ICT in university education:

eLearning in the Finnish Way
Case Finland and Helsinki University of Technology
Heikki Hallantie/TKK

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Finnish Innovation System

Finnish science and technology system

- PARLIAMENT
- Science and Technology Policy Council
- Government
- Ministry of Education
- Ministry of Trade and Industry
- Other Ministries
- Academy of Finland
- Tekes
- Sitra
- Universities and Public Research Institutes
- Business Enterprises and Private Research Institutes

Source: http://www.research.fi
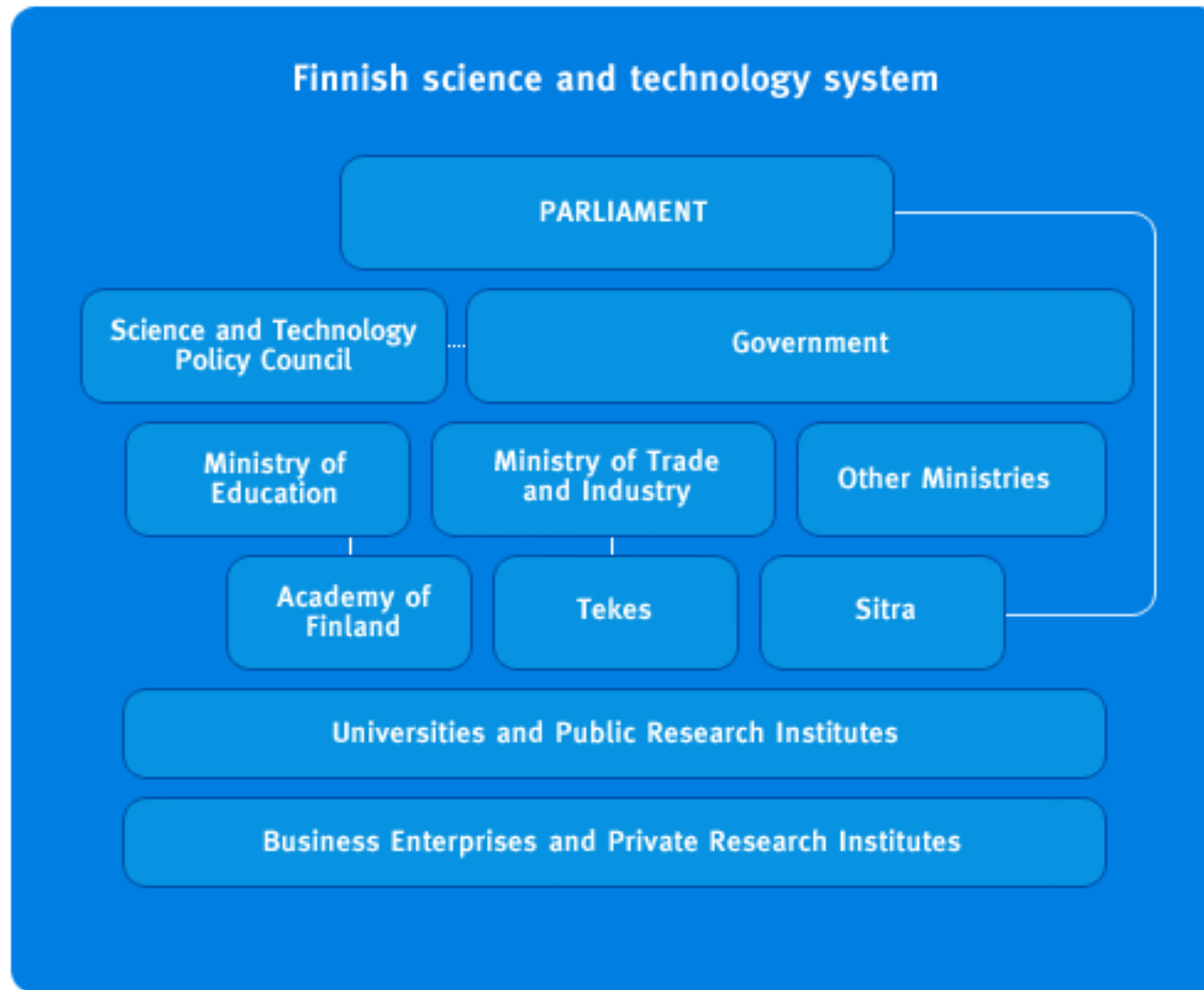
University as an institution of Information Society

- ICT considered as social communication system instead of technology

- focus on systemic level from individualistic teacher-learner centric approach

- ICT will be an essential part of new education system

- e in e-learning should be read "enhanced"

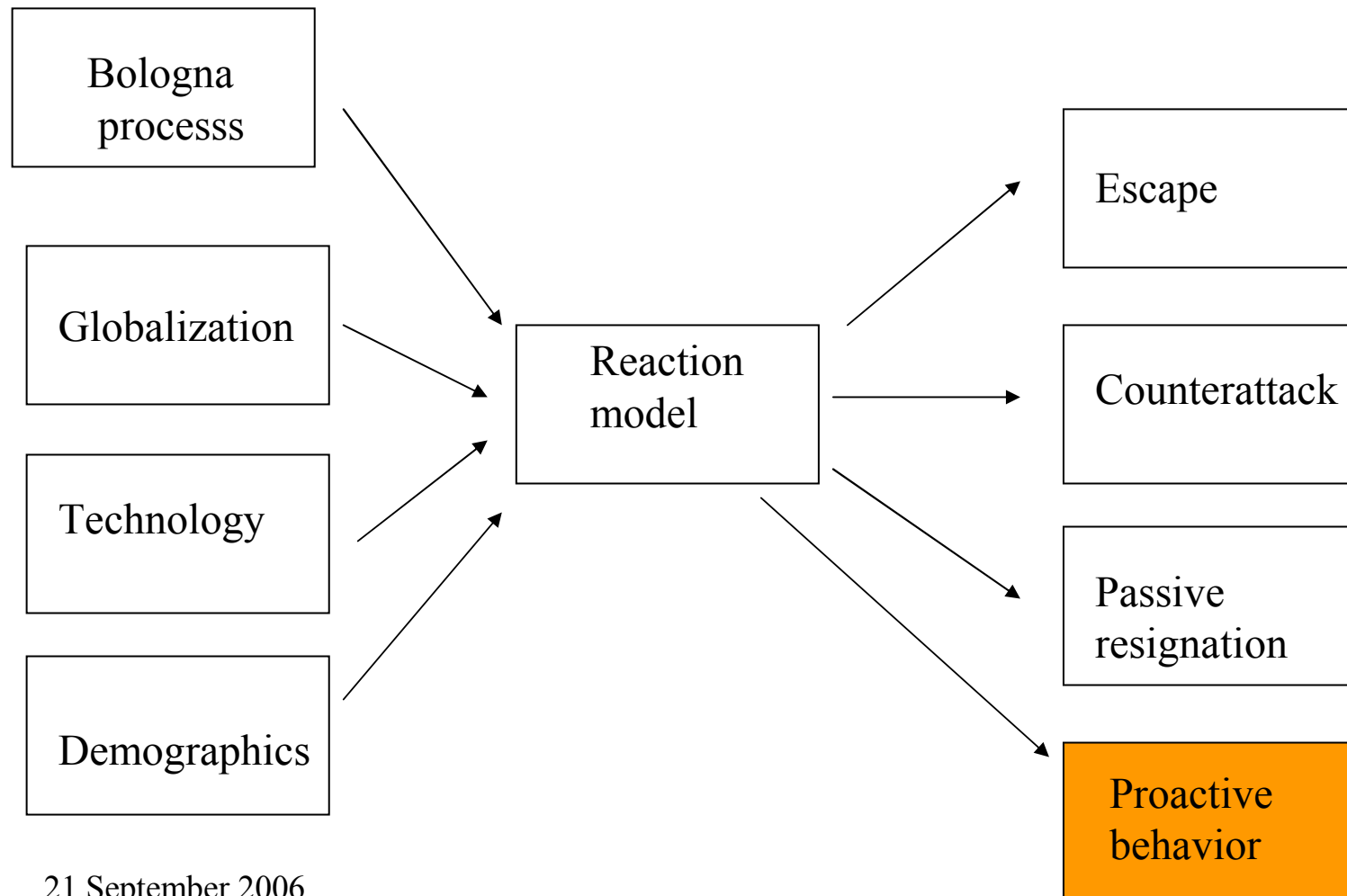- Source: Dr. Jyrki Pulkkinen/Dissertation 2003

Megatrends & Weak signals

- Technology trends
  - price/performance getting better
  - ubiquitous computing

- Globalization

- Demographic factors

- Bologna process

- Big changes in education systems unavoidable

Reaction model

Bologna processs

Globalization

Technology

Demographics

Reaction model

Escape

Counterattack

Passive resignation

Proactive behavior

ICT's in TKK's Education

- Early adoption in pilot courses
- Student database in 90's
- Web-based course registration system in 90's
- Finnish Virtual University initiative 1999
- Common Learning (Optima) platform in 2004
- MLE- project in 2005

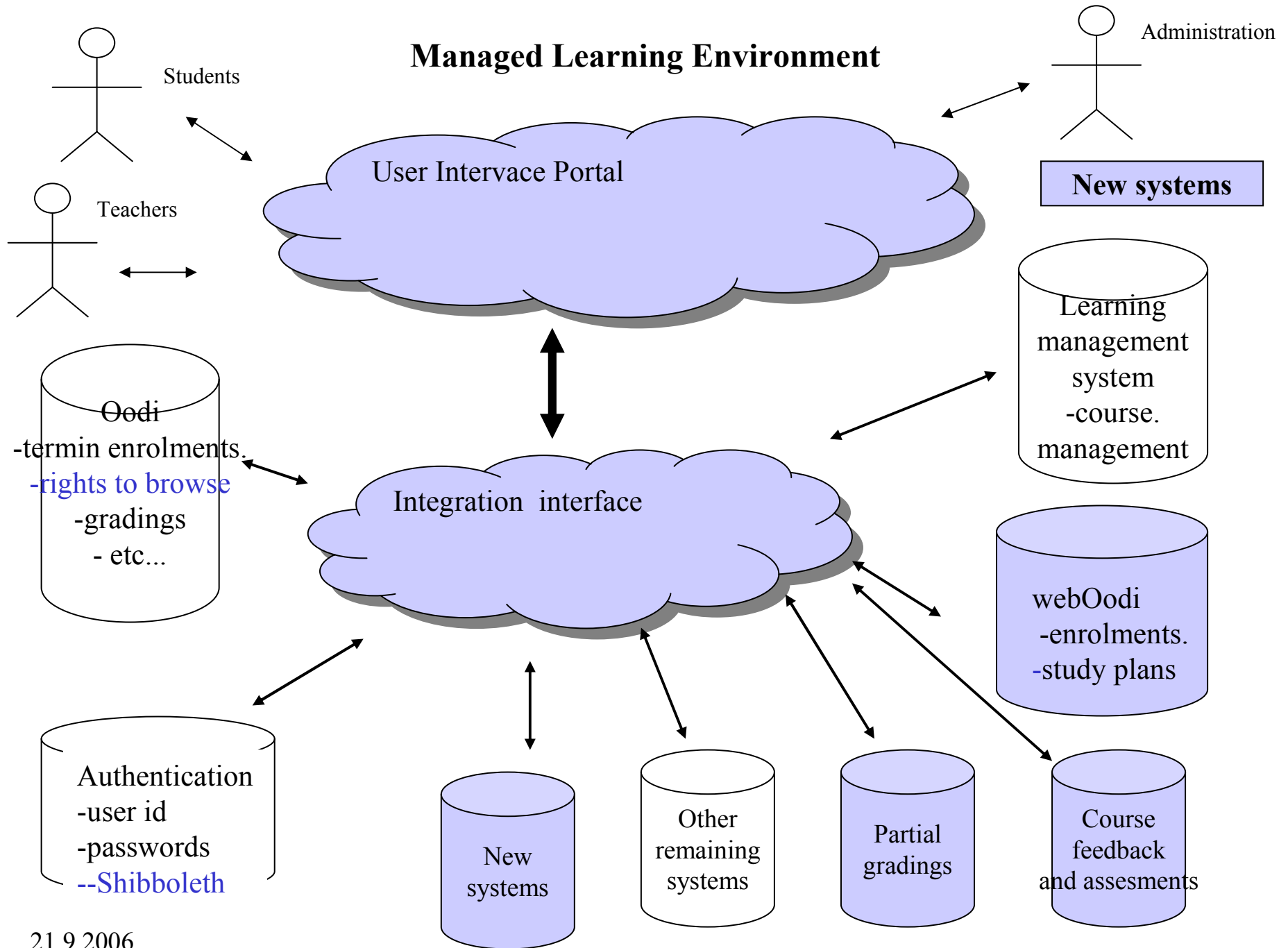# electronic environment@Helsinki University of Technology – eTKK

www.tkk.fi/eTKK (in finnish only)

Project coodination (M.Melin / M.Sipilä)				
eAGE – electronically Administrated Generic Environment	**MLE** - Managed Learning Environment	**CMS** – Content Management System	**Quality system**	**URTHA** – **Project Management System**
M.Pirttivaara J. Salmela	H.Hallantie T.Toivonen	M.Melin J.Lahtinen	M.Melin	I.Lähteenmäki
Shibboleth (A.Tontti)= SSO user recognition				

Existing systems, that must work in cooperation with the new systems:

- Employee information system
- Study systems
- Billing system
- Travel system
- Electric phonebook
- Machine registry
- Economy management system
- Resource management system

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Managed Learning Environment

Students

Teachers

Administration

New systems

User Intervace Portal

Oodi
-termin enrolments.
-rights to browse
-gradings
- etc...

Learning management system
-course. management

Integration interface

webOodi
-enrolments.
-study plans

Authentication
-user id
-passwords
--Shibboleth

New systems

Other remaining systems

Partial gradings

Course feedback and assesments

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eLearning environment

- Autonomy of the University
- Autonomy of Departments
- Autonomy of laboratories
- Consequence: weak central administration
- Lots of individual solutions
- Internal competition

Present situation

- Usage of central learning platform is increasing rapidly (3600 user accounts)

- MLE- portal is at requirement planning phase

- Lots of integration needs

- Single sign-on and Web services as solution

Lessons learned

- Progress is much slower than anticipated
- Avoid technology push
- Involve users
- Process re-engineering is necessary
- Paradigm change in education necessary

Roadmap to the future

- University as an institute of Information society

- Universities as regional players

- From formal hierarchies to open networks

- Global competition and co-operation of Universities