

ESTO - EUROPEAN SCIENCE AND TECHNOLOGY OBSERVATORY

The mission of the ESTO network is to broaden and develop the knowledge base of the JRC-IPTS on prospective science & technology (S&T) developments to supply EU decision-makers with processed, original and timely S&T information of potential policy relevance. <http://esto.jrc.es/>

Introduction

The European Science and Technology Observatory, ESTO, is a network that works under the auspices and funding of the Joint Research Centre's (JRC's) Institute for Prospective Technological Studies (IPTS).

The ESTO network's core competence lies in trans-national prospective S&T analysis, in producing novel work and advising in changes in S&T, which are potentially relevant to EU society, economy and policy.

The objective of the network is to detect at an early stage and to analyse scientific or technological breakthroughs, trends and events, develop knowledge and supply original information of potential EU policy importance.

ESTO and JRC-IPTS: a fruitful partnership

Because science and technology is in continuous and rapid evolution, and its knowledge is often fragmented and dispersed, JRC-IPTS (<http://www.jrc.es>) created a European-wide network. The ESTO network can, in fact, supply JRC-IPTS with up-to-date and high quality scientific and technological information drawn from all over the world, facilitated by the network's broad presence and linkages, and therefore enabling to formulate proper analyses and advise to EU policy makers.

In practical terms, through ESTO the Institute has access to the best expertise for an extremely large variety of specialised S&T issues, and makes use of it according to specific needs. This means that, concerning only the ESTO full member organisations, JRC-IPTS has access to a total of 21,000 staff who has different S&T specialisation, of which 4,300 scientists are fully dedicated to prospective S&T analysis. In addition to that, there is the knowledge held by Associated and Affiliated Members, which are joining the network.

In this context, it is important to underline that the JRC-IPTS involvement in the elaboration and guidance of the ESTO tasks secures input (the Institute's staff is specialised in prospective & cross-sectorial S&T analysis and EU policy advice), impartiality, quality and independence both to the process and its output.

Furthermore, such an ESTO and JRC-IPTS partnership create

- a shared understanding of EU policies and their needs for S&T support
- a common and enriched knowledge-base in prospective analysis and policy advice in the enlarged EU area.

As a matter of fact, JRC-IPTS products that have had the most considerable impact on the European Union decision-making process, especially in the last few years, have benefited from the ESTO network's input.

The ESTO customers

The customer is the JRC-IPTS, whose activities are linked to and in support of European policy-makers, in particular within the European Commission and Parliament. ESTO also recognises and addresses the role of a much wider community, such as policy-making circles in the member states and decision-makers in both non-governmental organisations and industry.

Every specific ESTO activity is, in fact, requested by JRC-IPTS according to its work programme and the specific customers' needs. The ESTO output is then integrated in the JRC-IPTS overall work and released to the EU policy-makers.

What are the ESTO Activities?

Currently, ESTO is engaged in the following main activities:

- **Specific Studies** that are targeted at European decision-making processes. These studies usually consist in comparing the situation, practices and/or experiences in various member states. The studies could be of different types:
 - a) *Anticipation/Prospective analysis*, intended to act as a trigger for in-depth studies of European foresight nature, aiming at the identification and description of trends rather than static situations;
 - b) *Direct support of policies in preparation* (ex-ante analysis); and
 - c) *Direct support of policies in action* (ex-post analysis, anticipating future developments).
- **Fast-Track** actions to provide quick responses to specific S&T assessment queries. On the other hand, they can precede or complement the above mentioned Specific Studies.
- **Monitoring Prospective S&T Activities in EU 25+** that serve as a basis of knowledge to proficiently respond to JRC-IPTS' customer' demands.



- **S&T Alert/Early Warning** function linked to a **Research Road Mapping** activity, for the identification of new relevant technological trends and their prospective developments and possible policy implications.
- Support the production of "**The IPTS Report**", a monthly journal on S&T issues that will emerge on the EU policy-makers' agenda. <http://www.jrc.es/pages/f-report.en.html>.
- *Ad hoc meetings, workshops and conferences* on specific and highly policy relevant topics that bring together experts from all over the world.

Typically, some five organisations are involved in an ESTO project. The network implements, on average, 15 specific activities every year. These activities have a duration from few days (e.g. *Fast-Tracks*), to several months (e.g. *Specific Studies* which normally last from 4 to more than 12 months).

Examples of recent ESTO & JRC-IPTS projects:

<i>Title of the project</i>	<i>ESTO Organisations involved</i>	<i>Final JRC- IPTS Customer</i>
Co-existence of Genetically Modified, Conventional and Organic Crops: Agronomic and Economic Aspects	CEST (UK), NIAB (UK), FhG-ISI (D), INRA (F)	European Commission – Directorate General Agriculture
Prospective Study on Food Technology and Food Safety	VDI-FTD (D), DTU (UK), ENEA (I), VITO (B), Atlantis (GR)	European Commission – Directorate General Health and Consumer Protection
Future Bottlenecks in the Information Society	SPRU (UK), EPS (UK), TNO-STB (NL)	European Parliament – Committee on Industry, External Trade, Research and Energy
Impact of Technological and Structural Change on Employment: Prospective analysis 2020	VTT (FI), VDI-FTD (D), SPRU (UK), IPC (EIR), Fond. Rosselli (I), FORMAPER (I), NTUA-ICCS (GR)	European Parliament – Committee on Employment and Social Affairs
Socio-economic Aspects of the Hydrogen Economy Development	ENEA (I)	European Commission – Directorate General Energy and Transport

The ESTO members

ESTO is an open network: membership is continuously reviewed and expanded with a view to match the evolving needs of the JRC-IPTS and to incorporate new competent organisations from both inside and outside of the EU 25+.

Currently there are 20 Full ESTO Members from 14 EU member states, all with experience in the field of scientific and technological prospective analysis and S&T policy advice. These organisations have a formal obligation towards the JRC-IPTS and are the nucleus of a far larger network of an additional 26 Affiliated and Associated Members. Moreover, the network benefits from the potential involvement of all other JRC Institutes (<http://www.jrc.org>) in the activities. It should be pointed out that currently seven organisations from Candidate Countries plus Israel participate in the ESTO network.

List of ESTO Full Members:

- ◆ **ADIT** - Agence pour la Diffusion de l'Information Technologique-F
- ◆ **ARCS** - Austrian Research Center Seibersdorf – AT
- ◆ **Atlantis Consulting S.A.** - GR
- ◆ **CSIC** - Consejo Superior de Investigaciones Científicas – E
- ◆ **DTU** - Technical University of Denmark – DK

- ◆ **ENEA** - Ente per le Nuove Tecnologie, l'Energia e l'Ambiente - Funzione Centrale Studi - I
- ◆ **FhG-ISI** - Fraunhofer Institute for Systems and Innovation Research - D
- ◆ **INETI** - Instituto Nacional de Engenharia e Tecnologia Industrial - P
- ◆ **IPC** - Irish Productivity Centre - EIR
- ◆ **ITAS** - Forschungszentrum Karlsruhe GmbH - D
- ◆ **MERIT** - University of Maastricht - NL
- ◆ **OST** - Observatoire des Sciences et des Techniques - F
- ◆ **PREST** - Victoria University of Manchester - UK
- ◆ **SPRU** - University of Sussex - UK
- ◆ **TNO-STB** - Netherlands Organization for applied scientific research - NL
- ◆ **VDI-FTD** - Future Technologies Division of VDI-TZ - D
- ◆ **VINNOVA** - Swedish Agency of Innovation Systems - Innovation Policy Studies - S
- ◆ **VITO** - Vlaamse Instelling voor Technologisch Onderzoek - B
- ◆ **VTT-TS** - Technical Research Centre of Finland – Technology Studies - FIN
- ◆ **GOPA-Cartermill International** – B (Administrator)

For further information please contact esto-secretary@jrc.es or look at <http://esto.jrc.es/> where electronic versions of full Reports produced by the network can be found.

