Trade unions and Digitalisation in Norway and the UK
Findings from the food and drink processing sector

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Research Aims

The research project sought to explore the role and influence of trade unions in shaping digital technology and its outcomes in four sectors in Norway and the UK. The research addressed two central questions. First, what involvement and influence do unions have in the implementation and use of digital technologies? Second, what factors affect unions' ability to shape better outcomes for workers? The project focused on lower and intermediate-level workers, specifically:

- shop-floor workers in grocery retail;
- production operatives in food and drink processing;
- administrative and clerical workers in financial services; and
- administrative and clerical workers in hospitals.

The researchers worked with trade unions in each country to identify key challenges and opportunities, along with the initiatives currently taking place across the sector. This report discusses findings from **the food and drink processing industry**, focusing on production operatives, and addresses the following aspects:

- Union involvement in the introduction and implementation of digital technologies.
- Union influence in relation to: (a) job losses; and (b) the monitoring and surveillance of workers.
- Shop steward perspectives on ways the union can further support them in dealing with digitalisation.

Research Background

Recent years have witnessed intense debate surrounding the 'Fourth Industrial Revolution' and the impact of digitalisation on jobs and job quality. While much debate has focused on potential job losses (Frey and Osbourne 2017, Arntz et al 2016), there are also important questions around job quality, including how tasks change, the impact on skill, and the role of technology in the surveillance and monitoring of workers. Critical commentators have warned against 'technological determinism', arguing that outcomes are not driven solely by

technology, but also depend on public policy, institutions, social actors and workplace contestation (Dølvik and Steen 2018, Lloyd and Payne 2019).

Trade unions are important actors in shaping the use and implementation of new technology in support of workers' multiple interests. Previous studies in the 1970s and 1980s, however, suggest unions have often struggled to exert influence (Beirne and Ramsay 1992). In the UK, where some unions such as the Transport and General Workers' Union (now part of Unite) experimented with 'New Technology Agreements' (NTAs) (Williams and Steward 1985), unions arrived 'too late' in the decision-making process, and often lacked the knowledge to influence complex IT systems (Deery 1989). Unions fared better in Germany and the Nordic countries, but even here they were not always involved in high-level planning decisions (Deutsch 1986, Sandberg 1985).

Today, the context is even more challenging, given 'neo-liberalisation', financialisation and union decline in many European countries (Visser 2019). The general position taken by unions is that technology has the potential to impact positively or negatively on workers, and that shaping its use to benefit workers and society depends on collective voice and influence (TUC 2017, STUC 2018). Many factors are important in shaping outcomes including national institutions and public policy; the power unions have at different levels (national policy, sector and workplace); the approaches taken by dominant actors (government, senior managers); and unions' own strategies, resources and capabilities (Gasparri and Tassinari 2020, Lloyd and Payne 2021).

However, the question remains as to the role that unions are playing today. Most research tends to focus either on the 'platform' and 'gig' economy or, in the case of manufacturing, 'Industry 4.0', where attention centres on Germany and Italy in the engineering and automotive sectors. This has prompted calls for more research focused on less technologically advanced manufacturing sectors, and the service sector. This project aims to provide much needed research on how unions are currently approaching digitalisation, and the extent of variation across country and sector. It is particularly concerned to hear the voices of union representatives in the workplace, and the ways in which they are able to influence the use and outcomes of digitalisation for workers. It is hoped that the findings will provide opportunities for unions to reflect on their current practices and to share experiences.

Comparing Norway and the UK

Norway and the UK were selected for comparison as they offer stark contrasts in their institutional environments and the power relations between social actors. The UK is characterised by a more neo-liberal approach (Lloyd and Payne 2016), while Norway is part of 'the Nordic model' (Løken et al 2013). There is a long-established tripartite system involving the state, trade unions and employer organisations, and multi-level collective bargaining in Norway. In the UK, outside of the public sector, there is little sectoral collective bargaining, with single-employer bargaining in private firms where unions still retain a presence. Union membership density in Norway is twice that of the UK, while employer coordination is also significantly stronger (see Table 1).

Table 1: Key differences between the UK and Norwegian models

UK	Norway
Union density: 23% Collective bargaining coverage: 41%	Union density: 50% Collective bargaining coverage: 70%
Employer organisation: 33%	Employer organisation: 73%
No national bargaining, sector bargaining mainly limited to public sector	National & sector bargaining dominate
Very limited union involvement in labour market institutions and policy	'Tripartite' labour market institutions involving the state and 'social partners'
Weakly-regulated labour market	Strongly regulated labour market
Extensive low wage labour market and high income inequality	High wage economy and low income inequality
Relatively weak productivity	Relatively strong productivity
No codetermination in law	Statutory codetermination, including work environment committees
No legal rights for unions to be informed and consulted about new technology (only redundancies)	Basic Agreement (national-level collective agreement) & Work Environment Act provide for union involvement in new technology.
Moderate data protection laws	Strong data protection laws

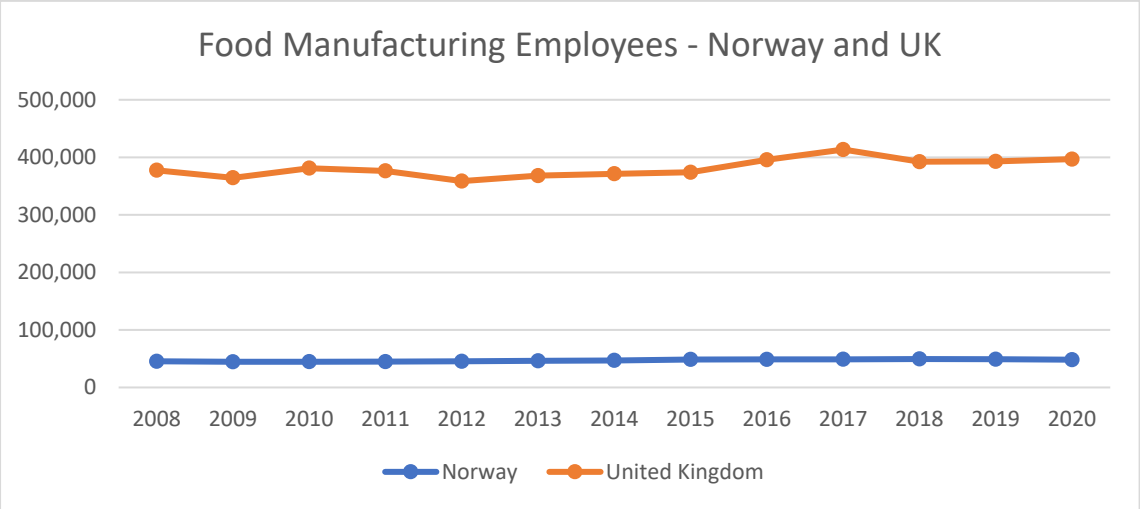
Data Sources: Nergaard 2020, DBEIS 2022

Surveys suggest that technological change and new working practices are the two areas where bargaining and consultation with unions is least likely in the UK (van Wanrooy et al 2013). A survey undertaken by the CIPD (2020) found that only 21% of employees in the private sector report worker representatives being consulted over technology. In contrast, the Nordic countries are still seen as offering relatively conducive conditions for union involvement in workplace decisions around technology (Dølvik and Steen 2018). There is also evidence of differences in job design with Norwegian workers having a substantially higher incidence of jobs characterised by high task discretion and high learning intensity than workers in the UK.

Food and Drink Processing in the UK and Norway

The food and drink processing industry is the largest manufacturing employer in both Norway and the UK. The industry employs around 50,000 workers in Norway and 400,000 in the UK, accounting for 20 and 24 percent of total manufacturing employment respectively (BRES 2020; Eurostat, 2020). Figure 1 shows that since 2008 employment has remained relatively stable in both countries, and has increased in the UK, notwithstanding greater fluctuations over this period.

Figure 1: Food Manufacturing Employment in Norway and the UK (2008-2020)



Source: Eurostat (various years)

Reflecting their national industrial relations and labour market 'models', there are major differences in the role played by employer organisations and trade unions, as summarised in Table 2. Although data is available primarily for manufacturing, there is a much higher level of union organisation in Norway, with the national agreement between peak-level labour market parties, LO and NHO, particularly important for laying the foundations for the various sub-sector collective agreements in food and drink processing. In the UK, collective bargaining, where it does take place, is either at company or plant level. Median wages in the UK are not much above the statutory minimum wage, and around 60% of the lowest wage rate in the collective agreements in Norway.

Table 2: Industrial relations in Food and Drink Processing

	UK	Norway
Dominant level of collective bargaining	Company & plant level	National agreement between LO and NHO, sector agreements between NNN and NHO, built on by company bargaining
Union density	17% (food only) 14% (manufacturing)	50% (manufacturing)
Union organisation in food & drink	Multi-unionism	NNN
Collective bargaining coverage	28% (manufacturing)	56% (manufacturing)
Pay	National minimum wage (over 23) = £9.50 Food & drink processing operatives median pay £10.30 (2021)	Minimum pay in collective agreements in the sector (generally applicable in fish processing) NOK193.55 (2021) [£16.40] Median pay = NOK232 [£19.60]

Data sources: Nergaard 2020, DBEIS 2022, ASHE 2021, Statistics Norge.

The UK industry has a reputation for having many low-skilled, low-paid jobs with, until recently, around a third of the workforce made up of migrants mainly from the European Union (James and Lloyd, 2008a, Heasman and Morley 2017). The supply of migrant workers has been significantly impacted by 'Brexit' and the UK government's 'points-based' immigration restrictions on the entry of 'low skilled' workers. In Norway, migrant workers appear to be concentrated in its large fish processing sector (Friberg and Midtbøen 2018, Rye and Slettgard 2020). The poor employment practices of some companies using 'foreign labour' paid well below industry rates, led the union to successfully achieve a generally applicable collective agreement in fish processing. Minimum pay rates, therefore, legally apply to all workers in this subsector regardless of whether there is a collective agreement.

Automation has a long history in this sector, although much of the European industry, particularly SMEs, are based upon manual manufacturing processes (Gray and Davis 2013). Worldwide, robot use is increasing but still accounts for only three percent of installations (IRF 2019: 13), with most used for packing, stacking and palletising operations rather than pick-and-place food handling (Bader and Rahimifard 2018). Many food ingredients are fragile, sticky and irregularly shaped, presenting technology designers with significant challenges. Stringent hygiene requirements also affect the ability to transfer robotic tools from other sectors (Lien 2013).

In the UK, automation has tended to lag behind other European countries, notwithstanding differences between companies (Heasman and Morley, 2017; Lloyd and Payne, 2019). The adoption of Industry 4.0 'cyber-physical' systems remains limited, even though some companies are seen as 'aspirational' (Thomas et al., 2017). Long-standing problems of short-termism and intense cost and flexibility pressures from powerful supermarkets (James and Lloyd, 2008b) are a major problem, particularly for non-branded products. Low paying companies are also faced with increasing labour costs as a result of rises in the National Minimum Wage and recruitment difficulties with Brexit. The government has urged the industry to wean itself off low skill workers by investing in automation and improving pay. The employers' group, the Food and Drink Federation, in their response, have stressed the barriers to automation and that this is not a quick-fix solution.[1]

In Norway, despite being very profitable, the industry retains its reputation for being something of a 'technological laggard' (Braadland and Haukes, 2000), and it is unclear how

[1] https://www.fdf.org.uk/fdf/news-media/press-releases/2020-press-releases/fdf-response-to-the-publication-of-the-home-offices-plans-for-immigration/

much progress has been made towards 'Food 4.0'. While high wages are seen by industry stakeholders as incentivising digital automation, some companies are said to remain technologically 'backward' and view investment in robots as 'too expensive' (Lloyd and Payne, 2019). Nevertheless, much of the sector is already highly automated and investment levels are significantly above the UK, with gross value added per worker over 40 percent higher (Eurostat 2020). There are also signs that investment in digital technologies has involved some companies 'reshoring' production from lower wage countries.

The Unions and Research Methods

The two unions participating in the research were *Norsk Nærings og Nytelsesmiddelarbeiderforbund* (NNN) (The Norwegian Food and Allied Workers Union) in Norway and Unite in the UK. NNN is affiliated to the main trade union confederation in Norway, LO, which has strong links to the Labour Party. With around 28,000 members, it is the only union that organises production workers in the sector. Unite is the second largest union in the UK affiliated to the TUC and the Labour Party. It is a general union operating across a range of sectors and is one of several unions representing workers in the food and drink processing sector.

The research primarily involved semi-structured interviews with national and regional officers, and senior and workplace union representatives (shop stewards) (Table 3). These were supplemented with secondary data from union web pages, union policy documents and press releases. A total of 20 interviews were conducted on-line between April 2021 and April 2022 with 22 participants. All interviews were audio recorded with the consent of participants and fully transcribed. The names of all interviewees and companies are anonymised in the findings.

Table 3: Research Interviews

Interviewees	UNITE (UK)	NNN (Norway)
National officers	2	4
Regional officers	2	2
Reps / Shop Stewards	6	6
Total	**10**	**12**

There is considerable variation in the organisation and strength of unions across different workplaces in both countries. The selection of sites aimed to include examples that were considered to be well-organised and other areas which were more challenging. In Norway, the shop stewards in the following workplaces were interviewed: two fish processing (N-Fish1 and N-Fish2), one meat processing (N-Meat), two cheese processing (N-Cheese1 and N-Cheese2) and one ambient food processing (N-Conf). Union membership varied from 63% (N-Fish1), with 80% non-Norwegian workers and very high turnover, to around 90% in the other workplaces. Pay was estimated at between NOK450k and NOK500k, although in N-Conf, it could be over NOK750k with shift allowances. Most of the workplaces are male-dominated, with the exception of the fish industry. This may partly reflect the use of rotating shift patterns (including nights) in most of the non-fish companies.

In the UK, shop stewards in the following companies were interviewed: two MNC drinks processing (UK-Drinks1, UK-Drinks2), ambient food processing (UK-Food) and fish processing (UK-Fish). Membership density is high in the workplaces in this study, at 80% in all but UK-Fish, which, at 50%, is still well above industry average. With no sector collective bargaining, the unions rely on individual workplace or company negotiations. This has led to major differences in pay depending on the strength of unions historically, as well as the approach and market position of the company. In UK-Fish, wages are now based upon the minimum wage (£9.50, or approximately £18.7k per year). In the other cases, wages are much higher, with pay between £30k and £37k for an operative. Perhaps atypically for this sector, use of migrant workers is quite low. Some used few migrant workers (UK-Food) reflecting their position as high payers, while even at UK-Fish they only accounted for 30% of the workforce. None of the shop stewards reported problems in relation to recruitment difficulties. Similar to Norway, most workplaces were male dominated, except for the fish processing company.

Research Findings

The research findings are divided into three sections: first, union involvement in decisions concerning the introduction and implementation of digital technologies; second, unions' role in influencing the use of such technology in relation to (a) job losses and retraining, and (b) monitoring and surveillance of production operatives; and, third, unions' perspectives on supporting and training union representatives to deal with the introduction of new technology.

Unions' approach to automation and involvement

In the UK, with no statutory right to bargain or consult over new technology, the centrepiece of Unite's strategy around digital automation is securing 'New Technology Agreements' (NTAs). The aim is to commit employers to consult over the introduction of new technology, avoid redundancies and reduce working hours to safeguard jobs. The union has produced a draft model template that local reps can use. Saving jobs is the number one priority. Faced with limited alternative job opportunities and a poor social welfare system, most interviewees insisted they would rather retain repetitive or heavy work tasks than risk members' jobs.

> *if an employer came and said… we're going to make so many people redundant but the ones that we retain they're going to be highly skilled and highly paid, then our response has to be well 'no, look at reduction in the working week'… our bottom line has to be that we have to protect jobs.* (UK-national officer1)

Where job losses could not be avoided, the union seeks to ensure a 'just transition' (UK-regional-officer1) by pushing for workers to be retrained and upskilled to operate new machinery, and for good voluntary severance packages for those who want them.

Obtaining NTAs has proven challenging even in well-organised companies and none of the shop stewards had one in their workplaces. In some cases, however, shop stewards managed to secure local agreements (although these are not legally enforceable), whereby the employer has to inform and consult on any planned changes affecting workers. A senior steward in UK-Drinks1 referred to a joint union-management 'site council':

> *if they're going to change technology they have to talk to us… If there's going to be redundancies it's consultation, if there's significant changes to people's terms and conditions it's got to be negotiated.* (UK-Drinks1-senior-rep1)

In other cases, the unions are involved but there are not any formal consultative bodies. A senior shop steward at UK-Drinks2 explained that when management were planning to introduce technology they would '*sit down… and go through it with me*' (UK-Drinks2-rep). However, they felt this would only happen once decisions had been made, and wanted to be involved at an earlier stage:

> *I wish that they would involve me sometimes earlier than they do… I'm always saying, look, we've got a recognition and procedure agreement, you should be talking to me before we get to this stage.*

Although the shop steward had tried to engage management in discussions about an NTA, '*they weren't interested at all*.' At UK-Food, the union is well-organised across all of the company's operations, with senior stewards from different plants meeting regularly in a national forum. Shop stewards were able to challenge local management decisions by taking up any issues with senior company management: '*I've got access to their bosses… we're constantly going over their heads'* (UK-Drinks1-senior-rep2).

In other sub-sectors and companies in the UK, the involvement of the union in discussions around technology appears limited. A shop steward at UK-Fish remarked: '*to be honest, we don't really get involved in that side of it… It would just arrive in the workplace generally*'. In meat processing, a national officer was aware of only one employer with an NTA. Showing other employers examples of progressive employers that had signed an NTA usually resulted in '*a shrug of the shoulders and saying no we're not doing that*' (UK-national officer1).

Interviewees noted how companies often fail to involve workers in the implementation process which then leads to problems in embedding the technology that might have been avoided. A senior steward at UK-Drinks1 gave an example of a new fork-lift fleet in the distribution area introduced without any union involvement.

> *there was all sorts of little bits of issues with it all… we've had to change everything and we had to change how we pick, it's slowed the job right down, it's done everything it shouldn't have done. That's because we weren't involved from day one.*

The union was only involved if workers raised a safety issue: '*then the shit hits the fan*' (UK-Drinks1-senior-rep-2).

Challenges in introducing an NTA could be found both among shop stewards and employers. National union officers felt that some members in well-organised firms could not see the value of an NTA, with some employers prepared to trade-off improved pay offers

against having to sign an agreement. In addition, even if large employers sign an agreement, they are only likely to do so on a site-by-site basis rather than across their whole operations. This is particularly problematic as large companies play one site off against each other for investment, with sites with lower levels of automation vulnerable to production moving elsewhere and job losses.

There are companies, therefore, particularly in drinks and ambient products, that are well-organised and are able to obtain relatively good wage settlements but have a limited formal role in technological change. In other sectors like meat processing, the problem is gaining union recognition among 'rogue employers' that are major cost cutters and exploiters of labour, and drive what happens in the rest of the sector. Unless these employers can be organised, they will always undercut other firms offering better pay and conditions. A key part of Unite's agenda is to bring together shop stewards from different companies into 'combines' in order to work together to drive up terms and conditions. However, harmonising collective bargaining as part of a sectoral approach was seen as challenging, and even the good employers are often only willing to negotiate on a site-by-site basis: '*we've got to do the ground work on that and we're not there yet'* (UK-regional-officer1).

At the same time, Unite recognises that there is a need for more joint working with other unions in the retail sector, where they also have union members, to tackle the problem of supermarkets squeezing costs through their supply chain. However, they recognise that there are sensitivities in relation to inter-union politics as Unite is not the largest union organising retail workers, and they could be seen as trying to move in on another union's territory. Unite's focus is also different from the main retail union (USDAW) where a partnership and servicing model of unionism dominates (Hunt and Rolf 2022). Although Unite wants to work with good employers to achieve a fair deal for workers and the sharing of productivity gains that can result from automation, interviewees were generally sceptical of the 'partnership model'.

> *we wouldn't let it be partnership. However, it's not combative… there is a fairly respectful relationship on both sides* (UK-Food-senior-rep1)

This scepticism about partnership was also reflected in mixed views on whether unions would benefit from representation on company boards (for which there is no statutory provision in the UK) in order to be involved in key technology decisions at an early stage.

> *I think it's crucial… You can't guide the process by not being part of it.* (UK-regional-officer1)

> *I mean perfectly honest it depends who was sat there.* (UK-Drinks1-senior-rep2)

> *I personally wouldn't want to be on the board… and it's not trying to throw rocks at them, but I'm happier to be more of a conscience if you get what I mean, than to participate in the decision-making at that level.* (UK-Food-senior-rep1)

NNN does not have a formal written strategy on automation. Nevertheless, they have a clear focus on encouraging companies to invest in technology to support increased productivity needed to secure high wage employment and to remove hard, physical tasks. Even if technology meant fewer jobs, all of the shop stewards interviewed shared this perspective. In some companies, there have been substantial job losses, including redundancies, and plant closures as a result of the concentration of production into more automated workplaces. The use of cheap migrant workers was not considered to be a sustainable approach in Norway and, for the industry to survive, companies had to invest in new technology.

> *We have to be a part of it. We also [must] prompt to actually get the companies to grasp that they have to change, they have to take new technology into the factories.* (N-national officer1)

> *We do not fear technology, we welcome it… work will be easier. Due to competition, you need new technology in order to get more money, good resources.* (N-Fish2 convenor)

A central focus for NNN is to ensure that existing production workers are retained and trained to work with new digital technologies. The national leadership accept that some workers may lose their jobs but did not see the relatively generous welfare system as the solution. N-National officer4 insisted that, 'we want people to have jobs', even if this is outside the industry. The union, therefore, emphasises the education of workers, many of whom have few qualifications, and argues that employers should support workers facing redundancy to find jobs elsewhere. Working alongside other unions, NNN is campaigning for more support from the state for retraining opportunities, which was described as 'not good at all' (N-national officer4). Free training is available but there is no support for living costs while studying which is a significant barrier to uptake, and therefore job mobility.

The institutional and legal frameworks provide more opportunities for unions to influence technological change compared with the UK. Companies are required by law, through the Work Environment Act, to consult workplace representatives on changes affecting

workers, including as a result of new technology, with unions' role bolstered by collective agreements. National company law also mandates employee representation on company boards. Shop stewards in Norway emphasise the centrality of collective agreements to their ability to influence technological change, with a mixed response as to the effectiveness of employee representation on company boards. Some shop stewards had positive experiences, in that they were provided with information and knowledge about technological investment and decisions at an early stage. This allowed the union to challenge plans and also to be involved in decisions about purchasing technology.

> *We talk about what can we do about this and what can we do about that, and we also stop a lot of projects before even workers know about it, because we don't like the idea.* (N-Cheese1)

Other shop stewards explained they had no representation on boards, either because no NNN shop steward had been elected or, in one case, because the local union leader felt that decisions were made elsewhere, an issue perhaps more typical of private equity companies.

Similarly, there were varied responses in how early unions are involved in the decision-making processes at plant level. Some of the shop stewards participate at the initial stage when technology investments are first proposed, either by themselves, the work environment committee or management.

> *[the manager] would typically come to me and say that 'we would like to get this and that', 'we want to digitalise this', or, 'we want to get a robot or automate, and we are now forming a group of people and we would like you as the shop steward in that group'.* (N-Cheese1)

In these cases, shop stewards and an environment rep would normally be included in visiting suppliers of technology, including those located overseas. At N-Fish2, a well-organised fish company, a shop steward explained that their '*early*' involvement was *'quite exceptional*' for the fishing industry and management recognised that it leads to '*the best solutions'.*

The use of working groups, with union involvement, were common in these workplaces as a way of introducing technology. They could start at an early stage or be created after the decision to invest has taken place. These groups require an environmental representative to be included, which is often a shop steward, and will typically involve some relevant workers. Some shop stewards noted that even with cooperative union-management relations, they would still have to remind managers at times to involve them.

> *Sometimes they move a little fast and we have to say, 'stop, we want to be involved so you have to stop the project until we find the right person to put in a group, you can't do it without us.'* (N-Fish2)

A national officer emphasised that despite provisions for shop stewards to be consulted on technology changes, there remained considerable variation in practice across the sector.

> *It's quite common that local union representatives are talking about not being heard, being neglected, not being taking into consideration that they are running after the management, trying to find out what is going on.* (N-national officer4)

As two shop stewards noted:

> *[we are] now getting some new machines in January but we still haven't seen the drawings.* (N-Fish1)

> *I would like to be very early in the process… so I can have a say or have something to contribute to make it better. But then they have bought it [technology] and it just arrives and in a way it's too late to get any changes and do it any differently.* (N-Cheese2)

There is a question as to why these shop stewards are not in a position to make the law and agreements work and secure their involvement. For N-Cheese2, the shop steward indicated that the decision came from company head office and that there was little to be concerned about as *'most of the time it is a better solution'*. The shop steward at N-Fish1 was looking to challenge these processes at board level, despite not being a member. The regional officer was of the view that some shop stewards '*haven't the knowledge'* on how to use the laws and agreements.

Union influence

This section examines union influence on technological change at the workplace, focusing on two areas: job losses, skills and retraining, and the monitoring and surveillance of production operatives.

Job losses, skills and retraining

In the UK, interviewees noted that levels of automation vary considerably, both across sub-sectors and between companies. At one end of the spectrum, there are some highly

automated drinks companies, at the other, meat and fish processing businesses that still rely heavily on manual processes. Across the workplaces in this study, some were faced with major job losses due to automation, while others were expanding. The findings indicate that the shop stewards fight hard against redundancies but that they have little role in subsequent issues around job roles and retraining.

Job losses were a central issue in two workplaces, both of which provided relatively well-paid jobs. In UK-Drinks1, the union had fought management's decision to make 50 fork-lift truck drivers redundant, following the introduction of an automated distribution and retrieval system, and had managed to save 10 jobs. In line with Unite's strategy on automation, a senior shop steward noted:

> *[we] worked very hard to keep it labour intensive… we've always dragged our feet… to try and stop that, you know losing bodies kind of thing.* (UK-Drinks1-senior-rep1).

The union had not been able to prevent all job losses, however, with some workers opting to take a generous redundancy package (over £100,000 for some workers).

Although union density at UK-Drinks1 was over 80% and union reps were strongly proactive, both at plant and company level, the union had not been able to prevent management using technology to deskill production operatives. In contrast to many workplaces in Norway, operatives are graded in terms of their job tasks and skills, and there are considerable differences in pay. Higher-level operatives with in-depth technical knowledge and programming skills were phased out to cut wage costs, and the expectation was that lower graded workers would take on some of their role. The union had resisted this change as the workers were being expected to do higher level work for no additional pay. Programming is now undertaken by engineers, with the role of operatives reduced to 'basic maintenance' and 'spanner work'. New recruits are only trained at the lowest skill level and are stuck *'doing menial jobs like putting card into the machine'* and pushing '*a button*'.

The union at UK-Food was fighting a significant number of planned redundancies, along with changes to working practices and plans to bring in cheaper agency staff. The shop stewards, working in conjunction with the retail union USDAW, were developing a counter-proposal which would '*try and move to some sort of reduction in the working week*' (UK-Food-senior-rep1). The owners, with multiple sites in the UK, are far from reluctant to invest in automation, but new technology has been associated with the concentration of production and the closure of 'less efficient' plants. The shop steward explained how their workplace had

acquired a new production line transferred *'in secret'* from another plant that was being closed down. Their own plant, however, was still facing job cuts as it was considered less efficient, having not received investment in robotic palletisation. The shop steward described a situation where internal competition between plants for investment and jobs had resulted in a situation where '*the axe… has fallen on this site as a consequence of automation'* (UK-Food-senior-rep1). Automation was viewed as a '*double-edged sword'* (UK-Food-senior-rep1), with the potential to reduce heavy and repetitive work but also destroying jobs in the process. The senior rep and site convenor were sceptical that they could persuade management to sign an NTA, let alone have this applied across all of the company's operations. They emphasised the challenges that stemmed from companies playing one site off against another for investment.

At UK-Drinks2, the shop steward noted that automation had not led to job losses as the plant was expanding production, with other plants being closed. Management unilaterally controlled decisions around the implementation of new technology, including training decisions. Workers had been put on new automated lines without the correct training and were expected to perform tasks that should have only been undertaken by trained 'technical operatives'. The shop steward had raised concerns with both the factory and area manager, but nothing was done until an operative broke their thumb.

In fish and meat processing, the big issue at present is not job losses from automation but high labour turnover and recruitment difficulties, reflecting low pay, unattractive working conditions and reduced access to migrant labour from the European Union. Caught between a race to the bottom in terms of the price that they can offer to retailers and labour shortages, some companies were pushing up wages. While there is some automation taking place, it can be costly and difficult to introduce, particularly in workplaces which have relied on low paid workers undertaking manual tasks.

A shop steward at UK-Fish noted that although the company had invested in automation, it had not led to any redundancies with workers redeployed to work with new machines or transferred to other roles across its three sites. Workers were given 90-days-notice to changes in work roles as part of an '*individual process*' with their union rep present. There was no opportunity for the union to influence training decisions. The level of skill was considered low, with trainers and engineers having designed a *'standard operating procedure… a Janet and John version of how to run a machine'*. It was estimated that workers could be trained on the procedure in under a week. A team leader ('advanced operative') monitors the line and is *'essentially a button pressor'*, with workers performing basic quality

checks and feeding, packing, and stacking pallets, and the team overseen by a front-line manager. Any technical problems are immediately referred to the engineering department. Apart from engineers, workers were not involved in the implementation of technology.

In Norway, there was also a mix of experience in relation to job losses. There was little evidence of current threats in the plants included in this study as, outside of fish processing, significant automation took place many years ago and few highly manual jobs remain. In fish processing, there are still lots of repetitive manual jobs, partly due to technological challenges, although there is a current wave of automation taking place. Shop stewards were positive about the possibilities, wanting more automation and did not *'fear robots are coming to take away the jobs'* (N-Fish1). NNN officers suggested that automation in the fish sector could make Norway more competitive, despite high wage costs, with the potential for processing to be re-shored, particularly from China.

At company level, an important part of the union's approach to job losses has been negotiating supports for workers who are made redundant. The aim is to pressurise employers to fund schemes that help redundant workers find other jobs or access training, rather than simply providing a large lump sum redundancy payment. According to union officers, success is more likely when the company sells branded products, due to their concern about their public image. The union is prepared to 'name and shame' them in the media and this approach seems to be quite effective in using customers to bring companies into line.

> *It doesn't look good if you're a big Norwegian company and you want to downsize because you have done some investments in new technology, and you don't take care of your workers.* (N-national officer4).

The picture, however, is varied and some companies, particularly those employing many migrant workers, simply make workers redundant.

The union's main focus is ensuring existing production workers are retrained to undertake new tasks that emerge with digital technologies. Many workers have entered the sector without qualifications, and for those who have been undertaking repetitive manual tasks, the retraining required can last for months. A regional officer explained that workers were worried about being displaced, and that local management-union relations were key:

> *what's maybe the biggest fear among the workers… is that the engineers are coming in and they are being kicked out. But as long as it's a good dialogue between the leadership and the workers… about learning about*

new technology, I think nobody wants to say no to new technology. (N-regional officer)

In all of the Norwegian plants in this study, workers had the ability to obtain skilled status through work practice (five years in the industry) and formal studies, and this was generally encouraged by their employers. The proportion of workers who were 'skilled', ranged from 5% in a fish plant (with high concentrations of migrant workers and extremely high turnover) to 68% in a cheese plant. Older workers with 'seniority' are more protected from redundancy, and management cannot, therefore, remove them if they are not digitally competent. One officer felt that the legal regulations encouraged managers to train all workers.

> *If they want to get rid of someone, you can't start it when you are making someone redundant because of new technology. Because the union will always be there to say, 'Okay, but this person you want to let him go, you haven't been educating him, you haven't been giving him the opportunity?'* (N-national officer1)

Some issues were raised about lack of workplace training when technology was introduced, although interviewees suggested this was not common.

Monitoring and surveillance

In both the UK and Norway, the unions recognise that digital technologies present new challenges in relation to the monitoring and surveillance of workers. In the UK, the draft template for an NTA that Unite has provided for its representatives to use in the workplace contains a section dedicated to monitoring and surveillance. While NNN can draw on strong data protection laws and the Work Environment Act to control individual performance monitoring, in the UK the tendency is to use union organisational strength and health and safety legislation.

One issue that shop stewards face is the use of cameras in the workplace. In three cases in the UK, shop stewards had been successful in restricting their use. In UK-Drinks1, the union had secured an agreement that listed all cameras in operation, placed restrictions on where they could be placed and what they could view, and which prevented anyone viewing recordings without a shop steward being present: *'I couldn't believe it, we got all this in place, absolutely'* (UK-Drinks1-senior-rep1). A senior shop steward at UK-Food noted that there had been instances of management using cameras to watch workers, but the union had effectively put a stop to such practice.

There is a question as to whether this is the position across less well-organised workplaces. A regional officer for the fish processing sector reported that there were few calls from shop stewards about the use of cameras (UK-regional-officer2). However, at UK-Fish, a shop steward described how the company had put in '*loads of cameras*' to check workers were following standard procedures.

> *we noticed more and more [people] sitting in the gatehouse looking at the camera footage for certain things.*

Management claimed they were overseeing safety issues, but cameras were also used to monitor workers' '*timekeeping*' to '*see whether they've left or not*', resulting in some disciplinary cases.

In several cases, shop stewards had successfully blocked or amended moves by management to use technology to increase other forms of monitoring and surveillance. At UK-Drinks1, fingerprint recognition sensors on internal doors were being used to time how long workers spent on breaks. During the pandemic, the union had successfully fought against the use of this data for disciplinaries, arguing it would add to stress and sickness absence. In the same workplace, the union had also limited the use of a system to monitor fork-lift truck drivers:

> *A screen that tells them where to go to, what pallets they pick up and a task rate really and it'll monitor how many tasks they can do in a 12 hour period. It'll monitor when they log off to go for their break… it's died a bit of a death to be fair because we objected to it.* (UK-Drinks1-senior-rep1)

The union secured an agreement that this system would not be used for disciplinaries as this could result in workers speeding up at the expense of health and safety. The legal provisions for health and safety were seen as particularly important in offering protections:

> *If you formally send them an email about your concerns on behalf of the union about your members' safety I can guarantee the phone will be ringing within five minutes.* (UK-Drinks1-senior-union-rep1)

A senior steward at the plant commented that a bigger problem can be direct human supervision by aggressive managers, and the union would regularly use the '*national forum*' to '*go above their heads*' and speak to their senior managers to get them '*re-educated'* (UK-Drinks1-senior-rep2).

At UK-Food, the union had successfully fought against the introduction of an individual performance management system with an overtime ban and a vote in favour of strike action:

‘*performance management in here is history, we’ve absolutely shafted that*’ (UK-Food-senior-rep1). The site convenor also alluded to the biggest problem being direct supervision, after management had decided to enforce a new system for regulating break times:

> *you had people like flipping camp guards stood on the stairs watching people, and checking whether they’re going to the smoke shed and stuff like that… so yeah they don’t bother, they just by-pass the technology*. (UK-Food-senior-rep1)

In Norway, national officers are concerned that digital technologies could be used for ‘*controlling people*’, and ‘*that’s maybe more the things we are training the union reps to engage in*’ (N-national officer4). The Work Environment Act requires an agreement with the unions for any surveillance of workers and that monitoring should not be stressful or harmful. In a number of cases, shop stewards had agreed to filming to check on production, for example inside a freezer or checking temperatures, but not where people worked. Despite these regulations, the union officers explained that there are a lot of exceptions which allow companies to film workers, for example if there is a risk of product contamination. In such cases, cameras can be introduced without agreements, but they are not allowed to show faces or be used for disciplinary action.

In relation to broader gathering of data, the unions tend to make agreements with management that allow data to be collected by shift or teams as part of monitoring the performance of the system, waste and efficiency levels. Although the technology often collects data on individuals, the unions typically refuse to allow its use for the monitoring of individual performance. As one shop steward (N-Cheese1) explained: ‘*we always make a protocol... they can talk about it as a group, but not as an individual*.’ Within warehousing, some workers had, in the past, been threatened with dismissal for being too slow but the union had quickly put a stop to this: *‘No, you can’t, I’m going to put a lawyer on you*.’

For some well-organised workplaces, monitoring and surveillance was not considered an issue. The shop steward at N-Food explained that the workers were ‘more independent’ and ‘skilled’ and were trusted to undertake their work without these types of management practices. At N-Fish2, there were no recent concerns raised about surveillance systems at the plant or across the company (N-Fish2 convenor). Management had tried to use surveillance systems a few years ago but was stopped by the union shop stewards.

In some cases, managers appear to ignore the rules, with some warehouses cited as a problem. In one company, managers were asking workers about their pick rates through ear pieces, claiming they were 'helping' them to do their job better.

> *our union is thinking that this is not to help them but to give them a little warning that if they don't go fast enough, they are not good enough. There are a lot of things that you can and can't do. But if you have leaders [managers] who don't follow the procedures then it's a problem.* (N-national officer1)

Some shop stewards indicated that there was pressure from management to individually monitor staff but the regional officer insisted that where the union was well-organised it would not happen. Where union organisation is weaker or the shop stewards are not proactive, it can be a different story. At N-Cheese2, a new system was being introduced that could monitor everything on the production line, including individual workers. The shop steward did not seem to have been involved in the implementation process, and was waiting for workers' responses to find out if it needed to be challenged.

> *So everything you do is kind of noted down in the system. It's a little bit stressing…. They just tried it out on one production line. I have said that I am a little bit concerned, but of course we have to try and see how it's being used and also listening to these people who are working there, if they think this is a good thing or it's a bad thing or it doesn't affect them at all.* (N-Cheese2)

At N-Fish1, in contrast to many of the other workplaces, management tended to use more traditional methods to control the workforce. This may reflect the highly manual process of much of the work, and the frequent use of Eastern European managers that were not versed in 'the Norwegian way', alongside considerable pressures exerted on line managers by senior management.

> *You will always have a manager not so far away from you... There isn't so many positions where you are left to do your job. Sometimes there is much yelling down in production between the workers and the managers… The bosses upstairs push you [the first line manager] and you need to push the workers.*

Despite the strong regulations that exist in Norway, it seems that many managers would prefer to use digital technologies to monitor individuals. Unions have to be constantly aware of the possibilities of surveillance embedded within the technology. It is important, therefore, that shop stewards use their considerable rights to address such problems.

Union Resources and Support

This section examines the resources available to workplace reps to deal with the introduction of new technology in the workplace, and presents their views on where additional support could be provided.

In the UK, facility time for reps to undertake union duties varied across the workplaces. In some cases, there was a well-organised structure of shop stewards, including full-time positions. At UK-Drinks2, there was one full-time and 12 part-time shop stewards for 600 members in production. As far as facility time was concerned: '[*I have] free rein really to do what I want to do'* (UK-Drinks2-rep). Similarly, a senior rep at a large food manufacturer commented: '*If we say we need to go and do something, they [management] understand… there's never a problem to be honest'* (UK-Food-senior-rep1).

At another well-organised plant, facility time was '*fairly good*' in relation to workplace issues and followed the national company agreement. However, the company refused to provide 100% time-off for the plant convenor, which was regarded as '*political*' due to his effectiveness in coordinating shop stewards across the companies' different sites (UK-Drinks1-senior-rep1). Another senior rep commented it was a case of trying to '*scrape time here, there and everywhere'* (UK-Drinks1-senior-rep2).

Time-off for union work can be particularly problematic in some companies, especially in sectors like meat and fish processing. One shop steward was unable to participate in this project as staff shortages meant she was continually required to work on the production line and could not find even one spare hour. There is also an issue of the recruitment of union activists in these workplaces. A regional officer felt that persuading members to become shop stewards was challenging as many tended to *'put themselves down'* and feel they were not '*clever enough*' (UK-regional-officer2).

Unite provides a comprehensive training programme for shop stewards which includes dealing with new technology and securing an NTA, although how many undertake this training remains unclear. A national officer argued that the problem was not so much the training but the challenges reps face in persuading members to prioritise an NTA in bargaining negotiations with employers more willing to move on pay (UK-national-officer1). Another regional officer argued that in meat and fish processing, training around automation had tended to be focused on senior or lead shop stewards and the union needed to '*drill down*

much deeper' (UK-regional-officer1). With much training outsourced to academic tutors, it was said to have become somewhat '*unwieldy*' and needed to be *'brought back in house'*.

> *I think the reps can learn much more about automation from tutors who were reps who worked within those workplaces and saw automation [first hand] … And not just leading reps that you hope will then have a trickle-down effect.* (UK-regional-officer1)

However, the situation was variable in terms of how far shop stewards felt supported by the union to deal with the introduction of new technology: Some reps commented that they felt well supported by the national union and area officers, and felt well-informed about digitalisation.

> *If it was something that I couldn't deal with or I needed further assistance, then I would call nationally and see if there was any support there.* (UK-Drinks2-rep)

Others highlighted some variability across regions.

> *the Union is very well aligned on digitalisation… we're lucky we have a good relationship …with the regional officer. Some of the other sites…they don't have that relationship…the regional officer always seems to be too busy for them.* (UK-Drinks1-senior-rep1)

In relation to shop steward training, one regional officer argued that the UK government's decision to close the Union Learning Fund in England in 2021 had impacted on the resources available. As a general union, Unite's training covers shop stewards across a wide range of sectors and jobs. A regional officer felt that training needed to be more targeted at the challenges shop stewards faced in specific industries. Shop stewards were asked for suggestions on what training would be helpful in dealing with new technology. Responses included requests to return to face-to-face training which was seen as important in interacting with others. One interviewee described the online training delivery during the pandemic for new shop stewards as one of '*the most terrible things going… with people you never actually physically get to know*'. Other suggestions included more training around how to handle technology discussions with management and explicit support in negotiating NTAs:

> *what we've not discussed is how do you leverage a reluctant employer into accepting it?... the national level, there needs to be discussion about who has the technology agreement, and… what's your experience of it, has it got it anywhere else?… if they haven't, what's the strategy that we use?*

There are significant resources available to NNN shop stewards in their role. In general, time-off is considered sufficient for most in terms of union activities. There is a comprehensive programme of shop steward training taking them through four levels, as well as more specialist training opportunities available through LO, including courses on surveillance and monitoring. NNN also provides a range of general education provision for shop stewards and for the membership. In larger companies with long-standing union organisation, new shop stewards have the support of existing shop stewards in the workplace, and also more senior union representatives operating at divisional or company level. There is also support available from head office which tends to be more important for those who are less experienced.

> *Sometimes we actually feel that we are the reps for the companies and we have to, especially with new, unexperienced shop stewards, guide them a lot, especially in the beginning… because the law could be quite difficult to understand, comprehend, and it's quite complex. They need help to guide themselves.* (N-national officer1)

While some shop stewards were sufficiently experienced not to rely heavily on the central union, there was evidence of others who had little contact despite many issues being raised within the workplace which were not being dealt with proactively.

NNN has previously provided workshops on digitalisation and has been involved in projects around digitalisation, such as '*Competence for the Future*'. There are annual themed meetings of shop stewards run over several days, which may include issues around digitalisation depending on the participants who lead the agenda. There are also two-day regional 'leader' meetings each year. A number of interviewees emphasised the importance of face-to-face meetings for networking and learning, having experienced the use of online meetings during the coronavirus pandemic. The ability to be able to meet other shop stewards, both from within the company and across companies and countries (through European Works Councils), was seen as essential. In some cases, this was lacking in those less-well-organised workplaces.

One issue raised by a regional officer was that some shop stewards do not ask for training and education, or support more generally.

> *I think we have the things to give the people, it's more that the people in the factories have to understand, to use, to get organised, and to use the law and the agreements, and if they do that, they have a good position to be a part of a dialogue about new technology.*

An interviewee suggested that as it was historically a low skilled industry, some shop stewards may lack awareness of what education might be useful. In responses to questions about what the union could be doing better or what they needed to help them deal with current or future challenges, most could not identify anything. Some shop stewards felt that they were well-organised and already had considerable experience and there was '*nothing lacking*' and 'I *don't know what they could do better.*'

In meat processing, some meetings had been organised with experts in technology to discuss the market and what technology was being developed. These types of exchanges might be useful for other groups of shop stewards in different sub-sectors, particularly in relation to production technologies and surveillance issues. One shop steward wanted help with education programmes and digital confidence, and another requested more effective advertising of the opportunities available for individual members.

Summary

In the absence of a statutory right for unions to consult over the introduction of technology, Unite's strategy has focused on securing 'New Technology Agreements' with employers. Securing jobs has been the number one priority with the aim of reducing the working week to accommodate labour-saving technology. Progress to date has been very challenging, due to employers' reluctance to sign NTAs. By contrast, NNN sees automation as central to productivity-driven competitiveness in the context of high labour costs, and accepts that better jobs may mean fewer jobs. It operates in an institutional context where shop stewards have rights to be informed and consulted over technology changes affecting workers, collective agreements are more extensive, unemployment is lower and there is a relatively generous social security system for workers facing redundancy. Unions in both countries support technology that eliminates tasks harmful to workers' health, but the more-jobs-versus-better jobs question tends to draw different responses.

Union-management cooperation around technological rationalisation is more common in Norway, where 'partnership' has strong institutional supports that reflect the power and influence of unions within the Norwegian 'tripartite' system. Unite is willing to work with progressive employers to ensure productivity gains from technology are shared with the workforce. However, 'real' partnership *in these terms* is much more difficult, given the very different institutional and policy context which offers little support for unions. That said, there

is variation between sub-sectors and companies in both countries, with meat and fish processing among the most challenging. Institutional differences and historical industrial relations legacies may also explain why 'unions on the board' continues to draw more divergent responses from Unite interviewees than those in NNN. However, the data from Norway suggests that gaining representation on company boards can be a challenge.

In both countries, there was evidence of strong union organisation and proactive, knowledgeable shop stewards in a number of workplaces. In the UK, Unite reps have managed in some companies to secure local agreements that commit the employer to inform and consult around planned technology changes, and also use national forums to coordinate union responses across plants. However, even in these cases, they have been unable to obtain an NTA, and employers resist company-level agreements, preferring competition between plants for investment that offers leverage around changes to working practices. The opportunities for union and worker involvement in the implementation of new technology are far greater in Norway. In some workplaces, union involvement is early in the process and extensive. However, there are cases where management are introducing technology without engaging with shop stewards. The data provides many examples in both countries of how management's failure to involve unions creates problems that could have been avoided had production workers and shop stewards been able to contribute to the change process.

Although employment in both countries has remained relatively stable over the last decade, unions still have to deal with job losses. In the UK, there is evidence that Unite shop stewards have fought hard against redundancies – in some cases successfully – but tend to have relatively little involvement in the retraining of workers for new roles. Even where redundancies have been resisted, there are examples of management using technology to deskill work. In Norway, NNN shop stewards are more likely to be involved in decisions around retraining workers for new roles, while also pushing employers to meet social obligations to help those facing redundancy find other jobs outside of the sector.

In terms of the use of technology for monitoring and surveillance, the data provides examples of how some Unite shop stewards prevented managers using CCTV and other forms of technology to monitor workers, track their movements and see how long they spend on breaks. Interestingly, rather than using data protection legislation to support their claims, shop stewards tend to emphasise health and safety. In many cases, the bigger issue is old-style direct supervision from managers and supervisors. In Norway, where work environment and data protection legislation are more robust, and collective agreements extensive, NNN

reps are in a stronger position to challenge the use of technology for monitoring and surveillance. However, the data suggests that in some workplaces individual performance monitoring may be an issue.

Issues for Discussion

The final section draws on the research findings to raise a number of issues for each union. While there are some common challenges, given the unions' different resources and contexts, these have been presented separately and are intended as a starting point for discussion.

NNN

- There is a strong foundation of union organisation within the sector as well as significant resources being used to support shop stewards in dealing with digital technology. Union capacity, however, is variable. There are questions around how to encourage a more proactive approach to technology from some local union leaders, such as addressing management's failure to consult, and intervening before the technology is in place rather than waiting for members to complain. These are perhaps shop stewards who rarely interact with NNN officers, and 'silence' and high membership density does not necessarily mean 'all is well'.

- Representation on company boards is patchy. Some shop stewards indicated the importance of having seats on the board; however, there is a question as to whether more should be done in this area. There are issues when firms are part of larger conglomerates or are owned by private equity firms.

- While shop stewards were extremely positive about the training provided by the national union, it is worth considering whether further education and training might be required to address the challenge of digitalisation. Shop stewards put forward few suggestions. This might indicate that existing provision is sufficient, or it may be that the union centrally needs to be more directive in identifying new issues or in targeting those who may be reluctant to participate or confront issues such as low confidence. Shop stewards may require more assistance or training in relation to forms of digital surveillance which can be embedded within the technology and in challenging management use of data for 'training purposes'.

- Face-to-face meetings are considered to be essential at all levels. Shop stewards emphasised the importance of learning from others, whether within their company, across NNN, or at a European level. In many cases, there are very good networks but those in smaller organisations, or more remote locations, may be missing out.

- NNN does not have a written strategy on how to deal with digital automation. It may be worth thinking about whether one may be needed along with other supportive documentation around technology-related issues and challenges that shop stewards and members can draw on.

- A key issue in terms of retraining displaced workers for other jobs concerns the supports available through national tripartite agreements which address the question of how costs are shared between government, employers, workers and unions. Sectoral retraining and reskilling programmes that provide recognised transferable skills are also important. How far are such programmes already available, and what can do done to (further) promote their development?

Unite

- Interviewees were, for the most part, positive about the support they received from the union and from knowledgeable national officers who have a specific remit for the sector and sub-sectors. However, the level of knowledge and understanding among shop stewards about how to address technological change and the challenges involved in securing an NTA is clearly variable. This presents a challenge for the union, especially with most employers reluctant to engage with union reps on these issues.

- In terms of shop steward training in dealing with new technology, it may be worth exploring how far this has been concentrated on senior reps and whether a broader approach is needed. Bringing together shop stewards to discuss these issues and to share their experiences in face-to-face settings in order to learn from those who have direct experience and are in a position to guide and inform others would seem to be one important element.

- The union may wish to review progress on NTAs and consider where this has been forthcoming as well as document examples of where they have been applied successfully. Although most employers are unlikely to be persuaded by best-practice case studies alone, these can be an important resource for reps and be used as part of training programmes.

- It is understandable that Unite has sought to prioritise jobs in a context where redundant workers may struggle to access decent work and have to rely on a low-level social security payments and punitive benefits system. Whether the union should always prioritise more jobs is perhaps less clear, especially where jobs are low-paid, routine and damaging to workers' health, and where automation can be shaped to create better, if fewer, jobs. It is recognised that this is a major challenge for the union given the UK's institutional and regulatory context.

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