

SHAPING TALENTS:

New business prospects, competitiveness and improved employability through lifelong learning

BACKGROUND

The metal, engineering and technology-based (MET) industry is a key driver of Europe's economy and skilled and motivated people are pivotal in keeping manufacturing innovative and competitive in a globalised market. All in all, the European manufacturing industry accounts for over 75% of total European exports, 80% of all European R&D investment, and 16% of total EU employment.¹ Within industry, the MET sector represents the largest industry sector in Europe in terms of employment and value added. Among the MET companies are numerous global leaders, including well-known multinational enterprises (MNEs) as well as a great proportion of small and medium-sized enterprises (SMEs). Together these firms form highly efficient and flexible European innovation systems, creating positive horizontal and vertical spillovers and linkages to the entire European economy. Today, it is estimated that every job in the manufacturing industry creates on average one additional job in the service sector.²

Overall, the MET industry greatly contributes to ensuring the sustainable competitiveness of the European economy by developing cutting-edge technologies and customer-oriented solutions to tackle the global challenges of today and tomorrow, such as sustainable energy and climate change. The ability to do this is, to a large extent, dependent on having a skilled and motivated workforce. As companies' skills requirements change, they therefore also need to invest more efficiently in skills, knowledge and competence (SKC) development, adopting a more strategic approach to human resource development to stay competitive. Taken together with economic and demographic trends, this has become a pressing challenge for many companies in the MET industry.

New competence needs

In the face of constant development in innovation and technology, changing consumer demands and global competition, companies have rapidly changing competence needs. Technological development calls for companies and employees to continuously update their capabilities and competence in technology. By the same token, internationalisation and increasing consumer and customer focus has driven the emphasis of competence development initiatives in industry away from concentrating solely on technical competences towards a stronger need to combine technical competences with soft

skills, such as the ability to communicate in foreign languages and operate in different business cultures in order to better understand customers, competitors and suppliers at all levels of the value chain.

Competence development measures can take many different forms, from company-initiated and run structured and professional training programmes, to learning on the job – how to run a new machine, a new task, learning as a trainee – to training upon an employee's own initiative on his/her own time and not funded by the employer, to e-learning, coaching, action learning, and so on. What is clear is that most of it takes place in the workplace due to demands arising from changes in professions and companies.

Overall, the studies on future labour markets all point, to varying degrees, to a shift towards higher skilled jobs (c.f. Cedefop, 2011). This trend can to a certain extent also be seen in the MET industries. For companies and employees alike, this implies that the skills that an individual has when he or she enters the labour market are often not enough to meet the changing needs of companies over a longer period of time.

Furthermore, the EU's effective labour force is predicted to go into steady decline by 2020⁶. This is particularly pressing for the MET industry, where since the mid 1990's until today the proportion of older workers has increased steadily. In the German MET industry, the employment of workers aged 60+ has doubled between 2000 and 2011. As a result, a total of 172,900 employees in the German MET sector are likely to retire in the upcoming years.⁷ In Finland, the size of the working population (15- 65) has since 2010 rapidly begun to decrease, with the Finnish technology industry predicted to lose 6000-7000 employees each year in the following five years, taken out of a total workforce of 290,000 employed people.⁸

High replacement demand due to an ageing workforce with baby boomers starting to reach retirement age implies a severe loss of competence (know-how) in the MET industry, a high risk of labour shortages, as well as a profound need for companies and countries to pursue actions to encourage the labour force to stay longer in work and to improve the productivity both in the public and private sectors. Arguably, the demographic shift is contributing to a change in the perception of older workers, with MET companies accommodating work practices to retain their older, skilled and competent workers.

⁶ European Commission (2008) - *New Skills for New Jobs*

⁷ Bundesagentur für Arbeit (2012) *Beschäftigungsstatistik*

⁸ Statistics Finland

In addition to demographic change, sourcing the right competence is also made more difficult by the so-called 'skills gap' whereby initial vocational education and training (iVET) systems in Europe are currently not fully able to respond to labour market needs, thus creating a gap between the supply and demand of industry-relevant skills. (The skills gap and the need to improve iVET across Europe is the focus of another study that CEEMET carried out in 2009, which called for closer cooperation between industry and iVET to improve the quality, attractiveness and relevance of iVET.)

Across the different education systems in Europe today, there is often a general failure to attract students to study science, technology, engineering and mathematics (STEM) subjects. This is a genuine problem for the MET industry as STEM skills are a precondition for many highly technical MET sector jobs and necessary in order to undertake continuous education and training in this area. Consequently, even companies in countries with very high levels of youth unemployment report significant unfilled vacancies.

In fact, the qualitative and quantitative shortage of skills has for some time now been identified as one of the determining factors hindering economic growth and innovation capacity in the MET industry, not least for small and medium-sized enterprises (SMEs). According to a survey carried out by the TRIOplus program in Finland in 2010, the shortage of skilled workers was seen by the 200 MET company respondents as the most severe hindrance for business growth in the medium term, expressed through, for instance, having to put off planned expansion and being unable to accept new orders.⁹

When difficulties sourcing the right competence become a pervasive problem, such as it is today, this has negative implications upon the already heavily strained economic growth and employment in Europe.

TRAINING AS AN INVESTMENT

Given the challenging environment of the European MET industry, sustaining access to the best talents and continuously creating, updating, and upgrading new skills, knowledge and competences has become central for MET companies in order to maintain their competitiveness. Encouragingly, companies across Europe are taking action to tackle the skills challenge with many firms in the metal, engineering and technology-based sectors putting increased focus on human resources development and training their employees in order to create the competence needed.

The type of training undertaken varies significantly, dependent on country, provider, company and employee. It is also determined by the scope, extent and forms of labour legislation and collective bargaining that in some countries regulate education and training within enterprises, as well as general social partner involvement in workplace learning, and thus varies with national systems of industrial relations.

Nevertheless, according to the results of Eurofound's 5th European Working Conditions Survey, in 2010, training funded by employers reached its highest level in the last 15 years, with 34% of employees participating in training within the 12 months prior to the survey¹⁰. Investment in education and training has become a key strategy to retain a competitive workforce and many of the skills that companies require to remain innovative and competitive will be learnt, updated or improved in the workplace.

A shared responsibility

While companies continue to invest in lifelong learning, it should be underscored that it is very much a shared responsibility between employers, employees and the state. In terms of working life, lifelong learning benefits both the company as well as the employee, and implies that an employee will have to be motivated and committed to invest in her/his professional development throughout his or her professional life. This motivation and commitment rests, in turn, on an understanding that lifelong learning benefits both the company as well as the employee individually. Employees should have access to training, but they also have a responsibility to train and maintain their employability as, following the flexicurity model, we gradually move from job security to employment security.

In terms of workplace learning, the MET sector strongly believes that to be competitive both companies and employees need to invest in continuous training and learning for the competence needed in the company as well as the concerned professions. These investments will indeed contribute to an individuals' employability in general as well. Making it possible to train and capturing the opportunities to study for general skills outside of company specific needs is, however, the responsibility of governments and individuals.

⁸ Statistics Finland

⁹ Federation of Finnish Technology Industries

¹⁰ Eurofound (2010). *5th European working conditions survey*

¹¹ Due to the severe financial and economic climate, this level is predicted to have gone down in 2011.

CHALLENGES RELATED TO TRAINING

What challenges are the MET industry facing with CET and how can they be managed?

Overall, training needs are becoming increasingly diverse, with firms developing tailor-made solutions to respond to their specific skill needs. MET employers are strongly promoting human resources development at all skill levels. Although high-skilled workers still account for the largest proportion of investment in skills development, MET companies are increasingly focusing also on providing opportunities for competence development and career advancement for the lower-skilled workforce, based on company specific skills needs.

Nevertheless, there are some commonly cited obstacles that companies in the MET sector have to manage in terms of continuous education and training.

Shortage of basic skills

A lack of basic skills – both qualitatively and quantitatively – is a problem when it comes to the effective uptake of CET. Significant problems arise when large parts of the future MET workforce acquire their core competences in iVET and these do not correspond to labour market needs. Further, competence in science, technology, engineering and mathematics (STEM)-related subjects is decreasing as the interest for undertaking STEM studies falls in many EU member states¹². Hence, companies have to train employees in a more fundamental manner and are thus having to correct the failings of primary, secondary and tertiary education and training.

Recommendations to national and local actors:

- *Ensure that education and training systems allow for active employer involvement in governance and curriculum development and assessment of students' learning outcomes by, for example, enabling or improving the participation of employers on school governing boards.*
- *Focus on excellence and raise the general level of ambition for iVET and initial practice oriented HE programmes*
- *Establish high-quality, easily accessible guidance for pupils from an early age, involving both schools and industry. This can be done by, for instance, setting up independent career centers, ensuring high quality training (including industry experience) for counselors and teachers, and capitalising on the possibilities offered by the Internet and social media.*

- *Promote a culture of practical learning in primary and lower secondary education to introduce pupils to STEM skills and their potential applications in different professions and VET early on.*
- *Both schools and companies must become better ambassadors for careers in STEM and VET subjects to attract more young people into working in the sector.*

Continuous education and training provision does not always meet company or learner needs

Course content and the way of delivering training have to be considered when assessing the problems that companies face in CET. In many instances, training provided by training centers or public education and training institutions is delivered from the centre's/institution's perspective, with a set catalogue of skills, and not according to the companies' or employees' needs. Considering the competence needs of employees and focusing on training and learning methods is of particular importance regarding those workers who have not trained for a long time or who have negative experiences from traditional education environments. Nevertheless, improving content and delivery does not only imply that training providers have to change the way they work; companies also have to become better at communicating what they want and need. This in turn requires a stronger focus on strategic thinking and business management.

¹² BusinessEurope (2011) *Plugging the skills gap – the clock is ticking*

Recommendations to all actors:

- *In order to better meet company and learner needs in terms of content, delivery, and timing (e.g. training for older workers), education and training providers must become more flexible in their approach to content as well as teaching methods, while companies have to become better at communicating their needs.*
- *This in turn requires supportive framework conditions and policies, to be able to respond to labour market requirements. The best way of ensuring that training meets needs is by increasing the cooperation between education and training providers and the labour market, for instance through governance structures. Essentially, both the quality of the training provided to enterprises and the competences of trainers need to be addressed at all policy-levels that concern skill development in order to be successful*
- *Ensure that the diversity and flexibility of national education systems – and their ability to adapt to changing circumstances - are not jeopardised by EU-level initiatives.*
- *Make continuous education and training competitive. For companies, CET is an investment. Hence, CET that pays for itself is usually CET that responds to market needs.*

Lack of information

CEEMET members have noticed that companies as well as employees, especially in SMEs, are not always aware of what exists in terms of training alternatives or how to access them. In Finland, for example, the fund for professional development is underused by MET employees partly due to lack of worker awareness concerning funding, very little knowledge about individual learning paths, delivery of training as well as motivation to train. Social Partners have an important role to play here, as they are vertically integrated on a company, sectoral, regional, national and European level and can access and transmit information more easily, facilitating effective knowledge

streams between MET companies, employees, training providers and policy makers, supporting access to CET.

Recommendations to Social Partners:

- *Employer organisations and worker representatives, as appropriate, have a greater role to play in improving career guidance and informing both companies and employees about possible training alternatives and how to access them. This is also recognised in the recent European Employment Package, which highlights the importance of pooling resources and focusing on effective partnerships, whereby linking up around similar recruitment and training needs would make “groups of SMEs capable of overcoming their individual inability to attract qualified staff and establish joint human resources policies”.¹³*
- *Increase cooperation with external training providers to raise awareness and provide guidance on financing CET and information on the return on investment (ROI) of different training initiatives*
- *Employer organisations and worker representatives can together be more effective in ensuring that individual learning paths become a generally adopted approach in the provision of continuous education and training.*

Need for more strategic business and competence development and effective tools to assess training needs, efficiency and impact of training

To define a human resources development (HRD) strategy a company needs a business vision and a business development strategy, as SKC development does not exist independently from a company's overall competitiveness. However, companies, and in particular SMEs, often lack sufficient business intelligence and thus have limited capacity and personnel to develop key features of an HRD and training strategy. The issue here is to improve the strategic management capabilities of these

companies. This may include, for instance, support services to develop business strategies and bring the human resources and training strategies to the heart of the business development. This often requires that there is adequate support to assess skills needs at enterprise (and sector) level and to show that well prepared and delivered continuous education and training is an investment and not simply a cost.

In France, UIMM initiated an experimentation to support SMEs in developing their competences' needs and thus their training strategies, not only short- term, but also medium and long-term. Indeed, with its national agreement on the anticipative management of competences and employment (Gestion Prévisionnelle des Emplois et des Compétences), signed with four trade unions in 2010, the metal sector has introduced a new mission for its regional network. In order to raise awareness amongst companies, and especially SMEs, experts belonging UIMM's regional network have been given the task to promote the anticipative approach of skills and jobs in order to help SMEs identify what will be their competences needs in the short and medium term. This action is complemented by several tools which are put at the disposal of companies to support them in their anticipation exercise and in the setting up of their training strategies. One of these tools, called "Human Resources Project", is an IT programme dedicated to help companies in their competences' diagnosis. This experimentation is financed by the sector.

In Finland, the Federation of Finnish Technology Industries introduced the TrioPlus program, which supports the renewal, growth and internationalisation of technology companies, providing managerial and strategic experts, visiting 800 companies and identifying their particular development needs. Help is available for reshaping business strategy, improving board work, mergers and acquisitions, finding partners, or even for developing new e-commerce channels. The program has managed to strengthen strategic cooperation in the value network of companies to overcome labour challenges caused by demand fluctuations. Due to improved cooperation, companies have been able to anticipate their staff needs and adjust production according to others while there also has been a further exchange of competencies among company staff.

Furthermore, companies investing in training, independently of whether they are SMEs or bigger companies, are interested in the impact and efficiency of the training, e.g. improved capability of the employees who participated in the training to carry out their jobs, develop their way of working, take up new challenges or contribute to the process and business development, improved motivation and job satisfaction, reduced sick leave etc. In terms of training, the qualitative perspective is more interesting than the quantitative. Not least, the impact of training has strong implications for employers and employees when it comes to investing and engaging in training. In this context, methods of learning, and how learning takes place, is very important. In order for training to be efficient, evaluation is needed before and after. What does training give an employee (in learning outcomes) and what does it provide the company with? The impact of training often relates to choosing effective assessment tools as well as cooperation between the various actors. Impact puts emphasis on training providers, but also on employers and employees in terms of assessment.

All actors should encourage:

- *Pooling of resources: most countries have established networks of centres of excellence in order to raise SKC levels and the employability of the workforce as well as to provide and exchange innovative training solutions and knowledge of company skill needs between companies. In this context, jointly organised training facilitates the validation and exchange of knowledge and the transfer of skills.*
- *Arrangements whereby big companies organise joint training and learning environments with SMEs, supporting the suppliers in their value chain, which they are dependent on from a day- to-day basis.*
- *Articulation of needs and expectations between stakeholders.*

Lack of culture or motivation for continuous training and investment in learning

Another problem encountered in workplace learning is a lack of motivation or culture for continuous training, both from employee and company. As mentioned above, this is often linked to the difficulty in measuring the impact of training as well as a mismatch between the training on offer (both content and delivery) and the training needed. It is also linked to detachment in the value chain, with the end product often being far away from work tasks. This can be a problem particularly with formal learning, when participants have a clear idea of what they want to learn and for what purposes.

Recommendations:

Companies and social partners:

- *Motivation to train may be strengthened by company strategies that bring the value chain into context. Both employers and employees want value for money or time invested and wants to understand what they are training for. Hence, arrangements whereby big companies organise joint training and learning environments with SMEs, supporting the suppliers in their value chain, would help everyone understand their role in the value chain.*
- *Experience from CEEMET members indicates that the availability of good practice examples as a reference tool greatly changes the perception of training as an investment rather than a cost to employers as companies can see a return on investment (ROI). Employer organisations can improve the CET culture through collecting and disseminating successful examples of CET and the benefits of long-term strategic approach to human resources development, so as to raise general awareness among all companies.*

Companies, social partners and national and EU level policy makers:

- *Business development strategies which link up with HRD strategies not only help companies formulate their needs, but also give employees an understanding of what their next steps could be, increasing the likelihood to train. Companies, social partners, and national and EU level policy makers all have a role to play in creating an environment that supports companies investing in strategic management planning.*
- *Strengthened cooperation between training providers and the labour market to enable training providers to meet the needs of companies. This in turn requires supportive policies at all levels, including the*

European level.

Education and training providers, companies and employees should support:

- *Introduction of innovative forms of learning (such as blended learning) that would meet the needs of learners as well as the companies. New combinations of different training methods, such as e-learning, I-training, distance learning and job rotation as well as a combination of formal, informal and non-formal on-the-job and off-the-job learning have been developed and introduced by successful MET companies based on assessment of their needs, and proven to be highly efficient.*
- *Distance learning, which increases the participation of workers that cannot be physically present and is thus becoming increasingly important as SMEs are internationalising their operations.*
- *On-the-job learning, (as in informal and non-formal learning) which can be inter-departmental or cross-departmental knowledge sharing, or intradepartmental (between the same department) or between companies in a partner network, and is an important alternative to formal learning. It can motivate companies and employees to train, sharing knowledge and broadening the competences of the workforce. Informal and non-formal learning is often supported via job rotation, with the benefit of job enrichment for employees and of broadening the skills and knowledge of the workforce. It further creates internal networks between different departments and levels of management and therefore benefits the flexibility to adapt to global challenges and opportunities and improves business processes*
- *There needs to be a fair distribution of training costs (time and money) between all stakeholders.*

Management of training funds

Funding – or lack of it – is a crucial issue when companies decide on and plan for training, not least when both public and private training budgets are being cut. Funding is available at European, national, regional and sectoral level in many countries, but accessing the funds can be complex and training funds managed by governments or social partners do sometimes not reach small enterprises. In the face of this, many companies simply do a quick cost-benefit analysis with training as the losing option.

For instance, in Spain there are a lot of financing possibilities for training in MET companies, but experience shows that not only is awareness very limited, access to joint training funds means meeting very many conditions and going through extensive bureaucratic procedures. Hence, both access to, and management of, training funds have to be improved. The same problem can be identified in Italy.

Training in an economic downturn

MET companies, when threatened primarily by an unexpected short-term slowdown in demand, often adopt temporary measures to retain the existing workforce in order to facilitate a quick recovery when demand picks up again. Staff retention strategies during short-term periods of low production output are an important tool to retain long-term competitiveness. Direct costs associated with staff turnover include recruitment fees, interview time, reference checking, salary differential and medical testing. It is however, the indirect costs which are unmeasured or not taken into account – lost productivity from disaffected staff, co-workers and supervisors, the vacancy period and time spent by replacement staff on the learning curve, which have a severe impact. This highlights why companies often resist large-scale labour changes during short-term crisis and invest in CET instead. Education and training of the existing staff during these periods further provides firms with an opportunity to upgrade competence levels of the workforce and to become more competitive in the aftermath of the crisis.

Recommendations to EU and national level policy makers as well as social partners and companies:

- *Simplify application procedures and instead improve monitoring and impact assessment. Policy makers should reduce red tape to make funding more accessible and less bureaucratic.*
- *Public employment services need to be more proactive in offering their products and work more closely with companies, increasingly targeting*

resources to smoothing transitions, minimising the unemployment period even in the context of major changes in employment prospects due to restructuring.

- *Tax systems should not create – unintended – disincentives.*
- *Make it a strategic option to train in times of crisis and short-time work.*

FOCUS: SUPPORTING THE COMPETITIVENESS OF SMEs

Recommendations to all stakeholders:

1. Support the formation of external knowledge networks:

- *SMEs need to be market responsive and efficient at the same time. The formation of strong networks between customers and suppliers and a strong knowledge about the current and future needs of these groups is critical to raise efficiency and adaptability of the operations and to create competitive advantages through exploiting potential synergy effects.*
- *The establishment of trust and the exchange of knowledge between network partners create shared benchmarks. In some cases it is even advantageous to create external co-operations in terms of job sharing with network partners, e.g. to anticipate capacity problems in one company, to enhance mutual learning*
- *SME's do not always possess an extensive strategic management base. It is the role of Social Partners and policy makers to provide favourable framework conditions (managerial and strategic) to support SMEs' efforts to improve their business intelligence and innovation capabilities, and thus also be able to set up effective and efficient SKC*

structures.

- *Bringing in outside consultants or mentors to the company to analyse the strategic and managerial needs of the company can be an important factor in improving the competitiveness.*
- *Cooperation between industry and VET as well as practice oriented HE, combining academic education with real work experience (“project learning model”), supports SMEs in widening their managerial expertise and organisation bias, while also supporting the development of future talents, raising awareness of MET sector skills.*
- *Social partners need to share examples of training solutions via user-friendly and high quality guidance tools and provide companies and employees with information about financing possibilities to overcome financial restrictions of SMEs.*

2. Foster non-formal on-the-job training to create a multi-skilled workforce:

- *SMEs face work time restrictions and workload pressures. On the job learning as in non-formal (and informal) learning, which can be inter-departmental/cross-departmental or inter-company knowledge sharing or intra-departmental (between the same departments) is an important alternative to formal learning in order to share knowhow and to broaden the competencies of the workforce.*
- *Informal and non-formal learning is often supported via job rotation, with the benefit of job enrichment for employees and of broadening the skills and knowledge of the workforce. It further creates internal networks between different departments and levels of management and therefore benefits the flexibility to adapt to global challenges and opportunities and improves business processes.*