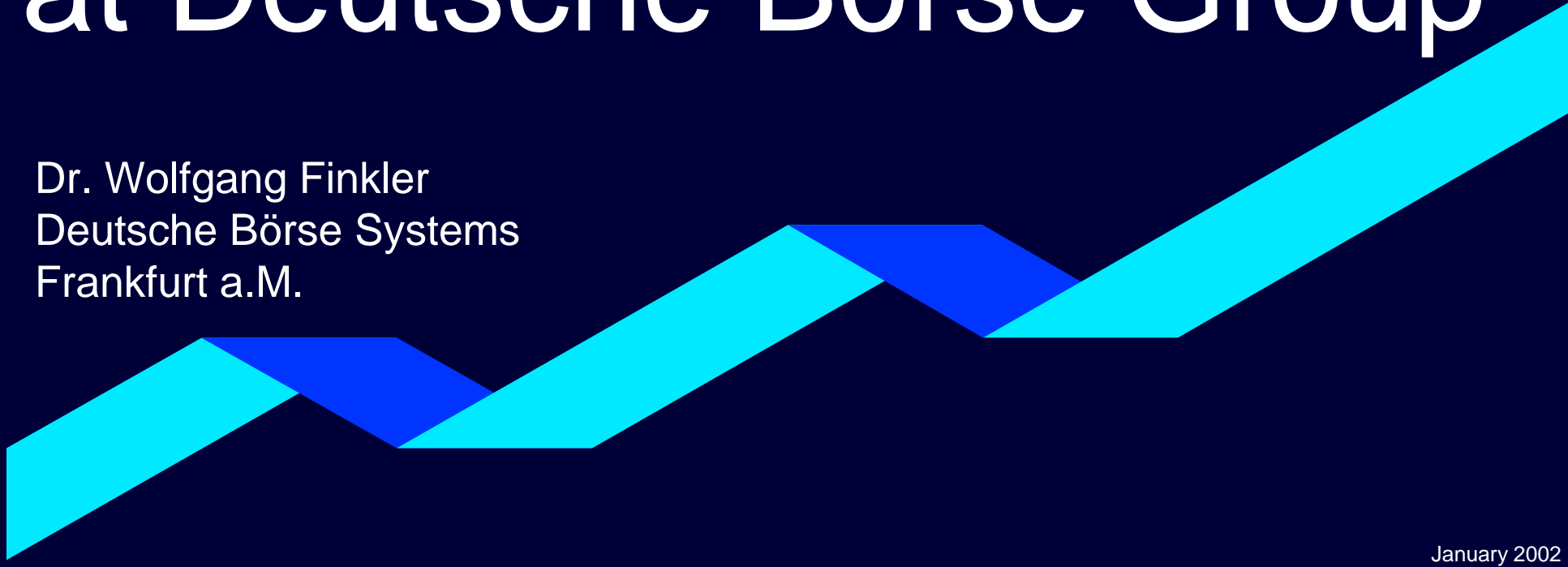

EXOTIC: Competitive Intelligence at Deutsche Börse Group

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Frankfurt a.M.



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Overview of the presentation

TOPIC 1 Background information: Deutsche Börse and EXOTIC

TOPIC 2 Competitive Intelligence as application of knowledge management

TOPIC 3 Tools supporting Competitive Intelligence

TOPIC 4 About inhouse utilization of EXOTIC

TOPIC 5 Summary

Introduction: Our Competitive Intelligence Service is for Deutsche Börse and Deutsche Börse Systems



Deutsche Börse

Cash market

**Xetra/
floor trading**

**Future
markets**

**Eurex;
Clearing
CCP**

Settlement

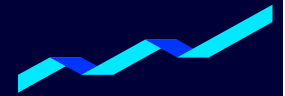
**Clearstream
Int.**

**Information
products**

**Information
technology**

**Deutsche
Börse
Systems**

E-markets



Deutsche Börse Systems AG – The Deutsche Börse Group's information technology company

Major Tasks

- A Full-Service Provider for the development and support of exchange systems for cash and future markets
- Operates and maintains systems and its own worldwide network, e.g.
 - Xetra Frankfurt, 432 members in 18 countries
 - Xetra Wien, 66 members in 5 countries
 - Xetra Dublin, 14 members in 2 countries
 - Eurex, 440 members in 16 countries
 - a/c/e, 86 members in 5 countries
 - Xetra EEX, 26 members in 6 countries
 - Eurex Bonds, 17 members in 4 countries
 - Xontro, 283 members in 5 countries
- Provides Call Center and Service Center Customer Services

Motivation for EXchange cOmpeTitive IntelligenCe



While most enterprises gather competitive information,
few formally analyze it and integrate the results into business strategy.

Enterprises without formal competitive intelligence processes are
in danger of falling behind CI-enabled competitors.

"By year-end 2001, more than 60% of Fortune 1,000 companies
will formalize and systematize competitive intelligence processes" (0.7 probability)

GartnerAdvisory: 27.8.99

SCIP acted as an eye catcher by providing an excellent forum for
education and networking in the field of Competitive Intelligence



Major goals, expected results, and challenges for EXOTIC

Establishing a Competitive Intelligence service for Deutsche Börse optimizing our activities for competitor monitoring and technology scouting



- Exchange-specific assessments of relevant market trends based on better organized information, thereby safe-keeping of investments in internal research
- Pro-active contribution to the detection of business opportunities
- Exploitation of competitor vulnerabilities
- Assessments of technological innovations
- Improved early warning
- Direct support for management decisions



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Knowledge Management is far more than a software solution

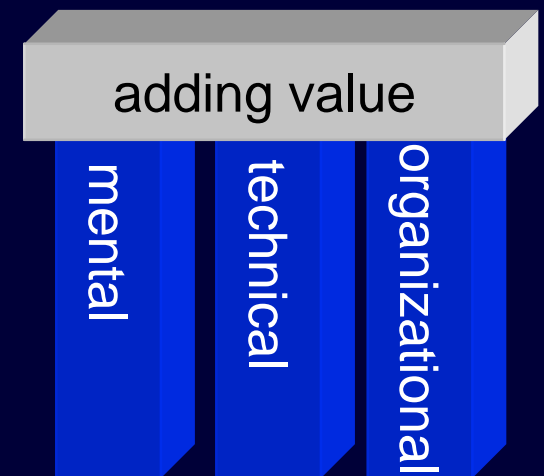
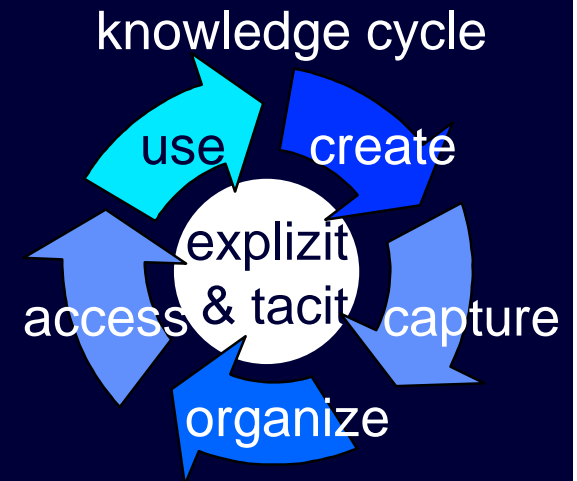
Knowledge management ...

- „is a discipline that promotes a collaborative and integrated approach to the creation, capture, organization, access and use of an enterprise's information assets. This includes databases, documents, and most importantly, the uncaptured, tacit expertise and experience of individual workers.“

[Gartner Group 1998]

- „ist das systematische Vorgehen zur Akquisition, Entwicklung, Verteilung, Nutzung, Bewertung und Bewahrung wertschöpfungsrelevanten Wissens innerhalb einer Organisation durch die Gestaltung adäquater Strukturen und Prozesse sowie den Einsatz geeigneter mentaler, technischer und organisatorischer Methoden und Instrumente.“

[H.-J. Bullinger et al. 1999]





EXOTIC supports the knowledge cycle for explicit as well as tacit knowledge from and to the employees at several levels

Most prominent manifestations of stations within the knowledge cycle according to KM literature:

- Individual Level:
 - facilities to exchange experiences and ideas
 - intelligent retrieval of documents and skills
 - personalized view, management of profiles
- Team Level:
 - team repository
 - theme repository
 - learning space
- Organizational Level:
 - best practices repository, project profiles
 - communities of interest, discussion boards
 - assignments, biographies

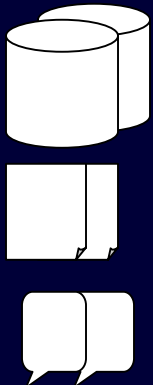
Methods and tools used in EXOTIC to support elements of the three levels:

- Knowledge Map
- Search Engines
- Thesaurus, Taxonomy
- Text Categorization
- Document Managem.
- Intranet Solution
- Forums
- Roundtable of Experts

Underlined elements: supported by EXOTIC

EXOTIC implements competitive intelligence as an application of knowledge management targeting at company-external knowledge

EXOTIC taps new resources, captures and analyzes company-external data, information, and knowledge



Online Archives
Patent databases
Conference Reports
Industry Analyses
Notices of visits
Company Brochures
Internet sources
News Services
etc.



EXOTIC presents a framework for the optimized organization and sharing of these sources (among our own) inside the company

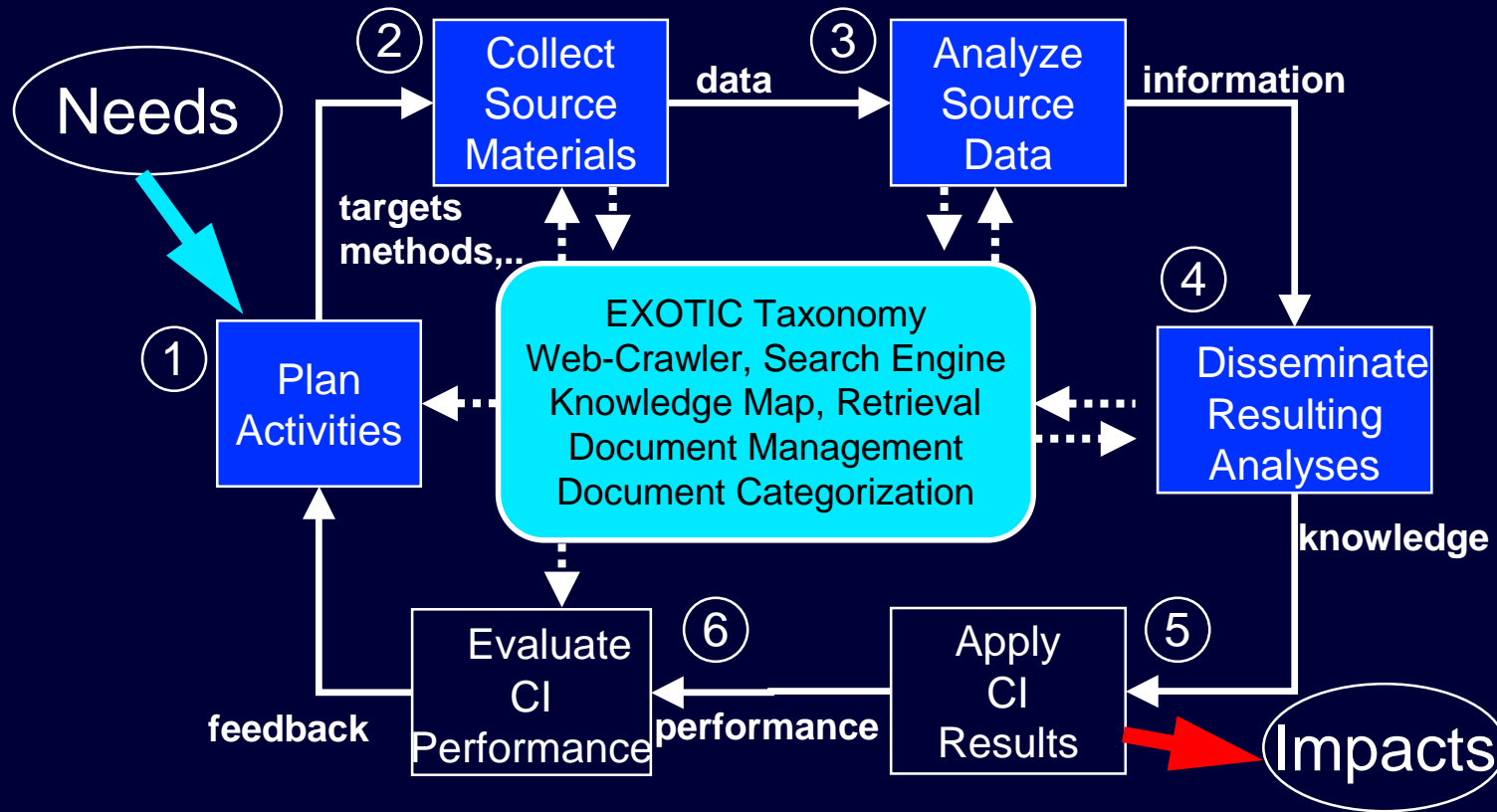
Group Deutsche Börse
internal knowledge sources

for competitor monitoring
and technology scouting

EXOTIC will be used to support the knowledge cycle for original company-internal knowledge

for corporate memory

EXOTIC is well-positioned within a generic six-stage process for Competitive and Technical Intelligence



- Process steps supported in EXOTIC
- Tools and organization in EXOTIC



Overview of the presentation

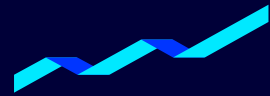
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Capturing data, information, and knowledge is supported by Web search engines, document management and a forum software

Search engines

- A Web-Crawler periodically updates snapshots of Internet-sites for monitoring purposes (currently: >47000 Web-sites for 100 competitors)
- Meta-Search engines provide a fast access to huge amounts of raw-data (results to be filtered automatically)

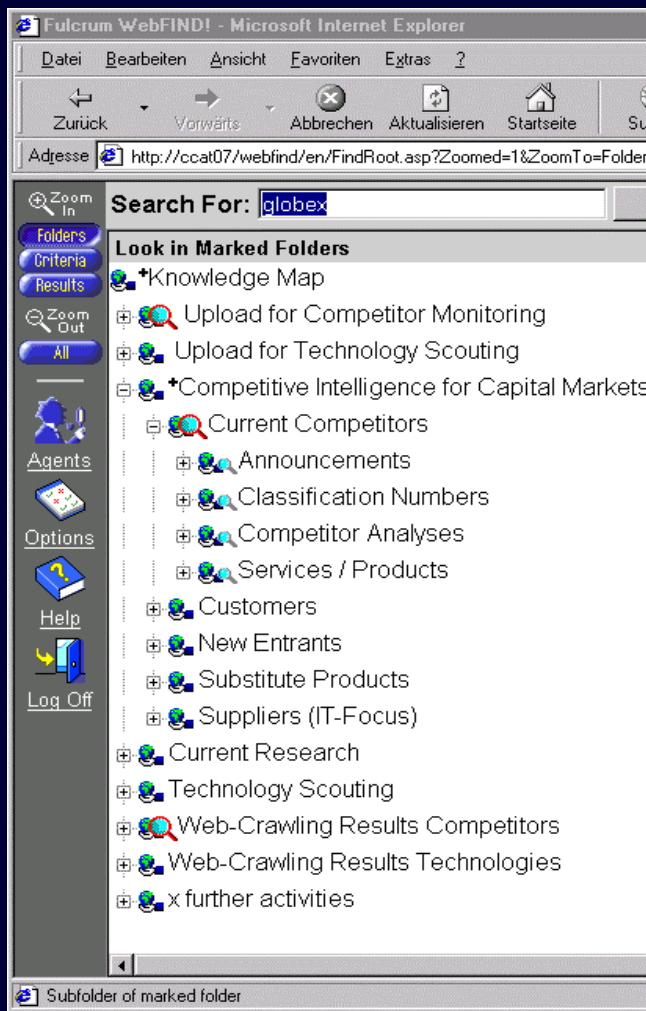
Document managem.
and FTP service

- A browser based system provides a range of security levels, a check-in/check-out, and versioning facility for collaborative work on documents
- A fulltext-index and a range of meta-data are used for identification of documents

Forum software

- A series of discussion forums has just been initialized supporting the capturing of implicit knowledge

Information and knowledge sharing, organization and access are supported by a knowledge map implementing our taxonomy



- A taxonomy has been created according to Michael Porter's Five Forces Model
- A Knowledge Map provides a logical and navigable classification abstracting from file formats and storage location of the documents
- Transparency as well as security aspects are handled by authorization codes
- Web-Crawling results and uploaded documents resulting from company-wide collections are fulltext-indexed leading to an efficient search environment

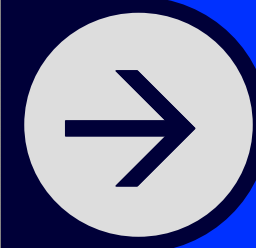
A Document Categorization component has been developed, tailored to our taxonomy, and integrated

http://ccat07/webfind/en/analysedocdsp.asp - Microsoft Internet Explorer

Category: 1_derivatives markets

Document name: BM&F gathers the Globex Allinace members

Location: \\CCAT07\EXOTIC\UPLOAD\COMPETITOR MONITORING UPLOAD\BMF_GLOBEX-DATEIEN\InformesGlobex2.htm



- Feature extraction utilizing tools from Computational Linguistics leads to a fingerprint of a document
- The distance of this fingerprint from static vectors describing models for our specific categories indicates the degree of category affiliation



Implementation of extensions to search engines

A sophisticated Crawler

- Implement a web crawler triggered by our categories
[DONE]

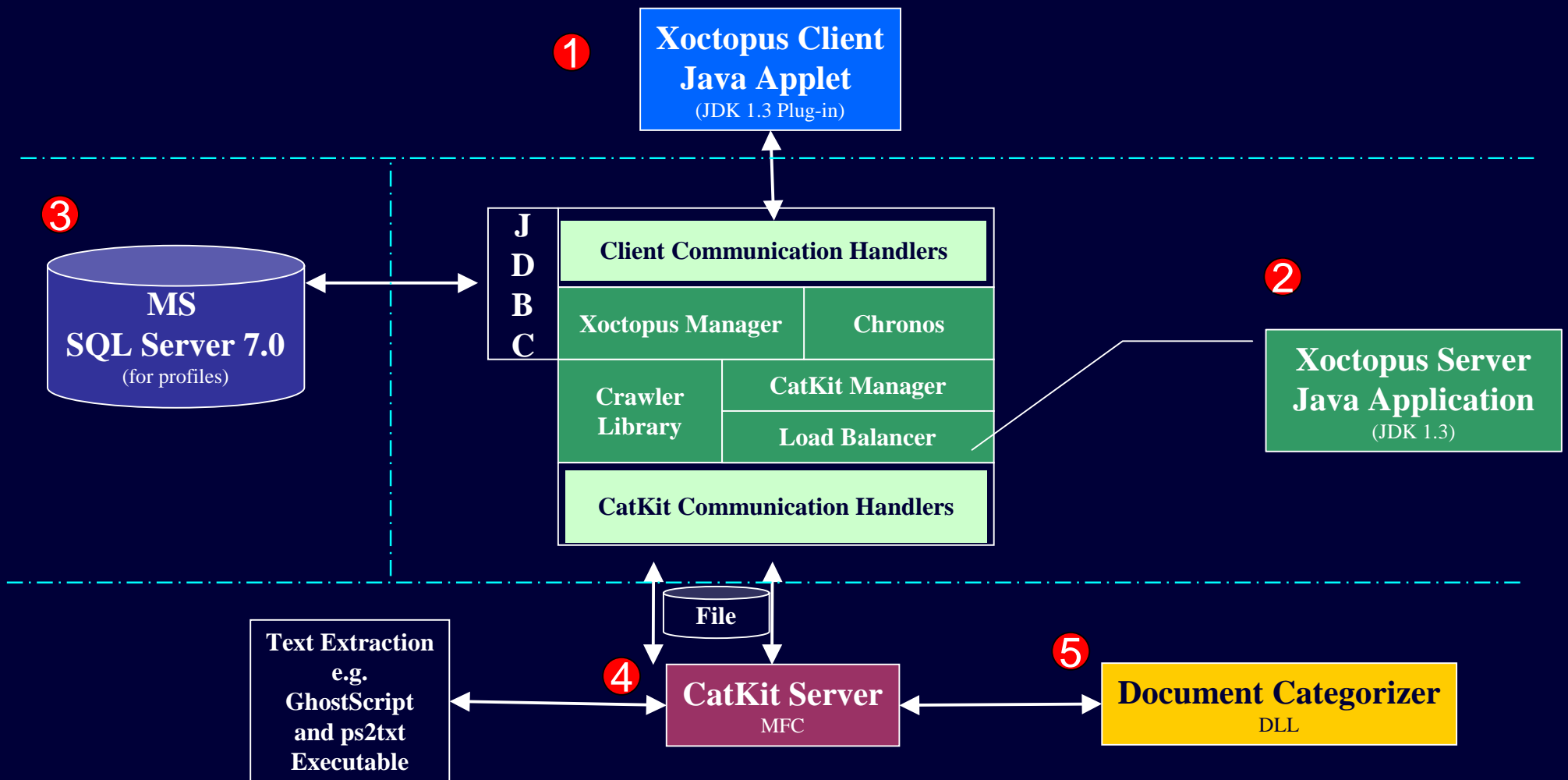
Enhancing results of meta-search

- Focus on automated filtering of huge numbers of documents obtained from meta-search engines by means of our Document Categorization
[DONE]

Optimizing input specifications

- Provide external metasearch engines with multilingual search-terms, utilizing our Exchange-specific lexica
[TO BE DONE]

Five-tier architecture of our content-based Web-crawler





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Involvement of the clients of EXOTIC in the process of Competitive Intelligence

Collaborator
perspective

Consumer
perspective

- Utilizing the EXOTIC platform for own research activities
 - Contributing own artefacts (raw data as well as analyses) to the knowledge sources of EXOTIC
 - Acceptance of responsibility for a research topic
 - (Co-)authoring articles in the CI-Newsletter
-
- Ordering a specific research and/or analysis task to be performed by the EXOTIC-internal analysts
 - Providing that team with documents available or with hints to direct research
 - Accessing disseminated results and providing feedback to the team and/or suggesting further topics to be dealt with



Expanding the Competitive Intelligence Service and Knowledge Management activities

In 2001, EXOTIC has been operated as an R&D project within Deutsche Börse Systems

Customer base

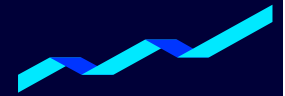
- round-tables within DBS (Competence Centers, Internet Applications, Eurex Applications,...) as well as round-tables within GDB (Strategic Planning, Eurex, IAB, TPM, EMI, Market Policy, Corporate Communications, Trading Surveillance,...)
- Allowing for a broader access to the EXOTIC system within GDB utilizing licensed tools as well as our archives and discussion forum

CI Service

- Working on a bulk of ad-hoc research requests as well as long-range studies, surveys and recommendations
- Providing a quarterly CI-Newsletter
- Implementing sophisticated search engines with content-based filtering, a thesaurus, a competitor database and an interactive competitor map to further optimize the service

Scope

- Widening the scope of knowledge management to deal with company-internal tasks such as ‚Building Institutional Skills‘ and optimization of management of project documentations



Summary

- EXOTIC provides Deutsche Börse with a flexible, extendable system instantiating a successful pilot project for knowledge management and Competitive Intelligence
(Competitor Database, XML-based Sublanguage for analysts' sheets (COINS), presentation layer haven't been shown in this talk!)

- Optimization of Competitor and Technology Monitoring by means of
 - Facilitating knowledge organization, sharing, and retrieval
 - Providing the basis for efficient updates of analyses and for broader coverage of the competitive field
 - Supporting automated data collection
 - Providing tools for the human analysts to support the delivery of comprehensive analyses in a timely manner