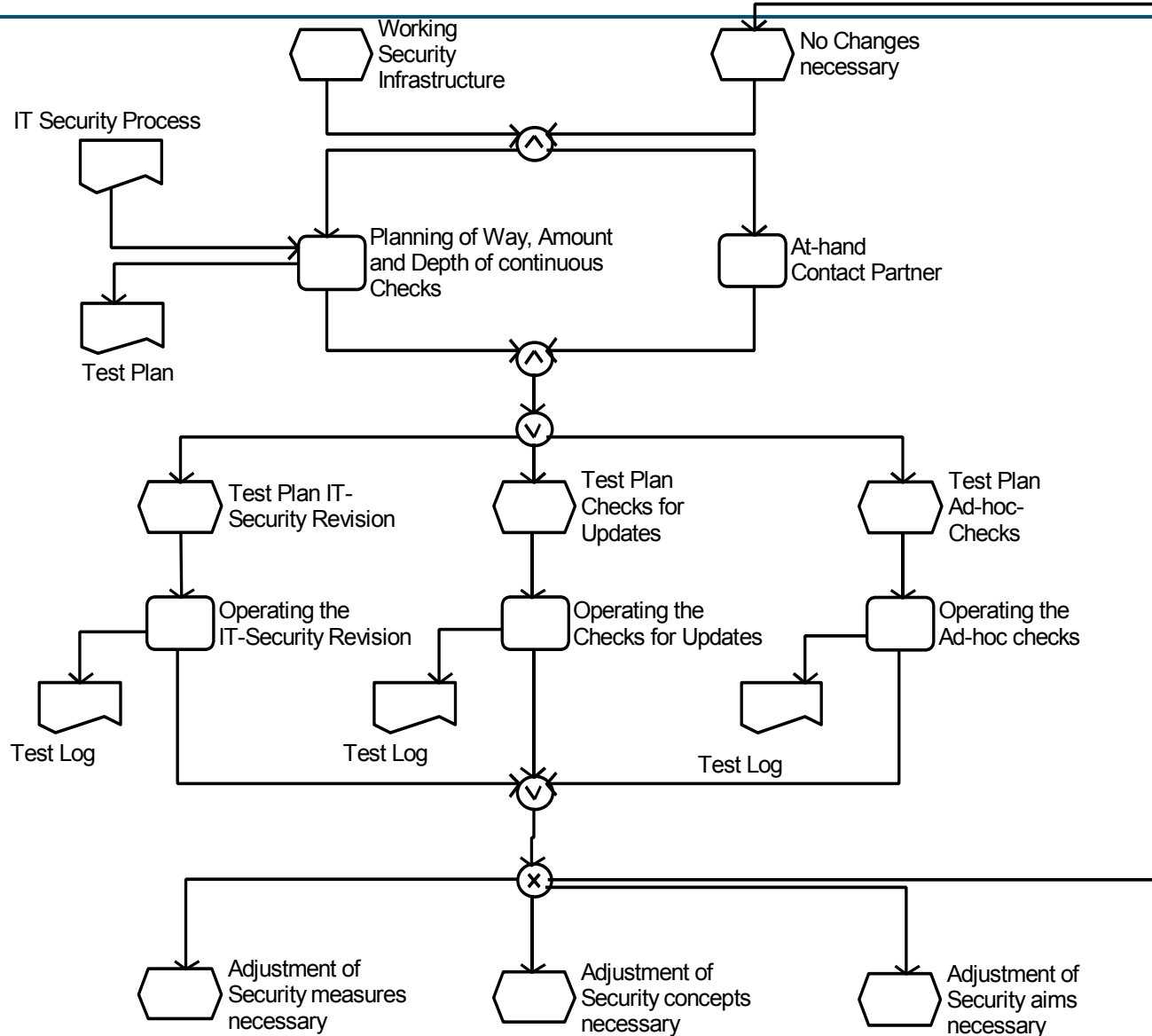
Industrial IT Systems  
Technician  
Security Technician  
Component Technician

## Product- and Client Advisor

IT Service Advisor  
IT Trainer  
IT Product Coordinator  
IT Sales Advisor

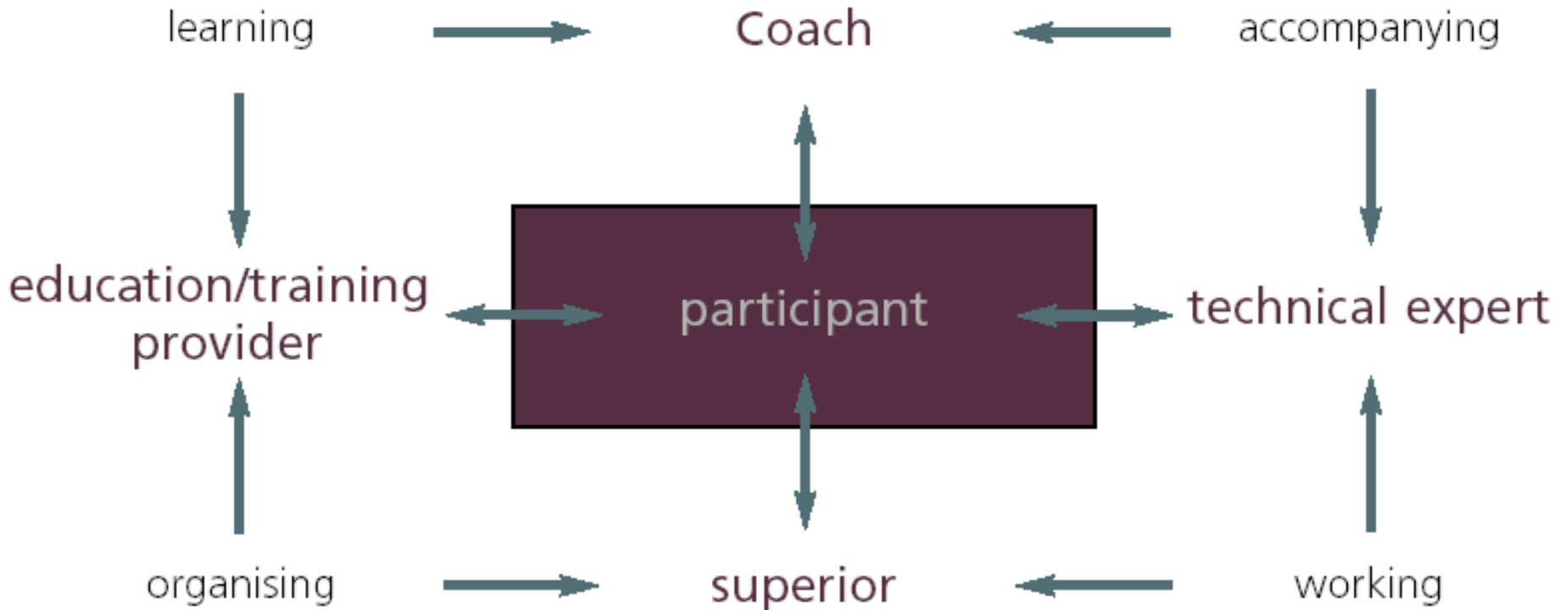
- defined according to an analysis of workplaces in firms of
  - different branches
  - different size
  - and different organisational form
  
- theoretical / systematic assumptions
  
- independence from short-termed product cycles
  
- holistic view on job roles
  
- competencies defining profiles and functional groups

# Reference Process (Sub-process: Maintaining IT Security)

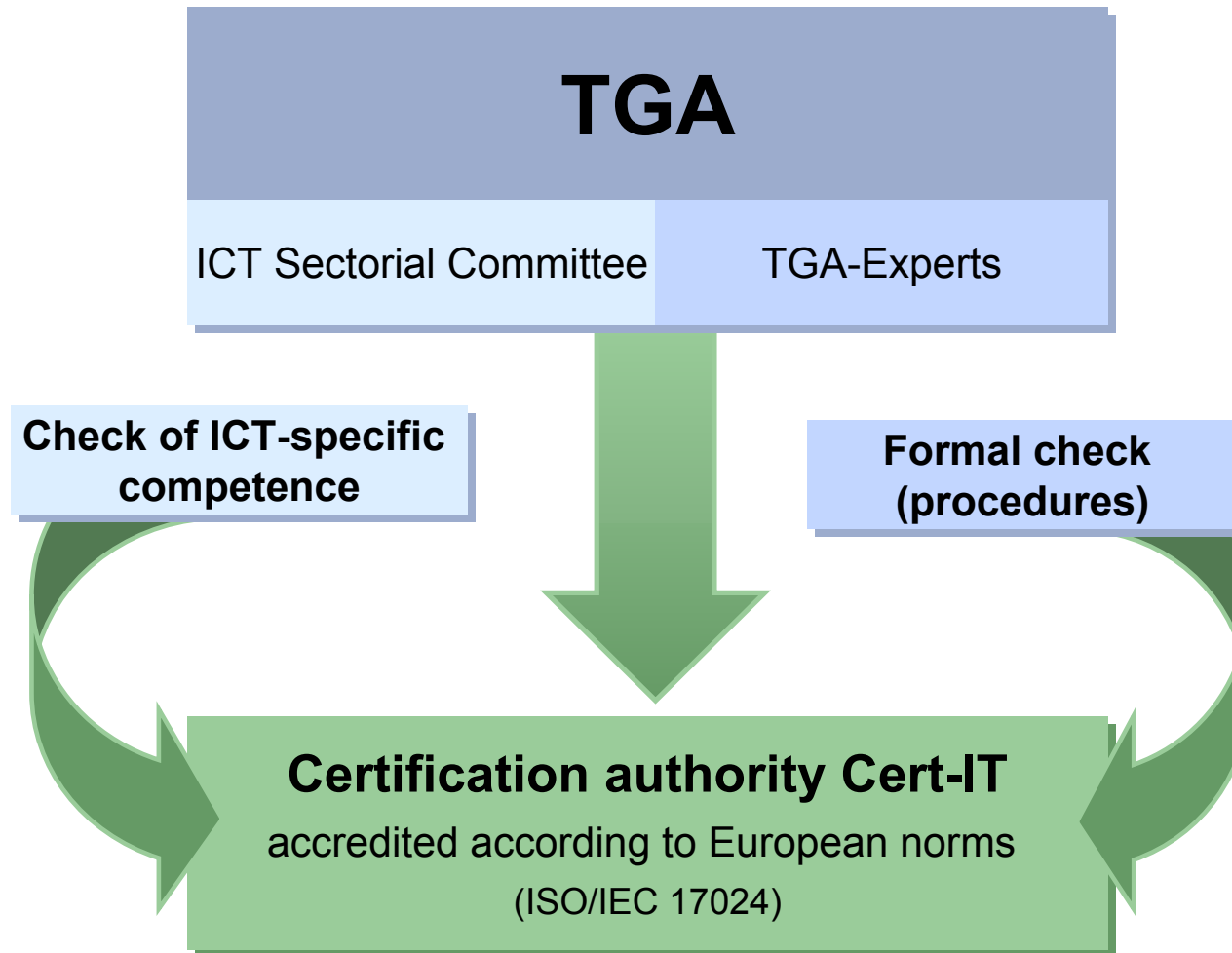


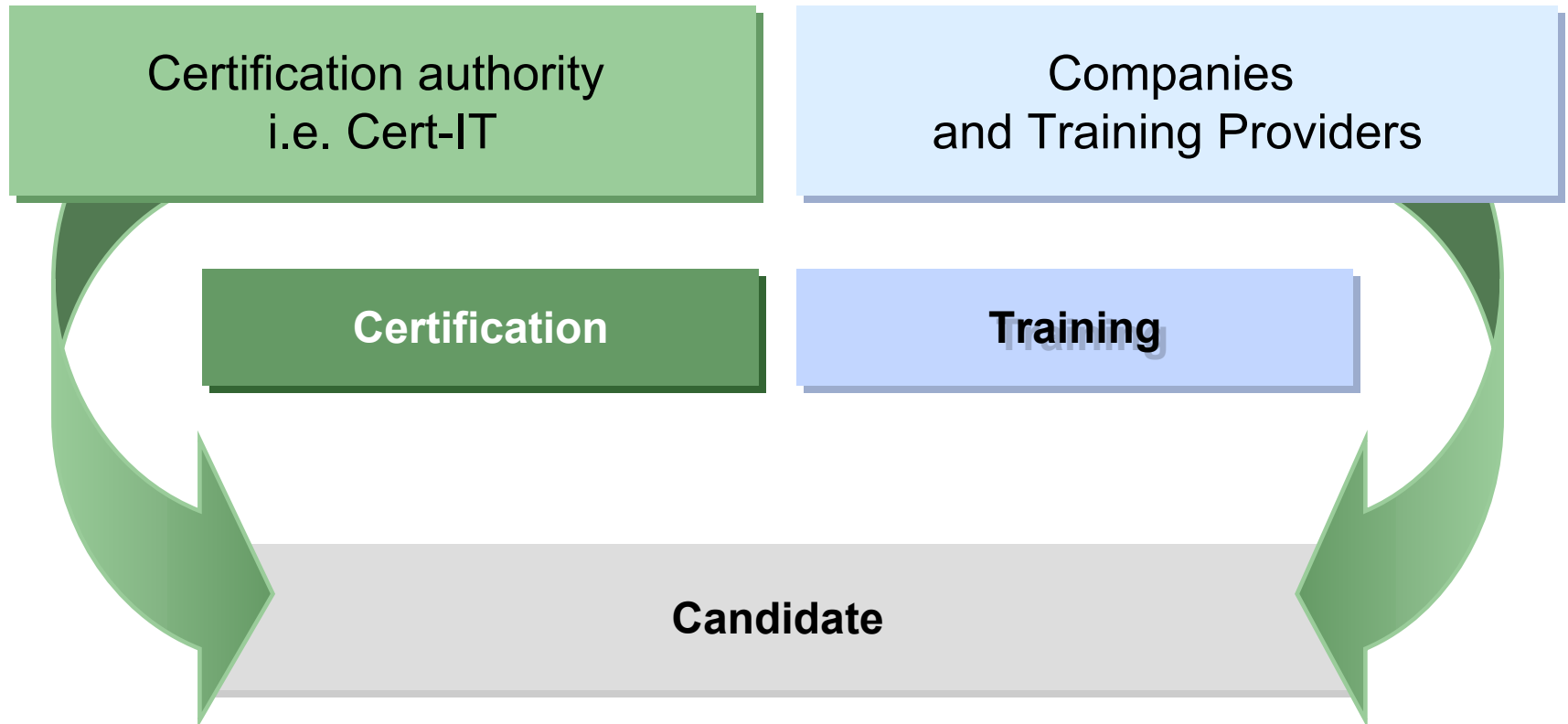
- Work-Process Oriented Curricula ↔ Workflow-Embedded Training
- Career Development
- Lifelong Learning
- Knowledge Management in Companies

- Methodology: Learning at the work place  
(supplemented by eLearning-modules, course-learning etc.)
- Competencies instead of pure knowledge / skills
- Coaching during learning process  
(coach and technical expert)
- Burden sharing between employer and employee  
(time, resources)
- Essential: AITTS focuses on learning outcomes



- Conformity with competence requirements
- Private certification
- Temporary certification / re-certification
- European context
- High flexibility according to short innovation cycles in ICT industry





- Examination by Chambers of Commerce and Industry
- Legal Basis: German Vocational Training Act / Regulation on Advanced IT Training (May 2002)
- Permanent Certification
- Mix of business project and a written / oral exam

- Bridging the gap between educational systems by using / developing Credit Point Systems
- Creating „zones [and procedures] of mutual trust“ (further education and training ↔ tertiary education)
- Enhancing transparency and flexibility
- Establishing links to other certification systems (recognition of industry certificates etc.)
- Adjusting to structural change in industry (number of profiles etc.)

- [www.apo-it.de](http://www.apo-it.de) (website of Fraunhofer Society with a wealth of information on APO-Projects, detailed profile description and further reading)
- [www.kib-net.de](http://www.kib-net.de) (project website of BITKOM and German Metal Worker's Union with information on AITTS and various practical guidance for the implementation of APO)

English section forthcoming (summer 2005)!

- [www.it-wb.de](http://www.it-wb.de) (website of the Association of Chambers of Trade and Industry, focusing on Professional's exams)
- [www.cert-it.com](http://www.cert-it.com) (certification authority for IT Specialists)

- Federal Ministry for Education and Research (Ed.), The Advanced IT Training System. Concepts and Results (Text by J. Beier), Bonn 2003 (best short introduction available)
  
- Federal Ministry for Education and Research (Ed.), Systematic Continuing Education in IT. New perspectives for specialists and organisations, Bonn 2002  
(Documentation of 224 pages with 12 articles on fundamental aspects of AITTS, published on the occasion of launch of AITTS)
  
- J.Beier, Stefan Grunwald, Quality Assurance and Certification. Personnel Certification with the Advanced IT Training System, Berlin 2004



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