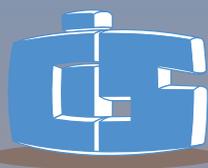




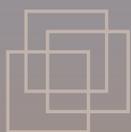
International  
Labour  
Office

**CIS**  
Fifty years of history

**50**



Communication • Information • Safety



SafeWork

**CIS**  
**Fifty years of history**

International Labour Office, Geneva

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This publication was written by Gábor Sándi, CIS Coordinator, with the help of other CIS staff, past and present. The text was approved by Dr Sameera Al-Tuwaijri, Director of the SafeWork programme of the ILO.

## Introduction

CIS is the information processing arm of SafeWork, the programme within the International Labour Office (ILO) devoted to occupational safety and health (OSH) matters. The task of CIS is to collect new, reliable and significant information published around the world dealing with OSH; to index and summarize this information in order to make it more easily usable; and to disseminate it in the most accessible form possible.

CIS was founded 50 years ago, in 1959. This short history explores the reasons for its creation, traces its activities during the 50 years of its existence and tries to predict what it will be doing in the near future.

# 50

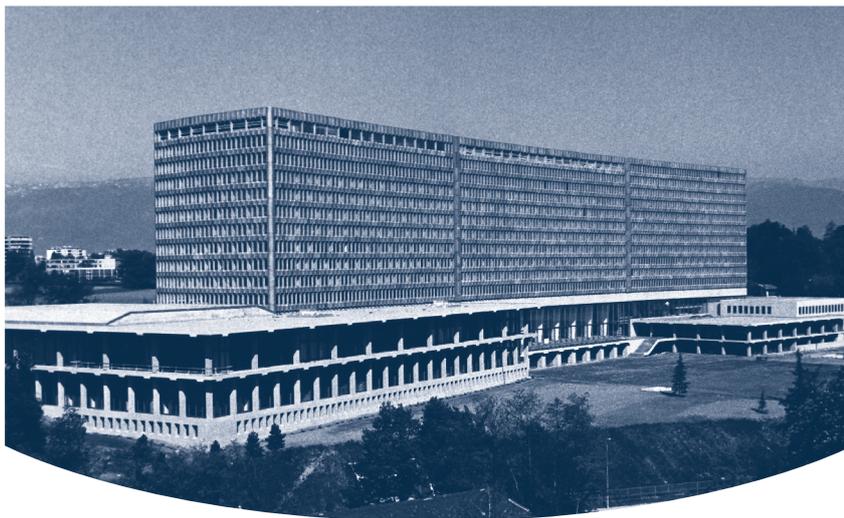
## Prehistory

2

How did CIS come into being? In order to find out, it is instructive to look into the relevant literature that preceded its creation.

Good information services do not emerge from a vacuum – they are created in response to a need. The need in this case, as it turns out, was twofold. Foskett (1960) put it this way:

- By 1956 the Occupational Safety and Health Division of the International Labour Office (ILO) had amassed a working collection of some 30,000 documents with no satisfactory classification scheme.
- Documentation of the world's OSH literature was taking place in many different national organizations, with attendant duplication of effort and incomplete coverage.



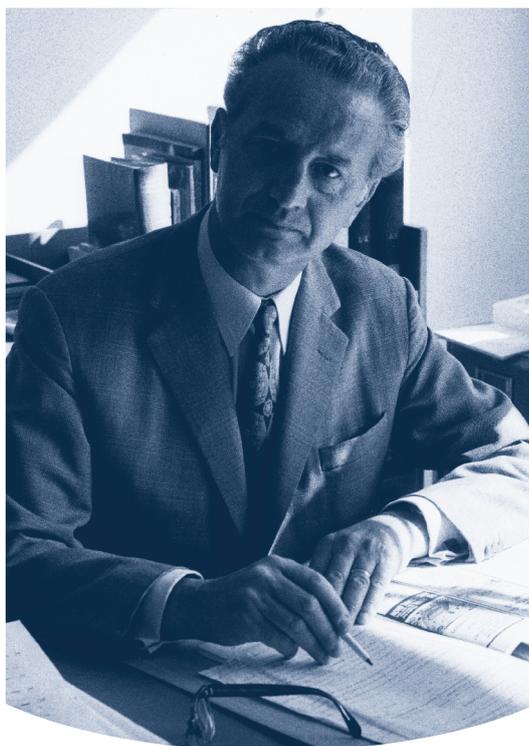
By 1958 there was consensus within the ILO that an international effort, coordinated by the Office, was needed. The Office therefore contacted a number of safety and health institutions, at first in Europe only, asking for their suggestions regarding the best ways of collecting and disseminating OSH information. At the same time, these institutions were asked to provide an inventory of OSH information facilities in their respective countries.

After the replies were received and analysed, representatives of nine of these institutions, together with those of the International Social Security Association (ISSA) and the ILO (the host agency), met in Geneva in April 1959 in order to define the structure and activities of a proposed information centre, which by this time also had the support of Mr David Morse, then ILO Director-General.

As a result of these recommendations, the Governing Body of the ILO formally approved the creation of CIS<sup>1</sup> in a special meeting held on 29-30 May 1959, and allocated funds for its initial operations. Additional funding was subsequently provided by the European Steel and Coal Community, one of the precursors of the European Union. The World Health Organization (WHO) was also involved. Mr Marcel Robert, a Swiss engineer and then Chief of the ILO's Occupational Safety and Health Division, was selected to be the first Head of CIS, and the service started to operate on 1 July 1959. A list of the successive Directors, Heads and Coordinators of CIS can be found in Annex 1. It was foreseen in the initial budget that CIS would be staffed by 11 officials, seven of whom would be professionals. It is indicative of the wage and price levels of the time that the estimated expenditure for 11 staff posts for the year 1960 was USD 53,388 (USD 4,853/person), i.e. 1/37th of the cost of ILO personnel today (taking the average of professional and general service standard costs as the base).

At the beginning, the Head of CIS was responsible to the Director-General of the ILO. Part of CIS's budget has always needed the direct approval of the Governing Body, to whom a report of its activities is still presented every two years.

It is important to note at this point that the ILO was not without experience in the field of Occupational Safety and Health documentation. It had published, between 1930 and 1934, the first edition of its groundbreaking series of encyclopaedias, under the title *Occupation and Health: Encyclopaedia of Hygiene, Pathology and Social Welfare*. It had also published a periodical, *Occupational Safety and Health*, with a section devoted to "Books, periodicals, etc." which in a sense foreshadowed the service to be provided later by CIS. Once CIS was established, the publication of this periodical was ended by the Director-General of the ILO, presumably to avoid duplication of effort.



Mr Marcel Robert,  
founder and first Head of CIS

<sup>1</sup> CIS stands for the original French name of the centre: "Centre international d'informations de sécurité et d'hygiène du travail". The official name, but not the acronym, was changed later, to: "Centre international d'informations de sécurité et santé au travail". The original English name was, and still is: "International Occupational Safety and Health Information Centre".

## The beginning

4

The essential purpose of CIS, from its very beginning, is defined in Marcel Robert's 1973 paper. It is:

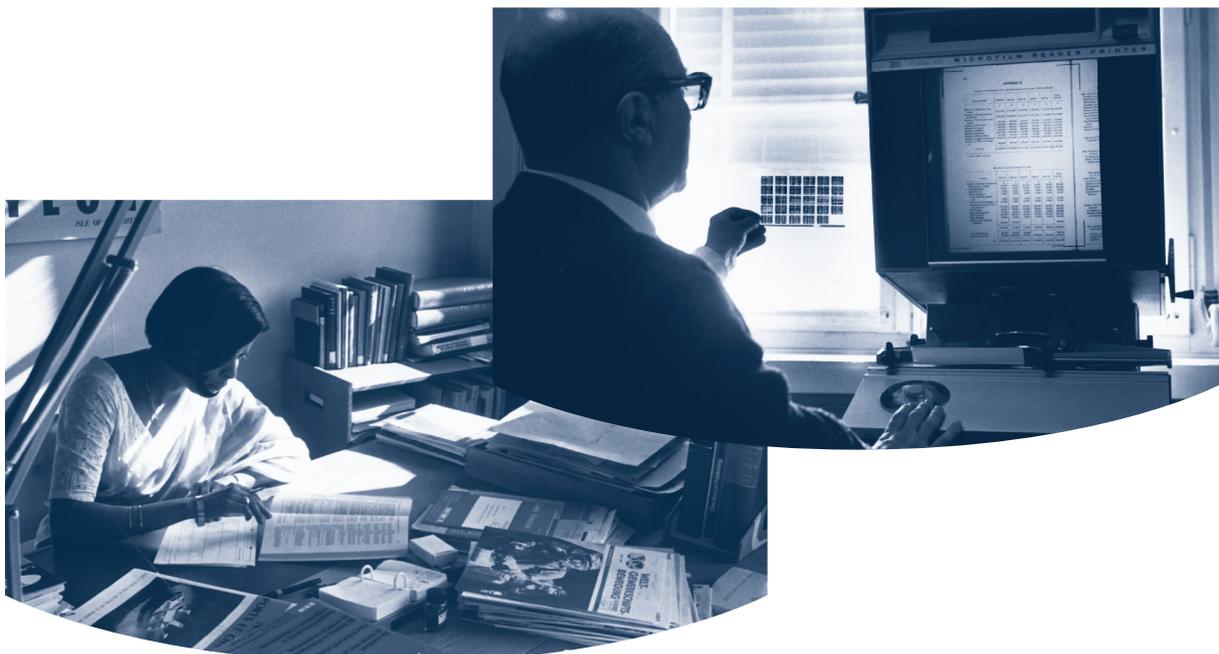
**to contribute to the promotion of the health, safety and well-being of workers in all branches of economic activity by systematically collecting, scanning and abstracting all useful data, and by making the results of this analysis available in suitable form to all concerned. (Robert, 1973a, p. 267)**

CIS staff were always conscious of the great variety of source materials containing useful information on OSH: journal articles, monographs (including research reports), laws and regulations, standards, codes of practice, collective agreements, statistics, films and other training and educational aids.

Given the state of technology at the time, it was decided to publish CIS information as indexed abstracts on standard-size (7.5 ×12.5 cm) library cards, mimeographed and despatched to the various participating institutions. This was preferred to the publication of an abstracting bulletin because of the difficulty in maintaining cumulative indexes for the latter option.

Documents were indexed by a system of facet codes – a maximum of six facets per document, with an average of 2.7 (during the period 1960–1972). A separate card was issued for each facet used to index a document, resulting in an immense job of card filing in each receiving institution, according to the facets used. Cards were, in addition, colour coded: green for legislation, pink for standards, guidance documents and the like, white for everything else.

In today's PC-dominated world, it is difficult to realize how much work was involved in keeping the card files up to date. It is no wonder that there was a chronic backlog of unfiled cards at many institutions, prompting Mr Robert to complain that there was 'a persistent allergy, among a substantial proportion of users of the service, to the filing of cards' (Robert, 1973a, p. 269).

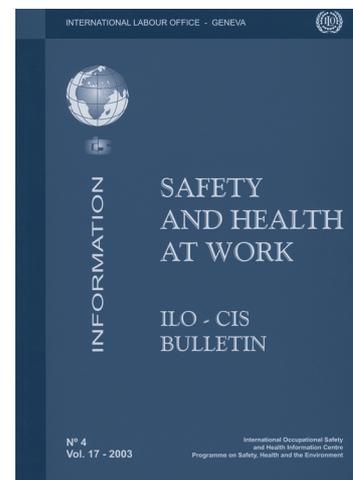


Filing was of course only part of the problem. More serious was the limitation, itself imposed by the difficulties implied by the need for filing, of a maximum of six facets per document analysed, since many documents dealt with more than six important subjects. In addition, it was of course impossible to combine search terms for a narrowing or widening of search outcomes (i.e. doing what we call today AND and OR searching using Boolean logic).

The cards were at first issued in three languages: English, French and German. Later, some National Centres decided to translate the cards into their own languages: Italian, Romanian, Russian and Spanish.

From the very beginning, CIS archived the documents it analysed and was therefore able to send out copies of them on demand. Considering the technical means available at the time, this service required far more effort than it would take today. It is important to note that until the arrival of the Internet CIS publications and services were primarily aimed at subscribers, and were provided free of charge only to those organizations that collaborated with the ILO and ISSA in maintaining the Centre.

On 1 January 1963, CIS started the publication of a new periodical, a bulletin entitled *Occupational Safety and Health Abstracts*, which reproduced the contents of the new cards added to the series since the last issue. This service was seen as particularly relevant to small and medium-sized information centres, which were not in a position to subscribe to the card series. The *Bulletin* survived the replacement of the cards by database records, and although eventually abandoned in its printed form, CIS continues to publish an online virtual *Bulletin* to this day.<sup>2</sup>



Sample cover for the CIS Bulletin from 2003

Cards were not the only information products issued by CIS in its first decade. It also published a number of Information Sheets: a total of 20 during the period 1962–1970. It is instructive to see the list (Annex 2) of these early Information Sheets, just to realize what could be produced by a dedicated staff even in pre-computer days! (To be fair, most of the Sheets were written by outside experts, but the non-negligible tasks of publishing and disseminating these sheets were nevertheless carried out by CIS.)

<sup>2</sup> The virtual Bulletin, including archival copies, can be accessed at: <http://www.ilo.org/public/english/protection/safework/cis/products/bulletin.htm>

## The Centres network

6

CIS has always seen itself as the hub of an international network of institutions actively involved in the collection, creation, treatment and diffusion of OSH information. Many of the institutions contacted during the preparatory work leading to the creation of CIS became the first National Centres of the CIS Centres network, with the role of being the primary contact points for CIS in their respective countries. There were 11 such Centres to begin with – they are listed in Annex 3.

By 1960, there were 23 Centres on four continents, including those in Australia, India, Israel, Japan, Poland and the United States. South America joined the network through the participation of Colombia and Uruguay in 1962. Only Africa had to wait longer: the first Centre there was established in Egypt, in 1972. By 1973, there were 34 National Centres in the CIS network. Their number has continued to grow through the decades – today, there are almost 160.

In theory, CIS Centres were intended to collaborate fully with CIS in the collection, treatment and dissemination of OSH information. In practice, this has never happened on a universal basis. Although some Centres have always distinguished themselves by contributing indexed abstracts to the CIS collection, the most effective contribution has always been at the two ends of the information chain: many Centres have collected OSH information produced in their countries and sent them on to CIS, and many Centres have served as national distributors of information published by CIS. But over the years, CIS Centres have evolved to take on a much more important role: they have become the focal points in their respective countries for all OSH-related information services in relation to other countries. As such, they are in constant communication with their counterparts abroad, as well as with CIS in Geneva. One of the most important of their contributions was to form the link between CIS and its individual subscribers in their respective countries.

It is natural in the case of such cooperation that participating organizations will wish to send their representatives to regular meetings, where the live exchange of ideas and personal contact in general will lead to much closer cooperation throughout the network. CIS has a long tradition of such meetings, having held one almost every year since its foundation.

CIS Meetings have also led to a reinforcement of CIS's presence in the international OSH world at large. Every three years, CIS Meetings are held in conjunction with the World Congress on Occupational Safety and Health, which is the largest international gathering of OSH professionals, organized jointly by the ILO, the ISSA and a national OSH organization in the country where the World Congress is held. Such joint Meetings have occurred at each of the last six World Congresses: New Delhi (1993), Madrid (1996), São Paulo (1999), Vienna (2002), Orlando (2005) and Seoul (2008).

One highly useful outgrowth of the Centres network is the emergence of the *CIS Newsletter*<sup>3</sup>, an online publication produced by Sheila Pantry, the former head of CIS's British National Centre, the Library of the Health and Safety Executive (HSE). This newsletter, published monthly, was at first circulated as e-mails, then transferred to the Internet. It keeps readers up to date about the latest major publications and events of interest to OSH personnel, as well as strengthening the ties that bind CIS Centres together. Credit must be given in this connection to CIS's National Centre in Belgium, PREVENT, which published and distributed a printed version of this newsletter for many years.

<sup>3</sup> CIS Newsletter, <http://www.sheilapantry.com/cis/>

## Symposia

CIS has always occupied itself mostly with producing secondary information: principally, indexed abstracts. However, especially in its early years, it was also active in organizing symposia devoted to specific OSH topics. The first such symposium was devoted to the medical and technical aspects of electrical accidents, and was organized in Paris (France) in 1962 together with two French organizations. Similar symposia were organized in subsequent years on the ergonomics of machine design (Prague, Czechoslovakia, 1967), the safety of portable and mobile electrical tools and appliances (Turin, Italy, 1967), ergonomics and environmental factors (Rome, Italy, 1968) and safety in the erection of prefabricated buildings (Bologna, Italy, 1968).

## First computerization and MINISIS

By the early 1970s the collection of CIS cards was clearly becoming unmanageable – in 1973 there were about 25,000 of them. Fortunately, this was the time when computerized data management started to be feasible outside the military and very large organizations. CIS managers have always been attentive to changes in technology, and a new computerized system was quickly developed to meet the needs of CIS customers.

The computerized information management system adopted by CIS was MINISIS, a mini-computer-based system developed by the Canadian International Research Development Centre (IDRC). It was an excellent product for its time, and served the computer needs of CIS well into the first decade of the new millennium.



CIS's computer database CISDOC was started in 1974, and by 1983 contained 21,000 bilingual abstracts. The facet system for classifying descriptors (key word or key expressions) was retained in a changed format, and a new publication, the *CIS Thesaurus*, was issued containing each descriptor accompanied by its facet code. This *Thesaurus* quickly became a popular item among OSH libraries, since it could be used as a bilingual glossary of OSH terminology as well. Because of the large number of chemical substance names included in the *Thesaurus*, the CAS (Chemical Abstracts Service) number code system was also incorporated into the online version, making the search for the effects of a specific chemical much easier.

The CISDOC database was searchable directly at CIS Headquarters, and it was also made available online through the Questel and ESA-IRS systems. We must remember that this was in pre-Internet days, and the ability to search a distant computer database through the telecommunications networks was at first quite a revolutionary achievement, especially for a relatively small database such as CISDOC.

The main purpose of the database, however, was its use for the production of the *CIS Bulletin*, which quickly replaced the unwieldy card system. As already mentioned, this *Bulletin* continued to be published six or seven times a year, until it was replaced by an online virtual *Bulletin* on 1 January 2005.



## CIS involvement in chemical safety

Chemical safety is of course only one of the many aspects of OSH that have to be covered. It is, however, an important aspect, and well over one third of the documents in CISDOC deal with the dangers of exposure to harmful chemicals.

An early special relationship between CIS and chemical safety had occurred even before CIS was founded. The father of Marcel Robert, the founder of CIS, was Henri Marcel Robert (1881–1961), a well-known Swiss painter. In the early 1950s Marcel Robert asked his father to design a set of chemical hazard symbols for consideration at an upcoming ILO Chemical Industry Committee Meeting. These became the nucleus of the chemical danger symbols used later by the ILO, the UN Committee for the Transport of Dangerous Goods, and the European Communities. In fact, even the symbols adopted by the Globally Harmonised System (GHS) for Classification and Labelling of Chemical Substances relied heavily on the designs of Henri Robert.

Another, this time direct, involvement of CIS in chemical safety matters was its participation, in collaboration with other units in the ILO, in the creation in 1980 of the International Programme on Chemical Safety (IPCS). This programme, run in collaboration with WHO, has by now produced some 2,000 cards in 18 languages through a complex peer-review process and two annual meetings. CIS participates in these meetings, and has played a major role in creating and maintaining the computer infrastructure through which the IPCS cards are disseminated to users throughout the world.

## Work in the developing world

In the 1980s it became more urgent to satisfy the needs of developing countries. Jukka Takala, who was named Head of CIS after the departure of Herbert Siegel, had much experience in the developing world, having built up OSH expertise and institutions in Kenya and Thailand. Under Takala's leadership CIS was able to enter the international cooperation field. One result was the unprecedented expansion of CIS Centres, particularly in the Asia–Pacific region. Another was the development, with help from the Finnish International Development Agency (FINNIDA) and the Finnish Institute of Occupational Health (FIOH), of two regularly published newsletters dedicated to the specific problems of their regions: the African and the Asian–Pacific Newsletter on Occupational Health and Safety.

Jukka Takala also attended the United Nations Conference on Environment and Development (UNCED), held in June 1992 in Rio de Janeiro, Brazil. Major initiatives were taken at UNCED, which was attended by many Heads of State and government. Agenda 21, a comprehensive plan of action adopted by the UNCED participants, was part of the process that led to the development of the Globally Harmonised System, in which CIS actively participated later on.

CIS staff have been involved in development-oriented work throughout the long history of the unit. Missions to Latin America, Africa and Asia have been undertaken on numerous occasions, with the aim of increasing information gathering and dissemination competence by local bodies, and of enlarging membership in the CIS Centres network.

## Going online

10

CIS has always been at the forefront of technological innovation. It was therefore present at almost the beginning of one of the fastest revolutions in the history of human communications: the development of personal online access.

As early as 1986, CIS was an entrant into what later became known as e-mailing. The mainframe computer used by the European Space Agency (ESA) in Frascati, Italy, to store the CISDOC database for online access started to be used for the storage of messages from CIS Centres and others, messages that could be retrieved in the same way as CISDOC search results. This in effect was the first e-mail system used by CIS.

Not long afterwards, in the early 1990s, e-mail was given a big push in the Geneva area by the International Telecommunications Union (ITU), one of the many UN agencies with their headquarters in the city. ITU developed a system for the exchange of e-mails, and CIS tapped into this very quickly.

Much more significant was CIS's entry into the World Wide Web (WWW). The first web server is generally considered to be the one set up in 1990 by Tim Berners-Lee at CERN. However, easy accessibility of the WWW depended on the introduction of a user-friendly web browser, which turned out to be Mosaic, released in 1993. It did not take CIS long to set up its first web page: it did so in 1994, well ahead of the ILO in general.

At this time the Web was mostly useful for the recovery of static information pages. The main purpose of CIS was still the management of its principal database, and for the time being this could still be done only through the in-house minicomputer within the ILO, and through the "traditional" (and rather clumsy) online systems Questel and ESA-IRS.

MINISIS was by this time a relic of earlier database systems. Its day-to-day management was problematic, because it had become difficult to locate and maintain computer programming expertise with it. The ILO was standardizing its databases into an ORACLE-based system, and, by 2003, CISDOC and the other CIS databases were all converted according to the new standard.

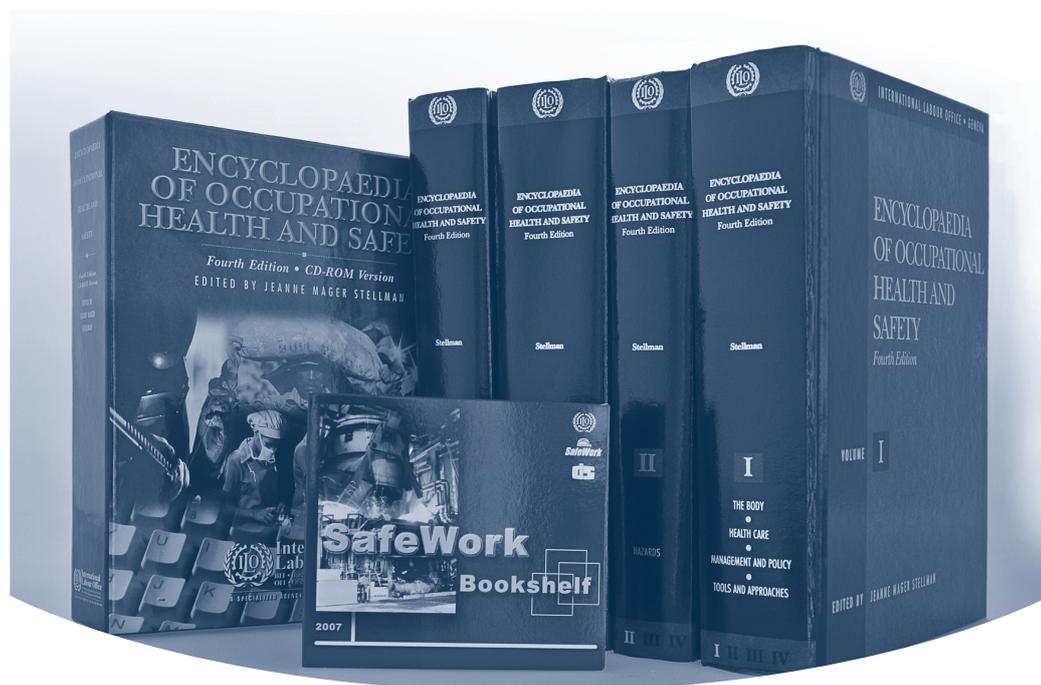
Once the CISDOC database was accessible free of charge through the Internet, it became obvious that there was not much point in continuing the publication of the English and French versions of the printed *Bulletin*. Although no doubt some subscribers with no access to the Internet (or with very expensive and/or unreliable access) were left without service, it was decided to discontinue the printing of the *Bulletin* because the printing and distribution costs alone were higher than CIS earnings through subscription fees, while CIS (together with the rest of the ILO) was suffering from constant reductions in its budget. The printed *CIS Bulletin* was therefore discontinued in January 2005. It was replaced by a virtual bulletin, which follows the same format as the printed *Bulletin* did. As before, it is published six times a year, with an output of 250 abstracts per issue. By the end of 2008 there were almost exactly 70,000 records, all bilingual in English and French, in the database.

One positive development during this period was the addition to the database of Spanish-language translations of CIS records. This was accomplished through the kind contribution of the Spanish National Centre. Spanish translations have by now been added to about 23,000 records, and it may become possible in the future to add Spanish translations to a large number of older CIS records.

## The ILO Encyclopaedia of Occupational Health and Safety

In the late 1960s, the ILO decided to revise and update its 1930s publication *Occupation and Health: Encyclopaedia of Hygiene, Pathology and Social Welfare*. The 2nd (1971) and 3rd (1983) editions of the *ILO Encyclopaedia of Occupational Health and Safety* were not produced under the aegis of CIS, although CIS made a major contribution to them through the management of bibliographic references and the corresponding CIS number. At first, work on the 4th edition, under the general editorship of Professor Jeanne Stellman of Columbia University, was not done by CIS either. However, overall management of the project was later transferred to the unit, where the editing work was finalized and the Encyclopaedia was published in 1998. Subsequent management of the files and various post-publication aspects of the *Encyclopaedia* also continued to be carried out by CIS.

CIS now came to be responsible for the management of the translation of the *Encyclopaedia* into French, under the editorship of Annick Viot. Over the years, the *Encyclopaedia* had become a flagship of the ILO. French editions had been published in 1930 and 1973, but a translation of the 1983 English edition into French never materialized, owing to lack of funds. The 2000–2002 French edition is the 3rd edition in French; however, it actually corresponds to the 4th English edition.



Fourth edition of the ILO Encyclopaedia of Occupational Health and Safety

Preparing the four volumes of a French edition from 1996 turned out to be a gigantic task. It required not only financing, but also a team: a team equipped with linguistic, technical and organizational skills. Funds had to be found and collaborations sought. All major institutions and experts from French-speaking countries were brought on board. Grateful acknowledgement must be made for the contributions of the many Francophone medical doctors, engineers, epidemiologists, toxicologists, ergonomists, lawyers and psychologists around the

world, and of course to institutions such as INRS in France, IRSST and CSST in Canada (Québec) and SUVA in Switzerland, whose technical guidance was such an asset to the cause of the French edition. Marcel Robert, as a civil engineer, who had long since retired from the ILO, also collaborated in the project, providing valuable inputs and technical expertise. Bibliographic references were adapted to the French readership; the production team worked tirelessly for five years; the ILO continued to have faith in the French edition and provided financial support; and the four volumes were eventually finished. Over the years, the *Encyclopaedia* had assembled a priceless network of specialists and institutions from around the world.

In addition to the French edition of the 4th edition of the *Encyclopaedia*, other language versions were also published by outside organizations. The languages concerned were Chinese, Japanese, Korean, Russian and Spanish.

But just as with other CIS products, technological changes at the beginning of the 21st century forced CIS to reevaluate the usefulness of relying on the paper version of the *Encyclopaedia*. Clearly, electronic versions were needed.

The ILO had already produced a CD-ROM version of the *Encyclopaedia* in the late 1990s, which it sold either as a stand-alone version or as part of a package together with the printed edition. The problem with this approach was that over time, updated operating systems on personal computers were not able to accommodate the CD-ROM, which therefore was difficult (or impossible) to use.

In response to the changing demands, the ILO decided to produce both online and CD-ROM versions of the *Encyclopaedia* as part of a package providing vital OSH information to users around the world. This became known as the SafeWork Bookshelf, a very popular product that was, in addition, free to users.

## And now: the future...

With the appearance of the online version of the CIS database, the whole face of CIS changed. No longer was the information produced in a static, periodically updated format. All the information it contains is now accessible to CIS users, and it became feasible to expand into information areas that had been difficult to cover earlier.

Current news from the OSH world, upcoming professional meetings and major OSH courses were already covered in the days of the printed *Bulletin*, but this was not its main focus and because of the time lag between the availability of information and the printing of the *Bulletin*, these items were usually not very up to date. Now, with the online world, it can be much more relevant in these areas. OSH news, conferences and training opportunities can be maintained in an up-to-date fashion. CIS Centres can also contribute news of current events in their own countries to a special section of CIS's site. Specialized directories, such as those devoted to sites on exposure limits and OSH legislation, have also become possible.

CIS's traditional support products, such as the *Glossary* and the *Thesaurus*, have also made the jump from the world of paper into the world of virtual reality: a single click takes users from the CIS homepage to an immediately usable version of the publications in question. The *Encyclopaedia* and the IPCS cards have of course followed suit.

It is then clear that the future of information is on the Internet. CIS has always been able to adapt itself to the latest in technology, and it continues to do so.

The main question is: how will this be done with the next edition of the *Encyclopaedia*? Static information products are out: what the world demands today is information products that are up to date and linked to each other. If CIS can integrate the *Encyclopaedia* (as its flagship online publication) into its various other products, it can maintain its position as the world hub of OSH information.

Let this, then, be the future!

## ANNEX 1

### DIRECTORS, HEADS AND COORDINATORS OF CIS

14	1959–1975	Marcel Robert (Switzerland)
	1975–1980	Guy Juvet (France)
	1980–1985	Herbert Siegel (United States)
	1985–1986	Günter Baumann (acting) (Federal Republic of Germany)
	1986–1997	Jukka Takala (Finland)
	1997–2000	Michèle Nahmias (France)
	2000–2005	Emmert Clevensine (United States)
	2005–	Gábor Sándi (Canada)

## ANNEX 2

### CIS INFORMATION SHEETS

1962–1970

1. Safety devices for belt and other conveyors
2. The prevention of accidents due to sliding, vertical-lift and up-and-over doors
3. Manual lifting and carrying
4. Maximum acceptable levels for industrial noise
5. Challenges in industrial hygiene
6. Entering tanks and other enclosed spaces
7. Circular saws
8. Flexible swing doors and air curtains
10. Ergonomics of machine guarding
11. Artificial lighting in factory and office
12. Ladders
13. Management and industrial safety achievement
14. Automation and occupational health
15. Human factors and safety
16. Safety in the construction of reinforced-concrete floors
17. Noise in industry
18. Asbestos-cement roofs
20. Diving

## ANNEX 3

### INITIAL NATIONAL CENTRES IN THE CIS NETWORK

1959

#### AUSTRIA

Allgemeine Unfallversicherungsanstalt (AUVA) (General Accident Insurance Institute), Vienna

#### BELGIUM

Association des Industriels de Belgique (AIB) (Belgian Manufacturers' Association), Brussels

#### DENMARK

Arbejdstilsynet (Labour Inspection Directorate), Copenhagen

#### FRANCE

Institut national de sécurité (INS) (National Safety Institute), Paris

#### FEDERAL REPUBLIC OF GERMANY

Bundesinstitut für Arbeitsschutz (Federal Institute for Labour Protection), Koblenz

#### ITALY

Ente nazionale prevenzione infortuni (ENPI) (National Accident Prevention Institute), Rome

#### NETHERLANDS

Arbeidinspectie (Central Labour Inspection Service), The Hague

#### NORWAY

Arbejdstilsynet (Labour Inspection Directorate), Trondheim

#### SWEDEN

Arbetskyddsstyrelsen (ASS) (Royal Labour Protection Board), Stockholm

#### SWITZERLAND

Schweizerische Unfallversicherungsanstalt / Caisse nationale suisse d'assurance en cas d'accidents (SUVA) (Swiss National Accident Insurance Office), Lucerne

#### UNITED KINGDOM

Royal Society for the Prevention of Accidents (RoSPA), London

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