

LABOUR AND SOCIAL JUSTICE

# BUILDING WORKERS' POWER IN DIGITAL CAPITALISM

Old and New Labour Struggles

**Victoria Basualdo, Hugo Dias,  
Mirko Herberg, Stefan Schmalz,  
Melisa Serrano and Kurt Vandaele**  
October 2021



The use of digital technologies is being contested by workers and organised labour, giving rise to offensive and defensive labour struggles both in the Global North and South.



An increasing variety and dynamism are being exhibited by collective associations and representation of workers, especially in the platform economy.



Combining the power resources of grassroots initiatives and established trade unions is key to advancing workers' power and rights.



# BUILDING WORKERS' POWER IN DIGITAL CAPITALISM

## Old and New Labour Struggles



New forms of digital labour are restructuring the power relationship between capital and labour, reinforcing ongoing trends towards »precarisation«, informalisation of work and a lowering of labour standards. While a technology-driven »race to the bottom« may be on the horizon, the project »Trade Unions in Transformation 4.0« (TUiT 4.0) has identified how workers' associations and trade unions are contesting twenty-first century digital capitalism.



These struggles take on different forms: defensive struggles are taking place in mature industries, where the aim is primarily to defend existing employment standards. By comparison, offensive struggles usually seek to organise emerging industries and new groups of employees in order to establish and expand workers' basic rights and protections.



While defensive struggles are primarily being fought by trade unions, an increasing variety of collective associations and forms of worker representation can be observed in the digital or platform economy. Here, bottom-up initiatives and alliances between grassroots networks and »established« trade unions are playing an important role in advancing workers' power and rights. Finding suitable forms of cooperation may be the key going forward with an offensive agenda for organised labour in digital capitalism.

For further information on this topic:  
<https://www.fes.de/lmk/transform>

LABOUR AND SOCIAL JUSTICE

# BUILDING WORKERS' POWER IN DIGITAL CAPITALISM

Old and New Labour Struggles

»**Trade Unions in Transformation 4.0**« examines unions' strategic actions to mobilise power resources in a »new world of work« in which capital uses digital technology to re-organize the labour process. The Global Trade Union Programme of the FES aims to understand how the power balance between capital and labour is impacted and how workers are responding to the threats of the digital rollback towards greater exploitation and precariousness of workers. Pursuing a dialogue and action-oriented approach, the project ultimately intends to contribute to trade unions' strategic reflections, experimentation and purposeful transformation.

# Content

<b>1</b>	<b>INTRODUCTION</b>	<b>2</b>
<b>2</b>	<b>TECHNOLOGICAL CHANGE AND THE POWER RESOURCE APPROACH</b>	<b>4</b>
2.1	Technological fixes and labour response .....	4
2.2	Power Resources .....	5
2.3	(Re-)Making working classes .....	6
<b>3</b>	<b>DIGITALISATION, INDUSTRY 4.0 AND ORGANISED LABOUR</b>	<b>7</b>
3.1	Struggles and union innovations in banking .....	7
3.2	Expanding the bargaining agenda in the automotive industry .....	8
3.3	Organising in ICT .....	8
<b>4</b>	<b>COLLECTIVE ACTION OF WORKERS IN THE DIGITAL PLATFORM ECONOMY</b>	<b>10</b>
4.1	Primary interest of collective action .....	10
4.2	Repertoire of contention .....	11
<b>5</b>	<b>ASSOCIATIONAL POWER: VARIETIES OF ›PLATFORM UNIONISM‹</b>	<b>13</b>
5.1	Variety Union Cooperation .....	13
5.2	Variety Organised informal groups .....	14
5.3	Variety Unionisation .....	14
5.4	Variety Union's hybridisation .....	15
<b>6</b>	<b>CONCLUSION</b>	<b>16</b>
6.1	Organisational varieties as the new normal .....	16
	References .....	17
	Appendix .....	19

## 1

## INTRODUCTION

A sea change in power relations in labour markets has been taking place over the past decade or so. Capital has launched and made use of new technologies to reorganise production and services - with noticeable effects on labour relations. While in the industrial sector ›Industry 4.0‹ with its new smart manufacturing technologies is accelerating the pace of automation and lean manufacturing, the service sector is experiencing deep-going technological disruption. Industries such as financial services, retail, transportation, hospitality, and food delivery are being transformed through the application of platform-based services, big data, and artificial intelligence. As a result of the rise of »digital capitalism« (Schiller 1999), »platform capitalism« (Srnicsek 2016) or »surveillance capitalism« (Zuboff 2019), powerful new transnational platform companies such as Amazon, Uber, Facebook, Airbnb, and Deliveroo have emerged and are shaping today's global economy. These companies are not only challenging traditional business models, but are also pushing ultra-flexible, precarious work models such as work on demand in delivery, highly repetitive digital work in online retailing and self-employed ›logged labour‹ carried out by Uber drivers with no employer to bargain with over basic employment terms and conditions (Huws 2016; Del-fanti 2021).

These new forms of digital labour are tending to reinforce ongoing trends towards the »precarisation« and informalisation of work. Moreover, they are also restructuring the power relationship between capital and labour. New forms of digital and platform labour usually go hand in hand with an aggressive lowering of labour standards, circumvention of labour laws, and new forms of algorithmic surveillance and control. This process is putting organised labour on the defensive and thus threatening to spur a new technology-driven »race to the bottom« (Tonelson 2002). At first glance, all this would seem to suggest that organised labour is in decline. Unemployment could potentially rise due to automation. Technological change is being used to create unprotected jobs. Collective bargaining institutions are being side-lined, and trade unions generally lack organising experience in the platform economy and in the information and communications technology (ICT) or ›tech‹ sector so far. There are cases of resistance, however, both in the Global North and the Global South (Basualdo et al. 2021; Minter 2017; Trappmann et al. 2021; Vandaele 2021; Wood et al. 2018).

The project ›Trade Unions in Transformation 4.0‹ (TUIT 4.0), initiated by the Friedrich-Ebert-Stiftung, identified such struggles by workers' associations and trade unions in twenty-first century digital capitalism in which capital uses digital technologies to re-organise the labour process – see Table 1 in the Appendix for an overview of the case studies<sup>1</sup>

The twelve studies, involving 34 authors, cover a range of industries and twelve countries in the Global North and Global South.<sup>2</sup> The industries are either linked to the platform economy or to the conventional economy, with most of the studies exploring cases in the private services sector. There are two studies on manufacturing. Six studies cover transportation, two of them banking, one ICT and one the creative industry.

The guiding questions in the TUIT 4.0 project was how workers and organised labour have responded to the threats of digital capitalism, what kind of new struggles can be observed and what the main factors are conditioning success in efforts to organise labour in the digital economy. This concluding paper develops three arguments. First, the use of digital technologies is being contested by organised labour, leading to many labour struggles and protests against the use of technology in the labour process. Second, there are different forms of struggle: offensive struggles usually aiming at organising emerging industries and new groups of employees and defensive struggles in mature industries primarily defending existing employment standards. And third, there is an increasing variety of collective associations

- 
- 1 The papers produced by the TUIT 4.0 project have been selected as follows. An open call has been made available via the Global Union Federations, the Global Labour University and FES network. Eighteen abstracts have been received, of which twelve have been selected following deliberation by the selection committee. The committee was made up of a mixture of regional coordinators from the Friedrich-Ebert-Stiftung and academics working in the field of industrial relations from the Global North and Global South. The selection committee consisted of the following individuals: Victoria Basualdo, Anja Bodenmueller-Raeder, Hugo Dias, Uta Dirksen, Thomas Greven, Jannis Grimm, Mirko Herberg, Dominique Klawonn, Carmen Ludwig, Marc Meinardus, Stefan Schmalz, Melisa Serrano and Kurt Vandaele.
  - 2 All studies in the project are available at the FES website: <https://www.fes.de/en/themenportal-gewerkschaften-und-gute-arbeit-international-trade-union-policy/trade-unions-in-transformation-40> . We also offer to readers easily accessible stories written by journalists (Dirksen and Herberg 2021), available here: <http://library.fes.de/pdf-files/iez/17798-20210602.pdf>

and representation of workers in the digital economy. In particular, in the platform economy, bottom-up initiatives and alliances between grassroots networks and ›established‹ trade unions play an important role in advancing workers' power and rights.

Most of our case studies report either about inspiring stories of how ›established‹ trade unions have been able to cope with technological change or how grassroots initiatives, in some cases supported by trade unions, have been able to organise in the digital economy. Trade unions or workers' collectives have had to take on powerful companies and to develop new strategies to organise workers. Some of these initiatives ended on a successful note after a period of organisational learning, in which important lessons were learnt about how to organise workers in the digital economy for trade union strategies worldwide. Some of the case studies also cite the problems of organising labour during the Covid-19 pandemic, thereby discussing how organised labour has been able to cope with social distancing and economic crisis.

The paper is structured as followed. Section 2 analyses how technological change is transforming the power resources of workers, thereby providing an analytical framework for discussing the case studies. Section 3 discusses the impact of digitalisation and industry 4.0 on traditional member strongholds of trade unions and the successful defensive struggles of organised labour to cope with technological change. Section 4 shows how the platform economy has become a breeding ground for labour unrest and which forms of offensive struggles have developed in this sector. Section 5 examines the role of trade unions and other workers' organisations in these struggles, distinguishing between different varieties in ›platform unionism‹. Section 6 concludes that organised labour faces the challenge of developing new forms of coalitions and an offensive agenda to tackle the challenge of digital transformation.

## 2

## TECHNOLOGICAL CHANGE AND THE POWER RESOURCE APPROACH

Technological change has always been contested and has led to intense struggles between capital and labour. Historically, the early predecessors of the labour movement in the eighteenth and early nineteenth century were ›machine breakers‹ (Hobsbawm 1952). For instance, protagonists in the Luddite movement (1811-13) in Great Britain destroyed machines as a form of ›collective bargaining by riot‹ (ibid. 59) to obtain concessions with wages or working conditions. In many cases, like the Lancashire machine wreckers (1778-1780), such riots were even a form of ›quite conscious resistance to the machine in the hands of capitalists‹ (ibid. 62), as the protesters feared being replaced or out-competed by labour-saving technology. »Machine breaking« spread globally and became a well-known practice in early nineteenth-century Europe and in other world regions of (Van der Linden 2008: 174). Struggles over technological change continued to be important in the development of capitalism. For example, in the late twentieth century, trade unions such as the ›Society of Civil and Public Servants‹ in Thatcherite Great Britain actively campaigned against the use of computers in the public administration, because public employees feared job losses due to technology-driven rationalisation. In a nutshell, most struggles against new technologies have not simply been anti-modern, but have rather been aimed at power relationships, as capital has tended to ignore workers' interests while pushing for technological change.

### 2.1 TECHNOLOGICAL FIXES AND LABOUR RESPONSE

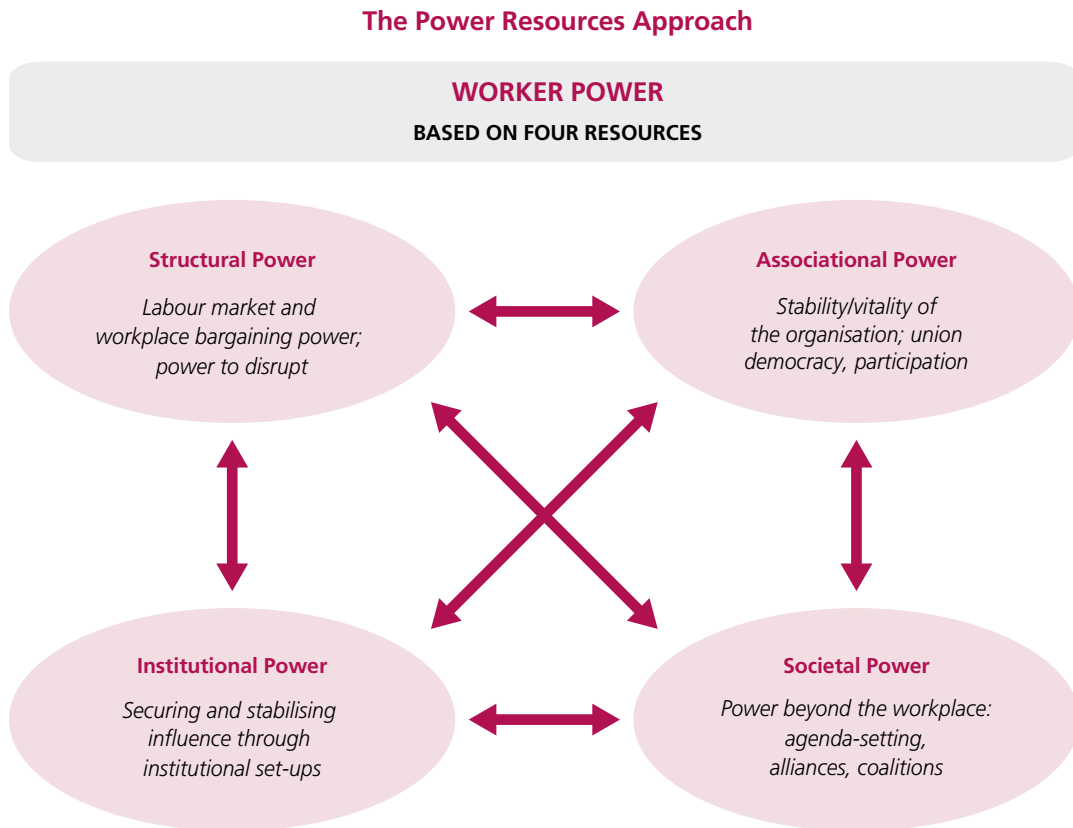
On a conceptual level, the labour sociologist Beverly Silver has argued that capital uses »technological fixes« to respond to labour unrest and to challenge organised labour by implementing major process innovations ›to fix the problems of profitability and labor control‹ (Silver 2003: 66). In other words, in many cases new technologies have not only strengthened competitiveness against other companies, but also changed the relationship between capital and labour itself. A striking example of this technological fix is ›containerization and dock automation in the shipping industry‹, which dramatically downsized ›the historically militant dock labour force in the second half of the twentieth century‹ (Silver 2003: 101, see also Levinson 2006), thereby weakening

organised labour in the freight industry. In other instances, such as lean manufacturing and just-in-time production, similar processes have been observed, as the labour force has been downsized and new forms of labour control have been introduced. Today, algorithmic management in the platform economy can be perceived as a new technological fix, bypassing existing labour law and institutional employment standards (Vandaele 2018, 2021).

The implementation of new technologies has also led to contradictory developments. Paradoxically, the introduction of the mechanised loom, which the Luddites violently resisted, helped to nurture and encourage organisation by workers, as this was a precursor of the capitalist factory and the nineteenth century industrial labour movement (Marx 1976). Likewise, the introduction of the assembly line in the early twentieth century went hand in hand with rigid Taylorist labour control, but also facilitated coordinated strike actions. The waves of labour unrest in the automobile industry in the United States in the 1930s, in Western Europe in the late 1960s and 1970s and in Brazil and South Korea in the 1980s were largely due to the power of workers to stop the assembly line and, thus, to stop production (Silver 2003: 47-66). Similarly, highly flexible global production networks which have emerged since the 1990s have made global production and logistics more vulnerable to work stoppages, thereby creating new windows of opportunity for organised labour to put pressure on transnational companies (Fichter et al. 2018: 7f.). Today, digital technologies have made possible new forms of »networked powers« by connecting different power resources in offline and online actions (Helmerich et al. 2020). Consequently, new technologies have both hindered and facilitated the organisation of workers.

In these struggles, workers also developed their own vision of technology and the production process. Historically, capital tends to use top-down approaches to implement new technologies, with organised labour usually reacting to changes in the production process. In the late 1960s and early 1970s, however, when the labour movement in the advanced capitalist countries was at the height of power, workers' mobilisation focused on capital's control over technology and the production process itself, thereby questioning the hierarchical Taylorist factory system during this era (Schmalz and Weinmann 2016). At several compa-

Figure 1  
Worker power through the lens of the power resources approach



nies, new worker-driven socio-technical approaches were adopted. These approaches were inspired by the Tavistock Institute<sup>3</sup>, which advocated technology never imposing a single organisational model, thus questioning deterministic technological views (Coriat 1979). The most well-known example was the Volvo Kalmar plant in Sweden, inaugurated in 1974, where a team assembly system with independent production teams replaced the conventional hierarchical assembly line. In this context, progressive policies such as the Industrial Democracy Program in Norway (and later in Sweden and Denmark) were adopted, in which unions and workers had a role in designing the introduction of new technologies and organisational models. (Thorsrud and Emery 1970). To sum up: when workers' power is high, the labour movement is able to challenge capital's control over the use of technology in the production process.

## 2.2 POWER RESOURCES

In the next sections, the power resources approach (PRA) is used to examine the impact of technological change on capital-labour relations (on the PRA see: Schmalz et al. 2018). This approach was applied by all studies in the TUIT

4.0 project as an analytical framework to theorise and reflect upon the challenges of organised labour and the future of work.<sup>4</sup> Figure 1 shows how PRA differentiates between four sources of workers' power: structural, associational, institutional, and societal power. Structural power arises from the position of workers in the economic system, either from workplace bargaining power (this being their ability to stop production) or from marketplace bargaining power (this being the possession of rare skills or the ability to withdraw from the labour market). Associational power refers to the strength of workers' organisation, which can be influenced by factors such as membership, member participation and infrastructural resources. Institutional power refers to labour law and institutional rights organised labour can draw on, although it is not only emancipatory, as many institutional rules also imply restrictions to act. Societal power can either emanate from networks with other social actors such as social movements (coalitional power) or from the ability to successfully intervene in public debates (discursive power). All four power resources are connected and are embedded in power relations, and are thereby influenced by changing class relations and developments in global capitalism.

<sup>3</sup> The Tavistock Institute of Human Relations is a London-based research institute which is dedicated to the study of human relations and which was influential in promoting socio-technical approaches in industrial relations since the post-World War II period.

<sup>4</sup> We have selected the PRA because the approach has proven to be a useful analytical framework for the examination of labour struggles in both Global North and South in the precursor to this project. In »Trade Unions in Transformation«, strategic responses of organised labour to global capitalism in the 2010-decade are described by FES. See Fichter et al (2018).



As the preceding discussion of the history of technology and labour has shown, technology is a major driver of such change. New technologies potentially lead to a ›creative destruction‹ of outdated business models and shape work organisation and labour relations. To use PRA ›lingo‹: technological innovation tends to transform structural power. With changing means of production, the ability to stop the production process (workplace bargaining power) is changed, too, either enabling or reducing the disruptive capacity of workers. Moreover, a part of the workforce is deskilled, while at the same time new groups of qualified workers emerge (marketplace bargaining power). With changing structural power, associational power is transformed as well. The restructuring of the workforce and of the labour process usually results in stark challenges for existing trade unions, such as gaps in representation, but can also lead to potential benefits through increasing union membership. In addition, new technologies also trigger struggles over how new forms of employment and work are to be regulated (institutional power) and are in some cases also subjects of political discussion, such as e.g. data protection within digital capitalism, thereby opening up new possibilities for networks with non-governmental organisations and civil rights movements (societal power).

## 2.3 (RE-)MAKING WORKING CLASSES

Technological change has also shaped the nature and form of labour struggles. It has strongly contributed to the ›unmaking and remaking of working classes‹ (Silver 2003: 22). Emerging industries have usually led to the ›making‹ or ›remaking‹ of new working classes (for example, in the US automobile industry in the 1920s and 1930s), while at the same time technological transformation also tends to push rationalisation and deindustrialisation and, hence, the ›unmaking‹ of yet-existing working classes (for example, in the Western European steel industry since the 1980s). As a result, many of the struggles in emerging industries tend to be primarily ›offensive‹, aiming at establishing workers' power and rights from a starting point of extreme vulnerability and based on new forms of structural power, while struggles in declining industries (for example the coal industry) are usually ›defensive‹ and based on existing institutional and associational power resources. Both forms of struggles are ideal types in the Weberian sense (Weber 1978). In other words, in reality the connection posited between defensive struggles and declining industries and offensive struggles and emerging industries is overly simple. There are also hybrid forms of these struggles, in particular in transforming industries (for example, green transformation of the automotive industry). Here, a struggle for reduced working hours without any reduction in wages constitutes an offensive agenda. Summing up: technological change is a game-changer for the labour movement, with existing power relationships coming under pressure and organised labour exploring new ways of resistance and organising.

## 3

## DIGITALISATION, INDUSTRY 4.0 AND ORGANISED LABOUR

Before analysing new forms of labour organising, it is important to show how digitalisation and industry 4.0 have changed labour relations, thereby mapping out the major challenges for organised labour. The TUiT 4.0 studies point to two main trends in restructuring which have been triggered by the introduction of new digital technologies: The first trend is described in this section and takes place in tandem with rationalisation. Here we look at several industries with established trade unions which have been strongly impacted by digitalisation and industry 4.0 (for example, the automotive industry or retail). The second one is linked to the rise of the platform economy and will be described in the following section.

Industry 4.0, also sometimes referred to as smart manufacturing, links industrial production together with big data, machine learning, and digital technologies to increase productivity and efficiency in manufacturing. Thus, industry 4.0 is a more recent form of restructuring in the industrial sector, which reaches back to the 1980s, when many important industries such as the automotive industry or mechanical engineering went through a wave of automation (Kern and Schuhmann 1984). From the perspective of organised labour, this development has put the strongholds of the industrial labour movement under pressure. Established trade unions have experienced several waves of rationalisation, plant relocations and a changing composition of the workforce. Likewise, digitalisation with its new business models such as online booking platforms has spurred a similar downward trend in the service sector, pushing trade unions into the defensive. Since the 2000s, digitalisation has tended to work as disruptive force for established labour relations in industries like financial services and retail. In these industries, digitalisation is usually identified as a threat to organised labour, as it implies rationalisation and job losses. Thus, in many cases, Industry 4.0 and digitalisation have led to defensive labour struggles, with workers fighting against a lowering of labour standards, job losses and declining wages while drawing on institutional and associational power resources.

Several studies in the TUiT 4.0 project have shown, however, how unions can find creative ways to deal with these far-reaching restructuring trends. In the project, two industries under analysis, automotive and banking, have both been under constant innovation pressure. Industry 4.0 and

the green transformation of the automotive industry as well as digitalisation in banking have had enormous effects on employment and working conditions. In the TUiT 4.0 case studies, trade unions have traditionally been strong in these industries, relying on strong associational power, as reflected by a relatively high union density, structural power, with the ability to disrupt production lines and service provision, and institutional power as derived from collective agreements. This puts these unions in a stable position for what may be viewed as essentially defensive struggles to maintain employment, high salaries, and decent working terms and conditions compared to other ›established‹ industries like textile or garment and service sectors like retail.

The case studies also demonstrate that depicting all this as merely trying to protect what they previously won would not do justice to the trade unions' efforts, however. Rather, although under strong pressure, they aim to shape digitalisation on their own terms. Key to their ›offensive agenda in the defensive‹ to improve working conditions is their ›salient knowledge‹ (Ganz 2009) of the workplace and their role of being agents of change and innovation themselves, which is something they can bring to the negotiating table. The extent to which this offensive agenda can be pursued is greater among trade unions with a higher degree of institutional power, a tradition of ›conflict partnership‹ (Müller-Jentsch 1999) and an acknowledgement of their role as a bargaining partner by employers and the state. The TUiT 4.0 studies also illustrate, however, that union agency, active membership participation and strategic leadership, and thus high associational power, are crucial to success, both in the Global North and Global South.

### 3.1 STRUGGLES AND UNION INNOVATIONS IN BANKING

In banking, defensive struggles are usually about maintaining employment, as the industry has been deeply restructured through digitalisation (Pittaluga *et al.* 2020; Spataru and Guga 2020). The key bargaining area of trade unions is training and qualification. They negotiate with companies to convince them, instead of making workers redundant, to invest in the training and re-skilling of workers. In Romania, the Federation of Insurance and Banking Trade Unions (FSAB, Federația Sindicatelor din Asigurări și Bănci) seized

the opportunity of a work shortage in banking to design a strategy, thereby using their high marketplace bargaining power to turn a defensive into an offensive struggle to conclude an agreement at the industry level (Spatari and Guga 2020). After structural reforms to dismantle the collective bargaining system had been imposed by the European Union, FSAB was able to force major employers, often foreign-owned banks, to commit to an agreement at the industry level regulating the management of collective and individual redundancies, ensuring internal mobility and telework, and providing workers with professional training. Agreeing on a stipulation that obligates the management to pay for the training of employees is remarkable for the Romanian context and is along the lines of trade union demands for »just transition«. In Uruguay, the Bank Employees Association of Uruguay (AEBU, Asociación de Bancarios del Uruguay) has put a similar focus on education and training (Pittaluga *et al.* 2020). This claim was part of a strategy to integrate lower-skilled, mainly female workers from insurance companies, credit unions (member-owned financial cooperatives), and money transporters in the bargaining process. The organisational flexibility strengthened AEBU's role in the negotiations with the employers. A genuine innovation of this approach is a »robot tax«. Faced with reduced employment in banking, and with the pension fund being under threat, AEBU negotiated for contributions to the pension fund to be pegged to the company's sales revenue. Thus, under this scheme, when a company's sales revenue grows, but its payroll remains unchanged or even decreases through automation, contributions to the pension fund increase anyway. While this initiative cannot stop the loss of jobs, it is nonetheless protecting trade unions as an organisation and their ability to negotiate and struggle for better working conditions. This success was only possible due to the strategic use of societal power by cooperating with political players (e.g. the feminist movement) and enhancing its reputation by broadening its political agenda and membership base (low-skilled workers).

### 3.2 EXPANDING THE BARGAINING AGENDA IN THE AUTOMOTIVE INDUSTRY

The automotive industry is highly globalised and exposed to international competition and has therefore been the subject of several technological »fixes« throughout the course of the twentieth century (Silver 2003: 41-73). Dealing with technological innovation in this industry is therefore nothing new to IG Metall, the largest trade union in Germany (Schäfers and Schroth 2020) and the ABC Metalworkers' Union (SMABC, Sindicato dos Metalúrgicos do ABC) in Brazil (Araujo 2020). Both trade unions sought to mobilise their associational and institutional power to shape »Industry 4.0«. The basic conditions for collective action in both countries differ, however, as their position in the international division of labour and their industrial relations systems diverge. First, while Volkswagen and Mercedes Benz are national companies in Germany, they are foreign companies in Brazil. Consequently, in Germany the decision-making centres are

closer together and can be influenced by a combination of associational, institutional, and structural power, whereas in Brazil, this lack of proximity is a handicap for trade unions that needs to be counterbalanced by mobilising international stakeholders through transnational union cooperation. Second, in Germany, the legal framework allows works councils at the workplace, which influence significant aspects of the labour process and working conditions. In Brazil, however, there are no legal requirements for co-determination at the plant level. Rather, existing factory committees at Volkswagen and Mercedes Benz result from SMABC's collective actions and a »conflict partnership culture« prevailing at these companies, but they have less institutional rights and options to influence management decisions.

Despite these differences, the strategies of IG Metall and SMABC have proven to be similar. Both trade unions sought to advance an agenda that aims at the protection of jobs through a combination of workers' training and influencing policies and company decisions. In Germany, the deeper embeddedness of workers in decision-making at the company level through the works council allowed for a proactive agenda, pushing for co-determination rights when it comes to technological change, improved working time planning or the payment of short-time allowances in subsidiaries in the Global South. The project »Work + Innovation«, a public-funded project of IG Metall, played a key role in these efforts. In the participating companies, workers were able to actively develop suggestions and introduce innovations at the workplace to shape digitalisation. With management representatives being part of the »Work + Innovation« project, such innovative solutions were introduced and »secured« by a collective agreement. In the case of Brazil, collective action started after companies had announced implementation of technological changes that implied job cuts. Although there is a tradition of social dialogue in both companies, Volkswagen and Mercedes Benz, SMABC's had to mobilise its associational and structural power by work stoppages and mass meetings to start a negotiation process. Similar to the trade union approach in the German case, SMABC's strategy has been to proactively widen the range of negotiated topics. By discussing how to maintain the attractiveness of production sites and a highly qualified workforce and by leveraging its transnational network, the union successfully argued for an increase of investment in new products and production lines to safeguard jobs in the Brazilian automotive industry.

### 3.3 ORGANISING IN ICT

A successful »trade union 4.0« strategy in mature industries thus means more than negotiating wages. It adopts a more holistic approach and extends the bargaining agenda to issues such as investment, industrial policy and training and skills. Moreover, it realises the importance of filling gaps in the representation of workers in less visible parts of the industry associated with less decent working conditions. This also holds true for white-collar workers, as technological

change also affects highly skilled and decently paid professionals. In fact, technological restructuring, outsourcing and platformisation might serve as a window of opportunity to organise tech workers who traditionally could count on their high individual marketplace bargaining power and tended not to unionise. For instance, in the case of the Israeli ICT sector, tech workers were faced with dismissals and threats to their employment security (Fisher 2020). So, they reached out to the »established« trade union, which in the past had suffered from an erosion in its associational, structural, and societal power. The union Histadrut, which created its own organising department (»wing for unionising«) as far back as 2010, showed organisational flexibility or »institutional vitality« (Behrens *et al.* 2004: 22): In 2014, Histadrut created the »Cellular, Internet and High-Tech union«, which aims at unionisation of the ICT sector, forming works councils and negotiating collective agreements. Organising success can be attributed to the ability of Histadrut to develop an organising approach that was relevant and useful for workers in the Israeli ICT sector by acting as »counsellors« for tech workers and supporting the formation of an »authentic and diverse group of workers' leaders« (Fisher 2020: 9). Summing up, a defensive labour struggle was turned into an offensive one by adapting organising approaches to align with a high-tech labour market.

Taken together, the challenge for unions in established industries is to turn defensive into hybrid or offensive struggles by mobilising power resources. This is possible if defensive measures are implemented successfully and extended by offensive strategies. In the case of IG Metall and SMABC, transnational action was crucial to increasing associational power, while in case of Histadrut organising new groups of employees ultimately led to success. Similarly, all the cases used new institutional initiatives (pension fund AEBU) and capacity and skill-building (learning factory), thereby drawing on associational and institutional power, which proved to be crucial for collective action. Moreover, the unions were able to shift the public discourse on the tech industry and digital labour (see table 2 in the Appendix) using their societal power.

## 4

## COLLECTIVE ACTION OF WORKERS IN THE DIGITAL PLATFORM ECONOMY

A similar challenge posed by far-reaching technological change confronts organised labour in the emerging industries of the platform economy, where workers' power must be built outside the strongholds of ›established‹ trade unions. In particular, the rapidly developing ›gig‹ or platform economy has created entirely new industries and business models where government regulation of work is weak (institutional power) and organised labour has only little experience in organising (associational power). These new industries encompass location-based platforms in transport with companies such as Uber, powerful digital cloud-platform companies such as YouTube, freelance labour and crowd work platforms such as CrowdFlower and online retail giants such as Amazon with their large distribution centres. Many of these (platform) companies are characterised by non-wage forms of employment, with workers being paid by clicks or orders like at Deliveroo, while others draw on highly repetitive and physically exhausting low-paid work like Amazon. In particular, the platform economy has witnessed a wave of struggles over wages, job security and working conditions, which are often driven by grassroots initiatives and are in some cases supported by trade unions (Joyce and Stuart 2021; Vandaele 2018, 2021). In general, these mobilisation efforts take place in an unfavourable economic, political, and ideological context for organised labour. Hence, although the digital platform economy provides employment or livelihood to many people, it also creates ›a precarious class of dependent contractors and on-demand workers‹ (UNCTAD 2021: 14). As a result of this development, most of the struggles that this new emerging ›digital precariat‹ engage in are not only offensively aiming at rising wages, but also at regulating a largely unregulated sector and at decommodifying labour through labour law governing social protection and welfare provisions.

In particular, collective mobilisation is taking place in location-based digital platforms in the field of transportation, like food delivery, and courier services, which are among the platform companies that have mushroomed in the last decade and which were analysed in the TUiT 4.0 project. Their ›virtual‹ presence via their digital applications have posed regulatory challenges. In most countries where they are present, a clear regulatory framework for digital platform activities is still lacking. This, combined with other factors such as the promise of flexibility and limited job opportunities in the formal sector, has contributed to thousands of people

being attracted to engage with these platform companies as so-called ›partners‹ or ›freelancers‹, and consequently to their exponential growth in the last decade. With the expansion of platform companies' businesses, and as competitors entered the app-based services market, however, the so-called ›honeymoon period‹ of platform work – flat rates per ride or delivery, big bonuses, lots of incentives, and flexible workhours, among others – faded away quickly. In many cases, platform companies unilaterally determine tariffs, points schemes, incentives and bonuses, suspension and deactivation of the application, and control and steer drivers' behaviour through the app's algorithmic management. Trapped in bogus or disguised self-employment, which means that they are not protected by labour laws, these workers are left without institutional power. Hence, platform workers all over the world are increasingly experiencing a worsening of their working conditions in terms of long working hours, declining incomes and incentives, exposure to occupational risks and hazards, and intensified labour control via algorithms (the ›invisible boss‹). In TUiT 4.0 project cases, for example food couriers in Belgium and the Netherlands, Go-Jek and Grab riders in Indonesia and Rappi food couriers in Argentina, the ›partners‹, ›freelancers‹ and ›contractors‹ soon developed a consciousness that they are precarious workers with highly flexible and deregulated employment relationships and are highly dependent on the platforms they are working for.

### 4.1 PRIMARY INTEREST OF COLLECTIVE ACTION

Their struggle has been basically driven by a desire to regulate and decommodify their employment scheme. For instance, in Argentina, the platform company Rappi blocked access to the platform for the leaders of the food couriers' organisation, Association of Platform Workers (APP, *Asociación de Personal de Plataformas*), in retaliation for a digital strike by the delivery riders in 2018 and the formation of the organisation. The APP took legal action to compel Rappi to end its anti-union and discriminatory practices, improve working conditions and establish a formal employment relationship between the platform and its riders (Perelman *et al.* 2020). In Indonesia, IT jalaanan, a group of Go-Jek and Grab drivers who possess self-taught skills in digital technologies, challenged algorithmic work pressure by creating bugs in

the app to modify the algorithm so as to reduce drivers' workloads (Panimbang *et al.* 2020). Consequently, struggles in the platform economy have been pushed by basic interests which labour already rallied around and organised in the era of the industrial revolution, in particular interests surrounding wages, the interest in continuing to receive wages (employment security), and interest in working conditions (Offe and Wiesenthal 1980: 82). The »willingness to act« on the part of platform workers who usually are not recognised as wage labourers by their employers, develops through an emerging collective identity as workers.

In many case studies in the TUIT 4.0 project, such as the food couriers in Argentina as well as Belgium and the Netherlands (Vandaele 2020), or Go-Jek and Grab riders in Indonesia, basic claims were pursued through collective action. Firstly, couriers and riders in the platform economy agitate for wage increases. In the platform economy, income is usually derived from tariff rates as well as from bonuses and incentives, which are unilaterally set and changed by platform companies. Couriers and riders have resisted reductions in tariff rates, bonuses and incentives which result in lower income, and sought to achieve wage increases. Second, platform riders are highly exposed to road-related diseases and accidents, so they are demanding an improvement in working conditions through occupational health and safety measures (for example, health, life, and accident insurance) as well as access to social security. A third demand relates to job security. For many platform-based drivers and riders, work begins when they connect to the app. Thus, being blocked, deactivated, or suspended from the app by employers is a form of digital lockout. To achieve stable incomes and job security, food couriers in Argentina, Belgium, Indonesia, and the Netherlands have taken legal actions challenging bogus self-employment and their misclassification as independent contractors and to demonstrate their employment relationship with the platforms, thereby pushing for the establishment and regulation of a wage relationship.

## 4.2 REPERTOIRE OF CONTENTION

In sum total, platform couriers or drivers find themselves in circumstances similar to most precarious workers. Their »repertoire of contention«<sup>5</sup> is thus made up of a combination of »routine and conventional forms« and »modular« forms, i.e. newly invented forms of digital collective action (Tarrow 1993). Among the routine and conventional repertoire, petitions, lawsuits, and audiences have been carried out by the organisations of drivers and couriers in all four cases analysed in the TUIT 4.0 project. The conventional approach of strikes and assemblies has been pursued by food couriers in Belgium and the Netherlands and Go-Jek and Grab riders in Indonesia. In addition, collective action in the platform economy is also giving rise to adaptative forms of contention

within a context mediated by digital technology, thereby drawing on new forms of structural power. Among these forms of contention are non-traditional strikes and digital protest actions; non-traditional worker assemblies, mobilisation of public support through social media and networks and the creation of worker-owned and worker-designed digital apps.

Thus, in Belgium, food couriers, in joint action with Critical Mass Brussels, cycled to the headquarters of Deliveroo to highlight the dangers posed by cycling in the urban context of Belgium's capital and to gain public support for the couriers' cause. This action was joined by several restaurants which did not open their kitchens for platform ordering. Furthermore, moving to digital forms of protest, in Argentina, as mentioned before, food couriers of Rappi staged the first digital strike in Latin America, which involved couriers dropping orders two hours after they were received from the app. In Indonesia, Go-Jek and Grab drivers engaged in a »collective off-bid« by turning off their apps to disrupt transactions. Non-traditional worker assemblies have been initiated by the Belgian trade unions: they have held bike repair events and ordered pizzas through the app from multiple restaurants which were delivered by the couriers to one location to convene an assembly. Also, in terms of mobilising public support through social media and networks, after the 2018 strike, the food couriers' association APP campaigned intensively through social media and social networks to gain public attention and sympathy for riders' working conditions and demands in Argentina. Finally, in Uganda, boda-boda and airport taxi drivers developed their own ride-hailing app, while in Argentina, food couriers developed a communication application for its members for news, digital union membership, complaints, and geo-referenced alerts.

Digital technology is used in all these new forms of collective action. In particular, the initiative of the Kampala Metropolitan Boda Boda Entrepreneurs (KAMBE) Cooperative and the Airport Taxi Drivers' Cooperative in Entebbe, which are both affiliates of the Amalgamated Transport and General Workers' Union in Uganda, to develop their own app is not merely an instrumental means to demand rights and privileges; rather, the app itself voices »the rights and privileges that protesters are demanding and are diffused as general expressions of their claims« (Tarrow 1993: 286). There are multiple objectives of developing digital apps: to cope with increased competition from Uber and Bolt, to address the widespread use of technology among the drivers' customer base, and to serve as a tool for member recruitment and services (Manga *et al.* 2020). Summing up, the extensive use of digital technology and platform companies' apps as instruments through which platform workers carry out collective action reflect both the skills of these workers and their fairly high level of workplace bargaining power in transportation (Vandaele 2018, 2021). Platform couriers and riders carry out offensive struggles, as they are aware that they can wield structural power by utilising their disruptive capacity, both digitally and analogously (see table 2). Their power is further enhanced by the unifying

<sup>5</sup> The »repertoire of contention« refers to »the whole set of means that a group has for making claims of different kinds on different individuals or groups« (Tilly 1986: 4).



logic of the platform, which brings together a low-paid and, particularly in the Global South, a previously informal and heterogenous workforce in one space. As a result, platform workers have used (digital) strikes as an important way of contention (structural power) and have built associational power in various (digital) forms – informal community groups, associations, collectives, cooperatives, and genuine trade unions. They have also developed new worker-driven socio-technical approaches by creating their own apps, thereby trying to bypass capital-driven algorithmic control.

## 5

## ASSOCIATIONAL POWER: VARIETIES OF ›PLATFORM UNIONISM‹

The advent of the platform economy has given rise to an upsurge of ›new‹<sup>6</sup> types of collective associations by platform workers (Joyce and Stuart 2021; Vandaele 2021). Several case studies in the TUIT 4.0 project confirm this finding. These collective associations are an example of building associational power in the platform economy. There is no such a thing as a universal ›platform unionism‹, however. Distinctive models of collective associations are present in the platform economy, with different patterns in their relationship with ›established‹ unions. Similarly, some case studies in the TUIT 4.0 project demonstrate that workers in industries characterised by fragmentation and isolation outside the platform economy, such as cargo transport in South Korea, have also built their own collective associations. Collective associations in and outside the platform economy carry the ›imprint of their time‹, as they have emerged from digital online communities and make use of digital technologies in general (Stinchcombe 1965; Vandaele 2021). Table 3 provides an overview of the dominant patterns (and trajectories) of collective associations. Workers' collective associations are autonomous in the case of Argentina and Indonesia.<sup>7</sup> Other associations have either built alliances with existing ›established‹ trade unions, like in Belgium or Germany, or they have become part of the unions themselves, in one way or another, like in the case of driver associations in Indonesia that joined the union (SPDT), but this while keeping their collective identity. From (platform) workers' perspective, alliance-building implies that their associational power is combined with coalitional power through cooperation with ›established‹ trade unions.

### 5.1 VARIETY UNION COOPERATION

In their study, Trappmann and colleagues (Trappmann et al. 2020: 6) note that especially self-organised ›informal groups‹ and more formalised ›workers' collectives‹ have been involved in platform-based food-delivery protests in

<sup>6</sup> While it is certainly the case that many of these organisations have only been established very recently, their appearance or form is sometimes reminiscent of the labour movement of time past.

<sup>7</sup> On a critical self-reflecting side note, self-organising and autonomous collective associations might crop up less in the case studies presented here due to their selection mechanisms within the framework of the Trade Union in Transformation 4.0 project.

Countries (cases)	Autonomous	Alliance-building	Integration
Argentina	APP		
Belgium		Couriers Collective	
Germany		YouTubers Union	
Indonesia	driver communities; drivers' associations		SPDT
Netherlands			Riders Union
South Korea			TruckSol
Uganda		cooperative associations	

Source: Authors' own elaboration.

the Global North, alongside grassroots and ›established‹ trade unions. The case study on Belgium and the Netherlands illustrates this. In both countries, self-organising has initially progressed into offline activists' groups in the urban context. Their move toward the main union confederations in Belgium and the Netherlands has played out differently, however. The Couriers Collective (*Koerierscollectief/Collectif des coursier.e.s*), set up in 2015, has remained autonomous in Belgium, although it works together with two of the most important confederations (Vandaele 2020). This has not prevented the confederations, however, from launching their own initiatives for organising freelancers and ›solo self-employed‹ within and beyond the platform economy, of which ›United Freelancers‹ has attained the greatest prominence. In contrast to the Belgian case, in the Netherlands, the Riders Union, initiated in 2017, has become part of the main trade union confederation, the Dutch Trade Union Federation (FNV, *Federatie Nederlandse Vakbeweging*), whereby union organisers have quite successfully endeavoured to reproduce the approach of grassroots unions in mobilising and organising the couriers, while litigation has also produced positive results.

Looking at ›playbour‹ (Howcroft and Bergvall-Kåreborn 2019) platform work, which combines play and labour, and in turn the establishment and progress of the YouTube



Union, one notes some similarities with organisational dynamics in location-based, platform-based food delivery in Belgium and the Netherlands. Content creators on YouTube formed the YouTubers Union in 2018. While remaining autonomous, the YouTubers Union soon approached the largest German trade union, *IG Metall*, seeking cooperation in uniting content-creators across national borders, which resulted in the joint ›FairTube‹ campaign (Niebler and Kern 2020). The ›organised informal‹ nature of the YouTubers Union changed when it turned into a not-for-profit association (*eingetragener Verein*) in late 2020. Accordingly, informal cooperation with *IG Metall* was formalised in February 2021, implying that the YouTubers Union’s initial reliance on a small number of persons has been transformed, as it is now clearly being strengthened by the *IG Metall* FairTube team.<sup>8</sup>

## 5.2 VARIETY ORGANISED INFORMAL GROUPS

The analysis by Trappmann and colleagues (Trappmann et al. 2020: 6-7) as well as other recent studies (Joyce and Stuart 2021; Vandaele 2021) demonstrate that the more pronounced organisational variant in collective organisation, with organised informal groups of platform workers playing a key role in labour struggles, is even more prevalent in the Global South than in the Global North. The case study on app-based transport in Indonesia clearly demonstrates the multiplication of workers’ collective associations (Panimbang et al. 2020; Panimbang 2021).<sup>9</sup> While platform companies in transport are employing so-called ›independent contractors‹, and algorithmic management is incentivising an entrepreneurial spirit among drivers, this has not stopped some of them from seeking to overcome their isolation and fragmentation. Their associational power jells either into driver communities at the grassroots level, associations, or trade unions (see also Ford and Honan 2019).

Thus, driver communities (*komunitas ojol*) are the most popular type of associational power – there are over 5,000 communities, ranging from 10 to 100 drivers, active in the Greater Jakarta area alone. Financed by membership dues, informal and flexible community organisational structures enable drivers to provide each other with mutual aid and support regarding work-related problems, but also issues above and beyond the workplace itself. Like in the case of the couriers in Belgium and the Netherlands, the communities combine their digital online presence with in-person interaction, which can take place at drivers’ rest areas, which are referred to as ›base camps‹. A second organisational type are drivers’ associations (*wadah komunitas ojol*), which

pool and unite driver communities from various locations, although individuals can also be members. Some of these community-based associations have a more formal character as registered civil society organisations. These associations play a prominent role in mobilising the protest of the app-based drivers. Finally, there are only a handful of formal trade unions organising app-based drivers, which have been established by existing unions, although membership is still low, including in comparison with the associations. The Aerospace and Transportation Workers division of the Federation of Indonesian Metal Workers’ Union (*Serikat Pekerja Digantara dan Transportasi Federasi Serikat Pekerja Metal Indonesia*) is the most prominent. The union has also focused its activity in the area of app-based transport by promoting labour rights for the drivers; it fights for recognition of drivers as workers entitled to basic labour rights and regulations and creates a space for negotiations between driver representatives and platform transport companies to achieve better working conditions for drivers.<sup>10</sup>

## 5.3 VARIETY UNIONISATION

While informal collectivism predominates in Indonesia, the case study on APP in Argentina highlights the formalisation of grassroots initiatives in location-based platform work by turning into a union organisation, in which these endeavour to meet all legal requirements, but remain independent of the ›established‹ unions (Perelman et al. 2020). The platform company *Rappi* had only been present in the country for less than six months when discontent among its couriers began to mount, especially because of unilateral changes in the order allocation algorithm. This led to Latin America’s first ›digital strike‹ in July 2018, when couriers decided not to take any orders. An informal dialogue subsequently began to take place between *Rappi* and a group of spokespersons elected by the couriers. The ›blocking‹ of one courier by the platform company, however, accelerated the union’s formation in October 2018. While the highly regulated and institutionalised system of collective interest representation in Argentina was an important element for the couriers in realising the importance of unionisation, the way in which they did this, independently and as a new organisation, generated resistance and opposition from other union organisations, which opposed and fought against this new initiative. Thus, the response from ›established‹ unions has been mixed: ›established‹ unions representing workers performing related activities have strongly criticised the establishment of a new union organisation and vehemently rejected this process of organisation, although some other unions backed the process and expressed solidarity and support. APP has officially requested registration as a trade union with the Ministry of Labour, a struggle that continues down to the present.

<sup>8</sup> See <https://fairtube.info>

<sup>9</sup> On-demand transport is largely an informal industry in Indonesia, whereby paratransit is offered using a motorbike taxi (*ojek*), minivan and microbus (*angkot*) or three-wheeler motorised taxi (*bajaj*). Drivers in indigenous transport have been recruited by platform companies active in transport, especially when it relates to motorbike taxis.

<sup>10</sup> In addition, a ›union cooperative‹ has been set up to collect savings from members’ income to be used later whenever needed.

Moving back to Asia, the case study on road freight transport in South Korea, marked by its increasing use of multi-layered subcontracting, with mainly owner-operators located at the end of supply chain, demonstrates that ›established‹ trade unions can also play a role when ›independent contractors‹ are involved (Yun 2020). Owner-operators have, for instance, contacted the Korean Cargo Transport Workers Federation (KCTWF), which has been developing policies for integrating precarious workers since the late 1990s. The owner-operators were able to establish a special unit – labelled the Cargo Truckers’ Solidarity Union (TruckSol, *Hwamulyundai*) within the KCTWF in 2002. Internal debate and organisation-learning within TruckSol, industrial action, long-term comprehensive campaigns on ›safe rates‹ and international solidarity (with the Transport Workers’ Union of Australia) have all contributed to increasing self-awareness and collective identity-building as workers (instead of being ›self-employed‹) so that the owner-operators feel part of the broader labour movement. Moreover, inspired by TruckSol’s ›safe rates‹ campaign, platform-based food-delivery couriers have demanded that minimum remuneration standards also apply to them.

#### 5.4 VARIETY UNION’S HYBRIDISATION

Similarly, the case study on Uganda demonstrates that also an ›established‹ trade union like the Amalgamated Transport and General Workers’ Union (ATGWU) can be strategically innovative and creative (Manga *et al.* 2020). First, the union opened membership for workers in the informal transport economy, thus transforming itself into a hybrid organisation representing both formal and informal workers (Webster *et al.* 2021: 5ff.) Consequently, several cooperative associations representing different types of workers in transportation are now affiliates of the ATGWU. Internal processes of adaption and learning, including those integrating the gender perspective, have been instrumental in allowing these workers to participate in decision-making union structures, while digital tools have been helpful in organising and servicing membership. Second, the cooperative associations are on the verge of launching apps in *boda boda* (or motorcycle taxis), ride-hailing and airport taxi services to compete with commercial digital labour platforms in transportation. For various reasons, including the Covid-19 pandemic, the envisaged worker-owned platform cooperatives in the (informal) transportation economy are still at different (testing) stages, though. Nevertheless, in conclusion, the associational power of workers in industries marked by workers’ fragmentation and isolation in and beyond the platform is marked by a variety of collective associations in the Global South and, increasingly, in the Global North.

## 6

## CONCLUSION

This paper has argued that organised labour is already responding to the threats of digital capitalism. It has demonstrated that there are many cases of ›established‹ trade unions that have been able to cope with Industry 4.0 and digitalisation as well as grassroots initiatives that have been able to organise in the platform economy. In many cases, organised labour finds itself in a ›David versus Goliath‹ situation, as organised labour is up against powerful transnational platform companies such as Youtube or Uber which tend to undermine labour standards and institutional rules. Industry 4.0 and algorithmic management can be perceived as new ›technological fixes‹, both of which at first glance appear to tend to weaken organised labour. Today, however, the use of digital technology is being increasingly contested, with labour struggles in the platform economy being waged over algorithmic control and, in some cases, organised labour pushing for alternative worker-controlled forms of technology. Taken together, control over technology is likely to become a crucial issue in the labour movement in the 21st century.

The emerging ›platform cooperativism‹ (Scholz and Schneider 2016) with worker-controlled technologies is only one example of an increasing variety of collective associations and representation of workers in the digital economy. For several decades, the landscape of collective representation of workers in the Global North was dominated by ›established‹ trade unions (Visser 2012). Although there has been a number of union mergers, with innovative organising approaches and new professional trade unions emerging from these, most ›established‹ unions in the Global North continue to strongly rely on institutional power. Emerging platform trade unions and associations such as the Couriers Collective, Riders Union and the YouTubers Union are relatively small in terms of formal membership, but they demonstrate that the platform economy has rapidly diversified the landscape of collective association and representation. Several studies on the platform economy in the Global North point in the same direction, namely a high organisational variation in the associational power of platform workers based on, for example, informal groups of platform workers and worker-led platform cooperatives (Joyce and Stuart 2021; Vandaele 2021).

## 6.1 ORGANISATIONAL VARIETIES AS THE NEW NORMAL

From the perspective of labour studies, this transcending of trade union structures ›as we know it‹ since the early 20th century in the Global North therefore suggests a need to open the narrow methodological approach to go beyond ›union fetishism‹ (Atzeni 2021). This implies analysing worker struggles and bottom-up processes of collective (identity) formation and other types of workers' associations as well rather than to remain focused on ›established‹ trade unions only. Such an inclusive research approach is more common in the Global South, where employment relations are almost by default marked by informality and vulnerability (Bremen and van der Linden 2014). Processes of self-organisation are more common there, and the collective association and representation of workers is more diverse from the outset than in the Global North, so the interplay between ›established‹ trade unions and other types of collectivism is often more complex. From a political perspective, collaboration between ›established‹ trade unions with high levels of institutional and associational power and grassroots initiatives such as between IG Metall and the YouTubers Union might become more important in the near future.

The challenge of cooperation with grassroots initiatives is a pressing issue, as most ›established‹ unions find themselves in a rather defensive situation in confronting digitalisation and industry 4.0. Unlike in the 1970s and the 1980s, the structural and associational power of many workers in the Western world today is lower, and the fear of a new technology-driven race to the bottom is widespread. Although in the TUiT 4.0 project there were inspiring cases in which ›established‹ trade unions were able to tackle the challenge of technological change or even offensively organise tech workers, the platform economy has become the main breeding ground for new bottom-up labour struggles, where ›established‹ unions will have to find their role. Several case studies show that trade unions can play a leading role in supporting these initiatives with their comparatively high institutional and associational power, and that there are also emerging ›hybrid organisational forms‹ (Webster et al. 2020: 11) bringing together different groups of workers (e.g. informal and self-employed workers). The capacity to develop an offensive agenda and turn defensive struggles into offensive struggles will be crucial for organised labour in twenty-first century digital capitalism.

## REFERENCES

- Araujo A.S.** (2020) *Deploying historical strength to shape the future. SMABC and Industry 4.0 in the Brazilian automobile sector*, Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16816.pdf>
- Atzeni M.** (2021) Workers' organizations and the fetishism of the trade union form: toward new pathways for research on the labour movement? *Globalizations*, DOI: 10.1080/14747731.2021.1877970.
- Basualdo V., Bensuán, G., Julián-Vejar D.** (2021) Automation and robotization of production in Latin America: Problems and challenges for trade unions in the cases of Argentina, Mexico and Chile, in: Plaw A., Gurgel B.C. and Plascencia D.R. (eds.) *The Politics of Technology in Latin America. Volume 1: Data Protection, Homeland Security and the Labor Market (1st ed.)*, New York, Routledge, pp. 127–142.
- Behrens M., Hamann K., and Hurd R.** (2004) Conceptualizing Labour Union Revitalization, in: Frege C.M. and Kelly J. (eds.) *Varieties of Unionism - Strategies for Union Revitalization in a Globalizing Economy*, Oxford, Oxford University Press, pp. 11–29.
- Breman J. and van der Linden M.** (2014) Informalizing the economy: The return of the social question at a global level. *Development and Change*, 45 (5), pp. 920–940.
- Coriat B.** (1979) *L'Atelier et le chronomètre: essai sur le taylorisme, le fordisme et la production de masse*. Paris, Christian Bourgeois éditeur.
- Delfanti A.** (2021) Machinic dispossession and augmented despotism: Digital work in an Amazon warehouse. *New Media & Society*, 23(1), pp. 39–55.
- Dirksen U. and Herberg M.** (2021) *Trade Unions in Transformation 4.0 - Stories of unions confronting the new world of work*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/17798-20210602.pdf>.
- Fichter M., Ludwig C., Schmalz S., Schulz B. and Steinfeldt H.** (2018) *The Transformation of Organised Labor. Mobilising Power Resources to Confront 21st Century Capitalism*. Berlin, Friedrich-Ebert-Stiftung. Available at <https://library.fes.de/pdf-files/iez/14589.pdf>.
- Fisher B.** (2020) *Unlikely Unionists: Organised labour in the Israeli ICT sector*. Berlin, Friedrich-Ebert-Stiftung. Available at: <https://library.fes.de/pdf-files/iez/16631.pdf>.
- Ford M. and Honan V.** (2019) The limits of mutual aid: emerging forms of collectivity among app-based transport workers in Indonesia. *Journal of Industrial Relations*, 62 (4), pp. 528–548.
- Ganz M.** (2009) *Why David Sometimes Wins: Leadership, Organization, and Strategy in the California Farm Worker Movement*. Oxford, Oxford University Press.
- Helmerich N., Raj-Reichert G. and Zajak S.** (2021) Exercising associational and networked power through the use of digital technology by workers in global value chains. *Competition & Change*, 25(2), pp. 142–166.
- Hobsbawm E.J.** (1952). The machine breakers. *Past & Present*, 1, pp. 57–70.
- Howcroft D. and Bergvall-Kåreborn B.** (2019) A typology of crowd-work platforms. *Work, Employment and Society*, 33 (1), pp. 21–38.
- Huws U.** (2016) Logged labour: A new paradigm of work organisation? *Labour & Globalisation*, 10(1), pp. 7–26.
- Joyce S. and Stuart M.** (2021) Trade union responses to platform work: an evolving tension between mainstream and grassroots approaches, in: Drahokoupil J. and Vandaele K. (eds.), *A modern guide to labour and the platform economy*. Cheltenham, Edward Elgar, forthcoming.
- Kern H. and Schumann M.** (1984) *Das Ende der Arbeitsteilung? Rationalisierung in der industriellen Produktion. Bestandsaufnahme, Trendbestimmung*. München, Beck.
- Levinson M.** (2006) *The box: how the shipping container made the world smaller and the world economy bigger*. New Jersey, Princeton University Press.
- Manga E., Hamilton P. and Kisingu S.** (2020) Riding on a union app. Uganda's public transport workers' digital response to platforms. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16849-20201203.pdf>.
- Marx K.** (1976) *Capital. A Critique of Political Economy*. New York, Penguin Books.
- Minter K.** (2017) Negotiating labour standards in the gig economy: Airtasker and Unions in New South Wales. *The Economic and Labour Relations Review*, 28(3), pp. 438–454.
- Müller-Jentsch W.** (1999) *Konfliktpartnerschaft: Akteure und Institutionen der industriellen Beziehungen*. Schriftenreihe Industrielle Beziehungen. München, Rainer Hampp Verlag.
- Niebler V. and Kern A.** (2020) *Organising YouTube. A novel case of platform worker organising*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16535-20210225.pdf>.
- Offe C. and Wiesenthal H.** (1980) Two Logics of Collective Action: Theoretical Notes on Social Class and Organizational Form. *Political Power and Social Theory*, 1, pp. 67–115.
- Panimbang F., Arifin S., Riyadi S. and Septi Utami D.** (2020) *Exploitation by algorithms. Drivers' contestation of app-based transport in Indonesia*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16599.pdf>.
- Panimbang F.** (2021) Solidarity across boundaries: a new practice of collectivity among workers in the app-based transport sector in Indonesia. *Globalizations*, DOI: 10.1080/14747731.2021.1884789.
- Perelman L., Mangini M., Perrot B., Belén Fierro M. and Sol Garbarz M.** (2020) *Proudly delivered by App. The struggle of Latin America's first union for platform workers*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16615.pdf>.
- Pittaluga L., Giudice S., Peluffo A. and Otero N.** (2020) *Banking on training and pensions. How a Uruguayan union negotiates automation in the financial sector*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16585.pdf>
- Schaefers K. and Schroth J.** (2020) *Shaping Industry 4.0 on Workers' Terms. IG Metall's »Work+Innovation« Project*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://www.fes.de/cgi-bin/gbv.cgi?id=16815&ty=pdf>
- Schmalz S., Ludwig C. and Webster E.** (2018) The Power Resources Approach: Developments and Challenges. *Global Labour Journal*, 9(2), pp. 113–134.
- Schmalz S. and Weinmann N.** (2016) Between Power and Powerlessness: Labor Unrest in Western Europe in Times of Crisis. *Perspectives on Global Development and Technology*, 15(5), pp. 543–566.
- Schiller D.** (1999). *Digital Capitalism: Networking the Global Market System*. Cambridge, MA, MIT Press.
- Scholz T. and Schneider N.** (2016) *Ours to Hack and to Own: The Rise of Platform Cooperativism, a New Vision for the Future of Work and a Fairer Internet*. OR Books.
- Silver B.J.** (2003) *Forces of Labor. Workers' Movements and Globalization Since 1870*. New York, Cambridge University Press.

**Spatari S. and Guga M.** (2020) *Back to bargaining in banking. How digitalisation plays Romanian trade unions an upper hand*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16580-20201012.pdf>

**Srnicek N.** (2016) *Platform Capitalism*. Cambridge, Polity.

**Stinchcombe A.L.** (1965) Social structure and organizations, in J.G. March (ed.), *Handbook of organizations*. Chicago, Rand-McNally, pp. 142–193.

**Tarrow S.** (1993) Cycles of Collective Action. *Social Science History*, 17(2), pp. 281–307.

**Thorsrud E. and Emery F.E.** (1970) Industrial Democracy in Norway. *Industrial Relations: A Journal of Economy and Society*, 9(2), pp. 187–196.

**Tilly C.** (1986) *The Contentious French: Four Centuries of Popular Struggle*. Cambridge, MA, Harvard University Press.

**Tonelson A.** (2002) *The Race to the Bottom. Why a Worldwide Worker Surplus and Uncontrolled Free Trade are Sinking American Living Standards*. Boulder/Oxford, Westview Press.

**Trappmann V., Bessa I., Joyce S., Neumann D., Stuart M. and Umney C.** (2020). *Global labour unrest on platforms. The case of food delivery workers*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16880.pdf>

**United Nations Conference on Trade and Development UNCTAD** (2021) *Technology and Innovation Report 2021. Catching Technological Waves*. Geneva, United Nations. Available at: [https://unctad.org/system/files/official-document/tir2020\\_en.pdf](https://unctad.org/system/files/official-document/tir2020_en.pdf).

**Vandaele K.** (2018) *Will trade unions survive in the platform economy? Emerging patterns of platform workers' collective voice and representation in Europe*. Working Paper 2018.05. Brussels, ETUI.

**Vandaele K.** (2020) *From street protest to 'improvisational unionism'. Platform-based food-delivery couriers in Belgium and the Netherlands*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16608.pdf>.

**Vandaele K.** (2021) Collective resistance and organizational creativity amongst Europe's platform workers: a new power in the labour movement?, in: Haidar J. and Keune M. (eds.) *Work and labour relations in global platform capitalism*. Cheltenham/Geneva, Edward Elgar/ILO, forthcoming.

**Van der Linden M.** (2008) *Workers of the World. Essays toward a Global Labor History*. Studies in global social history, Volume 1. Leiden, Brill.

**Visser J.** (2012) The rise and fall of industrial unionism. *Transfer*, 18 (2), pp. 129–141.

**Weber M.** (1978). *Max Weber Selections in Translation*. Cambridge, Cambridge University Press.

**Webster E., Ludwig C., Masikane F. and Spooner D.** (2021) Beyond traditional trade unionism: innovative worker responses in three African cities. *Globalizations*, DOI: 10.1080/14747731.2021.1874253.

**Wood A.J., Lehdonvirta V., Graham M.** (2018) Workers of the Internet Unite? Online freelancer organisation among remote gig economy workers in six Asian and African countries. *New Technology, Work and Employment*, 33(2), pp. 95–112.

**Yun A.** (2020) *Safety for the public, rights for the driver. South Korea's transport workers campaign for safe rates*. Berlin, Friedrich-Ebert-Stiftung. Available at: <http://library.fes.de/pdf-files/iez/16848.pdf>.

**Zuboff S.** (2019) Surveillance Capitalism and the Challenge of Collective Action. *New Labor Forum*, 28(1), pp. 10–29.

## APPENDIX

Table 1:  
**Overview of the (case) studies in the TUiT 4.0 project**

Industry covered	Countries covered	Authors	Title of the study
Automotive industry	Brazil	Ariella Silva Araujo	Deploying Historical Strength to Shape the Future. SMABC and Industry 4.0 in the Brazilian automobile sector
Banking	Romania	Ştefan Guga and Marcel Spatari	Back to Bargaining in Banking. How digitalisation plays Romanian trade unions an upper hand
Banking	Uruguay	Lucía Pittaluga, Soledad Giudice, Aníbal Peluffo and Natalia Otero. With the collaboration of Agustín Correa and Federico Lacaño	Banking on Training and Pensions. How a Uruguayan union negotiates automation in the financial sector
Creative Industry	Global, in particular Germany	Valentin Niebler and Annemarie Kern	Organising Youtube. A novel case of platform worker organising
Food delivery	Argentina	Laura Perelman, Marcelo Mangini, Bárbara Perrot, María Belén Fierro and Martina Sol Garbarz	Proudly Delivered by App. The struggle of Latin America's first union for platform workers
Food Delivery	Belgium and the Netherlands	Kurt Vandaele	From Street Protest to »Improvisational Unionism«. Platform-based food delivery couriers in Belgium and the Netherlands
Food delivery	Global	Vera Trappmann, Ioulia Bessa, Simon Joyce, Denis Neumann, Mark Stuart, Charles Umney	Global Labour Unrest on Platforms. The case of food delivery workers
ICT	Israel	Ben Fisher	Unlikely Unionist. Organised labour in the Israeli ICT sector
Manufacturing industry	Germany	Kathrin Schäfers and Jochen Schroth	Shaping Industry 4.0 on Workers' Terms. IG Metall's »Work+Innovation« Project
Transport	Uganda	Erick Manga, Paula Hamilton, Stephenson Kisingu	Riding on a Union App. Uganda's Public Transport Workers' Digital Response to Platforms
Transport	Indonesia	Fahmi Panimbang, Syarif Arifin, Sugeng Riyadi, Dina Septi Utami	Resisting Exploitation by Algorithms. Drivers' Contestation of App-based Transport in Indonesia
Transport	South Korea	Aelim Yun	Safety for the Public, Rights for the Driver. South Korea's transport workers campaign for safe rates

Source: authors' own elaboration.

Table 2:  
**Labour Struggles and Power Resources of Organised Labour Facing Digital Transformation**

	Associational Power	Institutional Power	Societal Power	Structural Power
<b>Established – defensive struggle</b>	<ul style="list-style-type: none"> <li>– Reinforce, mobilise</li> <li>– open organisation (white-collar, precarious, self-employed)</li> <li>– use negotiating skills</li> <li>– build competence on new issues</li> <li>– use transnational arena</li> </ul>	<ul style="list-style-type: none"> <li>– use existing negotiating arenas</li> <li>– shape use of new technology (»No new technology without union/works council approval«)</li> <li>– innovative solutions (pension fund AEBU)</li> <li>– create joint initiatives (learning factory)</li> </ul>	<ul style="list-style-type: none"> <li>– build discourse on »shaping transformation«</li> </ul>	<ul style="list-style-type: none"> <li>– build skills</li> <li>– training/education policy</li> <li>– influence investment policy</li> </ul>
<b>Emerging – offensive struggles</b>	<ul style="list-style-type: none"> <li>– create grass-roots initiatives on needs of and identities as workers</li> <li>– Alliances between »established« trade unions and new grass-roots initiatives</li> <li>– Trade unions fostering integration among core and precarious workers or formal and informal workers</li> <li>– develop international solidarity</li> </ul>	<ul style="list-style-type: none"> <li>– expand bargaining agenda to technological change</li> <li>– use legal expertise to apply existing laws and litigation strategies</li> <li>– create new rules (status of worker, social security) thereby addressing shortage of regulatory and institutional security, loopholes in labour law, and violation of existing regulations (legislation on Safe rates in Korea)</li> <li>– Struggles for legal recognition of new union organisations</li> </ul>	<ul style="list-style-type: none"> <li>– reframe discourse about digital work from innovative into »workers need protection«</li> <li>– build tech-related coalitions</li> </ul>	<ul style="list-style-type: none"> <li>– use disruptive capacity, both digitally and analogously to put pressure on companies</li> <li>– Platform-based coops as an alternative way to create employment</li> </ul>

Source: Authors' own table.



## ABOUT THE AUTHORS

**Victoria Basualdo** is a researcher at the National Council of Scientific and Technological Research (CONICET) and the Latin American Faculty of Social Sciences (FLACSO) in Argentina. Her research focuses on the transformations of labor relations and trade-union strategies in Argentina and Latin America from the second half of the twentieth century to date.

**Hugo Dias** is a researcher at the Brazilian Centre for Studies in Trade Unionism and Labour Economics (CESIT) and Professor at the Institute of Economics of the University of Campinas (UNICAMP).

**Mirko Herberg** coordinates the FES Global Trade Union Project in Berlin, Germany. He has previously served as FES Country Director in Cameroon and the Philippines.

**Stefan Schmalz** is a research group leader at the University of Erfurt, Max Weber Centre for Advanced Cultural and Social Studies. His research interests include trade unions, labor relations, political economy, and development studies.

**Melisa R. Serrano** is Professor at the School of Labor and Industrial Relations, University of the Philippines. Her research interests include collective representation of workers in non-standard and informal employment, trade union renewal/revitalisation, gender equality in trade unions in Asia, and labor's alternative socio-economic paradigms.

**Kurt Vandaele** is Senior Researcher at the European Trade Union Institute in Brussels. His research interests include trade union revitalisation, workers' repertoire of collective action, the platform economy, and the political economy of Belgium and the Netherlands.

## IMPRINT

Friedrich-Ebert-Stiftung e.V. | Godesberger Allee 149 |  
53175 Bonn | Germany

E-Mail:  
[info@fes.de](mailto:info@fes.de)

Register no.: VR2392  
Bonn Register of Associations  
Bonn Local Court

President: Martin Schulz  
Secretary General: Dr Sabine Fandrych

Responsible:  
Mirko Herberg | International Trade Union Policy  
Phone: +49-30-269-35-7458 | Fax: +49-30-269-35-9255

[www.fes.de/gewerkschaften](http://www.fes.de/gewerkschaften)

Contact /Orders:  
[Julia.Schultz@fes.de](mailto:Julia.Schultz@fes.de)

The views expressed in this publication are not necessarily those of the Friedrich-Ebert-Stiftung. Commercial use of media published by the Friedrich-Ebert-Stiftung (FES) is not permitted without the written consent of the FES. Publications by the Friedrich-Ebert-Stiftung may not be used for electioneering purposes.

© 2021