

**A Visit to the Technical Information and  
Documentation Centre (TIDC) of  
the European Space Agency (ESA)  
at ESTEC**

Jaakko Jurvelin  
European Laboratory for Particle Physics (CERN)

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**Abstract**

The purpose of my visit (18.-22.1.1999) to the Technical Information and Documentation Centre (TIDC) of European Space Agency (ESA) at ESTEC was to study the information and library services available for the ESA community. The emphasis was on the services which are available via web at all ESA establishments around the world. Other objectives for the visit were to study the tools used to provide these web services and the organisational structure of TIDC.

## **1. European Space Agency (ESA)**

The idea of an independent European space organisation began in the early 1960's. European Space Agency (ESA) was formed in 1975, replacing the ESRO satellite and ELDO launcher organisations. ESA has 14 member states which are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Norway, the Netherlands, Spain, Sweden, Switzerland and the United Kingdom. All these countries, excluding Ireland, are also member states of CERN.

ESA is an intergovernmental organisation with a mission to provide and promote, for exclusively peaceful purposes, the exploitation of space science, research and technology as well as space applications.

Besides its headquarters, ESA has a number of establishments - ESTEC, ESOC, ESRIN and EAC - as well as a launch base at Kourou in French Guiana, liaison offices in Washington and Moscow, and an office in Brussels for relations with the European Commission.

ESA has its headquarters in Paris, where the director general's office is situated and where the agency's council meets. Headquarters also houses the various programme directorates and administrative services, with a staff of almost 350.

Sited at Noordwijk in the Netherlands, the European Space Research and Technology Centre (ESTEC) is the biggest of ESA's establishments. ESTEC is responsible for the technical preparation and management of ESA space projects, the development of which is entrusted to the European space industry. The centre, which employs approximately 1.075 ESA staff, provides technical support to ESA's ongoing automatic satellite and manned space project activities as well as to Europe's space industry through its specialised manpower and laboratory facilities in all major technical space disciplines. It is also the home of ESA's Space science department which provides the essential link between ESA and the scientists whose instruments and experiments are flown on ESA spacecrafts.

The European Space Operations Centre (ESOC) at Darmstadt in Germany ensures the smooth working of spacecraft already in orbit. The tracking of satellites is done from ESOC's control rooms and through its nine ground stations all over the world. The teams at ESOC, numbering around 270, are also involved in project studies for the ground segments of ESA's various programmes.

ESRIN's main task is linked to the agency's earth observation programme. ESRIN is also in charge of all ESA's corporate informatics applications and associated infrastructures. Located in Frascati, Italy, and with an international staff of 140, ESRIN is ESA's window to the user.

The European Astronaut Centre (EAC), at Cologne in Germany, has the task of selecting and training the men and women who in a few years' time will be taking part in missions on board the Columbus laboratory attached to the International Space Station. To prepare for this, they are involved in space flights on the American space shuttle and the Russian space station Mir.

## **2. Technical Information and Documentation Centre (TIDC)**

The Technical Information and Documentation Centre (TIDC) of ESA brings together the ESA documentation centre, which is located at ESTEC, the ESA technical libraries in each establishment - ESTEC, ESOC, ESRIN and the headquarters - and the documentation web service.

TIDC has three main missions:

- To maintain the ESA corporate memory by retaining a copy of all official technical and scientific reference documents issued by or for ESA, as well as to manage ESA final archiving.
- To manage the ESA Information and Documentation Service (ESA IDS) which is ESA's internal online service (Intranet service).
- To collect information and documents to provide ESA staff with documentation they need for their technical or scientific work, and to manage the technical libraries at ESA.

To do this, TIDC provides the following specific services:

- Acquisition of documentation (books, reports, standards, journals etc.) for loan.
- Management of ESA IDS, including the ESA documentary database and the corporate knowledge forums.
- Dissemination of information and documents on ESA IDS on Intranet.
- Technological survey and web watching defined with requester services.
- Selection and provision of documents for the external documentation service (Extranet).
- Assistance to projects for documentation management.
- Assistance to ESA directorates for information and documentation dissemination (Intranet and Extranet).

### **2.1. TIDC Organisation**

TIDC is managed by the head of service who coordinates and directs the activities of the ESA information office, the ESA documentation centre and the ESA technical libraries.

The ESA information office takes care of information management (watching, search and information editing) and the organisation and administration of the ESA IDS (Intranet) with the support of the webmaster and web editor. The ESA information office is also responsible for requirements analysis, ESA IDS promotion and customer training, computer systems monitoring and statistics and users management.

The ESA documentation centre takes care of technical documentation management (monitoring and control of recording procedures), documentary searches, technical and scientific surveys and sorting of project documents for long-term archiving. The ESA documentation centre is also a databases contact point and is responsible for the documentation rules.

The ESA technical libraries are in charge of monitoring the library services (loan management and journals circulation) as well as the acquisition of books and the subscriptions of periodicals. The libraries also represent the ESA documentation centre on each site.

TIDC has outsourced a significant part of its services. TIDC has only five staff members in the key positions. They are head of service (ESTEC), senior documentalist (ESTEC), webmaster (ESTEC), web editor (ESRIN) and librarian (headquarters). At the moment, there are eight people working on-site through a service contract. The contractor is responsible for three workpackages which are described in the following chapter.

## **2.2. The workpackages of the contractor**

The service contract includes three workpackages coming under the contractor's responsibility. ESA monitors the contractor's services through the head of service or his representative duly authorised to make sure that the tasks are performed within the stated times and according to the stated quality criteria. The contractor shall provide the head of service with a brief report of activities on a monthly basis. The contract is for three years and it can be extended to five years.

### **2.2.1 Workpackage 1: Documentation**

The documentation tasks involve indexing documentation and preparation for the uploading in the ESA documentary database managed in the Nova system, then filing the various materials in the documentation centre. This concerns all documents received in the documentation centre.

#### Documentation entry

Entry is performed according to the TIDC rules and procedures. The recording of electronic documents can involve operations like conversion of files or re-building of documents, including scanning and OCR.

#### Documentation filing

After the reference elements are recorded in the ESA documentary database by the documentation group:

- The formal documents from the ESA directorates (including ESA publications) are classified at the documentation centre.
- The external documents are filed in the documentation centre. Only microfiches do not follow the preliminary recording process.

### **2.2.2. Workpackage 2: Project documentation filing**

This task is the following:

- Reception of materials sent for long term storage, sorting and preparation of relevant documents to be stored according to the retention rules.
- Indexing and recording the documentation elements in an pre-defined Excel table in view of uploading in the ESA documentary database.
- Filing the documents to be stored in the project documentation room.

### **2.2.3. Workpackage 3: Libraries**

The contractor fulfills the following requirements in each ESA technical library.

#### Library items filing and journal management

After the reference elements are recorded in the ESA documentary database by the documentation group:

- Books, standards, and conference proceedings are labelled with the shelf code and filed in the library, where everything can be lent out except reference documents.
- ESA publications are almost all kept in each establishment library, as well as certain reports according to the scope of each site library.
- Journals and periodicals are either filed in the library, with or without subsequent circulation, or assigned to a depositor, after recording of the issues in the library management system. The system actually used in the ESA libraries is GAGE from Medial but it is possible for the contractor to propose its own system if it is more convenient and reliable.

#### Loan management

This task consists of reception of clients, sending out reminders to tardy clients, recording the material lent and returned, and reshelving it. This task also includes the circulation of journals, management of circulation and reservation lists, and the follow-up on interlibrary loans. The contractor has to take care of the regular arrival of periodicals in relation with the Kardex held by the journals suppliers, and to report to the head of TIDC every malfunction or delay. At the end of each day, the checkin is performed, desks and tables must be cleared, items waiting for recording ranked

on the shelf behind the desk, and other items put on shelves or on display. Although users generally do their own searches, the contractor's personnel should be able to help the clients searching in the ESA IDS.

#### Yearly journals archiving

This task consists of the annual sorting of journals and conference proceedings to be transferred to the archive area of TIDC, as well as the collection of journal issues to be bound according to the list provided by the head of TIDC.

#### Administration

These are the daily tasks of mailing, typing letters or service memos. The mail can be sorted by the contractor staff for returned items, the rest of the mail must be transferred unopened to the head of service or to the senior documentalist. The desk operators answer phone calls. External calls must be transferred to the senior documentalist or the head of TIDC. They have to inform external clients that all requests must be done officially by fax or letter addressed to the TIDC documentalist. Also, the team leader has to manage the internal library mailbox on Lotus Notes.

#### Information system

The contractor will propose a solution for the exploitation of the ESA IDS. This proposal might cover the aspects of the system exploitation, the security and access control according to the ESA rules, and possibly the hosting of the system on its premises. The solution proposed must take into account the product (Nova) specifications and its environment. In the framework of this contract, it will be possible for ESA to ask support for information maintenance and for specific Web sites developments.

#### Additional tasks

In the framework of its activities, the documentation centre may be called upon to perform additional tasks. These specific tasks will be defined on a case by case basis, and special service orders will be made for them. The contractor will provide a firm fixed price proposal at ESA's request. If the proposal is agreed, a work order will be placed.

### **2.3. Work process management in TIDC**

All work processes inside TIDC have been identified, described and well documented. The average time of each step of the main processes have also been measured. This information is important when preparing the invitation of tenders for the

outsourced workpackages. Well described work processes are also necessary when using automated workflow management tools.

TIDC uses Cap Gemini's WebFlow system to manage the internal work processes. WebFlow is a workflow management system for the Intranet. WebFlow provides a set of tools for managing the individual tasks or a sequence of tasks performed by a team.

For example, when TIDC receives a request for a document via document request form (DRF), which is available on the ESA IDS, it is registered by the WebFlow system. At each step in the process, the concerned persons in TIDC receive a message in their personal WebFlow page to do their part of the task. When the request has been completely processed, by several people in TIDC, WebFlow informs the client by sending him an email explaining the actions taken.

### **3. ESA Information and Documentation Service (ESA IDS)**

The aim of ESA IDS is to provide an enhanced online service on technical and scientific information, official ESA administrative and technical documentation and general in-house information and announcements for all ESA staff members on all aspects of ESA's life. This ESA internal corporate information service is provided by TIDC which is responsible for the organisation and maintenance of the service. The contents of ESA IDS is arranged by subject corresponding to information provided by internal authorised sources.

ESA IDS's main menu contains the following items:

- Corporate management
- Industrial, contractual and technology matters
- Finance
- ESA programmes
- Technical and operational support
- Information systems and informatics
- Human resources and organisation
- Sites information
- CSAC/SAC information
- ESA public relations
- Newsletters
- Documentation centre
- ESA libraries
- Forums

The contents of the last three items in the list above is provided by TIDC, and they are described in detail in the following chapters.

The topic list under the documentation centre consists of the following items:

- ESA administrative documents
- ESA technical documents
- ESA publications
- External documents (technical notes, standards, theses, patents etc.)
- Articles (articles written by ESA staff, ESA press releases, technological notices etc.)
- Libraries (bibliographical records of books and conference proceedings held by ESA libraries - records grouped by topic)
- List of journals and periodicals held by ESA libraries

The topic list under the ESA libraries contains the following items:

- Conferences, symposia and ESA events
- Online catalogues
- Glossaries and online dictionaries
- Newsletters
- External newsletters

Forums are services in ESA IDS where you can exchange information with other staff members on predetermined subjects. Also the information concerning the technological and strategic surveys is placed in the corresponding forum. In the forums the staff members can read the messages. If they want more access rights they have to contact the forum administrator. They can also ask to be notified by an email message of every new message posted to a forum of their interest. The focal point for the forums is the head of TIDC.

### **3.1. ESA documentary database**

ESA IDS is built around the ESA documentary database which contains records of all media types. For example, there are records of books and conference proceedings held in ESA libraries, electronic documents, websites, notes and links to other sources. These information items are called assets and they are stored in the same database regardless of the media type.

ESA IDS and the ESA documentary database are built using Nova knowledge management system and Fulcrum search engine. Nova is designed by Gap Gemini for Intranet applications. Nova has simple and effective tools to maintain database via web interface. Nova has also tools which make it possible to create web pages dynamically from a database.

ESA IDS provides two access methods to all assets in the ESA documentary database. You can either browse or navigate through menus to find an asset that you



are looking for, or you can use the search tool which has separate forms for a basic search and for an advanced search.

#### **4. Other remarks**

- At the moment ESA IDS and the ESA documentary database are only available in the ESA Intranet, but they should be partly accessible on an Extranet later in 1999.
- TIDC has a standing order (IHS Group) for the most important standards that are needed in ESA. The CD-ROM collection contains a reference database and scanned images of full-text standards. At the moment these CD-ROMs are available in a stand-alone computer in the ESTEC library, but later this year some of these databases will be available via ESA IDS.
- TIDC has no site-licenses for online databases for the ESA community. Instead, there is a dedicated computer in the ESTEC library which provides a gateway to several online databases for the clients.
- For the moment, TIDC has not made any subscriptions for electronic journals.

#### **Conclusions**

TIDC has an innovative and elegant way of producing the Intranet service (ESA IDS) dynamically from the ESA documentary database which contains all relevant information regardless of the media type. With advanced tools the maintenance of the database and the Intranet service is efficient and easy. ESA IDS service offers both the possibility to navigate through the ESA documentary database via menus, as well as to make searches using the search engine.

The outsourcing of the services inside TIDC is comprehensive. Only the persons at the key positions are staff members. The contractor takes care of all basic routines. The work processes of TIDC are well described and documented, and they are managed using automated workflow management tools.

My visit to TIDC proved to be very useful, and the findings were somewhat surprising. Because the ESA IDS service is only available in the ESA Intranet it was impossible to get an impression of the service from the Internet. Studies and discussions at TIDC were interesting and informative. I hope that after this first contact people from TIDC and CERN Scientific Information Service could discuss and change information and ideas on a regular basis.