



ITF Dockers' Section Future of Work Campaign Toolkit



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INTRODUCTION

The introduction of new technology and automation by global stevedoring operators and by publicly owned ports is a threat to all dockworkers. This is true whether older ports are partially automated or new ports are developed with high levels of automation. The ITF Dockers' Section affiliates around the world demand to be part of the dialogue on the future of our work. We must unite and fight globally to help defeat the unnecessary automation of our jobs, the greatest threat now facing dockworkers.

This toolkit is designed to help you understand, frame and campaign around terminal automation. No single approach will work in all ports — but there are common campaign elements and resources that are useful whether you represent workers who work for a major global port operator or a publicly owned port.

The toolkit will be updated as we continue to campaign to protect our jobs and futures.



SEMI-AUTOMATED AND HIGHLY AUTOMATED TERMINALS

Technology companies want stevedores and the shipping industry to believe that “full automation” means a port run by computers working efficiently without human supervision. That is not true; automation always requires some degree of human operation, correction, adjustment and manipulation.

A traditional container terminal has four main functions:

- **Clerical (TOS, AI);**
- **Road/Rail/yard (Gate, R&D);**
- **Horizontal Transfer; and**
- **Vessel and vessel operations (Cargo Planning and Stowage, crane and deck work)**

Maintenance and repair are another area of terminal operations but is largely based on human activity.

The removal of humans from work processes that are taken over by machines is known as automation. For the purposes of this toolkit and for the sake of aligning language, semi-automated and highly automated terminals are defined as follows:

- Semi-Automated is where there is automation of one of the core terminal functions such as clerical, Horizontal transfer, vessel and ship operations or road and rail.
- Highly Automated is when more than one of these functions is automated.

The term fully automated has been moved away from in this document. No terminal can be fully automated, as human interaction in the automated processes is fundamental to their operation.



ITF DOCKERS POSITION

1. Automation cannot be used as a union busting measure. Ports and terminals must ensure that they are an economic benefit to the workers they employ and communities they serve.
2. Proposed automation of ports must be economically transparent. All relevant economic data must be publicly available. The ITF will support affiliates lobbying Governments to ensure automation proposals are fully disclosed in terms of capital expenditures, cost of capital, and the economic effects of technologies, impact on jobs and any shift in tax obligations, and the increased reliance on social welfare programs. Dockers unions will continue to protect and improve the conditions for their workers and not allow terminal operators to undermine conditions in terminals.
3. All measures must be taken to ensure that there are no job losses due to the introduction of new technology, including scheduling, retraining of workers and insourcing of all work required to operate the terminal. In countries where weekly or annual hours of work are defined in the industrial system, the ITF supports a reduction of the working week without loss of pay.
4. Workers affected by technology must be given relevant work assignments sufficient to ensure their pension and entitlements.
5. No existing or future terminal machinery, equipment, terminal operating systems or terminal access and entry gates will be operated by remote control outside of the terminal area to the exclusion of workers covered by the CBA signed by the Dockers union affiliated to ITF.
6. Full union coverage and respect for union jurisdiction is maintained. There will be no transfer of Docker's jobs, existing or new, to management or non-union labour.
7. All roles in connection with terminal operating systems and equipment will be covered by a Dockers union including the coverage of all new roles, classifications, categories, and/or jobs that are created as a result of automation or technological change even when the function is carried out as a result of automation or technological changes. Further, full coverage of all maintenance functions through union labour covered by the Dockers union.
8. No remote controlling from outside of a terminal area. Central control hubs operating internationally are opposed.
9. Outsourcing of Dockers jobs will cease and existing outsourcing arrangements will be brought back into the jurisdiction of the Docker's workforce.
10. Economic and social impacts of automation are to be taken into account and must be consistent with community values. No public funds and or tax rebates should be given to terminal operators to automate, whether highly automate or semi-automate terminals.

AUTOMATION AND WOMEN

Employers and governments must ensure:

- Any measures including the introduction of new technology, automation or digitalisation must benefit, not be to the detriment of women workers.
- Unions are included as key stakeholders in consultation on all new technological developments in ports, which must include gender impact assessments.
- An end to gender-based occupational segregation.
- Equal opportunities for women in all aspects of port work including training and re-training on any new technology.
- Tripartite and collective bargaining mechanisms should include measures to ensure women's representation, so they can have input into the development of policy and be part of decision-making around new technology.
- Unions should campaign for governments to ensure that regulations tackle the root causes of gender inequality by considering women's needs in terms and conditions of employment. For example, by legislating to increase opportunities to access family-friendly working hours, shift patterns and flexible employment conditions while ensuring decent work and equal pay. In addition, by ensuring trade unions reps and women's advocates are recognised and can get paid time off.

MAP OF AUTOMATED TERMINALS

Existing and planned automated container terminals



Container Terminal Automation Conference
Automated Intelligence & AI March 14-15, 2018 - London, UK



A full breakdown of automation in the terminals is found in Annex 1.

AUTOMATION IN THE PORTS: COMMUNITY IMPACT

Overall:

- The first “automated terminal” was introduced in the Netherlands in 1993, with the opening of ECT Delta Terminal in the Port of Rotterdam.
- As of 2020, an estimated 3-4% of container terminals around the world are highly automated.
- In most cases, port automation refers to digitalisation that allows the automation or remote operation of terminal equipment and gates. If shifted to remote operation, less workers are needed to operate more machines, leading to job losses.
- Port Automation is not limited to newly built terminals, which are better known as Greenfield operations. Brownfield operations refer to a terminal converting all or part of its existing conventional port operations to automated processes. Brownfield automation is becoming increasingly popular as fewer Greenfield operations are being built.
- While the introduction of new technology might create new types of jobs, the new jobs created do not offset the number of jobs lost by the introduction of new technology. It is now possible that new jobs can be off terminal and outside of the jurisdiction or coverage of the traditional union representing dockworkers.
 - In 2014, the port of Los Angeles automated approximately one third of the existing Trapac terminal, resulting in a labour reduction of 40 to 50%.¹
 - More recently, the port of Long Beach developed a highly automated Greenfield container terminal. The automated terminal resulted in a workforce reduction of 75% of longshore labour. There was a slight increase in maintenance and repair labour stemming from automation but the jobs created were unable to offset the high number of longshore jobs lost.²
- In 2012, DP World introduced ASCs and straddles (human controlled) into its Brisbane operation. The shift in mode change from ITVs and forklifts to straddles with ASCs to do the road work resulted in a 33% reduction of jobs in the terminal.
- In 2014, Patrick’s Sydney container terminal at Port Botany had 436 workers on site, including administration and support staff. In 2016, following automation, the number of workers at the terminal stood at 213, a workforce reduction of over 50 percent.³
- Automation is not as reliable or productive as human labour. It cannot operate or adapt to complex or evolving situations, unknown environments, ambiguous data, capricious decision makers, or certain weather conditions. In both highly and semi-automated terminals, the introduction of new technology has led to a net loss of jobs and loss of production at container terminals, an analysis further backed up by studies done by the World Maritime University,⁴ McKinsey and others. Consequently, there can be no argument that automation is implemented for purposes of increased productivity or for socially useful purposes.
- Global warming and climate change has been cited as a reason for automation in ports, but the climate crisis we are facing should not be used to replace workers. Technological advances that help the environment are welcome, including the use of man-powered electric RTGs, cranes, forklifts and other pieces of equipment in the terminal.

1. ILWU Canada Prism Study: https://ilwu.ca/wp-content/uploads/prism-ilwu_report-a3-aug14.pdf

2. Ibid

3. Ibid

4. Transport 2040: Automation, Technology and Employment – The Future of Work
https://commons.wmu.se/cgi/viewcontent.cgi?article=1071&context=lib_reports



Community Impact:

- Automation hurts communities. It not only leads to job losses in the port, but also in the community due to decreased spending which arises from the removal of significant numbers of wage earners and the subsequent economic flow-on to the community.
 - Campaigning possibilities exist in small businesses around the local terminals. These small businesses are potential allies against the corporate monoliths in stevedoring who effectively remove the clientele from these shops and service providers.
 - Local councils are also a good point of campaigning in community interests.
- Job losses in the ports will affect other industries, including the economic sectors where the industry's workers spend their income.
 - Shops, supermarkets, retailers and service providers can be negatively affected by terminal automation and the evaporation of previously existing customers in the form of displaced workers.
- The industrial intensity of a port creates an imposition on a community. While the community will suffer from the effects of noise, pollution, congestion and a toll on infrastructure, it will benefit from well-paid employees who contribute to the social fabric, local business and regional tax base.

The study commissioned by the ILWU Canada found that if ports on the west coast of the Canada were automated it would cause a reduction in tax revenue at the national and local levels. The study found that, *"Not only would there be a significant decline in wages and salaries for core and supporting jobs, but the decrease in consumer spending would negatively impact local economies."*⁵

Whereas job losses lead to decreased tax revenues from employer taxes, decreased consumer-spending leads to decreased tax revenues from consumer taxes. When faced with decreases in tax revenues, governments are forced to adjust budgetary allocations, which could lead to:

- Less funding for school systems impacting the education children receive
- Less funding for healthcare systems, especially in countries with public healthcare
- Underfunded public services including, fire, paramedics and sanitation services
- Less investment in infrastructure including road repairs and bridges leading to a degradation of current infrastructure
- Capital expenditures for the introduction of automation often go to offshore corporations in lieu of local communities. At the same time, increased corporate profits will not land in the community and are sent to offshore accounts.

5. Ibid



PORT/NATIONAL SECURITY

Artificial Intelligence

The sensors implanted in workplace infrastructure and equipment create data. This allows employers to monitor nearly every aspect of the workplace, including professional (and personal) performance, resulting in huge reservoirs of 'big data.' Artificial Intelligence (AI) or machine learning can then be employed to automate decisions and duties, such as the booking of a shipment, to the routing of a tractor through a marine terminal. This technology not only displaces and deskills workers at a disruptive scale, but also poses additional threat by the erosion of privacy, freedom, cognitive autonomy.

- It also threatens workers because the algorithms that make the decisions based on data, and the data itself can often contain biases and assumptions that can negatively affect workers. For example, in the US facial recognition AI has routinely ascribed negative characteristics to black people. Algorithms used to assess job applicants also routinely embed gender bias against women. This will have serious implications for workers across the world unless algorithms are regulated to ensure their universal applicability.
- National regulations need to be developed limiting and controlling the use of algorithmic management, these should enshrine the notion of ultimate human responsibility and require companies to provide a named official responsible for the impact algorithms have on people and the environment. They should also develop a national certification for workplace algorithms, which must include health and safety and address gender and race discrimination.

These biases can have immense negative impacts on workers, but workers are never involved in evaluating the performance of an algorithm (especially because most managers assume algorithms are perfect).

Foreign digital control

Digitalisation enables control. For governments around the world, foreign ownership of port terminals and the use of foreign software to operate terminals, particularly highly automated ones, should raise national security issues.

Foreign ownership of ports can be expropriated, but operating systems, AI and other software cannot easily be replaced, creating the risk that strategic national and international infrastructure be effectively controlled from abroad. At the level of working conditions, foreign software embeds foreign assumptions about workplaces and work, which can negatively impact workers in areas that do not fit these assumptions. Furthermore, data collected by these systems goes into improving the systems of the owner-operator. Some analysts are calling the risks involved the threat of 'digital colonialism' because of the potentially exploitative nature of this tech relationship.

The challenges posed by digitalisation, including automation, mean that unions need to carry out full health and safety assessments of new technologies entering the workplace. In some ports, unions and employers have joint health and safety committees that should examine digital technologies. In Germany, Dockers have also negotiated an automation committee with wide-ranging powers once a certain percentage of jobs are affected.

More automation and digitalisation leads to fewer functions. Less functions means less job rotation. Less job rotation leads to more physical harm to the worker by constantly doing the same movements, which could lead to a worker becoming disabled and unable to work. Unions must fight to ensure that the introduction of any new technology does not lead to workplace injuries or a diminution of safety standards.

Cybersecurity

The introduction of automation, new technology and software can pose a risk to both the security of port and nations. In 2017, ransomware NotPetya brought many sectors including ports to a grinding halt, causing billions of dollars in losses across various sectors. In scenarios like this, automated terminals are unable to operate and adapt to the crisis. For example, AMPT's MV2 in the Port of Rotterdam was shut down for more than two weeks. On the other hand, traditional terminal operations were able to maintain productivity. More recently, an Israeli cyberattack shut down the Iranian port of Shaheed Rajaei.⁶ Digitalisation therefore brings the increased risk of disruption to ports around the world as well as the disrupt supply chains due to ports sitting idle unable to move cargo.

Offshore Operations and Remote Controlling

The move to have some port operations be handled overseas, where companies pay workers less wages than in the country where the port is physically operated, poses another risk to national security. If port operators, offshore the remote-control operations of automated equipment, as they have tried in Australia at VICT there is no local control and regulation. Terminals are not there as second set of eyes. This is an increasing threat due to wide spread adaptation of 5G technology. It can result in the contracting out of certain operations from the local workforce to lower wage areas. As an example, think about banking services that at one time were conducted in the local branch now contracted out and done over the telephone or online with workers from lower wage economies.

The possibilities for remote controlling terminal equipment outside of the terminal areas (or even the country) is increased with the development of 5g and AI. We need to resist employers who attempt remote controlling outside of terminals to avoid Dockers unions. The potential areas for remote controlling are opening up to the following areas of terminal operation:

- Security gates
- Clerical and TOS functions
- Crane operations
- RTGs
- Planning
- Autostrad operations

5G - Health and Environmental Risks

In addition to the threat of 5G being used to move jobs offshore, the potential negatives risks of 5G technology on a workers' health and the environment must be explored. There have been various studies regarding the health and safety impacts on human exposure to 5G radiation. In 2017, in a letter to the European Commission, more than 180 scientists and doctors from 36 countries called on the European Union to delay the rollout of 5G technology. They raised concerns that the 5G will increase exposure to radiofrequency electromagnetic fields (RF-EMF), and that RF-EMF has proved harmful for humans and the environment.⁷ Additional studies on the impact of 5G, has shown that the increased exposure to EMF has led to increased cancer risk, cellular stress, genetic issues, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans.⁸ The studies further found that the impact affects humans, animals and plant life.

With continued concern over the potential health and environmental impact on 5G technology, it is imperative that there is continued monitoring of the deployment of this technology and the potential risks.

Control, Surveillance and Health and Safety Risks

Automation is one aspect of the increasing digitalisation of the workplace. The embedding of sensors and software into vehicles, equipment and infrastructure enables automation. These sensors create data that oversee and describe a process and the environment around a process - so they describe the various movements of each piece of machinery involved in getting a container off a ship, the movement of containers around the terminal, as well as wind speed, temperature and other parameters that describe the environment around the container (and increasingly, inside it). Other data from sensors such as RFID tags or chipped ID cards can tell the system which worker is doing what (and how efficiently) at any one time. For example, a hydraulic ram on a machine can have its own IP address for the collation of data, which can be used by employers in a range of different ways.

Together all of this data creates the ability for employers to control what is happening in the port. Control is therefore at the heart of both digitalisation and automation.

6. <https://www.nytimes.com/2020/05/19/world/middleeast/israel-iran-cyberattacks.html>

7. <https://www.jrseco.com/wp-content/uploads/2017-09-13-Scientist-Appeal-5G-Moratorium.pdf>

8. <https://emfscientist.org/index.php/emf-scientist-appeal>

Employers usually use the data they harvest from workers and work processes to reduce costs by:

- reducing the amount of energy used (by using smart lighting or smart routing for example),
- taking workers out of the picture (automation),
- giving some tasks to machines (deskilling workers and then paying them less),
- making workers work harder (by making them work to productivity targets or by reducing 'free time' between tasks on the job).
- imposing productivity benchmarks and disciplinary outcomes around performance.

In many workplaces, workers are measured against each other in what is known as benchmarking. Carrot and stick incentives are used to make people work harder. This monitoring practice exists in traditional stevedoring operations but is now compounded by the increased scrutiny that machinery, and consequently workers, come under through advanced technological processes.

Monitoring workers comes with the usual employer imposed political control of a workplace but these advanced monitoring practices also work to fuel the learning and development of artificial intelligence as every move made by a worker in any machine is collated and recorded as a basis of teaching the AI systems the best way to operate a machine in a terminal environment.

These forms of control carry serious health and safety implications for workers anywhere digitalisation takes place. Big Brother is watching and recording and the added psychosocial stress placed on workers as a result of this constant and detailed surveillance contributes to these health and safety implications. There is pressure to speed up operations and drive dangerously on the one hand with the added pressure of someone looking over your shoulder at all times creates a serious mix of safety and health concerns.

Main concerns of surveillance include:

- Psychological pressures from being watched at all times
- Reduced social activity on the job
- Unachievable productivity yardsticks
- Imposition of disciplinary based performance measures

First, the knowledge that everything about a workers' activity is being measured creates additional psychological pressures for the worker.

Second, the reduction in 'social time' on the job (having a coffee with a workmate, walking from one task to another) and the reduction in the number of workers creates symptoms of social isolation (loneliness and higher stress for example).

Third, productivity yardsticks are often assigned without consulting workers, leading to unrealistic productivity expectations that force workers to labour at a pace that creates health risks.

Fourth, workers are increasingly working alongside automated machines and vehicles that have not been adequately safety tested, or that operate without being synchronised with other operations, creating risks.

The combination of all these factors creates higher risks of workplace injury or stress.

Digitalisation is also creating new risks through the deployment of artificial intelligence and big data.

The ITF and IDC have initiated research for analysing the impact of AI/5G technology on the port sector: from Productivity to Social Impact.

Context

Communication and information technologies are having a relevant impact on logistics in general. Ports are no exception.

Current communication technology has limitations in terms of the volume of information processed and the sharing information capacity, which represents a limitation in the automation of production processes or in the development of the Internet of Things (IoT), among other examples. Some ports, such as Rotterdam, Singapore or Qingdao, are currently studying the possible applications of this technology in port operations.

The most likely scenario is that 5G will enable a qualitative leap in the automation of procedures, in remote control and in real-time data monitoring, among other aspects. However, there are still important uncertainties about the effects of 5G implementation on work organization, safety, cyber security or changes in the market power of maritime port and logistics operators in general.

Objective

The objective of this research is to analyse the effects of the implementation of 5G technology in all ports from a wide spectrum: from essential production indicators to work organization including an assessment of 'global impacts' including potential job losses, job changes and the impact on trade union power.

The research will most likely also lead onto an examination of the joint implementation of 5G and AI, since it is their combination that creates the potential for autonomous and remote operation. It will also deal with the impacts from an OSH perspective, and privacy and ethical impacts of use of facial recognition-biometrics (for example on automated gates).

The conclusions of the research should be available by end of Q2 2022.



HOW UNIONS CAN COMBAT AUTOMATION

It is essential for Dockers' Unions to educate and inform rank-and-file members and the broader community about the real risks of automation, debunk the existing myths about it, and explain to the broader community the impact of job losses and the threat the labour movement faces.

Dockers Unions around the world have been combating automation in several ways:

- Industrial action – strikes and bans
- Developing an international solidarity response
- Collective Bargaining
- Political Campaigns and Pressure
- Community Campaigns
- Educational and organising “road shows” by unions highlighting automation experiences across different countries and regions.
- Worker’s Capital Strategies.

Examining the role for workers’ capital strategies

As part of organising and campaigning strategies, it is important to consider ports’ current ownership structures and how planned investments in new technology will be financed. Politicians are important advocacy targets regarding publicly-owned ports and government investment. The private sector is another source of capital, through investment by sovereign wealth funds, global asset managers and pension funds.

1) What is a workers’ capital strategy?

Workers globally contribute to pension schemes that represent trillions of dollars of retirement income but often have very little say in how their money is invested. Before the COVID-19 crisis hit, the total value of assets in retirement savings plans had reached an all time high of more than US\$50 trillion. More responsible stewardship of this capital could play a powerful role in building a sustainable economy where companies respect human and labour rights, remain financially sustainable, and minimize damage to the environment. Trade unions use workers’ capital strategies to challenge pension funds and asset managers to take responsibility for improving the practices of the companies in which they invest.

National union confederations can advise on developing capital strategies since trade union influence often depends on national structures. The countries where unions currently have the most influence over pension funds include **Australia, Brazil, Canada, Denmark, Finland, India, Netherlands, Norway, South Africa, Sweden, United Kingdom, and the United States.** However since investment is dominated by international players – in 2020 75 global asset managers managed more money than the GDP of the US, China and the European Union combined - trade unions are also developing capital strategies at the global level, for example through the Committee on Workers’ Capital (CWC).

2) What makes engagement with investors an effective tool for unions?

Unions are already directly targeting corporate leadership teams and politicians. Investors represent another set of actors who can potentially influence decision-making by the Board on strategic issues such as automation.

However, this requires resources to gather evidence and time to build up relationships with asset managers and investment analysts who may not see trade unions as natural allies. Briefings and reports aimed at investors may need to be framed in different language so that Dockers' demands get a hearing. For example, many of the approaches and frameworks that investors currently use to evaluate corporate performance are voluntary not legal requirements so we have to be able to present our case in a way that will be persuasive to an investor audience.

3) How do workers' capital strategies relate to organising and campaigning?

Any workers' capital strategy has to support the overall objectives of the union campaign. Effective engagement with pension trustees and asset managers depends on being able to draw directly on the experience of workers and union representatives to show what the company is actually doing at operational level. Without this, it will not be possible to challenge assertions from corporate leadership about the financial benefits of automation. Some key questions to consider in developing a workers capital strategy in relation to Dockers and automation:

- Do we have evidence that a company has not met the existing standards set by target investors and pension funds as part of their investment criteria? To be aware, these standards might not adequately reflect the challenges created by new technologies. Many pension funds will not be aware of the impacts of high automation of terminals.
- Can we demonstrate the risks of automation to investors in a credible way? These could be environmental risks, social risks to Dockers' well-being and local communities or reputational risks to the company if it is seen not to pay its fair share of taxes. However, it is essential to show how high automation of terminals creates risks to the company.
- Are there useful links to explore between our coalition building with communities who would be affected by automation and/or local government and engagement with national pension funds?
- What are the specific actions that we would like pension funds and asset managers to take in relation to automation?

Most capital strategy work is developed alongside organising and other campaign tactics. For example, effective media work by unions to highlight the negative impacts of automation on workers and communities can help to show investors that there are reputational risks for the company.

Collective Bargaining

In the event that automation cannot be stopped in a terminal, unions can negotiate around a range of measures to mitigate against the effects of job destroying automation. There is not a one-size fits all approach and contract language will reflect the political, industrial and legal realities on the ground. The concepts that unions might consider to negotiate and fight for in collective agreements include:

- All new jobs will be within the union's **jurisdiction and coverage**.
- **Retraining** members with **new skills** required and providing technical familiarity on automated processes
- Ensuring the union and workers are told and agree **what data is being gathered**, and that employees are given the option to opt out of data collection systems
 - For example, data that is being gathered could include productivity levels, geo-tracking and mapping of employee locations
- Ensuring **transparency of data** being collected and that it be viewable by the employees, union, and not used against workers industrially or for disciplinary purposes.
- **Reduced hours of work** with no loss of pay (in applicable national circumstances and IR systems)
- **No remote controlling** of internal terminal equipment
- **No job losses**
- **Automation committees** involving workers
- **Banning automation** for life of contract or agreement
- **Provision of data** and all relevant information

Dockers unions around the world have been negotiating language in to their Collective Bargaining Agreements (CBA). Examples of specific clauses applicable in collective agreements are contained in Annex 2.

Examples of Bargaining and Campaigning Successes and Challenges

Australia

In Australia, the MUA has been challenged through the Federal Court about the legitimacy of union rights to prevent outsourcing and automation. Under Australian law, it is unlawful to take industrial action in order to prevent either outsourcing or automating. The approach in this area has to be directed legally toward placing limitations on the employer when they decide to automate. For example, there shall be no loss of jobs and that overall hours will reduce if the employer automates.

The MUA was prevented from legally stopping automation and outsourcing in a common law deed with DP World who consistently use the courts to undermine worker's rights.

United States

On the east coast of the United States, the International Longshoremen's Association (ILA) successfully negotiated language into their six-year agreement that prevented the introduction of new technology and automation in ports under their jurisdiction. At the same time, the ILA agreed that they would work to increase productivity levels in the ports.

Germany

Ver.di launched the campaign #DIGITALMUSSSOZIAL with the aim to put dockworkers at the centre of the automation and digitalisation processes that are happening in German ports. The goal of this campaign is to ensure that Dockers get a share of the benefits that will arise from digitalisation and automation in the ports. Ver.di has fought to achieve collective bargaining language with employers that will require the employer and union to agree on processes to manage automation, by adapting skills of the current workforce, negotiating the introduction of new technologies and employment levels, adapting the co-decision system to the new settings.

International Solidarity

Dockers' unions must work collaboratively across borders in order to effectively fight back against automation. The ITF Dockers' Section brings together over 100 Dockers unions representing more than 450,000 Dockers globally. This network of affiliates can provide both practical solidarity and assistance to unions facing and campaigning against automation. Docker's solidarity can provide practical assistance in the terms of best practices for bargaining language pertaining to the introduction of new technologies, best practices for community campaigning and applying for political pressure and a strong network of activists to engage in solidarity campaigning in support of each other's struggles.

Political Pressure

In some countries, Dockers unions faced with the threat of automation have exerted their political power and lobbied governments about the risks and impacts of automation. Annex 2 to this report contains sample questions that can be asked of politicians during lobbying meetings.

- Political pressure should be used by lobbying politicians in their respective countries and winning those who side with or are sympathetic to labour. Often, politicians have limited knowledge of how the industry works or the true economic impact of automation on the community, as illustrated in the ILWU Canada Study
- Unions should have meetings with all levels of government – mayors, city councils, provincial/state level representatives, federal ministers, present arguments, and data that demonstrate negative social, economic and community impacts.
- Letters/questions should be sent to relevant Ministers to let them know our concerns. There should be follow up letters and meetings as process continues and when more information become available.
- When possible, make submissions to any environmental review process when a terminal operator wants to introduce automation in a terminal.
- Organise rallies and demonstrations opposing job destroying automation
- Build broad community alliances and opposition through campaigning aimed at politicians and governments
- Advocate for legislation that prohibits public funds, e.g. tax revenue, to be used to automate terminals⁹

9. <https://www.thestand.org/2020/02/ban-port-automation-subsidies-to-protect-jobs-and-taxpayers/>



- Require economic and social impact studies to be undertaken before automation of any level at the terminal shall be considered, including the impact that job losses will have on tax revenue and the local community

Community Campaigning

Mobilising rank-and-file activists in the ports is the first step in any campaign, but unions will also need support from the community members in which they work. It is important that the union undertake steps to educate the community about the risks of automation, as pointed out earlier in this paper. Building the broadest community and political alliances in support of job security and opposing automation is vital in a successful campaign.

In 2019, the ILWU campaigned against further automation at Pier 400 in Los Angeles. Using the slogan, “People before Robots,” the ILWU had support from unions from all sectors, the general public and politicians alike. (Please see attached.)

The ILWU spoke with the community about what automation meant for the community, including:

- the impact and potential closure of small businesses due to job losses/economic spending by longshore workers
- cuts in tax revenue for local schools, emergency services, etc.

Wherever automation negatively affects the community there are potential allies in the struggle. We need to identify our allies and those who will stand by us in struggles opposing automation and mobilise them alongside us in our campaigns. Our allies should be bought into the political lobbying process as well to widen it from a sole union viewpoint.

The effects of unemployment in communities arising from automation include:

- Crime
- Addiction and substance abuse
- Increased Violence: community and domestic
- Poverty and unemployment
- Homelessness
- Family breakdown

ANNEX 1: COLLECTIVE BARGAINING EXAMPLES PER COUNTRY

Here are some sample clauses from Collective Bargaining Agreements by Dockers Unions that have been negotiated to address automation in ports:

1. Belgium:

- When an employer decides to implement a new technology and when the introduction of the technology may have significant collective effects on employment, that employer must notify the “Reconciliation Committee” at the Port of its introduction at least three months in advance and consult about it with the representatives of the port workers.
- The term “significant collective effects” is understood to mean that at least 50% of a particular occupational category or 20% of the total workforce must be involved in the introduction of the new technology.
- The consultation relates to the prospects for employment, as well as any retraining or additional training of the port workers in question.

2. United States:

- There shall be no fully automated terminals developed and no fully automated equipment used during the term of this Master Contract. The term “fully-automated” is defined in the Master Contract as machinery/equipment devoid of human interaction.
- There shall be no implementation of semi-automated equipment or technology/automation until both parties agree to workforce protections and staffing levels

3. Australia:

- In the event that the Company elects to introduce a significant change to the mode of operation at Port Botany terminal during the life of the Enterprise Agreement, the process outlined below will apply.
- When the Company has made a definite decision to make a change to the mode of operation (Board approval for mode change), the Company will communicate the decision to both the Employees and their representatives in accordance with the Enterprise Agreement.
- The Company will provide the Union with appropriate information in relation to the ongoing operation of the Terminal to assist the Parties to attempt to reach agreement around prospective working arrangements and rostering.

- Appropriate information shall include, however is not limited to a prospective berth schedule, forecast idle shifts and data relating to working within/above or below grade and roster option data. The Company will not provide commercially sensitive or confidential information. The Company will provide to the Union the labour modelling inputs and outputs in a protected format (that is we will not provide the labour model).
- The Parties will then immediately commence discussions regarding the Mode Change. The discussions will commence no later than nine (9) months in advance of the scheduled go live date.
- The Parties, in the first instance will seek to reach agreement regarding roles, rosters, labour arrangements and requirements. The Parties agree that the hours of work shall be 32 hours per week, unless otherwise agreed by the Parties.
- The Parties will make themselves reasonably available for intensive discussions between nine (9) months and six (6) months in advance of the scheduled go live date.

4. Canada:

- The purpose of the Committee is to review and minimize, to the extent possible, the impact of Technological Change including automation and semi-automation on members of the workforce in any Local Area
- Technological Change means:
 - (a) The introduction by a member of the Employer’s Association of automation or semi-automation involving equipment or material of a different nature or kind than that previously utilized by the employer in the operation of the work, undertaking or business; and
 - (b) A change in the manner in which the employer carries on the work, undertaking or business that is directly related to the introduction of that equipment or material.
- Commitment: The parties agree that technological change in no way alters the jurisdiction of the ILWU
- When a member of the Employer’s Association covered by this agreement intends to implement a Technological Change that is anticipated to affect the employment of a significant number of members, that Employer shall provide the applicable Local at least 120 days written notice of the proposed changes.

5. Germany:

- Definition automation: The automation of a plant or machine has the consequence that it works completely or partly without human participation as intended. The term automation in the sense of this collective agreement therefore covers changes in work technology and/or work organisation induced by the employer by transferring functions from human beings to artificial systems, which may lead to a reduction in manpower requirements, a change in work requirements or a change in working conditions for 10% of the workers directly or indirectly affected by the automation measure.(2) Artificial systems are technically supported machines, machine links and digitisation processes. An artificial system exists in particular and inter alia in the following cases:
 - Straddle carriers without persons;
 - Remote-controlled container gantry cranes;
 - Automated twist-lock systems;
 - Automated check-in and check-out registration;
 - Introduction of new software.
- In order to ensure the trusting cooperation in the implementation of the automation and the mutual information in this regard, an automation commission (hereinafter referred to as the Commission) with equal representation will be established. The Commission shall consist of four employee representatives and four employer representatives. Two employee representatives are appointed by the Group Works Council.

6. Netherlands:

ECT Collective Labour Agreement (ECT CLA):

- The work arising as a result of introduction of automation / new technologies shall form part of the ECT Collective Labour Agreement (ECT CLA).

Employment / jobs

- Every six months details shall be provided to the Works Council and the employees' organisations relating to the total level of staffing per function group, covered by the CLA.
- In case of proposed decisions that may have important consequences for employment, the Works Council and employees' organisations shall be informed. The information shall be provided promptly, so that consultation about the proposed decisions is actually possible.
- At least once a year the employees' organisations are invited to an informative meeting about the general situation of the enterprise, as well as about the prospects, in particular in the area of employment and technological developments in the enterprise. It shall be determined on a case-by-case basis how far the information provided must remain confidential and if so, for how long.

Collective Labour Agreement (CLA) APMT MV II:

Employment

1. APM Terminals Maasvlakte II has no plans to have the cranes (SQC's and barge cranes and rail cranes) operated from a site outside the Terminal. This is also not considered possible for technical and safety reasons. During the term of the CLA, the operations of the cranes shall not be moved to outside the terminal site.
2. If during the term of the CLA technological developments affect employment in support services and/or work not covered by point 1, the management of APMT MVII shall at all times consult the trade unions about the way in which the effects shall be absorbed for employees of APMT MVII. The principles for that consultation are:
 - a. compulsory redundancies must be avoided as far as possible;
 - b. upon moving the work to another site within the Netherlands the employment conditions for the employees shall be maintained or replaced by a package of employment conditions that is equivalent overall;
 - c. In the case of unforeseen and unavoidable redundancy the agreement, referred to in point two of the Result of negotiations (Annex 12 to this CLA) relating to compensation upon dismissal shall apply.

Employment / jobs

- Every six months details shall be provided to the Works Council and employees' organisations relating to the total level of staffing covered by the CLA.
- In case of proposed decisions that may have important consequences for employment, the Works Council and the employees' organisations shall be informed. The information shall be provided promptly so that consultation about the proposed decisions is actually possible.
- At least once a year the employees' organisations are invited to an informative meeting about the general situation of the enterprise, as well as the prospects, in particular in the area of employment and the technological developments in the enterprise. It shall be determined on a case-by-case basis how far the information provided must remain confidential and if so, for how long.

EMO CLA (Bulk Terminal):

Article 2.5 Introduction of automation and new technologies

This text shall apply for all functions and for all work referred to in the CLA relating to the loading and unloading process of goods and maintenance work:

- Parties acknowledge that the introduction of new technologies, including fully mechanised and robotised terminals, is replacing traditional port work and port workers, including operational, managing and monitoring work;
- CLA parties acknowledge that robots and other technologies will replace a certain number of jobs of port workers including operational, managing and monitoring work;
- CLA parties also acknowledge that the shift from operational work to monitoring work with screens will involve a different stress; for this reason rotation and/or sufficient breaks must offer a solution within the existing H&S Act (ARBO-Wet);
- The operational work that arises from the automation and application of new technologies and possibly leads to new functions shall continue to be covered by the operational CLA;
- Automation also offers advancement/development opportunities.

EECV CAO (Bulk Terminal):

Technology Protocol

1. This protocol applies to all (proposed) changes/renewals of production and/or information processes that
 - require an investment of at least € 453,780.21;
 - have a turnaround time of at least 1 year;
 - And/or result in relevant changes for employment and/or employment conditions.
2. EECV and the trade unions acknowledge the importance of the changes and renewals referred to under point 1 that can ensure continuity of the enterprise.
3. EECV is aware that the changes/renewals referred to under point 1 may affect the number of functions and jobs in the enterprise and their quality.

It is also aware that, for a successful and socially responsible introduction of the changes and renewals referred to, the cooperation and involvement of employees is required.

4. EECV shall inform the trade unions about the changes and renewals referred to under point 1 as soon as

possible, in any case before the final decision has been taken, where the following areas of concern are applied:

- the reason that necessitates the changes and renewals referred to under point 1;
 - the intention to make a particular choice and the arguments on which this choice is based;
 - the consequences for the content of functions (qualitative and quantitative);
 - The indication of the names of outside advisers or implementers to be called in.
5. The trade unions may, having regard to point four, put forward any additions to the plans presented.
 6. The changes/renewals referred to under point 1 may be associated with economic, technical and social aspects. Since these aspects cannot usually be looked at separately, EECV considers it is its responsibility to set out these aspects in an integrated approach. If CLA-related matters are on the agenda, consultation shall be carried out with the trade unions promptly.
 7. EECV shall inform the trade unions about the progress of the changes and renewals referred to under point 1.
 8. This protocol shall not affect all relevant rights that the Works Council has by virtue of the provisions of the Works Councils Act (WOR).

EECV CAO (Bulk Terminal) Proposal for new Article 2.1 as introduction to new Automation Section 2

Current Article 2.5: Introduction and application of new technologies

This text shall apply for all functions and for all work referred to in the CLA relating to the loading and unloading process of goods and maintenance work. New technologies are understood to mean: new work methods in all mechanised, automated or robotised forms.

- Parties acknowledge that the introduction and application of new technologies are replacing traditional port work, including operational, managing and monitoring work;
- CLA parties acknowledge that the introduction and application of new technologies will replace a certain number of jobs of port workers who do this traditional port work, including the operational, managing and monitoring work;
- CLA parties acknowledge that the shift from operational work to monitoring work with screens will involve a different stress for port workers;
- CLA parties agree that by rotation of tasks and/or incorporating extra breaks damage to the health of port workers due to the extra or different stress can be avoided;

- CLA parties acknowledge that the introduction and application of new technologies also offers advancement/development opportunities for port workers; and
- CLA parties agree that the operational work arising from the introduction and application of new technologies and possibly leading to new functions shall without exception be covered by the operational CLA;

New Article 2.1: Introduction of automation and new technologies

- a) This text shall apply for all functions and for all work referred to in the CLA that involves the loading and unloading process of goods and maintenance work;
- b) Parties agree that changes in the market make it necessary to investigate how the organisation can adapt to demand. Agreement will have to be reached on how to handle peaks and troughs in the demand for labour. All influences (commercial, planning, procedures etc.) shall be taken into account here.
- c) In the context of automation and automation-based technologies, such as robotisation, Parties acknowledge:
 - I. that introduction of new technologies, including fully mechanised and robotised terminals, is replacing traditional port work and port workers, including operational, managing and monitoring work;
 - II. that robots and other technologies will replace a certain number of jobs of port workers including operational, managing and monitoring work;
 - III. that the shift from operational work to monitoring work with screens will involve a different stress; for this reason parties acknowledge that rotation and/or sufficient breaks will have to offer a solution within existing legislation and regulations or by agreements made by CLA parties;
 - IV. that automation and new technologies offer employees further advancement/development opportunities.
 - V. that the operational work arising from the automation and application of new technologies and possibly leading to new functions shall continue to be covered by the operational CLA.
- d) Parties attach great importance to workers being able to go on working on their continued employability and that they can prepare themselves for (new) operational work.

Working on their continued employability is also a joint responsibility of employee and employer. Particular attention shall also be paid to the development of the competencies of employees. Competencies are understood to mean here the set of knowledge, technical and social skills.

- e) In the context of automation and automation-based technologies, such as robotisation, Parties provide:
 - I. that the transition to a new organisation in terms of quantitative and qualitative change in functions is a development process;
 - II. that implementation of new technologies requires social policy aimed at development of employees and where necessary provisions and measures to absorb negative social consequences for the employees as far as possible;

Employer shall in addition inform the trade union at least once a year or on the request of the trade union about developments in the area of new technologies and any wishes and plans for introducing these into the business. If and insofar as the implementation process is put into effect (proposed decision) the trade union shall be given the opportunity at as early a stage as possible to make known its view so that this can have an influence.

- f) Parties shall, taking into account the provisions of the Works Councils Act (WOR), cooperate on a (long-term) Social Covenant to support a careful implementation of new technologies.
- g) If new technologies are introduced, the Board of EMO shall first have given FNV Havens sufficient information on the benefit, need and consequences of the introduction of these new technologies. A copy of the request for advice or agreement that complies with the legal requirements and which is submitted to the Works Council must be sent to the trade union for this purpose. The trade union shall in any case have the right to information about the expectations of the employer with regard to the following points: reduction in working hours on a daily, weekly or annual basis, the saving of labour costs, the consequences for productivity, investment costs. Based on the information an agreement can/must be reached between the CLA parties on the absorption of any consequences of the introduction and application of new technologies.

The following are important areas of concern upon the introduction of new technologies:

- h) Retention or improvement of pay and employment conditions
- i) Shorter working time with retention of pay, also for the reduced hours
- j) Job security
- k) Negative effect such as not passing on reduced productivity as a result of automation to the workers
- l) Function rotation is desirable
- m) Composition and availability of Technical Service (TD) must move with the increase in automation/robotisation.

ANNEX 2: SAMPLE QUESTIONS FOR POLITICIANS

Note: Some questions are more relevant for publicly owned ports, others are universal

1. (Publicly owned ports) At the time of the initial business case and investment decision, what was:

- 1.1. Budgeted cost of the automation project?
- 1.2. The timeframe for implementation?
- 1.3. Has the budgeted cost of the automation project changed?
- 1.4. Has the timeframe for implementation changed?
- 1.5. What has been the capital outlay on:
 - 1.5.1. Straddles?
 - 1.5.2. Cranes?
 - 1.5.3. Communications (Wi-Fi etc.)?
 - 1.5.4. Changes to wharves and other infrastructure?
 - 1.5.5. Other equipment such as the existing manual operated straddles etc.

2. Software

- 2.1. What is the total cost of software expenditure?
- 2.2. Who owns the software?
- 2.3. How many vendors have been used?
- 2.4. What is the nature of the software products?
- 2.5. The ongoing licensing costs?
- 2.6. (All ports) Maintenance:
 - 2.6.1. Who will complete it?
 - 2.6.2. What will be the extent and cost of training?
 - 2.6.3. What are the anticipated onward costs?

3a. (For publicly owned ports) What service agreements are there, and if so the total cost?

3b. Debt

- 3b.1. The original debt budget?
- 3b.2. The current budgeted debt?
- 3b.3. The servicing costs of the debt?
- 3b.4. The repayment plan for the debt?

4. Dividends

- 4.1. What is the amount that dividends have been reduced to date to meet capital expenditure?
- 4.2. What is the extent to which dividends have been borrowed as a result of capital investment?
- 4.3. What are the anticipated dividends for the next five years?
- 4.4. What is the basis of the dividend calculation?

5. Productivity: Box rate

- 5.1. How is the hourly box rate currently calculated?
- 5.2. Are there any changes in the method of calculation?
- 5.3. What was the box rate before the automation work commenced?
- 5.4. What is the current box rate?
- 5.5. What is the anticipated box rate?

6. Budget for Labour

- 6.1. What is the anticipated reduction in numbers, both permanent, fixed term and casual?
- 6.2. What is the projected reduction in paid hours for stevedoring?
- 6.3. What is the projected reduction in earnings?

7. Health, Safety and Environmental factors

- 7.1. What impact will this have on the environment? i.e. will new construction impact wildlife.
- 7.2. What research has been undertaken to address the health and safety risks of automation? i.e. intensification of work, social isolation



About the ITF

The International Transport Workers' Federation (ITF) is a democratic, affiliate-led federation recognised as the world's leading transport authority. We fight passionately to improve working lives; connecting trade unions from 147 countries to secure rights, equality and justice for their members. We are the voice for nearly 20 million working women and men in the transport industry across the world.

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