

TRANSPORT AND LOGISTICS

2009

Mastering logistics and supply chains is a key challenge for multinational enterprises. As technological innovations and globalization have revolutionized old methods of work, the booming field of logistics is being reinvented, opening substantial new career opportunities. The fields of transport and logistics hinge on the design and management of optimal modes of moving products from their point of manufacture or supply to their points of sale and distribution, often passing through intermediate production points.

Strong and steady growth in the movement of production factors has led to new challenges linked to the environment and natural resources, notably oil and other forms of energy. Efforts to address those problems have given rise to new performance criteria—among them sustainability, speed, and efficiency.

Subfields:

Transport, logistics.

Also see the following related profiles: Tourism, Engineering, Maritime activities and ocean sciences, Computer science, Management.

Sectors of activity :

procurement and scheduling (manufacturing and mass retailing); road, rail, air, and inland water transport

ORGANIZATION OF STUDIES

From the upper secondary level to postsecondary degrees representing 5 or 6 years of study, a wide range of degree programs is available in transport and logistics, with most being professionally oriented. Programs are designed to meet the human-resource needs of manufacturers and other transport users. ITIP (the Institut national des transports internationaux et des ports, national institute of international transport and ports) offers a 2-year postsecondary program for technicians and managers in the sector.

The universities offer graduated sequences of professional credentials, each of which may also be used to enter the workforce at an appropriate level. Examples include the Béthune Institute of Technology at the Université d'Artois, which offers a DUT (Diplôme universitaire de technologie) in quality management, industrial logistics, and organization; and the Business and Sales Institute at the Université de Grenoble 2, which grants a master in information systems management. The Université d'Aix-Marseille 2 confers a master in management, logistics, and strategy.

Some engineering schools also offer master's programs. For example, ENPC (the Ecole Nationale des Ponts et Chaussées, national school of bridges and roads, one of the oldest of France's grandes écoles) admits foreign engineering students on the basis of their results on an annual entrance examination. ENPC offers a second-year option known as VET (for city, environment, and transport). ESTACA allows students to work toward a European master in transport engineering (aeronautic, automotive, naval, or spatial). ISEL (the Institut supérieur d'études logistiques, institute for logistical research), a component of the Université du Havre, is the only school in France that is accredited to deliver the diplôme d'ingénieur in logistics. ISEL will also offer an international master (Global Masters in Logistics) beginning in September 2009, in collaboration with partner schools in the United Kingdom, Korea, and Australia. HEC (Hautes études commerciales) proposes a Mastère spécialisé (specialized master, representing 6 years of postsecondary study) in logistics and international purchasing, while the Ecole de Management de Normandie offers an MSc program in supply chain and logistics management, and Euromed Marseille offers a master in international maritime management.

ISTELI (the Institut supérieur du transport et de la logistique internationale, higher institute of transport and international logistics), PROMOTRANS (an organization that provides training in transport, logistics, and maintenance), and other specialized schools and institutes offer programs requiring from 2 to 5 years of postsecondary study in road transport, merchandise logistics, management, and maritime transport technologies, many featuring international exchange opportunities. Several Mastères spécialisés (specialized master, 6 years of postsecondary study) are offered in partnership with the ESC de Toulouse

RESEARCH THEMES

Supply chain

It is difficult to convey here the many links in these long chains, which have grown longer with globalization. Nevertheless, a few topics may provide an inkling of their complexity.

- Design and management of supply chains
- Rationalization of disparate activities
- Intermodal transport
- Networked organizations
- Integration of technologies

Research in logistics overlaps much broader fields and is not confined to a single economic sector. Ports provide a good example of the interface between the transport chain and the supply chain, through the multiple links that bind actors in these two fields.

Source: Institut Supérieur d'Etudes Logistiques, Université du Havre.

New technologies

E-commerce

Using e-commerce tools, the customers of transport and logistics firms can place orders, initiate and track shipments, and even adjust the pace at which orders move through the transport system.

Vehicle construction

The integration of electronics into truck engines will make them cleaner and more fuel-efficient.

Embedded systems

The term embedded systems represents a wide palette of new technologies. Some are used to process data needed to manage a logistics operation. Others allow for real-time tracking of a vehicle's technical parameters (to optimize fuel efficiency and plot maintenance requirements, for example). Using data streams from onboard computers, logistics specialists can also optimize route management.

Source : <http://www.aft-iftim.com/index.htm>

INTERNATIONAL STANDING

Ports

Marseille (96.5 million tons) and Le Havre (70 million tons) are among the top five European ports (in terms of the gross weight of goods handled in 2006).

Air France-KLM

With 104,000 employees, the Air France-KLM group is the world's leader in international passenger carriage and international freight handling (excluding consolidators). It is also one of the world's leading suppliers of maintenance services

Airports

Paris/Charles-de-Gaulle is Europe's second-largest airport (after London Heathrow) in terms of passengers carried (56.4 million).

Rail: SNCF and RATP

The SYSTRA group recently won a large contract to transport iron ore under extreme conditions on Baffin Island through its subsidiary, CANARAIL (Montréal), which specializes in railway engineering (500 projects in 35 countries).

Websites

- AFT-IFTIM, an association for transportation education and an institute that provides training in site setup and handling techniques
<http://www.aft-iftim.com/>
- Association française pour la logistique (French logistics association)
<http://www.aslog.org/fr/>
- Groupe Promotrans, an association to advance corporate activity and professional training in transport and related activities
<http://www.promotrans.fr/>
- INRETS, Institut national de recherche sur les transports et leur sécurité (national institute for research on transportation and transportation safety)
<http://www.inrets.fr/>
- LCPC, the main laboratory of the national school of bridges and roads
<http://www.lcpc.fr>
- Ministry of Ecology and of Sustainable Land Use and Development,
<http://www.developpement-durable.gouv.fr/>
- Ministry of Transportation
<http://www.transports.equipement.gouv.fr/>
- TLF, Fédération des entreprises de transport et de logistique de France (French federation of transport and logistics companies)
<http://www.e-tlf.com/accueil.htm>

Keywords for internet searches

air – agri-food – aviation – chain – commerce – communication – computer science – consulting – design – development – distribution – e-business – engineering – exchange – economics – enterprise – environment – flow – freight – geography – guidance – helicopter – industry – international – land-use planning – language – law – logistics – management – merchandise – marketing – maritime – mathematics – mechanic – navigation – network – operation – optimization – packaging – port – production – rail – regional development – road – sciences – service – software – supply – sustainable – stock – technology – transport – travel – urban planning – warehouse