



**The Abdus Salam
International Centre for Theoretical Physics**



1962-13

Joint ICTP-IAEA School of Nuclear Knowledge Management

1 - 5 September 2008

Managing Nuclear Information

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Managing Nuclear Information

Yanko Yanev

Nuclear Knowledge Management Unit

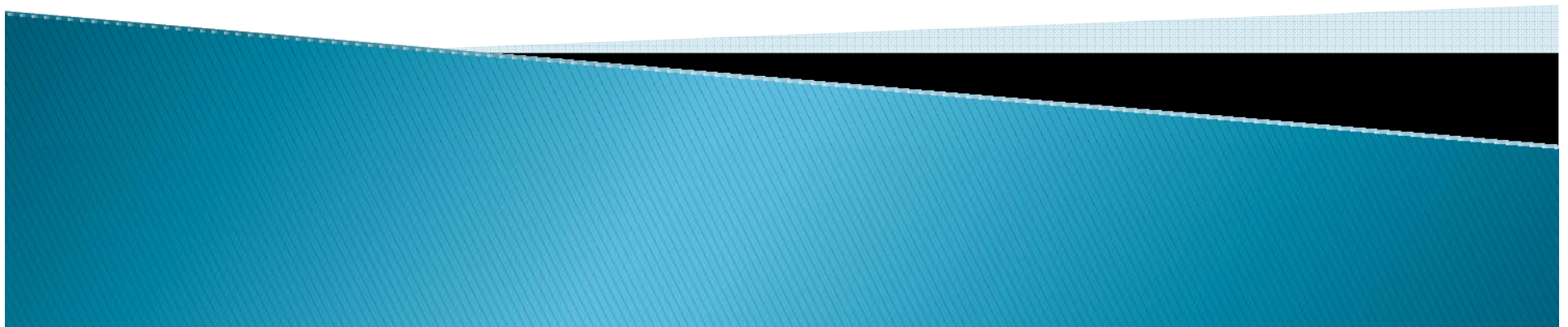
Topics

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



Nuclear Information Management (before INIS)

T



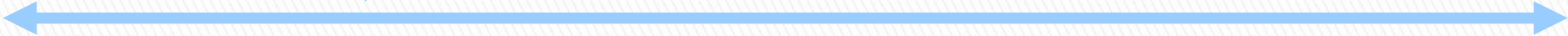
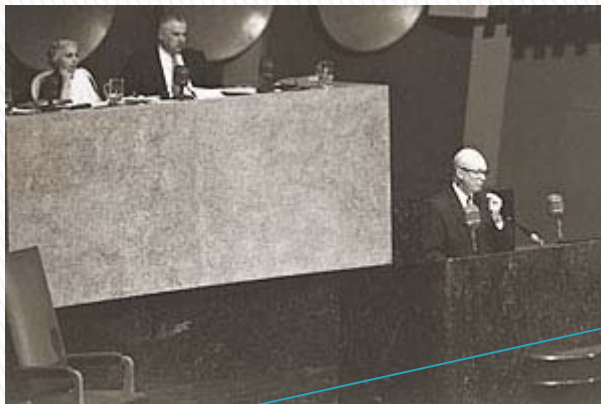
The Early days



Enrico Fermi



Chicago pile 1942



1945

1955

1965

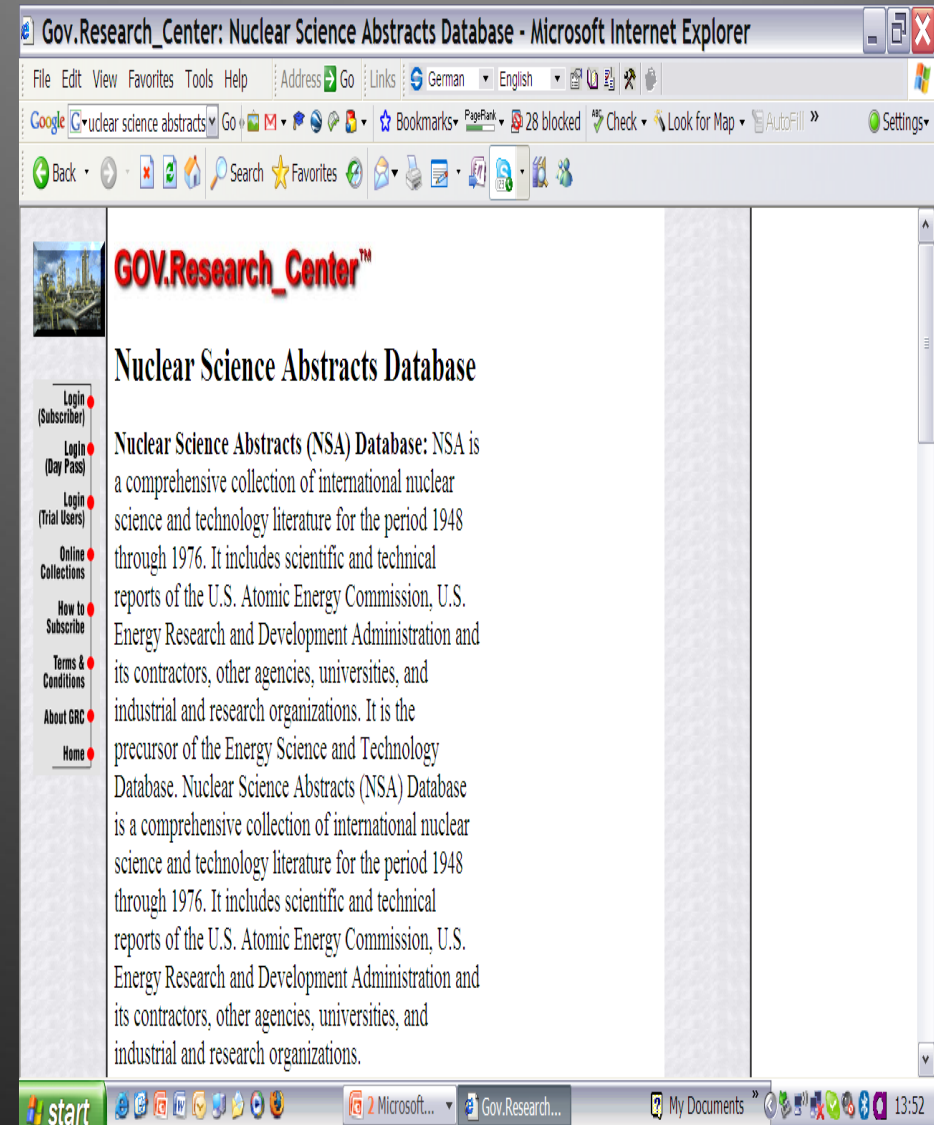
1975

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.

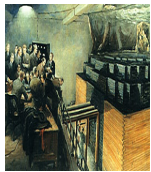
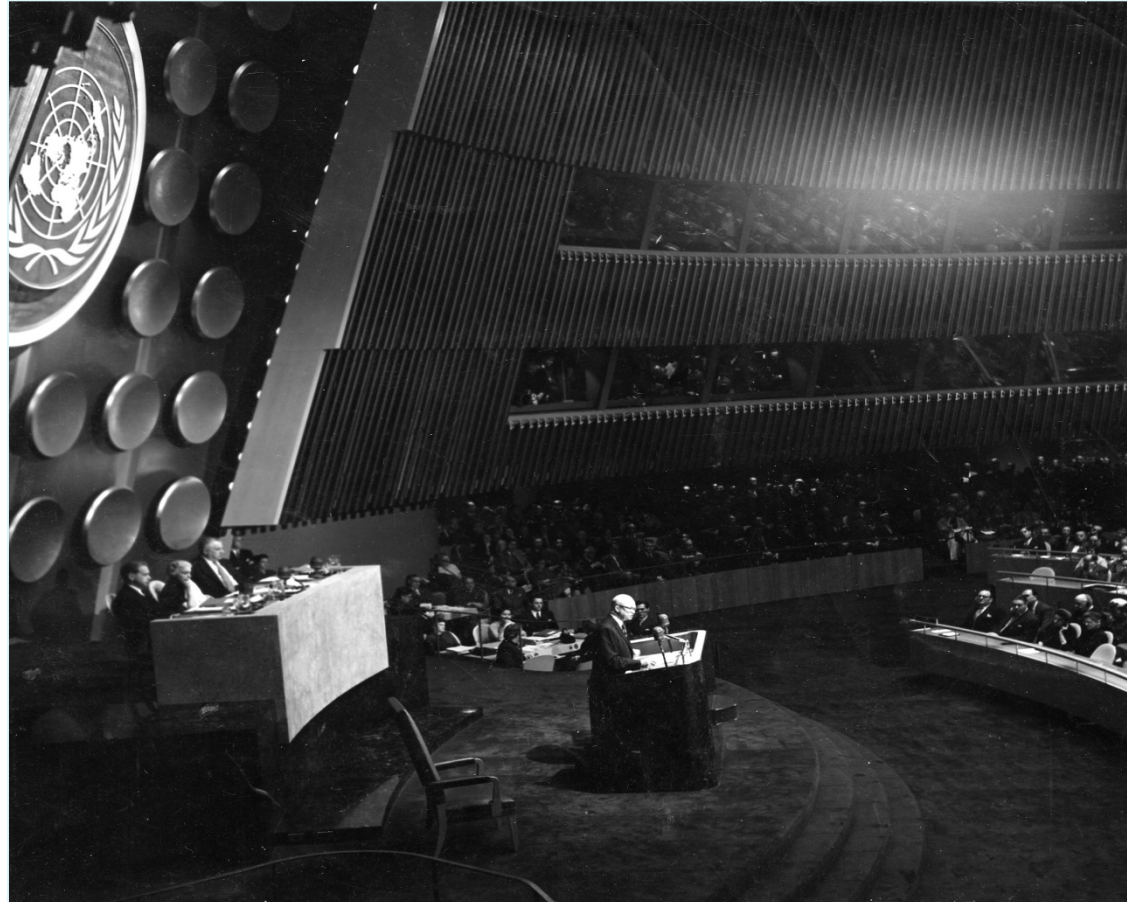


Реферативный журнал

The screenshot shows a Microsoft Internet Explorer browser window with the following elements:

- Browser Title Bar:** Referativni Zhurnal Classification Scheme - Translated by Bogdan Dudzik. - Microsoft Internet Expl...
- Address Bar:** Google | Referativni Zhurnal | Go | 28 blocked | Check | AutoLink | AutoFill | Settings
- Navigation Bar:** Back, Forward, Stop, Home, Search, Favorites, Print, Mail, RSS, etc.
- Page Header:** ScienceCentral.com | Monday, 21 May, 2007 | Home | Submit Science Site | Add to Favorite | Contact
- Search Bar:** search for [input] go
- Left Sidebar (Directories):**
 - Aeronautics and Aerospace
 - Agriculture
 - Anomalies and Alternative Science
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 - Chats and Forums
 - Chemistry
 - Computer Science
 - Conferences
 - Directories
 - Earth Sciences
 - Educational Resources
 - Employment
 - Environment
 - Geography
 - Institutions
 - Instruments and Supplies
- Main Content Area:**
 - Category:** Science » Math » Research
 - Referativni Zhurnal Classification Scheme** (Popularity: [meter] Hit: 146 | Visit: 5)
 - Details:**
 - Translated by Bogdan Dudzik.
 - Computer Science Jobs**: Find Computer Science Jobs & Sign Up for Customized Email Alerts. www.sciencecareers.org
 - Colloid Science**: Short Courses for Industrial R&D Suspensions, Emulsions, and Foams. www.colloidaldispersions.com
 - Applied Polymer Science**: Research leader in polymer science applications. www.interscience.wiley.com/app
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 - Metadata:**
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 - Title: Referativni Zhurnal Classification
 - Description:
 - Category:

IAEA was created with the Division of Scientific and Technical Information



1945
1954
1965

1975

1985

1995

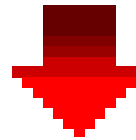
2005

1945

1954



- 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

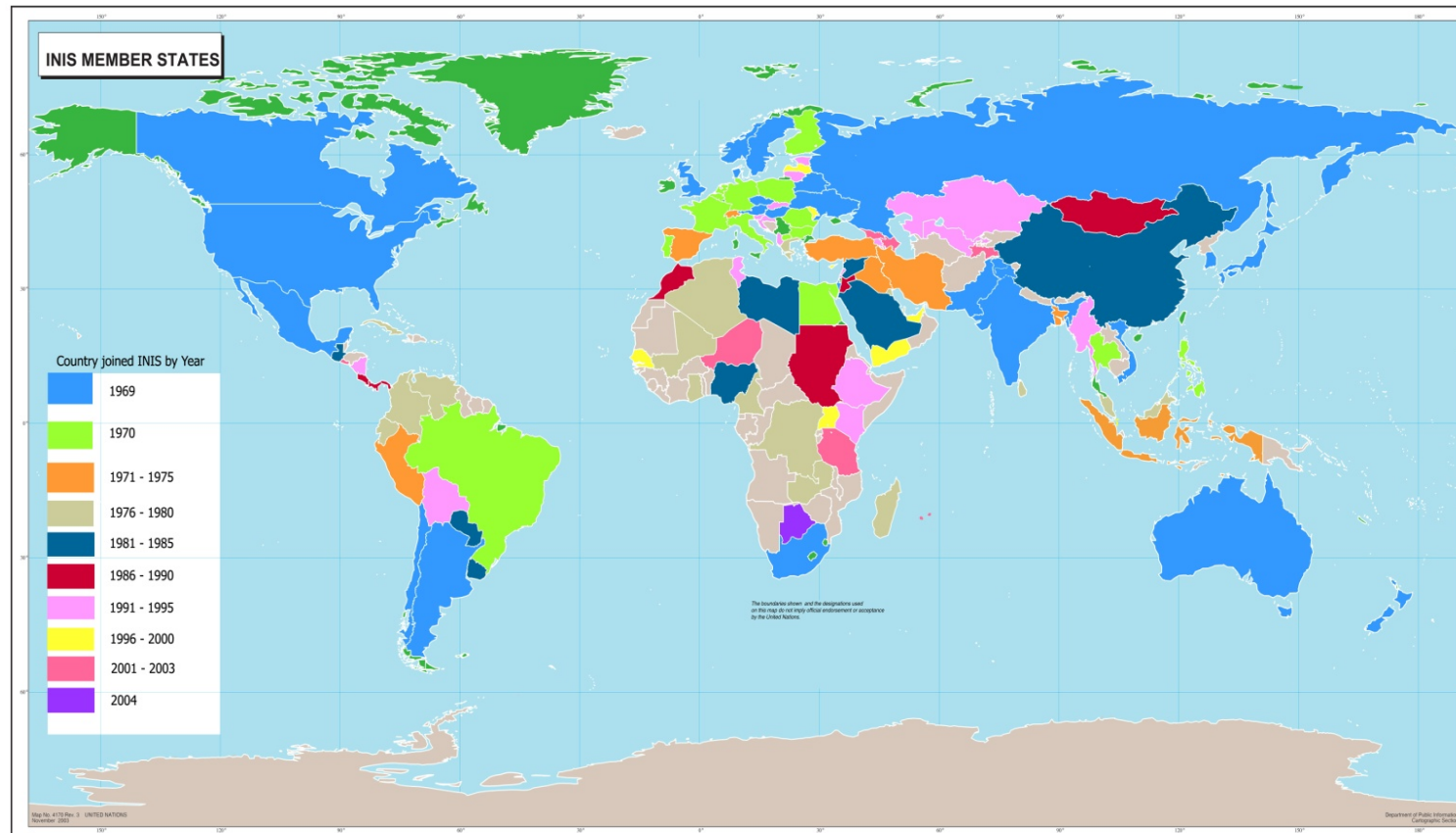


International Nuclear Information System

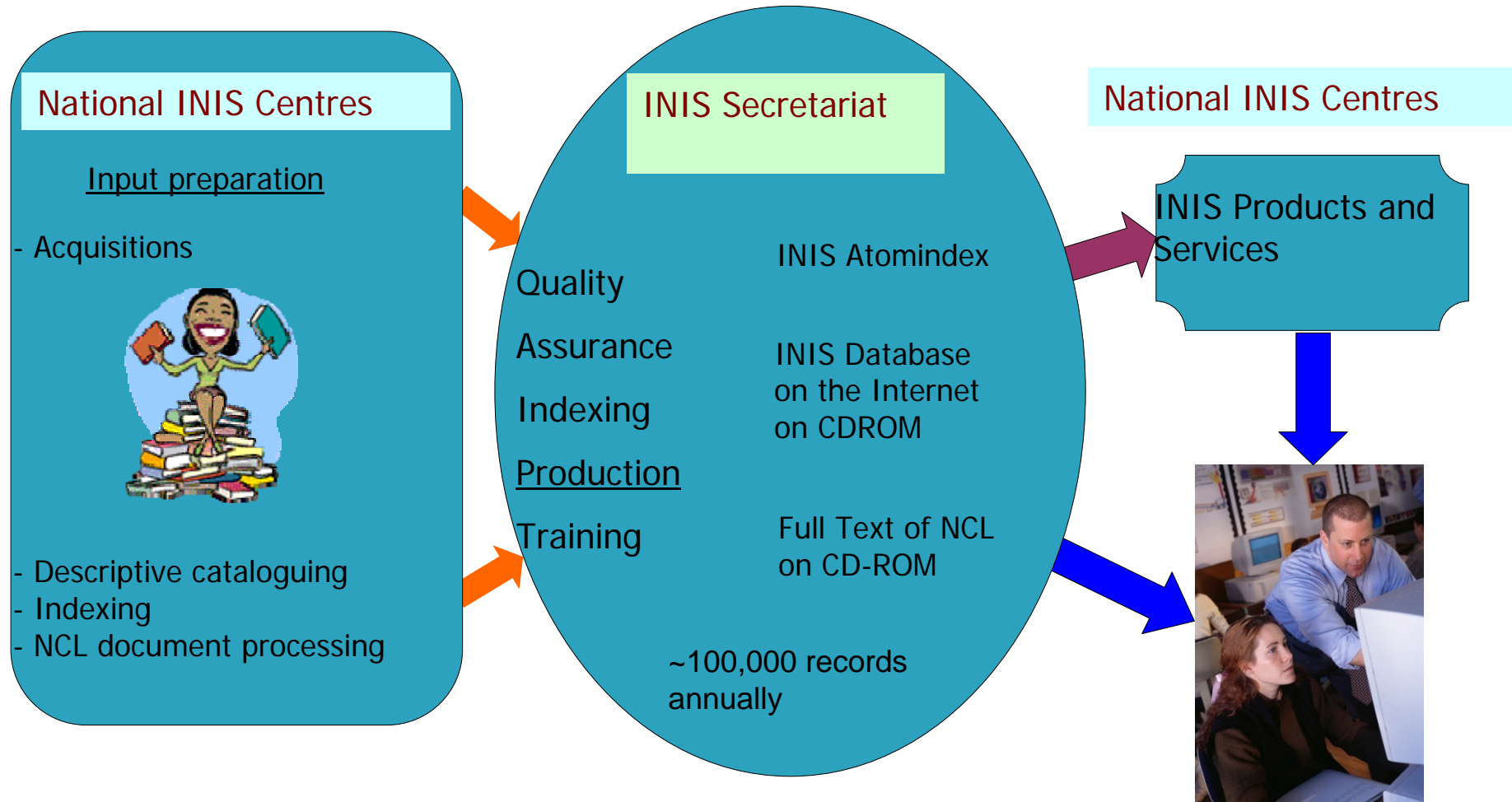
INIS Membership:

117 Member States

23 International Organizations



How INIS Operates



Two Main INIS Products:

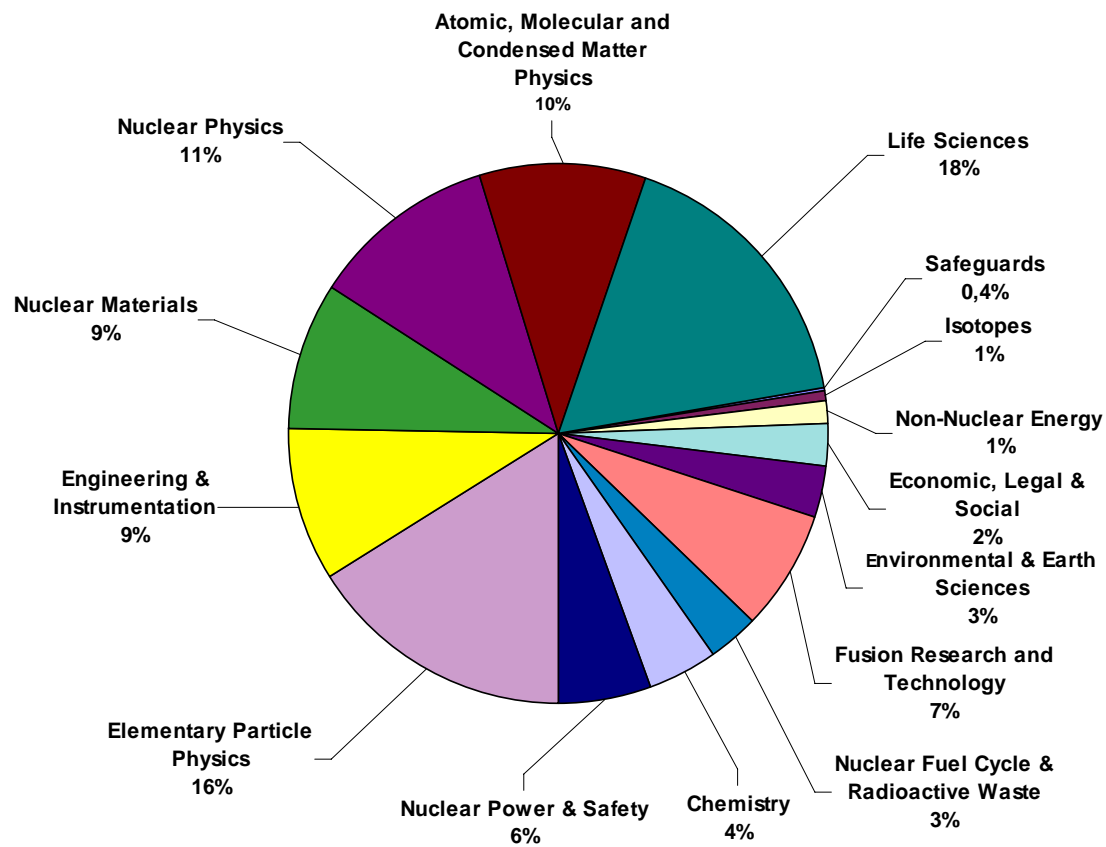
1. INIS Bibliographic Database

(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

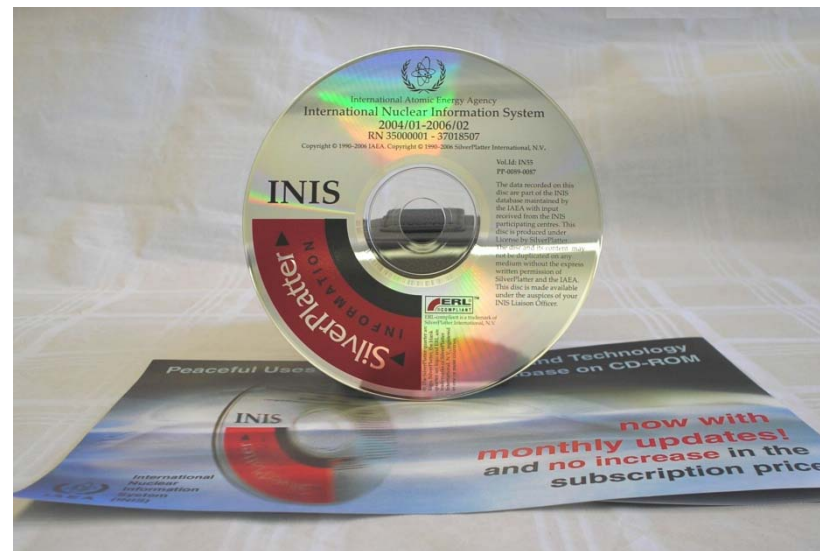
- From 1944 to the present
- Over 2.8 million indexed references
- English abstract
- “Direct links” to full-text documents

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



The Data Centre is Now in Nucleus

Nucleus is the one common access point to the IAEA's nuclear knowledge and information resources, including associated legal and official documentation. It includes scientific and technical documents, websites and databases. [Visit Nucleus >](#)

Looking for information from the old DataCentre?

All the resources in the former Data Centre are accessible via Nucleus. The first logical stop is the Nucleus Catalogue. This information resource catalogue currently contains over 100 of the IAEA's nuclear information resources. [Go there now >](#)

IAEA Information Resources

Data Centre: Reference Room - Microsoft Internet Explorer

Address: [iaea](http://iaea.org)

IAEA.org
International Atomic Energy Agency
1957-2007
Atoms for Peace: The First Half Century

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IAEA Data Centre

- Statistics/Forecasts
- IAEA Databases
- Scientific Services
- Programme Sites

Databases and Scientific Services

Nucleus Portal to Scientific, Technical & Regulatory Information

The IAEA.org website is moving to expand access to the world of nuclear information. A nucleus portal -- named Nucleus -- is now available that incorporates, and facilitates access to more than 130 IAEA information resources, including all those now in the Data Centre.

Nucleus is being developed as the common access point to the IAEA's scientific, technical and regulatory information resources -- including documents, websites and databases. It includes features for users to customize the portal to their personal information needs and interests, and for contacting experts and specialized information sources on a wide range of subjects. View the [site](#), and send any feedback to nucleus@iaea.org.

Statistics & Forecasts

The raw numbers, as reported by IAEA Member States, help track national, regional, and global status and trends in nuclear energy's development and feed the IAEA's analysis and reports. [View the list](#).

IAEA Databases

- Latest Status
- Safeguarded Facilities
- Additional Protocols
- TC Projects
- Research Projects
- Nuclear Knowledge Portal
- Web Directories
 - Atomic Energy
 - Meetings Database
 - INIS Web Services
 - Nuclear Fusion Survey
 - UN Web System
- Country Profiles
- Profiles >

Data Centre: IAEA Databases - Microsoft Internet Explorer

Address: [iaea](http://iaea.org)

IAEA.org
International Atomic Energy Agency
1957-2007
Atoms for Peace: The First Half Century

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IAEA Data Center

- Statistics/Forecasts
- IAEA Databases
- Scientific Services
- Programme Sites

Databases and Information Services

Technical Databases & Information Services

Scientists, teachers, students, and researchers worldwide turn to the IAEA for technical data, references, and bibliographies including the world's biggest digital nuclear reference centers in multiple fields of nuclear science and technology.

Nuclear Bibliographies & Data

International Nuclear Information System (INIS)

The world's biggest nuclear literature source. [View database >](#)

Nuclear Data Services

Comprehensive center for atomic, molecular and other technical data for nuclear physicists, engineers, and other specialists. [View database >](#)

Power Reactor Information System (PRIS)

General, design, and operating information on the world's nuclear power plants. [View database >](#)

Research Reactor Database (RRDB)

Administrative, technical and utilization information on the world's research reactors, training reactors, test reactors, prototype reactors and critical assemblies. [View database >](#)

- Latest Status
- Safeguarded Facilities
- Additional Protocols
- TC Projects
- Research Projects
- Nuclear Knowledge Portal
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 - Atomic Energy
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 - INIS Web Services
 - Nuclear Fusion Survey
 - UN Web System
- Country Profiles
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[Click here to begin](#)

The Member States...

nuclear research lab - Google търсене - Microsoft Internet Explorer

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Google nuclear research lab Търси Разширено търсене Предпочитания

Търси в: мрежата страници на български страници от България По Ваш избор

Мрежата Резултати 1 - 10 от около 7,540,000 английски страници за nuclear research lab. (0,12 секунди)

[CERN - The world's largest particle physics laboratory](#)
European **Laboratory** for Particle Physics. Includes an introduction of the **laboratory**, information on experiments being conducted, publication archives, ...
www.cern.ch/ - 16k - [Кеширана](#) - [Подобни страници](#)

[CERN - The world's largest particle physics laboratory](#)
From CERN, a complete introduction to the world's largest particle physics **laboratory**.
cern.ch/public/ - 15k - [Кеширана](#) - [Подобни страници](#)

[Welcome to Nuclear Research Laboratory](#)
Established in 1968, under the aegis of the joint UNDP/FAO/IAEA programme on Peaceful Application of **Nuclear Research** in Agriculture. ...
mail.iaeri.res.in/~nr/ - 8k - [Кеширана](#) - [Подобни страници](#)

[The World-Wide Web Virtual Library: Nuclear Physics](#)
Information sources for **Nuclear** Physics **research** institutes and accelerator ... **Laboratory** for **Nuclear** Physics and Synchrotron Radiation **Research** at Lund ...
www.rarf.riken.go.jp/rarf/np/nplab.html - 25k - [Кеширана](#) - [Подобни страници](#)

[Research Laboratory for Nuclear Reactors](#)
地球環境に調和した持続的原子力エネルギーシステムの開発からバックエンド、 加速器

Спонсорирани връзки

[Research](#)
Enhance student achievement by improving leadership. Free reports.
WallaceFoundation.org

[Nuclear Research](#)
Free Notes, Syllabus, & Lectures in **Nuclear** Sciences & Engr. at MIT
ocw.MIT.edu/Nuclear-Science-Engr

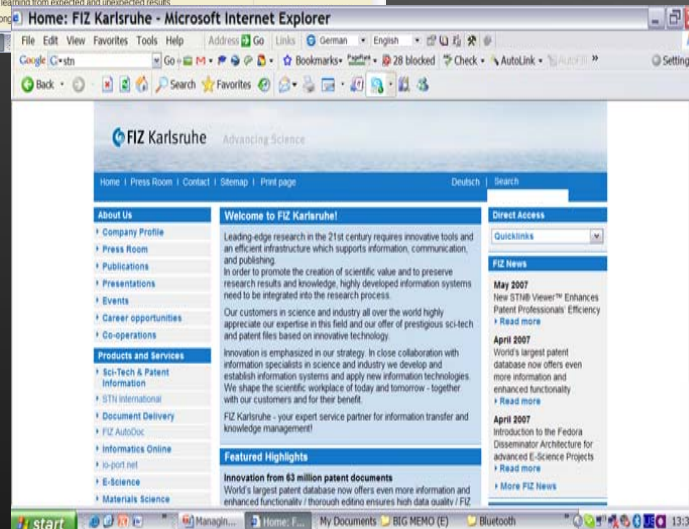
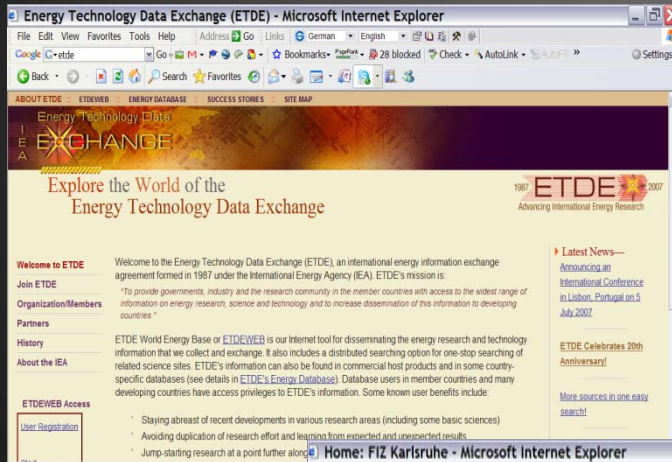
start Nuclear ... nuclear ... My Documents BIG MEMO (E) Bluetooth 13:14

The Commercial providers...

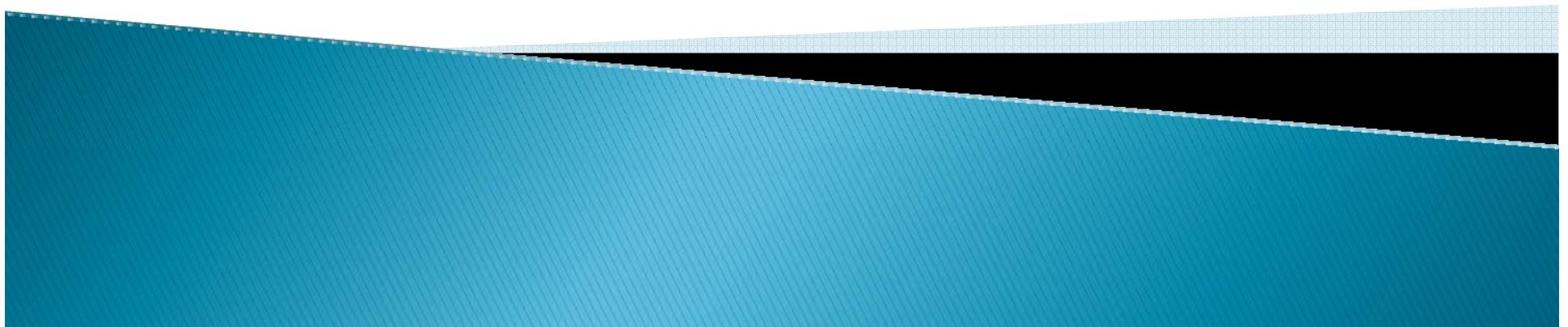
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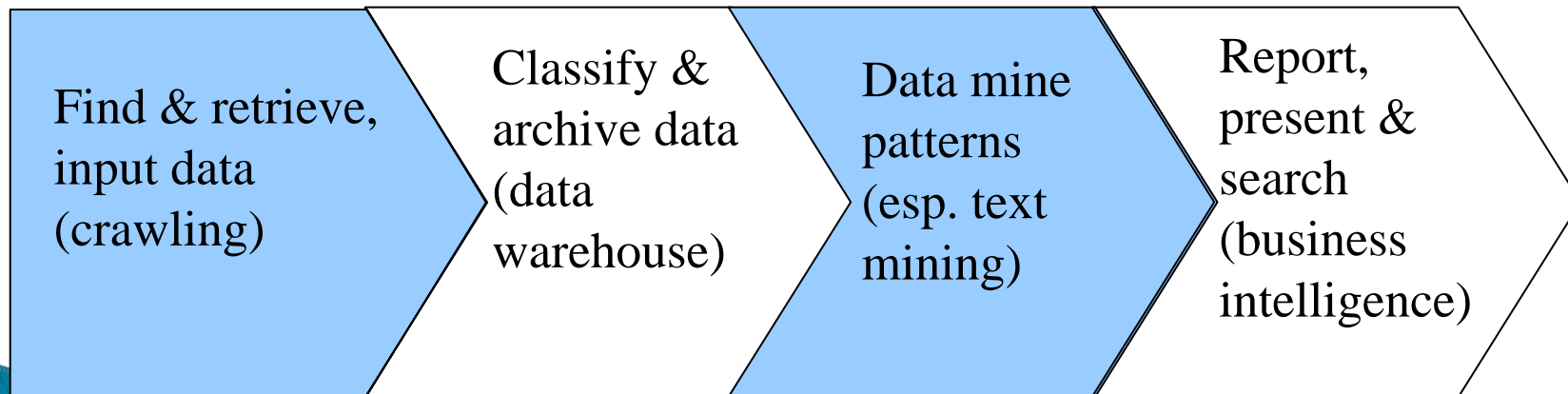


The World of Nuclear Information after INIS



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)



nuclear power - Google Search - Microsoft Internet Explorer

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Google nuclear power Search Advanced Search Preferences

New! View and manage your web history

Web News Personalized Results 1 - 100 of about 95,200,000 for nuclear power [definition]. (0.32 seconds)

Nuclear power - Wikipedia, the free encyclopedia
A **nuclear power** station. The **nuclear** reactor is contained inside the cylindrical containment buildings to the right - left is a cooling tower venting ...
en.wikipedia.org/wiki/Nuclear_power - 189k - 20 May 2007 -
Cached - Similar pages - Note this

List of states with nuclear weapons - Wikipedia, the free encyclopedia
Iran insists that its intentions are limited to domestic **nuclear power** generation, despite plutonium traces being detected. ...
en.wikipedia.org/wiki/List_of_states_with_nuclear_weapons - 165k - 20 May 2007 -
Cached - Similar pages - Note this
[More results from en.wikipedia.org]

Howstuffworks "How Nuclear Power Works"
Nuclear power provides electricity for a significant percentage of the population. Learn about **nuclear** fission and take a look inside a **nuclear** reactor.
science.howstuffworks.com/nuclear-power.htm - 41k - 20 May 2007 -
Cached - Similar pages - Note this

frontline: nuclear reaction
A report on why the United States seems ready to abandon **nuclear power**. ... Americans, once enthusiastic about **nuclear power**, now consider it one of the

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Free Notes, Syllabus, & Lectures in **Nuclear** Sciences & Engr. at MIT
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Google Scholar BETA "nuclear power" Search Advanced Scholar Search Scholar Preferences Scholar Help

Scholar All articles - Recent articles Results 1 - 100 of about 181,000 for "nuclear power". (0.43 seconds)

- All Results
Y Declais
B Lefievre
M Obolensky
B Achkar
H de Kerret

Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach - all 2 versions »

WA Gamson, A Modigliani - The American Journal of Sociology, 1989 - JSTOR
Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach.
William A. Gamson. ... Nuclear power, like every policy issue, has a culture. ...
Cited by 388 - Related Articles - Web Search - Import into EndNote

[CITATION] ... neutrino oscillations at 15-meters, 40-meters, and 95-meters from a nuclear power reactor at Bugey

Y Declais, J Favier, A Metref, H Pessard, B Achkar ... - Nuclear Physics B
Cited by 332 - Related Articles - Web Search - Import into EndNote

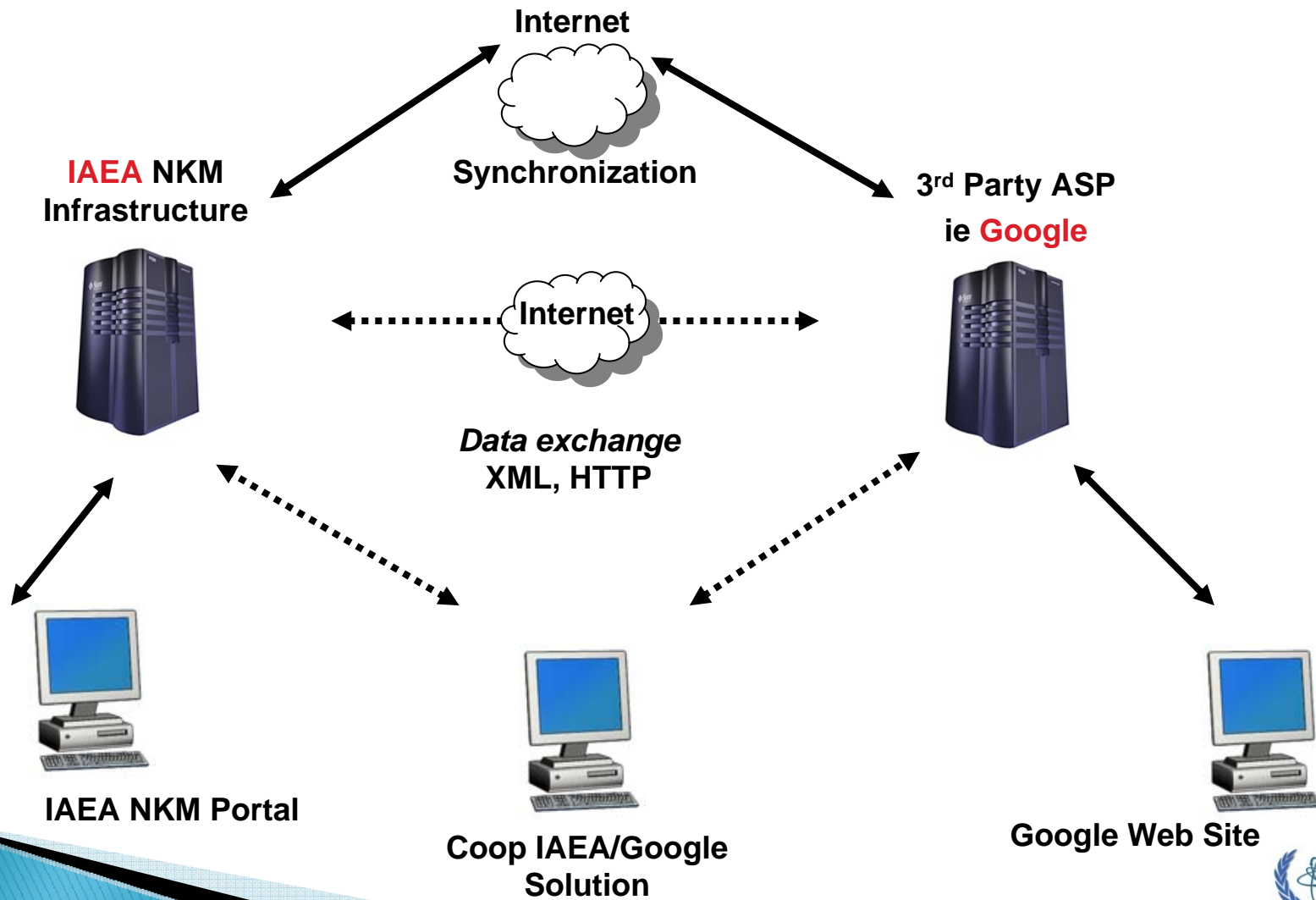
Search for neutrino oscillations on a long base-line at the CHOOZ nuclear power station - all 19 versions »

M Apollonio, A Baldini, C Bemporad, E Caffau, F ... - The European Physical Journal C-Particles and Fields, 2003 - Springer
... at the CHOOZ nuclear power station ... Page 2. 332 M. Apollonio et al.: Search for neutrino
oscillations on a long base-line at the CHOOZ nuclear power station ...
Cited by 346 - Related Articles - Web Search - Import into EndNote - BL Direct

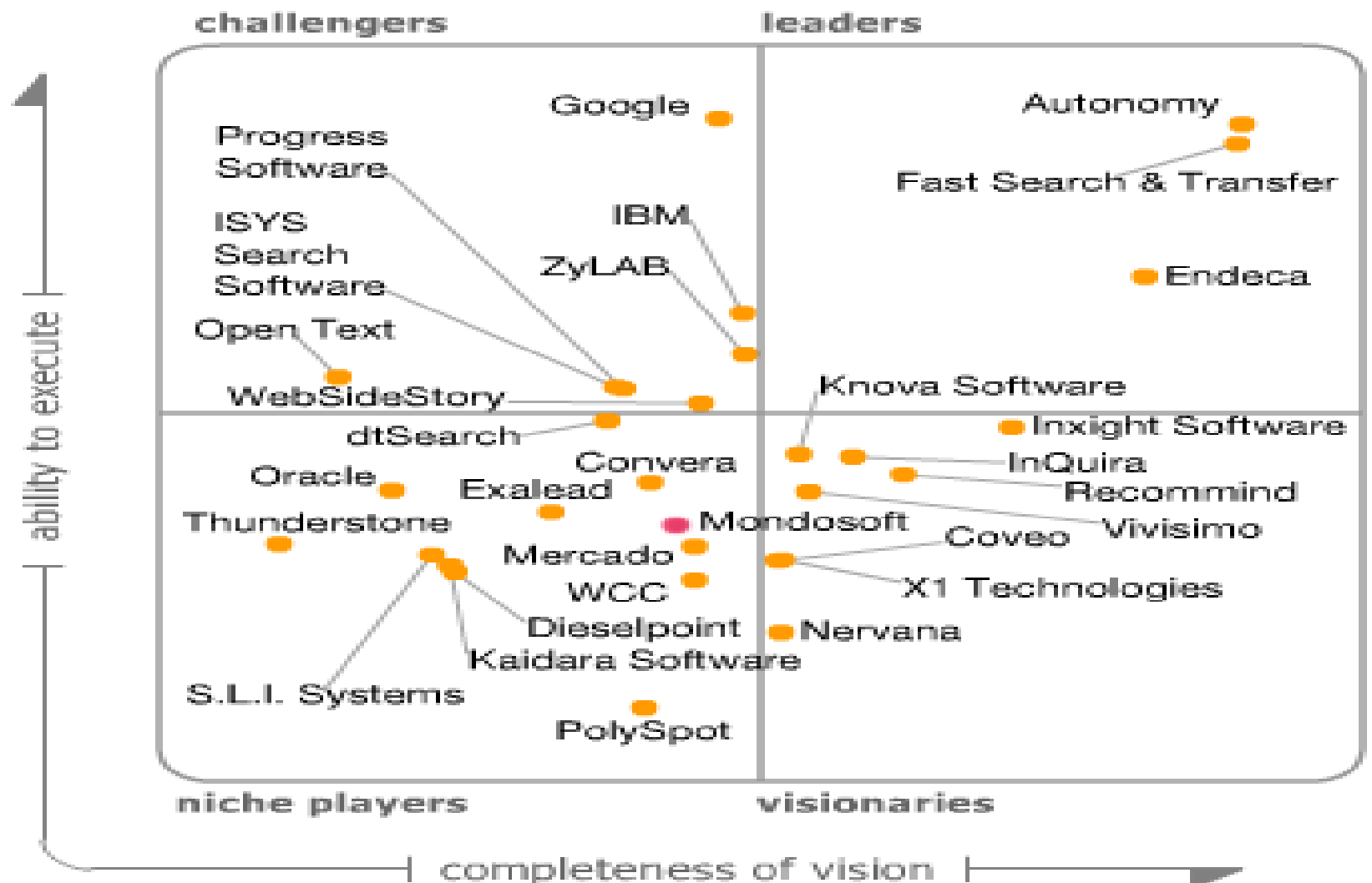
[CITATION] Handbook of Human Reliability Analysis with Emphasis on Nuclear Power Plant Applications

AD Swain, HE Guttman... - NUREG/CR, 1983
Cited by 225 - Related Articles - Web Search - Import into EndNote

Collections or Connections?

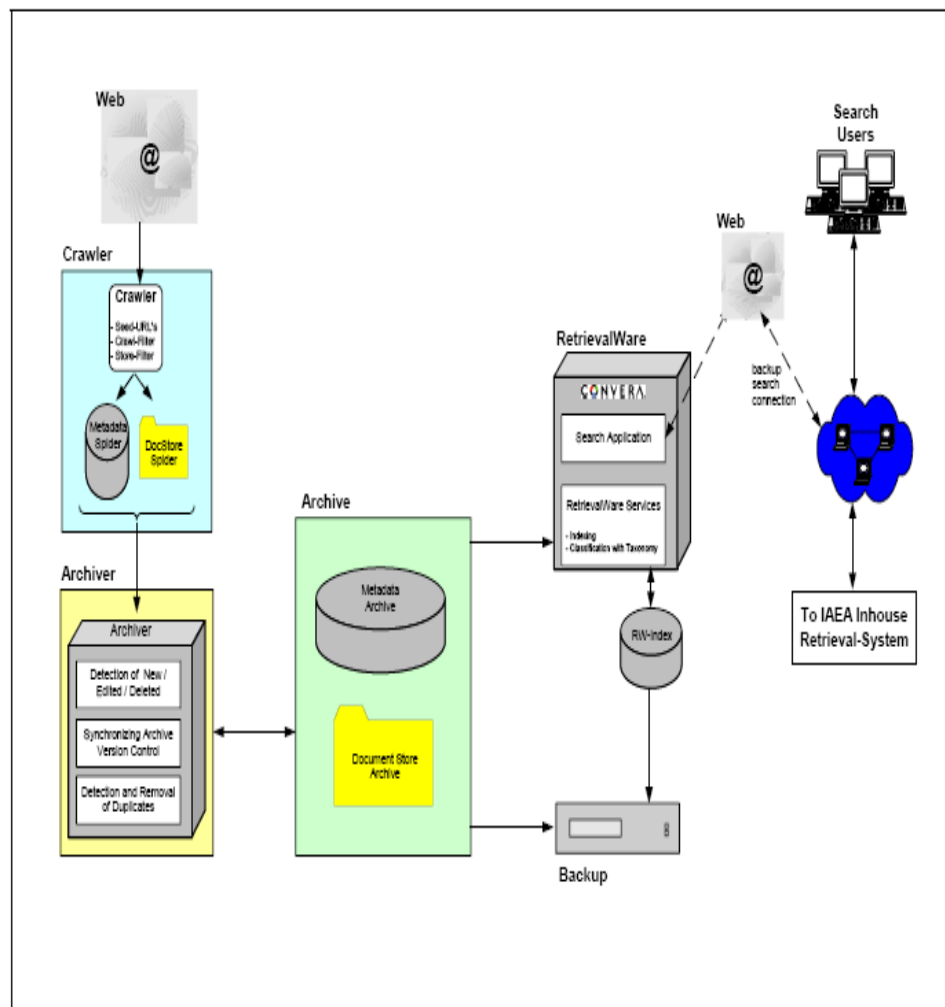


Search engines landscape



As of 1 August 2006

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

