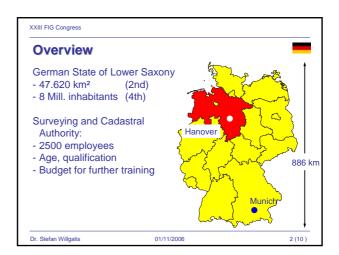
Economic Solutions to Changing Professional Training Requirements in Geodesy and Surveying

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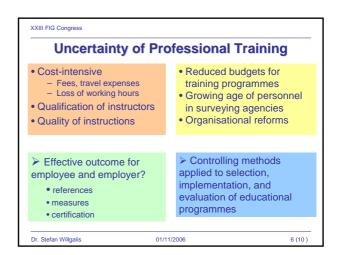
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XXIII FIG Congress **Demand for Continuing Professional Development** Increasingly rapid developments in geodetic methodology and technology State survey Cadastral survey · GIS data capture **Potential Topics:** - geodetic reference frames Construction works · Emerging applications - transformations - GNSS, esp. GALILEO - satellite positioning - physical heights and geoid - mobile communication - internet technologies Dr. Stefan Willgalis 01/11/2006 4 (10)

Special Case of Geodesy and Surveying

In the field of Geo Information Systems (GIS) several continuous training programmes are available, e.g. UNIGIS
For geodesy and surveying no regular CPD programmes available:

high intellectual and financial investments for the instructor
mathematics & physics more difficult to impart
very small market, limited demand
restrictions by surveying authorities.
Few specialised Master-courses (without distance learning concept)



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Provider of Professional Training

Further education provided by

- Senior staff members
- External coaches /experts
- Professional organisations e.g. FIG/DVW (seminars, workshops, congress)
- Commercial organisations, e.g. ION GNSS / NAVTECH Seminars
- ➤ Universities ???
 - Virtual academy

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Quaternary Education Phase

- a life long learning scheme requires
 - an institutionalised place (University, Congress series, ...)
 - an universally accepted certificate (BSc, MSc, ...?)

Proposal:

- Universities as central carrier of CPD (contents)
- Governing board: professional organisations (e.g. FIG/DVW), surveying authorities, ...
 - Curriculum definition and contents
 - Programme evaluation
 - collecting funds
- · Didactically trained instructors specialised to adult education
- Central bureau
 - enrolment
 - development CBT technology

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e-Learning

- computer based training (CBT) technology is already developed
- Best practice examples for distance learning concepts are available
- Didactics for adult education is available, but rarely known to geodesists world / engineering instructors => specialised instructors necessary
- Required is an economical solution to such a CPD scheme
 - Key: multiple use of contents
 - Customer Relationship Management (CRM)

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Conclusions

- Rapidly changing knowledge
- CPD programme for geodesy needed
- Economic solutions difficult to achieve
 - Deployment of CBT
 - multiple use of contents (relate 3rd / 4th education phase)
 - Programmes carried by universities, active involvement of professional organisations
- Research funds available, e.g. EU Life Long Learning or Knowledge Society programmes?

Suggestions and comments highly appreciated Willgalis@web.de

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Shaping the Change