

THE DEVELOPMENT OF HUMAN RESOURCES IN THE EUROPEAN AUTOMOTIVE INDUSTRY

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Abstract:

The concern of this study is to present an overview of the European automotive industry and the changes which have occurred over recent years and to consider the potential developments over the next few years and their implications for jobs and skills. The combined effects of global supply and demand, the continual introduction of new technologies, government regulation, and an ageing workforce will influence business practices and skill demand in the automotive retail, service and repair sector for at least the next decade. The world's vehicle population is forecast to double in the next 15 years to 1.2 billion vehicles with the Asia Pacific Region leading the way with a projected incremental volume growth of 46 percent.

Key words: management, human resource, automotive industry

JEL classification: O115, L662

Main characteristics of the sector and past trends in employment and occupations

The automotive industry accounts for around 1.5% of GDP in the EU and employs just under 2.4 million people, around 6.5% of the total employed in manufacturing or just over 1% of total employed in the EU economy as a whole. If jobs in industries and services supplying the automotive industry are taken into account, employment is increased by 3-4 times. In Germany, the industry is directly responsible for 2.4% of all jobs in the economy and 13% of all jobs in manufacturing. Over the past decade, both the share of value-added and employment in the industry have risen slightly across the EU as a whole, but this disguises marked shifts in the relative importance of the industry in different Member States (Table 1). Between 1995 and 2006, employment in the industry is estimated to have increased by 23% in the EU, though by less in the EU15 countries and much more in the new Member States. In 2006, the latter accounted for some 19% of the total employed in the industry in the EU as opposed to under 14% 11 years earlier. Whereas the German share of employment rose to 39% of the total over these 11 years, that of other EU15 Member States fell from 51% to 41%.

The majority of those employed in the automotive industry in the EU15 countries are manual workers (around 60% in total), most of them employed in skilled or at least semi-skilled jobs, though the relative importance of skilled workers varies across countries. In the new Member States, the figure is closer to 70%, most of them semi-skilled. Most of the others in employment are trained professionals or technicians, many of them engineers (Table 1). The relative number of engineers and as other specialist professionals and technicians increased between 2000 and 2007 throughout the EU, while the number employed as skilled manual workers, especially as mechanics, declined. This decline was especially large in the new Member States, where it was accompanied by a counterpart increase in the number of machine operators and production line workers (i.e. semi-skilled manual workers).

Table 1 Employment in the automotive industry in the EU

	EU15		DE		FR		IT		New MS	
	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
Managers	4,5	5,2	3,5	4,3	2,7	4,8	2,6	2,8	1,8	3,3
Production	2,0	1,8	1,5	1,7	1,2	1,6	2,2	0,4	0,9	2,0
Other	2,5	3,4	2,0	2,7	1,5	3,2	0,5	2,4	1,0	1,3
Professionals	19,9	25,8	23,2	27,9	23,2	30,0	12,7	25,9	9,3	18,8
Engineers	12,3	15,2	13,0	15,7	18,4	22,6	7,6	14,0	3,9	8,5
Specialists IT	1,3	1,6	1,5	1,6	1,3	2,0	1,1	1,4	0,7	2,0
Other professionals	6,3	9,0	8,7	10,6	3,4	5,4	4,1	10,5	4,8	8,3
Business,finance,sales	2,2	3,2	2,5	3,9	1,5	1,7	1,9	2,7	1,1	1,6
Others	4,1	5,8	6,3	6,7	2,0	3,7	2,2	7,9	3,7	6,7
Office workers	8,0	7,4	8,5	8,3	5,5	6,4	12,8	8,8	2,8	5,0
Sales+service workers	0,8	0,8	0,9	1,1	0,4	0,5	1,2	0,7	0,7	0,3
Skilled manual workers	33,8	29,1	41,9	34,4	32,8	30,0	22,1	19,9	18,6	25,4
Metal moulders	7,7	6,6	8,8	6,7	5,5	3,7	7,1	6,3	2,7	8,3
Tool makers	5,2	4,5	6,9	6,0	5,8	4,7	1,3	2,2	8,5	6,7
Mechanics	12,3	9,4	13,1	11,0	15,5	8,8	11,2	6,8	4,0	5,3
Electricians+others	8,5	8,6	13,1	10,7	6,0	12,8	2,6	4,6	3,5	5,1
Semi-skilled workers	26,3	25,2	15,1	16,1	32,9	25,5	43,1	35,5	13,4	44,8
Production line	23,7	21,9	12,8	13,5	29,4	20,3	40,5	34,4	12,0	41,7
Drivers	2,6	3,3	2,2	2,5	3,5	5,3	2,7	1,2	1,4	3,2
Low skilled workers	6,6	6,6	7,0	8,0	2,5	2,8	5,4	6,4	3,3	2,3

Sursa: The evolution of the European automotive industry: Executive summary

In terms of production, European manufacturers² account for around 20 million vehicles each year, or 33% of total world output, less than producers in Asia/Oceania but more than those in North America, so attesting to the competitiveness of Europe's automotive industry. The strength of the European industry has principally been due to its ability to adapt to a series of major changes over the past 20 years: two oil crises, several substantial regulatory changes, technological advance, EU enlargement and global competition (notably from Japan). The adaptations concerned have been associated with major consolidation of OEMs, increased outsourcing, restructuring and relocation both within the EU and to neighbouring countries. Despite its relative strength, there are weaknesses in certain parts of the industry (Table 2):

- because of slow growth of the West European market, manufacturers need to invest substantially in product differentiation, which leads then in turn to expand into international markets in order to achieve larger sales volumes. While specialist manufacturers are well placed to face international challenges, it is more difficult for generalist manufacturers;

- competition from low-cost manufacturers has become a major challenge. Pressure is passed on from OEMs to equipment manufacturers, whose share of the industry's added value has risen over the past 20 years. Over this period, European equipment manufacturers have become world leaders, but faced with increasing requirements and

pressure to contain prices, they are currently in a difficult situation. Since they account for the bulk of jobs in the industry, the difficulties they face have serious implications for employment across the EU, especially in the major car-producing countries.

Table 2 SWOT analysis of the European Automotive Sector

	STRENGTHS	WEAKNESSES
OEM's	Broad range of models and excellence in high-end segment Diesel technology expertise Strong financial situation (compared to US)	Small size of OEM generalists Weak capacity in hybrid technology Relatively weak internationalization, especially R&D
Equipment suppliers	Highly innovative and leadership position in numerous segments Internalization of sales and production	Declining operating income and weak financial structure Threat from US and Japanese investment funds Extreme weakening of the small supplier network
Regional and political aspects	Emerging regional systems (production, school, innovation clusters) Advanced regulatory framework	Many differences in fiscal conditions Non-integrated EU market Regional competition versus complementary networks Regulatory policy of little importance in international trade negotiations Coordinated export policy
Jobs	High level qualification (even in new Member States) High productivity Strong „automotive” culture Social model	Weak culture of change and mobility Ageing population Short supply of skilled labour

Scenarios and implications for employment trends

The response of the European industry will depend on its dual capacity to innovate and to expand into global markets. These are major challenges, notably for generalist and equipment manufacturers.

A pessimistic scenario: “Reduced attractiveness of advanced passenger cars”, demonstrates the risk of failure, which would mean a significant increase in the low-cost vehicle share of the market, leading to major restructuring and relocation of production.

The broad trends evident in the structure of the industry across the EU – in particular, the shift towards the new Member States – and in the composition of occupations, with the growth of engineering and other higher level jobs, are likely to continue over the next 5-10 years. This is likely to be the case under each of the different scenarios, though to varying extents and with differing implications for the scale of future skill requirements. There are unlikely to be new kinds of job emerging as such but existing jobs will tend to change in terms of the skills and competences required and the relative importance attached to these.

The skills in question are likely to mean a continuing shift in employment towards:

- Engineers (skilled in design, the development of driver aids and emission controls);

- Marketing professionals (to develop new European and export markets);
- Business professionals and accountants (to maintain price competitiveness);
- Electrical mechanics (for the increasing use of electronic equipment and devices);
- Managers (to organise increasingly complex operations and to locate activities in the lowest cost places).

An increase in the numbers employed with these skills is likely to be a necessary condition for the optimistic scenario to become a reality. But this requires the industry to be sufficiently attractive to enable companies to recruit people with the relevant skills, which depends in turn on the prospects for growth in the industry.

Table 3 Main recommendations by policy area for the ‘optimistic’ scenario

Policy area	Stakeholders	Exemples of actions
Policy for majore innovation	Car manufactures Suppliers Research centres Universities E.U. authorities Member States	Establish better cooperation between car manufactures and suppliers; develop a European Research Program; provide support for Innovation clusters and for SMEs
Coherent regulatory policy	E.U. authorities Member States	Pursue an integrated approach on regulatory and trade policy; Introduce fiscal incentives harmonised between E.U. countries
Infrastructure policy	E.U. authorities Member States	Develop new intelligent road systems ; Promote public/private partnership; Provide financial support for SMEs
Education, training and social policy	Car manufactures Suppliers Education and training institutions Trade Unions E.U. authorities Member States	Make the sector more attractive to potential recruits ; Involve companies more in training and education programmes and encourage closer relations with schools and universities; Special programmes for older skilled workers; Improve working conditions; Develop social observatories at territorial and sector level; Establish effective social dialogue at company leve land promote European Works Councils and social agreements.

At the same time, jobs for mechanics, tool makers and other skilled workers as well as for less skilled machine operators on production lines are set to decline. This is not the case in the new Member States, to which labour-intensive activities are likely to be increasingly relocated. Despite the reduction in skilled manual jobs, companies could still face recruitment problems because of the need to replace the significant number of workers due to retire in the next few years. This they will need to do in a context of fewer young people entering the labour market. The ability of the industry to meet prospective skill needs, therefore, depends only partly on the ‘output’ of education and training systems across Europe. It depends equally on the success of measures to attract qualified people into the industry, on making effective use of the existing workforce and on ensuring that training is provided to update and extend their skills.

The optimistic scenario is dependent on several policies being adopted (on innovation, regulation, transport infrastructure and human resources).

Given the challenges of the coming years with continuing restructuring combined with the emergence of new skills, two areas of policy are likely to be of particular importance:

- Human resources, including continuing training
- Social dialogue

Policy of human resources – optimistic scenario

- ❖ A primary implication of the optimistic scenario is that there is an important need to make the industry more attractive to potential recruits who have other career options;
- ❖ This applies in particular to university graduates in engineering and other relevant fields of study likely to be deterred by a belief that industry is set to decline in future years;
- ❖ It applies equally to those who have completed vocational training or who are deciding which education or training programme to follow;
- ❖ There is a prior need to ensure that sufficient numbers acquire the skills and competences required by the industry and that education and training systems across the E.U. are equipped to teach these;
- ❖ It is accordingly, important for companies in the industry to be involved in the provision of education and training to have close links with schools, technical colleges and universities and to advise on the content of programmes;
- ❖ A similar need extends to continuing vocational training, which is essential for workers to extend and update their skills as requirements change but which evidence suggests is inadequate in many parts of the industry at present;
- ❖ If growth of the industry is to be achieved, there is equally a need to slow down the rate of exit of older skilled workers given the increasing difficulties of replacing their skills as falling numbers of young people enter the labour market;
- ❖ More consideration could also be given to the possibility of making more productive use of older workers to help train new entrants to the industry so that they are able to pass on their skills and know-how;
- ❖ More consideration needs equally to be given to ways of attracting more women into the industry who as in the past will represent the main source of labour force growth in future years but who remain an under-utilized resource;
- ❖ To attract more women is likely to require changes in work organization to accommodate their need for flexible working arrangements so that they can balance employment and family responsibilities.

Table 4 Human resource policy – implications of the ‘optimistic’ scenario
Source: The evolution of the European automotive industry: Executive summary

Anticipation of likely future changes in the automotive industry is important to limit their impact and to prevent them adversely affecting the attractiveness of the sector to potential recruits. The “European Partnership for anticipation in the automotive industry” is potentially an important step forward which could contribute to anticipation at three levels:

- At the regional level, through regional research centres and competitive clusters;
- At the sector level, through industry monitoring centres;
- At company level, through expanding the role of European Works Councils and social agreements within companies.

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