

PAPER-MAKING IN TUSCANY

How the sector operates

The paper and cardboard industry is concentrated in the Lucca-Pistoia area, with 540 firms (in 2014) producing, at country-level, 80% of tissue paper and 40% of corrugated board. Next to the core business of paper and board converting – which has recently invested in other countries, near to the outlet markets – the manufacturing pole also provides sector-specific continuous plants, machineries and equipment, ancillary products and services, and control and maintenance activities – which instead focused on the increase of export sales.

The paper sector appears to be relatively less affected by the economic crisis. The recent transformations have led to considerable technological growth, and thus to a rise of the necessary technical expertise in production, marketing and service activities, where the latter include quality control, safety at work and, most of all, environmental management, which today, given the eco-sustainability challenge (reduction of water consumption, co-generation energy production, reuse of waste paper, R&D on raw material replacement) takes up a special role.

The updating of the knowledge and competence of employees and entrepreneurs and the training of new personnel is fundamental to each production stage. The already-existing richness of experience, expertise and know-how should be further enhanced through a business-centred education and training system.

Skill needs: strategic competencies and job profiles

The professional profiles vary depending on the business division, and generally refer to the technical, commercial and administrative-financial departments. Common to all is the advancement of the necessary **technical/specialist competencies** that has taken place in the last decade. The traditional generic labourers have been ideally replaced by machine operators, preferably with a three-year university degree, while the technical experts are today, according to the entrepreneurs, insufficiently prepared. Recruitment is accompanied by long – and costly – in-house training based on coaching practices.

In the area, there are three secondary school institutes (the Industrial Technical Institute of Borgo a Mozzano, specialized in chemistry; The State Technical Institute “Marchi-Forti” of Pescia, specialized in paper technologies; and the Technological Scientific High School of Lucca), providing skill-specific education also through business-school collaborations. However, the schools’ curricula are not well aligned with daily work practices, and students not much attracted by paper-specific modules, so that many firms hire staff trained outside of Tuscany. In what concerns higher education, Pisa University offers a first-level Master in paper and board production, and engineering, chemistry and biology graduates also meet the requirement of paper industry professions.

The main shortcomings registered by firms concern the intermediate positions, especially **plant and machinery operators**, an area requiring the creation of training programs for the transfer of competencies (in **mechanics, electronics, chemistry, biology and computer sciences**), safety training, foreign language learning, company traineeships and expatriate coaching. At any rate, a good opportunity would be to establish staff exchanges between firms and educational institutions, with the training agencies playing a mediating role, and also to convey a more appealing image of work in paper mills through vocational guidance policies addressed to students and their families.

The spreading of transversal competencies – the so-called soft skills – would also be useful to the integration of the young in complex organization environments: for example, interpersonal skills, problem-solving attitudes, work and time organization, and overview of production processes.

A taxonomy of the required professional qualifications

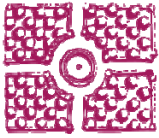
The table below combines data from three sources: the mandatory employment notices from firms to job centres, introduced in 2008; the IRPET survey on the training needs of the Tuscan firms having recorded higher-than-average turnover and employment rates after the crisis; the focus groups with firms belonging to strategic sectors for regional growth. The quantitative and qualitative data collected were used to classify occupations by employment capacity (number of newly employed), and job stability (combination of days worked and contract type).

Overview of the most sought-after and in-demand paper-making jobs*

		Job stability	
		Medium-high	Medium-low
Employment capacity (number of newly employed)	Medium-large	Paper-making plant operators Packaging equipment operators and industrial packaging workers Prepress machine operators Artisan engravers, etchers, silk-screen printers and related workers Off-set and rotary printing operators	Paper and paperboard products machine operators Non-qualified industrial workers and related workers Porters, deliverers and related workers Moulders, blast furnace-, converter- and metal refining-furnace operators (steel industry) Automated and semi-automated machine-tool operators Pulp and paper mill operators Paper and board printing machine operators Car, taxi, van and other vehicle drivers
	Medium-small	Production planning technicians Graphic designers, illustrators and installation artists Painters, sculptors, designers and restorers of cultural goods Continuous plant technicians Artisan mechanics, vehicle maintenance and repair and related workers Application technical experts Bookbinders and post-press operators Mechanical technicians	Handicraft workers in wood and related materials Lifting-truck operators Spinning- and winding-machine operators Civil construction labourers and unskilled workers, and related workers Composite products assemblers Manufacturing technicians

*Key professional qualifications, whatever class they belong, are highlighted in bold.

The analysis of recruitment capacity resulted in two occupation groups (medium-large and medium-small), depending on the number of newly employed (larger/smaller than the median value). The analysis of job stability resulted in two occupation groups (medium-high and medium-low), depending on the value of the composite indicator (higher/lower than the median value).



Territorial localization

The map below shows the location of local units in the sector, highlighting the most dynamic firms in terms of turnover rate and number of workers for the period 2007-2011. This graphical representation allows to appreciate the degree of diffusion/concentration of production activities on a regional basis.

The paper-making firms

