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Joint ICTP-IAEA School of Nuclear Knowledge Management

1 - 5 September 2008

KM Objectives and Policies

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Managing Nuclear Information

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Nuclear Knowledge Management Unit

Topics

- Historical aspects
- •INIS
- IAEA Nuclear Information Resources
- The Internet
- Future outlook



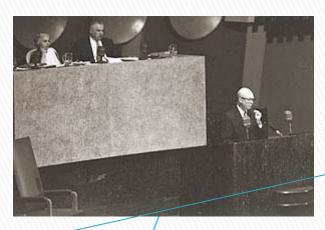
Nuclear Information Management (before INIS)

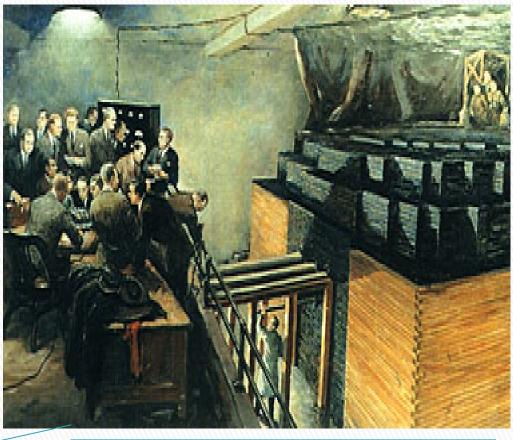
Т

The Early days



Enrico Fermi





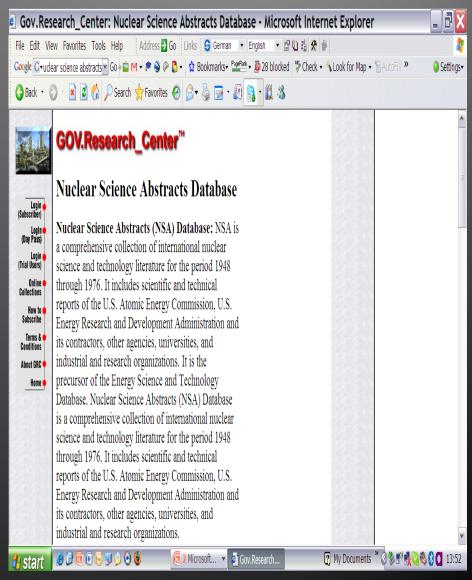
Chicago pile 1942



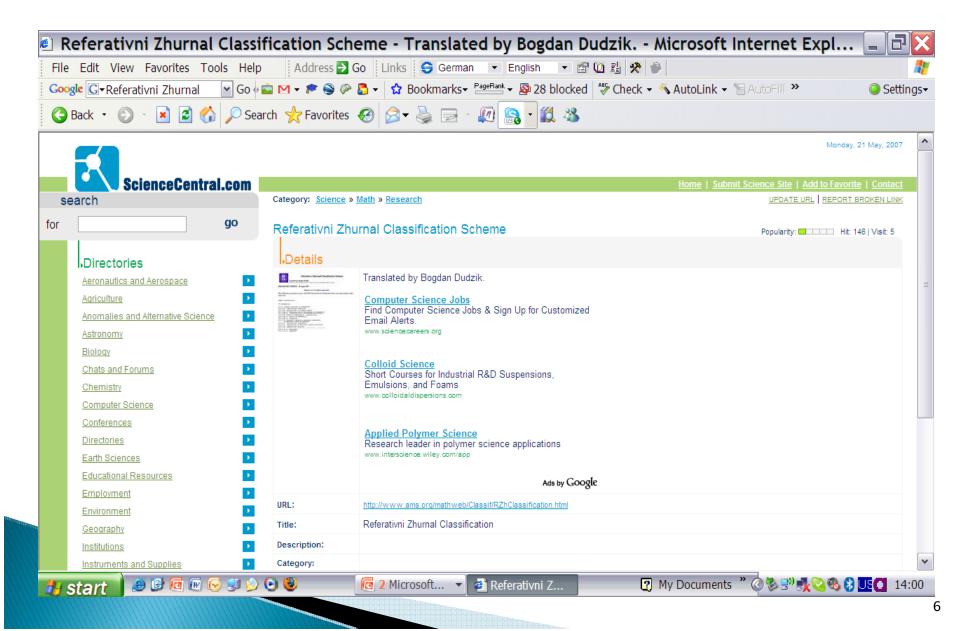
1945 1955 1965 1975 1985 2005

The Nuclear Science Abstracts

NSA is a comprehensive collection of international nuclear science and technology literature for the period 1948 through 1976. It includes scientific and technical reports of the U.S. Atomic Energy Commission, U.S. Energy Research and Development Administration and its contractors, other agencies, universities, and industrial and research organizations.



Реферативны журнал

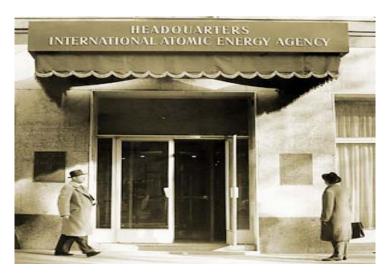


IAEA was created with the Division of Scientific and Technical Information





1965 1975 1985 1995 2005



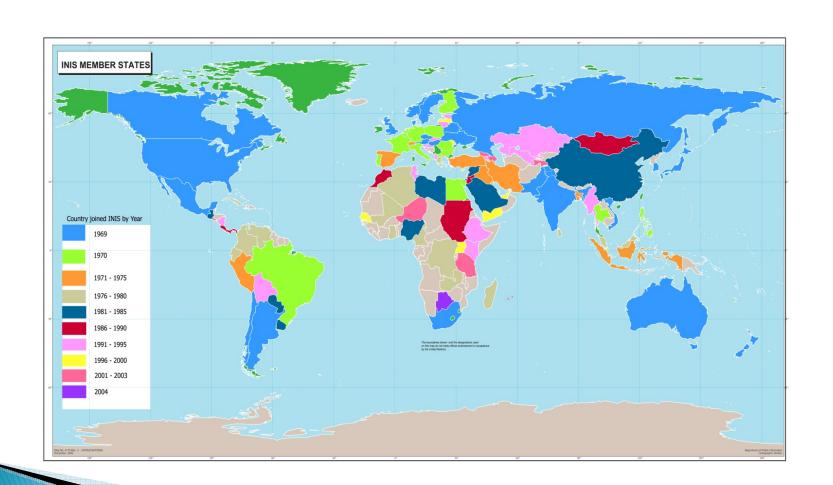


- The IAEA was mandated the statutory obligation to foster the exchange of nuclear information amongst its Members
- The main owners of nuclear information in the 60's – the national nuclear authorities decided to create

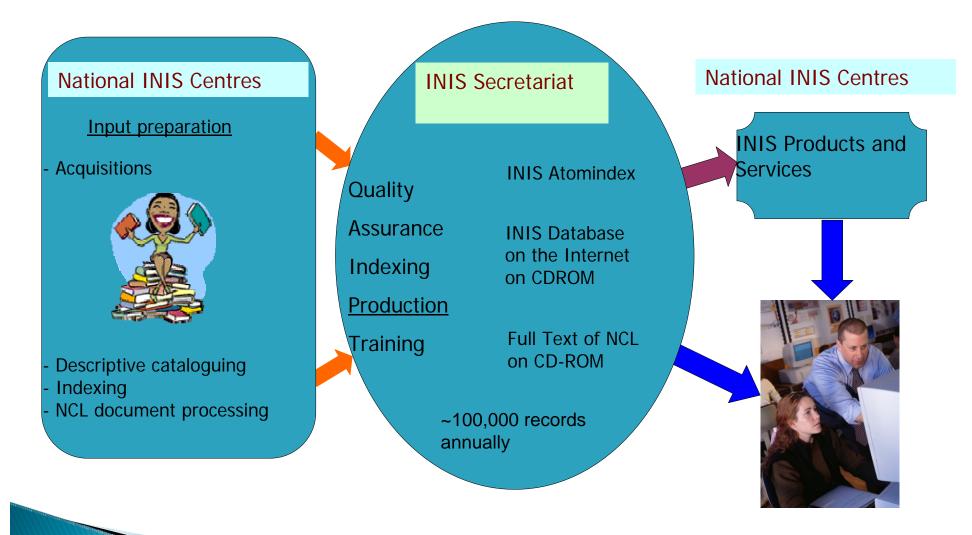
International Nuclear Information System

INIS Membership:

117 Member States 23 International Organizations



How INIS Operates



Two Main INIS Products:

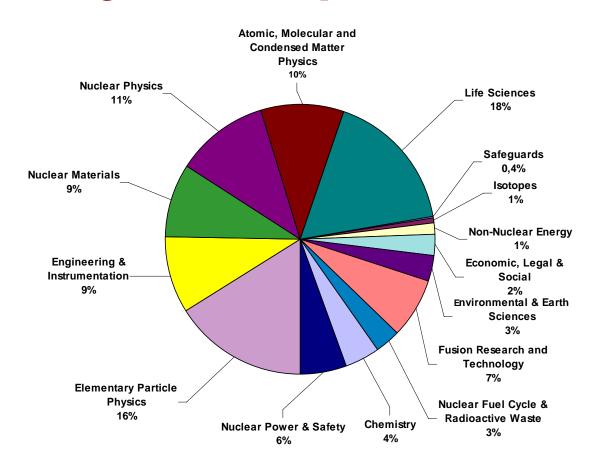
1. INIS Bibliographic Database

(Over 2.8 million indexed references)

2. INIS Full-Text Collection

(Over 700,000 documents on 63 languages, many of them can't be found anywhere else)

Subject Scope



What does INIS contain?

Bibliographic references of:

- Journal articles 49%
- Technical reports (full text) 17%
- Conference papers (full text) 11%
- Books 12%
- Patents (full text) 2%
- Laws, regulations, dissertations and other published material (full text) – 9%

INIS Bibliographic Database

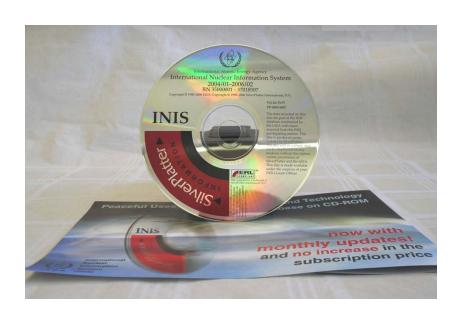
- From 1944 to the present
- Over 2.8 million indexed references
- English abstract
- "Direct links" to full-text documents

Available

on CD-ROM

and

on the Internet



INIS NCL full-text collection

Contains over 700 000 documents on microfiche and in electronic form (~40%)



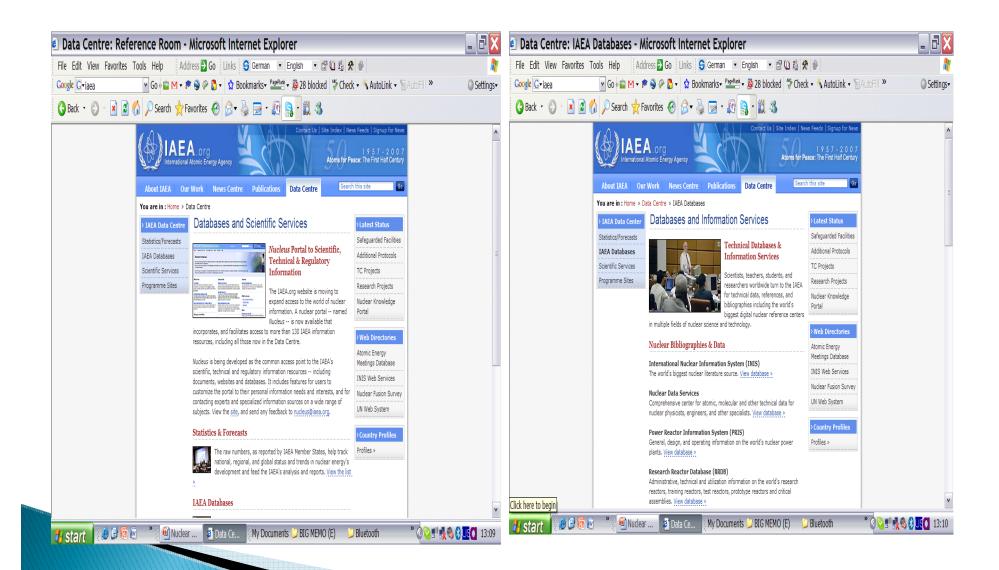


Knowledge Preservation Initiatives:

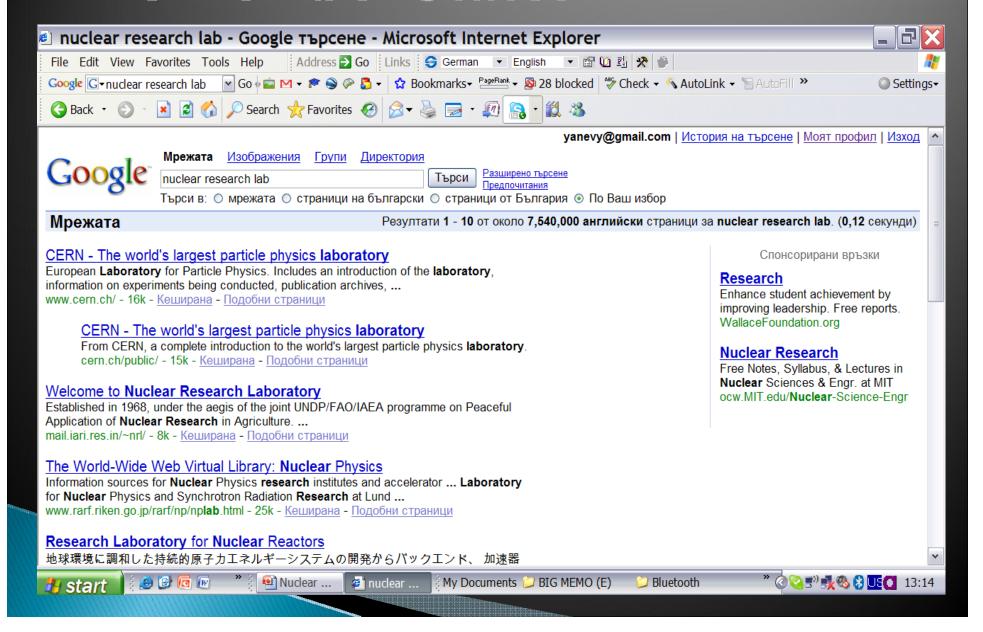
- Digitization of the INIS NCL Microfiche Archive
- Digitization of the French CEA-R Microfiche Archive
- Production of topical subsets (Chernobyl, Fast Reactors, ...)
- Digitization of older IAEA publications and NCL documents that are not in INIS scope:
 - Documents of the IAEA Board of Governors (1957 – 1996)
 - IAEA Technical Reports Series
 - IAEA Bulletin
 - IAEA Conference Proceedings
 - INDC (Nuclear Data) documents



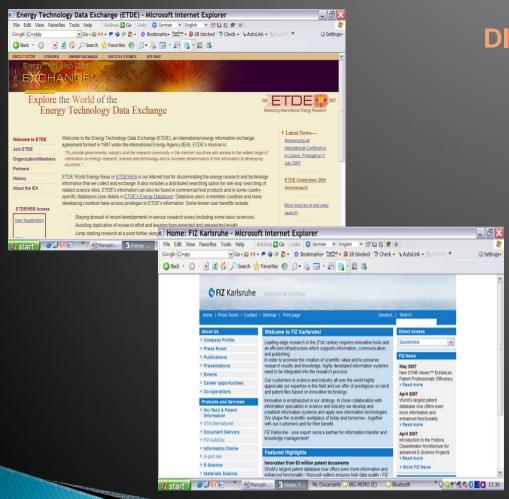
IAEA Information Resources



The Member States...



The Commercial poviders...



DIALOGUE

STN

ETDE

The World of Nuclear Information after INIS

Current Nuclear Information Management Systems & Life-Cycle

- Find & retrieve, input data (crawling)
- Classify & archive data (data warehouse)
- Data mine patterns (esp. text mining)
- Report, present & search (business intelligence)

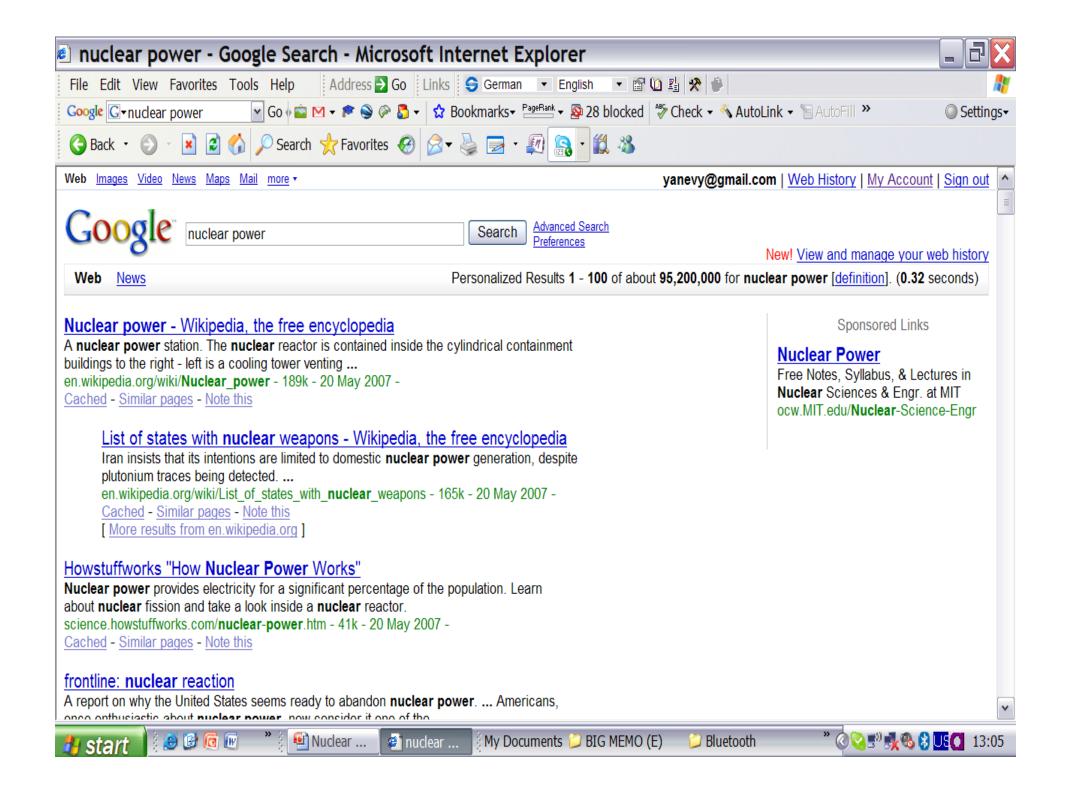
Find & retrieve, input data (crawling)

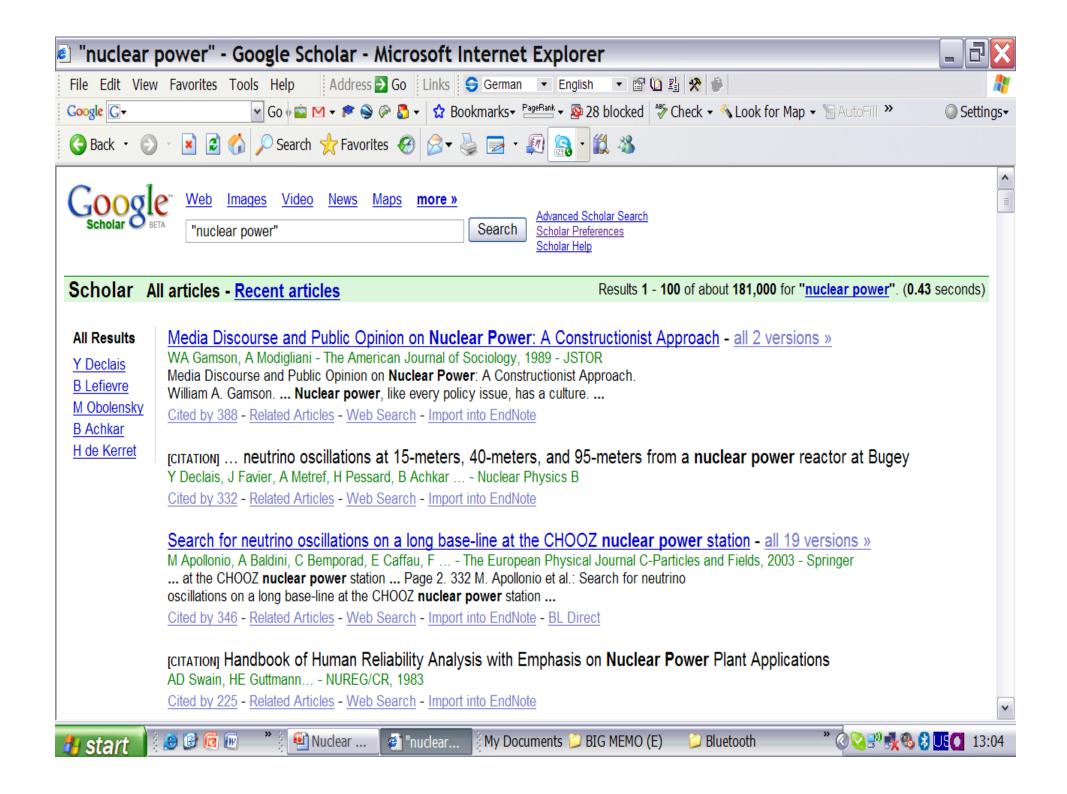
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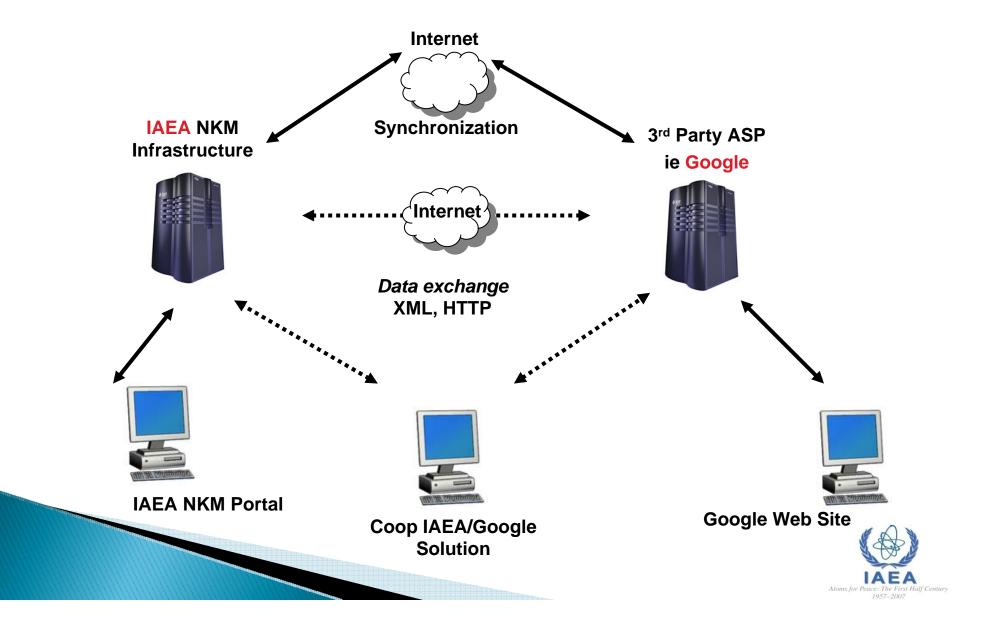
Report,
present &
search
(business
intelligence)



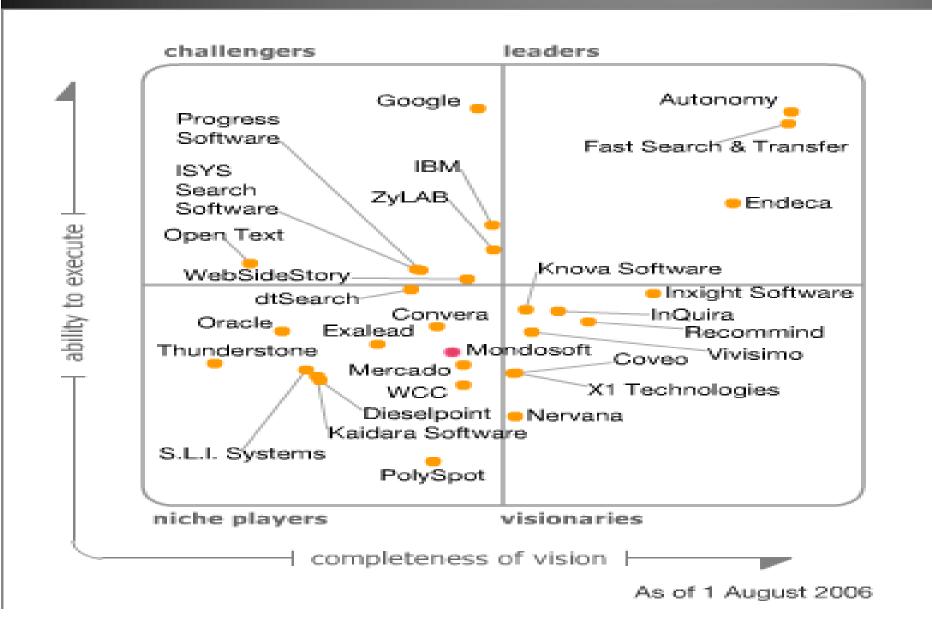




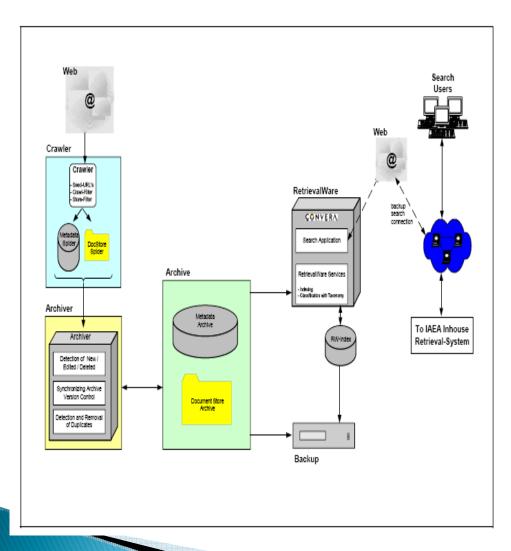
Collections or Connections?



Search engines landscape



The "NuArch" project



NuArch basics

- 1. A web crawler will identify and download (harvest) nuclear information resources from the Internet.
- 2. The harvested materials will be automatically indexed and stored in a high-volume archive with version control.
- 3. A customised version of an advanced search engine will index all contents and make them accessible to the user.
- 4. Specialised analysis tools will be developed.

Thank you