



Research and development  
Series B  
Short-term statistics



# Statistics, telematic networks and EDI bulletin

2 □ 1998

## Beginning of a New Strategy

The 8<sup>th</sup> STNE Working Group meeting took place in Luxembourg on 30 March and 1 April 1998. This meeting was particularly significant as many projects were entering the implementation phase, and thus decisions needed to be taken on future strategy. The chairman, Mr Nanopoulos, Director Eurostat-A, asked Member States to make proposals in writing for new projects, which could then be submitted to the next Statistical Program Committee (SPC) meeting in September 1998.

Mr. Nanopoulos asked Member States to consider carefully about how best to organise and develop the strategy for a new work program. He suggested that the new strategy needed to define realistic, achievable objectives. In particular, innovative, user-oriented projects, which would be attractive to the commercial market, should be favoured.



STNE WG Meeting N° 8

There was a proposal to merge the SERT with STNE meetings in future to prevent duplication of material and attendance.

In order to improve awareness of the Research and Development program and ensure that future proposals are of the highest possible quality, Eurostat proposes to stage and assist in the funding of "Information Days", hosted by National Statistical Institutes. These days will offer an opportunity for Member States to participate and will also identify certain institutions as Centres of Excellence.

### In this issue:

- The New EDI Strategy
- DSIS-IRC Version 2.0 Report
- News from the EDIFLOW Project
- Statistics and Accounting Packages
- TESTA
- DATAMED
- VIROS



STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES

L-2920 Luxembourg — Tél. 4301-1 — Télex COMEUR LU 3423

B-1049 Bruxelles, rue de la Loi 200 — Tél. 299 11 11

## Contact

Directorate A: Statistical Information Systems: research and data analysis: technical cooperation with Phare and Tacis countries.

Jean Viseur

Eurostat-A2

Jean Monnet Building - B3/045, L-2920 Luxembourg

Phone: ..... +352 4301 32931

Fax: ..... +352 4301 32999

Internet: ..... [Secretariat.STNE@eurostat.cec.be](mailto:Secretariat.STNE@eurostat.cec.be)

© European Communities, 1998  
Reproduction is authorized provided the source is acknowledged.

*Printed in Luxembourg*

## The New EDI Strategy

---

Historically Electronic Data Interchange (EDI) was dominated, at least in Europe, by the use of an internationally standardised message syntax - EDIFACT. This was developed as a standard means for exchanging messages of commercial significance.

The growth of the world wide web and the technology which underpins it has made electronic commerce simpler and more reliable. Also, there are now internationally accepted alternatives to the EDIFACT syntax, for exchanging commercial messages.

The new EDI strategy will make use of the following:

- Existing EDIFACT message structures
- More up to date syntax for document interchange
- Object oriented (OO) technology
- Web technology.

Currently the generic EDIFACT messages in use by statisticians are:

- GESMES (Generic Statistical Message)
- CLASET ( a message used for classifications of statistical data)
- RDRMES (a message used for Raw Data collection).

The GESMES message is now ready for implementation and about to go into operation. More real data flows are now encouraged rather than just experimental ones. At the moment the main focus for GESMES data flows appears to be in the sectors of transport, national accounts, insurance and Balance Of Payment. However, Member States are also encouraged to send GESMES data flows from other statistical areas. There will soon be an additional focus on environmental statistics.

The new EDI strategy will ensure that the generic EDIFACT models for statistical messages are still supported but will also examine the use of Extensible Markup Language (XML) and Common Object Request Broker Architecture (CORBA), which is the emerging standard for exchanging remote and local objects over networks.

XML is a subset of Standard Generalised Markup Language (SGML); a "lighter" syntax without the full complexity of SGML. GESMES implemented in SGML is almost completely compatible with XML.

The advantage of using XML is that better and cheaper tools can be developed for authoring and viewing. This will mean that the message can be presented in a more readable way without, for example, using escape codes or angle brackets. Most browsers can recognise XML now and are expected to give greater support to it in the future. In addition, broad XML expertise will be available and it is expected that there will be integration of XML filters (translators) into many major software packages.

There is also an investigation into the use of Object Oriented (OO) technology for statistics. Eurostat is investigating the possibility of working with the Object Management Group (OMG) on the use of CORBA.

The advantages of using CORBA are that it can be used over the Internet, and that the kernel software is already integrated into some web browsers and other products. Using OO technology will result in easier collection and dissemination of information. There is a CORBA data modelling workshop of consultants which statisticians may be interested in joining.

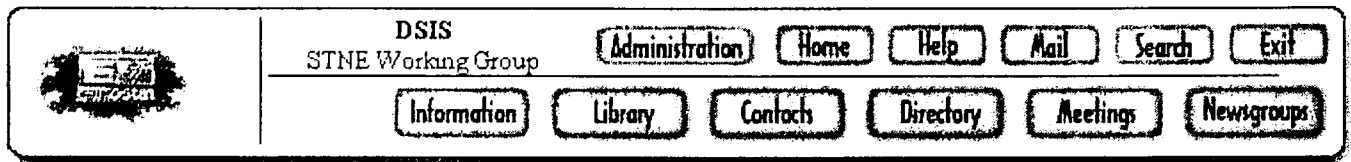
The Working Group involved in the development of the new representations is EEG6. At the next meeting in Rome in September 1998, a vote will be taken to mandate commitment to the XML representation for all three messages. In addition there will be a discussion of CORBA.

Anyone interested in obtaining further details is invited to contact the official in charge of the EDI standardisation unit at Eurostat-A2, Leonhard Maqua at [leonhard.maqua@eurostat.cec.be](mailto:leonhard.maqua@eurostat.cec.be).

Anyone wishing to join the CORBA group should contact Jacqueline Jansen at [j.jansen@wsel.lu](mailto:j.jansen@wsel.lu).

The EDI website is available at:

<http://forum.europa.eu.int/dsis/>



### IG Home

The DSIS Information Resource Centre (DSIS-IRC) provides on-line support to statisticians and others. It is a generic web-based environment for the collection and dissemination of information, funded and developed, initially for Eurostat, under the European Union IDA (Interchange of Data between Administrations) Programme. It is proposed as a service to all those Administrations that need to cooperate, coordinate and work with their counterparts in other Member States. The service provides all the benefits of web technology. It provides a controlled environment accessible only by authorized users and an optional public area accessible by unregistered users.

Version 2.0 of the DSIS-IRC web site is currently under test and is due to be released this month. This will offer a more stable service and some new features:

- The ability to use just one password to access several different Interest Groups
- A "public access" mode which allows certain library documents and information entries to be accessed by unregistered users
- A customizable Graphical User Interface (GUI) which displays on screen the level of service appropriate to each user
- A dissemination status list per library item which shows for each item who has downloaded the document or received it by e-mail
- *Combo* boxes, containing all existing keywords, which are automatically updated after modifications
- The enhanced access control options, that are customizable for every user on a per service and per service item basis.

Members of any Interest Group will benefit from the following:

- Information pages (provided through HTML documents)

- A library containing documents in several formats
- Software that can be downloaded and auto-installed at the user's workstation.
- Newsgroups providing forums for discussion between members of work groups or project partners
- A central user directory of interest group users
- Contact addresses for persons and organisations
- A meetings service for announcing and preparing meetings.

It is planned to use the meetings service to trial a "virtual meeting" within the DSIS-IRC using the newsgroups service. If the idea is successful, then many more "virtual" meetings will take place, in order to save the time and costs of travel.

As a result of discussions at the STNE WG in April, it was decided to set up a DSIS-IRC task force with volunteers from Member States. You are invited to express your interest in joining this task force which will meet for the first time about three months after the initial release of version 2.0. It will discuss issues such as the new web site's functionality and future development plans.

Requests for registration to the STNE Interest Group can be made at:

[Secretariat.STNE@eurostat.cec.be](mailto:Secretariat.STNE@eurostat.cec.be)

The STNE Interest Group is available on the DSIS-IRC web site at:

<http://forum.europa.eu.int/dsis-irc/>

Additional information regarding the version 2.0 can be obtained from:

Mr Myllyaho (Project Leader Eurostat-A2) on +352 4301 35347

[juha.myllyaho@eurostat.cec.be](mailto:juha.myllyaho@eurostat.cec.be)

## Seeing The Whole Picture - Report on the EDIFLOW Project

Member States have been sending statistical data to Eurostat for many years. However, no-one has ever had global visibility of the entire process. There is no clear picture of who is sending and receiving what.

The EDIFLOW project is compiling a survey to show the *format, frequency and size* of data flows sent from Member States to Eurostat, as well as identifying data producers and consumers. The purpose of compiling the inventory is to help identify those flows which would benefit from being sent electronically.

Two approaches have been adopted to complete the picture of the data flows. Firstly, a horizontal and geographical approach is being used, which eventually hopes to cover all the Member States. Secondly, a vertical approach has been adopted, whereby the priority data flows have been identified in all Member States. For example, the foreign trade database, COMEXT, has very high volumes and this is closely followed by flows for the Labour Force Survey (LFS).

Results so far have shown that Member States are sending data flows to Eurostat by a variety of methods, including magnetic tape, facsimile, paper and electronic transmission.

STADIUM is an electronic solution developed by Eurostat which allows the transmission of statistical data in an organised manner. STADIUM software transports files containing statistical data from the data provider to the data consumer. It also adds extra value through acknowledgements, notification messages and backup provision.

If transmissions of more than about one Megabyte are sent frequently, then time and money can be

saved by installing STADIUM software. STADIUM is recommended if:

- periodicity up to quarterly, or
- volume of each individual transfer is over 1 Mb.

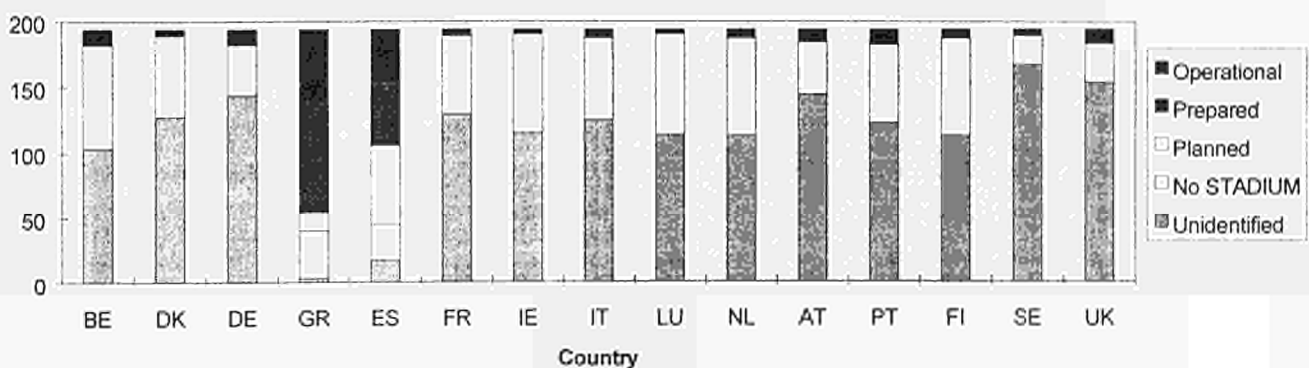
Thus all COMEXT providers are encouraged to send these flows via STADIUM. Also this year more than 50% of LFS users are sending their information via STADIUM.

To ease the burden on Member States of compiling their inventory of data flows, a team at Eurostat is first mapping the flows that they receive. These are then being validated and corrected by the individual country.

In Spain and Greece a full inventory has been completed and as a result major STADIUM installations have taken place. The original consortium of contractors supporting the project is based in Greece and Spain - which partially motivated choosing these two countries to begin the survey. This year, four new countries; Belgium, France, Germany and Luxembourg, are taking part in the survey. In this second stage, and indeed in the third stage, which will cover all Member States, more communication will have to be done remotely between the supporting contractors and the new countries involved.

In order to facilitate communication between Eurostat and administrations, the appointment of a local co-ordinator is recommended. The role of the co-ordinator will be to help defining and organising the STADIUM installation, to circulate information and to communicate with Eurostat. The appointed person needs to be able to understand technical problems that arise from the points of view of both the individual Member State, and of Eurostat.

Current Situation of STADIUM Transmission (data flows)



## **Making the Task Easier - Statistics and Accounting Packages**

In many enterprises vast amounts of trading data are collected electronically for varied purposes, such as, by example, generating VAT returns, making company tax returns, reporting company financial results. As these data are already being collected it makes sense to "tap into" these sources and to extract some of the data for statistical purposes. Why not add a module to an existing accounting software package so that it will also provide a statistical response to the Member State's Competent National Administration (CNA)?

This is exactly what the SERT project has started to do. The project identified accounting software packages in France, Greece and Belgium, and experimented with adding statistical modules.

In France a social enquiry was embedded into the EBP software accounting package. The experiment was successful and now this module is now part of the commercial package.

In Greece a whole set of statistical enquires were embedded into the Kefalaio accounting package which is currently marketed by UNISOFT. The experiment was again successful and it is hoped that later this year, after some detail changes, the software will be permanently incorporated.

In Belgium an external Excel module was added to an existing software package (rather than being embedded into the original software as in the previous two cases).

Before conducting any of these experiments a certain amount of background work and research had to be undertaken. All the following steps were completed before the work began:

- First, a suitable commercial package was identified and then the developers were contacted to see if they were willing to add a statistical module.
- The software package was examined to see if the data collected were in the correct form. If the data are statistically incomplete then it may not be possible to use the software package without modification.
- The specific statistical enquiry was chosen.
- The CNA, or other relevant receiving body, was approached to see if they were willing to accept

the statistical data in electronic form. (This is important because the CNA usually receives data on paper or via facsimile.)

- Finally, users were identified in enterprises who were willing to test the software.

The results of all three experiments are still being analysed. However what they have all done is to raise the awareness of software houses and CNAs. What needs to be done now is to convince software houses that it is commercially viable to incorporate statistical enquiries into accounting packages. And of course enterprises need more exposure to the fact that they can save money and time by using such products.

Further information about SERT projects can be obtained from Uwe Kunzler Eurostat-A2

[uwe.kunzler@eurostat.cec.be](mailto:uwe.kunzler@eurostat.cec.be)



### ***EUROSTAT is to move its offices!***

Eurostat will move to new office premises during August 1998. The official postal address, telephone numbers and fax numbers will remain the same.

## TESTA - a service provider with a difference.

TESTA is a private data network for use by European Administrations. It is based on: X.400, providing continuity from an earlier common approach to network building (the National Server Pilot Project), and; on the Internet technology, so that subscribers can use well known web browsers and email packages. It is not a public network, so European Administrations can be sure that only properly authorised users have access.

TESTA stands for *Trans-European Services for Telematics between Administrations*. The private network was developed by the European Commission and the Member States in 1995, as part of the IDA programme. After issuing a public call for tender the contract was awarded to *Global One*, which is a consortium of *Deutsche Telekom, France Telecom and Sprint*.

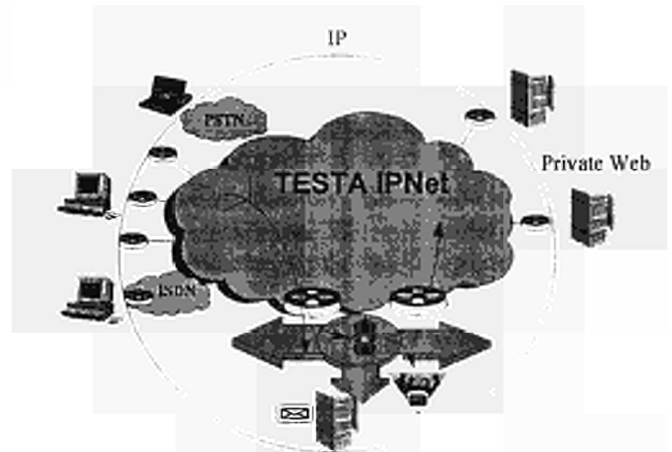
TESTA is a continuation of the NSPP-12 service. NSPP (National Server Pilot Project) was a private X.400 network which provided hardware and software support. The main disadvantage of NSPP was that users were unable to communicate outside NSPP services. TESTA-X.400 is the same. However TESTA IPnet offers more services with the associated protocol. Users of NSPP initially migrated to TESTA-X.400 and now the Commission is exploring the possibility of moving these users onto TESTA-IPnet in order to further increase the number of services offered.

Features of TESTA which offer you major benefits are:

- TESTA is a single global provider, with widespread points of presence - you can gain access wherever you are
- TESTA offers help desk support in each country and this is available in your own language
- TESTA offers a guaranteed level of service.

TESTA supports both IP and X400 protocols. The IP protocol makes it Internet compatible, therefore services such as Interest Groups on the DSIS Information Resource Centre, Eurostat's reference environment, and COMEXT - the foreign trade database - can be accessed with a Web browser.

However it is important to remember that even though TESTA offers services which resemble those on the Internet, it is *not* the public Internet. The user is not in the Internet world, and thus is not exposed to the usual Internet security risks.



Users can choose from several levels of service, the most basic - *Profile 0* - being a single user connecting to TESTA via a dial-up call over the public telephone network (PSTN). Users need only a PC and a modem. Call charges arise only when a connection is made.

The more sophisticated levels of service support multiple users and address differing needs for performance and connectivity. Each needs a router. They are:

- *Profile 1* which has been available since the end of June 1998, uses an ISDN dial-up call over the public switched network. This provides one or two 64kbps switched digital circuits into TESTA. Call charges arise only when a connection is made.
- *Profile 2* which is currently being investigated, is expected to offer the user a cheaper leased connection. This would be an analogue circuit, available all the time, supplemented at times of peak demand by a parallel dialed up ISDN call.
- *Profile 3* which provides user administrations with a digital connection twenty four hours a day. This is the highest performance option. Administrations link into TESTA through a frame relay and use a leased digital circuit offering speeds of 64kbps and greater.

To obtain further information about TESTA services you may contact Didier Hardy at:

didier.hardy@eurostat.cec.be

fax: +352 4301 32999 tel: +352 4301 34993

Alternatively you might like to visit the *Global One* web site at: <http://www.globalone.net/>

## **DATAMED - concern for small enterprises**

---

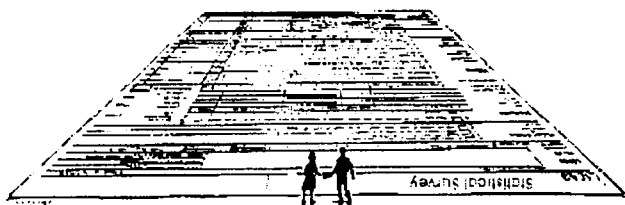
Datamed is a new project which is concerned with the collection of data from very small enterprises in European Mediterranean countries. Very small enterprises are of great importance economically, as the goods and services they provide constitute the foundation of the economies of most European countries.

However, in spite of their importance, capturing statistical information about these enterprises is very difficult.

Using current methodologies it is often hard to distinguish between the family, its budget and savings. Conventionally there has always been a distinction between businesses (producers) and households (consumers). With small enterprises, these two areas overlap, producing a "grey area". A new set of tools is needed which captures information about both areas. In addition, general *strategies* for data collection from household and enterprises, need to be reviewed.

Thus the main objective of Datamed is to analyse existing data capture procedures and propose improvements so that these particular areas of the labour market can be correctly documented. By using an integrated survey and customised and convergent software, it will be possible to capture information about the economic behaviour of such enterprises and also the behaviour of the business person and the household that he/she is a part of. Then, new technologies can be introduced in order to make data capture more precise, timely and cost effective.

Several survey questionnaires, such as the Labour Force Survey and the Structural Enterprise Survey will be integrated, improved and made more flexible. It is also possible that new data assisted capture techniques will be used.



If successful, it is expected that there will be an overall increase of 10 - 25% in the quality of output of statistical data capture and interchange between similar organisations in different countries.

The project has only just begun but intends to continue until August 2000. The National Statistical Institutes involved in the Datamed consortium at present are Greece, Italy and Portugal.

More information can be obtained from Justin Wickens at Eurostat-A4.

Justin.wickens@eurostat.cec.be

## **VIROS - a novel searching concept**

---

VIROS is an innovative project, developed by Eurostat, which aims at coordinating official research activities in statistics and dissemination of their results, with a view to improving their exploitation.

VIROS stands for Virtual Institute for Research in Official Statistics. Any organisation active in the field of statistics can participate. VIROS can be likened to a *shopping centre* or a *mall* whereby every participating organisation is entirely responsible for its own contribution. Eurostat simply acts as a central coordinator. Web engines such as Alta Vista and Hotbot are used to make statistical documents easier to locate and disseminate.

Each participating organisation must ensure that the appropriate metadata is added to each document that it contributes. This includes appropriate keywords, a title and a short description of the article which clearly adds value to the information. In addition, each article must have the VIROS logo added with a link to the VIROS home page.

From a different point of view, VIROS helps users formulate their queries, so that the retrieval of relevant information from over 100 million documents available on the web is facilitated.

As an additional facility, Eurostat's research pages on the Web gives the user access to a link to an automatic translation service called SYSTRAN. This service offers translation from five languages to English. Even though the translation is not perfect, it does give the reader some idea of what the document is about, allowing for a better translation later if necessary.

The VIROS system is experimental at the moment but if Member States are interested in participating there are details on the Web at:

<http://europa.eu.int/en/comm/eurostat/research/viros/>



Dear reader,

We would like to keep our records up to date. If your requirements concerning the STNE Bulletin have changed, please fill in the details below and fax this page to J Viseur at Eurostat-A2.

---

**FAX TO: Jean Viseur, Eurostat-A2**

**FAX NO: +352 4301 32999**

**FAX FROM:**

Name:

Address:

Telephone:

Fax:

E-mail:

***Please tick the relevant boxes:***

Please delete my name from the mailing list of the STNE WG Bulletin

Please supply me with extra copies of the STNE WG Bulletin.

I would like \_\_\_\_\_ extra copies

Please send a copy of the STNE WG Bulletin to the following people:

(continue on separate sheet if necessary)

---

---

---

---

---

---

---

---

---

---

## Statistics, Telematic Networks and EDI Working Group ( STNE WG)

The secretariat of the STNE WG is provided by Eurostat-A2. The contact is Mr Jean Viseur.

The national representatives are:

<b>Member State</b>	<b>Representative</b>	<b>Organisation</b>
Austria	Günther Zettl	Austrian Central Statistical Office
Belgium	Claude Delannoy	Institut National de Statistiques
Denmark	Soren Netterstrom	Danmarks Statistik
Ireland	Margaret McLoughlin	Central Statistics Office
Finland	Kauko Hämäläinen	Statistics Finland
France	Jean-Pierre Granjean	Institut National de la Statistique et des Études Économiques - France
Germany	Elmar Kalthoff	Landesamt für Datenverarbeitung und Statistik NRW
Greece	Giorgios Spanogiannopoulos	National Statistical Service of Greece
Italy	Rossana Balestrino	Istituto Nazionale di Statistica - Italy
Luxembourg	Nico Weydert	Service Central de la Statistique et des Études Économiques - Luxembourg
The Netherlands	Kees-Jan Metz	Central Bureau of Statistics
Norway	Claude Courbat	Statistics Norway
Portugal	Jose Figueiredo	Instituto Nacional de Estatistica
Spain	Miguel Joaquin	Instituto Nacional de Estadistica
Sweden	Erik Malmborg	Statistics Sweden
United Kingdom	Robin Pape	Office of National Statistics

Observers are:

<b>Member State</b>	<b>Representative</b>	<b>Organisation</b>
Hungary	Maria Takacs	Office of National Statistics
Lithuania	Edmundas Zvirblis	Department of National Statistics
Switzerland	Beat Hulliger-Dominguez	Swiss Federal Statistical Office

## Glossary

CLASET.....	An EDI message for the exchange of classifications
CNA .....	Competent National Administration
COMEXT.....	External Trade database
CORBA.....	Common Object Broker Request Architecture
(New ) CRONOS.....	Reference database of data collected from Member States which has been processed by Eurostat
DATAMED.....	Data from Mediterranean Countries
DSIS - IRC.....	Distributed Statistical Information Services / Information Resource Centre
EDI .....	Electronic Data Interchange
EDICOM .....	Electronic Data Interchange for COMmerce - Eurostat initiative
EDIFACT .....	Electronic Data Interchange for Administration, Commerce, and Transport
EEG6 .....	Expert Group 6 for Statistics
E-MAIL.....	Electronic Mail
EMI.....	European Monetary Institute
ERE .....	European Reference Environment
GESMES .....	An EDI message - Generic Statistical Message - for the exchange of any type of multi-dimensional data or chronological series
HTTP .....	Hypertext Transfer Protocol
IDA .....	Interchange of Data between Administrations - a DGIII programme
IP.....	Internet Protocol
ISDN.....	Integrated Services Digital Network
LFS.....	Labour Force Survey
METADATA.....	Information that describes and qualifies data
NSA.....	National Statistical Administration
NSI .....	National Statistical Institute
NSPP.....	National Server Pilot Project
PSTN.....	Public Telephone Network
SERT.....	Statistiques d'Enterprise et Reseaux Telematiques
SGML .....	Standard Generalised Markup Language
SMTP.....	Simple Mail Transfer Protocol
SPC .....	Statistical Programme Committee
STADIUM .....	An electronic data collection and dissemination centre
STATEL .....	An application to application telecommunications protocol
STNE WG .....	Statistics, Telematic Networks, and EDI Working Group - Eurostat
TESTA .....	Trans-European Services for Telematics between Administrations
VAT.....	Value Added Tax
VIROS .....	Virtual Institute for Research in Official Statistics
X400 .....	E-mail protocol
XML.....	Extensible Markup Language

## Key Documents:

DSIS Progress Report to STNE WG Meeting N°8  
 DSIS Metadata Task Force Report

## Dates for Your Diary:

<i>Meeting</i>	<i>Date</i>	<i>Location</i>
Metadata Task Force	29 September 1998	Eurostat Luxembourg
EEG6	Sept 30 - 2 October 1998	Rome
STNE Working Group meeting n°9	26 - 27 October 1998	Brussels
SERT ad-hoc working group	28 October 1998	Brussels







**BELGIQUE/BELGIË**  
**Jean De Lannoy**  
 Avenue du Roi 202/Koningslaan 202  
 B-1190 Bruxelles/Brussel  
 Tél. (32-2) 538 43 08  
 Fax (32-2) 538 08 41  
 E-mail: jean.de.lannoy@infoboard.be  
 URL: <http://www.jean-de-lannoy.be>

**La librairie européenne/De Europese Boekhandel**  
 Rue de la Loi 244/Wetstraat 244  
 B-1040 Bruxelles/Brussel  
 Tél. (32-2) 295 26 39  
 Fax (32-2) 735 08 60  
 E-mail: mail@libeurop.be  
 URL: <http://www.libeurop.be>

**Moniteur belge/Belgisch Staatsblad**  
 Rue de Louvain 40-42/Leuvenseweg 40-42  
 B-1000 Bruxelles/Brussel  
 Tél. (32-2) 552 22 11  
 Fax (32-2) 511 01 84

**DANMARK**  
**J. H. Schultz Information A/S**  
 Herstedvang 10-12  
 DK-2620 Albertslund  
 Tlf. (45) 43 63 23 00  
 Fax (45) 43 63 19 69  
 E-mail: schultz@schultz.dk  
 URL: <http://www.schultz.dk>

**DEUTSCHLAND**  
**Bundesanzeiger Verlag GmbH**  
 Vertriebsabteilung  
 Amsterdamer Straße 192  
 D-50735 Köln  
 Tel. (49-221) 97 66 80  
 Fax (49-221) 97 66 82 78  
 E-Mail: Vertrieb@bundesanzeiger.de  
 URL: <http://www.bundesanzeiger.de>

**ΕΛΛΑΔΑ/GREECE**  
**G. C. Eleftheroudakis SA**  
 International Bookstore  
 Panepistimiou 17  
 GR-10564 Athina  
 Tel. (30-1) 331 41 80/1/2/3/4/5  
 Fax (30-1) 323 98 21  
 E-mail: elebooks@netor.gr

**ESPAÑA**  
**Boletín Oficial del Estado**  
 Trafalgar, 27  
 E-28071 Madrid  
 Tel. (34) 915 38 21 11 (Libros)/  
 913 84 17 15 (Suscripciones)  
 Fax (34) 915 38 21 21 (Libros)/  
 913 84 17 14 (Suscripciones)  
 E-mail: clientes@com.boe.es  
 URL: <http://www.boe.es>

**Mundi Prensa Libros, SA**  
 Castelló, 37  
 E-28001 Madrid  
 Tel. (34) 914 36 37 00  
 Fax (34) 915 75 39 98  
 E-mail: libreria@mundiprensa.es  
 URL: <http://www.mundiprensa.com>

**FRANCE**  
**Journal officiel**  
 Service des publications des CE  
 26, rue Desaix  
 F-75727 Paris Cedex 15  
 Tel. (33) 140 58 77 31  
 Fax (33) 140 58 77 00

**IRELAND**  
**Government Supplies Agency**  
 Publications Section  
 4-5 Harcourt Road  
 Dublin 2  
 Tel. (353-1) 661 31 11  
 Fax (353-1) 475 27 60

**ITALIA**  
**Licosa SpA**  
 Via Duca di Calabria, 1/1  
 Casella postale 552  
 I-50125 Firenze  
 Tel. (39-55) 64 54 15  
 Fax (39-55) 64 12 57  
 E-mail: licosa@ftbcc.it  
 URL: <http://www.ftbcc.it/licosa>

**LUXEMBOURG**  
**Messageries du livre SARL**  
 5, rue Raiffeisen  
 L-2411 Luxembourg  
 Tél. (352) 40 10 20  
 Fax (352) 49 06 61  
 E-mail: mdl@pt.lu  
 URL: <http://www.mdl.lu>

Abonnements:  
**Messageries Paul Kraus**  
 11, rue Christophe Plantin  
 L-2339 Luxembourg  
 Tél. (352) 49 98 88-8  
 Fax (352) 49 98 88-444  
 E-mail: mpk@pt.lu  
 URL: <http://www.mpk.lu>

**NEDERLAND**  
**SDU Servicecentrum Uitgevers**  
 Christoffel Plantijnstraat 2  
 Postbus 20014  
 2500 EA Den Haag  
 Tel. (31-70) 378 98 80  
 Fax (31-70) 378 97 83  
 E-mail: sdu@sdu.nl  
 URL: <http://www.sdu.nl>

**ÖSTERREICH**  
**Manz'sche Verlags- und Universitätsbuchhandlung GmbH**  
 Kohlmarkt 16  
 A-1014 Wien  
 Tel. (43-1) 53 16 11 00  
 Fax (43-1) 53 16 11 67  
 E-Mail: bestellen@manz.co.at  
 URL: <http://www.austria.EU.net/81/manz>

**PORTUGAL**  
**Distribuidora de Livros Bertrand L.d.**  
 Grupo Bertrand, SA  
 Rua das Terras dos Vales, 4-A  
 Apartado 60037  
 P-2700 Amadora  
 Tel. (351-2) 495 90 50  
 Fax (351-2) 496 02 55

**Imprensa Nacional-Casa da Moeda, EP**  
 Rua Marquês Sá da Bandeira, 16-A  
 P-1050 Lisboa Codex  
 Tel. (351-1) 353 03 99  
 Fax (351-1) 353 02 94  
 E-mail: del.incm@mail.telepac.pt  
 URL: <http://www.incm.pt>

**SUOMI/FINLAND**  
**Akateeminen Kirjakauppa/Akademiska Bokhandeln**  
 Keskuskatu 1/Centralgatan 1  
 PL/PB 128  
 FIN-00101 Helsinki/Helsingfors  
 P./tfn (358-9) 121 44 18  
 F./fax (358-9) 121 44 35  
 Sähköposti: akatilaus@stockmann.fi  
 URL: <http://www.akateeminen.com>

**SVERIGE**  
**BTJ AB**  
 Traktorvägen 11  
 S-221 82 Lund  
 Tfn. (46-46) 18 00 00  
 Fax (46-46) 30 79 47  
 E-post: btjeu-pub@btj.se  
 URL: <http://www.btj.se>

**UNITED KINGDOM**  
**The Stationery Office Ltd**  
 International Sales Agency  
 51 Nine Elms Lane  
 London SW8 5DR  
 Tel. (44-171) 873 90 90  
 Fax (44-171) 873 84 63  
 E-mail: ipaenquiries@theso.co.uk  
 URL: <http://www.the-stationery-office.co.uk>

**ÍSLAND**  
**Bokabud Larusar Blöndal**  
 Skólavörðustíg, 2  
 IS-101 Reykjavík  
 Tel. (354) 551 56 50  
 Fax (354) 552 55 60

**NORGE**  
**Swets Norge AS**  
 Østernjoveien 18  
 Boks 65 12 Etterstad  
 N-0606 Oslo  
 Tel. (47-22) 97 45 00  
 Fax (47-22) 97 45 45

**SCHWEIZ/SUISSE/SVIZZERA**  
**Euro Info Center Schweiz**  
 c/o OSEC  
 Stampfenbachstraße 85  
 PF 492  
 CH-8035 Zürich  
 Tel. (41-1) 365 53 15  
 Fax (41-1) 365 54 11  
 E-mail: eics@osec.ch  
 URL: <http://www.osec.ch/eics>

**BÄLGARIJA**  
**Euopress Euromedia Ltd**  
 59, blvd Vitosha  
 BG-1000 Sofia  
 Tel. (359-2) 980 37 66  
 Fax (359-2) 980 42 30  
 E-mail: Milena@mbbox.cit.bg

**ČESKÁ REPUBLIKA**  
**ÚSIS**  
 NIS-prodejna  
 Havelkova 22  
 CZ-130 00 Praha 3  
 Tel. (420-2) 24 23 14 86  
 Fax (420-2) 24 23 11 14  
 E-mail: nkposp@dec.nis.cz  
 URL: <http://www.nis.cz>

**CYPRUS**  
**Cyprus Chamber of Commerce and Industry**  
 PO Box 1455  
 CY-1509 Nicosia  
 Tel. (357-2) 66 95 00  
 Fax (357-2) 66 10 44  
 E-mail: info@ccci.org.cy

**EESTI**  
**Eesti Kaubandus-Tööstuskoda (Estonian Chamber of Commerce and Industry)**  
 Toom-Kooli 17  
 EE-0001 Tallinn  
 Tel. (372) 646 02 44  
 Fax (372) 646 02 45  
 E-mail: einfo@koda.ee  
 URL: <http://www.koda.ee>

**MAGYARORSZÁG**  
**Euro Info Service**  
 Európa Ház  
 Margitsziget  
 PO Box 475  
 H-1396 Budapest 62  
 Tel. (36-1) 350 80 25  
 Fax (36-1) 350 90 32  
 E-mail: euroinfo@mail.mtav.hu  
 URL: <http://www.euroinfo.hu/index.htm>

**MALTA**  
**Miller Distributors Ltd**  
 Malta International Airport  
 PO Box 25  
 Luqa LQA 05  
 Tel. (356) 66 44 88  
 Fax (356) 67 67 99  
 E-mail: gwirth@usa.net

**POLSKA**  
**Ars Polona**  
 Krakowskie Przedmiescie 7  
 Skr. pocztowa 1001  
 PL-00-950 Warszawa  
 Tel. (48-22) 826 12 01  
 Fax (48-22) 826 62 40  
 E-mail: ars\_pol@bevy.hsn.com.pl

**ROMÂNIA**  
**Euromedia**  
 Str. G-ral Berthelot Nr 41  
 RO-70749 Bucuresti  
 Tel. (40-1) 315 44 03  
 Fax (40-1) 315 44 03

**SLOVAKIA**  
**Centrum VTI SR**  
 Nám. Slobody, 19  
 SK-81223 Bratislava  
 Tel. (421-7) 531 83 64  
 Fax (421-7) 531 83 64  
 E-mail: europ@tbl.sltk.stuba.sk  
 URL: <http://www.sltk.stuba.sk>

**SLOVENIA**  
**Gospodarski Vestnik**  
 Dunajska cesta 5  
 SLO-1000 Ljubljana  
 Tel. (386) 611 33 03 54  
 Fax (386) 611 33 91 28  
 E-mail: repansej@gvestnik.si  
 URL: <http://www.gvestnik.si>

**TÜRKIYE**  
**Dünya Infotel AS**  
 100, Yıl Mahallesi 34440  
 TR-80050 Bagcilar-Istanbul  
 Tel. (90-212) 629 46 89  
 Fax (90-212) 629 46 27

**AUSTRALIA**  
**Hunter Publications**  
 PO Box 404  
 3067 Abbotsford, Victoria  
 Tel. (61-3) 94 17 53 61  
 Fax (61-3) 94 19 71 54  
 E-mail: jpdavies@ozemail.com.au

**CANADA**  
**Renouf Publishing Co. Ltd**  
 5369 Chemin Canotek Road Unit 1  
 K1J 9J3 Ottawa, Ontario  
 Tel. (1-613) 745 26 65  
 Fax (1-613) 745 76 60  
 E-mail: order.dept@renoufbooks.com  
 URL: <http://www.renoufbooks.com>

**EGYPT**  
**The Middle East Observer**  
 41 Sherif Street  
 Cairo  
 Tel. (20-2) 393 97 32  
 Fax (20-2) 393 97 32

**HRVATSKA**  
**Mediatrade Ltd**  
 Pavla Hatza 1  
 HR-10000 Zagreb  
 Tel. (385-1) 43 03 92  
 Fax (385-1) 43 03 92

**INDIA**  
**EBIC India**  
 3rd Floor, Y. B. Chavan Centre  
 Gen. J. Bhosale Marg.  
 400 021 Mumbai  
 Tel. (91-22) 282 60 64  
 Fax (91-22) 285 45 64  
 E-mail: ebic@giabsm01.vsnl.net.in  
 URL: <http://www.ebicindia.com>

**ISRAËL**  
**ROY International**  
 PO Box i3056  
 61130 Tel Aviv  
 Tel. (972-3) 546 14 23  
 Fax (972-3) 546 14 42  
 E-mail: royil@netvision.net.il

Sub-agent for the Palestinian Authority:  
**Index Information Services**  
 PO Box 19502  
 Jerusalem  
 Tel. (972-2) 627 16 34  
 Fax (972-2) 627 12 19

**JAPAN**  
**PSI-Japan**  
 Asahi Sanbancho Plaza #206  
 7-1 Sanbancho, Chiyoda-ku  
 Tokyo 102  
 Tel. (81-3) 32 34 69 21  
 Fax (81-3) 32 34 69 15  
 E-mail: books@psi-japan.co.jp  
 URL: <http://www.psi-japan.com>

**MALAYSIA**  
**EBIC Malaysia**  
 Level 7, Wisma Hong Leong  
 18 Jalan Perak  
 50450 Kuala Lumpur  
 Tel. (60-3) 262 62 98  
 Fax (60-3) 262 61 98  
 E-mail: ebic-kl@mol.net.my

**PHILIPPINES**  
**EBIC Philippines**  
 19th Floor, PS Bank Tower  
 Sen. Gil J. Puyat Ave. cor. Tindalo St.  
 Makati City  
 Metro Manila  
 Tel. (63-2) 759 66 80  
 Fax (63-2) 759 66 90  
 E-mail: eccpcom@globe.com.ph  
 URL: <http://www.eccp.com>

**RUSSIA**  
**CCEC**  
 60-Ietiya Oktyabrya Av. 9  
 117312 Moscow  
 Tel. (70-95) 135 52 27  
 Fax (70-95) 135 52 27

**SOUTH AFRICA**  
**Safto**  
 Safto House  
 NO 5 Esterhynz Street  
 PO Box 782 706  
 2146 Sandton  
 Tel. (27-11) 883 37 37  
 Fax (27-11) 883 65 69  
 E-mail: emalstar@ide.co.za  
 URL: <http://www.safto.co.za>

**SOUTH KOREA**  
**Information Centre for Europe (ICE)**  
 204 Woo Sol Parktel  
 395-185 Seogyo Dong, Mapo Ku  
 121-210 Seoul  
 Tel. (82-2) 322 53 03  
 Fax (82-2) 322 53 14  
 E-mail: euroinfo@shinbriro.com

**THAILAND**  
**EBIC Thailand**  
 29 Vaniasa Building, 8th Floor  
 Soi Chidlom  
 Ploenchit  
 10330 Bangkok  
 Tel. (66-2) 655 06 27  
 Fax (66-2) 655 06 28  
 E-mail: ebicbkk@ksc15.th.com  
 URL: <http://www.ebicbkk.org>

**UNITED STATES OF AMERICA**  
**Bernan Associates**  
 4611-F Assembly Drive  
 Lanham MD20706  
 Tel. (1-800) 274 44 47 (toll free telephone)  
 Fax (1-800) 865 34 50 (toll free fax)  
 E-mail: query@bernan.com  
 URL: <http://www.bernan.com>

**ANDERE LANDER/OTHER COUNTRIES/AUTRES PAYS**  
**Bitte wenden Sie sich an ein Büro Ihrer Wahl / Please contact the sales office of your choice / Veuillez vous adresser au bureau de vente de votre choix**



OFFICE FOR OFFICIAL PUBLICATIONS  
OF THE EUROPEAN COMMUNITIES

L-2985 Luxembourg

Catalogue number: CA-CX-98-002-EN-C