

Information and Knowledge Management INIS Perspective



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Overview


- Introduction to IAEA
- About INIS
- Members and responsibilities
- Information collection
- Information sharing
- Long-term information preservation
- Nuclear knowledge organization
- Capacity building
- History of progress and road ahead

INIS objectives

Introduction to IAEA

International Atomic Energy Agency (IAEA)



- The world's leading Agency for cooperation in the nuclear field
- Created in 1957 as part of the United Nations family
- 168 Member States
- The IAEA Secretariat, Vienna, Austria 
- 2300 professional and support staff from more than 100 countries
- Safely employ nuclear technology to ensure peace, health and prosperity throughout the world – food & agriculture, health & nutrition, water, environment, energy planning, nuclear power, industrial applications and radiation technology, safety and security, safeguards (non-proliferation of nuclear weapons)


About INIS

International Nuclear Information System (INIS)

- One of the world's largest custodians of non-conventional published literature in the field of nuclear science and technology
- Established as part of the IAEA in 1970
- Operates under special membership arrangements that set specific duties and privileges of its members
- Membership: 130 countries and 24 international organizations
- Collaborative effort – decentralized input, centralized storage and dissemination

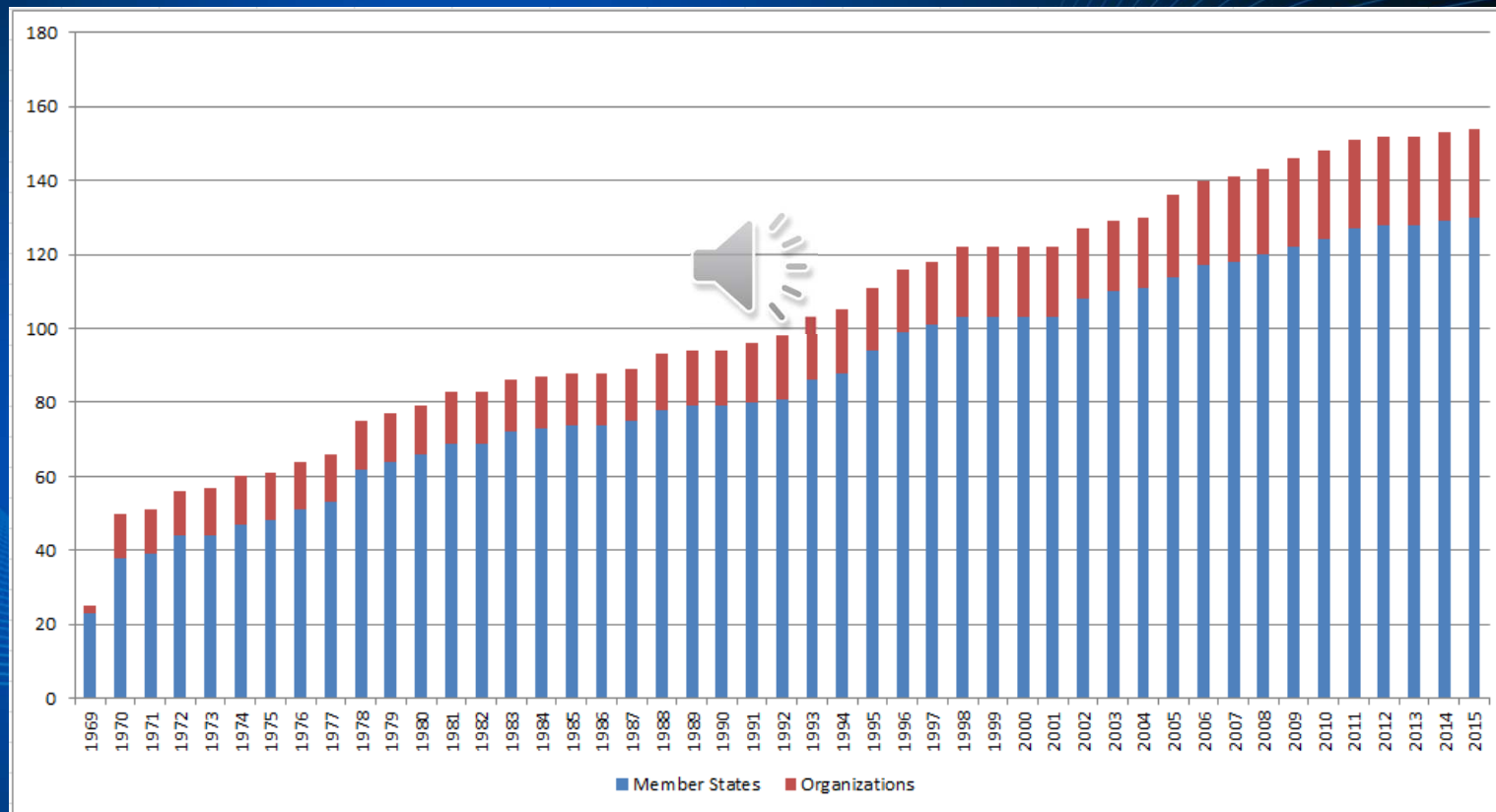
About INIS

The objectives

- To collect, process and preserve bibliographic metadata and full-texts of nuclear non-conventional (grey) literature
- To foster the exchange of STI on the peaceful use of nuclear science & technology
- To make the INIS repository  freely accessible to all Internet users around the world
- To increase awareness in Member States of the importance of maintaining efficient and effective systems for managing NI resources
- To assist with capacity building and training
- To provide NI services and support to Member States & the IAEA

INIS Membership

- Current INIS membership: **154**
 - 130 countries and 24 international organizations
 - Cuba is member since 1980
- IAEA membership: **168** (as of February 2016)



Responsibilities of INIS members

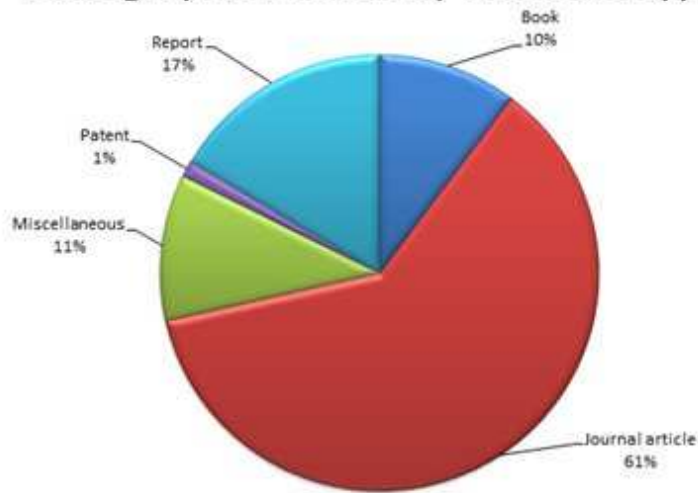
- To collect, select, describe, categorize, index, abstract and prepare items of literature published within its national boundaries (or organizational confines if an international body) and submit them to the INIS Secretariat in Vienna
- Provide the Agency with the full text of non-conventional literature
- To vote at Consultative Meetings of INIS Liaison Officers
- To receive technical and financial assistance from the Secretariat
- Establish and carry out promotional activities

Tools provided by the INIS Secretariat

- FIBRE+, Computer Aided Indexing (CAI), Input Management System (IMG)

INIS information collection

Bibliographic records by literature type



Conventional literature 71%

- Journal articles 61%
- Books 10%

Non-conventional Literature 29%

- Reports 17%
- Miscellaneous 11%
- Patents 1%

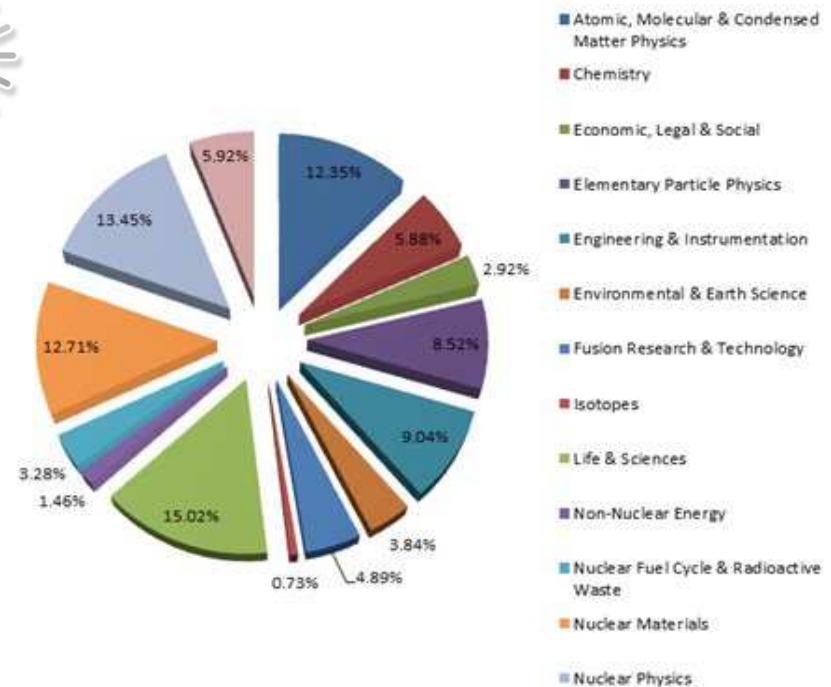
1 October 2016

- 3,970,111 bibliographic records
- 759,462 NCL records hosted (19.1%)
- 328,377 NCL records linked (8.3%)
- 1,087,839 NCL records total (27.4%)
- 525,061 PDFs

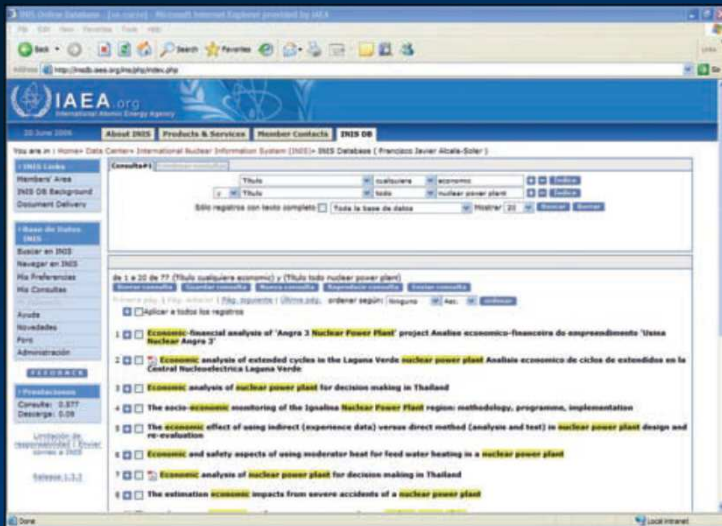
Annual input

- Over 135,000 records

Bibliographic Records by Subject Category



INIS search engine



Old Search 1970-2011

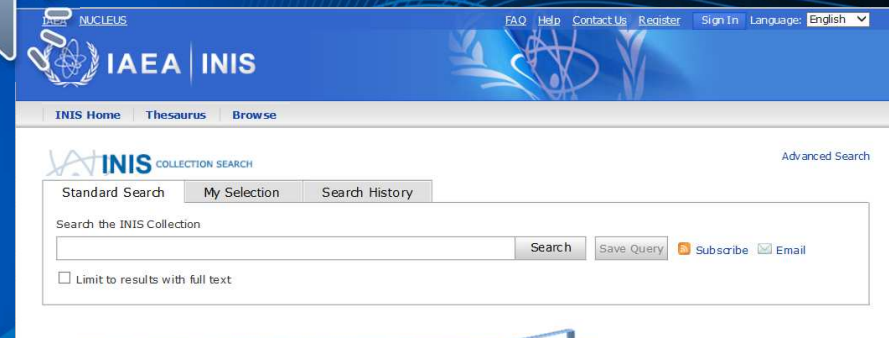
BASIS RDBMS

- Ownership and support (OpenText)
- Speed
- Cluttered interface made for librarians
- Only advanced search
- Full-text indexing not implemented
- Multilingual interface/search support
- Support for use of thesaurus and authorities

New Search 2011

Google Search Appliance (GSA)

- Great speed and scalability
- Uncluttered, easy to use start-up interface
- Advanced options to broaden or tighten search
- Full-text indexing
- More relevant results
- Faceted/filtered search



inis.iaea.org/search
Free, open and unrestricted
web access since April 2009

INIS repository search: main features

■ Platform

- Google Search Appliance® technology - renowned, simple, fast, flexible
- Project started in 2010. Current interface version 5.2, July 2016
- Virtual servers within the IAEA
- 24/7 availability



■ Accessibility

- Free and open web-based application. Nothing to install
- Mobile Apps for iPad, iPhone, Android
- Widget for searches from other websites with or without filter

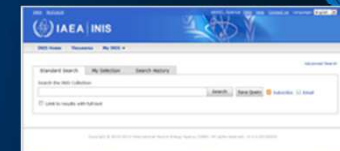


■ Ease of use

- Intuitive, self-explanatory initial screen
- No previous INIS Collection knowledge required
- A single search box communicates confidence to users that our search tools can meet their information needs from a single point of entry

■ Advanced Search

- Offers more precise search
- Metadata and Boolean search
- Query builder with syntax generator
- Search for all words & exact phrase; include/exclude metadata; select languages; range queries (2007..2009) ; dropdown menus



INIS repository search: main features

■ Faceted search

- Dynamic navigation through country, language, publication year, INIS Volume and subject

■ Expandability

- To new collections, databases, repositories
- To new formats/types of documents



■ Multilingualism

- INIS repository search interface available in 8 languages
- INIS Thesaurus also available in 8 languages (cross-language search)
- Automatic Google translation into 9 languages

■ Authority Files

- Journal titles; CODEN; ISSN; Subject category; Descriptor; Country/Organization; Author; Report number



INIS repository search: main features

■ Usability

- Print/export results in different formats (PDF, HTML, Excel, XML)
- Download of citations in plain text, RIS format, RefWorks, EndNote, Mendeley
- Creation of RSS feeds and permanent links
- E-mail search results as a link
- Stop words for languages other than English
- Translation of bibliographic records into other languages using Google Translator
- Browse subject categories, top searches, thesaurus



■ User profiling

- User registration (Single Sign-On)
- Set up interface language; number of displayed results per page; save queries; search updates; email query results
- Workspace concept (save documents found; translate into other languages)



■ Help

- FAQ on INIS and search
- On-line help file
- Pop-up hints: examples on how to build a query using metadata
- E-training courses



INIS repository search: simple search

IAEA NUCLEUS

FAQ Help Contact Us Register Sign In Language: English ▼



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INIS Home Thesaurus Browse

INIS COLLECTION SEARCH

Standard Search My Selection Search History

Search the INIS Collection

Search Save Query  Subscribe  Email

☐ Limit to results with full text

Advanced Search

INIS repository search: advanced search

IAEA NUCLEUS

FAQ Help Contact Us Register Sign In Language: English

IAEA | INIS

INIS Home Thesaurus Browse

Help - All words

All the terms entered in this textbox will be searched EVERYWHERE in the search results. All the terms will appear in the results, but not necessarily together.

Example: if you enter the terms *nuclear safety aspects*, all the search results will contain all of the words "nuclear", "safety" and "aspects".

Standard Search

Advanced Search

Search INIS Collection for documents that...

Include:

All words

But do **not** include:

Anywhere

Abstract
Author
Country/Org.
Descriptors
DEC
DEI
INIS Issue
INIS Volume
Journal
Language
Library Subject
Record Type
Ref. Number
Rel. Record
Report Number
Source
Subject Category
Title
Publ. Year

Clear All

Add Another

Add Another

Search

Also Search:

☐ 中文
☐ English
☐ Français
☐ Deutsch
☐ 日本語
☐ Русский
☐ Español

INIS Collection Search Highlights

INIS repository search statistics

1 January – 31 December 2015

Country	Sessions (1,190,037)	Downloads (105,015)	Bib. input
United States	1 221,478 (18.61%)	1 15,609 (14.86%)	8 429
India	2 108,080 (9.08%)	5 5,116 (4.87%)	5 3013
United Kingdom	3 63,649 (5.35%)	6 4,215 (4.01%)	0
Germany	4 56,481 (4.75%)	8 3,881 (3.70%)	1 6006
Japan	5 51,814 (4.35%)	4 5,168 (4.92%)	2 5904
France	6 43,810 (3.68%)	2 6,641 (6.32%)	2840
South Korea	7 42,123 (3.54%)	7 4,029 (3.84%)	3 4650
Canada	8 39,861 (3.35%)	10 3,547 (3.38%)	9 318
Brazil	9 33,867 (2.85%)	3 5,893 (5.61%)	6 1450
Iran	10 31,934 (2.68%)	15 2,188 (2.08%)	0
Austria	18 15,090 (1.27%)	9 3,738 (3.56%)	7 880
China	/	/	4 3592
Cuba	100 748 (0.07%)	99 24 (0.02%)	18 491 (157+334)

*Red colour indicates overall ranking position

Long-term information preservation

Digitization efforts

- Digital preservation in Member States
- Old IAEA publications
- Microfiche digitization project

Year	PDF	Pages	Size (GB)
2003	531	45 499	3.5
2004	19 873	1 307 977	36.0
2005	36 784	1 529 774	31.1
2006	23 199	1 390 140	33.7
2007	9 342	671 133	16.3
2008	25 749	1 225 069	29.6
2009	81 339	3 942 645	77.6
2010	33 882	1 969 274	45.9
2011	24 025	511 538	16.2
2012	24 736	1 113 231	49.4
2013	5 661	347 432	18.6
2014	1 332	73 878	2.2
2015	14 220	846 117	48.2
Total:	300 673	14 973 707	408.4

Nuclear knowledge organization

INIS Thesaurus

- A major tool for describing NI and knowledge in a structured form
- The Thesaurus contains the controlled terminology for indexing information within the subject scope of the INIS and it is intended for use in subject descriptions for input and for multilingual and semantic search
- Available in Arabic, Chinese, English, French, German, Japanese, Russian, and Spanish
- April 2016 issue contains 30,932 descriptors, of which 22,202 are valid descriptors and 8730 are forbidden terms
- The terminology used has its origin in the 1969 edition of the EURATOM Thesaurus
- Versions available on the web:
 - Monolingual versions of the thesaurus including the full thesaurus hierarchy
 - Multilingual dictionaries without thesaurus hierarchy
 - Interactive Multilingual INIS Thesaurus with navigation capabilities

Member States capacity building


- INIS training seminars
- e-learning
- Technical cooperation assistance
 - Regional training, fellowships, scientific visits
 - IT equipment
- Reference manuals
 - Subject Categories and Scope Descriptions
 - INIS/ETDE Manual for Subject Analysis
 - Guide to Bibliographic Description
 - Samples of Bibliographic Description
 - INIS List of Journal Titles, arranged by country or international organization
 - Database Manual
 - WinFIBRE User's Manual



History of progress

- 1970 INIS - the first nuclear database at the IAEA
- 1979 INIS - the first IAEA database with online access
- 1991 INIS & AGRIS - the first IAEA databases on CD-ROM
- 1996 INIS Web Site - the first Web Site at the IAEA
- 1998 INIS - the first IAEA database available on the Internet
- 2009 All Internet users given free and open access to INIS database
- 2009 INIS database becomes accessible via WorldWideScience.org
- 2010 INIS offers first Collection Search widget
- 2011 INIS launches new web search interface using Google-based technology
- 2012 INIS multilingual Thesaurus integrated with the INIS Collection Search
- 2012 INIS Collection Search includes the IAEA Library catalogue
- 2013 Browse INIS Collection by Subject Category
- 2014 INIS Collection becomes searchable through Google and Google Scholar
- 2015 First harvesting program launched - the Open Nuclear Information eXchange System (ONIXS) based on Open Access Interface-Protocol for Harvesting Metadata (OAI-PMH)

Road ahead

- **Information/literature evaluation**
 - Strengthen the role and position of national INIS centres; Improve tools & methodologies; E-learning
- **Information acquisition**
 - Alternative ways (direct DB access, harvesting); Alternative forms (data, video); Open sources ; Increase number of NCL; Finalize digitization of INIS microfiche collection
- **Information processing**
 - Simplified bibliographic metadata set; Introduce FIBRE+; Separate metadata creation and subject analysis; Introduce automatic indexing
- **Information organization and repackaging** 
 - Leverage technology; Streamline systems; Offer new info-services
- **Information storage, protection and preservation**
 - Streamline IT systems and applications; Use cloud computing; Emphasize preservation aspect ; PDF/A long-term archival format
- **System maintenance and updating**
 - Follow new IT technologies; Change; Innovation
- **Information sharing**
 - Cooperate with publically open discovery & other systems; INIS as open access repository; Go mobile; Federated search; Social networking, bookmarking, tagging; Social media ; Offer better reference service

Age si quid agis!

If you do something, do it well!

Muchas  gracias!