



Attracting Talents to the Steel Industry

Recommendation Paper

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0. Introduction

The European Steel Technology Platform (ESTEP) brings together all major stakeholders of the European steel industry. ESTEP's ambition is to maintain and reinforce the global leadership of the EU steel industry.

The transformation of the European steel industry is to be led by science, technology and innovation and requires social consensus. To succeed, the industry requires the right people who will drive these changes and ensure their success: the steelworkers of the future.

Taking a forecast from 2015 into account (Veit Echterhoff, Antonius Schröder (2015): Retaining Talents in the European Steel Industry, ESTEP, Brussels, <https://www.estep.eu/assets/Uploads/ESTEP-WG5-Report-TalentSurvey.pdf>), the steel industry workforce is undergoing unprecedented change. The age structure in most European steel-producing companies is such that more than 30% of the workforce will leave the industry in the period 2015-2030. To ensure competitiveness attracting talents to the EU steel industry is vital.

In the following we use the term “talents” in a broad sense, i.e. we will neither reduce the term to a specific EQF level nor age group. Rather, the term describes a group of people with high academic attainment that possesses the necessary knowledge, skills or expertise and to move any organization forward. Likewise, ‘talents’ also describes people who have the ability to swiftly acquire new knowledge, skills or expertise if this is required.

1. Challenges for the EU steel industry

The European steel industry acts in a highly competitive market, ESTEP’s vision for the industry up to 2030 anticipates major changes, many of which will be driven by new scientific and technological developments including digitalization, evolving customer and stakeholder demands and due to the industry’s response to the ambitious European climate goals leading to new processes and new products.

The ambition of the European steel industry is to become the most advanced steel industry in the world. Having already halved energy usage and CO₂ emissions since the 1960s, the self-conception and mission of the industry is to help the EU to reach its Paris Agreement climate change commitments. Depending on the right regulatory framework, the aim is to achieve at least 80% of carbon reduction by

2050. This requires a paradigm shift with regard to the established steel production routes. There is, however, no commercially applicable technology currently available to achieve such deep CO₂ reductions in the steel sector, allowing maintaining the leading position of EU steel industry at sustainable production costs. Promising innovations and demonstration projects aiming to significantly decarbonize steel making are under way. The way forward will also depend on a supportive and sustainable policy framework that helps to balance the requirements for deep CO₂ reductions in the European steel industry with steel trading arrangements.

The mid-to-long-term goal towards achieving carbon neutrality is just one source of pressure for EU steel companies. The last decade was characterized by increasing worldwide steel production capacities that led to growing imports in the EU, which in turn led to overcapacities in EU steel market. Another source of pressure is the fact that key customers of the steel industry, e.g. the EU automotive industry, are forced to transform their products or business models which has knock-on effects for the steel sector. Finally, imported raw materials prices for steelmaking have become more volatile in recent years.

The way forward for EU steel companies is ambiguous: due to the high pressure, there is a strong need to reduce costs to remain competitive. Besides the two significant spheres of activity, “production process transition (costs)” and “EU legislation”, staff costs in the steel industry constitute a significant share of fixed costs. It is becoming obvious that the industry will reduce the number of workplaces further. At the same time, to meet the future challenges without ignoring the demographic challenges facing the steel industry, new employees with adequate skills – new talents – have to be recruited.

2. Development of Workforce Potentials in the EU

While being aware that stakeholder requirements are increasing from customers and general public, the European steel industry has seen its workforce decline by 40.000 employees (from ~370.000 to ~330.000) within the last 10 years.³ (EUROFER (2019), European Steel in Figures 2019, Brussels 2019).

Concurrently, uptake of STEM (Science, Technology, Engineering, Mathematics) subjects has remained at a steady level of 19 graduates per 1000 people aged 20-

29 since 2016 (Eurostat). However, due to decreasing fertility rate in the last decades (currently 1.6 in EU), the age group younger than 45 year will continuously decrease and the share of older people will increase.

The organizational demographics within most of the EU steel companies which have been shaped by successive waves of restructuring over the last 30 years, experts expect an increasing workforce gap in the steel industry caused by the great number of employees who will retire in the coming years (Steel Sector Careers).

Additionally, CEDEFOP projects that employment in STEM -related occupations in the EU will increase by 12.1% by 2025 which is a much higher rate than the projected 3.8% increase for other occupations in the EU. This leads to the conclusion that competition for talents in STEM fields in the EU will intensify in the future.

A shrinking workforce means losing expertise, which forces the European steel industry into more intense talent attraction efforts. Since the war for talents is over – the talents have won – the graduates’ expectations have to be taken into account more than ever. Losing talents to other industries is a serious threat for steel companies and the aforementioned demographic trends in Europe amplify the threat even more. The analysis of those facts and figures reveals several barriers to the attraction (and retention) of talent, but also sheds light on opportunities upon which this recommendation paper will focus.

3. Needs and demands of future talents

Taking both the scarcity of adequately skilled labor and the strong need for new talents in European companies, including steel companies, into account makes it necessary to focus on the expectations and needs of future talents. and to consider how the steel companies in the EU can meet these expectations and needs.

To understand the needs and expectations of new talents, the ESTEP Focus Group “People” and EUROFER have conducted an EU wide survey that generated 268 responses from talents already working within steel companies. The survey was designed to shed light on their values, ambitions and needs (Echterhoff, Schröder (2015)). The results show that talents prefer individually tailored career development, demand modern company cultures and leadership styles that align with their needs and value enhanced support in developing managerial competencies. The survey results suggest that to avoid skill shortages in the future, it is essential to

pro-actively respond to talents' needs and expectations and to develop suitable work-life balance models.

Another project, "Steel Sector Careers" conducted by White Research, RINA and SCOPE with the valuable contribution of ValeuConsulting, LDK, Enrico Gibellieri, Antonius Schröder and Dean Stroud published in 2019, disclosed profound research outcomes concerning the image of steel careers, current skill needs, skills gaps and future skill needs. The project conducted interviews with 2917 steel stakeholders (i.e. 2000 STEM students on the image of the steel industry, 197 steel industry professionals on current and future skill needs) in 65 steel companies or steel related institutions across 28 EU members states. The research found that those without direct work experience in the steel industry have, on average, only little knowledge about the industry. A promising aspect, however, is the fact that a number of respondents have expressed interest in knowing more about it, either through apprenticeships or through visits (Blueprint for sectoral cooperation on skills (2019), <https://op.europa.eu/en/publication-detail/-/publication/ff0f8660-ca07-11e9-992f-01aa75ed71a1>).

4. Obstacles and Success Factors

Looking at the obstacles and success factors for future employee recruitment for the steel industry, it should be differentiated between internal and external factors: some topics can be driven directly by companies; others have a larger, overall societal and political background and thus can only be influenced indirectly.

One of the most important issues in the assessment of success factors and obstacles is the image of the steel industry.

Historically, the steel industry has not a positive image as a polluter of the environment and local communities. Unfiltered emissions were common, but since the enhancement of environmental protection in the 1980s, reality has changed rapidly. Today, the European steel production is much cleaner thanks to state-of-the-art filter methods. Even the product "steel" has nothing to do with the lower quality of earlier decades but has developed into a high-tech product with completely new application possibilities.

In particular, this was achieved by investing heavily in research and development, which has also created a large number of attractive and innovative jobs. Unfortunately, these developments in the steel industry towards high-tech products and

modern employers have not always been sufficiently communicated. Public perception is generally characterized by a mix of an obsolete old image and a lack of knowledge, which acts as an obstacle to hiring new employees.

Another obstacle is the economic development of the steel industry and the associated decrease in the number of employees. Since 2008, the number of direct employees in the EU steel industry decreased from 368.000 to 330.000 employees - a loss of 10% of the total workforce. This has mainly been caused by declining production rates in the EU due to global overproduction. Moreover and unfortunately, industry downturns are more appropriate to catch attention in public media.

With a negative public image and an uncertain economic future, the steel industry in the EU does not look like a prospering and attractive place to work to potential future employees even if they have a personal affinity to steelmaking because a secure job and a good economic outlook are important criteria when choosing an employer.

With these obstacles in mind, it is particularly important to highlight the positive opportunities and chances for a career in the European steel industry, to counter-balance and hopefully change negative public perceptions about the steel industry. Thus, the steel industry needs to step up its efforts in communication with the public and with potential candidates and to send a clear message: The European steel industry is a high-tech employer with state-of-the-art production facilities, strong research and development departments and develops sustainable solutions for its customers. For better and more sustainable products in our future world, steel, due to complete recyclability and versatile properties, is and will remain indispensable.

The European steel industry has a great opportunity to create exciting and innovative jobs and to communicate the upcoming innovative technological developments. The steel sector has much to offer: the production plants are already largely fully automated. At present, significant investments are made to digitize production processes. Digital control, digital tracking and predictive maintenance are just a few examples. The resulting job and development opportunities offer an extremely attractive working environment, especially for IT-graduates, who rarely think of the steel industry as a potential employer.

Another starting point for emphasizing the opportunities in the steel industry is the changeover in the blast furnace to the injection of hydrogen and the associated

production towards carbon-free steel. This offers a clear opportunity to speak directly to STEM field graduates who prefer to work in sustainable “green” companies. It can also contribute to shed the public image of the steel industry as “dirty”. More generally, steel companies need to improve its communication with the target group of potential new talents. That this is possible to overcome negative perceptions is often demonstrated by visits of students and other target group to steel production sites: changes of mindsets and heightened interest in the industry can be observed during such visits and visitors are more likely to leave with a much more positive image of the steel industry.

This direct engagement and communication with STEM talents that centers on the use of the production facilities as innovative showcases, is definitely a promising approach to present the opportunities of steel industry. As an ‘internal’ success factor, the European steel industry can implement this form of talent engagement on its own.

5. Recommendations

Attracting talents to the EU steel industry is vital for the future of the industry. Considering the present analysis, recommendations can be made on different levels. Within companies we see opportunities to turn existing employees into talents through personnel development and to retain existing talents. As the labor market turns more and more into an employee market, in which potential talents are scarce and they can choose their future employers, it is paramount for the steel companies to be attractive employers for future talents. This situation has evoked the concept of employer-value-proposition (EVP). EVP is used for employer branding and is the magnet that attracts job candidates from the labor market.

Company level

Company culture: The big question is whether the company culture fits the needs and aspirations of talents and potential talents. Hence, attention needs to be paid to company culture. Company culture is a generic term that describes the development and status quo of leadership, decision-making, internal processes, relationships between colleagues and groups. It is not easy to obtain an unbiased picture of the existing company culture, although it is crucial to understand contexts and situations. Changing company culture is even more difficult and if it is to be done, changes need to be implemented carefully and sensibly.

Leadership: The available evidence suggests that talents prefer to assume responsibility, like to be visible within the organization, favor to work on projects, and wish to receive constant feedback. To attract and retain talents, the leadership style within a company should accommodate and reflect these aspirations.

Working conditions: A work-life-balance and individual health has become more and more important in recent years. Future oriented forms of work, e.g. mobile work and flexible working time are becoming more and more usual and accepted. Beside transparent compensation and benefits on market level, personnel development-/learning programs and career opportunities are appreciated when they reward individual performance.

Digital skills: Digital skills are integral part of almost all job profiles on the shop floor and the production process of steel is high tech and supported by state-of-the-art technologies that involve big data streams. Beside recruitment strategies for new staff, also up- and reskilling of the existing workforce (e.g. by using the gamification paradigm) should be considered, including identifying talents with a lower formal qualification (non-academics) but high workplace experience.

The regional eco-system approach: Another priority is to re-establish, or reinforce, the attention of steel companies towards local communities. Without being nostalgic, the steel companies should become the employer of choice for local youngsters again. Looking to the growing importance of work-life balances and of the sustainable transport solutions (commuting at near 0 km), living in the proximity of the workplace will be of great importance in the near future. Finally, the concept of "fidelity to the company" and vice versa "fidelity to the workers" should be considered again.

Cooperation with schools/universities: It is promising to build up a network with universities and even schools to have a direct access to future talents. Through direct contact or through contact via social media, it is possible to attract and engage the target group. This contributes to the reduction of prejudices and can raise awareness, especially when the target group participates in company events or visits production sites.

Sponsoring and external communication: It is well known that the decision where to apply for a job is influenced by family, friends and the peer group of job seekers. As the public perception of the steel industry requires improvement, external communication and sponsorships are important channels to attract attention to steel companies as future workplaces. For example, in recent months many EU steel

companies have communicated their approach to and contribution towards carbon neutral steelmaking. This already has a big impact to the image of the steel industry that we have not seen for a long time.

Steel association and organization level

Steel related associations and organizations are important players to support the attractiveness of the steel industry. *Work on a better image:* Steelmaking is on a transformational pathway. Production processes are increasingly decarbonized in accordance with the European climate goals. Furthermore, steel is of infinite recyclability and the basis of various high-tech products such as electric cars and wind turbines that Europe wants to keep producing. Steel associations and organizations are important actors that can play a vital role in improving the public perception of the steel industry.

Addressing policy makers: In year 2019 the European youth is affected by the “fridays for future” movement. It is of utmost importance for associations and organizations to engage European and national policy makers to raise awareness that the steel sector can contribute sustainably and ecologically to the European value chain. Policy makers need insights in order to promote the steel industry as a choice for talents.

Working together and build up networks: Associations therefore need to keep in touch with the European steel companies, R&D organizations and other partners to build up networks. Working together can generate new views and ideas that can help to overcome organizational blindness and inertia. Therefore existing networks like the European Steel Skills Alliance (ESSA) or the Skills Alliance for Industrial Symbiosis in the Process Industry (SPIRE-SAIS) and projects (like the Steel Sector Careers project) can be used as a platform to be extended.

Sponsoring of students for events: Talents need to get in touch not only with the steelmaking process but also with steelmakers and industry representatives. Engineers from steel companies are usually best placed to attest and explain the attractiveness of steel and the steel industry as they are able to fluently recapitulate the high-speed development of process efficiencies over the last decades or to describe a future hydrogen scenario. Thus, associations can serve as platforms of exchange between students and engineers, bringing together those who are passionate with those who are interested. In that context, it could be worth to



sponsor students e.g. by distributing “wild cards” to participate steel events free of charge.