Bonn, 04.11.2004

E-Learning- From Policy to Practice

Peter H. Hellmonds

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Besides e-Government and e-Health, e-Learning is the third main pillar in most initiatives

E-Government	E-Health	E-Learning / E-Education

Siemens is the only vendor providing all three businesses and covering the whole value chain

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e-Learning plays a crucial part to develop quality of location factor and human capital in the future

Range of use for e-Learning

**Basic Education Schools (e.g. high schools)
Universities
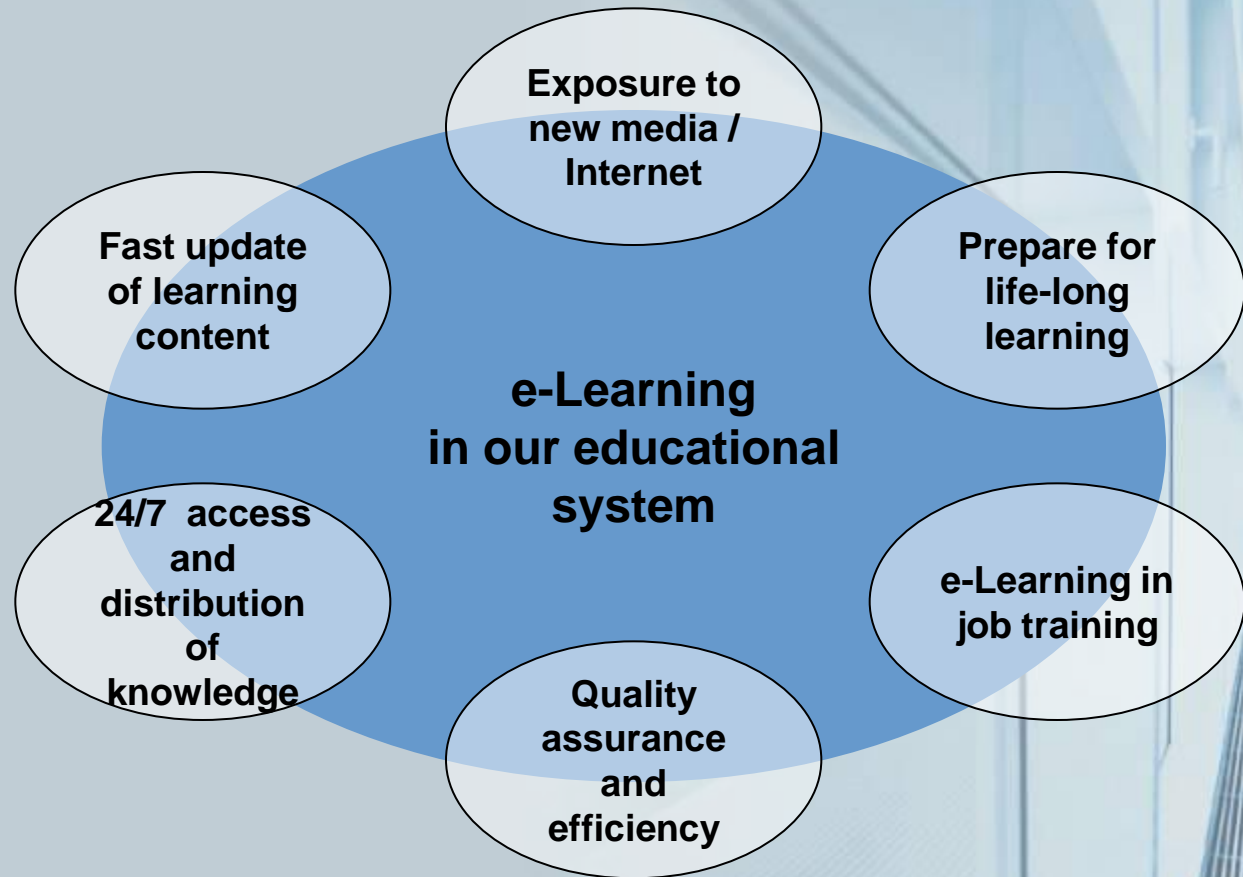Internal training for civil servant , teachers, etc.
Adult training**

Advancement of
- **Quality of location factor**
- **Human capital**

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The main trends in our environment require the early usage of e-Learning in the educational system

Value added of e-Learning

- Exposure to new media / Internet
- Fast update of learning content
- Prepare for life-long learning
- e-Learning in our educational system
- 24/7 access and distribution of knowledge
- e-Learning in job training
- Quality assurance and efficiency

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The FP6 program of the EU has a lighthouse effect for future education – Siemens plays a leading role

FP6: Information society

Learning concept / content

- Learning content
- Personalization
- Adoption to local needs

Dynamic adoption and tailoring to learning needs

iClass
of
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Services

Open access

- Open architecture
- Cooperation / networking
- Worldwide access

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Siemens leads one of two winning consortia – providing Europe with future educational resources

iClass project lead by **Siemens Business Services**

- **22 partners from 11 countries**

- **Industry partners**: Microsoft, Sun Microsystems, Intel, Klett, Infogate

- **Multinational school net:**: European Schools, ORT, European SchoolNet

- **Universities und institutions** from AUT, UK, TR, IRL, GER*, EL, B, S

- **Modules** of the project: (1) Profiler: Lernfähiges Interaktions-Tool, (2) Monitor: Bestimmung des notwendigen e-Learning Materials, (3) Content Repository, (4) Collabrative Environment: Internet-basierte Plattform für Studenten, Lehrer, Eltern, (5) Validation Tool (Feedback-Schleife), (6) Teacher's Tool

Selected references of Siemens in the area of e-Eductaion

Lecce University	Private Learning	Webscuola	Tianyi	Schools

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In Malaysia knowledge from Siemens Turkey is supporting parts of the curriculum with e-Learning

Scope of the project

5 year action plan to transform the curriculum towards an e-Learning environment

Adjust the curriculum to e-Learning needs

Phase 1: Infrastructure (Computer, Network, Internet access)

Phase 2: Provide learning content
- Mathematics and science
- Multimedia environment
- Additional information for self-study (e.g. Internet-Links)
- Platform independent (MS, Linux, MacOS)

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Our lessons learned ensure that we achieve a maximum impact

➢**Ensure that learning is enjoyed within a new holistic medium:**
Learning wherever whenever you are in the mood to do it (24/7)

➢**Reduced time and cost:**
- Less traveling and accommodation costs
- Lower training costs (trainer, books, paper, infrastructure)
- Quicker and close-to-reality learning
- High quality results for all employees / citizens
- No restriction of access to valuable knowledge

➢**More impact of learning by:**
- state-of-the-art learning methods
- tailored learning
- Reduced barrier from knowledge to realization
- 24/7 access to knowledge

➢**Key elements to be put in place:**
- Localization / integration of local content and/or cultural needs
- Meta-methodology, independent of content and platforms
- Involvement of all stakeholders (e.g. teachers, students, parents)
- integrate e-Learning in existing learning system

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Back-up: Calculations prove that e-Learning achieves 79% of time and 16% of cost saving
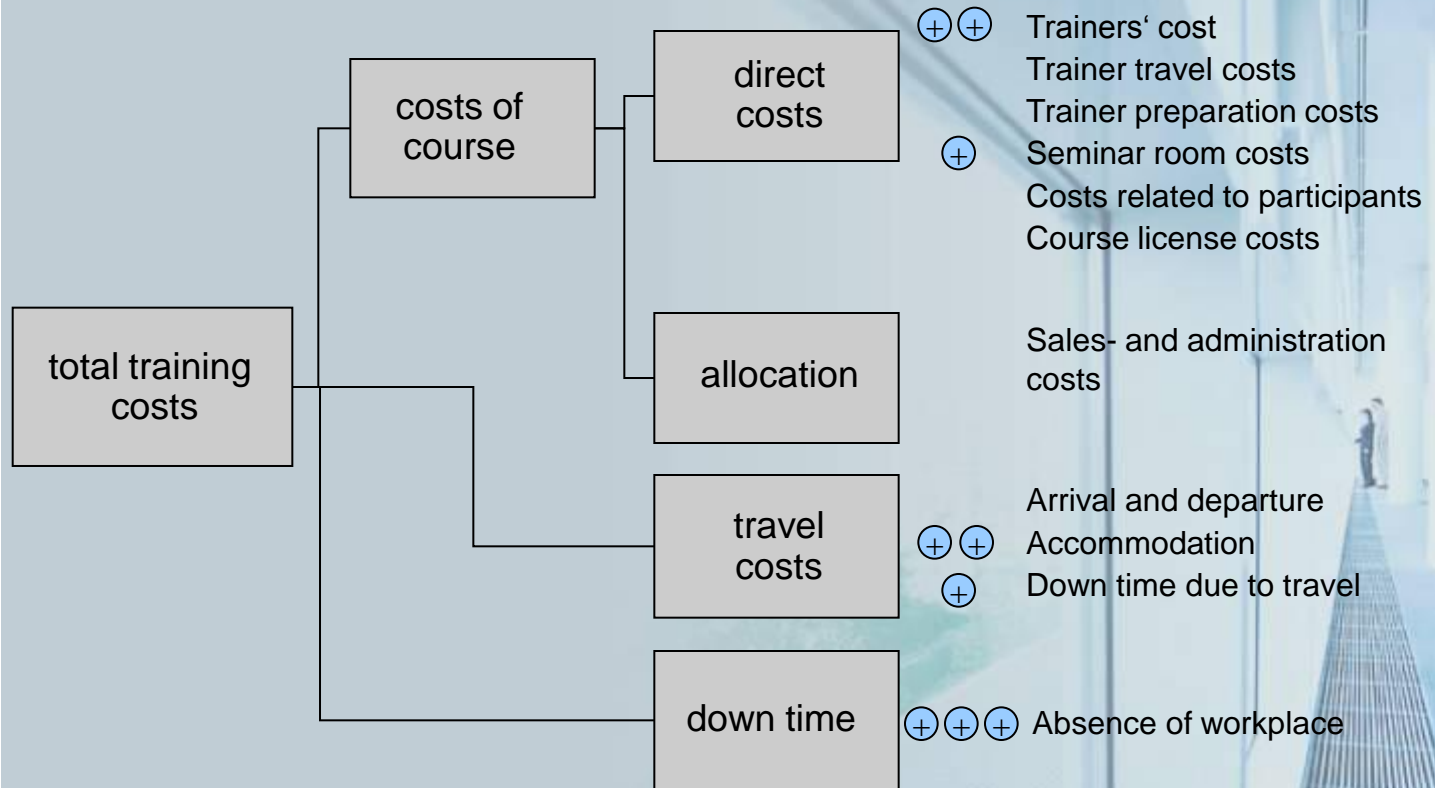
- example -

	Präsenzseminare	E-Learning
Teilnehmer	400 Teilnehmer	400 Teilnehmer
Dauer	3 Tage	6 Stunden Online-Content plus 6 Stunden Vertiefung
An- und Abreise	2 Tage	entfällt
Maximale Teilnehmerzahl pro Veranstaltung	20 Teilnehmer	40 Teilnehmer
Kosten für Konzeption	50 Tsd. €	250 Tsd. € (inkl. Content und Lernplattform)
Kosten für Referenten (20 Veranstaltungen à 4 Referententage à 1 Tsd. €)	80 Tsd. €	entfällt
Kosten für Teletutoren (10 Veranstaltungen à 2,5 Tutorentage à 1 Tsd. €)	entfällt	25 Tsd. €
Arbeitsausfall (150 € pro Tag)	300 Tsd. € (für 2.000 Tage)	90 Tsd. € (für 600 Tage)
Gesamtaufwand	430 Tsd. €	365 Tsd. €
Gesamtdauer des Prozesses	24 Tage (5 Referenten) bis 120 Tage (1 Referent)	5 Tage (5 Tutoren) bis 25 Tage (1 Tutor)
Kostenersparnis		16%
Zeitersparnis		79%

Berlecon Research 2001

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Back-up: The main cost drivers are trainer's cost and cost which arise due to down time

Cost drivers [1] for classroom-based courses

```
                                                    ⊕⊕  Trainers' cost
                                        ┌─ direct ─┐     Trainer travel costs
                        ┌─ costs of ─┐  │  costs   │     Trainer preparation costs
                        │  course    │  └──────────┘  ⊕  Seminar room costs
                        │            │                   Costs related to participants
                        │            │                   Course license costs
   ┌─ total training ─┐ │            │
   │  costs           │─┤            └─ allocation       Sales- and administration
   └──────────────────┘ │                                costs
                        │
                        │                ┌─ travel ─┐    Arrival and departure
                        │                │  costs   │ ⊕⊕ Accommodation
                        │                └──────────┘  ⊕ Down time due to travel
                        │
                        └──────────────── down time  ⊕⊕⊕ Absence of workplace
```

SIEMENS   Source: ICM Training Center Austria - Hr. Böhm, calculation model - BIP-Team (Hans Karlshöfer)

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e-Education – References (Turkey)

iCLASS – INTELLIGENT DISTRIBUTED COGNITIVE-BASED OPEN LEARNING SYSTEM (Currently in Progress)

CHALLENGE
- Development of infrastructure for next generation of e-Learning systems in Europe for K-12 level
- 22 partners from 12 different European countries
- SBS responsible from technical coordination

BENEFITS
- Adaptive to individual knowledge level and learning styles
- Development of next generation e-Learning standards
- Providing Europe with future framework and infrastructure for integrated European curricula and educational resources

SOLUTION
- Intelligent, cognitive-based open learning environment
- Open architecture
- Compatible with legacy learning systems and tools
- Distributed collaborative environment with ubiquitous access for all stakeholders to rich multimedia content and services

Best Practice Leader in Account Management 2004

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iClass

e-Education – References (Turkey)

MALAYSIAN MoNE

CHALLENGE

- Developing teachers' courseware
- Multicultural project team in multiple countries
- Adapting content to a different curriculum, language and culture
- Tough competition from 60 local and international competitors

BENEFITS

- Enabling the e-transformation of the Malaysian education system
- Additional teachers' resources (evaluation questions, supplementary links, classroom activities, supportive subject information) included through SBS Turkey's unique know how

SOLUTION

- Multiple operating systems (Windows, Linux, MacOS)
- Web-based with no special plug-in requirement
- Modular, scalable, and extensible (SCORM v1.2 standards)
- Operated by the teachers
- Deployed in 2305 schools

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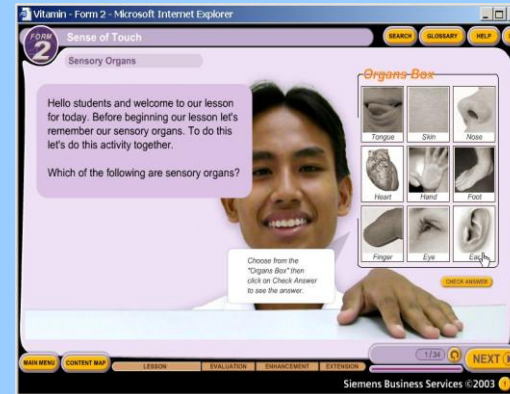
e-Education – References (Turkey)

CHINA (TIANYI)

CHALLENGE
- Develop content for high school math, physics, chemistry, biology, and geography
- Adapt content to Chinese language and educational curriculum
- Utilization of state-of-the-art technologies
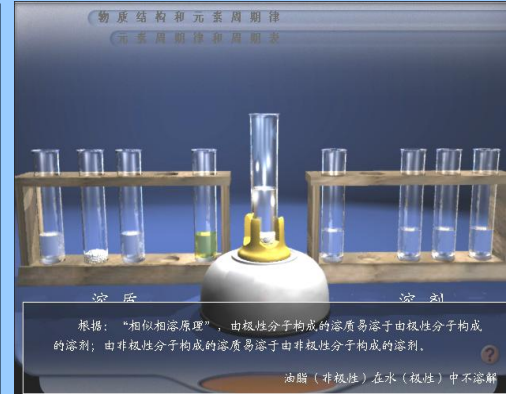
BENEFITS
- Adaptable for presenting rich content to different levels of students
- Educationally and technologically superior to alternative methods due to functionality and unique capabilities
- Enhances computer literacy, ICT, and Knowledge Economy skills

SOLUTION
- Content in Chinese, including high quality 3D animations and simulations
- State-of-the-art technologies
- Approved and recommended to secondary education institutions by Chinese MoNE (March 2002)

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e-Learning – References (Turkey)

BANKS ASSOCIATION OF TURKEY (TBB)

CHALLENGE
- Build a "Banking Training Website" for 100,000 potential users
- Replace existing classroom trainings
- Extensive customization of LMS
- Develop e-commerce infrastructure enabling the selling of courses online

BENEFITS
- Cost savings in training of globally distributed end-users
- Deliver service to all Internet users via the custom developed e-commerce infrastructure
- Comprehensive e-Learning solution ready to add additional courses on demand

SOLUTION
- Basic training content is planned and produced in highest quality
- Lotus LMS is adapted to TBB needs with extensive customization
- Complete solution including operation and end-user support via help desk

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e-Education – References (Turkey)

VITAMIN

CHALLENGE

- Develop e-Education content for math, physics, biology, geometry, history, and geography.
- Provide equal opportunity to students in Southeast Anatolia to prepare for university entrance exam.
- Pilot Vitamin School System (VSS) in public schools; establish Teachers' Training Program.

BENEFITS

- Learning became easy and enjoyable due to interactivity.
- VSS enables schools for the use of Vitamin in a collaborative manner, over the school network without the need for CD-ROMs.
- After 3-months of use, students' performance on a standard test increased from 35% to 60%.

SOLUTION

- Computer labs in high schools at 12 provinces equipped with Vitamin packages.
- e-Education content developed for middle and high schools for stated topics.
- Pilot in a public school in Ankara having approximately 1000 students

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e-Learning – References (Turkey)

COCA COLA BOTTLING COMPANY

CHALLENGE
- Develop e-Learning courses for orientation program and sales trainings
- Deploy e-Learning content on the company's existing LMS
- Facilitate an effective Learning environment

BENEFITS
- Cost savings
- Courses accessible anytime on the Intranet
- The employees were "very satisfied" with the Orientation Program
- Globally reusable content

SOLUTION
- Full company orientation program developed for asynchronous learning purposes
- Assessment and evaluation functionality included
- Four sales-related e-Learning courses developed

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e-Learning – References (Turkey)

TURKISH STATE PROCUREMENT AUTHORITY

CHALLENGE
- Train a large population (2 million) of end-users about the new law and related legislation
- Provide profile based training for both the buyer and the bidder
- Replace the existing classroom trainings with an Internet-based system

BENEFITS
- Cost and time savings
- Training of a large audience that could not have been trained using traditional classroom training
- Enable electronic access to Purchasing Legislation
- Contribute to e-transformation of Turkey (major milestone of e-Turkey objective)

SOLUTION
- Complete web-based system
- Includes 335 multimedia animations with narrations
- Electronic learning assessment
- Interactive wizards for preparing procurement documents

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e-Learning – References (Italy)

KON.IT: e-Learning Service Provider

CHALLENGE

▪ Flexible, low-cost e-Learning solution oriented to public and private organizations

▪ Not requiring high amount of investment to start or similar commitment to use

▪ Complete solution (requirements analysis, design, realization and supply of courses online)
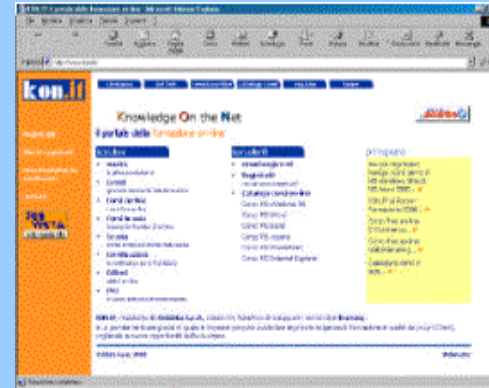
BENEFITS

▪ A flexible solution with a very interesting price

▪ Easy and fast implementation

▪ No need for a big start-up investment

▪ Access to a huge library of branded multimedia content

▪ Online services of tutoring, teaching, mentoring and help desk

SOLUTION

▪ A complete e-learning solution offering for enterprise-wide learning in ASP model

▪ Interactive asynchronous services for self paced training

▪ Synchronous services through virtual room

▪ Available in Italian and English, localizable to other languages

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e-Learning – References (Austria)

RHEINMETALL GROUP

CHALLENGE:

- To enlarge the existing Rheinmetall Knowledge Management System with an e-Learning platform, aiming to a user group up to 35.000 users
- Multi-client delivery for the international subsidiaries of Rheinmetall
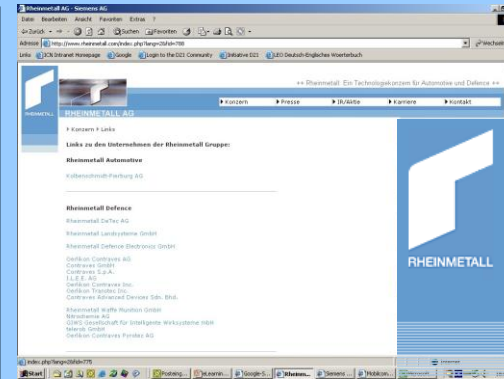
BENEFITS:

- Wide distribution of the group knowledge at all levels
- Effective use of synergies enabled through knowledge management
- ECDL as IT-standard in the corporation

SOLUTION:

- SITOS® LMS with multi-client ability to satisfy the training needs of all daughter companies
- Interface for the Knowledge management-system and the existing SAP R/3 system
- Launch of the ECDL 4 with Bitmedia contents

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e-Learning – References (Austria)

MOBILKOM AUSTRIA

CHALLENGE:

- Implementation of an LMS for up to 3000 users
- Creating own contents with an authoring tool and distribution over the LMS for areas such as the call center

BENEFITS:

- Using e-Learning as a reference book
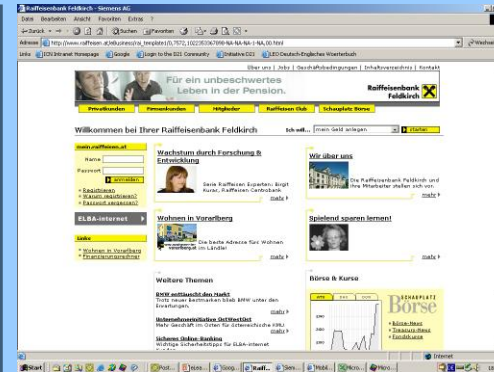- To provide up-to-date content

SOLUTION:

- SITOS® LMS for all areas
- Interface for the Knowledge management-system and the existing SAP R/3 HR system
- Adaptation of Sitos regarding a new role on the administration site

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1

e-Learning – References (Austria)

RAIFFEISEN BUILDING SOCIETY

CHALLENGE:
- Implementation of an LMS
- Custom development using SITOS® 2,500 Raiffeisen banks Austria-wide
- Developing of an company-specific e-Learning course

BENEFITS:
- To allocate up-to-date content
- To reach directly subsidiaries

SOLUTION:
- Implementation of SITOS®
- Development of an learning program on the subjects: Savings, Loans and IT
- The learning programs are available throughout Austria at all Raiffeisen banks and their partners (joint project with SBS)

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e-Learning – Other References

University of ISUFI-Lecce
e-Learning Services for master students of e-Business management

Turkish Armed Forces
Sample training module for the Turkish Armed Forces, Gendarmerie Education School

Portals: Tinweb/Webscuola
e-Learning Services for the largest community of Italian schools

Public Administration: Ministry of Transportation
e-Learning Services about MS Office courses and HR procedure roll-out

Public Administration: Regione Lombardia
e-Learning services regarding MS Office and Lotus courses

Pharmaceutical: Merck Sharp and Dohme
Sales force training about new pharmaceutical products

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e-Learning – Other References

Manufacturing: SCM Rimini
e-Learning Services for sales force and customers

Distribution: Metodo S.p.A
Resellers continuous training about HW PC products

Siemens Group
e-business training for managers and employees

Food Companies: Star
ERP training of the distributed people using virtual classroom

Telecom Italia
Collaboration with Telecom Italy for learning services ASP set-up

Siemens Business Services PRS Department
Training materials for the technicians of the Product Related Services (PRS) department of SBS

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