

2<sup>nd</sup> Version Date: 14/08/2007

# The new secure electronic delivery service of INIST

## Jacqueline GILLET

Head of ILL service E-Publishing and Document Supply Department INIST- CNRS FRANCE

Meeting:	96-1 Document Delivery and Resource Sharing Section (1)
Simultaneous Interpretation:	Yes

WORLD LIBRARY AND INFORMATION CONGRESS: 73RD IFLA GENERAL CONFERENCE AND COUNCIL

19-23 August 2007, Durban, South Africa http://www.ifla.org/iv/ifla73/index.htm

## **ABSTRACT**

The Institute for Scientific and Technical Information (INIST) is a service unit of the French National Centre for Scientific Research (CNRS), operating under the administrative authority of the French Ministry for Research.

Its mission is to collect, analyse and disseminate the results of world research in science, technology and medicine as well as in the humanities, social sciences and economics. INIST is committed to the new information and communication technologies and offers a full range of services for accessing scientific and technical information on the internet.

INIST leads the French scientific and technical document delivery market, with nearly 400 000 copies supplied in 2006, and has entirely overhauled its production line in order to improve its access services in 2007 and to take on the global resource-sharing market. INIST has launched a new secure electronic delivery service with DRM and signed two types of agreements for nearly 2,000 titles: (a) pay-per-view licences allowing individual items to be delivered directly from the publishers' digital libraries, and (b) licences for scan-on-demand from its own wide-ranging print holdings (19,700 serial publications, including 6,700 current subscriptions).

Special attention is given to four specific aspects relating to the new service:

- The legal environment: the French Copyright Act and the French copyright agency's mandate.
- Licence contents: commercial conditions, rights and responsibilities
- Imports of XML metadata into the existing information system.
- Referencing in Google and Google Scholar and on-line ordering.

## INTRODUCTION

INIST is a service unit of the French National Centre for Scientific Research (CNRS) and is in charge of collecting, indexing and disseminating the results of world research in science, technology and medicine as well as in the humanities, social sciences and economics. INIST was created in 1988 by merging the two CNRS documentation centres. It is based in eastern France on the scientific and technological campus of Nancy <sup>1</sup>.

From the outset, INIST was conceived as an information "factory": work is organised as a production line which is capable of handling huge volumes of data while satisfying customer demand for quality.

Along the production line, several added-value products are processed from each item. INIST offers the PASCAL database with its 16.9 million bibliographic records in science, technology and medicine since 1973 (STM) and FRANCIS with 2.8 million records in the social sciences, arts and humanities since 1973, as well as copies of documents requested (Lupovici, 1994).

# **ACQUISITIONS**

INIST holdings are unique in France and cover the core international literature in science, technology, medicine, humanities and social sciences (Guichard, 1999) (Figure 1).

These holdings are made up of more than 19,700 serial publications (including 6,700 current subscriptions), 125,000 theses in science and technology, 115,000 conference proceedings, 75,000 reports and 13,000 monographs.

The documents are stored in both paper format (on 17 miles of shelving) and, for conservation purposes, in electronic format. Over 5 million articles have been digitised as image files (TIFF) since 1990.

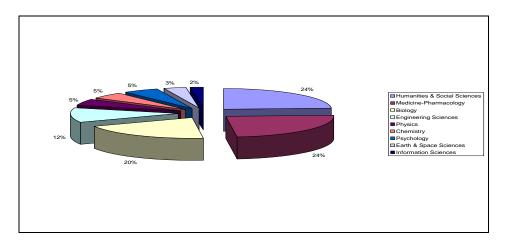


Figure 1 – INIST journal collections by broad subject field

<sup>&</sup>lt;sup>1</sup> See historical section on the INIST website: http://www.inist.fr/article30.html

# **DOCUMENT DELIVERY**

INIST is the leading French supplier of document copies<sup>2</sup>, covering 50% of the French market with 400 000 document copies delivered in 2006.

The document delivery service has four main goals:

- Delivery of all documents requested ("one-stop shop").
- Guaranteed fast and effective delivery.
- Customised and confidential services.
- A simple, transparent pricing system.

Since in-house print holdings cannot suffice to achieve these objectives, INIST has therefore developed partnerships with a network of 200 libraries, not only in France with the university libraries and the *Bibliothèque nationale de France* (BnF), but also across the world with major document centres such as the British Library, CISTI or SUBITO, the German libraries network. These partnerships ensure high quality services with a 96% delivery rate.

In striving to achieve these goals, especially as regards customised services, INIST has developed a comprehensive range that today includes 7 different ordering methods (fax, document transfers through electronic networks and ordering from on-line catalogues), 5 delivery methods, 5 "premium services" and 2 methods of payment.

In 2006, 95% of all documents delivered were from serial publications, with the biomedical field predominating (Figure 2).

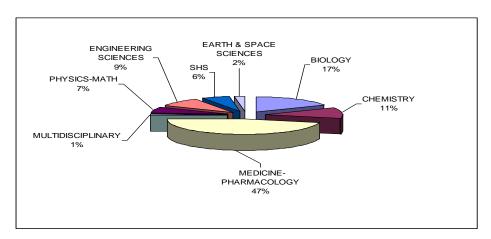


Figure 2 – Document delivery in 2006 by broad subject field

Deliveries of documents ordered electronically are automated and account for 95% of all document orders received (Figure 3).

\_

<sup>&</sup>lt;sup>2</sup> See Document Delivery section on the INIST web site at: http://fournituredoc.inist.fr/

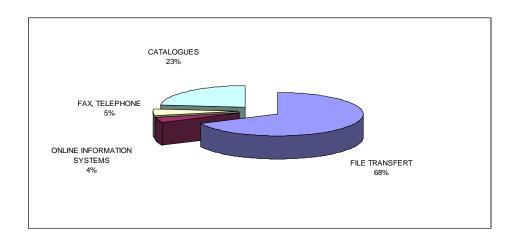


Figure 3 – Orders received in 2006 per ordering method

Orders are processed into the document chain in real time, located automatically in the holdings if the document is included in INIST collections or in the holdings of partner libraries, and delivered in accordance with the service requested (Figure 4).

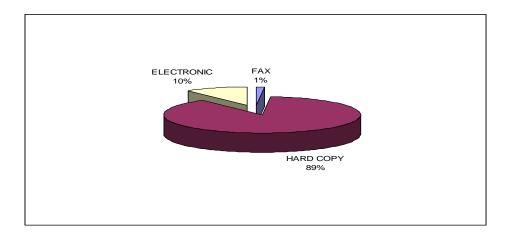


Figure 4 – Document delivery in 2006 per copy medium

## **CUSTOMERS**

In the past, the CNRS document centres mainly supplied document copies to researchers working for the CNRS and other EPSTs<sup>3</sup>.

In 2006, 46 % of our 6200 customers belonged to the private-sector.

The reason for this changing pattern lies simply in the fact that private-sector researchers are finding that INIST's "one-stop-shop" is delivering appropriate solutions to their demand for confidentiality, cost-effectiveness (outsourcing of documentation functions) and speedy delivery (24-48 hours turnaround time).

<sup>&</sup>lt;sup>3</sup> EPST: *Etablissement public à caractère scientifique et technologique* = Public scientific and technical institution

# THE NEW SECURE ELECTRONIC DOCUMENT DELIVERY SERVICE

Internet use has profoundly changed relationships between end users and information (Taylor, 2007).

Researchers' demands have changed: they want easier ordering and payment methods, immediate document delivery in electronic formats without needing to travel to a library, and high quality document formats (PDF versus TIFF).

In order to meet these demands, INIST's has introduced new technologies into all its document processes. The strategy is twofold and involves:

- Improving the dissemination of information by using Google and Google Scholar and by developing on-line ordering and electronic payment methods,
- Offering document delivery direct to the desk-top in PDF format.

# Disseminating information: the agreement with Google

INIST is already distributing on-line information through its PASCAL and FRANCIS bibliographic databases and its article@inist catalogue which can be accessed through the INIST web site (Guichard, 1999).

But with the established ubiquity of Google and its ultra-simple search interface and associated programmes (Google Scholar and Google Book Search), Google use is now not only essential, but also fully in line with the changing behaviour of information users.

Using Google to access its products and services is an additional means of communication and a way of adding value to its document collections (e.g. through agreements between Google and the major American universities) and disseminating information.

The partnership between Google and INIST was set up in the same spirit, and INIST has become the first French STI centre using Google to add value to its document collections (Lecocq, 2007).

From the start of negotiations in 2005, discussions were aiming for an agreement between Google Scholar and INIST for products dedicated to CNRS researchers, the reason being that at INIST, information distribution and access to information does not only concern document delivery activities and the INIST data bases.

In the past 4 years, INIST has developed dedicated on-line portals<sup>4</sup> for the CNRS scientific community, giving access to electronic resources (serial publications and databases) negotiated in partnership with the COUPERIN<sup>5</sup> university consortium. Five thematic portals have been developed, in the Life Sciences, Humanities and Social Sciences, Chemistry, Sciences of the Universe and Information Technology Sciences (Gunet, Goettmann, 2005).

INIST has a dual objective here: to enhance the value of its 16 million bibliographic records by making them more accessible, and to facilitate navigation for CNRS researchers using the dedicated thematic portals, thanks to Google Scholar's Library Links functions (Figure 5).

<sup>5</sup> The COUPERIN Consortium was founded in 1999. Its main goal is negotiate the best possible prices and conditions of sale for electronic journals: http://www.couperin.org/

<sup>&</sup>lt;sup>4</sup> See section on reserved scientific information portals on the INIST web site: http://www.inist.fr/rubrique14.html

This system links the results of a Google Scholar search, the CNRS researcher and the electronic journals to which the researcher's laboratory subscribes. A link resolver hosted at INIST provides the links to the full text documents.

The value of Google lies in its ability to cite French-language references that are particularly relevant to the humanities and social sciences (6 million references).

In parallel with the Google Scholar developments, discussions and negotiations continued with a view to broadening the partnership, in order to obtain citations with the main Google engine and to introduce document ordering via a new electronic payment interface suited to document distribution all over the world.

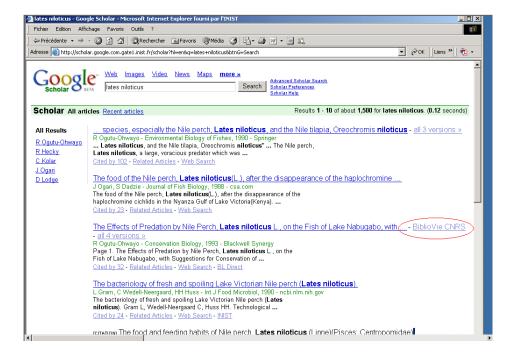


Figure 5 – Google Scholar and the CNRS life sciences portal

# Secure electronic delivery

This new service was launched in March 2007.

## The Contractual Phase

#### Publishers:

The methodology was adopted as follows: an initial analysis was made of demand from our main private-sector customers, followed by an analysis of supply from publishers (catalogue scope) and publishers who already had agreements for PDF document delivery with other document centres.

## **Business** proposals

Thanks to our negotiations with 14 publishers, we are currently able to offer 2,000 journals altogether, in all fields. Negotiations are continuing with other publishers with a view to making articles available from some 8,000 journals.

#### Contracts:

Contracting terms and conditions vary with each publisher, but all contracts have a number of clauses in common.

#### Business model

Two kinds of contracts are negotiated with publishers, those authorising the digitisation of documents from INIST print holdings (scan on demand), and those authorising downloads of articles from the publisher's web site (Pay Per View).

The preferred model for negotiations is the PPV model, which broadens INIST's initial document coverage (6,700 current subscriptions) and allows us to separate it from print acquisitions. Furthermore, orders for articles that are available from a publisher's platform can be processed and handled more quickly than with on-demand digitisation.

While some publishers propose their own contracts, we work with others on the basis of a standard contract drawn up at INIST with the legal affairs department.

Whatever the model negotiated, document supplies are subject to financial compensation and dependent on the use of copyright protection software (DRM).

## Copyright fees

Fees either vary with each title or remain identical for all titles from a given publisher. Copyright fees may also vary according to the customer type (academic or private-sector).

## • Payment of copyright fees

Payment is scheduled quarterly, six-monthly or yearly, depending on each publisher. Sometimes, the schedule may vary for a given title during the validity of the contract, in which case INIST is notified of the change from one to three months in advance.

#### Statistics

Copyright fees are paid on the basis of statistics supplied by INIST in accordance with the same schedule as the payments themselves. These statistics relate the number of articles downloaded or digitised to the title and ISSN of each periodical. This statistical model is similar to that supplied each year to the French Copyright Agency (*Centre Français du droit de Copie*) for print copies.

Depending on publishers, further data may be added, such as article titles.

## • Contract renewal

Contracts are automatically renewed either annually or every two years.

#### Metadata

Obtaining metadata is essential in order to list journals citations negotiated on a PPV basis. Most publishers agree to supply metadata, with the proviso that they should be used exclusively for on-line catalogue citations.

## The Production Phase

#### Metadata

At present, the on-line <u>article@inist</u> catalogue citing titles available for document delivery is based on our print acquisitions. 300 issues are processed each day for incorporation into the library management system. Serial entries are then reformatted in XML and loaded into an internal bibliographic repository. Abstract cataloguing is outsourced and subsequently aligned with the serial entries in the bibliographic repository.

Abstracts are incorporated into article@inist five days after we receive them.

Producing these 800,000 bibliographic records requires some outsourcing (cataloguing of journal abstracts), a substantial budget and a dedicated internal structure, with 10 document specialists managing data and document flows, checking the quality of entries and integrating the information into the bibliographic repository (Schopfel, 2003).

The question arose as to how electronic journals available for secure electronic delivery, rather than acquired as print copies, should be cited in our catalogue.

We opted to project our production line and organisational structure into the digital environment by integrating publisher data.

The metadata are supplied in XML or SGML format, then processed in accordance with a DTD exchange model<sup>6</sup> using XSL language, for incorporation into the bibliographic repository which is structured in an internal XML format.

In order to take our system into the electronic environment, our staff needed to acquire new skills.

The team of document specialists in charge of managing print acquisition workflows took on this new type of activity by developing new skills in XML format, XSL style sheets and programming techniques.

The training provided in the use of new resources and tools has helped to guarantee the system's efficiency (Stein, 2006).

## ■ The process

With a Google search, the INIST reference is located with the CAT.INIST heading, the name of the bibliographic reference server indexed by Google (Figure 6), and linked to the internally developed order form (Figure 7).

<sup>&</sup>lt;sup>6</sup> See description of DTD exchange on the INIST web site at: http://www.inist.fr/rubrique53.html

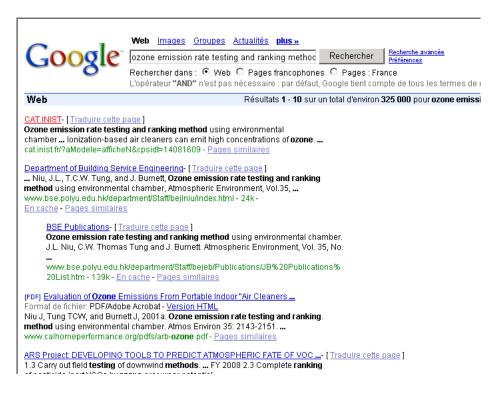


Figure 6 – A Google search



Figure 7 – Display of the bibliographic record

The first step is to choose the payment method, i.e. bank card or deposit account in the case of registered users (Figure 8).

Users paying with a bank card will need to enter the relevant details at the start of the process.

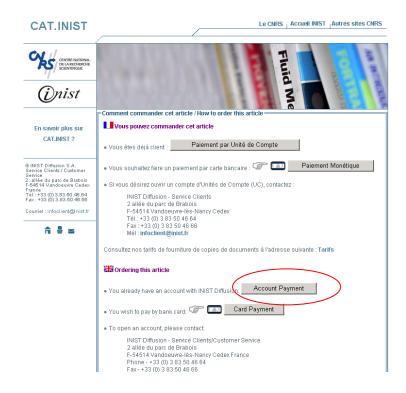


Figure 8 – Selecting the method of payment

The second step is to choose the delivery method from a scrolling menu.

If delivery is requested in secure PDF mode, the copyright fee (which varies with serial titles and publishers) is displayed in addition to the service charge (Figure 9).

After validation, payment is made through secure ATOS technology. Registered users, after entering their user login and password, go directly to Step 2 and receive an invoice for their order at the end of the month.

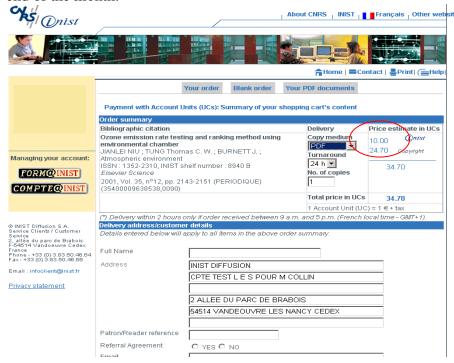


Figure 9 – Selecting the service

Customers requesting PDF delivery receive an electronic message within 24 hours, stating the bibliographic references ordered and providing a link to the INIST document server (Figure 10).

The document is made available for 30 days, and will have been previously encrypted and parameterised with Fileopen software to enable printing once only and to prevent saving to user disks.

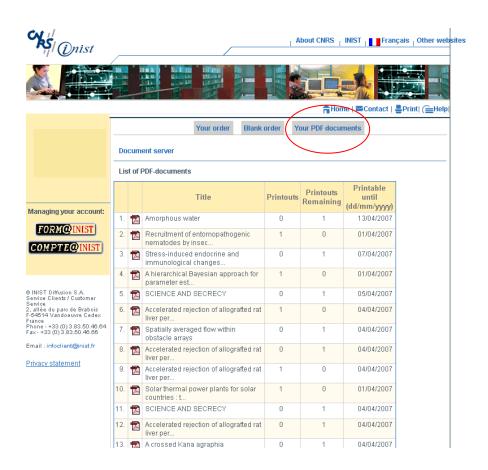
Users will need to have installed a Fileopen module on their desktop beforehand.

In the event of any difficulty with installing the Fileopen module or downloading the article requested, users may contact the INIST technical assistance team.

Orders may also be tracked if required (Figure 11).



Figure 10 – E-mail received by the customer



## Figure 11 – A tracking request

#### Prices

Pricing has long been a factor in user preferences for electronic ordering methods (networks, file transfers and catalogues) over fax, phone or postal orders. The large number of orders we now receive electronically has enabled us to set up an automated order processing system (Figure 3).

In 2007, INIST took this development a step further by setting a price of 10 € (a 20% reduction compared to 2006 prices) for orders placed from on-line catalogues (Google, article@inist). By encouraging electronic ordering, this new pricing policy is expected to help streamline costs and deadlines, since no prior processing is required for orders for bibliographic references from our own document holdings in line with IFLA recommendations (Stein, 2006).

#### **Constraints**

#### • Technical constraints

#### o **DRM**

For most publishers, the use of a DRM is mandatory.

We have chosen Fileopen software to handle DRM, since it can be integrated into an existing chain and is already being used by other document centres such as CISTI and SUBITO.

Implementing the software in a document centre nevertheless calls for a team of IT specialists.

This DRM application has three modules: a data encryption module, a plug-in to be installed in the document reader (Adobe reader) and a rights server.

The principle is as follows:

Communication is established between the document server in which the article has been deposited in PDF format and encrypted with FileOpen, the rights server and the FileOpen plug-in installed on the user's desktop, in order to manage the display and one-off print of the document (Figure 12)

At INIST, documents are made available for 30 days and may be printed off once or twice (depending on contracts). They cannot be saved to use disks.

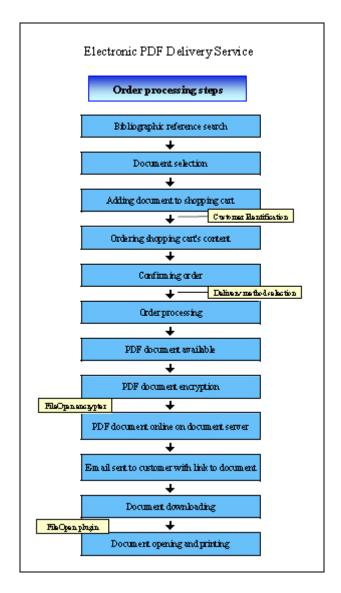


Figure 12 – The order processing chain.

## o Metadata

Processing publishers' metadata is a task that requires a high level of technological skill and a great deal of verification.

Some publishers already supply their metadata to databases (e.g. Pubmed) in accordance with the DTD supplied by the National Library of Medicine (NLM), while others export metadata from their editorial chain. This means that metadata formats vary from one publisher to another. Sometimes, these metadata are still in SGML format and not always controlled with a DTD, which can result in extremely heterogeneous data.

Reformatting and integrating these data flows is very time-consuming, and quality controls are essential after their incorporation into our document reference base.

## • Legal constraints: Copyright

Copyright fees for documents obtained in secure PDF format are rather high, at 25 euros on average.

This is much higher than the fixed-rate fee usually paid to the French Copyright Agency (CFC) and could initially slow the take-up rate for the service.

Copyright can vary from one title to another from the same publisher and from one publisher to another, according to customer type and to the document medium (print versus PDF). These parameters are all managed within a dedicated database that interfaces with the internal production line.

## **COPYRIGHT IN FRANCE**

## THE CFC

Since its accreditation by the Ministry of Culture in 1995, the CFC<sup>7</sup> has been the sole agency in France with the authority to issue licences for the reprographic reproduction of copyrighted works. The collective management of rights is mandatory.

The CFC establishes copyright fees, collects and distributes royalties and draws up agreements with its counterpart agencies abroad<sup>8</sup> (UK Copyright Licence Agency, US Copyright Clearance Center and VG Wort in Germany, for example). In 2006, the CFC paid out about 22.8 million euros in reprography rights to authors and publishers.

Although the CFC handles the rights in press reviews distributed over intranets for some publishers, it has no compulsory mandate to collect and manage copyright fees for electronic copies (Libman, 2002).

## Transposal of the EUCD Directive and impact on document delivery

The French Act on Copyright and Related Rights in the Information Society (known as the DADVSI Act), which came into force on 1 August 2006, transposes EU Directive 2001/29/CE (OJ 2006), whose purpose is to adapt copyright regulations to new technological developments in the information society. The underlying principle of the directive was to harmonize copyright regulations across the EU (Schopfel, 2006).

Amendments made to French copyright legislation:

## Penalties:

The main innovation in the new Copyright Act (DADVSI) relates to the "technical measures" (DRM) that are now widely used in distributing works in digital formats. The Act provides for legal protection of these technical processes, establishing a new penal offence covering any violation or circumvention of the rights in these processes (Gillet, 2007). Penalties range from 750 to 300,000 euros and 3 years of imprisonment, depending on the gravity of the offence.

#### **DRM**:

The Act sets out the concept of digital copyright management processes.

## *Interoperability*:

The effect of the technical measures should not be to prevent effective implementation of interoperability. Interoperability is established as a principle or declaration of intent, but the Act does not make it mandatory.

## Regulating authority:

<sup>&</sup>lt;sup>7</sup> See CFC web site at: http://www.cfcopies.com/V2/

<sup>&</sup>lt;sup>8</sup> See IFRRO web site (International Federation of reproduction rights organisations) at: http://www.ifrro.org/show.aspx?pageid=home

The Act sets out the composition and functions of a new independent commission with powers over both technical (DRM) and legal aspects. This authority is responsible for ensuring that the implementation of the technical protective measures does not deprive beneficiaries of copyright exemptions.

## Copies for private use:

The Act guarantees the principle of the right to copies for private use, but hands responsibility for establishing the conditions of its application to the new regulating authority.

## **Exemptions**:

## • Education, Research and Libraries.

The Act introduces two non-mandatory exemptions into French law, which – unlike the UK – previously had none (Watkins, 2003).

Representation or reproduction for educational or research purposes are no longer subject to permission, but will still be linked to a fixed-rate fee in exchange. Such reproductions must be made for an audience principally made up of the pupils, students, teachers or researchers directly concerned.

This exemption will not be applicable until 2009. It was introduced as a result of consistent lobbying<sup>9</sup> by the Conference of University presidents and French library associations (Battisti, 2004).

A further clause introduced into the Act allows reproduction of a work for the purposes of preservation or in-situ consultation. The reproduction must be made by libraries that are accessible to the public, by museums or by archive departments, as long as there is no commercial purpose.

## Handicap

Copies made for a handicapped person do not require permission provided that the reproduction is not made for any profitable purpose, and only insofar as copying is made necessary by the handicap in question.

### Copyrighting

The Act sets out the framework for copyrighting contents distributed through the Internet, including software and databases.

## Open Access

The government will be financing a platform for authors and artists wishing to distribute their works free of copyright.

## **Impact on document delivery**

The rationale behind the new Copyright Act is to encourage users to negotiate and draw up contracts with rights-holders.

Until now, there has been no direct impact on the activities of French document providers (INIST, ABES and universities).

Under the current agreement between the CFC and the universities, the latter pay a fixed annual copyright fee per student.

<sup>&</sup>lt;sup>9</sup> See inter-association web site for archives, libraries and documentation at: www.droitauteur.levillage.org

Since 1995, INIST, which is governed by French law, has contracted an agreement with the CFC which allows reprographic reproductions of document copies (serial publications and books) in return for financial compensation, of which the amount is set each year by the CFC. INIST supplies exact statistics on the number of copies made per title, per publisher and per year.

In the case of secure electronic delivery, INIST cannot rely on the CFC and has negotiated permission and the amount of royalties directly with each publisher.

The exemption for research and education will not apply until 2009, and each institution will have to analyse the consequences of the new measure (renegotiation with the CFC? New form/rate of financial compensation?).

#### **CONCLUSION**

This is what we do. But where do we go from here? In a context of ever-expanding access to digital resources through major deals, institutional repositories, pay-per-view services from publishers and corporate vendors and powerful search engines, talking about document supply sometimes sounds like the Revelations of the four Horsemen of the Apocalypse. Where are the lamb and the angels? Who will break the seal to enter the Holy City of the new Heaven and Earth?

As far as we can see, the future of STI will be community-based, less mediated, with easier but less controlled searching and partly without guaranteed quality and peer reviews. STI users want free and instant access to digital documents and data, without complex search strategies but with quality control.

Turning the clock back is not an option. We cannot bring back a world where document delivery was the main vector for disseminating scientific and technical information. We need creativity, intelligence and audacity to adapt our services and products to the new technological, economical and legal environment. Our role as a national STI centre is not to keep traditional library functions alive but to organise access to valuable information at a reasonable price and to guarantee the perennial preservation of documents and data for future generations of scientists, academics, engineers and students.

Document delivery is but one way among several of achieving this. Today, requests from our customers focus on hard-to-find documents, niche serials and items belonging to the "long-tail" sector of the journal market. This implies more networking and resource sharing than in the past. And it also means forging sustainable partnerships with scientific publishers beyond their "level playing field". Our potential and our strength lies in our integration within the scientific community and in providing a public service that should allow us to work for the long term, without the pressures of immediate profits and returns on investments.

#### **REFERENCES:**

Battisti, M. (2004) « Accès à l'information et droit d'auteur : une solution équilibrée est-celle encore possible ? Débat de l'interassociation, Paris 22 mars 2004 », *Documentaliste*, Vol. 41 No 2, pp. 120-123.

Gillet, J. (2007), «Country report (France) », Lettre d'information de la section IFLA Fourniture de Document et Partage des Ressources, <a href="http://www.ifla.org/VII/s15/pubs/Document-Delivery-Newsletter-April07.pdf">http://www.ifla.org/VII/s15/pubs/Document-Delivery-Newsletter-April07.pdf</a>, Avril, pp. 8-10.

Goettmann, E., Gunet, M.C. (2005), "Portals enable national access", *Research Information*, No. 15, January/February, pp.21-2.

Guichard, M. (1999), «L'INIST-CNRS: des services d'information payants et gratuits dans un cadre de service public », *Bulletin d'Informations ABF*, No.184-5, pp.100-2.

JO (2006), « Loi n° 2006-961 du 1<sup>er</sup> août 2006 relative au droit d'auteur et aux droits voisins dans la société de l'information », Journal Officiel de la République Française, 3 August 2006.

Lecocq, F. (2007), « Collaboration INIST-Google et intégration dans les différents portails de l'INIST », Les rencontres professionnels de l'IST 18-20 June 2007.

Libman, F. (2002), « Premiers pas du CFC dans la gestion des droits numériques », Bases, No 187, October, pp. 1-4.

Lupovici, C. (1994), «The Changing Face of Document Supply in France», *Library Management*, Vol. 15 No 7, pp. 29-31.

Schopfel, J. (2003), «INIST-CNRS in Nancy, France: a model of efficiency», *Interlending and Document Supply*, Vol. 31 No 2, pp 94-103.

Schopfel, J. (2006), «The new French law on author's rights and related rights in the information society», *Interlending and Document Supply*, Vol. 34 No 4, pp 167-170.

Stein, J. (2006), «IFLA Guidelines for Best Practises for Interlibrary Loan and Document Delivery», . 72<sup>nd</sup> World Library and Information Congress, Seoul, Korea, 20-24 August 2006

Taylor, S. (2007), «Google Scholar – Friend or foe? », *Interlending and Document Supply*, Vol. 35, No. 1, pp 4-6.

Watkins, J. (2003), « Changes in the UK copyright law: implications for document delivery», *Interlending and Document Supply*, Vol. 31 No. 1, pp. 21-24.