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REDAKTØR-ANSVAR

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Skills – a key to the technological development

The technological development; how does it impact our jobs, and which skills will we need? These questions were raised during the third Nordic conference on the Future of Work. They are hard to answer, as developments are continuing apace. How do authorities and the social partners face the changes? And how do we meet the skills demand? Who is responsible for what?

EDITORIAL
29.05.2018
BY BERIT KVAM

There is disagreement over the extent to which jobs will disappear because of digitalisation. It is more likely that the content of those jobs will change radically. The number of robots has doubled since 2010. The OECD thinks that number will double again over the next three to four years. We are witnessing rapid change.

Iceland's fisheries industry is one example of radical changes in the workplace. Our story shows how the tech industry and fisheries have joined forces to develop a workplace where fish is processed untouched by human hands, and where no raw material is wasted. As a result, productivity is up, jobs have been lost, and the workers who are left need training.

Digitalisation also affects people with higher education, says Camilla Tepfers, who is keen to dispel the myth that young people are so much better with computers than older people. Getting rid of the senior employees is not always the best way of tackling the challenges. By letting the 60 year olds go, you risk losing competences within the company which the 25 year olds cannot replace.

The myth that senior citizens lack interest and knowledge about technology development, can limit the innovation in welfare services, says Britt Östlund in Portrait.

Skills development and new technology must go hand in hand, be it in the health sector or the media sector. Employers, the state and the individual worker must all take their own share of the responsibility, says the Swedish Minister for Employment, and criticises Swedish employers for lagging behind. Are the parties ready? What is the state's responsibility? And what happens if there is disagreement over who is responsible for what?

The Danish Disruption Council has explored how Denmark best can make use of the opportunities which the technological development brings. Danish employees must be equipped with the skills that the technological development demands, the council says. It hasprovided input to the Danish tripartite agreement on a stronger and more flexible system for continuing training.

The conference on the Future of Work heard several participants argue for greater flexibility throughout the education process. In Finland, a government-appointed panel has presented its report, 'Ett ständigt lärande Finland' (Finland – a country of continuous learning). The panel will in the end contribute with visions and proposals for how the education system can reform and adapt to the labour market.

It is easy to be blinded by the technology, but we shape the future of work ourselves, says Jon Erik Dølvik, the Nordic researcher. He points to the same development trait which the ILO's representative praises; the fact that the Nordic region has done well during times of change because of the flexibility the cooperation between the parties and the tripartite system offers. The Nordics have done so well in fact, that they could be digital leaders – with the right measures, according to the management consultancy firm McKinsey. Google is also entering the stage, both to provide training and education together with the Swedish Public Employment Service, to establish contacts with trade unions and to get access to Nordic countries.

Skills are hugely important when new technology is introduced. The people who will populate the labour market in 30 years from now, are already here, Dølvik points out. That is why Google is not looking to employ those who know how, but those who can learn.

This is about skills development in real life. It is necessary for preventing a skills gap and social inequalities, Ulrika Lindstrand tells the Nordic Labour Journal.

The Nordics could take a digital lead – with the right measures

Robots and artificial intelligence (AI) can create growth in the Nordic region without creating unemployment – but rapid political action is needed, says the management consulting firm McKinsey.

THEME
28.05.2018
TEXT: MARIE PREISLER, PHOTO: CATA PORTIN

The Nordic region could be a digital leader and create more or less the same number of jobs as those that will disappear when robots and automation start taking over more and more working tasks. But that depends on the Nordic governments paving the way, and they need to start now, says Jens Riis Andersen, junior partner at the management consulting firm McKinsey, which has written a report on the effects of automation on the labour market on behalf of the Danish government. Riis Andersen presented the report's conclusions during a Nordic conference in Stockholm on 15th May 2018:

Jens Riis Andersen, McKinsey. Photo: Björn Lindahl

"In the Nordic region we have a very strong starting point for becoming digital leaders, and our estimates show that new jobs can be created at around the same pace as we lose jobs because of the automation of many working tasks. But new jobs depend on employees in the Nordic labour market having the necessary skills," he said.

Nordic skills in the lead

As part of the report, McKinsey has developed a skills index by comparing knowledge from a range of surveys of the skills level in many different European countries – for instance digital skills, problem solving abilities and social skills. Nordic employees top this skills index.

As a result, the Nordic region enjoys a unique advantage, and if this advantage gets support, the Nordic region can become or remain a digital leader. But two types of political measures are particularly needed, reckons McKinsey: The labour force must be educated for this, and a political framework must be created in order to stimulate the development of new technology-driven jobs.

Start now

The Nordic governments need to start this work right away, or risk losing their digital head start, Jens Riis Andersen told the conference 'Shaping the Future of Work in the Nordic Countries – the impact of technological development on work and skills', which was organised by the Nordic Council of Ministers.

The McKinsey report's conclusions have been discussed by the Disruption Council, a forum for dialogue established by the Danish government, comprising a range of government ministries and the social partners, business leaders and artists. Among the issues discussed there is how Denmark prepares its education system for a labour market increasingly influenced by robot technology, automation and digitalisation.

About the McKinsey report

'The effect of automation on the Danish labour market' was written in 2017 for the Danish government and the Disruption council. Some of its conclusions are:

- Automation technology first and foremost creates opportunities. The technology can create the basis for continuing support of high living standards, improved products and services and more competitive companies. The starting point for exploring the opportunities is strong. Nordic societies are more digital than most, the labour force is highly educated, the labour market is flexible and people are positively inclined to new technology.
- Exploring the technological opportunities will demand a marked shift across society. Nearly all people in work must learn new skills, some must find new jobs and companies will have to navigate through 'disruptive' market dynamics across classical trade divisions.
- Some workers will find the transition difficult: Many of their working tasks can be automated, and they cannot easily move to different jobs.
- Some four out of ten working hours can be automated by existing technology.
- Machines and robots can take over both physical and some cognitive tasks, including searching for information, online customer service and simple case handling. This will lead to the loss of many jobs. 250,000-300,000 Danes can be affected by 2030.
- The number of jobs that will disappear is approximately the same as the number of new jobs that can be created. There will also be a need for employees to develop and control the robots. In addition to this, a range of new jobs will emerge as a result of the technological development and the increased productivity this creates.
- The need for IT specialists and others with strong digital skills will increase in coming years.
- All students in upper secondary education should to a greater extent than today secure basic digital skills and an understanding of new technology.
- Robots and artificial intelligence (AI) can lead to growth in the Nordic region without creating more unemployment – but rapid political action is needed, according to the management consulting firm McKinsey.

Skills and fair distribution a precondition for digitalisation

Nordic people are keen to adopt new technology at work. The region is leading the way. The challenge is making sure workers get the chance to adapt to new skills, how to organise skills development and who should pay. We need better systems to handle the challenges, said Ylva Johansson at the recent conference on the Future of Work in Stockholm.

THEME
28.05.2018
TEXT: BERIT KVAM, PHOTO: BJÖRN LINDAHL

Optimism was the key word which coloured the discussions about "the Future of Work, the impact of technological development on work and skills" in Stockholm recently – to such an extent that it actually surprised the ILO representative Sangheon Lee and was highlighted by Sweden's Minister for Employment Ylva Johansson. The conference is one of the Nordic region's four contributions to the global debate on the Future of Work for the ILO's centenary celebrations in 2019.

"I believe change can pave the way for a better society, improved welfare and a better working life, as long as we use those changes as best we can, and protect ourselves against existing risks. I believe our positive attitude to new technology in the Nordic region stems from the fact that it has brought better jobs and better welfare. But if we are to maintain this positive attitude, we must secure a just distribution of the benefits that come from digitalisation and increased productivity," warned Ylva Johansson.

Sangheon Lee, Director of Employment Policy at the ILO, was among the many participants representing the labour market, business, authorities, research and international institutions. He readily admitted to the conference that he used to be one of those economists who was predicting the demise

of the Nordic model around a decade ago. 'The bumble bee cannot fly' was the analogy used at that time. Today, the Nordic countries have proven that they not only have survived the changes, but that they are in the vanguard when it comes to shaping the future of work with more digitalisation, automation and artificial intelligence (AI).

"What we did not understand was how important the social dialogue between employee and employer was – on all levels – which creates flexibility and vagility within the system. At that time I was underestimating this potential, and I was not alone. But with time, people began realising that the social dialogue represented a good way in which to develop the labour market, and it also provided wage and price stability."

Nordic region on solid ground

This was also an argument put forward by Ylva Johansson during her address to the conference. The Nordic labour market model is not the same across the Nordic countries, but there are some obvious similarities and it stands on solid ground: Strong, independent parties regulate big sections of the labour market themselves. Much of the labour market is covered by collective agreements, where the partners can regulate wages and working conditions. A system based on legislation is more rigid.

Nordic countries are also well protected during times of change. Unemployment benefits, active labour market policies and training opportunities help those who have lost their jobs find a new one. The Nordic countries provide good support during times of change, compared to other European countries.

Johansson believes this means people can retire later. Finally there is the strong welfare system with health services, free health care and parental pay available as an individual right and not linked to a job. In many countries, different parts of the welfare system are linked to your job. This could be an obstacle to mobility. All this strengthens the Nordic region in the face of change. It tallies well with studies from Eurofound which say Nordic countries tackle changes well.

"We are not afraid of robots in the Nordic region. We are more scared of old technology than new technology," says Ylva Johansson. This is linked to how much people need to be worried about their own private situation during times of change, shows the Eurofound report.

Who pays?

But there are still challenges to be solved. One major challenge is skills development. Who should be responsible, how should it be organised and who pays?

"Employers are responsible for the skills development which is necessary for employees to manage their jobs. But studies from Sweden show that Swedish employers are spending less money than before, despite a growing need," says Ylva Johansson.

"Then you have the individually driven skills development, for which you take the initiative yourself. But the biggest challenge is the skills development needed in your job which can also lead to a new job. Who pays for that?"

Ylva Johansson believes a tripartite cooperation can be a possibility also here, with contributions from the state but with a level of shared costs and responsibilities.

There is also a need for new forms of adult and continuing education. Universities and university colleges must contribute more actively in the shaping of new offers that are adapted to the labour market and new technological challenges.

"I think we need to find new kinds of skills development, future optimism and new ways of organising this," says Ylva Johansson.

"Meanwhile, we also see an increasing number of self-employed people and people combining work and education. This also means we need to change the systems for labour market security in line with new types of working and employment conditions."

On top of this there are demographic challenges. In Sweden, the age distribution looks very good, but the challenge is how to provide new citizens with a chance to join the labour market. We need a labour market policy which can exploit this opportunity.

A global debate

The debate on the Future of Work is a global one, initiated by the ILO. Sangheon Lee has taken part in discussions around the world, but has not experienced the kind of future optimism he has seen here. He believes this is due to the level of trust both employees and employers have in the economy and in the system, as well as the Nordics' experience of being able to successfully adapt in the wake of previous crisis.

"People trust that this system can be modulated and upgraded, and there is a recognition that the system has a great level of flexibility which means it can adapt to developments. All

this creates a very positive atmosphere when we talk about the future of work," says the ILO's Sangheon Lee.

"I am also optimistic," he says with a smile on behalf of the Nordic region.

"Expectations represent an important element in the economy: If everyone believes things will turn out fine, there is a greater chance they will. The Nordic countries have open economies, a high degree of social protection, a good welfare system, the wage formation works well and you have a good education system," he says, and with that he underlines Ylva Johansson's points.

This is the third of four Nordic conferences on the Future of Work. Sangheon Lee has read the reports from the previous two conferences. In brief, he thinks things have moved forwards since the first one which was held in Finland in 2016, when the future outlook was a bit more pessimistic. The second conference, held in Norway in 2017, saw a more balanced attitude and increasing optimism, while this year there is considerably more optimism and less unease and pessimism.

"This shows that the Nordic countries have had a good process, and that they have been preparing well by addressing all of the issues, while becoming more self-aware in face of how things are developing. This is very good for the discussions about the future which we will be having in connection with the ILO centenary in 2019.

"The Nordic countries represent a good role model for the rest of the world when it comes to attitudes to how we can change the future of work through good politics and social dialogue."

The global commission heading the debate within the ILO will publish a relatively short report with a range of recommendations. This will be a contribution to the centenary conference next year. The conference will then discuss which recommendations should end up as global policy.

Will there be a new declaration?

"Many hope that will happen, and that this will be a new start for the ILO. But it is difficult to predict how things will pan out," says Sangheon Lee.

OECD: Robots less of a threat to Nordic jobs, but major IT gender gap is

14 percent of jobs in OECD countries are at high risk of becoming automated, while a further 32 percent of jobs will change radically, says Mark Keese, Head of the Skills and Employability Division at the OECD.

THEME
28.05.2018
TEXT AND PHOTO: BJÖRN LINDAHL

“The rapid development makes it hard to issue a prognosis,” said Mark Keese as he addressed the conference on the Future of Work in the Nordic countries, held on 15th-16th May.

The OECD is also working on a report on the future of work, he said. Their approach is not unlike the one used in the research which the Norwegian research foundation Fafo has been commissioned to do.

“We wanted to do something different this time, compared to the reports where we gather facts, talk to all stakeholders and then perform our analysis in our ivory tower. So we will stage a range of policy workshops, with those affected by developments.

“We know very well that there is no single solution that suits everyone. The results will be presented in the next Employment Outlook 2019, and later we will raise some of the issues in our policy reviews for separate countries.”

Automation
He used automation as an example of how things are developing faster.

"There are twice as many robots in the world today as there were in 2010. The number will double again in the next three to four years.

"Translating a Swedish document to English using Google Translate five years ago, or three years ago, often produced a strange text. Today the result is much better and looks like proper English."

He points out that things will develop differently in different countries. Japan has the highest number of robots, and faces acute challenges linked to its ageing population. Today there are two people aged 16-64 for every person aged 65 or older. But by 2050 there will as many pensioners as people of working age. That is why Japan is focusing most of its robot research on the elderly care sector – not only to help carers, but to act as social objects for people suffering from dementia.

A photo exhibition at the conference showed images from Japan plus a couple of animal robots – a cat and a seal which tempted many of the participants to give them a stroke.

"The fear of robots is greatest in the USA and smallest in the Nordic region, since employees here feel they have the chance to influence developments," said Mark Keese.

Automation bottlenecks
There are still some bottlenecks which make it hard to automate certain working tasks:

1. Tasks linked to judgement and handling, especially when it is happening in unstructured, complex situations – like working in narrow spaces.
2. Tasks which depend on creativity – like providing completely new ideas.
3. Tasks which demand social intelligence.

More education and training is needed to manage the changes. But there is a mismatch between the need and what is on offer. Those with the least amount of education get the least amount of training. While 40 percent of employees in OECD countries have had some kind of training during the past year on average, only 17 percent of people with low skills levels have had the same.

"When we look at how many jobs are going to disappear, which within the OECD is 14 percent on average, and compare this to the Nordic countries, the numbers there range from six to eleven percent. These lower numbers could be a sign that these jobs have already disappeared, since the Nordic countries usually are well ahead of developments," says Mark Keese.

"If you add those 14 percent of jobs which might disappear completely to those that might change radically, you are looking at 46 percent of jobs in the OECD. For the Nordic countries the number is 33-40 percent of jobs."

Although some argue that even high-skill jobs are now at risk of becoming automated, like Camilla Tepfers at inFuture argued during the conference, Mark Keese said these kinds of prognosis have yet to prove correct.

"On the contrary, artificial intelligence is threatening even more low skill jobs than during earlier waves of technological change. The jobs that are the least threatened are those that demand higher educations."

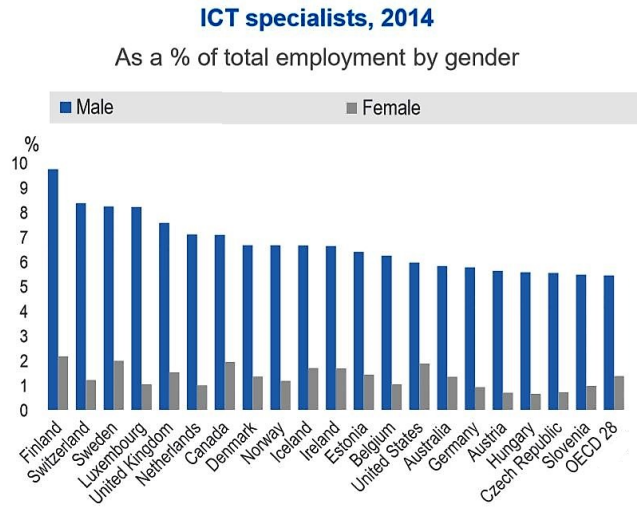
Will women get a better deal?
What about women? Will the digital change improve and worsen the situation for one of the sexes? Arguments for the strengthening of women's situation include that they already are more highly educated than men. New technology can also make it easier to find more flexible ways of working, combining paid work with looking after the family – something which women still do more of than men.

"What surprised us when we looked at how this is divided up between the genders, was that we thought women's jobs would be harder to automate, since they are often jobs that are not routine but involve working closely with people. But women also work in sectors where there is greater risks of automation of working tasks.

"Certain platform economy businesses, like Uber, show a somewhat higher number of female drivers than traditional taxi services. But platform businesses are not necessarily better in general. If women are to not miss out on existing opportunities, especially within the STEM sector (short for Science, Technology, Engineering and Mathematics), you need measures aimed at increasing the number of women who chose to study these topics."

Differences greatest in Finland

The difference between the number of men and women who work as specialists in information and communication technology (ICT) is greatest in Finland within the OECD, while the difference in Sweden is the third largest.



The number of ICT specialists as a percentage of the working force is the largest in Finland - but the men dominate the profession in an even higher degree than other OECD countries. The graph shows the 19 countries with the highest percentage of ICT specialists, as well as the average for OECD. Source: OECD

"Nothing will happen on its own. 60 percent of the world's population still has no access to the internet. 1.7 billion women do not own their own mobile telephone and there are 250 million fewer women than men online," says Mark Keese.

Digitalisation gives job centres new tasks and opportunities

Artificial intelligence (AI) and robot technology can tighten the quality for Nordic job centres, but also represents new challenges for authorities – including data safety.

THEME
28.05.2018
TEXT: MARIE PREISLER

It is not only Nordic workers who must develop their skills in order to manage in the future. Nordic labour market authorities must do the same. It is particularly important to adapt re-employment measures to face the new digital reality. The process is underway, but is not at all easy.

This was the joint message as representatives for public employment offices in Denmark, Sweden and Norway met at a Nordic conference in Stockholm on 15th May 2018, to talk about how Nordic authorities are preparing unemployed citizens and themselves for a labour market which is rapidly changing because of new technology.

Transformation is happening
Norway has initiated major changes aimed at adapting employment measures in order to capitalise on the opportunities that spring up in the wake of digitalisation, and use these in the best possible way to strengthen measures aimed at unemployed citizens, explained Gunn-Elin Åsgren, Project Manager at NAV, The Norwegian Labour and Welfare Administration.

“Right now the public administration is going through a fairly comprehensive transformation in order to keep up with this development,” she explained.

Peter Truels Nielsen, head of the Danish Agency for Labour Market and Recruitment (STAR), had the same message. He referred to a report from McKinsey, which predicts 40 percent of today’s working tasks could be automated as a result of AI and robotics solutions. He said we are well positioned to equip workers and the labour market to face this new reality, but that it will mean adapting to major changes – also when it comes to job centres’ access to the tasks and concrete ways of working.

“We have a good starting point, but when 40 percent can be automated and several hundreds of thousands of people can become surplus to requirements as their jobs are automated, we are standing on a burning platform,” said Peter Truels Nielsen.

Projects on big data and AI
The Swedish Public Employment Service has also realised that technological developments will change the way authorities work. It has established the JobTech model to look at how technology can be used to secure digital innovation within the employment service, explained Jonas Södergren and Andreas Granström, both developers with JobTech.

Jonas Södergren and Andreas Granström from JobTech.

“There is a need for a completely new way of accessing how we work, think and exchange services for job seeking citizens. So our work is more data driven, helps citizens build their own future and creates a new infrastructure to the benefit of everyone,” said Jonas Södergren.

JobTech already runs several projects on big data and AI – one uses AI to understand the need for skills.

STAR in Denmark has used digital solutions to analyse job ads in order to map which skills employers are looking for. STAR has linked that knowledge to what types of jobs people

are looking for. Right now STAR is looking into whether that kind of data can be used to qualify the job seeking process, when robots and AI in the future perhaps make current jobs redundant.

“It sounds simple, but it isn’t, and you have to be careful when advising people to apply for certain jobs. Many variables should be taken into consideration,” said Peter Truels Nielsen.

Protecting personal data

NAV has also intensified the collection of data and the development of new services for things like analysis, and has been in dialogue with other Scandinavian and European employment services and Norwegian companies to seek inspiration for which technologies are best suited to improve NAV’s work. NAV has for instance used 180 search bots to help them find available jobs, and then advertise them.

“We use big data, but it is also smart data, which we give back to other employment service players,” said Gunn-Elin Åsgren.

She also pointed to the increased demands for protecting personal data as an important challenge which must be solved. Her Danish and Swedish colleagues agreed.

Google wants to enter the Nordic labour market

Optimism clearly trumped pessimism at the Nordic conference on the Future of Work in Stockholm in the middle of May. Companies, politicians and trade unions mainly praised the digital future.

THEME
28.05.2018
TEXT: MARCUS FLOMAN

The Nordic welfare state, the tripartite model, the social stability and trade unions all came in for a lot of praise during the conference, held in the old Posthuset in Stockholm city centre. Politicians, trade unions, employers and also the representatives from the OECD and the ILO waxed lyrical. When Google also joined in on the praise, it is unclear whether this could be seen as unexpected or simply smart?

Google is preparing to cooperate with the Nordic countries, which researchers and statistics say belong in the avantgarde when it comes to digital development and positive attitudes to automation. Or is it a strategic step for the company, in order to gain valuable knowledge about the thinking in the Nordic region?

Google's representative Iarla Flynn told the conference how Google wishes to reach out with its knowledge to society as a whole, and how the company believes in the sharing of information and in openness. Google has launched a cooperation project with municipalities and authorities like the Swedish Public Employment Service, where the company takes part in the planning of courses aimed at improving job seekers' digital skills.

"We bring the technological tools and our teaching materials, but it is the local players who know which needs the different groups have."

Flynn was clear about the fact that Google employs many people in the Nordic region because the countries belong to the digital vanguard.

"Many countries keep an eye on how the Nordics approach the next technological steps. But: There is no template for how to use new technology – every country must do its own developments and experiments."

How is new technology introduced?
Iarla Flynn also talked about the fact that many of the new jobs which might soon become more common are linked to teaching new AI robots how to perform their tasks, as well as training company staff in how to use the new technology.

Juha Antila from the Central Organisation of Finnish Trade Unions, SAK, also participated at the conference on the Future of Work. He wanted to focus on an issue which he felt did not get enough attention at the conference.

"The organisational culture in a workplace and how much influence staff are allowed is absolutely crucial when introducing new technology. If there is open dialogue between management and workers and if the workers are allowed to share in the decision-making process when new technology is introduced, the workplace will succeed. If everything is top-down you run a great risk of creating problems when staring to use new technology," says Juha Antila.

SAK last year began a four-year long project called 'Time of Opportunities', which focusses on changes to working life. Part of the project will gather facts on how workers within different trades look at automation and AI. Antila considers the new technology to be a fairly undramatic, or even neutral, factor.

"Our surveys and conversations with employees within different trades show that a workplace's productivity and workers' wellbeing are closely interlinked – and when new technology is introduced, most people see the new innovation as positive as long as they have been part of the discussions about which technology to choose, and especially why it should be used."

There are, however, plenty of examples in Finnish workplaces where employees have experienced technical innovation to be both difficult and awkward.

"In these instances, staff have not been involved in the decision-making process, and there is often large gaps in the support that staff should be getting when taking the new technology on board. Because new skills are of course needed when new technology is being used – so employers must make sure employees get training."

Within certain trades there is also a feeling that new innovations are only introduced to increase the control over employees, and that machines are mostly keeping tabs on workers' efficiency.

"If employees feel like guinea pigs in a trial of new technology, you have failed."

Google also wants to work with trade unions
At the Nordic conference on the Future of Work, Google's representative Iarla Flynn also talked about how the company wants to work together with trade unions. With Silicon Valley companies' long-running aversion to trade unions in mind, this attitude could be viewed as something of a turning point.

"The idea of working with trade unions is still in its infancy, but we see how trade unions play an important role when we as societies want to get to grips with how we create the best possible working life for the future."

Flynn wants to establish a dialogue with the trade unions, but he also wants to bring them together with other companies, especially technology industry companies.

"We simply want to create a conversation about what impact technology can have, what are the questions that should be clarified. We are very optimistic about this, and have had signals from the trade unions that they are positive to entering into a dialogue," Flynn tells the NLJ.

The Swedish Trade Union Confederation, the Swedish Confederation of Professional Associations (Saco) and the Swedish Association of Graduate Engineers told the NLJ they had yet to get an invite from Google. Finnish SAK, however, had a meeting scheduled.

"We are actually meeting Google's people tomorrow, on their initiative (the day after the interview). But my colleague was the one organising the meeting, so I don't know what we are going to talk about," says SAK's Juha Antila.

Ulrika Lindstrand, President of the Swedish Association of Graduate Engineers, thinks Google's strategy of actively working with different actors in society is very interesting.

"It is very important for us to create a dialogue with the big tech companies, since what they do has a wide-ranging impact on society."

Lindstrand thinks a possible cooperation with Google could benefit the engineering union, if the members could take part in the company's training programmes.

What are the risks of a cooperation with Google?

“The greatest risk I see is that a few companies might achieve a monopoly-like position in the marketplace. And when a company gets a monopoly and access to large amounts of data, we are entering a very sensitive area. They have vast amounts of information, so it becomes very important to protect personal integrity, and people cooperating with Google must be allowed to see how the company works. We have to know who owns the data, and that all the information is being used in a way we can accept.

“I basically agree with the way Google is thinking; that they have an ambition to train people in the new technology, avoiding social gaps between those who understand the new technology and those who don’t.”

The Disruption Council explores the future

Long before the Danish Disruption Council ends its work, it has already identified a range of ways to secure that digitalisation, robots and artificial intelligence (AI) increase wealth and improve welfare, even though many traditional jobs will disappear.

THEME
28.05.2018
TEXT: MARIE PREISLER

The Disruption Council was established by the Danish government to analyse, debate and present proposals for how Denmark should address the opportunities that technological developments bring. After six out of eight meetings, the Disruption Council has already made its mark, explained Nicolas David Johansen, Chief Consultant at the Danish Ministry of Employment, during a Nordic conference in Stockholm on 15th May 2018. He was presenting some of the Disruption Council's results so far.

"The Disruption council has helped to make sure Danish workers have the skills needed to face technological developments. The council has discussed and provided input to a tripartite agreement on a stronger and more flexible system for continuing training."

Another example, said Nicolas Davis Johansen, is the Danish government's January 2018 launch of a strategy for Denmark's digital growth. The strategy contains 38 initiatives aimed at securing good frameworks helping businesses make use of new technologies, and making sure all Danes get the right competences to handle a digital future. In order to realise the strategy, the government has set aside one billion Danish kroner (€ 13.4 million), and the overarching aims and concrete measures have been debated by the Disruption Council.

A positive story
Disruption is not a new phenomenon in Norwegian labour markets, explained Nicolas David Johansen. New technology has made jobs redundant many times before, making people move to other trades. Johansen's own grandmother did so three times in her career, he told the conference:

His grandmother was born in 1925, and her first job was to collect boxes for jewellery and chocolate, until a machine took over. Then she found work in a telephone exchange, where workers manually connected calls, until that task was automated. The grandmother's last job was at a tax office, where she worked with punch cards used to register and store data – until digitalisation made punch cards redundant.

"After that, my grandmother retired, and to me this is a positive story about how the Nordic countries so far have been good at keeping up with technological advances. We need a new agenda in order to continue that positive development," he said.

A need for political initiatives
Nicolas David Johansen sees the need for new political initiatives that benefit all – not just people with higher educations. And that is precisely what the Disruption Council has been focusing on, he underlined.

During its seventh and penultimate meeting on 18th-19th June 2018, the Disruption Council will discuss free trade, foreign labour and the Danish flexicurity model. The Disruption Council concludes its work at the end of 2018.

A range of analyses were made to create a basis for the council's work, for instance on how the work with digital transformation is carried out in five countries which – like Denmark – can be said to be digital frontrunners: Israel, Sweden, Japan, Estonia and the USA.

Can continuously learning save Finland's future competences needs?

In Finland, experts are looking at education policies and more for solutions to the future labour market's challenges. A government-appointed panel has presented its first report, 'Ett ständigt lärande Finland' (Finland – a country of continuous learning) – which has been subject to criticism from trade unions for being light on concrete measures.

THEME
28.05.2018
TEXT: MARCUS FLOMAN, PHOTO: MIKKO RASKINEN

The Finnish Ministry of Education and Culture's so-called Future Competences Panel wants to turn the educational system into an engine for a country which wants to make continuous learning central to its future development.

Anne Brunila, Professor of Practice at the Hanken School of Economics in Helsinki, heads the panel.

"We must all learn how to become better at learning," says Brunila.

This ability, being better at always learning new things, is not only meant for people in the labour market. The concept already exists in the Finnish school curriculum.

How does technology change the need for skills?

The Future Competences Panel has been tasked with presenting visions, proposals and bases for decisions for Finland's education policies. One of the panel's main focus areas is how new and developing technologies determine what kinds of competences will be in demand in the future.

The panel was established in the autumn of 2017, yet has so far not presented many results. Its first publication, a 14 pages long document, generally lists which trends the labour market will probably be facing going forward. It also presents the outline of what the group hopes will become a reform for a continuously learning Finland.

Anne Brunila knows that many changes ought to happen sooner rather than later, since the pace of development is so rapid. Brunila believes Finland has a good starting point, since its elementary, vocational and higher education systems have already been through major reforms. She considers this to be forward-thinking in light of what the future labour market needs.

Flexibility is needed

"One thing is clear: Future employees will need to be very flexible. Luckily it will be possible in future to increase your knowledge in many different ways. We already have a situation within a whole range of sectors where you can secure competences through other means than an exam."

So what responsibility does the state have when workers keep facing demands for continuously learning new skills?

"We will need changes on a legislative level both within the social benefit system and in the taxation system, allowing people an opportunity to study."

In most cases a person who gets a new education or trains to work in a completely new sector has to go back to studying in the middle of his or her career. How will people afford to go back to being students, and survive on less money?

"The entire social benefit system is in need of a review – we have to create a system which encourages and makes it possible to retrain. For instance, the support for adult education must be renewed – the current support system is out of date."

Existing legislation says you will have had to have worked for eight years within the same trade in order to qualify for that support.

"We need more flexibility on that point. The worst case scenario is if a person who has just passed an exam experiences that developments have overtaken his or her competences, which are then already out of date."

What are the obstacles?

The working group's tasks include gathering all relevant knowledge within the area, and it should also point to what legislation, sociopolitical and education political sectors will be affected.

"Our task is to gather information on what are the current obstacles to continuous learning."

Professor Anne Brunila also believes there is a need for a change in attitudes.

"We need to start thinking like this: The fact that we have passed an exam or entered a profession cannot be a guarantor for us being able to stay and work in a particular trade for the rest of our careers. Upgrading our competences is an elementary part of being able to work.

Do you on the Future Competences Panel put too much responsibility on the individual, expecting people themselves to be fully responsible for maintaining their competences?

"I don't think so. We need to share the responsibility so that the education system and companies also take some of it, just like the voluntary sector and individuals. But if we are to succeed in our reform work, we also need legislative changes."

Trade union criticism

Janne Hernesniemi, education policy expert at JHL, Finland's main trade union representing the welfare sector, is critical to the panel's first document.

"This was an abstract document relatively weak on content. I did not find any new observations or initiatives for the changing labour market in the group's report," says Hernesniemi.

Janne Hernesniemi is surprised the Future Competences Panel has not used their first report to address the issue of learning difficulties and the fact that people have different preconditions for learning new things, that people learn at different speeds.

"It feels like they have had a very competent and progressive person in mind when writing the document. A person who has no problem planning his or her career and who manages to stick to that plan."

An individual responsibility

NLJ also asked Anna Brunila about the individual's responsibility.

How will those workers who are not able or lack the energy to retrain, manage to secure new competences?

"We need more advisory services directed at people who need support and help."

Janne Hernesniemi at the JHL trade union wants to see more focus on which obstacles might present themselves in the future labour market.

"I think many of the obstacles will be linked to various levels of being able to learn new things. There are many employees who are very motivated and competent, but who might fall at the first hurdle in a new job because they struggle to renew their knowledge."

Janne Hernesniemi believes it is very important to develop society's educational and sociopolitical support so that people are really given a fair chance to train during their entire working life, and will be able to get a new occupation when

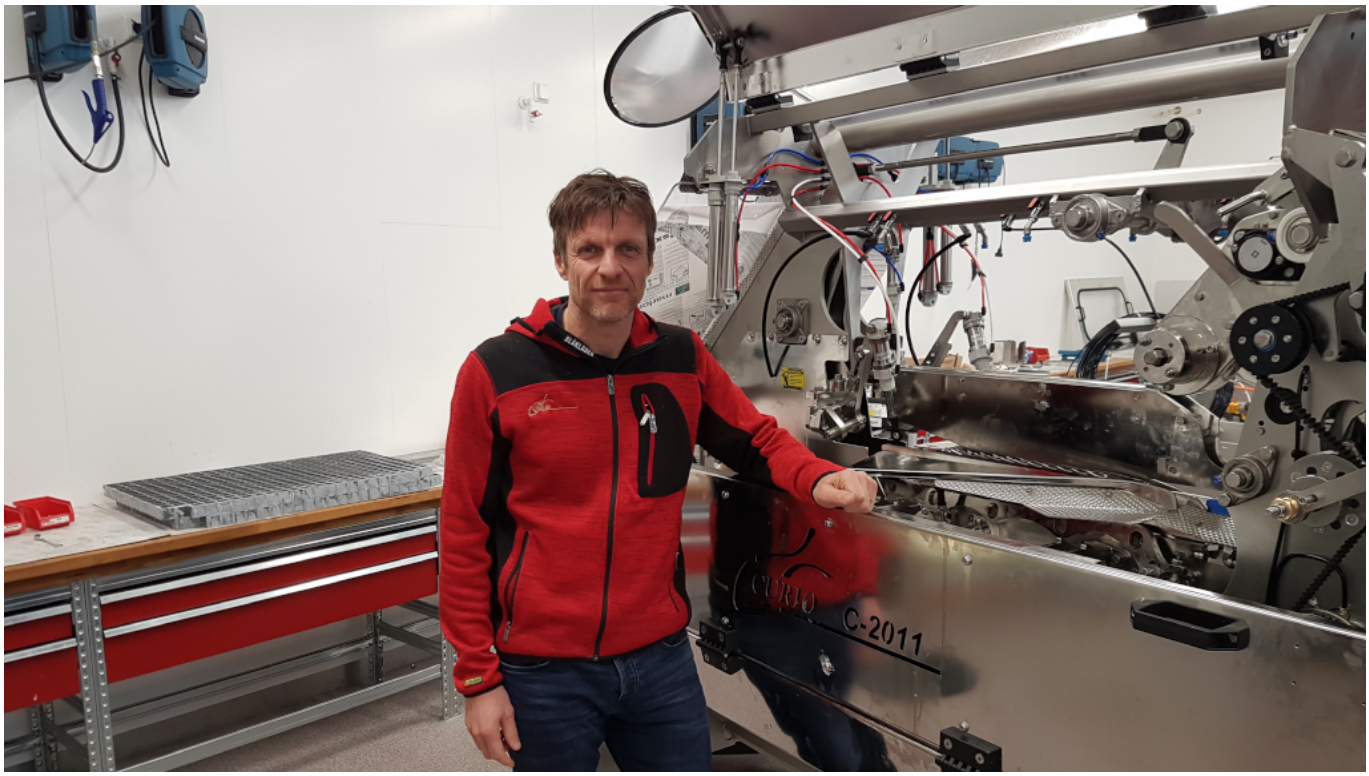
needed. The opportunity to get adult education support should be given to both employees and the unemployed.

"In recent years the current government has made cuts to the existing study support and the adult education support, so in this area things have been moving in the wrong direction in Finland. These savings are completely counterproductive in the light of what you might expect from the changes in society and in the labour market."

The Future Competences Panel's role is not to present political law proposals, but to present initiatives and prepare the ground for future political decisions.

The panel, led by Anne Brunila, will continue its work for one more year. The group has been put together but the current centre-right government, and its mandate runs until spring 2019.

"With the help of a system where education and further training can be offered in a flexible way, supported by new models of how to finance the education support, we should be able to face the future challenges. We will spend the time until spring 2019 to get into the concrete issues," says Anne Brunila.



No fish is wasted with Icelandic technology

Iceland's fisheries industry has undergone a revolution in recent years. Fishing companies and tech firms have worked together to develop high tech solutions. Iceland is a global leader when it comes to developing fish processing technology. Productivity has shot up, and new computerised machinery is being exported.

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TEXT: GUÐRÚN HELGA SIGURÐARDÓTTIR, PHOTO: PRIVATE

Depressing, monotonous workplaces, unskilled workers in rain coats and wellies along conveyor belts wielding knives and filleting fish in a cold and wet processing hall. This has been the image of the fisheries industry so far, but it is no longer the case. At least not in Iceland.

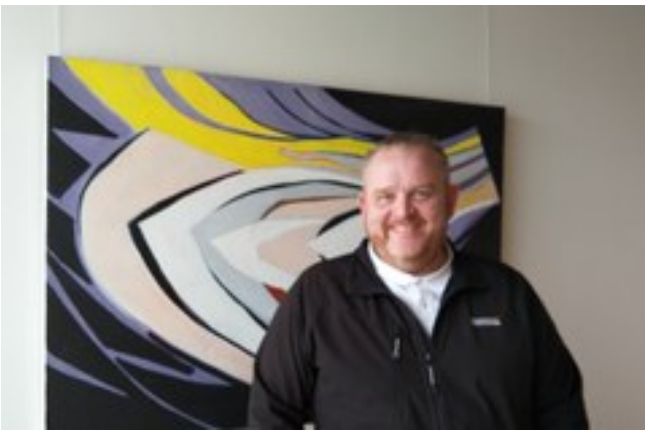
The fisheries industry has undergone enormous change. The monotonous tasks have disappeared. Instead, high tech is being used to maximise productivity and revenues. Workers are busy carrying out quality controls. They push buttons and monitor computer screens to make sure the machines are working as they should. Workers rotate between different tasks. The workplaces are no longer so monotonous.

Maximising the value of the fish

Things started changing in the 1990s, when Iceland began automating fish processing. Icelandic fishing companies developed the theory that they could maximise productivity and the value of the fish by using every part of it – not only the filets, but also bones, skin, everything. This is how Iceland's fisheries industry operates today.

During the 1990s, pelagic fish factories froze 150 kilos of fish per worker per day. Today, the factories can freeze 1,500 kilos per person a day. The increase is due to new technology developed through cooperation between Iceland's fisheries and tech companies.

"It takes the fisheries industry only a few days to produce the same amount of fish as it takes agriculture an entire year to produce lamb meat," says Hörður Sævaldsson, Assistant Professor at the University of Akureyri.



The reason behind this development is cooperation between fish factories, fish processing plants and tech companies. The fisheries industry tested the new technology and opened the doors for inspectors who could come in and control it all. The industry on its part showed patience in cases when the technology did not work as intended. This way, new and better technology was created, little by little.

Thanking the fishing companies

Heiðrún Lind Marteinsdóttir, CEO of Fisheries Iceland, thanks the fishing companies for having taken part in the development of the new technology. She says they invested and begun using the new technology before it was fully developed. They have shown great understanding and patience during the development phase.

"The development has been based on the goodwill of the fishing companies. Innovations are worthless for pioneers if they are not carried forward and tested by the companies," agrees Hörður Sævaldsson.

"The new technology sometimes reduced productivity for a period of time, damaged production and sometimes proved difficult to handle. But you have to remember that you have to invest to make a profit."

Developed through cooperation

The development has been swift, especially over the past ten years as cooperation between fishing companies and the tech business really accelerated. Investments and increased cooperation meant the new technology developed faster than before. The aim was to increase productivity.

Heiðrún Lind points out that investments in the fisheries industry has been record high in the past three to four years. Companies have invested both in new trawlers with onboard freezing capabilities, as well as new technology – onshore and offshore.

"Rather than importing the technology, the companies have developed machinery and technology together, which can then be exported. The new technology has become a new revenue source for the fisheries industry," she says.

Industry renewal

Since the end of the 1990s, Icelandic fishing companies' equipment has seen a dramatic renewal. Trawlers are fewer and bigger, and onboard technology has improved. The development has meant that Icelandic companies now work together across different trades, in order to be able to offer comprehensive technological solutions which can be exported as a whole.

As an example, Hörður Sævaldsson mentions a fourth generation fishery plant for pelagic fish. In 2013 the Faroe Islands purchased the first complete fishery plant for the processing of pelagic fish from Iceland. Since then, Iceland has sold fishery plants to the Faroes, Japan and Russia.

Foreign companies have also begun buying freezing houses for the processing of groundfish.

"Iceland develops and produces the computer technology and the machinery. The factory is built in the customer's country. Iceland delivers the new technology and starts up the machines," explains Hörður.

Major increase in productivity

Iceland's fisheries industry has been part of the development from day one. Workers used to cut fish into pieces, rinse bones and look for parasites. Fish factories have been equipped with new machines and computers, and have tested them in order to improve the technology. Today, the new technology takes care of what used to be done by hand.

X-ray cameras scan every filet and the machines rinse and cut the filets using water jets.

“For the industry, the result has been a major increase in productivity. Thanks to technology that cuts fish filet using water jets, you double productivity using the same number of staff,” explains Hörður.

Untouched by hands

Axel Pétur Ásgeirsson is responsible for marketing at the production company Curio. They make fish processing machinery which see to it that fish no longer is touched by hands. The entire process is automated and computerised. Axel believes the understanding and goodwill shown by Iceland’s fisheries industry has made the development of the new technology possible.

“Other countries see that the best technology can be found in Iceland. We exploit the fish in the best way, we have the best raw material and we are working hard to improve further. Machines now take care of the processing, and can produce enormous amounts without growing tired. The technology has become an export,” he says.

Need to study

The fisheries industry used to be reliant on a large number of workers, and it was not always easy to find people to hire. But recent developments have led to major cuts in staffing, both among fishermen and workers at the fishery plants. The machines mean improved productivity, and the number of employees is falling. Staff now need to study in order to work in the fisheries industry.

“It is always difficult to introduce changes. But we need to do it in order to develop the industry. We have to make sure employees are given other jobs,” says Heiðrún Lind.

Hörður Sævaldsson believes Iceland is lucky, as there are jobs to be had in other sectors, like tourism, construction and fish farming.

“Most people have managed to find new jobs. The fisheries industry has also put effort into training employees to work with the new technology,” says Assistant Professor Hörður Sævaldsson.

Heiðrún Lind underlines that restructuring has led to less pollution from the Icelandic fisheries industry. There are fewer trawlers, machines have changed. The aim is to maximise income by processing the fish from start to finish, while Iceland tries to keep its global promises on cutting pollution.

Jon Erik Dølvik: Technology easily blinds us, yet we can shape our own future of work

He does not use the analogy himself, but when Jon Erik Dølvik talks about the future of work it sounds as if he is talking about the Gulf Stream. When researching whether the Nordic model can manage challenges like automation, globalisation and the platform economy, he is mostly interested in how the flow of capital affects employment.

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TEXT AND PHOTO: BJÖRN LINDAHL

Dølvik heads the largest research project ever financed by the Nordic Council of Ministers for Labour. 30 researchers from the Norwegian research foundation Fafo and seven Nordic universities are gathering knowledge and giving advice on how the Nordic region should face the challenges linked to the future of work.

“In our first report this autumn we will look at what are the driving forces. What actually has an influence?

“After that we will analyse different perspectives, like automation, before we finally sum up the changes and discuss the need for adapting the Nordic model to the new reality.”

It is early days, but Jon Erik Dølvik is quite determined when it comes to the kind of report this will **not** become.

“We will not seek to frighten politicians with worst-case-scenarios, like half of all jobs will disappear because of digitalisation. It is important not to get blinded by what the latest technology can lead to on a micro scale in individual companies. The effects on employment and working conditions in general also depend on different issues besides technology.

"The way in which we are influenced by new technology will always be filtered through markets, institutions and how people act. We are not helpless in the face of technological change, we can make decisions through our economic, political and social institutions," he says.

Many driving forces

When he illustrates the many driving forces which might have an impact on the Nordic model in terms of how the labour market is organised, digitalisation is but one out of many factors.

"Tomorrow's labour market will probably be influenced just as much by demographic change linked to an ageing population and migration, which again is influenced by globalisation, urbanisation, climate change, developments within the EU and changes to our values, norms and ideas," he says.

"These driving forces rarely pull in the same direction or in the same way in different countries. Globalisation and the EU's role can both increase and decrease for instance. But a common trend over the past decades is that inequalities have grown – and in the Nordic region more than anywhere else."

The last of the driving forces which Dølvik presents is what is called 'financialization'

"This is about how the finance sector is expanding, and the increase is in investments in stocks, property and other assets, rather than in production which creates new jobs. This is amplified by digitalisation which has created companies where production costs for making yet another product or service become negligible, so-called declining marginal costs."

When a robot has learnt a task, the knowledge can immediately be copied to other robots. When we watch a film, listen to music or read books, providing a different customer with the same goods is nearly cost-free for the company and demands next to no labour.

This kind of 'winner takes all' activity means the largest companies like Amazon, Google and Facebook amass enormous returns, while they pay next to nothing in taxes to host countries, and only invest a small portion of their returns in new production and new staff.

How are profits divided?

"The key question if we want to further develop our Nordic welfare states, is how the profits are divided. Do we manage to keep the profits that are created in our countries and invest these in businesses that create jobs, or do they disappear to owners abroad? There is no lack of unsolved issues, but if the global company giants keep taking an increasingly large slice of the cake, we might experience lack of demand for labour.

"The social partners and governments need to find the right balance, so that we can improve the conditions for life-long learning, occupational mobility and invest enough in skills and competencies. That's when we can use technology to increase productivity, and also deal with the increasing demands within the health and care sector, education and infrastructure," says Jon Erik Dølvik.

These are the streams in society which might remind us of the Gulf Stream, where the actual pump is cold water sinking down in the Arctic, creating pressure pushing warm water from the southern hemisphere up through the Atlantic. In the same way climate scientists worry about increasing temperatures' potential for changing the Gulf Stream, the capital streams might also change.

In some countries with large raw material deposits, like several oil producing countries, this is not functioning. Ordinary citizens never get to share the wealth and there can never be economic development. Countries which have pumped up oil for hundreds of billions of dollars are poorer than neighbouring countries which have not found oil, and as a result have had to invest in different and more labour-intensive trades than oil.

Productive justice

Who says the Nordic countries cannot be the ones benefiting the most from the changes which are now taking place in the labour market?

"We have special institutional features which have contributed to a kind of 'productive justice'. Gains created have been divided and to a large extent benefited citizens who in turn can ask for new goods and services.

"This does not mean there are no threats to the Nordic model, because these special features are under pressure. New ways of organising work, for instance in the platform economy, where short-term working tasks are run by algorithms, means union membership numbers will probably fall. It is also worth noting that the technological development has a greater impact on routine working tasks found in the middle of the occupational pyramid, where trade unions and collective agreements are strongest.

“But the future of work is something we have a chance to shape ourselves. If we focus enough on life-long learning and make sure the institutions we have in the Nordic model are innovative and adaptable enough, we can also handle unexpected change,” says Jon Erik Dølvik, and reminds us that the Nordic region, despite pessimistic predictions, is one of the regions which have gained the most from globalisation.

Comprehensive research project

The research project on the Nordic model has been structured around four themes:

- Which are the drivers that influence the labour market?
- Digitalisation and automation
- Atypical forms of employment
- New actors, like platform-based companies

The researchers will also be looking at three overarching issues:

- How working environments develop, across different trades
- How labour law develops
- How the Nordic model is influenced

Jon Erik Dølvik says the aim of the research, which ends in 2020, is not primarily to provide specific political advice, but rather give the politicians and social partners an idea of which elements can be influenced.

“As always, the best advice is to prepare the ground for life-long learning. The main challenge is whether we in the Nordic region manage to maintain a political economy where surplus and value creation is channelled into investments in new growth industries,” he sums up.

Digitalisation now also concerns people with higher education

Camilla Tepfers' choice of words is surprising as she describes the skills needed when machines have learnt what we thought only humans could to: Those who can tolerate boredom are the winners, she might say. Or those who consider things in more depth.

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TEXT AND PHOTO: BJÖRN LINDAHL

Camilla Tepfers works at inFuture, which does what the name suggests. The Norwegian company develops trend analysis, future visions and scenarios. Their offices lie in Stortingsgata 12 in Oslo, with a view of the Norwegian parliament, in a building where the lift is broken.

"Doesn't work," says the Polish worker sat next to the lift door holding some cables.

We walk up the stairs to the fourth floor and arrive in a sparsely furnished office where black computer screens are lined up next to each other. It is 5pm and Camilla Tepfers is nearly the only one here, having just finished the last meeting of the day. The only extravagant items are a visitors' sofa and a tree-shaped coat stand. Or is it a sculpture? It makes me think of the tree of knowledge, but misunderstand my interviewee immediately:

"Have you heard about 'iv'"? I think she asks. In Norwegian it could be an abbreviation.

But she is talking about Eve, pronounced the same way in English. It is the research robot from the University of Cambridge, which has its own lab where it can screen 10,000 different compounds in one day to see whether something can be used in new types of drugs. Eve is named after the first woman in the Bible. She shows how occupations which we

consider to be among the most complicated will also be influenced by digitalisation.

The research robot Eve can singlehandedly analyse which compounds might function as drugs, and carries out her own experiments. Photo: The University of Cambridge

"In 1997, the year I finished my master's degree at the Norwegian University of Science and Technology in Trondheim, I wrote a book about internet shopping. I wrote about something I called digital assistants, which would fundamentally change the way we shop. I was wrong by 21 years. But they are coming now!" says Camilla Tepfers.

Around the same time as she wrote her thesis, I read a book on artificial intelligence. Its definition of why it is so hard to make robots act like humans went something like this:

"You can teach a robot to enter a restaurant and order food. But it does not know how to react if the boss is sat at the next table together with his mistress."

The relationship between humans and machines is always complicated. New systems are introduced into old structures. People do not always act according to what is written into computer programmes.

When many jobs are being threatened by artificial intelligence, we are not literally talking about robots becoming dentists, bus drivers or construction workers.

"This is not about the computerisation of all working tasks. But a large part of working tasks in many occupations will disappear," says Camilla Tepfers.

A legal robot

You only need to read today's paper to see that something is about to happen. On the day we visit inFuture, the daily Aftenposten writes about a young lawyer who had expected to be spending a lot of her time reading court documents in order to identify case-law. Instead, a legal robot analyses documents at lightning speed and compares them to all relevant documents.

"What makes this change different, is that highly educated people are no longer protected. They will be as influenced, or even more, as people with lower education."

The same newspaper also writes about parking attendants. Oslo municipality has increased the number of paid parking spots by 17,000. If these were to be controlled by ordinary parking attendants, they would have had to employ 80 new people.

Instead, the municipality is testing a new system where one employee drives a car equipped with ten cameras. It takes pictures of the number plates of parked cars. The pictures are scanned to obtain the registration number and in less than a second it can be established whether they have paid for parking or not. (Oslo has introduced parking meters where you need to register your number plate when paying).

A parking attendant on a bike follows and gets the information sent to his or her mobile telephone. The system is incredibly efficient: The car can read 1,500 number plates an hour while doing 50 km/h. Meanwhile, the parking attendant can concentrate on writing fines.

Camilla Tepfers has been invitee to talk at the Nordic conference in Stockholm on the Future of Work

Camilla Tepfers and inFuture work on a project for the Danish cleaning company ISS. Their headquarters in Denmark has more than 7,000 sensors in doors, windows, chairs, conference rooms and air condition systems.

"The sensors can tell you how much a conference room has been used. The cleaners have an iPad where they can see which areas have been used, across all the floors. What is marked green does not need any cleaning at all, yellow areas must be checked out while red ones have seen a lot of use and are dirty.

"At the same time we have to be careful that the collected information does not threaten employees' integrity. There is a cultural gap here with Asia, where face recognition pro-

grammes are used to a much larger extent than in Europe," says Camilla Tepfers.

With 500,000 staff in 77 countries working in catering, cleaning and other services, ISS is a giant. The contracts the company has for cleaning services alone, covers areas of 19 billion square metres

Being computer literate is becoming more and more important, but she would like to kill off the myth that young people are much better with computers than older people.

"If you look at the age group 25-44, 91 percent of people use social media. 68 percent of people aged 45-64 do the same, 23 percentage points fewer.

"What the younger people do have is lifestyle competencies. It is easy to exaggerate their abilities. If you look at digital skills in the workplace – simple things like being able to use a Word document or Excel spreadsheet – the difference between the younger and older workers shrinks to nine percentage points."

No digital lift

"This means we will not see the digital lift which some leaders believe you get by swapping 62-65 year olds with 23-25 year olds. On the contrary, you lose skills – the spreadsheet is only relevant if you know the business model in which you work. This is where the older employees are better.

"At the same time, younger workers are more adaptable, so we are not saying you should not hire young people. But you cannot buy your way out of further training by changing your staff."

So what will the most important labour market skills be if you want a job even after the present wave of digitalisation has passed?

"It will become even more important to get better at what is uniquely human," says Camilla Tepfers. She has identified four skills she considers to be important.

1) Creativity. If machines can perform 23 out of the 50 tasks I do in my job, I have to become better at the remaining 27. People are still better at creativity than machines.

2) Understanding information. It is important to be able to understand what information is relevant. Being able to avoid confirmation bias which brings the risk of ending up in information bubbles.

3) Social competence. Being able to understand emotions.

4) The ability to understand issues in more depth. Being able to work past the point of boredom.

"The digital world is full of distractions. Those who can avoid watching cat videos when things become difficult, have an advantage. Besides knowledge, the one skill which has proven to be the most important to get a job is being conscientious.

"You could compare it to reading a 500 pages book and get through the first 200 pages, which are hard, in order to be able to experience the last 300 which give you a great experience."

Cute, but a dangerous attention thief...

Britt Östlund: Technology is made by people – so we can influence it

80 year olds are considerably more different from each other than 40 year olds, yet older people are often described as an homogenous group with no real knowledge of how to use technology. This limits innovation and influences how welfare technology for older people is created, says Britt Östlund, a professor at the KTH Royal Institute of Technology specialising on older people and welfare technology.

PORTRAIT
28.05.2018
TEXT: GUNHILD WALLIN, PHOTO: BJÖRN LINDAHL

“We expect little from older people and have an outdated image about them as users of technology. But we all live in a technological landscape, and today many older people move in to their old person’s home carrying a PC. They also have completely different expectations than before,” says Britt Östlund, Professor of technology in health care.

Certain physical functions do indeed deteriorate with age, for instance eyesight and hearing, but at the same time the ability to learn from experiences increases.

“This means there is a great potential here,” she says.

She is the last speaker at the conference "The Future of Work in the Nordic countries – the impact of technological development on work and skills". When we meet the week before the conference, she is a bit disappointed that the focus on the users of technology are at the bottom of the programme.

"It is typical that the users' perspective of new technology ends up in last place."

She is also not happy about the original title of her talk 'Focus on the users' perspective', which becomes clear when it is changed to 'Why the users' perspective is part of the problem'. Britt Östlund is opposed to the word 'user' when it comes to the application of welfare technology. It gives the wrong connotations, she believes.

"A user plays a passive role, simply receiving welfare services which we provide. I think it is a derogatoryterm signalling low expectations. We should be asking 'what can we help you with?' I think operators or citizen is better and more respectful."

Unclear aims

Britt Östlund has been doing research on technology development, older people and design for nearly 40 years. Her interest grew out of being a young activist in the 1980s, protesting against the JAS fighter jet. She could not understand who something could be granted so much money with such diffuse aims.

"The argument was that it would create more jobs, but we did not know whether that would actually happen," she says.

Welfare technology started developing towards the end of the 1980s, spurred on by more liberal tendering rules for municipalities, which meant they were given more autonomy to purchase welfare technology. The aims were often unclearand were often based on the argument that it would help older people stay in their homes for longer, says Britt Östlund.

"I thought it was similar to the broad formulations used when arguing for JAS. I became interested in safety alarms and applied for a course in technology and social change at the University of Linköping."

Listen to them!

In 1995 she got her PhD with her thesis 'The old are the oldest. A study of the importance of technology in older people's lives', and since then she has focused on technology in home care, but also on older people as operators, consumers and citizens. From the beginning she was told that technology had nothing to do with older people.

"The wold of research was divided into silos of technology and operators. This is still the case, but to a lesser extent. There is a growing interest in involving older people in the design process, and to use their needs as a starting point," she says.

To her it is crucial that welfare technology actually works. It is not enough to sit in a lab and invent technology aimed at making everyday life easier for older people, or to protect them. In order for welfare technology to be useful, it must stand the test of implementation in people's homes 'out in the wild' as she puts it. The technology must be tamed and adapted to the situation and the person in order to be useful. A technological aid might work in a hospital, for instance an oxygen cylinder, but it does not fit in a home.

"If you look at the development of robots, for instance, we perhaps think that older people want company from a cute robot, or that they need technology which can monitor them in case they should fall over. But that is just following our own prejudices. Older people might want other things, and might be peculiar about having a nice home without ugly technology lying around. I am constantly surprised," says Britt Östlund.

Some innovations pass the test, others not, but failing technology can lead to new insight too. The bread making machine was a short success, but inspired a development which has seen almost every grocery shop now selling bread baked in store.

It is possible to influence technology

Both meeting Britt Östlund and listening to her talk reveals a person who is deeply engaged in what she does. After spending nearly 40 years studying how older people use technology, she has strong opinions about both faults and opportunities when it comes to welfare technology and its use. Cutting across her friendly demeanour is also a severe tone when she talks about stereotypical images of older and ageing people. But also concerning ideas about how new technology can help the future of home care and care for the elderly.

Britt Östlund describes home care as the cornerstone for a well-functioning society. That is why it is important to gather knowledge about how the working environment looks and how the technology can be applied in a way that actually benefits the older people as well as those working with them. It is often said new technology in elderly care should save time and money, but research does not support this notion.

“But technology can make the job simpler and more flexible."

Right now, Britt Östlund and her colleagues are involved in a research project together with the University of Lund and five municipalities. The researchers are looking at the working environment in the home care sector, and ask ‘What would be interesting to you?’ They also look at how the introduction of new technology in home care can influence the working environment and leadership. As part of their work, they have been investigating how many science articles have been written about the working environment in the home care sector, where so much new technology will be introduced and used. The researchers found only 16 articles, despite a world-wide search. The knowledge of elderly care is fragmented.

“We talk about those who work there, but they are not part of the conversation themselves,” says Britt Östlund.

National support for purchasing welfare technology

What has been uncovered, is that employees have high accident and injury rates and that sick leave figures are high. The sector is also nearly completely dominated by women – what does that mean? There is also a belief that this is an occupation where you do not need a lot of knowledge.

“We also know that they have dealt with new technology every day over many years, and that they are hugely experienced in the use of technology. Now they get a chance to tell us what they know.”

Britt Östlund first and foremost want to improve the working environment in elderly care. If you want innovation and welfare technology to work, the working conditions must be improved and you need to make use of employees’ technological knowhow. But the municipalities must also stop buying ‘gadgets’ without any thought behind it or strategy. She is also very aware that it is difficult to get to grips with everything that is happening in this area, and wants to see national support for the municipalities.

Britt Östlund’s starting point is that technology is created by people, and so it is possible to influence how it is made. That is why she wants a debate about who is in charge of the technology and she wants a dialogue about digitalisation. How is responsibility divided? What about the ethics?

“The basic idea around the world is that technology is magic, and we have two choices – adapting to it or protecting ourselves from it – and people with low education levels or the users come last. Digitalisation means we have to think in new ways. We must not be blinded bythe new technology but be critical to it in order to gain an informed view of technology. When it comes to technology aimed at older people, it is we – researchers and politicians – who perhaps need to learn new things, not the elderly. It is more important to talk to, and not about, people.”

The difference between a therapy dog and a Japanese robot seal

Robots help elderly care workers. Surveys show robots cannot replace employees, but they can help in their work and improve older people's everyday life.

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One example is robot animals which can be used when older people feel like stroking an animal, or are in need of company.

Robot animals and living therapy animals are two different things. The robot will stay put for an hour while being patted, while a living cat gets impatient and will leave when it has had enough. The relationship between older people and therapy animals grows, they remember the name of the dog when play is over. The robot dog will play for an hour, the older people will laugh and enjoy the game but will then close the robot down and forget its name.

The exhibition Kairo Robotto was Norrköping's Museum of Work's contribution to the conference on the Future of Work in Stockholm which ran from 15-16th of May. It showed how the Japanese government is already using robots in elderly care and how this might be applied in the future. The exhibition was based on a museum trip to Japan last year. The museum exhibited photographs taken by Said Karlsson during that trip, which also showed two robots – a seal with a dummy and a cat.

The robot seal can be seen in the pictures behind Andreas Nilsson. It has become popular with older people in Japan. Photo: Guðrún Helga Sigurðardóttir

Collection coordinator Andreas Nilsson was part of the group that travelled to Japan, visiting nursing homes and talking to researchers and trade unions. Japan has a rapidly ageing population. Society is taking more and more responsibility for their care. Nilsson experienced that Japan is addressing the growing problem using robots, and that a crying robot seal has already been in use for ten years.

Nilsson says that the Museum of Work is preparing an exhibition about the future of work for next year. The museum has therefore just started documenting how robots are being used in elderly care, and what impact this has on jobs in the care sector. Andreas Nilsson believes it will be challenging, but that it will work well. He thinks robots can take care of surveillance and safety, for instance, and that they can ease work for staff and prevent back pain and other work injuries while giving the elderly a better life.

“Japan needs more labour, and robots can be part of the solution. Robots will not replace people, but they strengthen and increase the status of the occupation,” believes Andreas Nilsson.