Workshop on e-Governance,
Knowledge Management and e-Learning

April 27-29, 2006
Budapest, Hungary

The principles and practical implementation examples of Knowledge Management by an "Intelligent Organization"

Budapest

A. A. Kwitowski (The Netherlands)
J. Kulicki M.I.M. (The Netherlands)

Contents

Background / Visions

- World Environment/perspective based on Knowledge Society principles
- European Perspective, NL steps to knowledge society and competitiveness
- Vision of “Intelligent Organization”

- **Basic Definitions**
  - Data, information, knowledge, knowledge management
- Knowledge processes
- Is knowledge = the power ?

How do we Create and Enhance the Knowledge?

Contents

- Knowledge Management and Technology
  - Overview of IT tools for KM
  - KM practices and Information Technologies
  - The importance of Knowledge Management for “Intelligent Organizations”
  - KM Key Facts
- Practical implementation of KM
  - Important areas of knowledge and KM tools within an “Intelligent Organization”; the role of inter-relations; IT tools
  - Implementation Strategy
  - KM road map
- Final Conclusions/ recommendations

Background / Visions

World perspective is based on Knowledge Society

World trends …

- Intensive ICT development
- Mass global travels and and world-wide telecommunication (Internet/)
- Development of trade / globalisation ……
  creates the societies based on knowledge
- Basis for it is development and exchange of non-material assets and services
- Most important are up-to-date information, knowledge and skills
- All these aspects change the structure of the work
- The NEW Economy (NEWWORK) = NETWORK

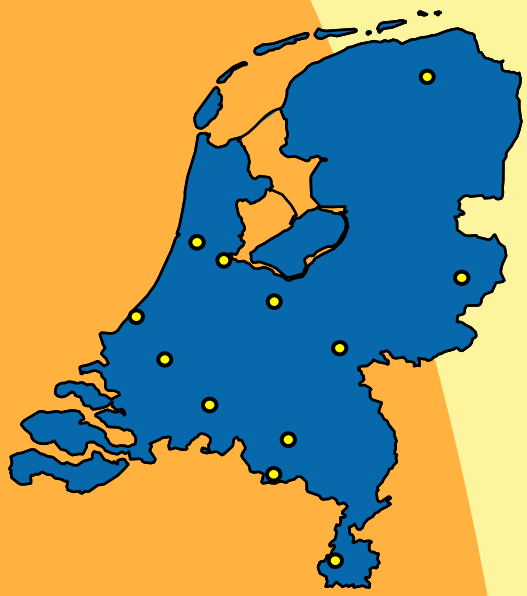
EU-perspective

Europe has entered the age of Knowledge

- Ambitions of EU-top 2000 Lisbon
  - Europe intents to create the society and economy based on knowledge
  - Europeans must operate in the homogeneous cultural, ethnic and language environment
  - All Europeans should have the same conditions to fulfil the expectations and to be able to actively participate in the building of Europe future
  - More attention need to be paid to education during the the entire life
  - Access to information and knowledge

Objectives of these changes are

- Improvement of competitiveness
  - Possibility to employments
  - Possibility to adjust the works force



NL - perspective

NL supports EU-top 2000 Lisbon ambitions

- NL focuses on creation of society based on knowledge and knowledge economy
- NL introduces changes in:
  - Strategy of education development
  - Level of financing of education
  - Investment in Human resources
- The Government requires from the citizens and firms:
  - (more)Own initiatives
  - Undertaking of (more)responsibilities
- Relation – citizen/organisation/government – is changing

Objective of this changes is

- Preservation the competitiveness of the NL in Europe

Vision of “Intelligent Organisation”

- Intelligent organisation
- Knowledge Employers
- Initiatives related to knowledge
- Roadmap for Knowledge Management (KM)

“Intelligent Organisation” (IO)

Characteristics

- Decision making on all levels
- Information Technologies should be:
  - Close related to the goals and business processes
  - Expanded also on external partners and clients
  - Used for better communication and closer cooperation between employers
- Co-operation with partners and suppliers
- Continuously improvement of quality
- Learning from the competitors
- Improvement of quality of products and services

“Knowledge employer”

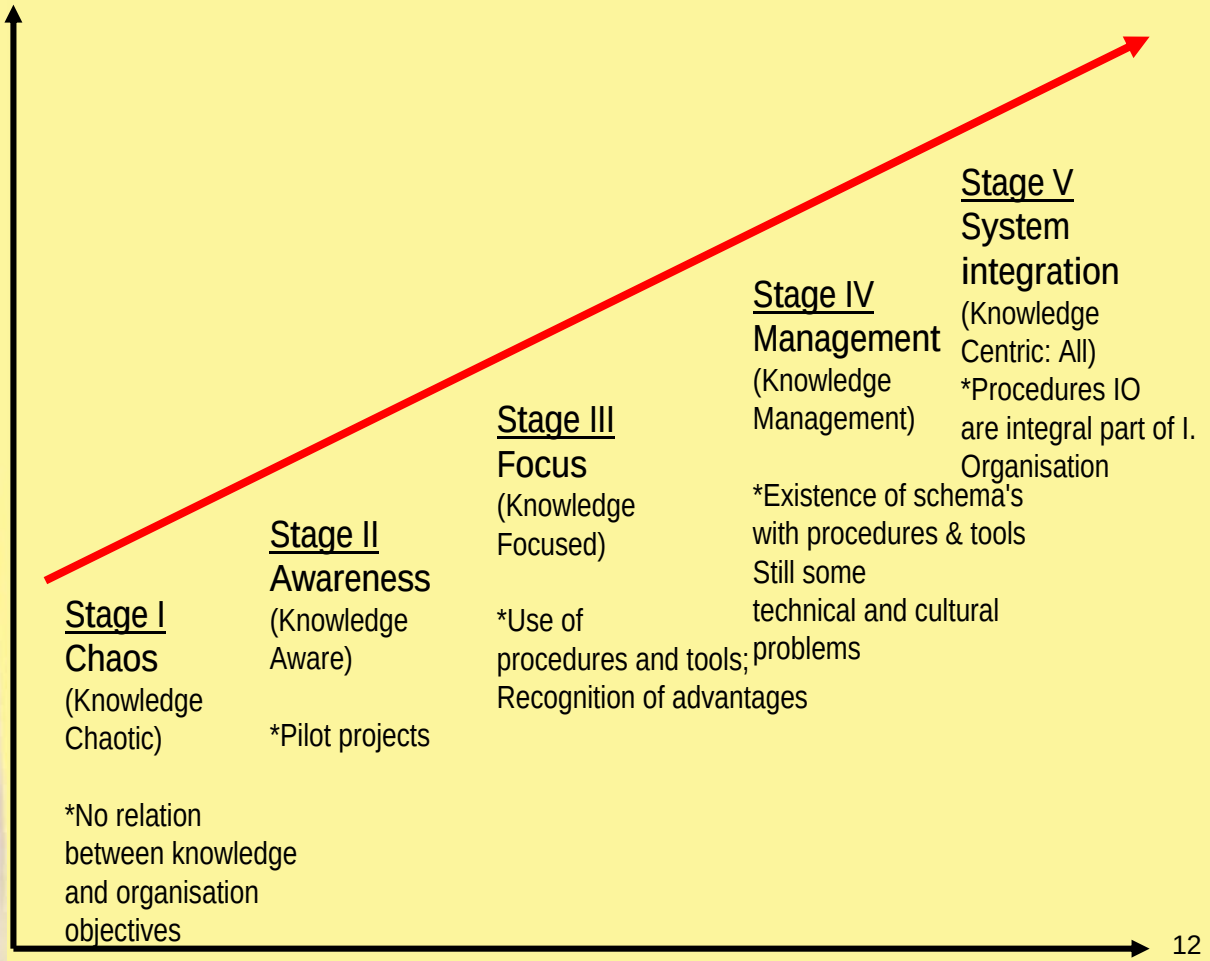
Characteristics

- Takes initiatives
- Is in continues contact
- Manages himself
- Act in a team
- Is a leader
- Co-operates with his manager
- Remembers about strategic goals
- Solves conflicts
- Combines the competitive interests, individual and group ones

Initiatives related to the knowledge

- Creation / development of organisational culture
- Learning broader than this can be done by an individual
  - Maximize information circles
  - Combining the human systems with IT systems
- Position of KM in the context of Management strategy by IO
  - Priorities in investments in the technological tools
  - Targeting on maximal return on investment

Roadmap for “Knowledge Management”



Basic Definitions

What is the definition of data?

The Data

- By the data we understand the symbolic representation of numbers /figures, quantities, or facts.

70 people
21↘C
“A pleasure experience”

What is the definition of information ?

Information

- is when a person adds the meaning/interpretation to the received data.

Data

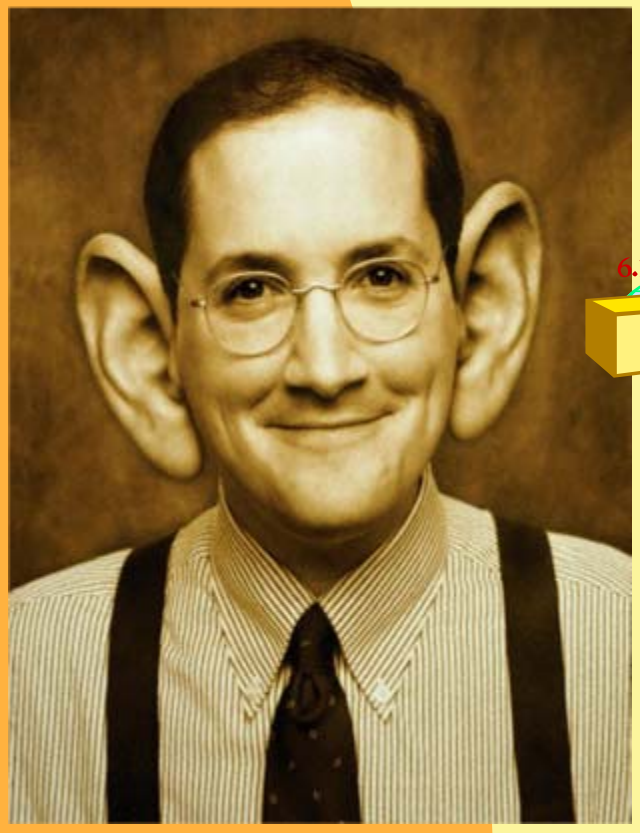
70 people	→ Today are more people than yesterday
21↘C	→ The weather forecast
“A pleasure experience”	→ Maria has passed exam

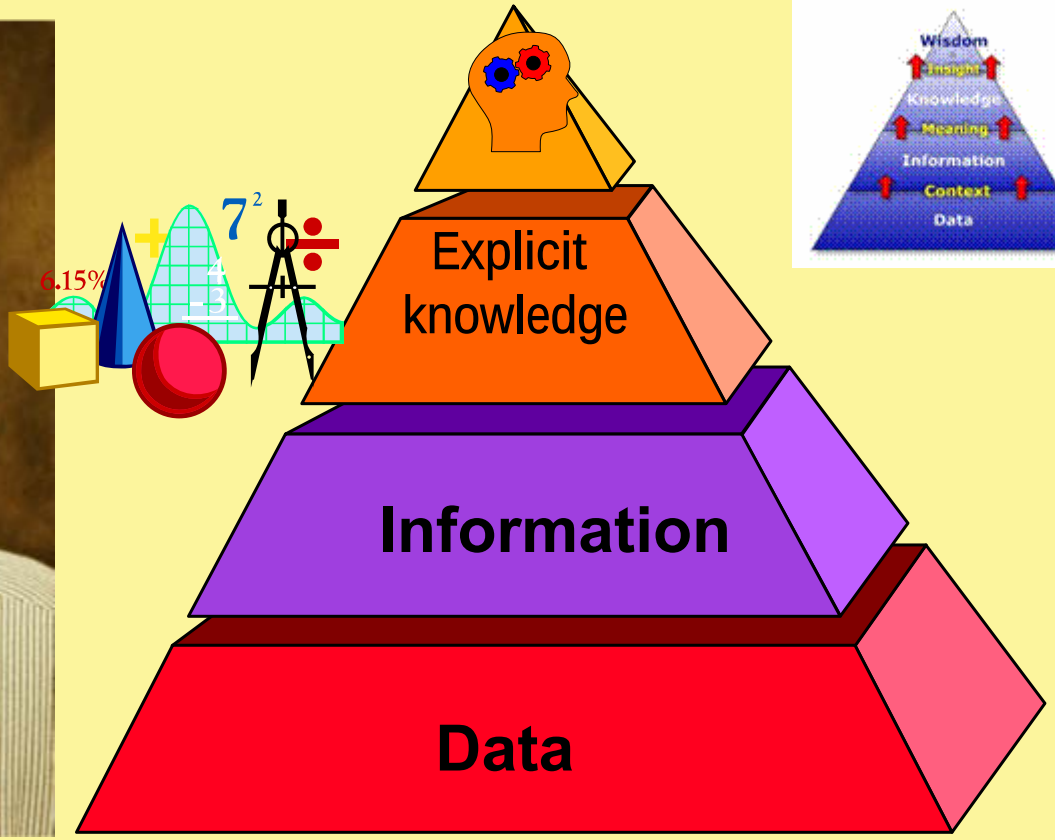
What is the knowledge?

It is equation: K = I +ESA

- I: information (explicit knowledge / record-able)
- ESA (implicit knowledge - in the head):
  - E: experience
  - S: skills
  - A: attitude/culture

What is the knowledge?





Knowledge: does not exists outside human being; it is located “between the ears” of the employers of your organizations!

What means knowledge by an IO?

- Generally, the Knowledge is defined as combination of explicit (record-able) and implicit(in the human's head).

It is an equation : K = I + ESA

Explicit Knowledge = Info

Explicit Knowledge is stored in archives, dossiers, libraries.

All information can be stored in theories, formulas, procedures, instructions, schema's, etc.

Explicit Knowledge can be also stored electronically.

Implicit Knowledge : ESA

Implicit Knowledge of employers is stored in the heads. Implicit Knowledge can be divided into various categories:

- Experience (projects)
- Skills (competences)
- Attitude,culture (personal characteristics)

Processes related to the Knowledge

Processes related to the Knowledge

Conceptual

- Sharing
- Storing
- Retrieval/capture
- Use
- Gathering
- Creation
- Delete

Practical

- Lectures, seminars, courses, creation of teams..
- Digital data storage (Intranet, electronic libraries)..
- Intranet, queries to the DB's, IO language/jargon …
- Creation of teams, re-use of information
- Recruiting of new employees, alliances / co-operations,
- Innovations, trainings, …
- "Cleaning up" files, dossiers, training of employees

Attitude (culture):
Does Knowledge gives you the power ?

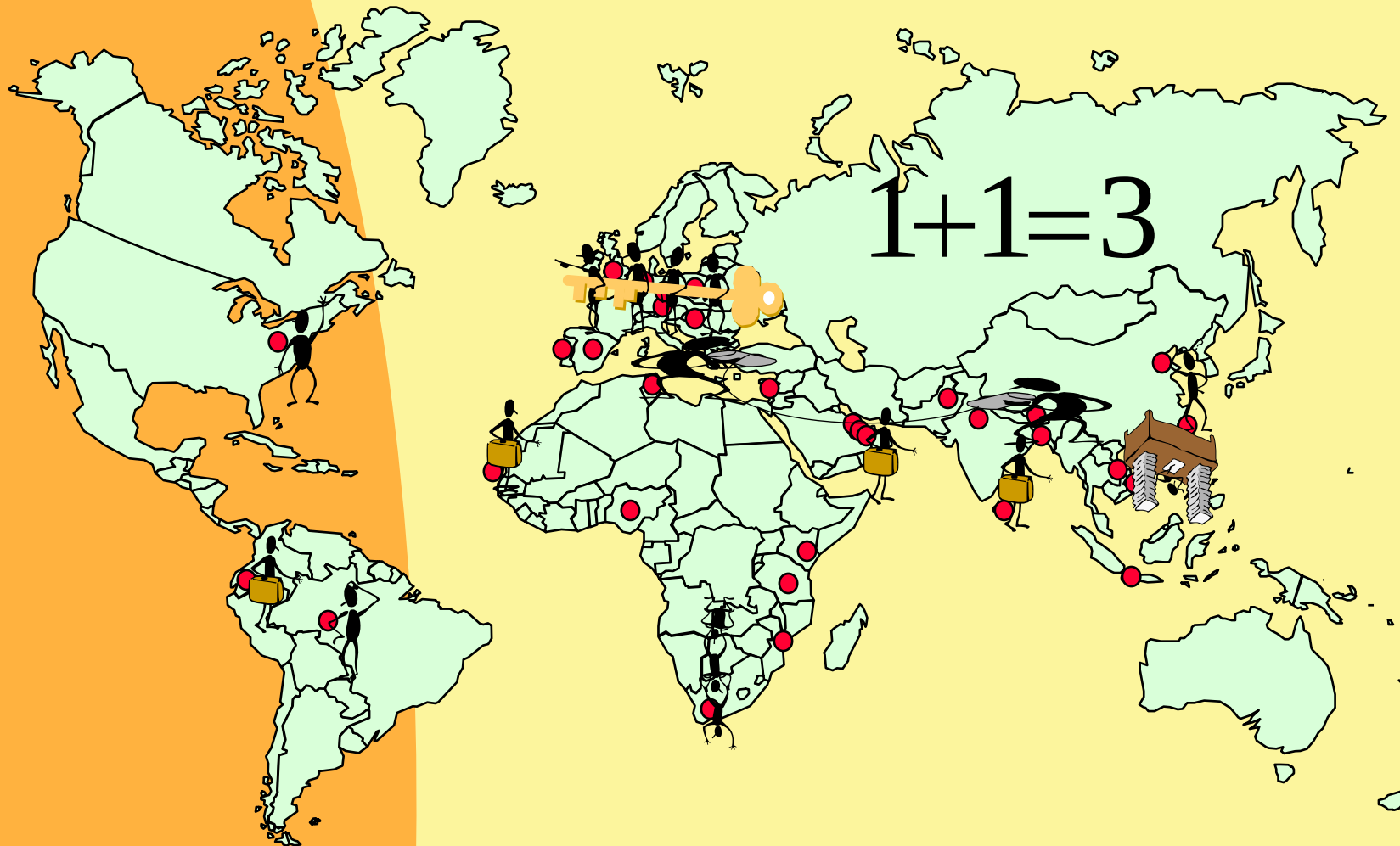
The Knowledge hardly gives the power!

Sharing of knowledge gives the power !

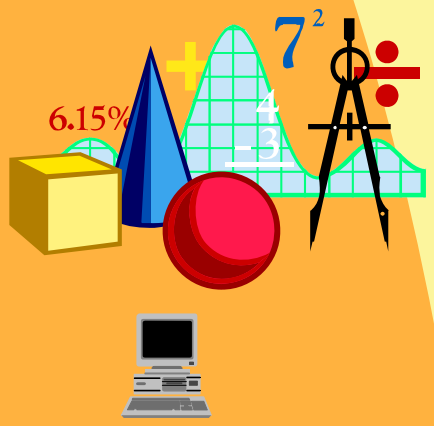
Information management
knowledge management

"Together" creates more than a sum of the parts

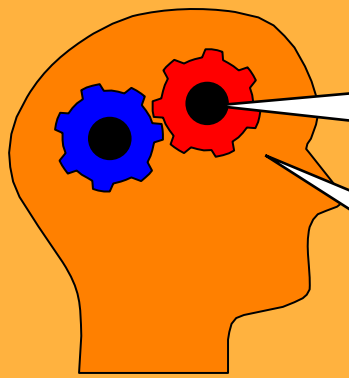
Key success factors



Knowledge definition again



Knowledge is the interplay between information, experience, skills and attitude that enables us to make decisions, to accomplish our tasks and/or to meet our objectives.

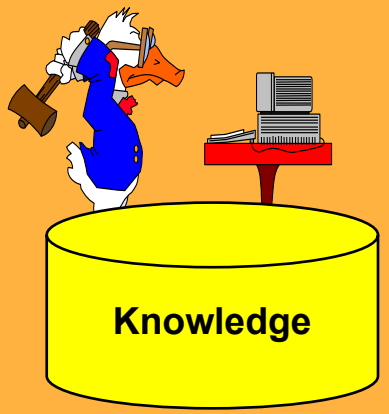


We know more than we can tell

We don't know what we (have to) know

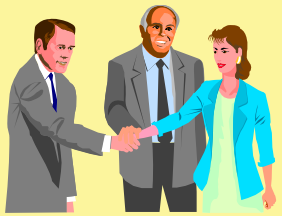
It's not what you know that gives you power, it's what you share about what you know that gives you power

How do we Create and Enhance Knowledge?



Informal and formal on-the-job training

Interaction with customers/suppliers



Cross functional teamworking

Cross functional projects

Informal networks within organisation

Face-to-face meeting

Teamworking

1+1=3

Learing by doing

Coaching & mentoring

Performance management

Competency development

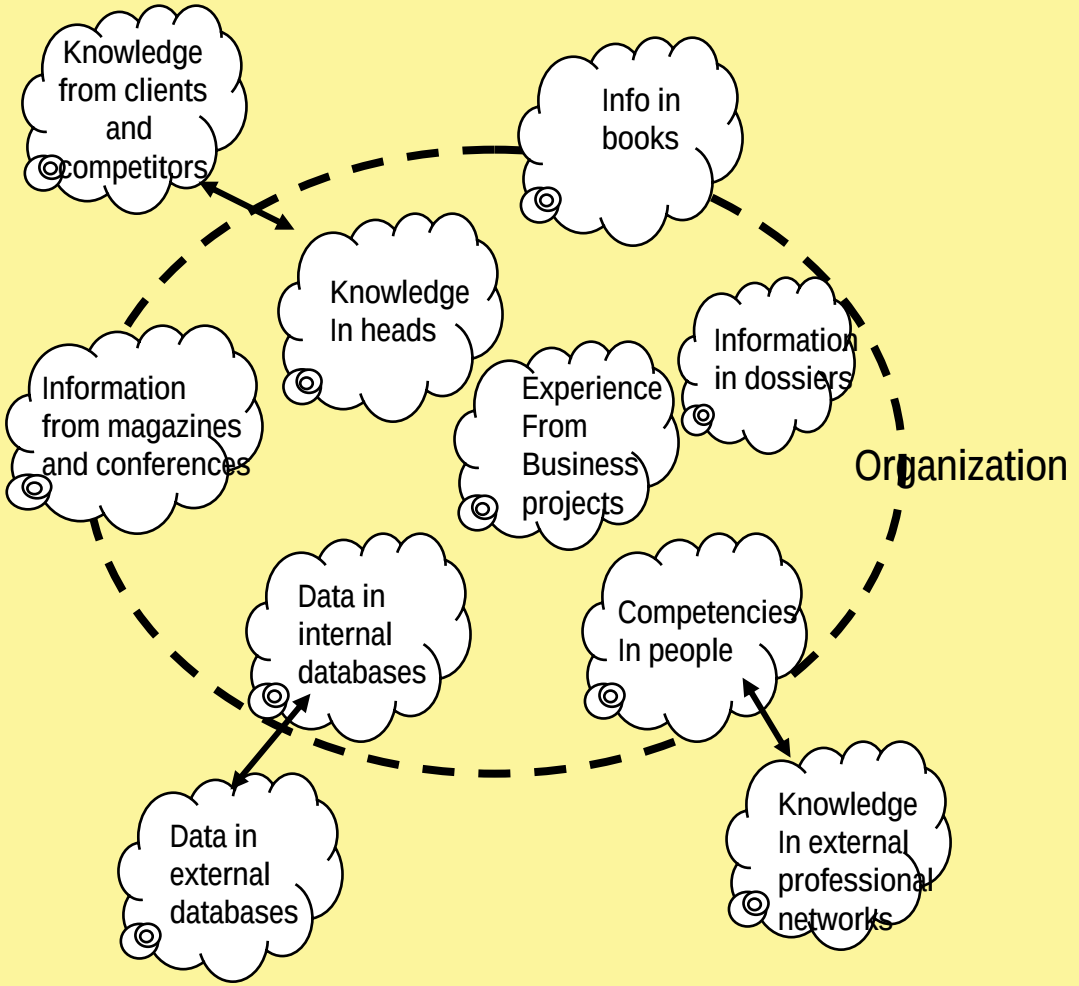
Documents and reports

What is Knowledge Management?

Knowledge Management is formalizing the management of an enterprise's intellectual assets.

Enterprise look to manage their intellectual assets because of the capital embedded in them. This embedded capital is not financial – rather, it is human, organizational and relationship capital. Those forms of capital are often hidden, are not highly leveraged and are difficult to value.

Relevant data, information and knowledge are everywhere, but where?



Knowledge Management and IT

Knowledge Management and IT

Knowledge Management is enjoying a technology renaissance

Until 2001, KM practices were not well supported by software vendors. However, due in part to economic pressures and tight IT budgets, vendors began providing integrated KM in 2001.

One of the biggest challenges for KM is that so little relevant knowledge is actually in any kind of documented form.

KM Key Facts

KM is a disciplined process, not a technology

KM is an integral part of the organization and its processes

KM programs must

- Be designed to directly support business objectives and process
- yield measurable results; the ROI well-managed KM programs can be 2:1

NT + OO = EOO

New Technology

Old Organization

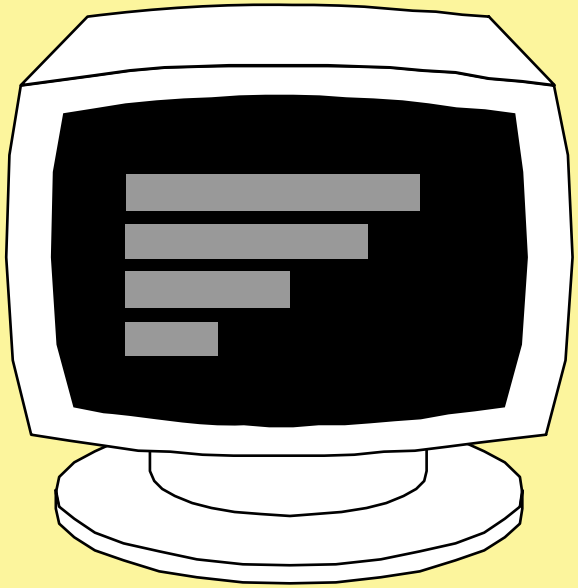
========== +

Expensive Old Organization

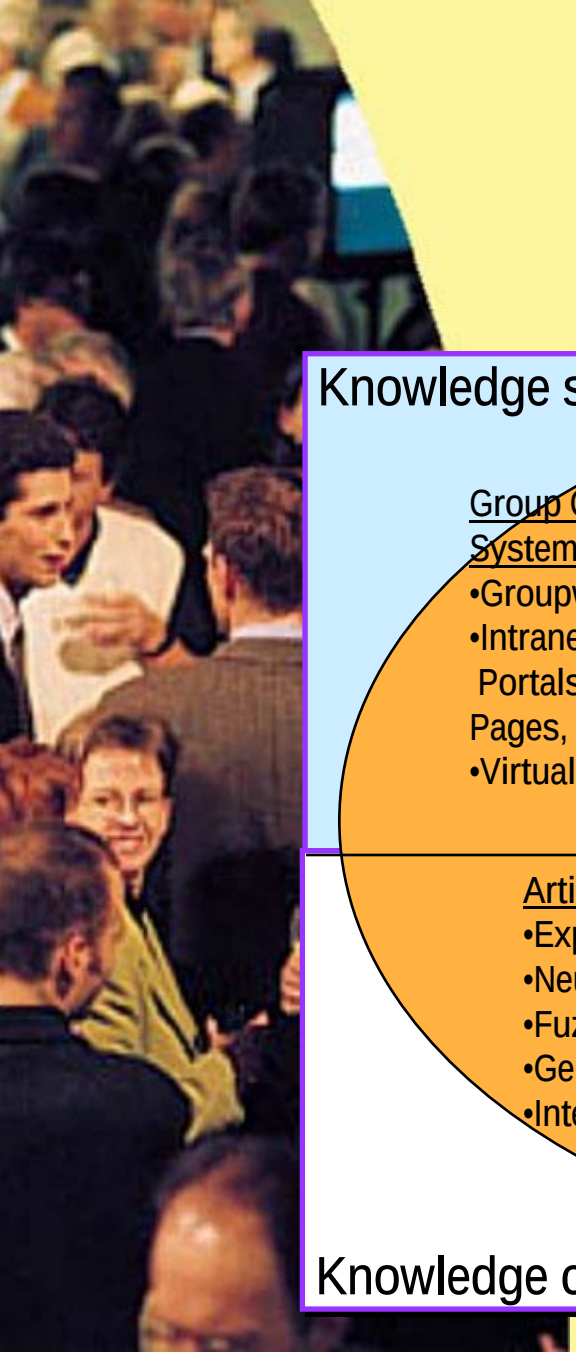
e – Knowledge management

=

data
information
knowledge



?



ICT tools for KM

(based on DHV example)

Knowledge sharing

Group Collaboration Systems
- Groupware: (Office 2000)
- Intranets (Plaza, DHV Gatway, Portals) “Who-what-where”: Blue Pages, CVS
- Virtual collaboration on the internet

Knowledge distribution

Office Systems
- Word Processing
- Desktop en Web Publishing
- Document management systems
- Document Imaging system,
- Workflow,
- Databases: desktop databases, spreadscheets, user-friendly interfaces to mainframe databases

Knowledge capture and archiving

Artificial Intelligence Systems
- Expert Systems
- Neural Nets
- Fuzzy Logic
- Genetic Algorithms
- Intelligent Agents Group

Knowledge development

Knowledge Work Systems
- CAD/CAM
- Virtual Reality

- E-learning

KM practices and Information Technologies

Document Management

A server-based repository that offers library services, with many extended and related technologies.

Best-Practices Programs

A process of capturing processes-oriented knowledge in a explicit form, and sharing that knowledge or incorporating it into a continuous process improvement program.

Web Content Management

Controlling Web site content through the use of specific tools. Web content management solution offer core functionality that goes well beyond simply managing HTML pages.

KM practices and Information Technologies
Adoption speed: two to five years

Virtual Teams

A project-oriented group of knowledge workers who are not required to work in the same location or time zone.

Information-Retrieval/Search

The retrieval of documents based on a similarity metric applied to user's query.

Team Collaboration Support

Team-oriented collaboration tools that bring together real-time communication and asynchronous collaboration for team activities and tasks.

E-learning

The use of electronic technologies to deliver cognitive information and training that improves understanding and competency.

Automates Text Categorization

Use pf statistical models or hand-coded rules to rate a document's relevancy to specific subject categories.

KM Practical implementation

(Based on DHV Group, an example of "Intelligent Organisation")

DHV Group

Our Vision

To be, as a member of a close-knit global alliance, a leading consultancy and engineering firm operating in the public-private spectrum.

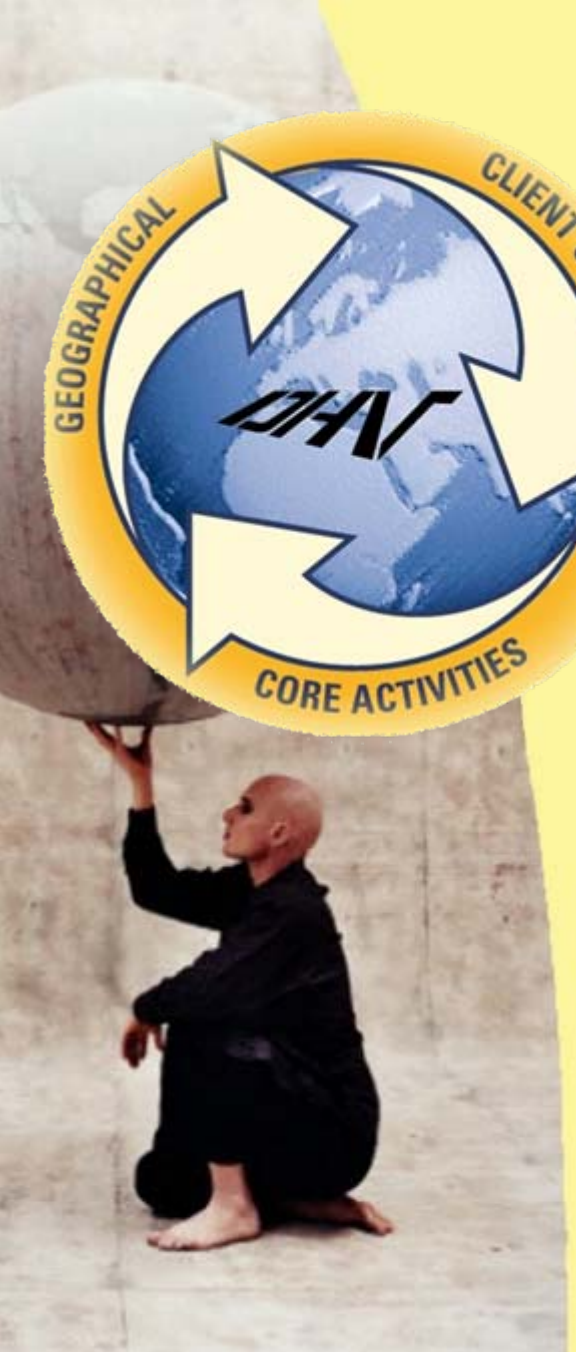
Our Mission

To provide multi-disciplinary services for the sustainable development of our living environment, based on mutual loyalty with our clients, employees, partners and shareholders.

Differentiating

Strengthening our IREPs (internationally-recognized expertise positions).

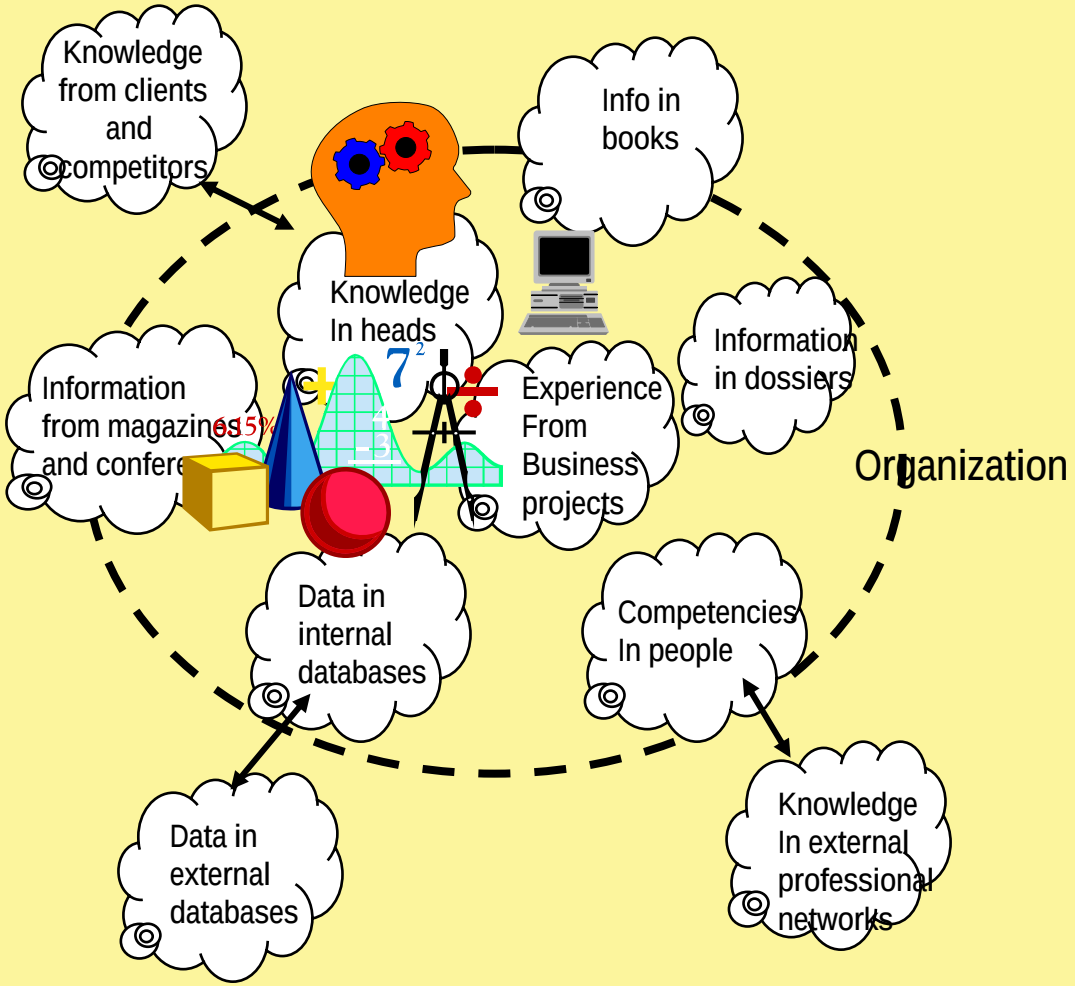
Our specific know-how and experience are our main assets and the essence of the DHV identity in the world, embodying the DHV Group's one-company concept. They are the basis for our existence and our future.



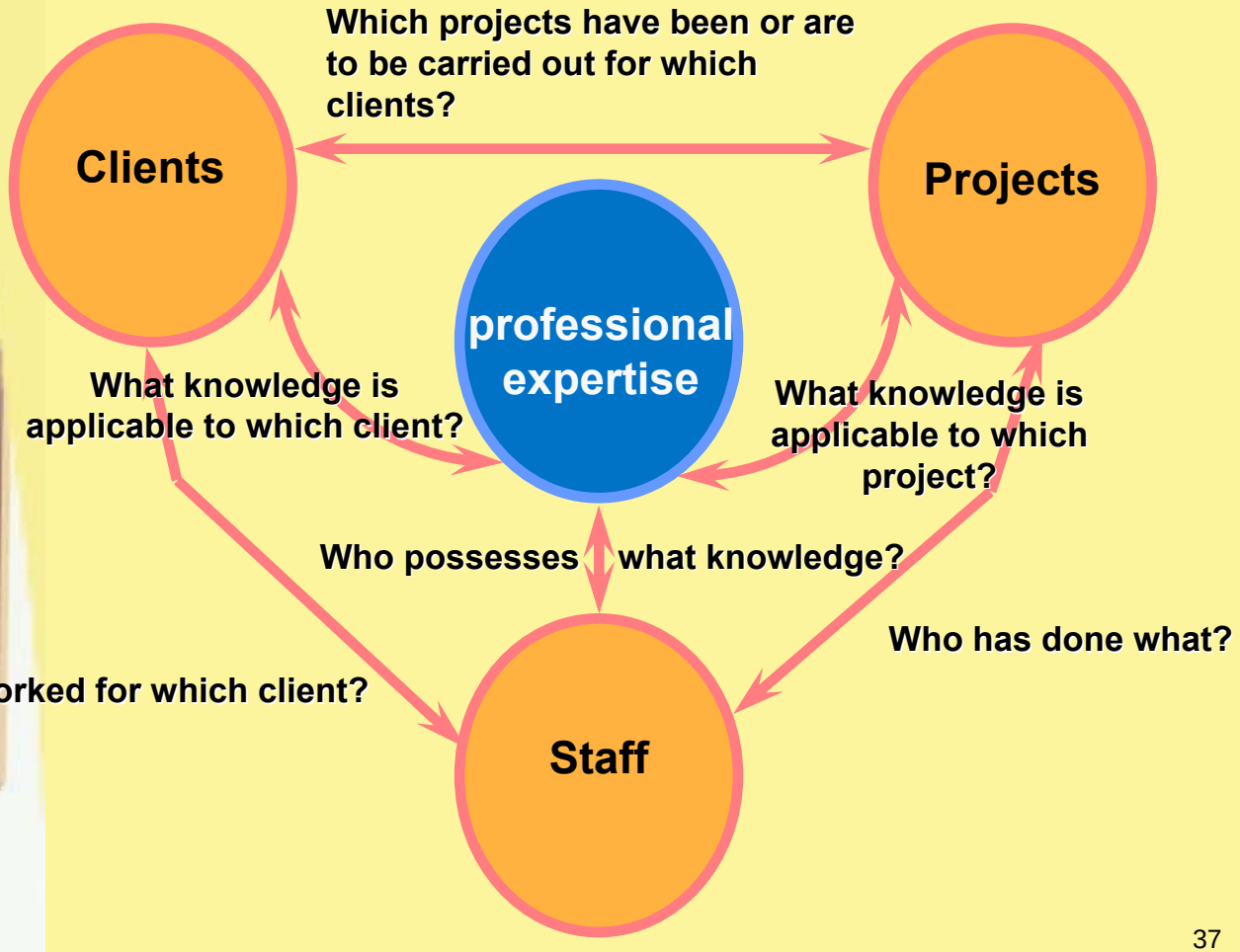
Management of knowledge is of vital importance !

DHV is a knowledge-intensive organisation, which implies that the planning and management of knowledge is of vital importance. Knowledge management helps to improve the cohesion within the DHV Group, is a critical success factor for growth and profit, and is essential for the realisation of DHV's Mission Statement and goals.

Relevant data, information and knowledge are everywhere, but where?



Important areas of knowledge and KM tools within DHV



Important areas of knowledge and KM tools within DHV

CRM

Clients

Which projects have been or are to be carried out for which clients?

PRS (Project Reference System):

Projects

DHV Plaza: this is the DHV intranet

professional expertise

What knowledge is applicable to which client?

What knowledge is applicable to which project?

Who possesses what knowledge?

Who has done what?

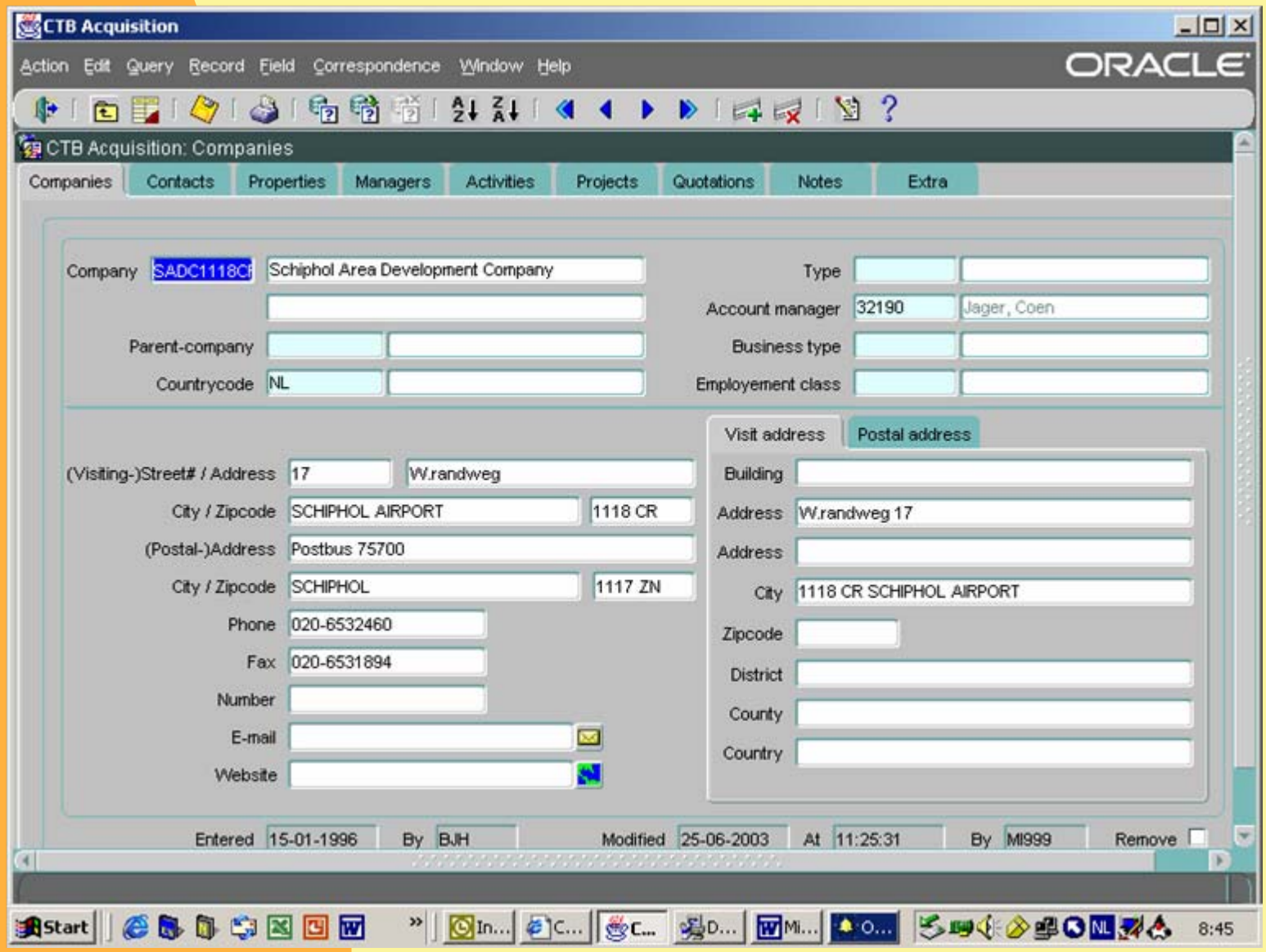
Who has worked for which client?

Staff

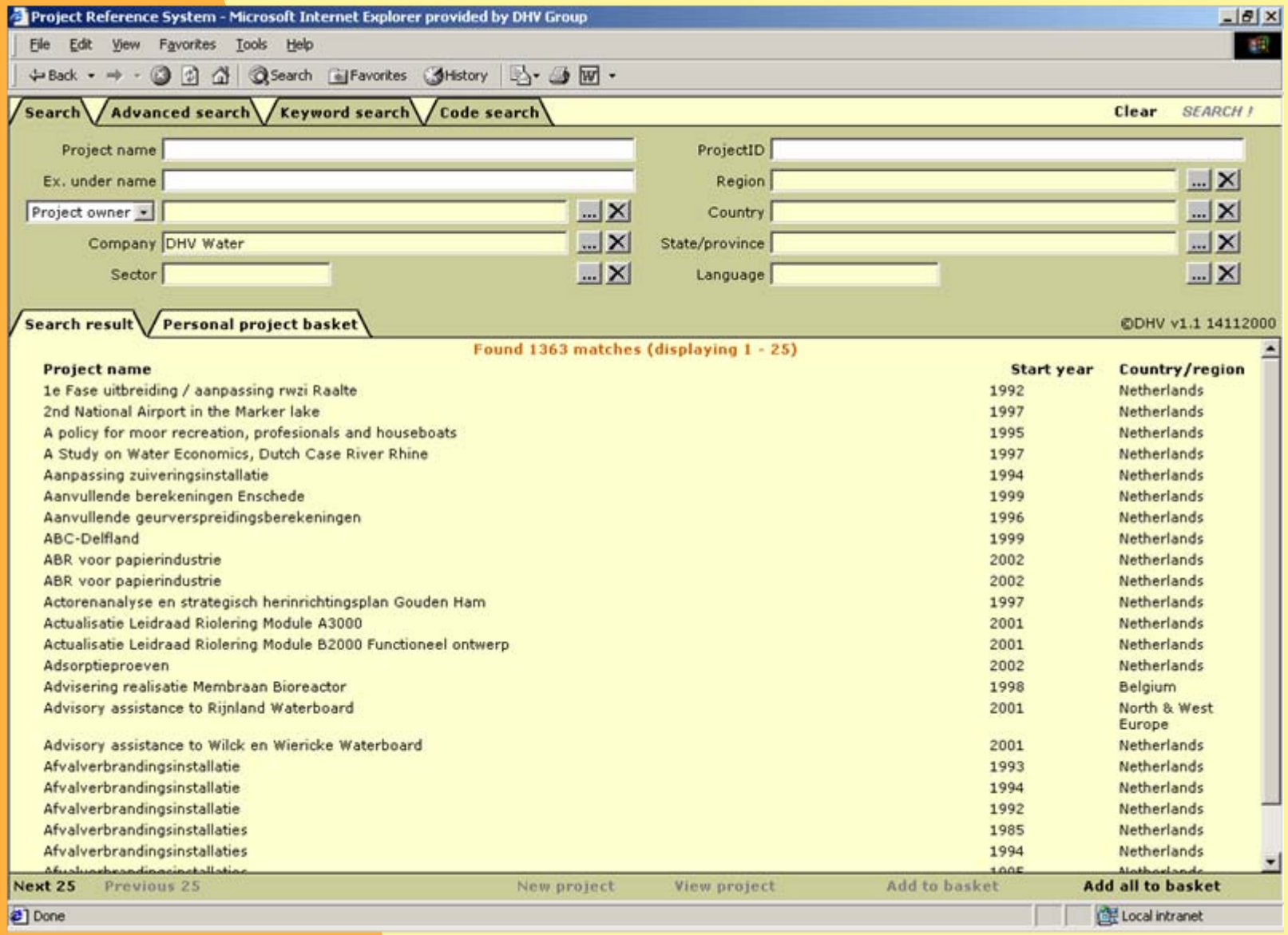
Blue Pages (Phone Book)

CVS (Curriculum Vitae System):

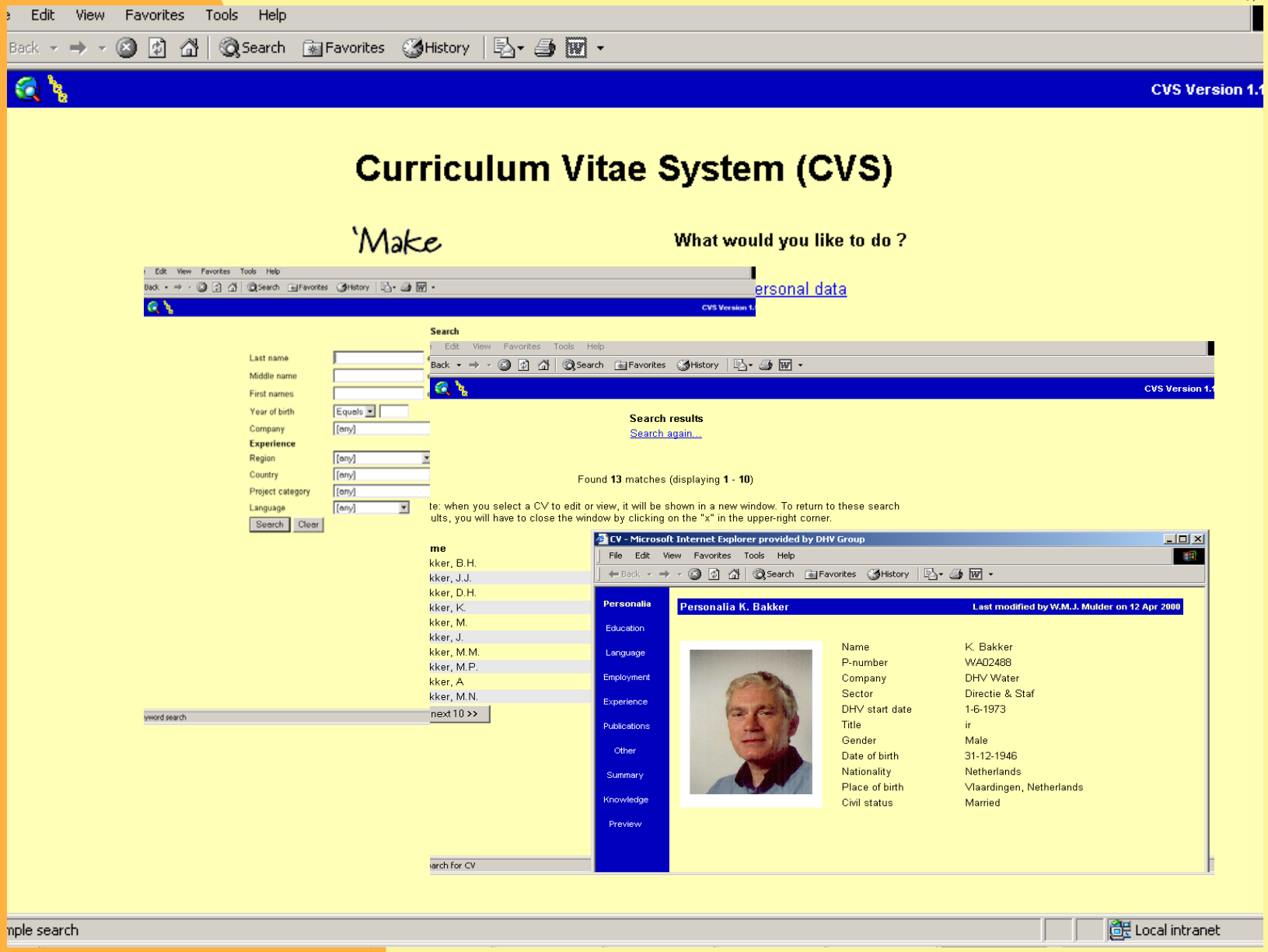
CRM (Customer Relation Management



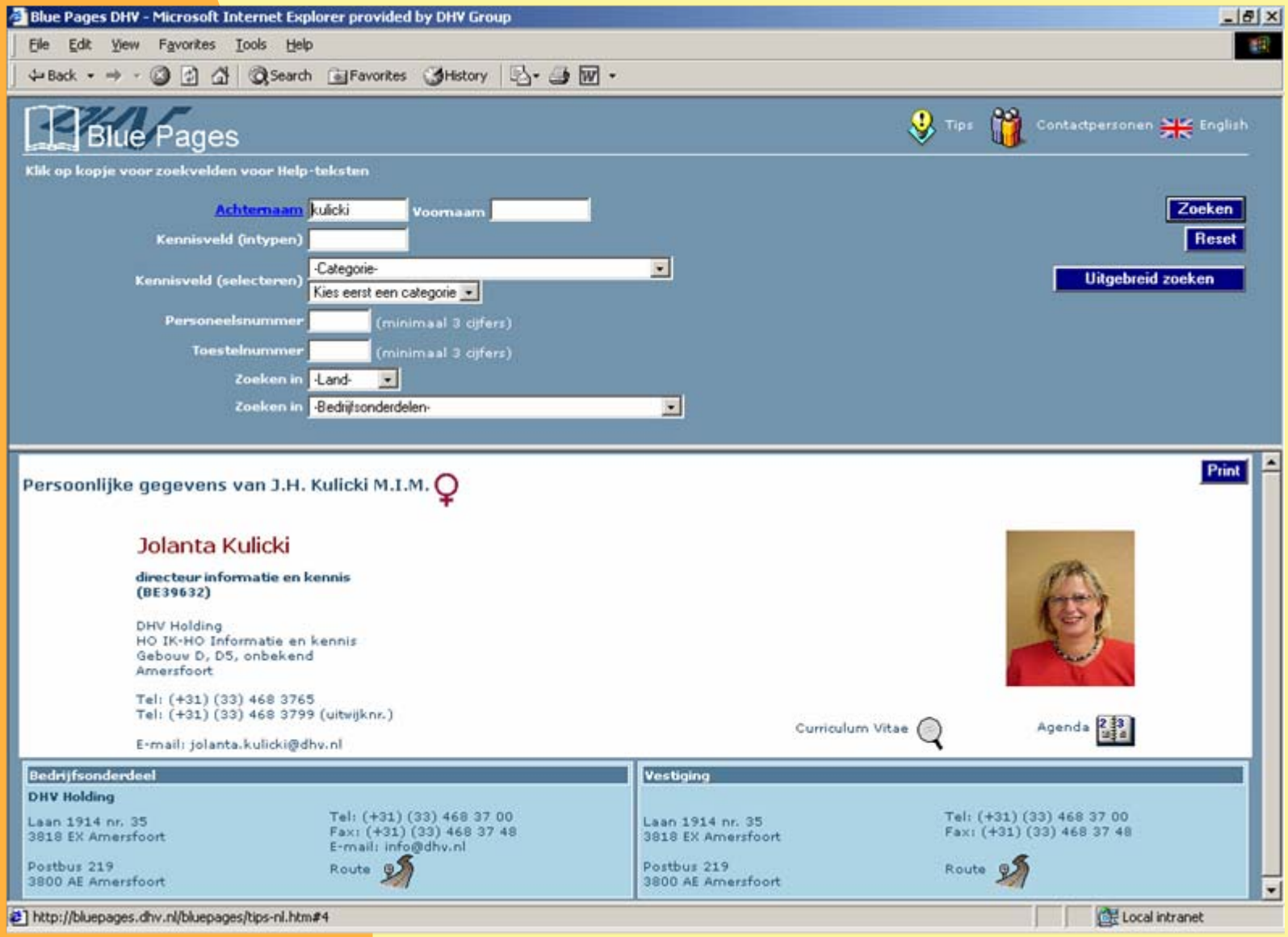
PRS (Project Reference System)



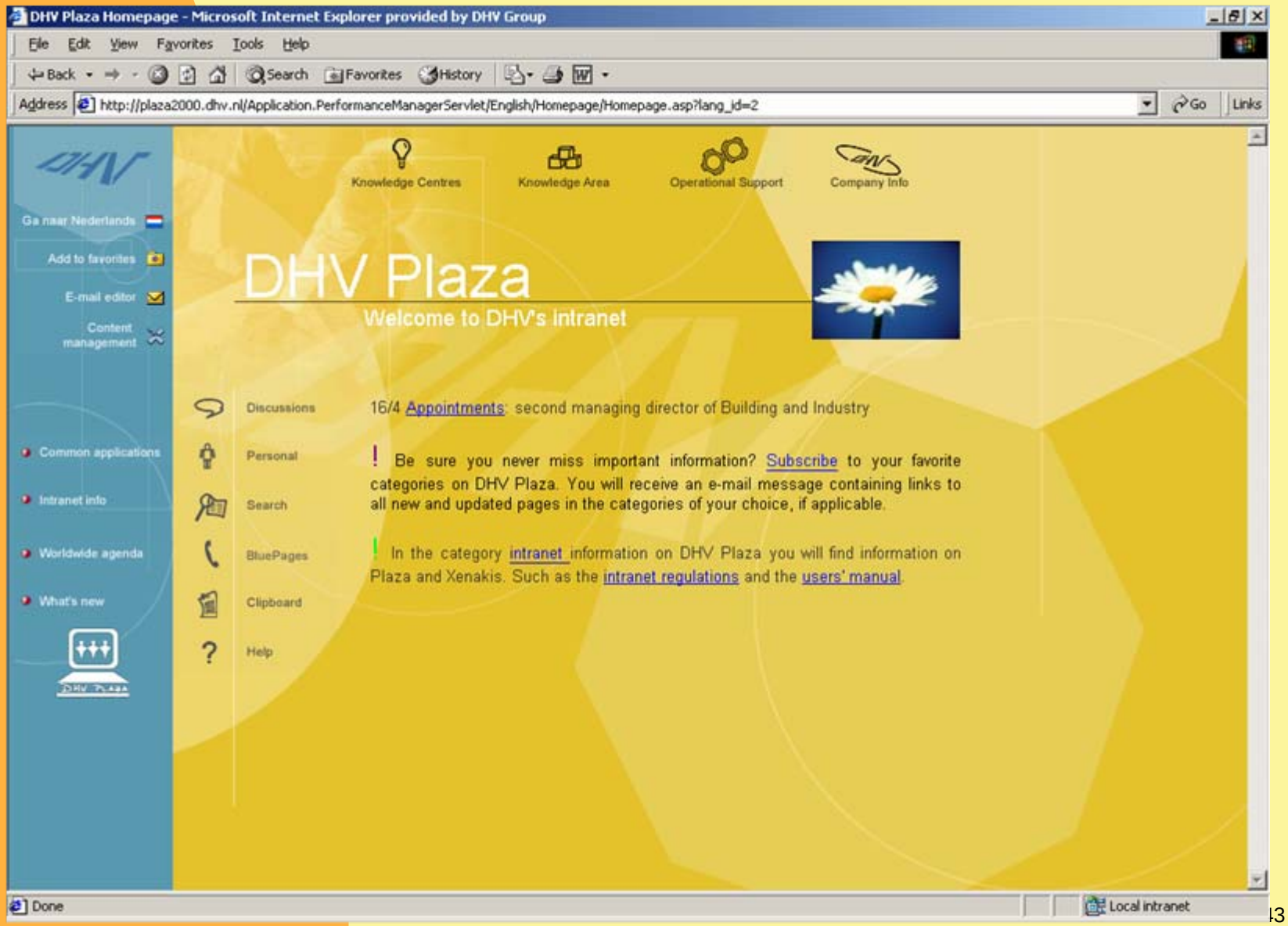
CVS (Curriculum Vitae System)



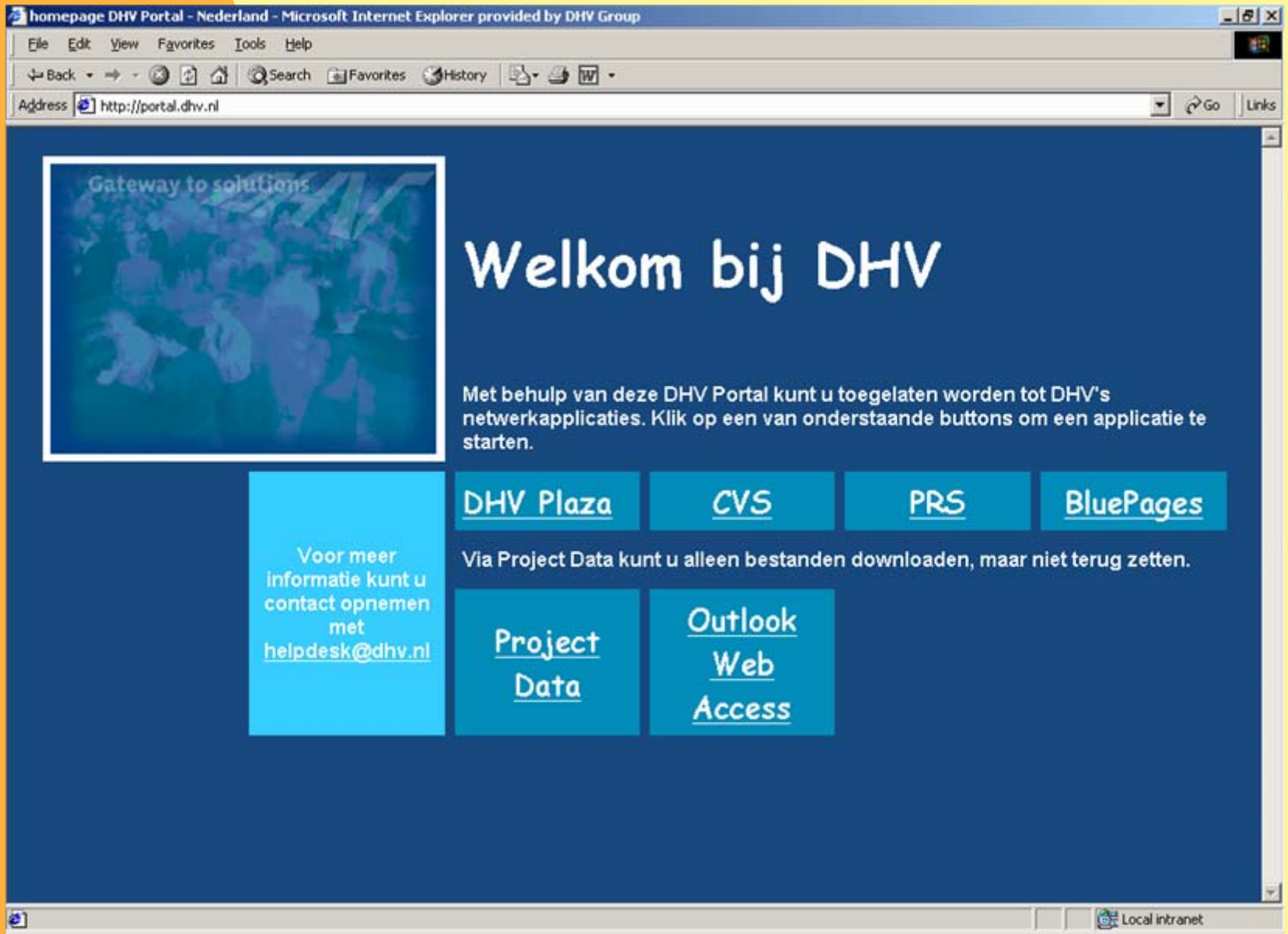
Blue Pages (Phone Book)



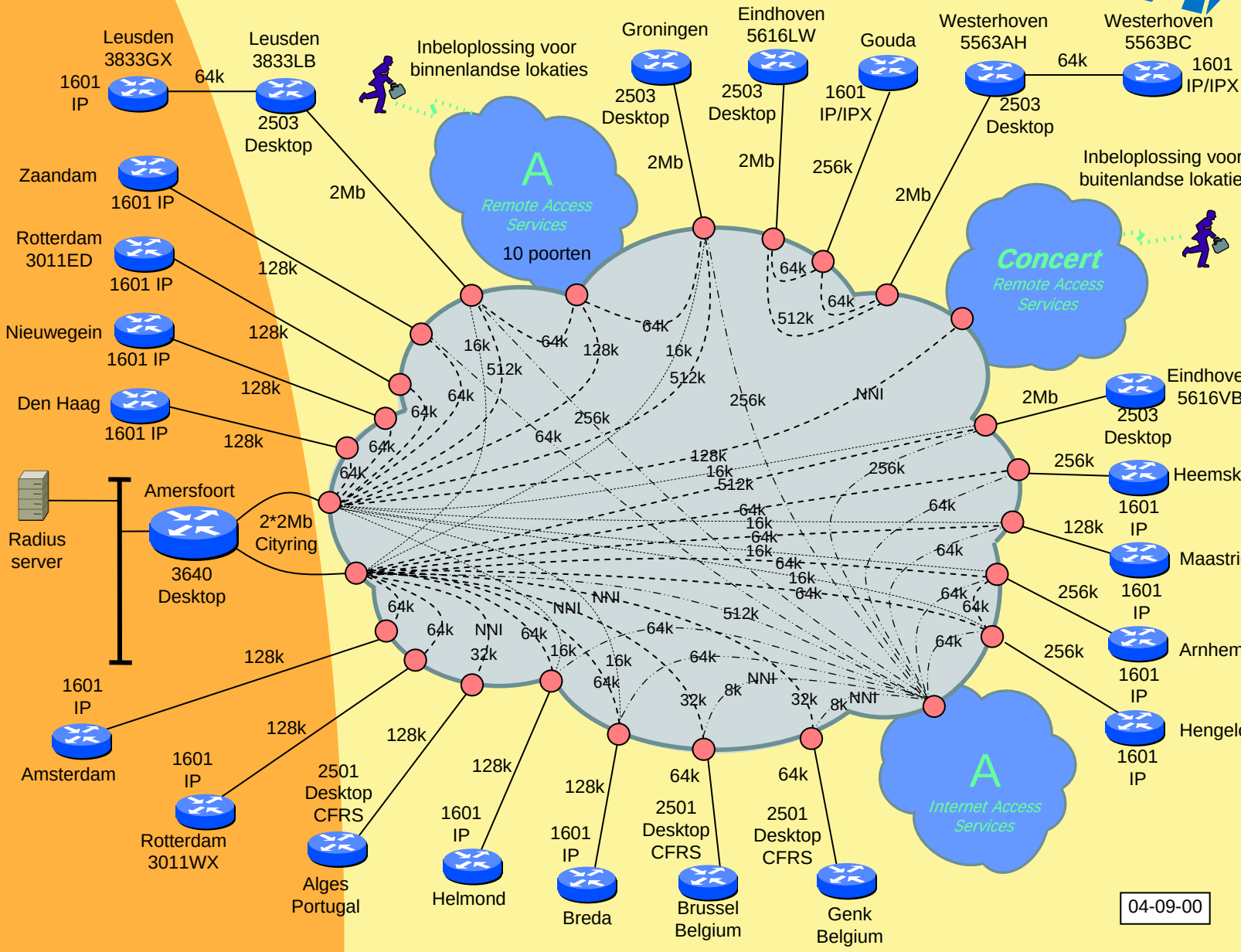
DHV Plaza: this is the DHV intranet



DHV Portal


homepage DHV Portal - Nederland - Microsoft Internet Explorer provided by DHV Group
File Edit View Favorites Tools Help
Back Search Favorites History
Address http://portal.dhv.nl
Go Links
Gateway to solutions
Welkom bij DHV
Met behulp van deze DHV Portal kunt u toegelaten worden tot DHV's netwerkapplicaties. Klik op een van onderstaande buttons om een applicatie te starten.
DHV Plaza
CVS
PRS
BluePages
Voor meer informatie kunt u contact opnemen met helpdesk@dhv.nl
Via Project Data kunt u alleen bestanden downloaden, maar niet terug zetten.
Project Data
Outlook Web Access
Local intranet

Frame Relay, Internet connectivity and Remote access



Implementation strategy by DHV: focus on....

Building a relationship and trust between employees. It will be based on Communities of Practices (CoPs) approach. CoPs will be a flexible organization with temporary structure to link people together

A standardized Knowledge Sharing System will support global access to the “Intelligent Organisation” knowledge

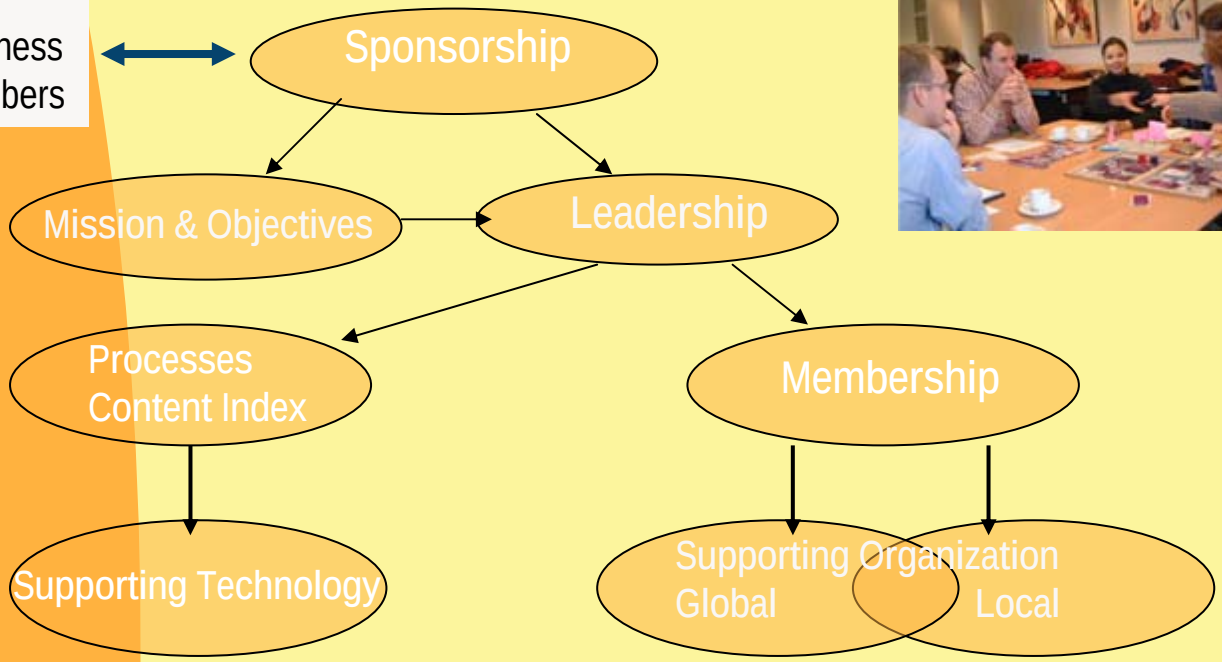
A simple model for Communities of Practices

CoPs are an organizational approach enabling people to work together to generate new ideas, to solve problems faster, to innovate and create new or improve existing processes, products or services

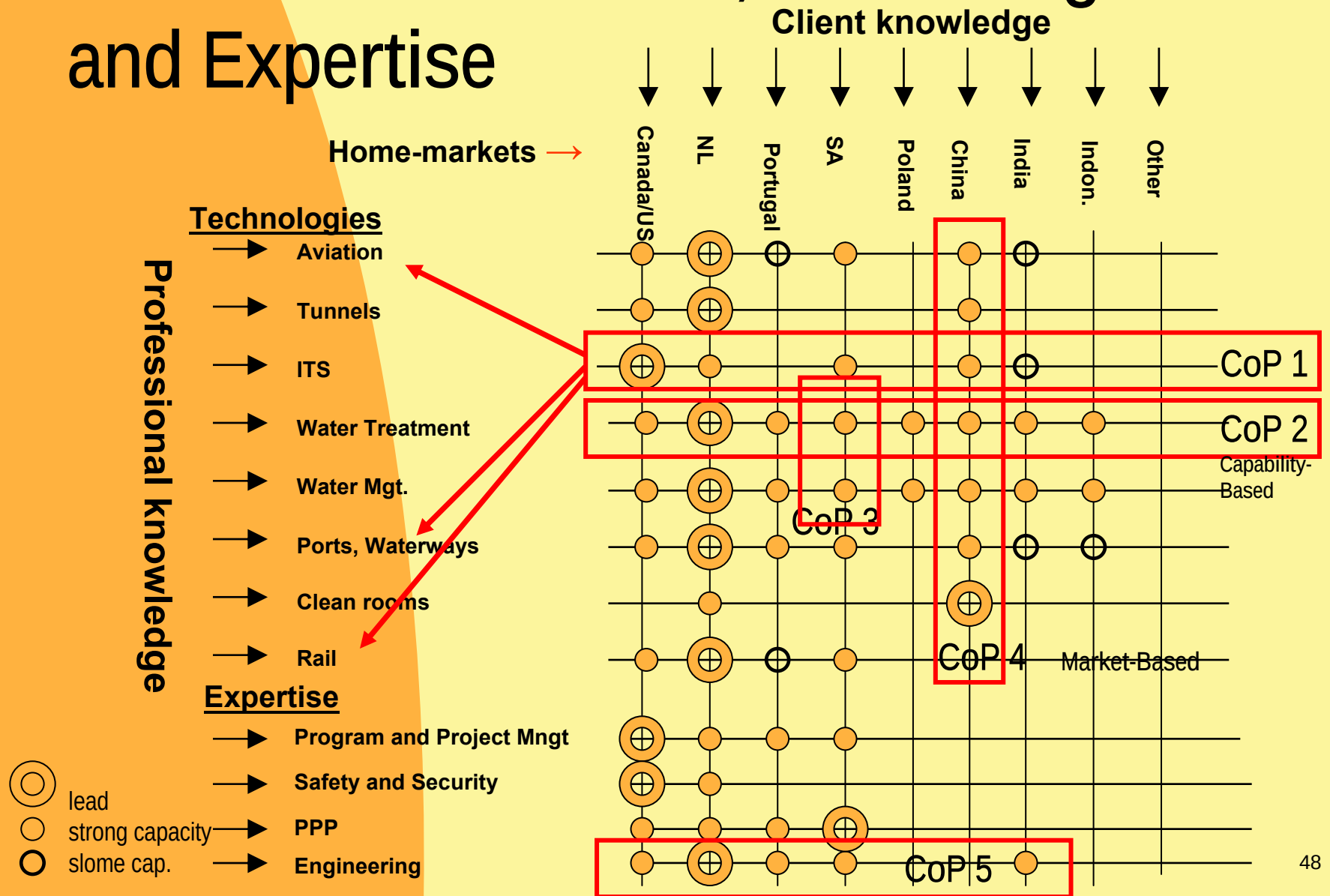
Straight targets based on strategy

Focus on on topics important to the business and community members

Community Model



DHV – Home-markets, Technologies and Expertise



Knowledge Management Game

The initiatives that have been taken in the past to improve the attitude towards knowledge sharing at DHV

DHV position on the KM Roadmap

2005

NL

Step I
Knowledge
Chaotic

Step II
Knowledge
Aware

Step III
Knowledge
Focused

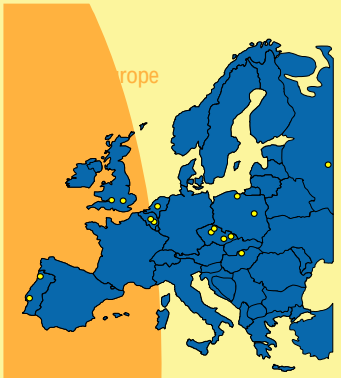
Step IV
Infrastructure

Step V
Knowledge
Management

Step VI
Centric: All

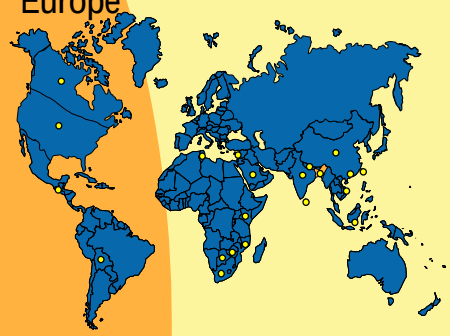
Next steps!

Focus on
- NL
- IT
- Units
- Bottom-up



Belgium
Czech Republic
Hungary
Poland
Portugal
Russia
The Netherlands
United Kingdom

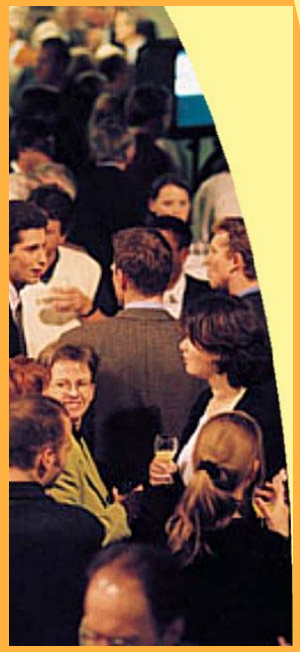
DHV Group outside Europe



Bangladesh
Botswana
Bolivia
Canada
China
Guatemala
Hong Kong
India
Indonesia
Israel
Kenya
Mozambique
Nepal
Saudi Arabia
Sri Lanka
South Africa
Taiwan
Tunisia
United States
Vietnam
Zimbabwe

Final Conclusions

Knowledge Management



Knowledge Management is formalizing the management of an enterprise's intellectual asset

Enterprise looks to manage their intellectual assets because of the capital embedded in them.

This embedded capital is not financial – rather, it is human, organizational and relationship capital.

Final KM Key Facts

- KM is a disciplined process, not a technology !
- KM is an integral part of the organization and its processes
- KM programs must
  - Be designed to directly support business objectives and process
  - Yield measurable results; the ROI well-managed KM programs can be 2:1

NT + OO = EOO

New Technology

+

Old Organization

==========

Expensive Old Organization

The most Admired Knowledge-Intensive Leaders

Drivers for KM →

knowledge as the main asset

the need for efficient and effective work

commodification of products

globalization of clients

improving competitive response

preventing loss of intellectual assets

Focus on

creating a corporate knowledge-driven culture

developing knowledge workers through senior management leadership

delivering knowledge-based products/solutions

maximizing enterprise intellectual capital

creating an environment for collaborative knowledge sharing

creating a learning organization

delivering value, based on customer knowledge

transforming enterprise knowledge into shareholder value

Performance ←

- create shareholder value twice as fast as competitors
- showed in 2003 an average ROCE (Return of Capital Employed) of 30.4 – compared to the Financial Times Global 500 median of 18.5.

The leading companies in some of the most knowledge-intensive sectors are (in alphabetical order):	
Automotive manufacturing	Ford, Honda, Toyota
Consulting	Accenture, Cap Gemini Ernst & Young, McKinsey
Defense & aerospace	Boeing, Honeywell International, Rolls-Royce
Electronics and electrical equipment	Canon, Siemens, Sony, Xerox
Information technology	Hewlett-Packard, Infosys Technologies, IBM, Microsoft
Oil & gas	BP, ChevronTexaco, Shell
Pharmaceuticals:	Aventis, Johnson & Johnson, Merck
Professional services	Ernst & Young, KPMG, PricewaterhouseCoopers

Source: Teleos -intellectual capital research company-2003 *Global Most Admired Knowledge Enterprises (MAKE) Study*

Experience from firms operating globally

McKinsey&Company

PRICEWATERHOUSECOOPERS

THE BOSTON CONSULTING GROUP

FLUOR

ALLEN & OVERY

KM is an integral part of the (matrix practices/locations) organization

Globally knowledge management initiatives are in place

- internationally coordinated staff and practice groups develop focussed expertise
- common procedures and systems
- an enterprise portal provides global access to the company knowledge database

- Attract the best talent to work in the company
- Investing in KM practises between 2% - 10% as a percentage of revenue !

" Experience indicates that the best knowledge-sharing happens in the companies that create *communities of practice* – cluster of people linked by common practical interests or activities and sharing knowledge focused on their practical needs"

Implementation strategy: focus on….

Building a relationship and trust between employees. It will be based on Communities of Practices (CoPs) approach. CoPs will be a flexible organization with temporary structure to link people together

A standardized Knowledge Sharing System will support global access to the “Intelligent Organisation” knowledge

Closing Info & Discussion, Questions,…

Speaker/Authors info:

Mr. A. A. Kwitowski,

- Consultant & Manager of many WB / EU projects
- DHV Consultants (The Netherlands)

GSM: 00 31 651553658

Email: andre.kwitowski@dhv.nl

or kwitowski@compuserve.com

Mrs. J.M. Kulicki

- Director Information and Knowledge

DHV Group (The Netherlands)

Tel. 00 31 33 468 3700

Email: jolanta.kulicki@dhv.nl

Thank you for your attention and see you again…