International Nuclear Information System (INIS) Progress and Activity Report 2016 www.iaea.org/inis

## International Nuclear Information System (INIS)

organizing the world's nuclear information and making it universally accessible

This report covers the period 1 January to 31 December 2016

www.iaea.org/inis @INISsecretariat



## **CONTENTS**

CONTENTS.		ii
INIS AT A GI	LANCE	iii
INIS MEMBI	ERS	iv
	ates	
Internation	nal Organizations	v
Abbreviation	S	vi
2016 HIGHL	IGHTS	1
INIS MEMBI	ERS	5
INIS REPOS	TORY	5
Bibliograp	hic Records	5
	ntional Literature (NCL)	
PRODUCTS A	AND SERVICES	6
	index Files via the IAEA Secure FTP Server	
Preservation	on of Non-conventional Literature	6
CAPACITY B	UILDING	7
<b>PUBLICATIO</b>	ONS	7
INIS Thesa	urus	7
Subject Ca	tegories and Scope Descriptions	8
Manual for	· Subject Analysis	8
INIS List o	f Journal Titles	8
COOPERATI	ON WITH INIS MEMBERS	8
OUTREACH	AND PROMOTION	9
<b>INIS</b> Webs	ite	10
Promotion	al Materials	10
ICT DEVELO	PMENT PROJECTS	10
HUMAN RES	SOURCES AND BUDGET	11
APPENDIXE	S	12
Figure 1.	Input to the INIS Repository by Country of Origin	12
Figure 2.	Input to the INIS Repository by Country of Input	
Figure 3.	Input to the INIS Repository by Country of Input	
Figure 4.	Input to the INIS Repository (national vs. voluntary input)	
Figure 5.	Input to the INIS Repository (time lag)	
Figure 6.	Input to the INIS Repository by Literature Type	16
Figure 7.	Input to the INIS Repository by Subject Area	
Figure 8.	Total Number of Records and NCL	
Figure 9.	Input to the INIS Repository by Year of Publication	
Table 1.	INIS Membership Growth–Historical Overview	
Table 2.	INIS Repository Search Statistics 2016	
Table 3.	INIS Website Statistics 2016	
Table 4.	INIS Members' Website Statistics 2016	
Table 5.	Number Of Records Arranged by Country of Input	
Table 6.	NCL 2016 Input per Country / International Organization	
Table 7.	Digitization of the INIS NCL Collection on Microfiche	40

## **INIS AT A GLANCE**

(as of 31 December 2016)

46	years since the IAEA, in cooperation with interested Member States and international organizations, established the International Nuclear Information System (INIS).
154	INIS members — 130 Member States and 24 international organizations.
1	main objective — to collect, process and provide access to conventional and non-conventional literature on the peaceful uses of nuclear science and technology.
3	additional objectives: preserve nuclear literature; maintain the INIS Thesaurus as a major tool for organizing nuclear information and knowledge in a structured form; and assist Member States in building their nuclear information capacities.
10	INIS staff members supported by 5 Systems and Development Support Group (SDSG) staff.
€2.0	million INIS budget for 2016.
8	languages of the INIS Thesaurus: Arabic, Chinese, English, French, German, Japanese, Russian, and Spanish.
31 008	descriptors in the INIS Thesaurus; $\bf 22\ 249$ valid descriptors and $\bf 8759$ forbidden terms.
4	million bibliographic records in the INIS repository. 127 205 added in 2016.
527 919	full-text documents in the INIS repository; 10 938 added in 2016.
910	GB of data in the INIS repository.
1.3	million visits to the INIS repository and 979 563 unique visitors in 2016.
1.6	million unique searches of the INIS repository and 2.7 million page views in 2016.
<b>3.</b> 7	million full-text documents downloaded in 2016.
64 724	visits and 44 581 unique visitors to the INIS website in 2016.
128 294	INIS website page views in 2016.
2 339	PDF documents digitized from the INIS NCL collection on microfiche or harvested from the US Department of Energy's SciTech website in 2016.
10	INIS Information letters sent to INIS members.
100	Twitter messages sent to 711 followers.
16	INIS highlights posted on the INIS website.

### **INIS MEMBERS**

(as of 31 December 2016)

### **Member States**

AFGHANISTAN GREECE
ALBANIA GUATEMALA

ALGERIA HAITI
ARGENTINA HUNGARY
ARMENIA INDIA
AUSTRALIA INDONESIA

AUSTRIA IRAN, ISLAMIC REPUBLIC OF

AZERBAIJAN IRAQ
BANGLADESH IRELAND
BELARUS ISRAEL
BELGIUM ITALY
BENIN JAPAN
BOLIVIA JORDAN
BOTSWANA, REPUBLIC OF KAZAKHSTAN

BOSNIA AND HERZOGOVINA KENYA

BRAZIL KOREA, REPUBLIC OF BULGARIA KUWAIT BURKINA FASO KYRGYZSTAN

BURUNDI LATVIA
CAMEROON LEBANON
CANADA LIBYA

CENTRAL AFRICAN LITHUANIA
REPUBLIC LUXEMBOURG
CHILE MADAGASCAR

CHILE MADAGASCAR
CHAD MALAYSIA
CHINA MALI
COLOMBIA MAURITANIA

COSTA RICA MAURITIUS

CÔTE D'IVOIRE MEXICO

CROATIA MONGOLIA

CUBA MOROCCO

CYPRUS MOZAMBIQUE CZECH REPUBLIC MYANMAR

DEMOCRATIC REPUBLIC OF NAMIBIA

THE CONGO NETHERLANDS
DENMARK NEW ZEALAND
ECUADOR NICARAGUA
EGYPT NIGER
EL SALVADOR NIGERIA
ESTONIA NORWAY

ESTONIA NORWAY
ETHIOPIA OMAN
FINLAND PAKISTAN
FRANCE PANAMA
GEORGIA PARAGUAY
GABON PERU

GERMANY PHILIPPINES
GHANA POLAND

PORTUGAL QATAR

REPUBLIC OF MOLDOVA

ROMANIA

RUSSIAN FEDERATION

SAUDI ARABIA SENEGAL SERBIA SEYCHELLES SIERRA LEONE SINGAPORE SLOVAKIA

SOUTH AFRICA

**SLOVENIA** 

SPAIN SRI LANKA SUDAN SWEDEN SWITZERLAND

SYRIAN ARAB REPUBLIC TAJIKISTAN, REPUBLIC OF

**THAILAND** 

THE FORMER YUGOSLAV REP. OF MACEDONIA

TUNISIA TURKEY UGANDA UKRAINE

UNITED ARAB EMIRATES UNITED KINGDOM

UNITED REPUBLIC OF

**TANZANIA** 

**UNITED STATES OF** 

AMERICA
URUGUAY
UZBEKISTAN
VENEZUELA
VIET NAM
YEMEN
ZAMBIA
ZIMBABWE

### **International Organizations**

**AFRICAN UNION** 

ARAB ATOMIC ENERGY AGENCY (AAEA)

BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS (ABACC)

COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (CTBTO)

**EUROPEAN COMMISSION (EC)** 

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)

FOOD AND AGRICULTURAL ORGANIZATION OF THE UNITED NATIONS (FAO)

INTERNATIONAL CENTRE FOR SCIENTIFIC AND TECHNICAL INFORMATION (ICSTI)

INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION (ICRP)

INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS (IIASA)

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

JOINT INSTITUTE FOR NUCLEAR RESEARCH (JINR)

MIDDLE EASTERN RADIOISOTOPE CENTRE FOR THE ARAB COUNTRIES (MERRCAC)

OECD/NUCLEAR ENERGY AGENCY (NEA)

SYNCHROTRON-LIGHT FOR EXPERIMENTAL SCIENCE AND APPLICATIONS IN THE MIDDLE EAST (SESAME)

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)

UNITED NATIONS SCIENTIFIC COMMITTEE ON THE EFFECTS OF ATOMIC RADIATION (UNSCEAR)

WORLD COUNCIL OF NUCLEAR WORKERS (WONUC)

WORLD ENERGY COUNCIL (WEC)

WORLD HEALTH ORGANIZATION (WHO)

WORLD METEOROLOGICAL ORGANIZATION (WMO)

WORLD NUCLEAR ASSOCIATION (WNA)

WORLD NUCLEAR UNIVERSITY (WNU)

The International Nuclear Information system (INIS) was established by the IAEA in collaboration with interested Member States and some international organizations in 1969 with the objective of providing information on scientific literature published world-wide on the peaceful uses of nuclear energy. INIS operates under membership arrangements that set specific duties and privileges.

## **Abbreviations**

CAL	Company to Assistant and Company
CAI	Computer Assisted Indexing
CAT	Conference Authority Tool
CERN	European Organization for Nuclear Research
CPF	Country Programme Framework
DOAJ	Directory of Open Access Journals
DOE	U.S. Department of Energy
FAO	Food and Agriculture Organization of the United Nations
FIBRE+	Friendly Inputting of Bibliographic Records
GSA	Google Search Appliance
IAEA	International Atomic Energy Agency
IRS	INIS Repository Search
ILOM	INIS Liaison Officers Meeting
IMGM	INIS Input Management System
INIS	International Nuclear Information System
INLN	International Nuclear Library Network
IRPS2	INIS Record Processing System v2
JAEA	Japan Atomic Energy Agency
JINR	Joint Institute for Nuclear Research
KISTI	Korea Institute of Science and Technology Information
MTIT	Division of Information Technology (IAEA)
NCL	Non-conventional Literature
NE	Nuclear Energy
NIS	Nuclear Information Section
NKM	Nuclear Knowledge Management Section
OAI-PMH	Open Access Interface-Protocol for Harvesting Metadata
OCLC	On-line Computer Library Center
ONIXS	Open Nuclear Information eXchange System
OPIC	Office of Public Information and Communication (IAEA)
OSTI	Office of Scientific and Technical Information, U.S. DOE
PAGES	Public Access Gateway for Energy & Science
SDSG	Systems Development and Support Group
TC	Department of Technical Cooperation

## 2016 HIGHLIGHTS

#### **OVERVIEW**

In a constantly changing world of digital complex multi-subject information, a repository such as INIS is evolving on-the-go. Throughout 2016, there were a number of developments, thanks to the efforts of the INIS Secretariat and based on feedback and suggestions from INIS Liaison Officers. Among many achievements, the INIS repository built on and expanded its transition towards automatic workflows, such as electronic harvesting of records from other digital using repositories the Open Nuclear Information eXchange System (ONIXS), as well as the INIS Input Management System (IMGM) a web-based input interface — which was used in 2016 to submit a large portion of records from INIS members, proving the benefits of digital automated interfaces. The INIS Thesaurus, in combination with the multisubject repository, has been successfully positioned as a Knowledge Organization System and was presented as such at a major nuclear knowledge management conference in 2016.

### **MEMBERSHIP**

130 Member States and 24 international organizations were members of INIS in 2016.

### INIS REPOSITORY

The fifth highest ever annual INIS input was realized in 2016, with 127 205 new bibliographic records added to the repository, bringing the total of records to over 4 million.

Taking into account statistics for the last 10 years, the 2016 INIS repository growth rate exceeded the yearly average of 120 000 new records per year.

Around 80% of all bibliographic records entered into the INIS repository during 2016 were journal articles, followed by

miscellaneous (11%), books (6%), and reports (3%) (Fig. 6).

The majority of newly added records by subject area covered Nuclear Physics (17%), Life and Sciences (17%), Nuclear Materials (13%), Atomic, Molecular & Condensed Matter Physics (12%), followed by Engineering & Instrumentation (10%) and Nuclear Power (7%) (Fig. 7).

Conference proceedings were submitted by 41 Member States, 4 international organizations, and the IAEA.

France submitted 1055 missing conference records. This was followed by the USA, Cuba, the Republic of Korea, Chile, Brazil, Kenya, JINR, Germany, Lebanon, the Philippines, Ghana, and Madagascar (Fig. 4 and Table 5).

INIS subject specialists reviewed and, when necessary, corrected the indexing of 29 537 records of input.

The average time lag for all types of literature entered into the INIS repository was 22 months. Journal articles had a time lag of 18 months (Fig. 5).

10 938 full-texts were uploaded to the repository, bringing the total to more than half a million full-text documents, of which 381 614 are available to the public.

18 172 NCL records were processed and added to the repository.

France was the largest contributor of full-texts in 2016, with 2070 records (23.7%). Other top contributors included the IAEA (13.1%), Brazil (11%), Japan (10.9%) and the Nuclear Energy Agency of the OECD, including 5.1% submitted by the French National Center.

According to Google Scholar, around 1.3 million documents in INIS are not found elsewhere. This means that over one-third of the bibliographic records are unique to the INIS repository.

### PRODUCTS AND SERVICES

Since the beginning of the microfiche digitization project in 2003, about 87% of the entire microfiche collection has been digitized. This amounts to 424 GB of data, comprising

over 15.2 million pages and over 302 000 electronic full-texts.

In 2016, 841 IAEA Information Circulars (INFCIRCs) in Russian, covering 11 389 pages, were digitized by the INIS Secretariat.

The INIS Secretariat continued to provide ILOs with weekly Atomindex files on the SFTP server.

### **CAPACITY BUILDING**

Several capacity building activities were initiated by the INIS Secretariat in cooperation with the Department of Technical Cooperation (TC), providing assistance to and consultations with the INIS Centres of Burundi, Ghana, Namibia, Rwanda, and Zimbabwe.

INIS is providing ongoing support to a TC project for Namibia to establish a National Science and Technology Digital Repository.

INIS was presented to national delegations at various TC forums including Ghana, Rwanda, and Zimbabwe, as well as at the *Africa National Liaison Officers Induction Workshop*.

INIS reviewed and provided input to the IAEA TC Country Programme Framework 2016-2021 for a number of IAEA Member States.

### **PUBLICATIONS**

The INIS Thesaurus was expanded and now contains 31 008 descriptors, 22 249 of which are valid descriptors and 8759 of which are forbidden terms.

The Thesaurus Advisory Group agreed on the expansion of the INIS Thesaurus with over 60 new descriptors which were added to the online thesaurus, CAI, and FIBRE+.

The national INIS Centres of Japan and Germany provided quarterly updated translations of the thesaurus. The national INIS Centres of China, France, Russia and Spain and Syria also provided updated translations. These are available on the INIS website.

The English version of the INIS Thesaurus was updated monthly and monthly thesaurus

supplements were made available on the INIS website.

The multilingual thesaurus continues to be updated twice a year — in January and July.

Other publications on the INIS website are INIS/ETDE Subject Categories and Scope Description (IAEA-INIS/ETDE-02), the INIS/ETDE Manual for Subject Analysis (IAEA-INIS/ETDE-03), and the INIS List of Journal Titles by Country or International Organization Name, which is updated yearly.

## COOPERATION WITH INIS MEMBERS

In October, the 38th Consultative Meeting of INIS Liaison Officers took place in Vienna with 68 participants from 59 Member States and 5 international organizations.

In cooperation with the national INIS Centre of Japan, more than 1600 Fukushima Nuclear Accident Archive (FNAA) records were added to the INIS repository.

A report by the Japan Atomic Energy Agency (JAEA) describing the history, discussions and recommendations of the Advisory Committee, as well as its support for the INIS Centre of Japan, was published by JAEA. A contribution to the report prepared by the INIS Secretariat is entitled *INIS* in Japan: Over 45 Years of Fruitful Cooperation between the INIS Centre of Japan and the INIS Secretariat.

The Yerevan Physics Institute (YerPhI) of Armenia and INIS cooperated in the preservation of YerPhI's national scientific output and the establishment of a digital scientific repository. The institutional repository will receive further support from INIS in the form of digitized materials relevant to national and international research. This activity was highlighted on the news page of the IAEA's website.

The INIS repository continues to be included in the WorldWideScience (WWS) Alliance, which was established in June 2008 by the U.S. Department of Energy's Office of

Scientific and Technical Information (OSTI) as a global science gateway. This gateway offers scientific and technical information through a single address and a single access point that is easy to use and simple to navigate.

The Canada Nuclear Laboratories (CNL) Library published an article on INIS activities. CNL is the INIS Centre for Canada and one of the founding members of INIS.

Assistance and training were provided to a number of national INIS Centres, improving their INIS operational capabilities.

Ten INIS information letters, covering different aspects of INIS activities, were sent to ILOs.

### **OUTREACH AND PROMOTION**

The INIS Secretariat participated in the organization of the 3rd Nuclear Knowledge Management Conference in Vienna, where it hosted a session on Challenges and Approaches in Information, Records and Data Management. A presentation entitled Nuclear Information to Knowledge: Role of INIS was given by INIS staff.

Links to both the INIS website and the INIS Thesaurus were included on the website of the Permanent Mission of the Federal Republic of Germany to the IAEA, to be used as part of the introduction to the IAEA for new members of the Permanent Mission.

INIS became part of a new knowledge organization course entitled *Knowledge Organization: Information Seeking and Retrieval* offered to students through the Library and Information Science Programme at Linnaeus University in Sweden.

INIS was promoted at the *IV Forum on Information and Knowledge Management* (FIKM) during the *XIV International Congress of Information* which was held in Cuba from 31 October–4 November.

INIS also took part in the IAEA IT Expo, held at IAEA Headquarters in Vienna. Staff representing different departments within the IAEA were brought together to demonstrate how IT and modern technologies can be used

to enhance people's efforts throughout the IAEA.

INIS expressed its support for *International Open Access Week*, which took place worldwide from 24—30 October with the theme *Open in Action*. The aim was to encourage that concrete steps be taken to open up research and scholarship.

A number of presentations regarding various aspects of INIS activities were given by INIS staff at meetings and conferences held in Athens, Brighton, Cape Town, Dublin, Florence, Hannover, London, New York, Paris, Philadelphia, and Shanghai, as well as at the IAEA in Vienna. Staff also represented INIS as Chair of several forums and committees, as key note speakers, and as an Executive Board Member of ICSTI.

Two articles were published by INIS staff: Digital Repository as an Instrument for Knowledge Management, published in the e-LIS library and information science e-print archive, and Public Interest in Accessing the INIS Collection — which was published as part of the Proceedings of the 17th International Conference on Grey Literature, Amsterdam, December 1–2, 2015, and was republished in the Grey Journal in February 2016, Vol. 12.

Jointly with the IAEA Library, INIS provided induction presentations to representatives of the diplomatic community to the IAEA.

INIS and the IAEA Library also conducted training and INIS Repository Search demonstrations for the IAEA Safeguards inspectors training.

An informal Newsletter was prepared and distributed at the 38th Consultative Meeting of INIS Liaison Officers, which was held in October.

100 Tweets were prepared by the INIS Secretariat and read by 711 followers at @INISsecretariat.

The INIS website had 64 724 visitors viewing 128 294 pages, the most popular of which were the INIS repository, Newsletters, INIS Products and Services, and INIS History.

Information Letters and Annual Production Statistics were the most frequently visited pages in the Members' area — with 1989 visits and 2481 page views (Table 4).

### ICT DEVELOPMENT PROJECTS

A major release (version 5) of the INIS Repository Search (IRS) application was deployed in January, and in June the current version (5.2) was released.

Using the Open Nuclear Information eXchange System (ONIXS), over 15 000 records were harvested, processed and added to the INIS repository.

Enhanced ONIXS plugins for harvesting data from the CERN Document Server, Public Access Gateway for Energy & Science (PAGES) and Directory of Open Access Journals (DOAJ) were put in production.

The first version of the Rule-based Automated Indexing System was developed and has been used in test mode since April.

The INIS Thesaurus was converted to SKOS-XL/RDF format and loaded into the development instance of PoolParty Semantic Suite — a software for thesaurus and taxonomy management.

A feasibility study was conducted by INIS and SDSG to test the use of Invenio, powered by Elasticsearch, as the next generation platform for INIS, and Elasticsearch as the search engine replacement for Google Search Appliance (GSA).

Two e-Learning modules — Bibliographic Description and Subject Analysis — were developed and deployed through the IAEA's CLP4NET e-Learning platform.

INIS databases and applications were migrated to the SQL Server 2012 platform in accordance with the IAEA software migration plan. Migration was done with no substantial downtime for INIS users.

Several initiatives were taken to improve security (CAI security assessment), data consistency (data archiving project), performance, and more.

Input using IMGM completed its first year of production. 33 INIS members used this service in 2016. Volume 47 had 325 submissions, 23 955 records and 2224 files for the year. The average per week was 6.5 submissions, 480 records, and 45 files. The average per month was 27 submissions, 1996 records, and 185 files.

### HUMAN RESOURCES AND BUDGET

10 INIS and 5 Systems and Development Support Group (SDSG) staff members successfully completed all assigned program tasks. Funding through the Regular IAEA Budget for Sub-programme 1.3.4 (INIS) totalled €2 005 807.

### **INIS MEMBERSHIP**

In 2016, INIS had 154 members comprised of 130 Member States and 24 international organizations (Table 1). The INIS Secretariat established contact with several Member States, encouraging them to join INIS. New members are expected in the near future.

### **INIS in 2016**

- 154 INIS members
  - 130 Member States and 24 international organizations
- INIS repository
  - 4 000 408 bibliographic records and 527 919 full-text documents

### INIS REPOSITORY

### **Bibliographic Records**

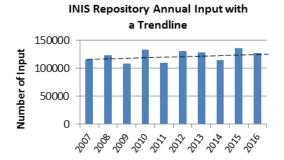
Thanks to the consistent efforts of INIS Member States, INIS Liaison Officers (ILOs), and the INIS Secretariat, INIS has grown throughout its 46 years into a huge multisubject, multilingual repository, hosting a large number of subject collections covering a vast amount of topics related to nuclear science, technology and much more.

With the successful completion of Volume 47, 127 205 records were added to the INIS repository (Figs. 1—5 and Table 5), bringing the total to 4 000 408. This figure makes 2016 the fifth highest year for total annual input in 46 years of INIS. This achievement is a direct result of each participating INIS member's contribution throughout the past 46 years.

According to Google Scholar, around 1.3 million documents in INIS are not found elsewhere. This means that over one-third of the bibliographic records are unique to the INIS repository.

Taking into consideration statistics for the last 10 years, the 2016 INIS repository growth rate exceeded the yearly average of 120 000 new

records per year (see the following chart and Figs. 8—9).



Around 80% of all bibliographic records entered into the INIS repository during 2016 were journal articles, followed by miscellaneous (11%), books (6%), and reports (3%) (Fig. 6).

INIS repository input by subject area remained similar to previous years. The majority of newly added records covered Nuclear Physics (17%), Life & Sciences (17%), Nuclear Materials (13%), Atomic, Molecular & Condensed Matter Physics (12%), followed by Engineering & Instrumentation (10%), and Nuclear Power (7%) (Fig. 7).

France continued its voluntary identification and coverage of missing conferences and submitted 1055 missing conference records, 351 records from the *Radiation Protection Dosimetry Journal*, as well as 724 records of non-French literature with full bibliographic descriptions and abstracts (Fig. 4). In addition, the United States submitted 251 records of voluntary input, Cuba 194, the Republic of Korea 60, Chile 33, Brazil 27, Kenya 11, JINR 10, Germany 3, Lebanon 2, Philippines 2, Ghana 1 and Madagascar 1 (Fig. 4 and Table 5).

The INIS Secretariat continued to perform automated checks on the indexing consistency of Members' input in order to identify records requiring manual verification. By the end of 2016, INIS subject specialists reviewed and, when necessary, corrected the indexing of 29 537 such records.

In 2016, conference proceedings were submitted by 41 Member States, 4 International Organisations and by the IAEA, and appropriate action to enter this information in the repository was taken.

These additional efforts improved the coverage of conference literature in INIS.

The INIS Secretariat also continued its cooperation with ILOs, encouraging new contacts and promotional activities, as well as the inclusion of relevant conference proceedings in the INIS repository.

Nuclear science and technology are fields of great interest in research, resulting in the accumulation of many new journal articles, books and reports. However, there is a delay in making this literature available to end users. Factors impacting the delay are publication, distribution, processing, and data entry. The delay, or 'time lag', represents the difference between the publication date and the date of input to the INIS repository. The average time lag for all types of literature entered into the INIS repository during 2016 was 22 months. Journal articles had a time lag of 18 months (Fig. 5).

## Non-conventional Literature (NCL)

18 172 new NCL records were processed and added to the repository, representing 14.3% of the total input for 2016. The full-texts of 8740 NCL records, 48.1% of all NCL, were submitted as 8190 PDF files by 37 Member States and international organizations. The top ten contributors were responsible for over 82% of all NCL input.

France, with 2070 records, was the largest contributor of full-texts — 23.7% of all NCL — including a large number of old dissertations currently being digitized by the French National Centre. Other top contributors included the IAEA (13.1%), Brazil (11.0%), Japan (10.9%) and the Nuclear Energy Agency of the OECD, including 5.1% submitted by the French National Centre (Table 6).

In 2016, 10 938 full-texts were added to the repository, including 8190 NCL from regular input, 2339 digitized from microfiche or harvested from the U.S. DOE SciTech website, 15 UNSCEAR books and 394 Open Access journal articles from CERN, IAEA and the U.S. — 65 GB of data and over 750 000 pages. At years end, there were 527 919 full-texts in

the repository, 381 614 of which are available to the public.

## PRODUCTS AND SERVICES

## INIS Atomindex Files via the IAEA Secure FTP Server

Although used by only a few Members, the INIS Secretariat continued to provide ILOs with weekly Atomindex files on the SFTP server.

### Preservation of Nonconventional Literature

### Digitization of the INIS Microfiche Collection

Since the beginning of the microfiche digitization project in 2003, about 87% of the entire microfiche collection has been digitized. This amounts to 424 GB of data, comprising over 15.2 million pages and over 302 000 electronic full-texts. Approximately 1.7 million pages need to be processed before project completion. The ultimate goal is the complete integration of the microfiche-based NCL into the repository, providing online access to the full-texts (Table 7).

### Digitization of IAEA Publications

INIS supports the IAEA in the digital preservation of their publications and in 2016, 841 old INFCIRCs in Russian, covering 11 389 pages, were digitized by the INIS Secretariat.

## CAPACITY BUILDING

Provision of assistance to national INIS Centres to facilitate active participation in all aspects of their INIS operational capabilities continued in 2016.

In cooperation with the IAEA's Department of Technical Cooperation (TC), several capacity building activities were initiated by the INIS Secretariat. INIS cooperated with TC in procuring IT equipment for the national INIS Centre of Burundi, which joined INIS as the 130<sup>th</sup> Member State in 2015.

The INIS Secretariat gave presentations on its products and services and the role of national INIS Centres at various TC forums including to the national delegations of Ghana, Rwanda, and Zimbabwe and at the *Africa National Liaison Officers Induction Workshop*, held in Vienna in April. INIS also held consultations with the Rwandan delegation and TC staff on the benefits of INIS membership and how the IAEA could assist in developing the necessary capacities to undertake their duties and responsibilities as a national INIS Centre.

INIS is currently providing technical support to a TC project for Namibia to establish a National Science and Technology Digital Repository.

INIS reviewed and provided its input to the IAEA TC Country Programme Framework 2016–2021 for a number of IAEA Member States.

### **PUBLICATIONS**

### **INIS Thesaurus**



Maintenance of the INIS Thesaurus continued and the fully updated version is now available on the INIS website.

The English version of the INIS Thesaurus is updated monthly, giving users an opportunity to consult the latest version in a single document.

Monthly thesaurus supplements were made available on the INIS website, and INIS Thesaurus document identification numbers were adapted.

At the end of 2016, the INIS Thesaurus contained 31 008 descriptors — 22 249 of which were valid descriptors and 8759 of which were forbidden terms.



The INIS online Thesaurus Advisory Group, created to evaluate proposals for new descriptors and other thesaurus related topics, deliberated on newly proposed terms and other thesaurus matters. In 2016, the Group agreed on the expansion of the thesaurus with over 60 new descriptors, which were added to the online thesaurus, CAI, and FIBRE+.

As agreed at the 37th ILOM in 2014, the multilingual thesaurus is updated twice a year — in January and July. The INIS Secretariat will continue to solicit translation lists from the respective national INIS Centres to be imported into the INIS Thesaurus.

The INIS Centres of Japan and Germany provided quarterly updated translations of the thesaurus. The INIS Centres of China, France, Russia, Syria and Spain also provided updated translations. These can be found on the INIS website.

INIS Thesaurus links are provided to all language versions, the Thesaurus Supplement, the Interactive Multilingual INIS Thesaurus with navigation capabilities, and the multilingual dictionaries without thesaurus hierarchy.

## **Subject Categories and Scope Descriptions**

INIS/ETDE Subject Categories and Scope Description (IAEA-INIS/ETDE-02, IAEA Vienna, August 2010), is available on the INIS website.

### **Manual for Subject Analysis**

The INIS/ETDE Manual for Subject Analysis (IAEA-INIS/ETDE-03) can also be found on the INIS website.

### **INIS List of Journal Titles**

The INIS List of Journal Titles by Country or International Organization Name was updated in February 2016 and can be viewed on the INIS website.

# COOPERATION WITH INIS MEMBERS

The 38th Consultative Meeting of INIS Liaison Officers was held from 4—5 October in Vienna, with 68 participants from 59 Member States and 5 international organizations. The meeting was opened by the Deputy Director General of the Department of Nuclear Energy. In addition to the presentations given by INIS and IAEA staff, participants from Austria, CERN, China, Cuba, the Czech Republic, Ghana, Japan, JINR, Pakistan and the USA also gave presentations. The recommendations from the meeting can be found on the INIS website.

The Library of the Japan Atomic Energy Agency (JAEA) developed the Fukushima Nuclear Accident Archive (FNAA) in order to collect, preserve, and ensure access to comprehensive information regarding the nuclear accident at the Fukushima Daiichi Nuclear Power Station in 2011. The FNAA records can be viewed in the INIS repository.

The JAEA, serving as the National INIS Centre of Japan, has conducted many activities in support of INIS. The Advisory Committee of

INIS for Japan plays an important role in support of these activities by offering comprehensive and keen expertise. A report describing the history, discussions and recommendations of the Advisory Committee, as well as its support for the INIS Centre of Japan, was published by JAEA. A contribution to the report prepared by the INIS Secretariat is entitled INIS in Japan: Over 45 Years of Fruitful Cooperation between the INIS Centre of Japan and the INIS Secretariat.

The Yerevan Physics Institute (YerPhI) of Armenia, which has recently been given the status of a National Laboratory, and INIS cooperated in the preservation of YerPhl's national scientific output and establishment of a digital scientific repository. Many of YerPhl's archives had deteriorated over the years and the library suffered a loss of thousands of research papers - preprints produced at the Institute over several decades. Thanks to the work of the Armenian ILO and the INIS Secretariat, these preprints had been transferred to INIS, where they were digitized and preserved. The institutional repository will receive further support from INIS in the form of digitized materials relevant to national and international research. This activity was highlighted on the news page of the IAEA's website.

Since 2009, the INIS repository has been included in the WorldWideScience (WWS) Alliance, which was established in June 2008 by the U.S. Department of Energy's Office of Scientific and Technical Information (OSTI) as a global science gateway. This gateway offers scientific and technical information through a single address and a single access point that is easy to use and simple to navigate.

The Canada Nuclear Laboratories (CNL) Library published an article on INIS activities. CNL is the INIS Centre for Canada and one of the founding members of INIS. It is responsible for Canadian indexing generated nuclear information for inclusion in the INIS The library provides repository. also information to other INIS Centres.

Assistance and training were provided to a number of national INIS Centres, improving their INIS operational capabilities.

Ten INIS information letters, covering different aspects of INIS activities, were sent to ILOs.

## OUTREACH AND PROMOTION

The INIS Secretariat participated in the organization of the 3rd Nuclear Knowledge Management Conference in Vienna, where it hosted a session on Challenges and Approaches in Information, Records and Data Management. A presentation entitled Nuclear Information to Knowledge: Role of INIS was given by INIS staff.

Jointly with the IAEA Library, INIS provided induction presentations to the representatives of the diplomatic community to the IAEA.

INIS and the IAEA Library also conducted training and INIS Repository Search demonstrations for the IAEA Safeguards inspectors training

INIS was included on the website of the Permanent Mission of the Federal Republic of Germany to the IAEA, with links to both the INIS website and the INIS Thesaurus. Information about using INIS will be included as part of the introduction about the IAEA for new members of the Permanent Mission.

INIS became part of a new knowledge organization course for students entitled *Knowledge Organization: Information Seeking and Retrieval* offered through the Library and Information Science Programme at Linnaeus University in Sweden. The course teaches advanced search interfaces with the support of controlled subject terms, such as those provided by INIS.

INIS was promoted at the *IV Forum on Information and Knowledge Management* (FIKM) during the *XIV International Congress of Information* which was held in Cuba from 31 October–4 November.

INIS also took part in the IAEA IT Expo, which was held at IAEA Headquarters in Vienna on 6 October. Staff members representing different departments within the IAEA were brought together on this first of its kind occasion, which aimed to demonstrate how IT and modern technologies can be used to enhance people's efforts throughout the IAEA.

INIS expressed its support for *International Open Access Week* which took place worldwide from 24–30 October with the theme *Open in Action*. The aim was to encourage that concrete steps be taken to open up research and scholarship. INIS promotes Open Access by making available hundreds of thousands of nuclear research papers to the world's scientific community; empowering scientists and building a solid foundation for Open Science.

A number of presentations regarding various aspects of INIS activities were given by INIS staff at meetings and conferences held in Athens, Brighton, Cape Town, Dublin, Florence, Hannover, London, New York, Paris, Philadelphia, and Shanghai, as well as at the IAEA in Vienna.

INIS staff chaired the World Wide Science Alliance, the 4th Annual Nuclear Information Technology China Forum, and the GreyNet Resource Policy Committee, and was on the Executive Board of the International Council for Scientific and Technical Information (ICSTI), as well as being one of the key note speakers at the Prague Grey Literature Conference.

Two articles were published by INIS staff: Digital Repository as an Instrument for Knowledge Management, published in the e-LIS library and information science e-print archive, and Public Interest in Accessing the INIS Collection — which was published as part of the Proceedings of the 17th International Conference on Grey Literature, Amsterdam, December 1–2, 2015, and was republished in the Grey Journal in February 2016, Vol. 12.

An informal Newsletter was prepared and distributed at the 38th Consultative Meeting of INIS Liaison Officers, which was held in October. The Newsletter highlighted INIS activities that had taken place since the previous ILOM.

### **INIS Website**

The INIS public website and the INIS Members' area are maintained and updated on a regular basis.

In 2016, there were around 64 724 INIS website visitors viewing over 128 294 pages, the more popular of which were the INIS repository, Newsletters, INIS Products and Services, and INIS History. Visitor statistics by country are available in Table 3.

Information Letters and Annual Production Statistics were the most frequently visited pages in the Members' area — 1989 visits and 2481 page views (Table 4).

INIS continues to promote its activities on social media. 100 Twitter messages were sent to 711 @INISsecretariat followers, the number of which is constantly increasing.

### **Promotional Materials**

Assistance was offered to INIS Liaison Officers to promote INIS within their national



boundaries, and promotional materials were sent upon request in support of such activities. Additionally, the INIS Secretariat provided ILOs with information on relevant meetings and conferences taking place in their countries, encouraging new contacts, promotional activities and the inclusion of relevant input to the INIS repository.

An INIS Newsletter, with the latest news from the INIS Secretariat and INIS Centres, was prepared and handed out at the INIS Liaison Officer's Meeting in October.

INIS in the World, on the INIS website, continued to provide news and information from national INIS Centres around the world, such as special events, presentations, training, newsletters and information. The INIS Centres of Canada, Cuba, and Japan were highlighted in 2016.

The INIS Milestones brochure (1966—2016) was updated, redesigned and placed on the INIS website in the Outreach and Promotion section.

## ICT DEVELOPMENT PROJECTS

A major release (version 5) of the INIS Repository Search (IRS) application was deployed in January, and in June the current version (5.2) was released. The new version offers many new features and significantly enhanced the user interface.

Computer Assisted Indexing (CAI) was significantly improved and two maintenance releases are planned for 2017.

Using the Open Nuclear Information eXchange System (ONIXS), over 15 000 records were harvested from the PubMed Central archive, the CERN Document Server, the Directory of Open Access Journals (DOAJ), the United States Department of Energy's Public Access Gateway for Energy & Science (PAGES) and the SCOAP3 Consortium and then processed and added to the INIS repository.

Enhanced ONIXS plugins for harvesting data from the CERN Document Server, PAGES and DOAJ were put in production.

The first version of the Rule-based Automated Indexing System was developed and has been used in test mode since April.

The INIS Thesaurus was converted to SKOS-XL/RDF format and loaded into the development instance of PoolParty Semantic Suite — a software for thesaurus and taxonomy management. The results of the feasibility study need further analysis and a decision will be taken in 2017.

A feasibility study was conducted by INIS and SDSG to test the use of Invenio, powered by Elasticsearch, as the next generation platform for INIS, and Elasticsearch as the search engine replacement for Google Search Appliance (GSA).

Two e-Learning modules — Bibliographic Description and Subject Analysis — were developed and deployed through the IAEA's CLP4NET e-Learning platform.

INIS databases and applications were migrated to the SQL Server 2012 platform in accordance with the IAEA software migration plan. Migration was done without any significant downtime for INIS users.

Input using IMGM completed its first year of production. 33 INIS members used this service in 2016. Volume 47 had 325 submissions, 23 955 records and 2224 files for the year. The average per week was 6.5 submissions, 480 records, and 45 files. The average per month was 27 submissions, 1996 records, and 185 files.

Several initiatives were taken to improve security (CAI security assessment), data consistency (data archiving project), performance and more.

## HUMAN RESOURCES AND BUDGET

At the end of 2016, INIS consisted of 10 staff supported

Grade	Male	Female	Total
Р	2	2	4
G	4	2	6
Total	6	4	10

by 5 SDSG staff. SDSG is responsible for NIS IT related matters. Of the 10 INIS staff members, 6 were general service staff, and 4 were professional staff.

Six external subject specialist consultants were recruited to review purchased journal records and assign subject categories and descriptors using the INIS Thesaurus.

Funding through the Regular IAEA Budget for Sub-programme 1.3.4 (INIS) totalled €2 005 807. INIS, the IAEA Library and SDSG make up the Nuclear Information Section, Division of Planning, Information and Knowledge Management, Department of Nuclear Energy at the IAEA.

### **APPENDIXES**

Figure 1. Input to the INIS Repository by Country of Origin

Vol. 47 (1-50) 2016

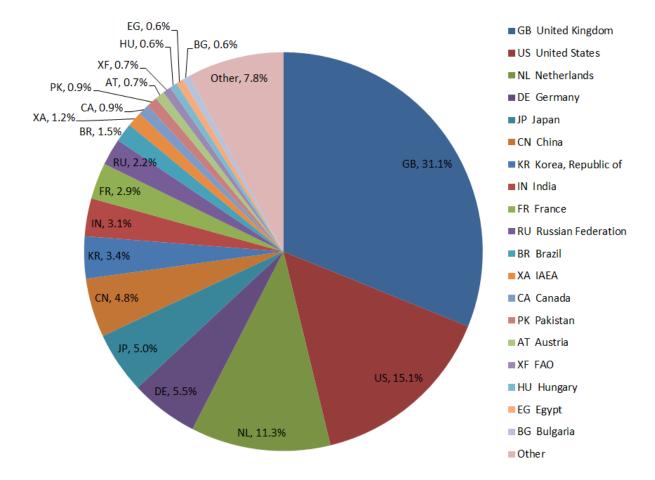


Figure 2. Input to the INIS Repository by Country of Input (Graphical representation)

Vol. 47 (1-50) 2016

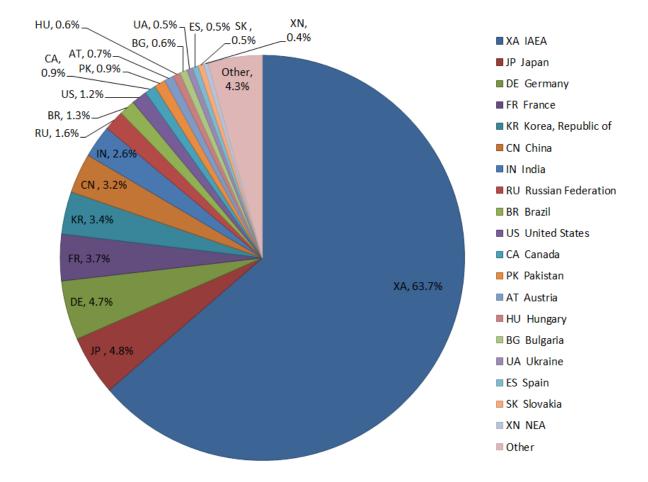


Figure 3. Input to the INIS Repository by Country of Input (including voluntary input)

Vol. 45 (2014) – Vol. 47 (2016)

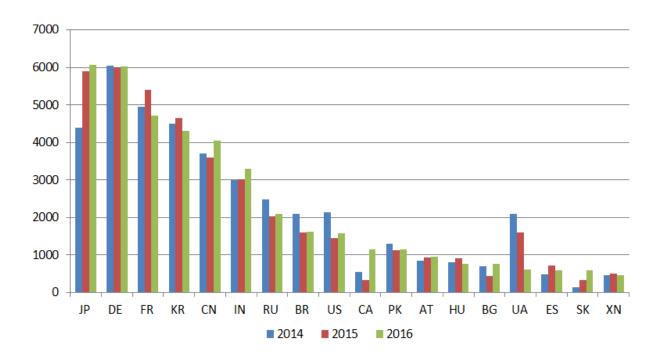




Figure 4. Input to the INIS Repository (National vs. Voluntary input)

Vol. 35 (2004) – Vol. 47 (2016)

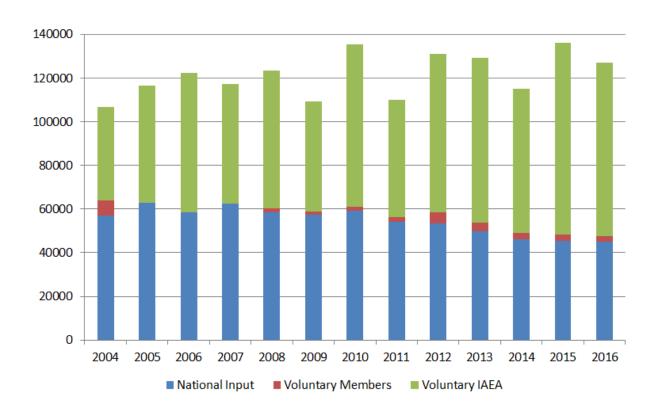


Figure 5. Input to the INIS Repository (Time lag)

Vol. 47 (1-50) 2016

Time Lag for all Types of Literature in INIS Repository Volume: 47, Updates 1- 50

Delay = Input Date - Publication Date (Months)

Type of Literature	<1	1-2	3-4	5-6	7-8	9-10	11-12	>12	Max	Aver	Total
В	1022	323	848	1281	125	519	131	2752	677	25	7001
1	575	520	597	479	514	2582	480	8056	942	41	13803
J	1983	5210	8472	10471	11322	11791	10362	42241	312	18	101852
R	304	536	555	258	376	135	511	1753	733	53	4428
Т		62	11		27	20		1	72	6	121
Total	3884	6651	10483	12489	12364	15047	11484	54803	942	22	127205

B: Book I: Miscellaneous J: Journal R: Report T: Computer medium

Figure 6. Input to the INIS Repository by Literature Type

Vol. 47 (1-50) 2016

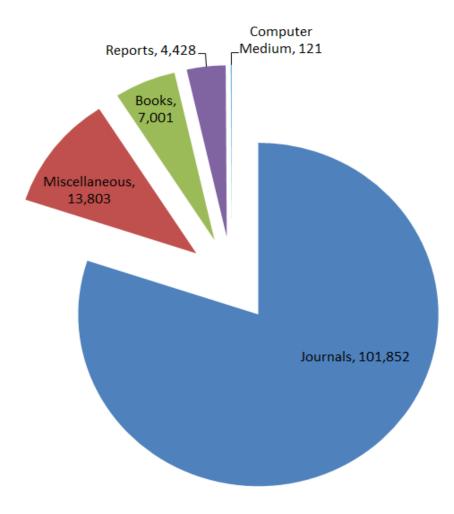
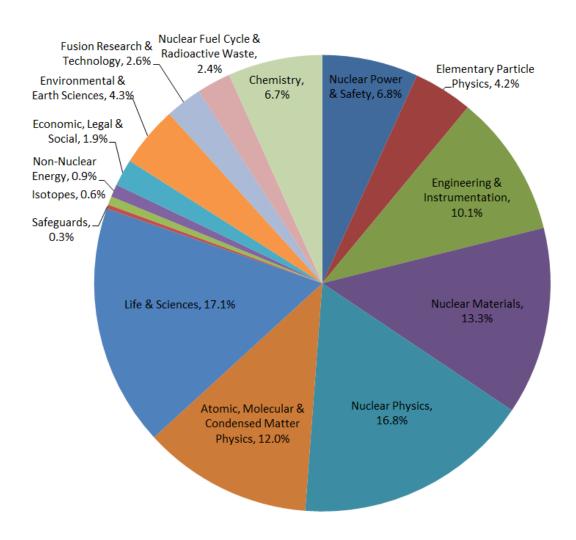


Figure 7. Input to the INIS Repository by Subject Area

Vol. 47 (1-50) 2016



Nuclear Power & Safety (S21, S22);
Elementary Particle Physics (S72);
Engineering & Instrumentation (S33, S42-S47);
Nuclear Materials (S36);
Nuclear Physics (S71, S73, S79, S97);
Atomic, Molecular & Condensed Matter Physics (S74-S77);
Life & Sciences (S60-S63);
Safeguards (S98); Isotopes (S07);
Non-Nuclear Energy (S01-S04, S08-S10, S13-S17, S20, S24, S25, S30, S32);
Economic, Legal & Social (S29, S96, S99);
Environmental & Earth Sciences (S54, S58);
Fusion Research & Technology (S70);
Nuclear Fuel Cycle & Radioactive Waste (S11, S12);
Chemistry (S37, S38)

Figure 8. Total Number of Records and NCL

Vol. 23 (1992) - Vol. 47 (2016)

### **Historical Overview**

Annual breakdown of bibliographic records and NCL in the INIS Repository

- · Total number of bibliographic records per year
- · Total number of NCL records per year

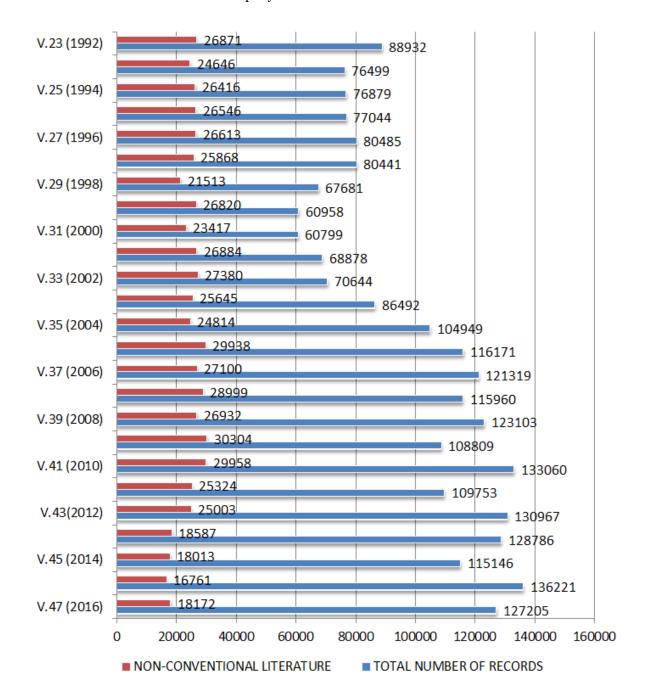


Figure 9. Input to the INIS Repository by Year of Publication

Vol. 33 (2002) – Vol. 47 (2016)

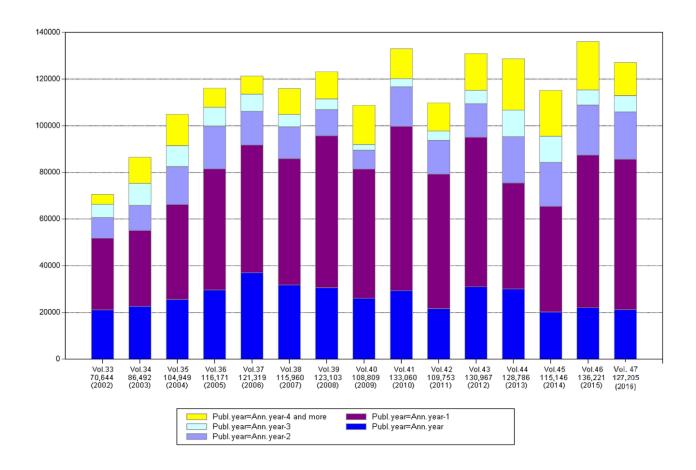


Table 1. INIS Membership Growth-Historical Overview

YEAR	TOTAL (MS + Int'l Org.)	INIS Member Name
1969	25 (23 + 2)	Argentina, Australia, Austria, Belarus, Canada, CSSR, Denmark, France, Hungary, India, Israel, Japan, Korea Rep. of, Mexico, Norway, Pakistan, Russian Federation, South Africa, Sweden, UK, Ukraine, USA, Vietnam + FAO, IAEA
1970	50 (38 + 12)	Belgium, Brazil, Bulgaria, Egypt, Finland, Germany, Italy, Netherlands, New Zealand, Philippines, Poland, Portugal, Romania, Thailand, Yugoslavia + CERN, EC, ICRP, ISO, OAU, OECD-NEA, UNSCEAR, WEC, WHO
1971	51 (39 + 12)	Switzerland
1972	56 (44 + 12)	Bangladesh, Chile, Peru, Spain, Turkey
1973	57 (44 + 13)	JINR
1974	60 (47 + 13)	DDR, Indonesia, Iran
1975	61 (48 + 13)	Iraq
1976	64 (51 + 13)	Algeria, Ghana, Ireland
1977	66 (53 + 13)	Cameroon, Venezuela
1978	75 (62 + 13)	Democratic Republic of Congo, Ecuador, Kuwait, Madagascar, Malaysia, Mali, Qatar, Sri Lanka, Zambia
1979	77 (64 + 13)	Colombia, D.P.R. Korea
1980	79 (66 + 13)	Cuba, Greece
1981	83 (69 + 14)	Libya, Paraguay, Syria + IIASA
1983	86 (72 + 14)	Saudi Arabia, Nigeria, Guatemala
1984	87 (73 + 14)	China
1985	88 (74 + 14)	Uruguay
1987	89 (75 + 14)	Panama
1988	93 (78 + 15)	Costa Rica, Morocco, Jordan + UNIDO
1989	94 (79 + 15)	Mongolia
1990	94 (79 + 15)	DDR ceased, Sudan joined
1991	96 (80 + 16)	Albania + AAEA
1992	98 (81 + 17)	Bolivia + ICSTI, WMO
1993	103 (86 + 17)	Nicaragua, Slovenia, Slovakia, Kenya, Ethiopia
1994	105 (88 + 17)	Croatia, Lebanon and Lithuania joined, D.P.R. Korea withdrew
1995	111 (94 + 17)	Armenia, Kazakhstan, Uzbekistan, Myanmar, Estonia, Tunisia
1996	116 (99 + 17)	The former Yugoslav Republic of Macedonia, Republic of Cyprus, Singapore, Yemen, Uganda
1997	118 (101 + 17)	Latvia, Republic of Moldova
1998	122 (103 + 19)	Senegal, United Arab Emirates + CTBTO, WONUC
2002	127 (108 + 19)	Republic of Tajikistan, El Salvador, Niger, Azerbaijan, Georgia
2003	129 (110+ 19)	United Rep. of Tanzania, Mauritius
2004	130 (111 + 19)	Botswana
2005	136 (114 + 22)	Haiti, Kyrgyz Republic, Burkina Faso + MERRCAC, WNA, WNU
2006	140 (117 + 23)	Central African Republic, Namibia and Luxembourg + ABACC

YEAR	TOTAL (MS + Int'l Org.)	INIS Member Name
2007	141 (118 + 23)	Seychelles
2008	143 (120 + 23)	Mozambique, Zimbabwe
2009	146 (122 + 24)	Côte d'Ivoire, Sierra Leone + SESAME
2010	148 (124 +24)	The Sultanate of Oman, Benin
2011	151 (127+24)	Republic of Chad, the Islamic Republic of Mauritania, the Gabonese Republic
2012	152 ( 128+24)	Bosnia and Herzegovina
2014	153 (129+24)	Afghanistan
2015	154 (130+24)	Burundi
2016	154 (130+24)	

Table 2. INIS Repository Search Statistics 2016

(http://inis.iaea.org/search)

Unique visitors	Visits	Unique searches	Page views
981206	1295103	1613581	2724185

No.	Country/Territory	Unique Visitors	Visits	Total Unique Searches	Page views
1	United States	186140	232497	272707	442253
2	India	104894	135602	167035	263557
3	United Kingdom	52940	68397	80312	131467
4	Germany	39158	51591	65352	110849
5	Japan	38846	55440	67790	121586
6	Canada	32362	43888	56628	104157
7	South Korea	32093	48162	61706	105428
8	France	30002	40916	53313	100355
9	Brazil	25967	35786	49558	93441
10	Iran	23747	33452	41082	64061
11	Australia	19026	23752	28021	46938
12	Italy	18617	23617	28529	46943
13	Russia	18207	28348	40299	72744
14	Pakistan	14814	18632	22201	32917
15	Malaysia	14503	18871	22528	35345
16	Spain	14228	18497	23570	42633
17	Turkey	13715	16879	19633	32891
18	Netherlands	12729	16313	20012	32295
19	Indonesia	12283	15152	19177	32160
20	Mexico	11692	15276	18285	33218
21	Taiwan	11593	14612	16313	26164
22	Egypt	10805	15172	19223	32259
23	Philippines	10369	12112	13839	18580
24	Poland	9300	11713	13253	21900
25	South Africa	8834	11225	13761	22891
26	Switzerland	8185	10784	13165	22414
27	Austria	8082	19758	44952	87003
28	China	7864	12013	19504	35205
29	Thailand	7407	8963	9461	14228
30	Sweden	6977	8849	10364	18165
31	Belgium	6920	9897	11920	21506
32	Singapore	6261	8398	11194	15940
33	Saudi Arabia	6001	7262	8605	13238
34	Argentina	5498	7760	11650	22875
35	Czech Republic	5483	7428	9477	15893
36	Ukraine	5348	8465	13118	25873

38         Israel         5125         6665         9057         10360           39         Romania         4746         6717         8875         14742           40         Colombia         4736         5981         6339         10763           41         Algeria         4705         6614         7750         15411           42         Vietnam         4549         5607         6562         10006           44         Hong Kong         4523         5509         6162         2959           44         Hong Kong         4523         5506         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         3154           49         Norway         340         4378         4871         3154           50         Chile <t< th=""><th>37</th><th>Nigeria</th><th>5172</th><th>5970</th><th>6925</th><th>9539</th></t<>	37	Nigeria	5172	5970	6925	9539
40         Colombia         4736         5981         6339         10763           41         Algeria         4705         6614         7750         15411           42         Vietnam         4549         5607         6652         10006           43         Hong Kong         4523         5509         6162         9259           44         (not set)         4523         5306         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         3154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3000         3636         4103         6339           52         United Ar	38	Israel	5125	6665	9057	16360
41         Algeria         4705         6614         7750         15411           42         Victnam         4549         5607         6562         10006           43         Hong Kong         4523         5509         6162         9259           44         (not sett)         4523         5306         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4992         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         4668           54         Iraq </td <td>39</td> <td>Romania</td> <td>4746</td> <td>6717</td> <td>8875</td> <td>14742</td>	39	Romania	4746	6717	8875	14742
42         Vietnam         4549         5607         6562         10006           43         Hong Kong         4523         5509         6162         9259           44         (not set)         4523         5506         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4166         4974         5924         9389           48         Portugal         4103         4985         5478         9015           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           51         Irea         3296         3574         3901         5689           51         Iraq         2962<	40	Colombia	4736	5981	6339	10763
43         Hong Kong         4523         5509         6162         9259           44         (not set)         4523         5306         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         4150           50         Chile         3330         4150         4492         7926           51         Demark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru	41	Algeria	4705	6614	7750	15411
44         (not set)         4523         5306         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5-478         9015           49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6779           52         United Arab Emirates         3060         3636         4403         6339           53         New Zealand         2962         3574         3901         5669           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           55         Hungary         2900         3979         5405         11847           57         Ireland	42	Vietnam	4549	5607	6562	10006
44         (not set)         4523         5306         6173         10322           45         Kenya         4326         4980         5768         8279           46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4403         6339           53         New Zealand         2962         3574         3901         5659           54         I raq         2926         4300         5389         9155           54         I raq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           55         Hungary	43	Hong Kong	4523	5509	6162	9259
46         Finland         4290         6525         7869         13730           47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           59         Chile         3330         4150         4492         7926           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5689           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan	44		4523	5306	6173	10322
47         Greece         4186         4974         5924         9389           48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5699           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia	45	Kenya	4326	4980	5768	8279
48         Portugal         4103         4985         5478         9015           49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4651           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh	46	Finland	4290	6525	7869	13730
49         Norway         3460         4378         4871         8154           50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbla         2516         3418         4041         6391           61         Bangladesh         2500         3185         3344         5343           62         Morocco	47	Greece	4186	4974	5924	9389
50         Chile         3330         4150         4492         7926           51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3554         4430         8730           64         Bulgaria	48	Portugal	4103	4985	5478	9015
51         Denmark         3216         3657         4119         6479           52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria	49	Norway	3460	4378	4871	8154
52         United Arab Emirates         3060         3636         4103         6339           53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2559         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4988         9804           65         Croatia	50	Chile	3330	4150	4492	7926
53         New Zealand         2962         3574         3901         5659           54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5433           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia	51	Denmark	3216	3657	4119	6479
54         Iraq         2926         4300         5389         9155           55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghan         1509 <td>52</td> <td>United Arab Emirates</td> <td>3060</td> <td>3636</td> <td>4103</td> <td>6339</td>	52	United Arab Emirates	3060	3636	4103	6339
55         Hungary         2900         3901         4668         7833           56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1	53	New Zealand	2962	3574	3901	5659
56         Peru         2806         3979         5405         11847           57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia	54	Iraq	2926	4300	5389	9155
57         Ireland         2599         3138         3387         4964           58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka	55	Hungary	2900	3901	4668	7833
58         Tunisia         2531         3449         3844         6951           59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador	56		2806	3979	5405	11847
59         Sudan         2521         3175         4539         8600           60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         <	57	Ireland	2599	3138	3387	4964
60         Serbia         2516         3418         4041         6391           61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan	58	Tunisia	2531	3449	3844	6951
61         Bangladesh         2500         3185         3844         5343           62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           75         Venezuela	59	Sudan	2521	3175	4539	8600
62         Morocco         2495         3252         3662         7973           63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela	60	Serbia	2516	3418	4041	6391
63         Slovakia         2495         3564         4430         8730           64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman	61	Bangladesh	2500	3185	3844	5343
64         Bulgaria         2329         3787         4985         9804           65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)	62	Morocco	2495	3252	3662	7973
65         Croatia         1592         1997         2505         4191           66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait	63	Slovakia	2495	3564	4430	8730
66         Slovenia         1567         1930         2376         3953           67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon	64	Bulgaria	2329	3787	4985	9804
67         Ghana         1509         2044         2511         4072           68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon         757         877         1141         1743           80         Qatar         7	65	Croatia	1592	1997	2505	4191
68         Lithuania         1473         1847         2194         3600           69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon         757         877         1141         1743           80         Qatar         757         975         1146         1790           81         Tanzania	66	Slovenia	1567	1930	2376	3953
69         Ethiopia         1390         1634         1950         2713           70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon         757         877         1141         1743           80         Qatar         757         975         1146         1790           81         Tanzania         752         825         944         1380	67	Ghana	1509	2044	2511	4072
70         Sri Lanka         1343         1468         1535         2184           71         Ecuador         1266         1494         1795         3392           72         Jordan         1245         1411         1556         2282           73         Kazakhstan         1214         1618         1893         3045           74         Belarus         1172         2137         3973         7563           75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon         757         877         1141         1743           80         Qatar         757         975         1146         1790           81         Tanzania         752         825         944         1380	68	Lithuania	1473	1847	2194	3600
71       Ecuador       1266       1494       1795       3392         72       Jordan       1245       1411       1556       2282         73       Kazakhstan       1214       1618       1893       3045         74       Belarus       1172       2137       3973       7563         75       Venezuela       1152       1447       1717       3346         76       Oman       799       960       1089       1624         77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	69	Ethiopia	1390	1634	1950	2713
72       Jordan       1245       1411       1556       2282         73       Kazakhstan       1214       1618       1893       3045         74       Belarus       1172       2137       3973       7563         75       Venezuela       1152       1447       1717       3346         76       Oman       799       960       1089       1624         77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	70	Sri Lanka	1343	1468	1535	2184
73       Kazakhstan       1214       1618       1893       3045         74       Belarus       1172       2137       3973       7563         75       Venezuela       1152       1447       1717       3346         76       Oman       799       960       1089       1624         77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	71	Ecuador	1266	1494	1795	3392
74       Belarus       1172       2137       3973       7563         75       Venezuela       1152       1447       1717       3346         76       Oman       799       960       1089       1624         77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	72	Jordan	1245	1411	1556	2282
75         Venezuela         1152         1447         1717         3346           76         Oman         799         960         1089         1624           77         Myanmar (Burma)         794         949         1219         2002           78         Kuwait         773         892         1017         1509           79         Lebanon         757         877         1141         1743           80         Qatar         757         975         1146         1790           81         Tanzania         752         825         944         1380	73	Kazakhstan	1214	1618	1893	3045
76       Oman       799       960       1089       1624         77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	74	Belarus	1172	2137	3973	7563
77       Myanmar (Burma)       794       949       1219       2002         78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	75	Venezuela	1152	1447	1717	3346
78       Kuwait       773       892       1017       1509         79       Lebanon       757       877       1141       1743         80       Qatar       757       975       1146       1790         81       Tanzania       752       825       944       1380	76	Oman	799	960	1089	1624
79     Lebanon     757     877     1141     1743       80     Qatar     757     975     1146     1790       81     Tanzania     752     825     944     1380	77	Myanmar (Burma)	794	949	1219	2002
80     Qatar     757     975     1146     1790       81     Tanzania     752     825     944     1380	78	Kuwait	773	892	1017	1509
81 Tanzania 752 825 944 1380	79	Lebanon	757	877	1141	1743
	80	Qatar	757	975	1146	1790
82 Costa Rica 716 913 1058 1831	81	Tanzania	752	825	944	1380
	82	Costa Rica	716	913	1058	1831

83	Estonia	659	783	866	1333
84	Latvia	659	757	908	1442
85	Syria	648	1131	1494	3688
86	Azerbaijan	643	965	1369	2376
87	Nepal	617	690	820	1224
88	Libya	612	820	1001	1836
89	Macedonia (FYROM)	612	742	975	1546
90	Cameroon	597	820	1084	1644
91	Zimbabwe	555	648	856	1115
92	Puerto Rico	508	591	674	1032
93	Cyprus	503	622	669	1058
94	Uruguay	498	690	1126	2599
95	Armenia	493	643	783	1375
96	Palestine	482	607	778	1110
97	Bosnia & Herzegovina	477	586	892	1717
98	Georgia	451	534	597	923
99	Jamaica	399	462	508	700
100	Bolivia	394	456	472	882
101	Trinidad & Tobago	389	493	524	700
102	Cuba	384	674	866	1608
103	Moldova	373	524	835	1494
103	Uzbekistan	353	420	659	1126
105	Uganda	348	379	462	633
106	Mongolia	342	389	467	711
107	Mauritius	337	373	415	659
107	Iceland	337	441	413	695
	Namibia	332		773	1188
109 110		316	482 726	597	1079
	Luxembourg  Zambia				
111	Bahrain	316	420	519	747
112 113	Botswana	311	384 394	410 451	514 809
113	Malta	306	353	379	436
114	Senegal	285	316	379	799
116	Côte d'Ivoire	280	332	446	793
117	Cambodia	275	322	441	638
117	Guatemala	2/3	265	353	659
	Albania				
119 120	Dominican Republic	228	254 327	379 337	695 503
121	Kosovo	202	285	379	602
122	Yemen		228	311	456
123	Macau	197	207	228	368
124	Panama	197	259	265	436
125	Rwanda	176	197	218	259
126	Afghanistan	161	171	239	363
127	Madagascar	150	270	441	1193
128	Benin	135	135	145	202

129	Somalia	124	145	140	218
130	El Salvador	124	135	145	228
131	Brunei	119	124	140	197
132	Honduras	104	109	135	207
133	Congo (DRC)	99	109	145	182
134	Montenegro	99	119	145	207
135	Mozambique	99	109	104	207
136	Malawi	93	104	104	161
137	Fiji	88	88	99	130
138	Paraguay	88	109	104	192
139	Angola	83	104	109	156
140	Bhutan	78	83	78	99
141	Bahamas	73	78	78	130
142	Papua New Guinea	73	73	73	109
143	Nicaragua	67	67	52	124
144	Guyana	62	99	104	119
145	Kyrgyzstan	62	62	67	135
146	Lesotho	62	67	99	156
147	Niger	57	88	140	249
148	Réunion	57	57	52	119
149	Barbados	52	52	62	78
150	Sierra Leone	52	52	78	124
151	Suriname	52	57	62	73
152	Burkina Faso	47	47	57	73
153	Swaziland	47	47	52	52
154	Tajikistan	47	52	62	78
155	Laos	41	47	78	88
156	New Caledonia	41	41	52	62
157	South Sudan	41	41	41	52
158	Togo	36	36	36	36
159	Belize	31	31	31	31
160	Gabon	31	31	21	47
161	Haiti	31	36	47	67
162	Maldives	31	31	57	109
163	Timor-Leste	31	31	36	52
164	Dominica	26	26	26	26
165	Mali	26	31	26	47
166	Eritrea	21	21	21	31
167	Greenland	21	21	16	26
168	Guadeloupe	21	21	10	52
169	Guam	21	21	21	36
170	Mauritania	21	21	16	26
171	Solomon Islands	21	21	21	21
172	Vanuatu	21	21	21	353
173	Guinea	16	16	21	26
174	Jersey	16	21	21	21

175	Cayman Islands	16	16	16	26
176	Liechtenstein	16	16	16	26
177	Liberia	16	16	21	26
178	Monaco	16	16	16	16
179	St. Martin	16	62	62	88
180	Martinique	16	16	10	16
181	French Polynesia	16	21	21	26
182	Seychelles	16	16	16	21
183	Svalbard & Jan Mayen	16	21	21	31
184	Chad	16	16	21	31
185	U.S. Virgin Islands	16	16	26	26
186	Antigua & Barbuda	10	10	10	10
187	Burundi	10	21	21	26
188	Bermuda	10	10	10	10
189	Congo (Republic)	10	10	10	10
190	Curaçao	10	10	10	10
191	Micronesia	10	10	10	10
192	Faroe Islands	10	10	16	16
193	Grenada	10	16	16	16
194	St. Kitts & Nevis	10	10	10	10
195	St. Lucia	10	16	16	21
196	Samoa	10	10	10	26
197	Andorra	5	5	5	5
198	American Samoa	5	5	5	5
199	Aruba	5	10	10	10
200	Åland Islands	5	5	5	5
201	Cape Verde	5	5	5	16
202	Djibouti	5	5	5	5
203	Guernsey	5	5	5	5
204	Gambia	5	10	10	10
205	Equatorial Guinea	5	5	5	5
206	Comoros	5	5	5	5
207	Marshall Islands	5	5	10	41
208	Northern Mariana Islands	5	5	10	16
209	Sint Maarten	5	16	16	16
210	Tonga	5	5	5	5
211	St. Vincent & Grenadines	5	5	5	5

Table 3. INIS Website Statistics 2016

(http://www.iaea.org/inis)

Unique visitorsVisitsUnique page viewsPage views446296472495028128294

No.	Country/Territory	Unique Visitors	Visits	Unique page views	Page views
1	United States	4916	6045	7801	9573
2	India	4292	5505	9623	13604
3	France	1813	2793	3525	4904
4	Austria	1719	5277	10497	16041
5	Japan	1624	2291	3177	4128
6	Brazil	1549	2379	3100	3897
7	China	1463	2121	2953	3800
8	United Kingdom	1415	1644	2131	2593
9	Russia	1412	2463	3321	4261
10	Germany	1272	1643	2405	3420
11	Nigeria	1135	1314	1542	1682
12	South Korea	1017	1458	2048	2641
13	Canada	932	1510	2014	2548
14	Malaysia	930	1225	2111	2866
15	Iran	832	1136	1593	2211
16	Côte d'Ivoire	701	794	904	1031
17	Spain	676	856	1177	1488
18	Italy	638	787	1060	1320
19	Mexico	610	844	1363	2307
20	Indonesia	598	910	1414	1978
21	South Africa	573	643	885	1143
22	Egypt	562	918	1375	2021
23	Argentina	541	839	1174	1481
24	Senegal	493	615	776	964
25	Pakistan	492	621	1047	1491
26	Turkey	474	528	671	797
27	Australia	424	558	810	970
28	Benin	398	437	462	490
29	Netherlands	373	461	740	1034
30	Ukraine	360	504	739	919
31	Poland	345	389	505	655
32	Ghana	338	641	867	1147
33	Switzerland	315	416	535	666
34	Czech Republic	308	489	635	845
35	(not set)	307	344	459	557
36	Philippines	274	417	568	737
37	Israel	270	389	539	782
38	Belgium	266	375	490	584

39	Sweden	260	399	571	785
40	Algeria	252	284	388	483
41	Romania	250	299	421	553
42	Saudi Arabia	221	514	581	642
43	Kenya	217	280	467	614
44	Togo	209	228	238	253
45	Bulgaria	203	616	978	1431
46	Singapore	202	395	500	604
47	Costa Rica	200	257	303	359
48	Finland	197	280	369	456
49	Morocco	188	222	360	481
50	Taiwan	185	198	240	270
51	Belarus	176	293	368	508
52	United Arab Emirates	173	198	275	400
53	Bangladesh	172	213	292	352
54	Hungary	161	275	619	818
55	Colombia	160	183	241	307
56	Iraq	159	206	351	526
57	Ireland	156	173	217	244
58	Chile	152	180	202	242
59	Slovakia	149	241	344	470
60	Sudan	147	298	439	618
61	Vietnam	147	174	250	327
62	Peru	144	269	352	460
63	Thailand	143	182	271	339
64	Tunisia	140	210	354	483
65	Burkina Faso	126	131	134	145
66	Greece	114	150	194	241
67	Hong Kong	114	123	137	159
68	Croatia	109	132	251	374
69	Norway	109	135	174	209
70	Portugal	107	113	138	167
71	Serbia	105	150	179	228
72	Denmark	84	96	135	176
73	Macedonia (FYROM)	84	306	561	810
74	Cuba	78	223	359	425
75	Kazakhstan	78	102	135	155
76	Cambodia	70	81	124	219
77	Armenia	68	155	272	559
78	Lithuania	66	73	93	119
79	Uruguay	66	166	262	449
80	Jordan	64	73	90	107
81	Slovenia	63	69	93	108
82	Madagascar	59	96	162	189
83	Tanzania	58	82	107	131
	Niger	57	452	717	1110

85	Ethiopia	55	62	74	87
86	Ecuador	53	58	70	79
87	Estonia	53	65	72	90
88	Venezuela	52	60	94	157
89	Azerbaijan	51	56	101	152
90	Georgia	51	87	165	235
91	Moldova	51	83	107	129
92	Syria	50	175	619	1439
93	Bosnia & Herzegovina	46	62	100	132
94	New Zealand	45	49	64	69
95	Libya	43	158	372	564
96	Lebanon	41	69	120	258
97	Sri Lanka	37	41	69	113
98	Myanmar (Burma)	36	42	53	68
99	Zimbabwe	35	57	107	137
100	Cameroon	32	42	63	73
101	Latvia	32	44	49	58
102	Mozambique	32	45	74	101
102	Haiti	29	35	50	68
103	Qatar	29	36	46	56
104	Namibia	29	31	37	39
106	Uganda	28	33	53	76
107	Botswana	27	29	31	34
108	Luxembourg	25	25	31	38
109	Bolivia	24	27	44	50
110	Nepal	24	28	36	36
111	Uzbekistan	24	61	102	120
112	Guinea	22	26	26	28
113	Yemen	22	25	48	65
114	Gambia	20	20	20	22
115	Kuwait	20	22	34	40
116	Zambia	20	21	42	71
117	Oman	18	23	36	47
118	Burundi	17	64	80	83
119	Guatemala	17	17	20	21
120	Mauritius	16	22	31	45
121	Panama	16	19	40	65
122	Mongolia	15	19	31	38
123	Albania	14	16	22	27
124	Bahrain	13	13	24	26
125	Cyprus	13	14	17	21
126	Palestine	13	16	17	25
127	El Salvador	13	17	22	35
128	Dominican Republic	11	12	14	17
129	Puerto Rico	11	11	17	30
130	Paraguay	11	12	14	16

131	Somalia	11	11	11	14
132	Montenegro	9	9	11	16
133	Afghanistan	8	8	11	13
134	Malta	8	8	9	10
135	Tajikistan	8	8	12	17
136	Trinidad & Tobago	8	8	9	12
137	Jamaica	7	7	11	15
138	Kosovo	7	8	10	13
139	Congo (DRC)	6	6	11	14
140	Honduras	6	6	7	7
141	Kyrgyzstan	6	8	8	9
142	Laos	6	6	16	25
143	Mali	6	8	9	9
144	Sierra Leone	6	6	10	10
145	Angola	5	5	6	8
146	Iceland	5	5	7	13
147	Lesotho	5	6	19	33
148	Macau	5	7	8	9
149	Gabon	4	4	5	6
150	Nicaragua	4	6	8	11
151	Rwanda	4	6	6	6
152	Barbados	3	5	8	8
153	Central African Republic	3	8	15	41
154	Fiji	3	3	3	3
155	Mauritania	3	3	17	22
156	Malawi	3	3	3	3
157	South Sudan	3	3	3	3
158	Brunei	2	2	2	3
159	Bhutan	2	3	3	3
160	Belize	2	2	2	2
161	Cape Verde	2	2	2	2
162	Djibouti	2	2	2	2
163	Jersey	2	3	4	4
164	Comoros	2	2	3	3
165	Liberia	2	2	2	2
166	Papua New Guinea	2	2	2	2
167	Turkmenistan	2	2	2	2
168	Bermuda	1	1	1	1
169	Bahamas	1	1	1	1
170	Congo (Republic)	1	1	1	1
171	Dominica	1	1	1	1
172	Eritrea	1	1	2	3
173	Guernsey	1	1	1	1
174	Greenland	1	1	1	1
175	Guinea-Bissau	1	1	1	1
176	Guyana	1	1	1	1

178 North Korea 179 Cayman Islands 180 Liechtenstein 181 Monaco 182 Martinique 183 Maldives 184 French Polynesia	1 1 1 1	2 1 3 1	2 1 11 1	3 1 13 1
180 Liechtenstein 181 Monaco 182 Martinique 183 Maldives 184 French Polynesia	1	3 1	1 11 1	1 13 1
<ul><li>181 Monaco</li><li>182 Martinique</li><li>183 Maldives</li><li>184 French Polynesia</li></ul>	1	1	11 1	13 1
182 Martinique 183 Maldives 184 French Polynesia			1	1
183 Maldives 184 French Polynesia	1	1		
184 French Polynesia		1	1	1
· ·	1	1	1	1
	1	1	1	1
185 Seychelles	1	1	1	1
186 Suriname	1	1	2	2
187 Swaziland	1	1	4	6
188 Turks & Caicos Islands	1	1	2	2
189 Chad	1	3	10	13
190 Tonga	1	1	1	1

Table 4. INIS Members' Website Statistics 2016

(<u>http://www.iaea.org/INIS/Members-area</u>)

Unique visitors	Visits	Unique page views	Page views	
1230	1989	2010	2481	

No	Country/Territory	Unique Visitors	Visits	Unique page views	Page views
1	United Kingdom	147	147	147	150
2	Austria	126	395	398	501
3	India	112	129	132	168
4	United States	65	65	65	70
5	(not set)	42	42	42	42
6	South Korea	37	51	52	60
7	China	36	42	42	53
8	Germany	28	35	35	39
9	Niger	25	99	99	118
10	Russia	24	37	37	48
11	Brazil	22	37	44	65
12	Indonesia	22	28	28	34
13	Côte d'Ivoire	21	29	29	36
14	Japan	21	30	30	35
15	Malaysia	20	26	26	33
16	Argentina	19	31	32	41
17	Egypt	19	26	26	34
18	Australia	17	20	20	22
19	Canada	17	43	43	49
20	France	16	28	28	35
21	Nigeria	15	16	16	18
22	Iran	14	21	22	34
23	Philippines	14	24	24	32
24	Italy	13	15	15	17
25	Georgia	12	16	16	19
26	Morocco	11	12	12	14
27	Macedonia (FYROM)	11	22	22	33
28	Czech Republic	9	11	11	19
29	Ghana	9	18	19	21
30	Madagascar	9	11	11	18
31	Mexico	9	9	9	12
32	Pakistan	9	11	11	13
33	Senegal	8	9	9	10
34	Syria	8	36	36	62
35	Vietnam	8	10	10	12
36	Bulgaria	7	19	19	22
37	Switzerland	7	7	7	10
38	Cuba	7	24	24	29

39	Spain	7	9	9	11
40	Slovakia	7	7	7	8
41	Uruguay	7	10	10	15
42	South Africa	7	8	8	12
43	Benin	6	6	6	6
44	Netherlands	6	6	6	7
45	Poland	6	6	6	7
46	Tunisia	6	14	14	16
47	Colombia	5	5	5	5
48	Croatia	5	12	12	14
49	Hungary	5	70	70	76
50	Kenya	5	13	13	18
51	Romania	5	6	6	7
52	Sudan	5	10	10	14
53	Thailand	5	9	10	14
54	Turkey	5	6	6	9
55	Ukraine	5	6	6	6
56	United Arab Emirates	4	4	4	5
57	Bosnia & Herzegovina	4	4	4	5
58	Algeria	4	5	5	6
59	Israel	4	4	4	4
60	Sri Lanka	4	4	4	11
61	Libya	4	14	17	23
62	Saudi Arabia	4	4	4	4
63	Sweden	4	4	4	5
64	Taiwan	4	4	4	5
65	Bangladesh	3	9	9	13
66	Denmark	3	3	3	4
67	Ecuador	3	3	3	3
68	Finland	3	3	3	3
69	Greece	3	3	3	3
70	Panama	3	3	3	4
71	Togo	3	3	3	5
72	Tanzania	3	5	5	5
73	Uzbekistan	3	3	3	3
74	Armenia	2	3	3	4
75	Belgium	2	2	2	2
76	Belarus	2	2	2	2
77	Chile	2	2	2	3
78	Cameroon	2	2	2	3
79	Iraq	2	2	2	2
80	Cambodia	2	2	2	2
81	Moldova	2	4	4	10
82	Norway	2	4	4	5
83	Peru	2	3	3	5
84	Qatar	2	2	2	4

85	Serbia	2	2	2	2
86	Singapore	2	3	3	3
87	Yemen	2	2	2	2
88	Zambia	2	2	2	4
89	Azerbaijan	1	1	1	1
90	Burundi	1	3	3	3
91	Bolivia	1	2	2	3
92	Costa Rica	1	1	1	3
93	Ethiopia	1	3	3	3
94	Gambia	1	1	1	1
95	Hong Kong	1	1	1	1
96	Ireland	1	1	1	1
97	Jordan	1	1	1	1
98	Kuwait	1	1	1	1
99	Kazakhstan	1	1	1	1
100	Lebanon	1	4	4	6
101	Lesotho	1	1	1	1
102	Mongolia	1	1	1	1
103	Mozambique	1	1	1	1
104	New Zealand	1	1	1	1
105	Puerto Rico	1	1	1	1
106	Portugal	1	1	1	1
107	El Salvador	1	2	2	4
108	Chad	1	1	1	1
109	Tajikistan	1	1	1	1
110	Uganda	1	3	3	3
111	Venezuela	1	1	1	2
106	Venezuela	1	1	1	1

 Table 5.
 Number Of Records Arranged by Country of Input

### Vol. 47 (1-50) 2016 - Total No. of Records 127 205

<b>Country Code</b>	Country Name	Total	Total Voluntary	Total National
AE	United Arab Emirates	0	0	0
AF	Afghanistan	0	0	0
AL	Albania	0	0	0
AM	Armenia	100	0	100
AR	Argentina	135	0	135
AT	Austria	949	0	949
AU	Australia	285	0	285
AZ	Azerbaijan	125	0	125
BA	Bosnia and Herzegovina	0	0	0
BD	Bangladesh	0	0	0
BE	Belgium	22	0	22
BF	Burkina Faso	0	0	0
BG	Bulgaria	751	0	751
ВІ	Burundi	0	0	0
BJ	Benin	0	0	0
ВО	Bolivia, Plurinational State of	0	0	0
BR	Brazil	1 610	27	1 583
BW	Botswana	0	0	0
ВҮ	Belarus	70	0	70
CA	Canada	1 140	0	1 140
CD	Congo, The Democratic Republic of the	0	0	0
CF	Central African Republic	0	0	0
СН	Switzerland	0	0	0
CI	Cote d'Ivoire	2	0	2
CL	Chile	57	33	24
CM	Cameroon	0	0	0
CN	China	4 042	0	4 042
СО	Colombia	29	0	29
CR	Costa Rica	90	0	90
CU	Cuba	345	194	151
CY	Cyprus	0	0	0
CZ	Czech Republic	76	0	76
DE	Germany	6 016	3	6 013
DK	Denmark	0	0	0
DZ	Algeria	0	0	0
EC	Ecuador	0	0	0
EE	Estonia	0	0	0

Country Code	Country Name	Total	Total Voluntary	Total National
EG	Egypt	440	0	440
ES	Spain	595	0	595
ET	Ethiopia	0	0	0
FI	Finland	0	0	0
FR	France	4 719	2 130	2 589
GA	Gabon	0	0	0
GB	United Kingdom	1	0	1
GE	Georgia	80	0	80
GH	Ghana	99	1	98
GR	Greece	0	0	0
GT	Guatemala	0	0	0
HR	Croatia	176	0	176
НТ	Haiti	0	0	0
HU	Hungary	757	0	757
ID	Indonesia	381	0	381
IE	Ireland	0	0	0
IL	Israel	0	0	0
IN	India	3 294	0	3 294
IQ	Iraq	19	0	19
IR	Iran, Islamic Republic of	0	0	0
IT	Italy	420	0	420
JO	Jordan	0	0	0
JP	Japan	6 065	0	6 065
KE	Kenya	122	11	111
KG	Kyrgyzstan	0	0	0
KR	Korea, Republic of	4 311	60	4 251
KW	Kuwait	0	0	0
KZ	Kazakhstan	0	0	0
LB	Lebanon	9	2	7
LK	Sri Lanka	0	0	0
LT	Lithuania	0	0	0
LU	Luxembourg	0	0	0
LV	Latvia	0	0	0
LY	Libya	0	0	0
MA	Morocco	0	0	0
MD	Moldova, Republic of	47	0	47
MG	Madagascar	5	1	4
MK	Macedonia, The former Yugoslav Republic of	79	0	79
ML	Mali	0	0	0
MM	Myanmar	0	0	0

<b>Country Code</b>	Country Name	Total	Total Voluntary	Total National
MN	Mongolia	0	0	0
MR	Mauritania, Islamic Republic of	0	0	0
MU	Mauritius	0	0	0
MX	Mexico	246	0	246
MY	Malaysia	320	0	320
MZ	Mozambique	0	0	0
NA	Namibia	0	0	0
NE	Niger	3	0	3
NG	Nigeria	0	0	0
NI	Nicaragua	0	0	0
NL	Netherlands	0	0	0
NO	Norway	0	0	0
NZ	New Zealand	30	0	30
ОМ	Oman	0	0	0
PA	Panama	0	0	0
PE	Peru	30	0	30
PH	Philippines	48	2	46
PK	Pakistan	1 139	0	1 139
PL	Poland	0	0	0
PT	Portugal	0	0	0
PY	Paraguay	0	0	0
QA	Qatar	0	0	0
QM	WNA	0	0	0
QN	WNU	0	0	0
QP	ABACC	0	0	0
QQ	MERRCAC	0	0	0
QR	SESAME	0	0	0
RO	Romania	82	0	82
RS	Serbia	0	0	0
RU	Russian Federation	2 084	0	2 084
SA	Saudi Arabia	0	0	0
SC	Seychelles	0	0	0
SD	Sudan	40	0	40
SE	Sweden	0	0	0
SG	Singapore	456	0	456
SI	Slovenia	0	0	0
SK	Slovakia	582	0	582
SL	Sierra Leone	0	0	0
SN	Senegal	0	0	0
SV	El Salvador	0	0	0

Country Code	Country Name	Total	Total Voluntary	Total National
SY	Syrian Arab Republic	31	0	31
TD	Chad	0	0	0
TH	Thailand	7	0	7
TJ	Tajikistan	419	0	419
TN	Tunisia	20	0	20
TR	Turkey	0	0	0
TZ	Tanzania, United Republic of	0	0	0
UA	Ukraine	600	0	600
UG	Uganda	0	0	0
US	United States	1 564	251	1 313
UY	Uruguay	148	0	148
UZ	Uzbekistan	106	0	106
VE	Venezuela, Bolivarian Republic of	0	0	0
VN	Viet Nam	153	0	153
XA	IAEA	81 007	79 472	1 535
ХВ	UNSCEAR	0	0	0
XC	CERN	1	0	1
XE	EC	0	0	0
XF	FAO	0	0	0
XH	AAEA	14	0	14
XI	IIASA	0	0	0
XJ	JINR	153	10	143
XK	WMO	0	0	0
XM	ICSTI	0	0	0
XN	NEA	458	0	458
ХО	OAU	0	0	0
XQ	СТВТО	0	0	0
XR	ICRP	0	0	0
XS	ISO	0	0	0
XT	UNIDO	0	0	0
XU	UN	1	0	1
XV	WONUC	0	0	0
XW	WHO	0	0	0
XX	WEC	0	0	0
YE	Yemen	0	0	0
ZA	South Africa	0	0	0
ZM	Zambia	0	0	0
ZW	Zimbabwe	0	0	0
	Total:	127 205	82 197	45 008

 Table 6.
 NCL 2016 Input per Country / International Organization

Country / International organization	Bib. Records with NCL in INIS repository	PDF files
France	2070	2070
International Atomic Energy Agency (IAEA)	1144	880
Brazil	964	964
Japan	955	954
Nuclear Energy Agency of the OECD (NEA)	442	442
Germany	435	434
Russian Federation	368	368
Slovakia	353	274
Bulgaria	280	280
United States	234	234
Malaysia	209	209
Tajikistan	187	187
Argentina	157	126
Viet Nam	121	41
Mexico	110	110
Kenya	106	87
Indonesia	90	90
Romania	82	82
Belgium	76	1
Austria	63	63
Belarus	47	47
Uruguay	43	43
Joint Institute for Nuclear Research (JINR)	37	37
Sudan	34	34
Armenia	27	27
Uzbekistan	25	25
Tunisia	20	20
India	17	17
Syrian Arab Republic	15	15
Czech Republic	7	7
Ghana	7	7
Netherlands	6	6
Algeria	3	3
Niger	3	3
Canada	1	1
Cote d'Ivoire	1	1
United Kingdom	1	1
Total	8740	8190

 Table 7.
 Digitization of the INIS NCL Collection on Microfiche

Year	PDF	Pages	Size (GB)
2003	531	45 499	3.5
2004	19 868	1 306 908	36.0
2005	36 784	1 529 774	31.1
2006	23 199	1 390 364	33.8
2007	9 335	670 460	16.3
2008	25 744	1 223 925	29.6
2009	81 339	3 941 971	77.9
2010	33 882	1 969 274	45.9
2011	24 019	511 048	16.2
2012	24 735	1 113 140	49.4
2013	5 661	347 431	18.6
2014	1 332	73 937	2.2
2015	14 226	847 489	48.2
2016	2 339	311 894	15.3
Total:	302 994	15 283 114	424.0