

MASTER  
02

**IREN**

Industries de Réseau et Economie Numérique

**DAUPHINE**  
UNIVERSITÉ PARIS

**Master (M2) IREN**

Network Industries and Digital Economy

**X** ÉCOLE  
POLYTECHNIQUE  
UNIVERSITÉ PARIS-SACLAY

**S** UNIVERSITÉ  
PARIS  
SUD

Comprendre le monde,  
construire l'avenir\*



**Supélec**



*A course of excellence in economics and  
management of the digital economy and  
network industries*

Site: <http://masteriren.eu/>

# Master IREN

*Network industries are at the heart of the current economic transformation. They have been opened up to competition which has drastically changed the structure and functioning of these industries. They are also transforming the infrastructures of the economy. The rapid digitalization of the economy, fuelled by advances of information technologies, has led to the emergence of new industrial players and new services. It also changes the design, production, distribution and consumption of goods and services.*

## OBJECTIVES

This program in **Network Industries and Digital Economy** aims to train students in developing a sound understanding of the functioning of network industries and of the digital economy. Acquiring analytical tools and methodological competences will enable students to contribute to research in universities or research institutes or to practice in firms, administrations, regulatory and competition authorities, and consumer or users groups.

The program has two options (research and professional training) and specialization is organized along four tracks:

-  Digital Economics
-  Innovation
-  Competition and regulation
-  Market Design

## ORGANIZATION

This master is an educational partnership between two **Universities** (Paris-Dauphine, Paris-Sud) and three **Grandes Ecoles** (École Polytechnique, Supélec, TELECOM ParisTech).

This diverse partnership has produced one, unique masters programme.

## ELIGIBLE CANDIDATES

- Graduate students with a first year masters degree (M1) in Management, Economics, MASS from engineering schools; students with a scientific M1 from the Institute of Political Studies and School of Business; and 3<sup>rd</sup> year engineering schools project (École Polytechnique TELECOM ParisTech, Supélec).
- Graduate students with a second year master degree (M2), other French or foreign degrees admitted in equivalence of a master.

“ ... moving with the transformation of network industries (telecommunications, electricity, etc.) and the development and adoption of digital technology in the economy and society... ”

# Training



Students benefit from competencies available from the research centres and research professors from partner institutions in the areas of network industries and the digital economy. They also have access to a rich and varied professional environment: research networks, relations with economic actors and institutions, international integration.

Training is in economics and management and covers:

Economics relevant for understanding market dynamics and appropriate regulation of network industries

Corporate strategies and the firms' ability to change their design, production, distribution, and internal organization models

Institutional mechanisms and legal principals impacting the management of firms and the organization of markets

Combined technical and economic dimensions of networks

# Professional perspectives

## TRAINING OBJECTIVES

The master has **three objectives** for education through diversified and interrelated curricula:

To train students to obtain preeminent positions **in industry**. It provides them with the culture, the methodologies and the know-how, promoting direct employability.

To prepare students seeking to join a related PhD program for a career in higher education and research.

To assist students in beginning a PhD program in cooperation with corporations and institutions. Beyond providing an opportunity to write a dissertation in close collaboration with professionals at the heart of the evolution of network industries, these partnerships between universities and industry are recognized as key stepping stones of high-level international executive careers.

## CAREER OPPORTUNITIES

IREN career opportunities consist of six major profiles:

Economic and technical expertise: **consultants in the field of information technology and digital business development** within consultancies and companies developing their digital process.

**Executives in the private or public sector** after a PhD in an industrial context.

**Managers of innovation projects:** including innovative services where analysis of use plays an essential role in international corporations and innovative SMEs.

**Managers of research and development projects:** rethinking R&D organization patterns taking into account issues of standards, interoperability and rapid technological evolution.

Economic and technical expertise: consultants in the field of network industries and their regulation working either for network industries, consulting firms or regulatory authorities.

**Teaching and research** after a PhD in an academic environment.

# Courses

## Common seminars

Industrial organization: M. Bourreau  
Economics and Management of Innovation: J.-M. Dalle, P. David  
Economics of Networks: L. Grzybowski  
Economics of Intellectual Property: E. Brousseau  
Political Economy of Institutions and Regulation: E. Brousseau  
Economics of the Information Society: A. Rallet

Economics of Market Design: J.-M. Glachant, Y. Pérez, V. Rious  
Strategic Management: P.-J. Benghozi  
Competition Policy and Regulation: J. Toledano  
Information Systems and Organization: H. Isaac  
Econometrics I or Econometrics II: N. Soulié, S. Pajak  
Research methodology



### Track: Digital Economy

**Coordinators: E. Brousseau & A. Rallet**  
*Digital Economy Seminar*

- Open Source and community
- Economics of culture and media
- Economics of personal data and privacy
- Electronic commerce and coordination



### Track: Competition and Regulatory issues

**Coordinators: J. Toledano & L. Gille**  
*Regulatory Economics Seminar*

- Postal regulation
- The economics and management of spectrum
- Broadband and ultra broadband regulation
- The regulation of the electricity sector



### Track: Innovation

**Coordinators: P.-J. Benghozi & J.-M. Dalle**  
*Economics and Management of Innovation Seminar*

- Management of innovation in the digital economy
- Management of innovation: ecosystems, innovation and alliances
- Entrepreneurship and start-ups
- Marketing innovation



### Track: Market Design

**Coordinators: Y. Pérez & V. Rious**  
*Market Design of the Energy Sector Seminar*

- Competition and organization of electricity markets
- Competition and organization of telecom markets
- The new competitive mechanisms: auctions and contracts
- Public Private Partnership and public service delegation

# FACULTY

Amaral M., Autorité de Régulation des Activités Ferroviaires  
Baumard Ph., Aix-Marseille Université, Ecole Polytechnique (Chaire IRSN)  
Benghozi P.-J., École Polytechnique  
Bourreau M., TELECOM ParisTech  
Brousseau E., Université Paris-Dauphine  
Bunel A., TELECOM Ecole de Management  
Caussy R., Ecole Polytechnique PREG-CRG  
Chantepie Ph., Ministère de la culture et de la communication  
Chong E., IAE de Paris, Université Panthéon-Sorbonne  
Dalle J.-M., Université Pierre et Marie Curie  
David P., Chaire IRSN, Stanford  
Den Besten M., Groupe Sup de Co Montpellier  
Gille L., TELECOM ParisTech  
Glachant J.-M., Institut Universitaire Européen de Florence  
Grzybowski L., TELECOM ParisTech  
Hoarau Th., ARCEP  
Isaac H., Université Paris-Dauphine  
Janin L., ARCEP  
Le Guel F., Université Paris-Sud  
Materia F., ARCEP  
Moreau F., Université Paris-Nord  
Oisel P., ARCEP  
Pajak S., Université Paris-Sud  
Pérez Y., Université Paris-Sud, Supélec & Institut Universitaire Européen de Florence  
Rallet A., Université Paris-Sud  
Rious V., Microeconomix  
Rochelandet F., Université Sorbonne Nouvelle  
Saguan M., Microeconomix  
Soulié N., Université Paris-Sud  
Toledano J., Supélec  
Tran S., Ecole de Management de Normandie, Université Paris-Dauphine  
Verdier M., Faculté des sciences économiques et sociales de Lille  
Vevrenc Th., Réseau de Transport d'Electricité

# Information



## COURSE STRUCTURE

*Teaching takes place Thursday afternoon, all day Friday and Saturday morning.*

### September 15 – January 15:

10 Fundamental seminars &  
2 Econometrics seminars.

Students must select 6 Fundamental seminars and attend 1 Econometric seminar.

### January 15 – March 31:

4 specialization tracks: *Digital Economy, Innovation, Competition and Regulation, Market Design.*

Students choose a Professional or Research path.

### Internship – from April 1:

Professional internship or research.

## PROGRAMME LANGUAGE

- French
- Some classes will be held in English

## LOCATION

**TELECOM ParisTech**  
46 Rue Barrault  
75013 Paris  
(Métro Ligne 6 - Corvisart)

## ADMISSION

Applications are available from the secretariat of the master:  
[armelle.paris@polytechnique.edu](mailto:armelle.paris@polytechnique.edu)

## CONTACTS

### Course Directors:

P.-J. Benghozi (École Polytechnique),  
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**Website: <http://masteriren.eu/>**

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### Research Partners

ADIS (Paris-Sud) – [www.adislab.net/](http://www.adislab.net/),  
Dauphine Recherche en Management – [www.drmm.dauphine.fr/fr/](http://www.drmm.dauphine.fr/fr/)  
Laboratoire d'Économie et d'Ingénierie des Réseaux (Supélec) – [www.supelec.fr](http://www.supelec.fr),  
Département Sciences Économiques et Sociales (TELECOM ParisTech) – [www.telecom-paristech.fr/recherche/sciences-economiques-sociales/](http://www.telecom-paristech.fr/recherche/sciences-economiques-sociales/),  
PREG-CRG (École Polytechnique) – [www.crg.polytechnique.fr](http://www.crg.polytechnique.fr),  
Chaire Orange Innovation et Régulation des Services Numériques – [www.innovation-regulation.eu](http://www.innovation-regulation.eu)

