Committee: Economic and Social Council (ECOSOC)

Topic: Developing response mechanisms to mitigate unemployment resulting from automation and intelligent systems

Student Officer: Casper Ruilan Li

Position: Deputy President

Dear Delegates,

My name is Casper Ruilan Li, and I am a student from Campion School. This is my 15th Model United Nations Conference, and it is my utmost honour to serve as one of the Deputy Presidents in this year's Economic and Social Council (ECOSOC).

To begin with, in this study guide, I will help you explore one of the three topics in ECOSOC this year, namely the issue of "Developing Response Mechanisms to Mitigate Unemployment Resulting From Automation and Intelligent Systems". This study guide is intended to help you get started on your own research, which should be completed before the conference to ensure you are fully prepared. You should conduct further research on your own, based on your country, to fully understand its policy on this topic.

I sincerely hope you will have an enjoyable and fruitful debate at CSMUN. Please do not hesitate to contact me with any issues or questions you may have regarding your preparation or the topic as a whole at casperli@campion.edu.gr. For any other questions, please contact the ECOSOC President, Petros Kossonakos, at prkosson@gmail.com.

Best wishes,

Casper Ruilan Li

Topic Introduction

The topic of Artificial Intelligence has been one of the main focuses for over a decade. The topic we will be examining in this guide particular, directly aligns with the CSMUN conference theme, "Free Will in the Age of Artificial Intelligence", as it addresses the rising unemployment due to automation and intelligent technologies, which further challenges the youth to create inclusive and adaptive strategies that ensure no one is left behind in the face of rapid technological change.

Due to automation and intelligent systems, Artificial Intelligence (AI) could replace up to 30% of hours worked globally by 2030.[1] The rapid rise of automation and AI is reshaping global industries by boosting efficiency, transforming job markets as well as redefining how services and goods are produced and delivered. However, this results in increasing efficiency and economic growth. Nevertheless, as machines and algorithms replace basic human labour in manufacturing and service sectors, millions of workers face the difficulties of unemployment or the need to re-skill in order to find other jobs.[2] The International Labour Organisation (ILO) has estimated that by 2030, automation could displace up to 20-50 million jobs globally, with low-skilled and routine-based workers being the most vulnerable of all.[3]

This issue involves multiple stakeholders, including governments, corporations, workers, educators and international organisations such as the ILO. With certain proactive measures, the issue of rising unemployment could further intensify income inequality and economic instability, particularly in less economically developed countries (LEDCs) with limited social safety nets.

Lastly, the Fourth Industrial Revolution, driven by advances in artificial intelligence (AI), robots and machine learning, is transforming global labour markets at a dizzying pace. As technology drives productivity and innovations, it is disturbing the traditional patterns of work on a massive scale. The

[1] "Top Reports of 2023." Www.mckinsey.com, www.mckinsey.com/~/media/McKinsey/Email/Top-Ten/2023/2023-12-21d.html.

[2] Manyika, James, et al. "Jobs Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills, and Wages." McKinsey & Company, 28 Nov. 2017, www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages.

[3] Manyika, James, et al. "Jobs Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills, and Wages." McKinsey & Company, 28 Nov. 2017, www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages.

Organisation for Economic Co-operation and Development (OECD) has suggested that in May 2024, the OECD unemployment rate was 4.9%[4].

Definition of key concepts

Automation

"Automation is the application of technology, programs, robotics or processes to achieve outcomes with minimal human input."[5]

Technological Unemployment

"Job loss caused by technological changes."[6]

Reskilling

"The process of learning new skills so you can do a different job, or of training people to do a different job."[7]

Upskilling

"The process of learning new skills or of teaching workers new skills."[8]

Just Transition

"A movement to protect workers affected by new water and air pollution regulations."[9]

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[4] "OECD Employment Outlook 2024." *OECD*, 2024, www.oecd.org/en/publications/oecd-employment-outlook-2024_ac8b3538-en.html?utm_source=chatgpt.com

[5] IBM. "Automation." *Ibm.com*, 27 July 2021, www.ibm.com/think/topics/automation.

[6] Wikipedia Contributors. "Technological Unemployment." *Wikipedia*, Wikimedia Foundation, 7 Apr. 2019, en.wikipedia.org/wiki/Technological_unemployment.

[7] "RESKILLING | Meaning in the Cambridge English Dictionary." *Dictionary.cambridge.org*, dictionary.cambridge.org/dictionary/english/reskilling.

[8] ---. "Upskilling." *@CambridgeWords*, 30 Nov. 2022, dictionary.cambridge.org/dictionary/english/upskilling.

[9] UNDP. "What Is Just Transition? And Why Is It Important?" *UNDP Climate Promise*, 3 Nov. 2022, climatepromise.undp.org/news-and-stories/what-just-transition-and-why-it-important.

Universal Basic Income

"The concept of a government program in which every adult citizen receives a set amount of money regularly."[10]

Human-Centered AI

"AI designed to complement but not replace human labour."[11]

Active Labour Market Policies (ALMPs)

"Active Labour Market Policies (ALMPs) describe measures to help individuals enter the labour market or to prevent already employed individuals from losing their jobs."[12]

Algorithmic Bias

"Algorithmic bias occurs when systematic errors in machine learning algorithms produce unfair or discriminatory outcomes."[13]

Background Information

Historical Evolution in Automation

The evolution of automation has had a profound effect on the global employment sector over the past several decades. This evolution, in the maximisation of production, had watershed effects on labour. Condemned to physical functions to begin with, automation has still moved into intellectual spaces as well. In the 2010s, we have seen the advancement of Artificial Intelligence (AI) slowly

[10] Peters, Katelyn. "What Is Universal Basic Income (UBI), and How Does It Work?" *Investopedia*, Dotdash Meredith, 2020, www.investopedia.com/terms/b/basic-income.asp.

[11] "Google Search." *Google.com*, 2025, www.google.com/search?client=opera-gx&q=Human-Centered+AI&sourceid=opera&ie=UTF-8&oe=UTF-8. Accessed 17 Aug. 2025.

[12] "Active Labour Market Policy (ALMP) - European Centre for Social Welfare Policy and Research." *Www.euro.centre.org*, www.euro.centre.org/domains/active-labour-market-policy.

[13] Jonker, Alexandra, and Julie Rogers. "What Is Algorithmic Bias?" *IBM*, IBM, 20 Sept. 2024, www.ibm.com/think/topics/algorithmic-bias.

creating an impact on our service industries, making certain workers be replaced.[14] Sophisticated AI systems now perform high-level tasks like legal research or medical diagnosis. Even in a Stanford study in 2021, AI-identified breast cancer was diagnosed more effectively than radiologists, indicating an industrial revolutionary paradigm shift of professional fields hitherto long seen to be "safe."[15]

Why Automation is Gaining Momentum

Cost-effectiveness is mainly driven by the keen need for automation. Companies employ AI and robot technology in a bid to save on labour costs, enhance efficiency, and lower the rates of errors. Routine work is most vulnerable as automation possesses the ability to handle rule-based work with accuracy and pace, such as large production chains. This compels companies to automate their activities with minimal human effort, where machines will be superior. The economic rationale is obvious: automation brings huge productivity gains combined with reduced reliance on the labour force, accelerating substitution for existing blue - and white-collar positions.

Global Disparities in Impact

Furthermore, the MEDCs can respond with progressive interventions, for instance, education reform and retraining the labour force, as a means of preparing for the information age. The less economically developed countries (LEDCs) are not as well placed to respond. They suffer from higher unemployment without the social program buffer or retraining to cushion the impact. Offshoring and automation together wiped out an estimated 2.4 million factory jobs in China between the 1990s and the 2010s[16]. In India and elsewhere, the rise of AI resulted in business process outsourcing (BPO) work collapsing by 30% after a foundation of digital employment had been built, meaning that after establishing jobs, the work rate drops by 30%.[17] Bangladesh's garment sector was also hit, and

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[14] Wang, Xiaowen, et al. "How Artificial Intelligence Affects the Labour Force Employment Structure from the Perspective of Industrial Structure Optimisation." *Heliyon*, vol. 10, no. 5, 1 Feb. 2024, pp. e26686–e26686, pmc.ncbi.nlm.nih.gov/articles/PMC10907740/, https://doi.org/10.1016/j.heliyon.2024.e26686.

[15] "AI Could Help Radiologists Interpret Mammograms More Accurately." *Stanford University School of Engineering*, Stanford University, 3 June 2019, engineering.stanford.edu/news/ai-could-help-radiologists-interpret-mammograms-more-accurately . Accessed 17 Aug. 2025.

[16] Lincicome, Scott, and Arjun Anand. "The "China Shock" Demystified: Its Origins, Effects, and Lessons for Today." *Cato.org*, 2024, www.cato.org/publications/china-shock.

[17] Inamdar, Nikhil. *TCS: India's AI-Driven Tech Firings Could Derail Middle Class Dreams*. 28 July 2025, www.bbc.com/news/articles/cx2p4nqd352o.

through 2022, the International Labour Organisation estimated that "sewbots" displaced 80% of stitching, leading to a massive cause in job replacements, with 80% of the workers losing their jobs.[18] The statistics reveal just how much AI-led disruption has already significantly changed the lives of millions globally.[19]

Disparate Impacts Among Different Social Groups

The effects of automation are disparate among social groups. Women are overrepresented in the most automatable jobs, including garment production, sales, and clerical work. And as these industries increasingly automate, women will lose jobs more and more, with fewer retraining prospects than men. This not only raises youth unemployment but also endangers long-term career development and economic self-sufficiency in future generations. These certain indications could suggest that automation is beyond just a technological shift, but also a harmful source to social equality.

Systemic Risks and Political Instability

Apart from work, the broader social consequences of automation are starting to emerge. Factory workers and low-skilled workers are most vulnerable to economic vulnerability as well as social exclusion. This has brought even greater disillusionment and political instability, especially in regions where offshoring and automation have devastated industries. The 1980s deindustrialisation in America had left the economic disparities raw with the levels of employment in some of the nation's Midwestern as well as coastal cities stretching to five times the nation's average.[20] These have created anti-globalisation feelings because most people believe that the economic and political leadership has let them down. Automation did the same everywhere and gave support to those

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[18] Hoskins, Tansy. "Robot Factories Could Threaten Jobs of Millions of Garment Workers." *The Guardian*, 16 July 2016, www.theguardian.com/sustainable-business/2016/jul/16/robot-factories-threaten-jobs-millions-garment-workers-south-east-asia-women.

[19] "A New Wave of AI-Led Disruption: The Private Market Opportunity | J.P. Morgan Private Bank U.S." *Jpmorgan.com*, 2025, privatebank.jpmorgan.com/nam/en/insights/markets-and-investing/a-new-wave-of-ai-led-disruption. Accessed 17 Aug. 2025.

[20] "America's Changing Economic Landscape - 85.03." *Theatlantic.com*, 2025, www.theatlantic.com/past/docs/politics/ecbig/landscap.htm . Accessed 17 Aug. 2025.

movements that ensured national work safety and economic independence. Further urban-rural disequilibrium—which observes technology clusters in villages flourish while factory belts in the traditional sense of the word struggle—does the same and breaks social solidarity. Unless viable channels for settling automation-caused unemployment are available, this discontent will grow.

While the severity of the problem is considerable, current responses do not work. While retraining the unemployed might bring dividends in productivity and social satisfaction, few firms invest in giant programs to accomplish this. The school education system also falls behind as the technical rate continues to move forward. Schools are still focused on the skills that may very well soon become less useful in society, with minimal experience of AI work. A 2023 report by UNESCO has indicated that almost 60% of the schools in the world remain without AI and digital literacy courses.[21] This renders millions of students helpless in addressing the needs of the workforce in the future.

15 March 1962	U.S. President Kennedy signs the Manpower Development and Training Act (MDTA) into law, creating the first federal retraining program for automation-displaced workers. [22]
1 July 1974	Sweden's Job Security Councils (JSCs) begin operations under an agreement between Sustainable Aviation Fuel (SAF) and labour organisations (LO).[23]
1 January 1993	Germany's reformed Kurzarbeit program takes effect by expanding wage subsidies

[21] "Technology in Education." *2023 GEM Report*, gem-report-2023.unesco.org/technology-in-education.
[22] "MDTA: The Origins of the Manpower Development and Training Act of 1962 | U.S. Department of Labor." *Www.dol.gov*, www.dol.gov/general/aboutdol/history/mono-mdtatext.
[23] "The Swedish Job Security Councils - a Case Study on Social Partners' Led Transitions." *TUAC*, tuac.org/news/the-swedish-job-security-councils-a-case-study-on-social-partners-led-transitions/.

	during technological transitions (impacted by AI).[24]
4 December 2008	Singapore officially launches the SkillsFuture initiative with $1 billion initial funding.[25]
18 January 2016	The World Economic Forum (WEF) releases the inaugural Future of Jobs Report at Davos Annual Meetings.[26]
29 March 2018	French president Macron presents the AI for Humanity strategy at Collège de France.[27]
14 July 2020	The South Korean National Assembly passes the Digital New Deal legislation.[28]
30 September 2021	European Commission implements Digital Education Action Plan through 2021-2017.[29]

[24] IMF. "Kurzarbeit: Germany's Short-Time Work Benefit." *IMF*, 15 June 2020, www.imf.org/en/News/Articles/2020/06/11/na061120-kurzarbeit-germanys-short-time-work-benefit.

[25] "SkillsFuture Singapore (SSG)." *Www.skillsfuture.gov.sg*, www.skillsfuture.gov.sg.

[26] World Economic Forum. "The Future of Jobs Report 2025." *World Economic Forum*, 2025, www.weforum.org/publications/the-future-of-jobs-report-2025/.

[27] "France AI Strategy Report." *Ai-Watch.ec.europa.eu*, 1 Sept. 2021, ai-watch.ec.europa.eu/countries/france/france-ai-strategy-report_en.

[28] "New Korean Legislation for Stability of Digital Services - Kim & Chang." *Kimchang.com*, 2019, www.kimchang.com/en/insights/detail.kc?sch_section=4&idx=28995 . Accessed 26 June 2025.

[29] European Commission. "Digital Education Action Plan (2021-2027) | European Education Area." *Education.ec.europa.eu*, 2021, education.ec.europa.eu/focus-topics/digital-education/action-plan.

9 August 2022	President Biden signs the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act into law.[30]
1 April 2023	Japan's AI-Ready Workforce Initiative takes effect through the revised tax code.[31]

Major Countries, Organisations and Alliances

United States of America (USA)

The United States leads the world in AI development, with Google, Microsoft, and OpenAI leading the charge.[32] The country has a challenge-laden undertaking when it comes to dealing with labor transition as automation expands across industries and jobs. In attempting to tackle that, the US government signed the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act into law[33], which not only pledges support for the manufacture of semiconductors in America but also worker development as part of it. This helps with the creation of chips in the US and also trains workers to be able to work for technological jobs.[34] These are retool programs for future tech workers, though unevenly distributed across states. Hence, the US government leads with AI, with the CHIPS and Science Act helping to aid workers who have been replaced, but not all states have equal access to these training programs, which makes the shift in technology hard for some individuals.

[30] "President Biden Signs CHIPS and Science Act into Law | White & Case LLP." *Www.whitecase.com*, www.whitecase.com/insight-alert/president-biden-signs-chips-and-science-act-law.

[31] onestepbeyond. "How AI Is Changing Workforce Needs in Japan | One Step Beyond株式会社." *One Step Beyond株式会社 |*, May 2025, onestepbeyond.co.jp/blogs/how-ai-is-changing-workforce-needs-in-japan/.

[32] Rai, Saritha, and Seth Fiegerman. "Who Is Winning the Artificial Intelligence Race? The US or China?" *Bloomberg.com*, Bloomberg, 6 Aug. 2025, www.bloomberg.com/news/articles/2025-08-06/who-is-winning-the-artificial-intelligence-race-the-us-or-china

[33] Badlam, Justin, et al. "The CHIPS and Science Act: What Is It and What Is in It? | McKinsey." *McKinsey & Company*, 4 Oct. 2022, www.mckinsey.com/industries/public-sector/our-insights/the-chips-and-science-act-heres-whats-in-it.

[34] "Workforce Development | NIST." *NIST*, 7 Feb. 2023, www.nist.gov/chips/implementation-strategies/workforce-development.

Republic of Korea

South Korea's government was efficient in embracing the challenge of automation by launching its "Digital New Deal" proposal.[35] It is a government-led scheme with massive government investments in digital infrastructure, AI R&D, and labour adjustment programs. The most effective is reskilling dislocated manufacturing and services workers resulting from automation.[36] The South Korean model is unique in being simultaneously an integration of educational reform, private sector engagement, and social protection policy and as a model for integrating technological progress with labour sustainability.[37]

China

China's "Made in China 2025" strategy is a national strategy to establish China as a world leader in high-value manufacturing and automation.[38]

Industrial policy is encouraging the implementation of robots, AI, and smart technology in industries.[39] While the process is still underway, China has undertaken such huge upskilling and reskilling of the labour force[40], but ensuring the rural and elderly segments are not a task that can be easily achieved. China's government also encourages e-learning systems and vocational training so that the employees are highly skilled with the adaptability skills to the changing labour market.[41]

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[35] "Press Releases - 과학기술정보통신부 >." *Msit.go.kr*, 2025, www.msit.go.kr/eng/bbs/list.do?sCode=eng&mPid=2&mId=4 . Accessed 21 July 2025.

[36] "Bridging the Skills Gap: Fuelling Careers and the Economy in South Korea." *Economist.com*, 2022, impact.economist.com/new-globalisation/bridging-skills-gap-fuelling-careers-and-economy-south-korea.

[37] Gambi, Gabriela. "Implementing Edtech at Scale: 3 Lessons from Korea for Digital Transformation - Enfoque Educación." *Enfoque Educación*, 18 Mar. 2025, blogs.iadb.org/educacion/en/implementing-edtech-at-scale-3-lessons-from-korea-for-digital-transformation/.

[38] Kuo, Kaiser. "Made in China 2025 Set the Tempo of China's Industrial Ambitions." *World Economic Forum*, 26 June 2025, www.weforum.org/stories/2025/06/how-china-is-reinventing-the-future-of-global-manufacturing/.

[39] Chan, Kyle, et al. "Full Stack: China's Evolving Industrial Policy for AI." *Rand.org*, RAND Corporation, 26 June 2025, www.rand.org/pubs/perspectives/PEA4012-1.html.

[40] McKinsey. "Reskilling China: Transforming the World's Largest Workforce into Lifelong Learners | McKinsey." *Www.mckinsey.com*, 2021, www.mckinsey.com/featured-insights/china/reskilling-china-transforming-the-worlds-largest-workforce-into-lifelong-learners.

[41] "South China Morning Post." *South China Morning Post*, 13 Dec. 2024, www.scmp.com/news/china/politics/article/3290545/china-gives-vocational-training-hi-tech-overhaul-upskill-workforce.

Sweden

Sweden has one of the best worker support systems for redundant workers who have lost their jobs due to automation. The Swedish Job Security Councils created through tripartite agreements between government, employers, and trade unions provide job guidance, retraining, and funding to redundant workers.[42] It is a social dialogue and public-private partnership initiative. Sweden could therefore manage to maintain unemployment at low levels even after introducing new technology into its economy.[43] Sweden's strong worker support system is mainly based on cooperation between the government and employers, is effective as it helps workers who lost jobs due to automation by offering guidance, which further allows the country to keep their unemployment rate low[44].

International Labour Organisation (ILO)

The ILO is leading the charge to further develop international labour standards and a "just transition" strategy to the age of automation[45]. The policies ensure that the shift towards automated and artificial intelligence-based economies occurs justly, reasonably, and in the optimal interest of workers' rights. ILO is guiding governments and employers to make social protection a reality, drive dialogue, and design workers' reskilling mechanisms so that workers can adjust according to the evolving labour markets.[46] This happens because the ILO is working with the governments and employers in order to establish fair policies and social protections, while also creating reskilling

[42] "The Swedish Job Security Councils - a Case Study on Social Partners' Led Transitions." *TUAC*, tuac.org/news/the-swedish-job-security-councils-a-case-study-on-social-partners-led-transitions/.

[43] European Parliament. "SOCIAL and LABOUR MARKET POLICY in SWEDEN." *Www.europarl.europa.eu*, 1997, www.europarl.europa.eu/workingpapers/soci/w13/summary_en.htm.

[44] Håkansta, Carin, et al. "Power Resources and the Battle against Precarious Employment: Trade Union Activities within a Tripartite Initiative Tackling Undeclared Work in Sweden." *Economic and Industrial Democracy*, 21 Nov. 2022, p. 0143831X2211318, https://doi.org/10.1177/0143831x221131835.

[45] International Labour Organization. "Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All | International Labour Organization." *Www.ilo.org*, 2 Feb. 2016, www.ilo.org/publications/guidelines-just-transition-towards-environmentally-sustainable-economies.

[46] "Digital Transformation Is Pivotal to Achieving the Goal of Universal Social Protection." *International Labour Organization*, 5 May 2025, www.ilo.org/resource/article/digital-transformation-pivotal-achieving-goal-universal-social-protection . Accessed 21 July 2025.

programs to aid workers who have lost their jobs.[47]

The Organisation for Economic Co-operation and Development (OECD)

The OECD is dynamically following the impact of automation in its member states and developing evidence-based policy to spur skill development.[48] The OECD further talks about trends in the labour market, automation risk, and skill shortages.[49] It works with governments to pilot and test policies that have the potential to re-skill workers for AI-delivered occupations, and promotes lifelong learning cultures and inclusive labour market policy reforms that address imbalances at their origin and increase resilience to technical change.[50]

Previous attempts to solve the issue

Trade Adjustment Assistance (TAA) in the United States of America

The USA has, since 1962, had the Trade Adjustment Assistance (TAA) program to help workers who lose their jobs due to trade or technology[51]. It offers training, job search assistance, and income support. The program itself, though, has dismal failures—reaching only around 15% of the targeted, and also highly criticised as ineffective and slow because of bureaucracy.[52] This happens because the TAA program faces delays and sometimes is unable to reach certain workers who need help, resulting in a lack of communication, which decreases the efficiency rate. It has served to counteract its impact, emphasising the importance of improved and accessible support mechanisms against mounting job loss due to automation[53].

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[47] "Towards Lifelong Learning and Skills for the Future of Work: Global Lessons from Innovative Apprenticeships." *International Labour Organization*, 17 Mar. 2023, www.ilo.org/publications/towards-lifelong-learning-and-skills-future-work-global-lessons-innovative.

[48] ---. "Future of Work." *OECD*, 2024, www.oecd.org/en/topics/policy-issues/future-of-work.html.

[49] ---. "The Risk of Automation for Jobs in OECD Countries." *OECD*, 2024, www.oecd.org/en/publications/the-risk-of-automation-for-jobs-in-oecd-countries_5jlz9h56dvq7-en.html.

[50] "Skills for a Digital World." *OECD*, 2024, www.oecd.org/en/publications/skills-for-a-digital-world_5jlwz83z3wnw-en.html.

[51] "Trade Adjustment Assistance for Workers | U.S. Department of Labor." *Www.dol.gov*, www.dol.gov/agencies/eta/tradeact.

[52] Parilla, Joseph, and Mark Muro. "Where Global Trade Has the Biggest Impact on Workers." *Brookings*, 14 Dec. 2016, www.brookings.edu/articles/where-global-trade-has-the-biggest-impact-on-workers/.

[53] "Trade Adjustment Assistance for Workers: Background and Current Status." *Congress.gov*, 2025, www.congress.gov/crs-product/R47200.

Singapore Creating the SkillsFuture

Singapore launched SkillsFuture in 2015, its national lifelong learning and resilience drive.[54] It provides biennial $500 credits to citizens to learn in any sector.[55] Take-up has been strong, with over 650,000 enrollments a year, especially among young graduates.[56] Older workers have relatively weak take-up, possibly due to digital exclusion, resistance, or unawareness.[57] That means that high-quality programs need to be targeted with special outreach to reach the age group. This Skills Future program is a strong initiative that encourages lifelong learning by giving financial support and promoting skills through development, especially among youth. However, the participation rate decreases among elderly workers, highlighting the challenges like digital access and awareness.[58]

The Kurzarbeit in Germany

Germany's long-established Kurzarbeit scheme, which dates back to 1910, gives authorisation to companies to reduce the working hours of employees when the economy is slowing down and the government compensates for lost wages.[59] It functioned best during the 2008 financial crisis, protecting nearly two million jobs from mass firing.[60] The system is better at assimilating the short-term economic shocks but worse at handling the long-run structural changes like those caused by automation, where workers will permanently lose their jobs as compared to temporarily putting them on hold.[61] Kurzarbeit is currently helping companies manage short-term economic slowdowns

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[54] "Home | Myskillsfuture.gov.sg." *Www.myskillsfuture.gov.sg*, www.myskillsfuture.gov.sg/content/portal/en/index.html.

[55] "SkillsFuture Mid-Career Support Package." *SkillsFuture SG*, 2025, www.skillsfuture.gov.sg/initiatives/individuals/midcareersupportpackage.

[56] "SkillsFuture Credit." *Www.moe.gov.sg*, www.moe.gov.sg/news/parliamentary-replies/20240110-skillsfuture-credit.

[57] "Age, Ageing and Skills." *OECD*, 2025, www.oecd.org/en/publications/age-ageing-and-skills_5jm0q1n38lvc-en.html.

[58] "Reskilling Revolution - Case Studies | GST: Singapore." *Weforum.org*, 2025, initiatives.weforum.org/reskilling-revolution/singapore.

[59] admin. "Kurzarbeit, Here's How Germany's Wage Support Scheme Works." *The Adecco Group*, 15 July 2020, adeccogroup.it/kuzarbeit-sustainability-work-germany/.

[60] "The Response of German Establishments to the 2008-2009 Economic Crisis." *OECD*, 2025, www.oecd.org/en/publications/the-response-of-german-establishments-to-the-2008-2009-economic-crisis_5k8x7gwmb3jc-en.html . Accessed 21 July 2025.

[61] IMF. "Kurzarbeit: Germany's Short-Time Work Benefit." *IMF*, 15 June 2020, www.imf.org/en/News/Articles/2020/06/11/na061120-kurzarbeit-germanys-short-time-work-benefit

by reducing work hours while protecting worker incomes; however, it has been a struggle to address permanent job losses caused by long-term changes such as automation.[62]

Denmark's Flexicurity Model Solution

Denmark's flexicurity model, which started in the 1990s, combines labour market flexibility with robust social security.[63] The system allows for cheap firing and hiring with the support of high unemployment benefits and adjustable retraining programs. The equilibrium has made it possible for Denmark to have high rates of employment with the capacity for adjusting to variable economic conditions.[64] The system is expensive, amounting to about 4% of the country's GDP, and supported by institutions.[65] These conditions are difficult to achieve in economies that are less stable or have lower incomes.[66] The result of this action was highly successful and resulted in a rise in the employment rate in Denmark.[67]

Universal Basic Income (UBI) Experiment in Finland

Finland's 2017-2018 two-year experiment with UBI tried the effect of unconditional monetary assistance on employment and joy.[68] The 560 unemployed people were given €560 monthly, irrespective of labour market job search activity.[69] The outcome was huge boosts in confidence and

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[62] "Subscribe to Read | Financial Times." *Www.ft.com*, www.ft.com/content/927794b2-6b70-11ea-89df-41bea055720b.

[63] Ministry of Foreign Affairs of Denmark. "Danish Labour Market." *Denmark.dk*, 2018, denmark.dk/society-and-business/the-danish-labour-market.

[64] "OECD Economic Surveys: Denmark 2024." *OECD*, 2024, www.oecd.org/en/publications/2024/01/oecd-economic-surveys-denmark-2024_9cf3913b.html.

[65] "Home | Morningstar DBRS." *Morningstar.com*, 2025, dbrs.morningstar.com/research/451854/morningstar-dbrs-confirms-the-kingdom-of-denmark-at-aaa-stable-trend.

[66] "Flexicurity." *Star.dk*, 2019, www.star.dk/en/about-the-danish-agency-for-labour-market-and-recruitment/flexicurity.

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reduced stress, but no measurable increase in employment.[70] While UBI could improve the lives of people, whether it is an effective solution to job loss due to automation by itself remains in question.[71]

Possible solutions

Corporate Social Responsibility (CSR)

The private sector must be at the forefront of averting job loss due to automation, the provision of a tax rebate[72] which indicates that the government gives you certain amounts of your money back once you have paid an excessive amount of tax. Incentives to corporations to retrain displaced workers due to technological advancements can be an option. If corporations are encouraged to invest in human capital, they will also be inclined to engage in workforce development. Public-private partnerships also increase training programs by attaching private sector demand to public job training and education programs[73]. The partnerships ensure that employees gain the necessary, in-demand skills for transforming labour markets.

Social Protection

Governments should also increase social protection networks so that people can endure changes. This involves increasing unemployment benefits not just as income support but also as a bridge to re-entry through placement and training services. For those most at risk of automation, the government could try Universal Basic Income (UBI) pilots to pay a living wage while the workers are being retrained or rehired. Another possibility would be to give time-limited cash grants to people who take up recognised courses of retraining, to help pay for living costs during training and in transition.

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Job Creation

Apart from preserving existing employment, new employment positions should also be generated. One way to achieve this is by redirecting state subsidies to emerging or AI-based industries[74], which will stimulate jobs and innovation in long-term potential industries. Governments can also opt to create technology clusters in regions with high unemployment levels and invest in property and infrastructure in an attempt to lure startups and e-businesses. Promoting worker cooperatives in industries that are harder to automate—e.g., care labour, creative services, or local public services—can also increase economic inclusiveness and job resilience[75].

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