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## SMART PORT- SMART WORK. OUTPLACEMENT, RETRAINING RE-SKILLING AND JUST TRANSITION

**Abstract:** The development of smart ports requires skilled and well educated workforce. Due to job polarisation, advancements in technology and automation will affect workers' groups differently, depending on the type of skills required and, more importantly, on to what extent specific tasks can be automated. Though improper handling of employees' concerns may result in downsizing a company's future profitability, in terms of post-termination costs to the company, dealing with the psychological issues of the discharged employees is perhaps even more important. A proactive approach and a balanced mix of short-term and long-term skills transfer and outplacement support can help ensure an organisation's workforce success, even in the toughest of economic times.

**Keywords:** employment, automation, smart port, professional development, employment contract, outplacement

### INTRODUCTION

The concept of „smart port” has been developed on the canvas of “smart growth” approach to urban planning originating in the 1990s. From the historical perspective, it is perceived as the next generation of ports, the first being „isolated ports” before 1960s, followed by „expanded ports” in 1960s, „container ports” developing in 1980s, and „integrated ports” in 1990s, which already have made ample use of information and communication technologies<sup>1</sup>.

Technological developments that lead to the 4<sup>th</sup> industrial revolution have had significant impact on various aspects of work and employment. First of all, it affects division of labour and the employment paradigm. Artificial Intelligence

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<sup>1</sup> A. Molavi, G.J. Lim, B. Race, *A framework for building a smart port and smart port index*, International Journal of Sustainable Transportation, 2020, 14:9, p. 693.

(AI)<sup>2</sup> plays crucial role in developing solutions that shape modern employment market. Economic fields where AI is used, strongly connected to employment and labour market, include robotisation, dematerialisation and gig economy<sup>3</sup>. New models of work organisation also pose challenges as far as workers' qualifications are concerned, and in some cases it is necessary to reorganise and reduce the workforce.

The aim of the present paper is to summarise discussion around the influence of technological trends in ports on jobs and employment and reflect on the tools that are in disposal of the employer such as retraining, reskilling and outplacement. We will also consider the role of social partners in the process.

## THE CONCEPT OF SMART PORT AND EMPLOYMENT

Smart ports' activity covers many inter-related elements, such as optimised operations enhancing port resilience, intelligent infrastructure and automation, as well as safe and secure activities<sup>4</sup>. All of these require skilled and well-educated workforce. One of important aspects of smart port operations is safety and security, managed by security management systems, which serve to identify potential threats and effectively establish, implement, monitor, review and maintain actions to ensure security<sup>5</sup>. This entails handling integrated monitoring and optimisation systems, which also support safety management systems. From workers' perspective, this structure increases the level of occupational safety. On the other hand, automated procedures require sufficient number of sensors and cameras following machine operations but also activities of workers themselves. If they are additionally equipped by wearables that measure their position and movement, enormous amount of information gathered may raise concerns about use of data and workers' privacy.

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<sup>2</sup> High-Level Expert Group on Artificial Intelligence set up by the European Commission proposes the following definition of the AI: Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions. (High-Level Expert Group on Artificial Intelligence, *A definition of AI: Main capabilities and scientific disciplines*, p. 8 <https://ec.europa.eu/digital-single-market/en/news/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines> [access: 30.10.2020])

<sup>3</sup> IBA Global Employment Institute, *Artificial Intelligence and Robotics and Their Impact on the Workplace*, p.10 <https://www.ibanet.org/Document/Default.aspx?DocumentUid=c06aa1a3-d355-4866-beda-9a3a8779ba6e> [access: 30.10.2020]

<sup>4</sup> A. Molavi, G.J. Lim, B. Race, *A framework for building Smart Port ...* p. 693.

<sup>5</sup> Ibidem.

Just as in other workplaces, rapidly increasing automation can improve safety and security. This is fully in line with the International Labour Organization's 2030 Agenda for Sustainable Development. Healthy and safe workplace for all is one of the elements of decent work<sup>6</sup>. New technologies can also be applied to balance working time and reduce OSH hazards connected to long working hours<sup>7</sup>.

Conditions of work are also affected. Developments in automation and digitalisation may increase work safety and alleviate physical strain. Workers safety may be increased also through use of simulated environments in VR training programs<sup>8</sup>. While wearable devices may monitor workers' health, technology-enabled surveillance can lead to enhanced speed and efficiency pressure on workers, as Taylorist information control and discipline involve subjecting work tasks to detailed digital measurements and statistical analyses of individual worker performance<sup>9</sup>. This entails less autonomy of workers and in case advanced robots are used – less flexibility to manage staffing and planning issues<sup>10</sup>.

## NEW TECHNOLOGIES – NEW SKILLS

New technologies strongly impact skills use and skills development. Advanced robotics may bring shift from manual towards intellectual skills and use of wearables- need for supervisory skills<sup>11</sup>. In many sectors a phenomenon called job polarisation can be observed. Autor and Dorn note that “low-skill labour flows accordingly from goods to services, while high-skill labour remains in goods production, leading to employment polarisation”<sup>12</sup>. It is also noticed that

<sup>6</sup> ILO, *Time to act for SDG8. Integrating Decent work, Sustained Growth and Environmental Integrity*, ILO Geneva 2019, p. 21.

<sup>7</sup> Other OSH risks connected to the use of AI and in particular increased monitoring and tracking, can rather be mitigated through traditional forms of collective bargaining. For OSH risks see : J. Popma, *The Janus face of the 'New Ways of Work', Rise, risks and regulation of nomadic work*, Brussels, ETUI, 2013 and Ph. V. Moore, *Artificial Intelligence: Occupational Safety and Health and the Future of work*, p. 3. <https://www.stjornarradid.is/lisalib/getfile.aspx?itemid=4061219d-3a73-11e9-9432-005056bc530c> [access: 30.10.2020]; EU-OSHA, *OSH and the future of work: benefits and risks of artificial intelligence tools in workplaces* 2019 <https://osha.europa.eu/en/publications/osh-and-future-work-benefits-and-risks-artificial-intelligence-tools-workplaces/view> [access: 30.10.2020].

<sup>8</sup> Eurofound, *Game-changing technologies: Transforming production and employment in Europe*, Publications Office of the European Union, Luxembourg 2020, p. 20.

<sup>9</sup> A.J. Wood, V. Lehdonvirta, M. Graham, *Workers of the Internet unite? Online freelancer organisation among remote gig economy workers in six Asian and African countries*, *New technology Work and Employment* 2018, 33(2), pp. 61-62.

<sup>10</sup> Eurofound, *Game-changing technologies*, p. 35.

<sup>11</sup> Eurofound, *Game-changing technologies*, p. 33.

<sup>12</sup> D.H. Autor, D. Dorn, *The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market*, *American Economic Review* 2013, 103(5): p. 1559.

employment in routine-intensive middle-skill occupations is declining, which contributes to employment polarisation<sup>13</sup>. Developments in technology and automation will affect workers' groups differently, depending on the type of skills required, and on the extent specific tasks can be automated.

Initial discussions underlined impact of automation and digitalisation on routine jobs involving explicit rule-based activities<sup>14</sup>. Frey and Osborne confirm that cognitive and manual routine tasks are prone to computer substitution, as "computers are relatively productive to human labour when a problem can be specified in the sense that the criteria for success are quantifiable and can readily be evaluated"<sup>15</sup>. However, there are also many non-routine tasks that can be automated<sup>16</sup>. According to Frey and Osborne, technological progress and in particular use of big data allow for computerising also non-routine tasks, both manual and cognitive<sup>17</sup>. Automation of non-routine tasks depends on existence of any engineering bottlenecks to computerisation. These include:

- Perception and manipulation tasks, as robots are often still limited in matching the depth and breadth of human perception<sup>18</sup>.
- Creative intelligence tasks. As creativity involves novelty and value. While there are examples of computers making unfamiliar combinations of familiar ideas (novelty), added value is still disputable, especially that values match change according to culture and time<sup>19</sup>.
- Social intelligence tasks, as human social intelligence is important in many tasks, especially in services. Even though machines can now reproduce some aspects of human social interaction, and even pass Turing test, their ability to respond promptly and adequately is still not sufficient<sup>20</sup>.

The pace of automation is also determined by other factors, such as price of the machines and automated systems (which is decreasing), as well as social acceptance for such changes. The impact of automation varies also from one country to another. For Poland the percentage of jobs at high risk of automation is estimated at 19,8% (30,5% for industry)<sup>21</sup>.

<sup>13</sup> M. Goos, A. Manning, A. Salomons, *Job Polarization in Europe* American Economic Review 2009, 99 (2), p. 2514.

<sup>14</sup> C.B. Frey, M.A. Osborne, *The Future of Employment: How susceptible are jobs to computerisation?*, Oxford Martin Programme on Technology and Employment 2013, p. 2. <https://www.oxfordmartin.ox.ac.uk/downloads/academic/future-of-employment.pdf> [access: 30.10.2020].

<sup>15</sup> *Ibidem*, p. 14.

<sup>16</sup> E. Brynjolfsson, A. McAfee, *Race Against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy* 2011.

<sup>17</sup> C.B. Frey, M.A. Osborne, *The Future of Employment*, p. 15-21.

<sup>18</sup> *Ibidem*, p. 24.

<sup>19</sup> *Ibidem*, pp. 25-26.

<sup>20</sup> *Ibidem*, pp. 26-27.

<sup>21</sup> R. Chinoracky, S. Tuska, L. Mamadlenakova, *Does Industry 4.0 have the same impact on employment in the sectors*, Management, 2019, vol. 14, issue 1, 5-17, p. 11.

## NEW TECHNOLOGIES – NEW JOBS?

Similarly to other areas of economy, automation of processes in ports brings opportunities and challenges for workers. Automation and digitalisation are pivotal steps in transition into a smart port. It is estimated that currently 1% of ports are fully automated and only 2% semi-automated<sup>22</sup>. Just like in other branches of industry, containerisation and automation makes port operation and cargo handling decreasingly labour-intensive. Reduction of labour costs may reach even 60%<sup>23</sup>. Using algorithms to measure and project work together with humane-machine interaction will increase productivity levels, but, at the same time, lower number of workers will be required to perform the same tasks and dockers will be able to work at more than one fully automated terminals<sup>24</sup>.

Current job positions in ports include e.g. crane operators, industrial truck operators, construction specialists and workers, maintenance workers, dockers, equipment dispatchers and shift managers<sup>25</sup>. Their skills are described as: terminal operation, including waterway ship scheduling service; foreland transport service, including railway and road transport service connected to the port; hinterland transport service, including railway and road transport service connected to the port; and warehouses related to the port<sup>26</sup>. Authors of the “Transport 2040” report rightly suggest that, in case of port workers, automation will not make work easier, but rather more demanding and complex. New skills will be required to handle more complicated devices and co-operate with digital and physical robots. For example, obtaining general prior knowledge on mechanics and electronics will become indispensable, in order to be able to remotely control operation of the equipment and be able to assess bugs in information systems<sup>27</sup>.

Decent work is one of the factors leading to more sustainable economy. Therefore, it is necessary for the port employers to prepare for inevitable transitions. New skills, such as data fluency, digital operation and basic software engineering, will become indispensable<sup>28</sup>. All the above, combined with previous experience of workers, is an argument for retraining workers instead of hiring

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<sup>22</sup> International Transport Federation, *Automation and digitalisation: New Technology in Ports*, <https://www.itfcongress2018.org/en/your-congress-your-voice/automation-and-digitalisation-new-technology-in-ports/> [access: 30.10.2020].

<sup>23</sup> *Ibidem*.

<sup>24</sup> World Maritime University, *Transport 2040: Automation, Technology, Employment – The Future of Work*, 2019, Reports 58, p.88. [https://commons.wmu.se/lib\\_reports/58](https://commons.wmu.se/lib_reports/58) [access: 30.10.2020].

<sup>25</sup> *Ibidem*, p. 85.

<sup>26</sup> *Ibidem*, p. 87.

<sup>27</sup> *Ibidem*, pp. 87-88

<sup>28</sup> *Ibidem*, p. 93

new staff to fill new high skill jobs. Also trade unions see the need to create tailor-made training programmes that allow workers to adapt to new job profiles and the changing work environment <sup>29</sup>.

It is projected that the number of jobs in ports will decrease by 8,2 % with the advent of automation <sup>30</sup>. Social acceptance of automation and its impacts on jobs is not very high <sup>31</sup>, as this would mean decreasing number of workers carrying out simple manual tasks. Some processes are more difficult to automate than others. For example, lifting and loading containers into a ship requires experience that workers gain during their work, as the container may move in an unpredictable way <sup>32</sup>.

Among different job profiles, dock supervisors and docking pilots are among those with lowest potential of automation. Logisticians are also not very likely to be replaced by automated processes (1,2%) <sup>33</sup>. Other occupations that are most likely to be still needed are occupational health and safety specialists (17%) and OSH technicians (25%) <sup>34</sup>. The current level of automation, especially in case of docking pilots, is relatively low (about 15%) and the level of automation in the future is not expected to be above 30% <sup>35</sup>. However crane operators are among medium skill occupations with highest potential for automation (72 – 90%) <sup>36</sup>. Dockers, whose work is estimated to be automated in nearly 27% have high (82,5%) potential of automation by 2040 <sup>37</sup>. They will not be required to be present on site, instead, they can work from dockside offices or even operate the cranes from another town or country <sup>38</sup>. At the same time, more workers employed as automation engineers or to maintain sensors and other equipment <sup>39</sup>. Retraining and reskilling workers does come as an opportunity, especially that this way of addressing the skill gap is more accepted by employers, at least in European countries <sup>40</sup>. McKinseyGlobal Institute recognises the important role of companies in the transition process, especially in training and re-training of

<sup>29</sup> World Maritime News, *Port automation friend or foe?* <https://www.offshore-energy.biz/port-automation-friend-or-foe/> [access: 30.10.2020].

<sup>30</sup> I. Vonck, *Ports of the future , a vision*. Deloitte Port Services. Baltic Ports Conference 2017 <http://www.porteconomics.eu/mdocs-posts/2017-baltic-ports-conference-vonck/> [access: 30.10.2020].

<sup>31</sup> World Maritime University, *Transport 2040 ...*p. 87.

<sup>32</sup> International Transport Federation, *Automation and digitalisation op.cit.*

<sup>33</sup> C.B. Frey, M.A. Osborne, *The Future of Employment*, p. 58

<sup>34</sup> *Ibidem*, p. 61

<sup>35</sup> World Maritime University, *Transport 2040*, p. 51

<sup>36</sup> C.B. Frey, M.A. Osborne, *The Future of Employment*, p. 68

<sup>37</sup> World Maritime University, *Transport 2040*, p. 48.

<sup>38</sup> International Transport Federation, *Automation and digitalisation op.cit.*

<sup>39</sup> *Ibidem*

<sup>40</sup> P. Illanes, S. Lund, M. Mourshed, S. Rutherford, M. Tyreman, *Retraining and reskilling workers in the age of automation*, <https://www.mckinsey.com/featured-insights/future-of-work/re-training-and-reskilling-workers-in-the-age-of-automation> [access: 30.10.2020].

workers and building corporate training programs that merge on-the-job training with formal education through apprenticeships<sup>41</sup>.

Technological change at work also influences industrial relations. While new technologies may facilitate communication and information exchange, new forms of work organisation, especially delocalisation and decreasing number of direct employees also strongly affect industrial relations. Not only the level of trade union participation may be affected, but also established threshold for information and consultation procedures may not be reached<sup>42</sup>.

At the same time, conclusion of agreements allowing employers and workers to develop mutual relations in the form of binding norms of conduct<sup>43</sup>, are gaining more importance in the light of the dynamic changes linked to automation processes. As far as the content of agreements is concerned, beyond traditional scope, there is an evidence of employers negotiating over the use of artificial intelligence, big data and electronic performance monitoring (“people analytics”) at the workplace, as well as their implications for occupational health and safety, privacy, evaluation of work performance and hiring and firing decisions, but also the use of technology not only in monitoring workers but also in directing their work<sup>44</sup>. Collective agreements may contain “automation clauses” which allow for protection of jobs throughout the process of automation, as well as guarantee good working conditions in case of automation<sup>45</sup>.

## PERSONAL DEVELOPMENT OF EMPLOYEES

The rapid development of technology has resulted in changes in the port classification, therefore ports of the fifth and sixth generation are more often distinguished. Ports 5 GP provide handling services at the highest level in the world. Such ports include ports like Shanghai, Singapore, Hamburg and Rotter-

<sup>41</sup> Mc Kinsey Global Institute. *Jobs lost, jobs gained: workforce transitions in a time of automation*, 2017, s. 107, 111. <https://www.mckinsey.com/~media/McKinsey/Industries/Public%20and%20Social%20Sector/Our%20Insights/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Executive-summary-December-6-2017.pdf> [access: 30.10.2020].

<sup>42</sup> Eurofound, *Game-changing technologies*, p. 37; Eurofound, *Automation, digitisation and platforms: Implications for work and employment*, Publications Office of the European Union, Luxembourg 2018, p. 19

<sup>43</sup> G. Goździewicz, ‘Podstawowe zasady zbiorowego prawa pracy’ in: G. Goździewicz (ed.) *Zbiorowe prawo pracy w społecznej gospodarce rynkowej* (TNOiK 2000), p. 53.

<sup>44</sup> OECD *Negotiating our way up. Collective bargaining in a changing world of work*, Paris, OECD Publishing, 2018, p. 233; E. Dagnino, I. Armaroli, *A seat at the table: negotiating data processing in the workplace. A national case study and comparative insights*, Comparative Labor Law Policy Journal 2020 Vol. 41, Issue 1, pp pp. 182-192.

<sup>45</sup> World Maritime News, *Port automation friend or foe?* <https://www.offshore-energy.biz/port-automation-friend-or-foe/> [access: 30.10.2020].

dam. Currently, no port in the world meets the sixth generation port criteria. Taking into account the criteria characterised by the ports of the first, second, third, fourth and fifth generation, the 6th generation ports should be distinguished by the service of container vessels with a capacity of 50 000 TEU and a maximum draft more than 20 meters<sup>46</sup>. As indicated above, employment in ports includes port workers such as: crane operators, industrial truck operators, construction specialists and workers, maintenance workers, dockers, equipment dispatchers and shift managers. The higher the category of port, the higher the requirements placed on those employees, who must constantly develop their skills.

What if the employee does not develop? The problem particularly affects the elderly. The younger you are, the more benefits you are likely to see in autonomous technology. Respondents aged between 25 and 44 are more likely to think that autonomous machinery could be a benefit in areas such as productivity, speed, safety, quality and fuel efficiency compared to those aged 44 and over. When it comes to job fears, it is the machine operator that is perceived to be most at risk – this is the case according to almost half of respondents (48%)<sup>47</sup>. Sometimes employers decide that workers who are replaced by machines must be fired. This part of the article will describe the procedure outplacement as an alternative to layoffs. Downsizing and staff reductions are common strategies for reducing business costs and improving organizational functioning. Although these strategies are often necessary for business purposes, psychological costs, such as acute stress, anxiety, and clinical depression, incumbent upon individuals being displaced, can be serious<sup>48</sup>.

## TERMINATION OF THE EMPLOYMENT CONTRACT

In order to analyze the subject of employment contract termination, it is useful to take a closer look at information about dismissals on the basis on the Polish labor law. Under Article 30 § 1(1) of the Polish Labour Code, parties to a contract of employment are entitled to freely terminate such a contract as a result of a bilateral legal act, effective upon mutual declaration of the employee and the employer aimed at termination of the employment relationship in a specified manner and within a prescribed time-limit<sup>49</sup>. Undoubtedly, the provisions

<sup>46</sup> A. Karaś, *Smart Port as a Key to the Future Development of Modern Ports*, Volume 14, Number 1, March 2020 p. 28.

<sup>47</sup> *Advancing Automation: Workers Worry More About Site Safety Than Losing Their Jobs*, ROCKproducts September 2019, p. 18, <http://rockproducts.com/>.

<sup>48</sup> J. D. Westaby, *The impact of outplacement programs on reemployment criteria: a longitudinal study of displaced managers and executives*, Journal of employment counseling, March 2004, vol. 41, p. 19.

<sup>49</sup> D. Dörre-Kolasa, *Outline of the Polish labour law system*, edited by Krzysztof W. Baran, Warszawa 2016, p.168.

of the Labour Code aim to protect the weaker party in the employment relationship. The protective function of labour law is also fulfilled by the provisions governing collective redundancies procedure. According to Article 2 of the Act on collective redundancies<sup>50</sup>, an employer planning mass layoffs should inform trade unions thereof in order to carry out consultations. The main purpose is to reduce the number of redundancies and mitigate the related tensions in the workplace. The contract is terminated as a result of the notice given by the employer<sup>51</sup>.

On the other hand, attention should be drawn to Article 10 (1) of the Act on collective redundancies, according to which individual redundancies for reasons not attributable to employees shall occur only when such reasons are the only ones justifying termination of the employment relationship. Therefore, in case of refusal to accept the new proposed terms and conditions, individual and collective dismissal is final parting with the employee.

However, in certain cases automation can be a source of new jobs. As one industry becomes more productive, other industries, ie. those which use that particular industry's product as an input, will also demand more, and as a result more labor demand will appear there<sup>52</sup>. The loss of hundreds of thousands of jobs in the oil and gas industry has been devastating, both for the employees whose jobs were cut, and to the organisations that will probably need to rehire talents again at a later point in time. Outplacement is an option for protecting the future of a workforce. Primarily, outplacement helps employees land new jobs quickly once they have been laid off. Assisting employees to acquire new jobs helps an organisation preserve their brand by reducing the negative sentiment employees may feel upon being laid off. Retention and productivity are improved by showing the remaining workers that the company has an interest in taking care of their former coworkers (and by extension, themselves), and creates opportunities for rehiring when economic and business circumstances change<sup>53</sup>. An employee is entitled to unemployment benefits if he or she loses work involuntarily. Termination of an employment relationship with mutual agreement does not guarantee a dismissed employee the right to claim unemployment benefit, due to the fact that he/she together with his/her employer was made responsible for termination<sup>54</sup>.

<sup>50</sup> Act of 13 March 2003, Journal of Laws 2003 no. 90 item 844.

<sup>51</sup> Judgments of the Polish Supreme Court (SN) of 14 April 2008, II PK 362/07, LEX no. 837062 and of 17 October 2006, II PK 35/06, LEX no. 950619.

<sup>52</sup> M. Krakovsky, *The New Jobs As automation takes on more and more tasks, what will human workers do?*, January 2018 | vol. 61 | no. 1, p. 22.

<sup>53</sup> S. Sathe, *President and CEO RiseSmart, San Jose, California, Three ways to protect the future of your workforce*, *Hydrocarbon Processing*, March 2017, p. 25.

<sup>54</sup> A. Świątkowski, *Termination of Employment Relationship: The Legal Situation in Poland*, p. 11, file:///C:/Users/ewasl/Downloads/report\_poland\_en.pdf [access: 30.10.2020].

## OUTPLACEMENT PROCEDURE

The employer can help employees by implementing an outplacement procedure instead of group or individual layoffs justified by automation. An interesting holistic outplacement model consists of three practical elements: regaining equilibrium, career development, and job hunting. The first stage, regaining equilibrium, involves the psychological trauma of change through which the candidate must work. After candidates have regained their basic coping skills, they move into the second stage of the model: career development. The individual moves on to four traditional career planning steps: assessment, career exploration, career decision making, and action planning. In the third element of this model, job hunting, candidates develop their networking, negotiating, and influencing skills through small group discussions, role plays, and stress reducing exercises<sup>55</sup>. A slightly different model aims at keeping stress at mid-level and focusing on career development; yet another is made of five functions: relief, projection, enlightening direction, specification, and change of perspective. Finally, a frequently used solution is based on career development life cycle, life style change life cycle, and life style habits in unison with career change. This model consists of factors such as: loss, grief and change, personal development, job search, and continuous consultation and support. Scott and Kleiner's Loss Analysis Model consists of three parts. In first part, candidates face shock and lack of trust. In the second stage grief and anger can be experienced. The individual may feel worthless. The third factor is the realization when the individual was forced to leave coming with the experience of deep hurt and grief. Outplacement requires a very wide psychological study. In Goffman's Consolation Model, if an individual has done something wrong against someone, outplacement will aim at appeasing the other party, so that the individual is not disturbed at a later time. Meyer and Shadle's three phases Outplacement Model borrows all topics from the preceding models, with every phase made up of many steps<sup>56</sup>.

## CONCLUDING REMARKS

Automation in ports is particularly advanced, although recent studies find that a majority of construction workers are confident that AI would not do a better job (58%)<sup>57</sup>. On the other hand, there has been considerable pressure

<sup>55</sup> T. M. Aquilanti, J. Leroux, *An integrated Model of Outplacement Counseling*, *Journal of employment counselling*, December 1999, vol. 36, p. 182.

<sup>56</sup> F. Kanbur, S. Børgün, *Application of the Outplacement Model "Fatra" To Taf Pms 2010 Concept*, *Journal Of Aeronautics and Space Technologies*, January 2008, vol. 3 Number 3 (61-74), p.62.

<sup>57</sup> *Advancing Automation: Workers Worry More About Site Safety Than Losing Their Jobs*, ROCKproducts, September 2019 , p. 18, [www.rockproducts.com](http://www.rockproducts.com) [access: 30.10.2020].

for greater labour market flexibility, as a result of the 2008-2015 crisis. Over this period, numerous countries witnessed significant lay-offs and increasing instability of employment. Many of them adopted reforms of employment protection legislation (EPL), in the hopes of boosting employment creation and reducing unemployment, especially amongst most vulnerable groups<sup>58</sup>.

There is no doubt that employees should improve their qualifications and there are many opportunities in this regard. However, lifelong learning is one thing and another is the pressure exerted by the trend of robotization that forces change. As indicated previously, current positions in ports include e.g. crane operators, industrial truck operators, construction specialists and workers, maintenance workers, dockers, equipment dispatchers and shift managers<sup>59</sup>. They must constantly keep up with changes and technological progress. The port is a diverse area, all activities must take place at the terminal level and at the port level. Implementations based on the concept of a smart port should bring benefits to stakeholders and to port authorities. While the market is full of technologies and many of them have universal applications, ports are diverse in their activities and usually need custom-made solutions<sup>60</sup>. Therefore, it is important that terminal and port authorities should cooperate to implement the appropriate tools alongside employee representatives, in particular trade unions.

The 'model' employer aspiring to retain the workforce in which he or she has invested will continue fair dismissal practices, regardless of the law<sup>61</sup>. Though handling the concerns of the remaining employees is extremely important to a downsizing company's future profitability, in terms of post-termination costs to the company, dealing with the psychological issues of the discharged employees is perhaps even more important. Former employees may be angry and could file wrongful termination lawsuits, leading to huge costs and bad press for the former employer. As organizational change becomes more prevalent, ex-employees become more eager to choose litigation<sup>62</sup>. Whatever the choice to support employees during these times of transition, options do exist. A proactive

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<sup>58</sup> Employment protection legislation: summary indicators in the area of terminating regular contracts (individual dismissals) / International Labour Office, Inclusive Labour Markets, Labour Relations and Working Conditions Branch (INWORK). – Geneva: ILO, 2015, p. iii, [https://www.ilo.org/wcmsp5/groups/public/—ed\\_protect/—protrav/—travail/documents/publication/wcms\\_357390.pdf](https://www.ilo.org/wcmsp5/groups/public/—ed_protect/—protrav/—travail/documents/publication/wcms_357390.pdf) [access: 30.10.2020].

<sup>59</sup> World Maritime University, *Transport 2040*, p. 85.

<sup>60</sup> A. Karaś, *Smart Port as a Key to the Future Development of Modern Ports*, Volume 14, Number 1, March 2020 p. 28.

<sup>61</sup> M. Pittard, *Back to the Future: Unjust Termination of Employment Under the Work Choices Legislation* Faculty of Law, Monash University Research, Paper No 2006/51, February 2008, p. 241.

<sup>62</sup> J. A. Challenger, *Return on investment of high-quality outplacement programs*, 2Q/2005, Economic Perspectives Federal Reserve Bank of Chicago, p. 89.

approach and an efficient mix of short-term and long-term skills transfer and outplacement support are capable of ensuring an organization's workforce success, even in the toughest of economic times<sup>63</sup>.

## BIBLIOGRAPHY

### LITERATURE

- Aquilanti T. M., Leroux J., *An integrated Model of Outplacement Counseling*, *Journal of employment counselling*, December 1999, vol. 36, p. 182.
- Autor D.H., Dorn D., *The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market*, *American Economic Review* 2013, 103(5)
- Brynjolfsson E., McAfee A., *Race Against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy* 2011.
- Challenger J. A., *Return on investment of high-quality outplacement programs*, 2Q/2005, *Economic Perspectives* Federal Reserve Bank of Chicago
- Chinoracky R., Tuska S., Mamadlenakova L., *Does Industry 4.0 have the same impact on employment in the sectors*, *Management*, 2019, vol. 14, issue 1, 5-17
- Dagnino E., Armaroli I., *A seat at the table: negotiating data processing in the workplace. A national case study and comparative insights*, *Comparative Labor Law & Policy Journal* 2020 Vol. 41, Issue 1
- Dörre-Kolasa D., *Outline of polish labour law system*, edited by Krzysztof W. Baran, Warszawa 2016
- Eurofound, *Game-changing technologies: Transforming production and employment in Europe*, Publications Office of the European Union, Luxembourg 2020
- Goos M., Manning A., Salomons A., *Job Polarization in Europe* *American Economic Review* 2009, 99.
- Goździewicz G., 'Podstawowe zasady zbiorowego prawa pracy' in: G. Goździewicz (ed.) *Zbiorowe prawo pracy w społecznej gospodarce rynkowej* TNOiK, Toruń 2000
- ILO, *Time to act for SDG8. Integrating Decent work, Sustained Growth and Environmental Integrity*, ILO, Geneva 2019
- Kanbur F., Børgün S., *Application of the Outplacement Model "Fatra" To Taf Pms* 2010 Concept, *Journal Of Aeronautics and Space Technologies*, January 2008, vol. 3 Number 3
- Karaś A., *Smart Port as a Key to the Future Development of Modern Ports*, Volume 14, Number 1, March 2020
- Krakovsky M., *The New Jobs As automation takes on more and more tasks, what will human workers do?*, January 2018 | vol. 61 | no. 1.
- Molavi, A. Lim G.J., Race B., *A framework for building a smart port and smart port index*, *International Journal of Sustainable Transportation*, 2020, 14:9
- OECD, *Negotiating our way up. Collective bargaining in a changing world of work*, Paris, OECD Publishing, 2018.

<sup>63</sup> S. Sathe, President and CEO RiseSmart, San Jose, California, *Three ways to protect the future of your workforce*, *Hydrocarbon Processing*, March 2017, p. 25.

- Pittard M., *Back to the Future: Unjust Termination of Employment Under the Work Choices Legislation* Faculty of Law, Monash University Research, Paper No 2006/51, February 2008
- Popma, J. *The Janus face of the 'New Ways of Work', Rise, risks and regulation of nomadic work*, Brussels, ETUI, 2013
- Sathe S., President and CEO RiseSmart, San Jose, California, *Three ways to protect the future of your workforce*, Hydrocarbon Processing, March 2017
- Westaby J. D., *The impact of outplacement programs on reemployment criteria: a longitudinal study of displaced managers and executives*, Journal of employment counseling, March 2004, vol. 41.
- Wood, A.J. Lehdonvirta, V. Graham, M. *Workers of the Internet unite? Online freelancer organisation among remote gig economy workers in six Asian and African countries*, New technology Work and Employment 2018, 33(2)

## INTERNET RESOURCES

- Advancing Automation: *Workers Worry More About Site Safety Than Losing Their Jobs*, ROCKproducts, September 2019 [www.rockproducts.com](http://www.rockproducts.com) [access: 30.10.2020].
- EU-OSHA, *OSH and the future of work: benefits and risks of artificial intelligence tools in workplaces* 2019 <https://osha.europa.eu/en/publications/osh-and-future-work-benefits-and-risks-artificial-intelligence-tools-workplaces/view> [access: 30.10.2020]
- Frey C.B., Osborne M.A., *The Future of Employment: How susceptible are jobs to computerisation?*, Oxford Martin Programme on Technology and Employment 2013, <https://www.oxfordmartin.ox.ac.uk/downloads/academic/future-of-employment.pdf> [access: 30.10.2020]
- High-Level Expert Group on Artificial Intelligence, *A definition of AI: Main capabilities and scientific disciplines* <https://ec.europa.eu/digital-single-market/en/news/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines> [access: 30.10.2020]
- IBA Global Employment Institute, *Artificial Intelligence and Robotics and Their Impact on the Workplace* <https://www.ibanet.org/Document/Default.aspx?DocumentUid=c06aa1a3-d355-4866-beda-9a3a8779ba6e> [access: 30.10.2020]
- Illanes P., Lund S., Mourshed M., Rutherford S., Tyreman M., *Retraining and reskilling workers in the age of automation*, <https://www.mckinsey.com/featured-insights/future-of-work/retraining-and-reskilling-workers-in-the-age-of-automation> [access: 30.10.2020].
- ILO, *Employment protection legislation: summary indicators in the area of terminating regular contracts (individual dismissals)*, International Labour Office, Inclusive Labour Markets, Labour Relations and Working Conditions Branch (INWORK). Geneva: ILO, 2015 [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_357390.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_357390.pdf) [access: 30.10.2020].
- International Transport Federation, *Automation and digitalisation: New Technology in Ports*, <https://www.itfcongress2018.org/en/your-congress-your-voice/automation-and-digitalisation-new-technology-in-ports/> [access: 30.10.2020].
- Mc Kinsey Global Institute. *Jobs lost, jobs gained: workforce transitions in a time of automation*, 2017, <https://www.mckinsey.com/~media/McKinsey/Industries/Public>

- %20and%20Social%20Sector/Our%20Insights/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Executive-summary-December-6-2017.pdf [access: 30.10.2020].
- Moore Ph.V., *Artificial Intelligence: Occupational Safety and Health and the Future of work* <https://www.stjornarradid.is/lisalib/getfile.aspx?itemid=4061219d-3a73-11e9-9432-005056bc530c> [access: 30.10.2020];
- Świątkowski A., *Termination of Employment Relationship: The Legal Situation in Poland*, p. 11, file:///C:/Users/ewasl/Downloads/report\_poland\_en.pdf
- World Maritime News, *Port automation friend or foe?* <https://www.offshore-energy.biz/port-automation-friend-or-foe/> [access: 30.10.2020].
- Vonck I., *Ports of the future , a vision*. Deloitte Port Services. Baltic Ports Conference 2017 <http://www.porteconomics.eu/mdocs-posts/2017-baltic-ports-conference-vonck/> [access: 30.10.2020].
- World Maritime University, *Transport 2040: Automation, Technology, Employment – The Future of Work*, 2019, Reports 58 [https://commons.wmu.se/lib\\_reports/58](https://commons.wmu.se/lib_reports/58) [access: 30.10.2020].

## JURISPRUDENCE

- Judgment of the Polish Supreme Court (SN) of 14 April 2008, II PK 362/07, LEX no. 837062
- Judgment of the Polish Supreme Court (SN) of 17 October 2006, II PK 35/06, LEX no. 950619.