Talent Shortage in Denmark

Key Challenges and Recommendations on How to Address Current and Future Skills Gap

August 2016
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Introduction

*Talent, not capital, will be the key factor linking innovation, competitiveness and growth in the 21st century.* – Karl Schwab, Founder and Executive Chairman of the World Economic Forum

The competition for talent is increasing, and lack of talent is becoming a limiting factor for growth in businesses and nations across the world. National talent strategies and initiatives are essential in order to increase productivity and global competitiveness.

The Confederation of Danish Industry’s (DI) unit DI Global Talent is working to ease access for companies to qualified labour, and strengthen Denmark’s position as an attractive country to live, work and study in. If Danish companies are to grow and compete on a global scale, they will need more highly qualified and skilled labour from abroad.

The Talent Shortage Report is a collection of all relevant findings within the global talent agenda, focusing on Denmark. That is, findings in recent reports and analyses that have been published in the past two years from several private and public organisations. DI Global Talent focuses on highly educated and skilled labour, thus the report will disregard the subject of unskilled labour. The report will serve as a “go-to” guide for the reader to find the latest data and recommendations. The idea is that a data-driven approach is the right way to examine the main barriers for attraction and retention of global talent. The collected findings form a relevant basis for future decision-making and for the creation of a national talent strategy.

The Talent Shortage Report consists of four main parts. Firstly, a brief overview of the current workforce situation worldwide and in Europe, will provide the general framework. Secondly, this section is followed by a description of the current situation in Denmark in regards to skills mismatch and talent shortage. The conclusion from the Skills Gap Report, stating that a majority of Danish companies experience an acute skills gap, is the foundation for a further examination of the situation. Thirdly, the report provides data from talent shortages in sectors of Engineering, Information Communication Technology and Life Sciences. Finally, by gathering all the main findings within the area of global talent, the report will summarize key challenges and recommendations on how to address the current and future skills gap, with particular emphasis on the need for foreign qualified labour.
A Global Battle for Talent

The Fourth Industrial Revolution: 5 Million Jobs to be lost by 2020

We are currently in the midst of the Fourth Industrial Revolution. The global labour market is facing the disruptive forces of technology. New ground-breaking technology, such as industry robots, 3D-printing and artificial intelligence, will substitute regular jobs in all industries. The report Future of Jobs by World Economic Forum from 2016 predicts that 5 million jobs will be lost by 2020. There will be a particular decline in the administrative and manufacturing job sectors. At the same time, by opening up new markets, the revolution will create new jobs requiring different types of skills. Especially computer and mathematical skills and architecture and engineering capabilities are in high demand. The change in labour demand will add pressure to an increasing skills mismatch, a challenge that requires preventive initiatives from governments and businesses.¹

In January 2016, the World Economic Forum gathered government officials and business leaders at their Annual Meeting in Davos, to discuss the greatest challenges of the Fourth Industrial Revolution. Founder and Executive Chairman, Karl Schwab, argued that in the future, talent, more than capital, will be the critical factor of production. Given the rapid pace of the revolution, legislators and regulators must adopt a more agile approach to change in order for the society to evolve.² In this context, talent strategies have to be rethought. INSEAD’s Global Talent Competitiveness Index 2015-16 points out that countries focusing on talent development tend to achieve better economic results.³

The Global Workforce Crisis of 2030

The world is a battlefield of countries fighting for their share of a continuously shrinking talent pool. Senior Partner and Managing Director at Boston Consulting Group (BCG) in Düsseldorf, Rainer Strack, predicts that by 2030 we will experience a global workforce crisis in most of the largest economies, representing 70% of the world’s GDP. Birth rates are declining and the size of the potential working-age population is shrinking. Most of the world’s largest economies will face a major talent shortage by 2030, as labour demand more than exceeds labour supply.⁴

The following table from the BCG report The Global Workforce Crisis: $10 Trillion at Risk from 2014 shows the predicted labour shortages and surpluses worldwide. The report argues that the economic cost of the predicted workforce imbalance is $10 trillion, corresponding to 10% of the world’s total GDP. In Germany alone, the predicted workforce gap will be 8 million people.⁵

¹ The Future of Jobs, World Economic Forum, January 2016
² Karl Schwab, Foreign Affairs, 12 December 2015: The Fourth Industrial Revolution – what it means, how to respond
³ The Global Competitiveness Index 2015-16, INSEAD, January 2016
⁴ Rainer Strack at TEDxBCG, December 2014: The workforce crisis of 2030 – and how to start solving it now
⁵ The Global Workforce Crisis: $10 Trillion at Risk, R. Strack, J. Baier, M. Marchingo and S. Sharda, BCG Perspectives, July 2014
Besides an overall labour shortage, the world faces a major skills mismatch in the future, which leads to challenges in terms of education, qualification and upskilling for companies and governments. A BCG-analysis showed that the global skills mismatch includes a shortage of particularly high-skilled labour and a partial surplus of low-skilled workers. According to Strack, migration is one key measure to close the increasing workforce gaps in the short run.6

In 2014, BCG and The Network (co-authored by Strack) conducted the research Decoding Global Talent on global mobility, collecting 200,000 survey responses from 189 nationalities. The survey showed a diverse global workforce with a high level of willingness to work abroad and various levels of attractiveness in different countries.

62% of the job-seeking participants were willing to work in another country. The proportion of people willing to work abroad was especially high in countries that are still developing economically or are politically unstable. Among the top reasons for considering a foreign work assignment were to broaden personal experience, acquire professional experience and to get better career opportunities. Better education and health care systems are among the top reasons for talents coming from underdeveloped countries.

The United States (42%) is ranked as the most appealing country to foreign workers, followed by the United Kingdom (37%) and Canada (35%). Sweden (23%) is ranked ten as the only Scandinavian country among the top ten most appealing countries.

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6 Rainer Strack at TEDxBCG, December 2014: The workforce crisis of 2030 – and how to start solving it now
Figure 2: The appeal of foreign destinations

The Decoding Global Talent-report points out that economies need to build attractive cities, strengthen educational systems and ensure adequate health systems in order to compete as international talent magnets. For companies, soft factors such as motivation and appreciation are becoming increasingly important attraction initiatives. 7

The Expat Insider Survey 2015 by InterNations examines why people relocate. Denmark is ranked 39 among the preferred destinations for expats, based on factors such as job opportunities, salary, quality of life and safety. Expats are generally satisfied with the work-life-balance and childcare opportunities in Scandinavian countries. However, regarding the process of settling in Denmark, 40% of the expats report that it is difficult to find friends. 8

The Talent Shortage Survey 2015 by ManpowerGroup examines 41,700 employers in 42 different countries (note: Denmark is not included). The survey identifies the proportion of employers that experience difficulties filling positions. In 2015, the global average percentage of employers reporting talent shortages peaked at 38%. The graph below shows the percentages worldwide. The survey revealed a global shortage of especially skilled Trade Workers, Sales Representatives, Engineers and Technicians. Among the key reasons for unfilled positions were lack of available applicants, lack of technical competencies, lack of experience and lack of workplace competencies. Strikingly, more than 1 in 5 employers in the survey were not pursuing any strategies to address talent shortages. 9

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7 Decoding Global Talent, BCG and The Network, October 2014
8 The world through expat eyes, Expat Insider 2015, InterNations Survey, August 2015
9 Talent Shortage Survey, ManpowerGroup, 2015
Figure 3: The percentage of employers having difficulties filling jobs in countries worldwide

The Danish Competitiveness Paradox

Denmark generally ranks high in renowned global talent competitiveness studies. In the Global Talent Competitiveness Index 2015-16 by INSEAD, Denmark is ranked 5 out of 109 countries as the highest ranked Scandinavian country. The fifth place is an improvement from the previous year’s ranking of eight. According to the Global Talent Competitiveness Index 2015-16, Denmark shows an excellent performance on its ability to enable and grow talent. Particularly the areas of formal education, access to growth opportunities, market landscape and business-labour landscape received high scores. The report points out the Danish workplace approach, with first place rankings within labour market flexibility, delegation of authority and freedom of voice as key to growth.

The high ranking confirms that Denmark has a solid platform, but the report also reveals unexploited potential. While Denmark enables and grows talent, this does not translate into an equally strong ability to attract and retain talent. Denmark offers an attractive and world-class business landscape, along with a unique open work culture. However, the core attraction and retention of both foreign businesses and people lag behind. Within the field of attracting talent, the external openness lags
behind with a total ranking of 27 compared to *internal openness*’ ranking of 3. The external openness includes low scores for FDI and technology transfer, brain gain/drain and migrant stock. In regards to retention of talents, one of the biggest barriers is the taxation system, for which Denmark ranked 98th out of the 109 countries ranked. High scores for an attractive regulatory landscape appear pointless if foreign qualified people are reluctant to stay due to one of the highest income taxes in the world.

According to INSEAD’s index, Denmark successfully enables talent in various ways. However, *cluster development* only ranked 30. While companies require more specialized skills, top talents tend to look for career destinations offering an interesting environment for knowledge exchange within their specific field of expertise. Thus, Denmark needs to focus on developing attractive clusters. 10

The *IMD Competitiveness Index 2016* ranked Denmark 6 in overall competitiveness, out of 61 countries. Since a ranking as no. 13 in 2012, Denmark’s ranking has steadily increased. The index ranked Denmark based on four overall factors: Economic performance (22nd), Government efficiency (8th), Business efficiency (6th) and Infrastructure (2nd). The second-ranking in infrastructure includes high scores for *education, health and environment*. The business environment receives high marks for *management practices* and *societal framework*. Fiscal policy is ranked 42nd, supporting the fact that taxation is a barrier for Denmark’s global competitiveness. Key challenges for Denmark in 2016 include securing better access to skilled labour, and reducing taxation on companies and labour to increase investments and productivity. 11

Denmark is ranked second place in the *IMD World Talent Report 2015*. The yearly report assesses 61 countries worldwide based on three factors: Investment and Development, Appeal, and Readiness.

The area of investment and development continues the past four years’ first-ranking. This includes *employee training* being a high priority in companies and top ranking of *total public expenditure on education* as a percentage of GDP. However, some areas within appeal and readiness lag behind. Particularly the *costs of living* and the *effective personal income tax rate* receive some of the lowest rankings. Factors such as low *labour force growth* and low *PISA educational assessment* of 15 year olds, reduces the overall ranking of Denmark’s readiness. The report points out that *attracting and retaining talents* is a priority in Danish companies, and the remuneration level receives a good score. Furthermore, the Danish *worker motivation* and *quality of life* are high. Companies’ willingness towards talents leaves a solid foundation for improvement of Denmark’s appeal. 12

The IMD talent report highlights the paradox that while Danish companies consider talent attraction a top priority, foreign highly skilled people are not correspondingly attracted to the Danish business environment.

Despite solid top rankings for global talent competitiveness, Danish companies find it increasingly difficult to find the right talents. Both the IMD and INSEAD reports infer that Denmark offers an appealing culture, society and business landscape. The findings create a basis of great opportunities

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10 *The Global Competitiveness Index 2015-16*, INSEAD, January 2016
11 *IMD World Competitiveness Ranking 2016*, IMD World Competitiveness Center, May 2016
12 *IMD World Talent Report 2015*, IMD World Competitiveness Center, November 2015
for future progress in the field of attracting global talent. However, there is room for improvement in regards to tangible factors such as taxation, overall costs of living and external openness. Denmark needs to work on both its structural weaknesses and societal challenges to leverage its full potential. A dedicated effort across political parties, academia and businesses is required in order for Denmark to position itself as a preferred career destination for international talents.

The Acute Skills Gap in Denmark

The report Transforming the Next Wave of Success by BCG from 2014 predicts that Denmark will need 430,000 workers by 2030 if the recent trends continue. The pattern is the same across the Nordics; major workforce gaps. The countries’ attractiveness prevents them from securing talent and there is a lack of top-level educational institutions. According to BCG, the workforce gaps can be managed by increasing labour participation, employment or immigration. The Nordics are described as being among the most digitalized countries in the world, but the countries can learn from Canada and Switzerland when it comes to attracting talent.13

A majority of Danish companies experience an acute skills gap and are increasingly dependent on skilled foreign labour. Attracting and retaining the right talent is one of the core challenges facing Danish companies today and in the future. The Skills Gap Report from 2016 is a study of the skills gap among Børsen’s Top 1000 Danish companies (measured in terms of revenue). The report concludes that the majority of Danish companies experienced an acute skills gap in the last 12 months.

Figure 4: The experienced acute skills gap in Danish companies

On the Danish labour market, the greatest shortage exists within the segment of scientists and engineers, followed by IT and IT-related workers and skilled production workers. Regardless of the

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13 Nordic agenda - Transforming the next wave of success, BCG, November 2014
workforce segment, the more specialized a position is, the harder it is to find the right employee. Companies often search for employees with combined skills. In particular, the combination of technology knowledge and managerial capabilities is in high demand.

Figure 5: Shortage of qualified employees grouped in workforce segments

38% of the companies in the Skills Gap Report have experienced a negative impact on performance due to lack of qualified employees. In order to mitigate the negative impact of the skills gap, companies rely on a variety of solutions: 82% of the companies agree that a focus on retention and development of talent is one way to bridge the skills gap. Furthermore, companies indicate that enhanced collaboration with educational institutions (50%) and a focus on recruiting younger talents (43%) are also among the solutions to fill open positions.

The Skills Gap Report suggests launching an online tool offering a continuous calculation of the skills gap, which would allow users to match and predict demand and supply for a particular job in a particular region of Denmark. Three steps are necessary in the process: Identification of the supply of human capital, identification of the demand for human capital, and a combination of supply and demand in order to calculate the skills gap in a job cluster of the user’s choice, at any given time. However, the building and maintenance of such platform is resource-intensive.

The Skills Gap Report does not provide a full picture of the skills gap experienced by Danish companies, as the report only includes data collected from 159 companies. Yet, the conclusions give an acceptable impression of the overall skills gap situation among the biggest companies in Denmark.

An Increasing Number of Companies Experience Unsuccessful Recruiting

In 2015, DI conducted an extensive survey of the business climate in 7,100 companies spread across 96 of the 98 Danish municipalities. The survey is a data-filled tool for politicians, officials and

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companies, in efforts to create the best possible conditions for doing business in all the local areas. The **Local Business Climate** survey showed that 30% of the companies experienced unsuccessful recruiting in 2015. The lack of qualified labour was greatest in Bornholm, Sønderborg, Frederikshavn and Hørsholm. The number of unfilled positions peaked in the construction, public administration, and information and technology industries. Most of the companies in the construction industry experienced unsuccessful recruiting of skilled workers. The information and technology industries lagged highly educated candidates.\(^\text{15}\)

![Map of Denmark showing recruitment rates](image)

**Figure 6:** The percentages of Danish companies which experienced unsuccessful recruiting in 2015

The Danish Agency for Labour Market and Recruitment publishes a **Recruitment Analysis** semi-annually. The analysis evaluates the present recruitment situation in the Danish labour market, collecting data from approximately 13,000 companies. The report from spring 2016 revealed that Danish companies experienced 15,600 unfilled positions (out of 700-800,000 yearly positions), a number that has only increased since 2012. However, the amount is still low compared to 58,300 unfilled positions in the spring 2007. 29% of the companies experienced a need for recruiting new employees in the spring 2016, of which around 20% experienced unfilled positions to some degree. Four out of ten felt that they could have changed the recruitment process.

Looking at it geographically, companies located on Zealand experienced the largest recruitment issue, Northern Jutland and Funen experienced the smallest amount of unfilled positions. The positions hardest to fill were within the sectors of construction, IT, hotels and restaurants. In particular, the analysis shows shortages of electricians, carpenters, chefs, programmers and system developers.\(^\text{16}\)

\(^{15}\) *Mangel på medarbejdere i hele landet*, DI Indsigt, September 2015

\(^{16}\) *Rekruttering på det danske arbejdsmarked - forår 2016*, Styrelsen for Arbejdsmarked og Rekruttering, 2016
The report *Brain Drain or Brain Gain?*, published by the think tank DEA in 2016, analyses the tendencies in immigration and emigration of labour. Denmark experienced positive immigration of 90,000 people in the years 2001-2011 at all educational levels, but particularly untrained workers. Within the same timeframe, 48,000 Danish workers left the country to work abroad, equalling a net labour migration of 42,000. The 42,000 immigrants included 6,000 skilled workers and 6,500 with higher education. It leaves the question of whether Denmark can manage to actually attract and retain the right value-adding labour, despite a positive net immigration. The report further reveals that more international students tend to stay in Denmark after their education has ended. However, the report lacks information about Danish students going abroad, i.e. potential brain drain.\textsuperscript{17}

**Denmark Will Lack Skilled Workers by 2025**

An analysis published by DI in September 2015 predicts that Danish companies will lack 44,000 skilled workers in ten years, if current education and employment tendencies continue. The predicted shortage will be greatest for electricians, industry technicians and mechanics. The analysis further forecasts a surplus of 5,000 skilled workers in the healthcare, food and hairdresser industries. The analysis supports the idea of a growing skills mismatch between the educational institutions and employer demands.\textsuperscript{18}

In March 2016, the Economic Council of the Labour Movement published the report *Denmark will lack skilled workers*. The report argues that the lack of skilled labour will limit Denmark’s growth. In ten years, the labour supply will increase by 181,000 (+6.4\%) – but there will be a shortage of qualified employees. From 2015 to 2025, the workforce will change as the size of the retiring population over 70 years will grow and the younger generations will shrink. By 2025, labour supply will exceed labour demand in some areas. There will be a shortage of 70,000 skilled workers, 25,000 with a short-term higher education and 40,000 with a medium-term higher education. At the same time, there will be a surplus of 65,000 untrained and 45,000 with a high school education. There will be 39\% more employees with a higher education degree. The number of skilled workers in the manufacturing and trade sector is expected to decrease by 8\% and increase by 7-8\% in the service and health sector.

The predicted skills mismatch will limit growth and increase inequality. Hence, the Economic Council of the Labour Movement concludes that it is crucial to invest in education and qualification of the workforce to maintain competitiveness and ensure future growth. From an economic point of view, it is a waste of resources to over-educate the Danish population.\textsuperscript{19}

**Talent Shortages in Specific Industries**

**Information and Communications Technology (ICT)**

By 2020, Denmark will lack 6000 IT specialists. The pattern is the same around Europe, where every third company will struggle to find the right IT workers. The report *Training for Digital Jobs* by DI

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\textsuperscript{17} *Brain drain eller brain gain? Arbejdskraftvandringer til og fra Danmark*, DEA, 2016

\textsuperscript{18} *Virksomhederne vil mangle 44.000 faglærte om 10 år*, DI Indsigt, September 2015

\textsuperscript{19} *Danmark kommer til at mangle faglærte*, Arbejderbevægelsens Erhvervsråd, March 2016
Digital from 2015 examines the skills mismatch and high level of unemployment within the ICT sector in Europe. 39% of Danish companies experience unsuccessful recruiting of ICT specialists. The five most sought after IT positions in Denmark are systems architects, chief information officers, project managers, developers and big data specialists.

The DI Digital report highlights the paradox that while there is a surplus of 118,600 ICT workers in Europe, and Denmark has been doubling the amount of ICT students since 2004, companies still experience a major shortage of IT and electronics specialists. Furthermore, many ICT professionals are unemployed. The report concludes that the ICT educational system has become disharmonious with employers’ requirements. In addition, the image and attractiveness of ICT education and careers lag behind. ICT will have an increasing impact on all industries, products and services, thus there is an urgent need for mitigating the skills gap. Denmark is reluctant towards re-training and companies prefer perfect candidates with experience. The skills mismatch requires a change in educational and training programmes. Companies could use awareness activities to catch the interest of young people. Selected recommended policy actions state that governments should take lead in addressing the issue, the educational systems should advance at the same speed as technology, employers and universities should join forces to develop new curricula and training programmes, and a shared statistical tool, which can analyse the European ICT skills gap, should be developed. 20

The report Companies’ Need for Digital Competences concludes that the growth in corporate demand for ICT specialists exceeds the growth in the supply of skills. 27% of the companies experienced unsuccessful recruiting of ICT specialists in 2015, of which half gave up the search for a qualified candidate. Among the positions hardest to fill are programmers, system developers and IT architects. The report forecasts that the challenges of recruiting ICT specialists will continue. By 2030, there will be a shortage of 19,000 ICT specialists, despite the fact that there will be an increased admission of 36,000 students at ICT educational programmes. The forecast includes a particular shortage of 13,000 with a long-term higher education. The predicted shortage will limit productivity. A significant part of the companies value candidates with relevant work experience rather than a specific educational background. 21

Engineering
The Danish Society of Engineers (IDA) and DI published the paper Engineer the Future in 2015, a forecast of the shortage of engineers and science graduates. By 2025, there will be a shortage of 9,300 diploma engineers and civil engineers, plus 4,200 science graduates if current tendencies continue without interference. To mitigate the shortage, IDA suggests increasing the admission to educational institutions, reduce dropout rates and enhance the attraction and retention of foreign students. Even by employing these initiatives, there would still exist a shortage of minimum 2,800 in 2025. Thus, attraction of foreign labour is key. 22

20 Training for digital jobs. DI Digital, 2015
22 Prognose for mangel på ingeniører og naturvidenskabelige kandidater i 2025. IDA, May 2015
IDA predicts that the shortage of qualified labour will lead to a decrease in growth, and companies will seek other solutions such as outsourcing or offshoring. Hence, the shortage within one job sector could influence allocation of other professionals. Furthermore, the shortage of science specialists can potentially reduce the technological development. This development appears problematic for Denmark’s competitiveness in light of the already low expectations for Danish growth predicted by OECD.\textsuperscript{23}

**Life Sciences**

The report *Life Sciences – A World of Growth* by Novo Nordisk describes the need for a national strategy for the life sciences cluster, also in order to offer attractive conditions for international talents. Novo Nordisk is the biggest actor in the medicine industry and an important part of the Danish life sciences cluster. Life sciences is one of the clusters contributing the most to the economic growth, and talents are vital. The report points out that there is a need for attracting both local and international talents and companies. Novo Nordisk employs 10% foreigners, but is looking to recruit more.

Novo Nordisk examined the main factors that attracts talents to a country, which included the top priorities: life quality (72%), remuneration and taxation (69%) and career opportunities (49%). The life sciences talents prefer working in the United States and Switzerland. Denmark is ranked 7. In order to increase Denmark’s appeal to global talents, we need to improve the national brand, offer attractive living conditions (including an attractive taxation level and a more open approach towards foreigners) and attract more international students.\textsuperscript{24}

**The Need for Foreign Talents**

A recent DI study found that foreigners, who have chosen Denmark as their work destination, account for a considerable amount of the growth in the Danish economy. In April 2016, there were 183,198
foreigners working full-time in Denmark, which is an increase of 47% over the past six years. From 2010 to 2015, the Danish economy increased by DKK 50.3 billion, of which foreign labour contributed with DKK 33.3 billion. Thus, foreign labour has accounted for 2/3 of the growth in the Danish economy from 2010-2015.

Copenhagen Capacity managed the project Talent Attraction from September 2012 to December 2015. The aim was to strengthen Denmark’s position as an attractive country to live, work and study in for international talents. Overall, the project proved a success as it helped promote a great number of jobs to foreigners and attract more international students to Denmark. The project had two focus areas: Talent Attraction including recruitment tools and campaigns, and Youth Goodwill Ambassadors to engage international students in a talent development programme. The Talent Attraction program resulted in 2,407 filled positions, and 180 companies downloaded the online employer branding toolbox. It is recommended to focus on retaining international students in the future; as they are more likely to search for job in a country, they have studied in. The Youth Goodwill Ambassadors resulted in 47 YGA’s having full-time jobs and 120 with part-time study jobs. The programme received many applicants. A considerable amount of the YGA’s with part-time positions were offered full-time jobs after ending their education.

International Students

In February 2016, Kraka published the analysis How to Retain International Students in Denmark? In the years 2013-2015, most European students in Denmark were Scandinavian (33%) or Eastern European (29%). The foreign students primarily studied social science (39%) or technology (20%). The report recommends making it more attractive for international (besides Scandinavian) students to stay in Denmark after ending their studies. In particular, focus should be on attracting students from less prosperous countries in Europe and get them employed, as they are more likely to stay. As job opportunities are greatest in the areas of technology and science, attracting students from these fields should be emphasised.

In May 2016, DI analysed the subject in the article The Mismatch in the Education of International Students. From 2005 to 2014, the number of international students in Denmark has increased massively by 165%. In 2014, international students accounted for 11% of the total admission. The number of international students is increasing, particularly the admission to business academies increased by 400% from 2005-2014. The analysis projects that half of the 8,500 graduating international students in 2018 will stay in Denmark, adding to the pool of qualified labour. To leverage the full potential of more international students, their education needs to match labour market demand. Thus, the Danish society earns more profit from employing international students than the education expenditures.

More international students tend to stay in Denmark after graduating, but the share of staying graduates being employed is declining. In 2007, 46% of around 1,000 graduates were employed within one year. By 2011, only 33% of 2,000 graduates were employed. Tendencies show that around

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26 Hvordan fastholder vi udenlandske studerende i Danmark?, Kraka, February 2016
half the graduates are employed within two years of staying in Denmark and 70% have a job after five years. In 2011, 56% of university graduates holding a master’s degree were immediately employed compared to 3% bachelor graduates and 18% of the business academy students. More students tend to do a master’s degree, as the number of different English study programmes has increased.

68% engineers or science graduates tend to stay in Denmark, and 68% of them are employed within one year. 29% of the health science graduates stay, of which 94% are employed within their first year in Denmark. The low percentage of staying health graduates can be explained by a great number of Scandinavian students, who study medicine in Denmark and choose to go back and work in their home country. Doctors and engineers receive the highest remuneration; hence, they contribute the most to the Danish society. Graduates with degrees in social science and humanities receive the lowest remuneration one year after graduation. Graduates with a technical master’s degree contribute the most, as both employment rates and remuneration levels are high. However, the number of technical graduates is declining.

Most international students come from Scandinavia and the rest of Europe due to the attractive conditions for EU-citizens. The amount of students from outside of Europe has declined significantly. Only 33% Scandinavian students tend to stay in Denmark three years after graduation.27 The report recommends a clear recruitment strategy for international students with the aim of matching employers’ needs with the students’ choice of education.

27 International studerende i Danmark uddannelses skævt, DI Indsigt, May 2016
Key Recommendations to Address the Talent Shortage

The world will be facing a workforce crisis by 2030 with a growing mismatch between labour demand and labour supply. Talent will be the crucial factor of production in the future, and the competition for global talents is increasing. In order to address the talent shortage that employers are experiencing already, ManpowerGroup recommends employers to design new people practices and redefine their qualification criteria, promote their unique employee value proposition, foster a learning culture and adopt a more agile approach in order to explore untapped pools of talent.

Several findings suggest that migration is a key measure to close the increasing workforce gaps in the short run, as 62% of job-seeking professionals worldwide are willing to work in another country. Therefore, Denmark needs to improve its general appeal and external openness in order to accommodate the talent shortage and be attractive for foreign talents. Foreign professionals and students are attracted to the Danish educational opportunities, health system and general work-life-balance. Denmark’s high ranking in renowned global talent competitiveness studies are influenced by good scores on ‘soft’ factors such as quality of life, workplace approach and employee motivation. Our national appeal could be boosted by lowering the general taxation level and the overall costs of living in order to compete on a global scale. Furthermore, the rules for taxation and the public services needs to be transparent and easily accessible.

As a majority of Danish companies already experience an acute skills gap and 38% of companies have experienced a negative impact on performance, due to lack of qualified employees, it is time to gather forces and work together. By improving cooperation and partnerships between government, universities and businesses, as well as developing attractive industry clusters, highly skilled and creative talents will look to Denmark for interesting environments for knowledge exchange. Furthermore, in order to keep up with the new technological revolution, Danish companies also need to rethink their talent management strategies.

A targeted focus on attracting talents to Denmark, with specific qualifications that match the companies’ needs, is crucial. In the spring 2016, 30% of companies located in Denmark experienced unsuccessful recruiting, and there were 15,600 unfilled positions. The greatest shortages exist within the segments of scientists and engineers, IT workers and skilled production workers. The increasing skills mismatch leads to challenges in terms of education, qualification and upskilling, thus it requires preventive initiatives from both governments and businesses, for example increasing the admission to the educational institutions, reducing dropout rates, collaboration between companies and educational institutions, to ensure relevant curricula, and offering attractive internships.

In addition, retention and development of foreign professionals and students that are already in Denmark is another way to mitigate the negative impact of the skills gap.