

# INIS

International Nuclear Information System

**16th International Conference on Grey Literature**  
**Grey Literature Lobby: Engines and Requesters for Change**  
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## Changes in the International Nuclear Information System (INIS)

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Nuclear Information Section

<http://goo.gl/BqoNfO>

- Introduction to IAEA and INIS
  
- International Nuclear Information System (INIS)
  - Membership
  - Role
  - Information sharing
  - Nuclear knowledge organization
  - Capacity building
  
- INIS road ahead
  - Social trends
  - Technological trends
  - INIS relevant trends

## ■ 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
- The IAEA works with its 159 Member States and multiple partners worldwide to promote safe, secure and peaceful uses of nuclear technologies
- The IAEA Secretariat is based in Vienna, Austria, with 2300 multi-disciplinary professional and support staff from more than 100 countries
- The IAEA helps its Member States 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)



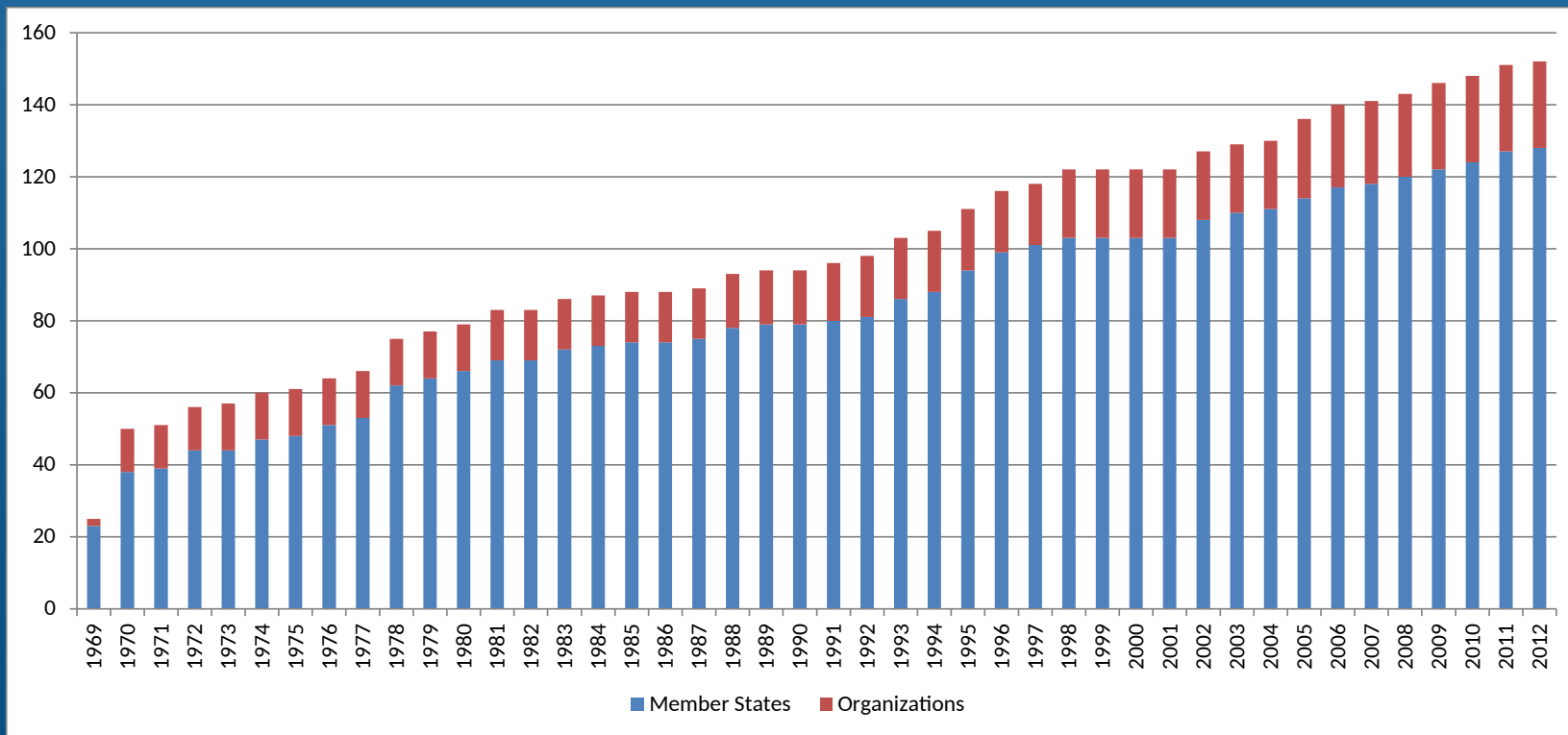
## ■ Nuclear Information Section (NIS)

- Consists of the *International Nuclear Information System (INIS)*, the *IAEA Library*, and the *System Development and Support Group (SDSG)*
- The objectives are to:
  - foster the exchange of scientific and technical information on the peaceful use of nuclear science and technology (collect, process, preserve and disseminate)
  - increase awareness in Member States of the importance of maintaining efficient and effective systems for managing nuclear information resources
  - assist with capacity building and training
  - provide information services and support to Member States & the IAEA

## 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
- Membership: 129 countries and 24 international organizations
- Collaborative effort – decentralized input, centralized storage and dissemination

## INIS Membership



- Current INIS Members: 153  
(129 countries and 24 international organizations; Afghanistan joined INIS in 2014)
- IAEA Members: 162 (as of February 2014)

## The Role of INIS

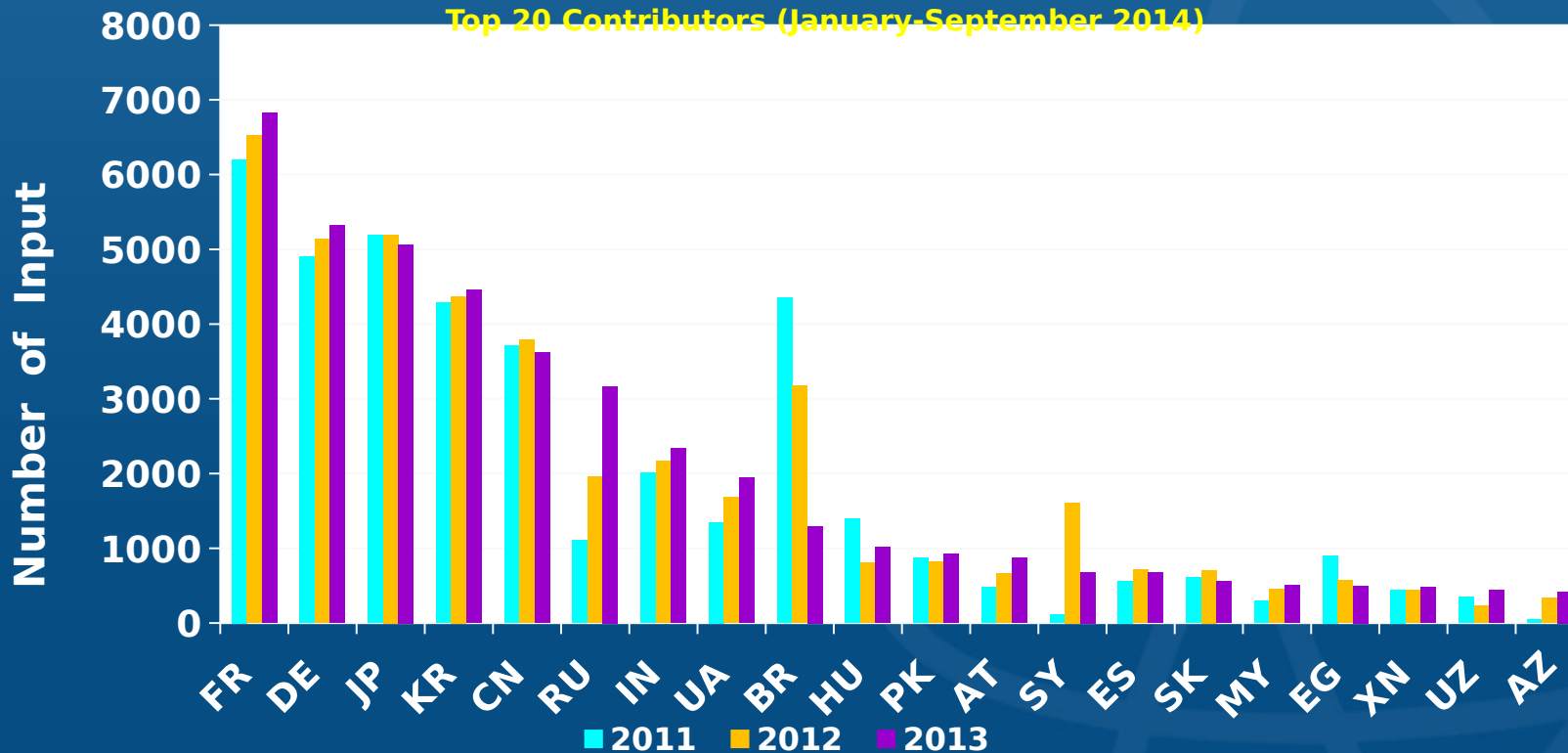
- **Information collection**
  - collect and process bibliographic metadata and full texts of nuclear literature published in IAEA Member States
- **Information preservation**
  - electronically preserve non-conventional or 'grey' literature, such as IAEA documents, policy & technical reports, other full-text publications from Member States & international organizations
- **Information sharing**
  - make the INIS Collection freely accessible to all Internet users around the world
- **Nuclear knowledge organization**
  - create Thesaurus as a major tool for describing nuclear information and knowledge in a structured form
- **Capacity building**
  - take actions that improve effectiveness of INIS Members in nuclear information management

## INIS Collection

- 1 November 2014
  - 3,720,511 bibliographic records
  - 491,301 full-text documents (NCL) (13.2%)
- Annual input  $\approx$  115,000-120,000 records

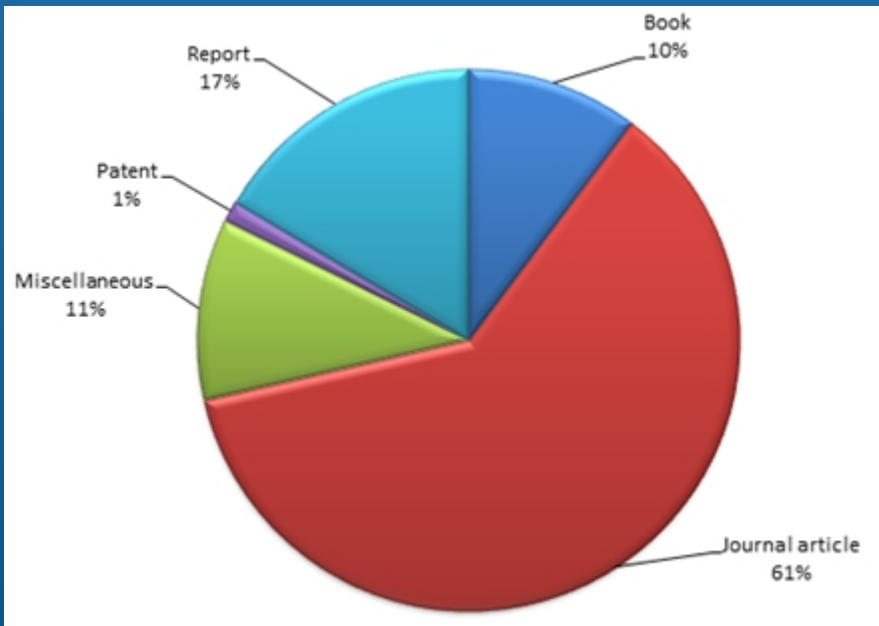
## Input by Country

### Top 20 Contributors (January-September 2014)





## Bibliographic records by literature type



### Conventional literature 71%

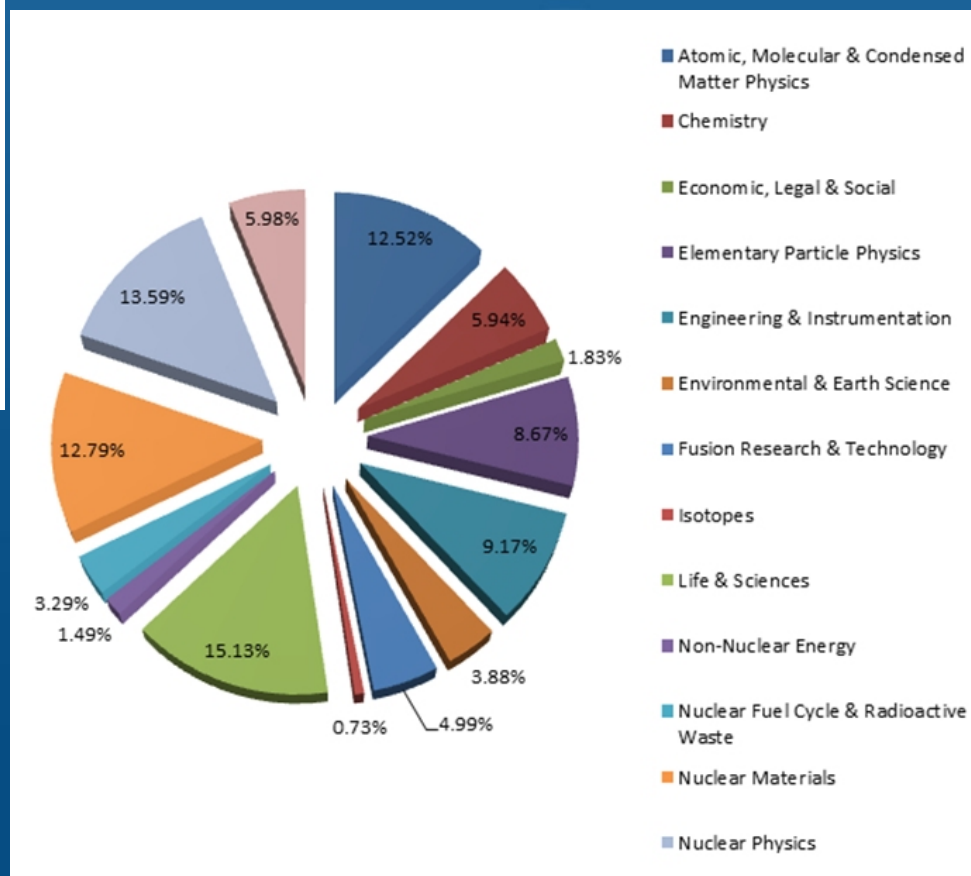
- Journal articles 61%
- Books 10%

### Non-conventional Literature 29%

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

## INIS Collection

### Bibliographic records by subject category





## INIS information preservation

### Digitization efforts

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

<b>Total number of full-text (PDF)</b>	<b>491,306</b>
▪ NCL available from INIS	742,769
▪ NCL available from other sources	312,458
▪ Total number of NCL	1,055,227

**28% of records are full-text!**

## INIS information sharing

- 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

## Information sharing

Access to INIS by Member States (1 January – 30 November 2014)

#	Country	Sessions	New sessions	New users	Bounce rate	Pages/session
1	United States	260,405(15.94%)	75.63%	196,937(16.60%)	62.11%	1.79
2	India	126,124(7.72%)	73.60%	92,825(7.83%)	65.30%	1.76
3	Brazil	77,794(4.76%)	74.87%	58,245(4.91%)	57.21%	2.16
4	Japan	72,164(4.42%)	62.44%	45,056(3.80%)	53.35%	2.28
5	United Kingdom	70,188(4.30%)	73.26%	51,418(4.33%)	59.90%	1.83
6	South Korea	66,623(4.08%)	64.83%	43,194(3.64%)	51.60%	2.07
7	France	65,988(4.04%)	70.01%	46,195(3.89%)	57.16%	2.24
8	Germany	64,882(3.97%)	73.39%	47,617(4.01%)	58.92%	1.78
9	Russia	56,728(3.47%)	65.52%	37,166(3.13%)	62.51%	2.13
10	Canada	46,422(2.84%)	72.18%	33,506(2.82%)	58.80%	1.95
11	Indonesia	37,873(2.32%)	81.45%	30,847(2.60%)	72.71%	1.51
12	Iran	32,233(1.97%)	65.27%	21,039(1.77%)	61.77%	1.86
13	Italy	31,548(1.93%)	74.01%	23,350(1.97%)	58.05%	1.88
14	Spain	26,682(1.63%)	74.22%	19,803(1.67%)	58.46%	1.91
15	Poland	25,114(1.54%)	76.70%	19,263(1.62%)	63.99%	1.76
16	Australia	24,889(1.52%)	78.90%	19,637(1.66%)	65.57%	1.62
17	Turkey	24,767(1.52%)	77.31%	19,148(1.61%)	62.93%	1.79
18	Egypt	22,777(1.39%)	55.23%	12,579(1.06%)	57.67%	2.18
19	Mexico	20,275(1.24%)	77.89%	15,792(1.33%)	60.20%	1.89
20	Ukraine	18,840(1.15%)	69.14%	13,026(1.10%)	65.08%	2.09

### ICS statistics 2013 vs. Jan-Nov 2014

**Visitors**

1,192,24

89,863

**Visits**

1,633,86

147,266

**Pageviews**

3,231,4

683,729  
24

**Documents**

678,400

63,719

**Bounce rate**

61.10%

52.2 %

**Pages/Visit**

1.98

4.65

PDF downloads: 405,761 vs 58,354

Increase: 595.34%

## Nuclear Knowledge Organization

- INIS Thesaurus is a major tool for describing nuclear information and knowledge in a structured form
- Available in Arabic, Chinese, English, French, German, Japanese, Russian, and Spanish languages
- November 2014 issue contains 30 853 descriptors, of which 22 147 are valid descriptors and 8706 are forbidden terms
- The terminology used has its origin in the 1969 edition of the EURATOM Thesaurus
- PDF versions:
  - Monolingual versions of the thesaurus including the full thesaurus hierarchy
  - Multilingual dictionaries without thesaurus hierarchy
  - Interactive multilingual thesaurus with navigation capabilities
- Interactive Multilingual INIS/ETDE Thesaurus with navigation capabilities
- 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

## Capacity building

- INIS training seminars
- eLearning
- Technical cooperation assistance
  - Regional training, fellowships, scientific visits
  - IT equipment
- Reference manuals

## Current social trends

- **Population**
  - Aging population; longer working lives; remote/non-personal interaction; social differences; radicalism/extremism; privacy & surveillance
- **Employment**
  - Uncertainty; change of professions/jobs; increased complexity; informal employment; new collaborative technologies; work from anywhere (connecting to work); Bring Your Own Device (BYOD); millennials as the majority workforce; talent management; work-force motivation
- **Education**
  - Life-long education; e-training; m-education; Massive Open Online Courses (MOOCS); training on demand; high computer literacy
- **Health & happiness**
  - Healthy living; well-being; bio/organic movement; family-work balance; personal/home entertainment
- **Community**
  - Transport; communication; environment; housing; crime; culture & leisure



## Current technological trends

### Gartner

- 1 Mobile Device Diversity and Management
- 2 Mobile Apps and Applications
- 3 The Internet of Everything
- 4 Hybrid Cloud and IT as Service Broker
- 5 Cloud/Client Architecture
- 6 The Era of Personal Cloud
- 7 Software Defined Anything
- 8 Web-Scale IT
- 9 Smart machines
- 10 3-D printing

### Forbes

- 1 Consumers will come to expect Smart TV capabilities
- 2 Smart watches will become 'smarter'
- 3 Google Glass will still be in "wait and see" mode
- 4 Other applications and uses for Apple's TouchID will emerge
- 5 Xbox One and PS4 will blur the lines between entertainment and video gaming
- 6 3D printing will begin to revolutionize production
- 7 The movement toward natural language search will make searching more accurate and intuitive

### Forrester

- 1 Digital Convergence Erodes Boundaries
- 2 Digital Experience Delivery Makes (or Breaks) Firms
- 3 APIs Become Digital Glue
- 4 The Business Takes Ownership Of Process And Intelligence
- 5 Firms Shed Yesterday's Data Limitations
- 6 Sensors And Devices Draw Ecosystems Together
- 7 'Trust' And 'Identity' Get A Rethink
- 8 Infrastructure Takes On Engagement
- 9 Firms Learn from the Cloud and Mobile
- 10 IT Becomes an Agile Service Broker

### Deloitte

- Disruptors**
- 1 CIO as venture capitalist
  - 2 Cognitive analytics
  - 3 Industrialized crowdsourcing
  - 4 Digital engagement Wearables
- Enablers**
- 1 Technical debt reversal
  - 2 Social activation
  - 3 Cloud orchestration
  - 4 In-memory revolution
  - 5 Real-time development operations

### Accenture

- 1 Big is the next big thing
- 2 Digital-physical blur
- 3 From workforce to crowd-source
- 4 Data supply chain
- 5 Harnessing hyperscale
- 6 The business of applications
- 7 Architecting resilience

## INIS relevant trends

- Improve digital presence
- Increase use of mobile devices and apps
- Cloud computing
- Open access and cooperation
- Use social media
- Follow new technologies
- Encourage creativity and innovation
- Concentrate on training and education

***Tomorrow belongs to the people who prepare  
for it today!***  
*African proverb*

- **Information/literature evaluation**
  - Strengthen the role and position of national INIS centres; Improve tools & methodologies
- **Information acquisition**
  - Alternative ways (direct DB access, harvesting); Alternative forms (data, video); Open sources ; Increase number of NCL; Finalize digitization of INIS microfiche collection
- **Processing**
  - Simplified bibliographic metadata set; Introduce FIBREonline; Separate metadata creation and subject analysis; Introduce automatic indexing
- **Organization and repackaging**
  - Leverage technology; Streamline systems; Offer new info-services
- **Storage, protection and preservation**
  - Streamline IT systems and applications; Use cloud computing; Emphasize preservation aspect ; PDF/A long-term archival format
- **Maintenance and updating**
  - Follow new IT technologies; Change; Innovate
- **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

# Nothing endures but change!

Heraclitus (2500 years ago)

# Thank you!