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FROM *SOLIDARNOŚĆ* TO THE ALGORITHM

The Crisis of Intermediate Bodies in Poland between Trade Union Legacy and the Challenges of AI[1]

ABSTRACT: From the first industrial revolution to the digital age, every transformation in production has called forth new forms of representation and new ways of safeguarding collective dignity. In Poland, this historical arc found its most powerful expression in *Solidarność,* a movement that was at once a trade union and a civic force, guiding the passage from authoritarian rule to democratic pluralism. Its later decline, however, exposed the fragility of intermediate bodies confronted with liberalization and rapid systemic upheaval. At this historical juncture, the spread of artificial intelligence and algorithmic management presents a challenge of similar magnitude. These technologies not only reorganize labor but also redefine the very frameworks of negotiation, often bypassing established institutions. What remains constant is the need for intermediate bodies able to anchor collective rights in this shifting landscape. Only through a human-centered approach can technology be turned into a means of enhancing human capacities, ensuring dignity at work, and sustaining solidarity as a cornerstone of democratic life.

Keywords: *Solidarność*, trade union crisis, algorithmic governance, post-communist transition, intermediate bodies, artificial intelligence and labor, digital unionism

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INTRODUCTION

Beyond the historical interpretations rooted in either Marxist doctrine or Elite theory – both of which assume a possible correlation between major transformations in production techniques and corresponding shifts in the political sphere at national and international levels – this essay aims to address two central questions. The first concerns whether the correlation between technological progress throughout the various phases of the Industrial Revolution and democratic advancement can always be regarded as valid. The second asks whether intermediary bodies such as *Solidarność* constitute an essential element at the very foundations of the democratic system.[2] To approach these questions, it becomes necessary, from a historical perspective, to consider how each stage of the Industrial Revolution redefined the balance between technological innovation, social transformation, and political representation. We can divide the modern industrial era into four major phases, from the beginning to present time, during which there have been corresponding social and political upheavals.

The first period started by the mid-18th century, when the application of steam power to textile looms completely revolutionized the organization of labor. In areas that had previously been agricultural, but near navigable waterways and close to coal mines, large industrial sheds began to be constructed. Workers who had previously worked separately in their own homes were gathered in these factories, around which their new homes were built.

In the Western part of the European continent, the Bourgeoisie and the industrial Proletariat became the two main social classes, completely displacing the aristocracy and the peasants. The consequence of this social revolution, in which men were no longer valued by their family background, but according to their manual or entrepreneurial skills, was clearly visible during the 19th century. The system of government of the so-called *Ancien Régime*, formed by the Sovereign and a court of Advisors, among whom stood out the figure of the Prime Minister, was progressively replaced by a parliamentary assembly elected by the people and by Ministers, who no longer answered to the monarch, but to the Parliaments. Although industrial economics had not yet spread throughout the country, it is worth remembering that Poland, by 1791, was the first state in Continental Europe to adopt a constitution. The circulation of ideas and the myth of the liberal Constitution, in fact, became faster than the spread of the new technical innovations applied to production.[3]

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[2] See J. Cohen, J. Rogers (eds), *Associations and Democracy*, London 1995.

[3] See M.M. Banach, *La Costituzione polacca del 3 maggio 1791. Un'ipotesi interpretativa sulla debolezza del primo testo costituzionale europeo*, Roma 2018; S. Bartole, *The Internationalisation of Constitutional Law. A View from the Venice Commission*, Oxford 2020 (Parliamentary Democracy in Europe, vol. 5), pp. 35-39. While the 1791 Polish Constitution occupies a distinctive place in European constitutional history – requiring a specific interpretative approach compared to Western European documents – it must also be understood as a powerful symbolic reference, a 'myth' that nurtured ideals of liberty and self-government even during periods of political subjugation. The circulation of these ideas and the prestige of the liberal Constitution spread more rapidly than the adoption of new technical in-

The second evolutionary stage of the industrial revolution is conventionally set in 1870. The replacement of coal with electricity or the propulsive force generated by the combustion of hydrocarbons allowed for the strong development of the mechanical and chemical industries.

The organizational and dimensional transformation of factories was enormous, and large industrial plants with assembly lines became the working reality for millions of men and women worldwide. Especially in this second phase of the Industrial Revolution, the social and political changes were fast and numerous. First above all, the phenomenon of urbanization created that psychological division and political contrast between the city and the countryside, which persists to present days too. However, the most significant social consequence was a more pronounced division in society between the mass of workers and a much smaller elite made up of the so-called white-collar workers.

In a deeply divided society, where the State was called to provide completely new answers to the population, the responses from thinkers and politicians were necessarily new and varied. power. Yet the economic and social progress of the 20th century, generated by strong technological innovations and scientific discoveries, was not matched by equivalent advances in political power structures. The 20th century is indeed remembered for its 'murderous ideas'. The brief but destructive Nazi regime over continental Europe and subsequently, the communist rule over the eastern part, produced a terrifying number of civilian deaths and the disintegration of the ethnic patchwork that had characterized Europe for the past centuries. This historical contradiction demonstrates that technological and economic progress do not necessarily translate into political or democratic advancement. On the contrary, when innovation unfolds without corresponding institutional adaptation, it can become a source of domination rather than emancipation. The Fordist organization of production, along with the widespread use of coal and steel as a basic material for the mechanical industry and construction, transformed the vision of labor and production into a framework in which the worker was reduced to the level of all other resources, on par with raw materials or invested financial capital. Moreover, the economic progress was summarized in the creation of increasingly larger industrial plants.

Immediately after the end of the Second World War, the world was divided into two parts in which, paradoxically, the techniques of production and the condition of workers in their workplaces were essentially the same, but the strategic decisions regarding the quantities and quality of goods to be produced were driven by completely different organizational models. In the Western world, the State kept itself on the margins of the economic system, and instead, it was and is the market, that is, the ultimate decisions

novations in production. In contrast to the Western experience – where institutional guarantees and technological progress tended to advance hand in hand – Poland experienced phases of institutional development that were repeatedly cut short by the loss of sovereignty in the nineteenth century, the authoritarian regimes of the interwar years, and the prolonged dominance of communist rule, while also suffering from a slower industrial modernization.

of consumers, that guided the choices of producers. In the Soviet world, on the other hand, it was the state bureaucracy that planned production choices, trying to anticipate and direct the needs of the citizen/consumer.

Considering that the entire path of the Industrial Revolution is supported by scientific research, from which technical improvements derive, in the political bloc of the West, the innovation process was substantially left to private initiative, that is, to the entrepreneurial spirit of industrialists. In contrast, in the Soviet context, the bureaucratization of economic structures led to a research and innovation in the industrial field being supplanted by the focus on achieving periodic objectives, concentrating attention on the quantities produced. Research and innovation, on the other hand, were an exclusive domain of the military sector. In this area, in fact, competition with the Western world pushed the Soviet Union and its satellite states to devise and experiment with increasingly sophisticated weapons with the aim of surpassing their opponents militarily.

THE THIRD INDUSTRIAL REVOLUTION, POLAND, AND *SOLIDARNOŚĆ*

During the 1950s and 60s, the Soviet economic system continued to be able to compete with the capitalist one. The means of production were less efficient and somewhat more obsolete than the Western ones, the products of poorer quality, the workers were forced into working hours and conditions that were less dignified than their Western counterparts, however, the industrial gap between the two political systems and the two economic structures did not seem so wide.[4]

The true dystonia between the two systems was represented by the level of individual freedom. The existing gap between Western and Eastern countries was precisely constituted by the almost total lack of respect for human rights, both at the individual and collective level. In the Eastern bloc, various categories of people were claiming freedom and autonomy from communist political power. Firstly, intellectuals and artists were asking for broader freedom of expression and the opportunity to present their works directly to the public without having to go through the vetting of censorship. It is not a coincidence that, until the mid-1970s, dissent against the Soviet regime was embodied by figures like Solženicyn.

After the end of the Stalin era, in socialist countries where there was a strong Catholic tradition, the episcopates tried to find a *modus vivendi* with the ruling communist parties, though moments of opposition and conflict were not rare.[5]

Before the rise to power of the communist parties in Eastern Europe, agriculture remained the dominant sector in most national economies, with only limited exceptions.

[4] See L. Morandi, *Viaggio di un tecnico curioso nella civiltà sovietica*, Torino 1961.

[5] See A. Casaroli, *Il martirio della pazienza. La Santa Sede e i paesi comunisti (1963-89)*, Torino 2000; G. Barberini, *L'Ostpolitik della Santa Sede. Un dialogo lungo e faticoso*, Bologna 2007; J. Mikrut (ed.), *La Chiesa cattolica e il comunismo in Europa centro-orientale e in Unione Sovietica*, Verona 2016; P. Wójcik, *Il governo e la Chiesa in Polonia di fronte alla diplomazia vaticana (1945-1978)*, Verona 2016.

Following the Soviet example, the new socialist states also initiated a process of massive industrialization, resulting in the transfer of populations from the countryside to the cities. Thus, a class of workers, often with little specialization, was formed and it had to operate following the inputs of a bureaucratic apparatus. In 1957, Milovan Djilas denounced the fact that the communist state system had not eliminated the division of society into social classes but, in another form, had led to a division between the working class and the party establishment.[6] Paradoxically, in socialist Poland, the control function over the working class was exercised by the trade unions. Indeed, in a situation where the means of production no longer belonged to private individuals, but to the state, the role of the trade unions became that of motivating both companies and workers to achieve the production targets previously set by the five-year plans. After the waves of protest in 1956 in Poznań, Poland, with the Law of 20 December 1958, established bodies of workers' self-management with the official purpose of facilitating production processes within companies and connecting them with both suppliers and final buyers of the product.[7]

The fragility and contradictions of this system, in which workers' representatives were appointed by the Party rather than elected by the workers themselves, became evident in 1970. The food needs of the Poles were ensured by domestic agricultural production but also by a certain number of imports, especially of grain, paid for by the sale of Polish industrial production. However, the smallholders who owned about 85% of the Polish agricultural land were not incentivized to bring their products to the official markets, because the prices were predetermined by state authorities. The poor harvest of 1969, along with a decline in foreign demand for Polish products, led Gomułka in December 1970 to reduce wheat imports but, at the same time, significantly raised food prices in stores for workers.[8] On December 14, 1970, a significant increase in the prices of the most common foodstuffs was announced. Especially in the port area of Gdańsk and the Three Cities, where shipyard workers were concentrated, there was a strong wave of protests and strikes. In the absence of real representation, workers resorted to violent protest to express dissent. The authorities suppressed the demonstrations, as is widely known, with at least 40 people killed and hundreds injured. Aware of the dwindling support for the Polish Communist Party, Gierek (who succeeded Gomułka) initiated direct talks with the shipyard workers, assuring them that the *Milicja* would never again open fire on strikers and pledging to take into account both wage levels and purchasing power, while also seeking to address the problem of foreign debt.[9] During

6 See M. Djilas, *The New Class. An Analysis of the Communist System*, New York 1957.

7 In 1961, the Italian CGIL – the trade union affiliated with the Communist Party – distributed a brochure on Polish unions to showcase the robustness of the production system in countries governed by communist parties. See I. Loga Soviński, "I sindacati nella Polonia popolare," *Quaderni Internazionali CGIL*, Roma 1961.

8 Z.A. Pelczynski, "The Downfall of Gomułka," *Canadian Slavonic Papers*, vol. 15, no. 1-2 (1973), pp. 201-223.

9 R. Laba, *The Roots of Solidarity. A Political Sociology of Poland's Working-Class Democratization*, Princeton 1991, pp. 83-95. See also R. Rossanda, *Gierek e gli operai polacchi*, Firenze 1973.

the 1970s, Poland and the other countries of the Soviet bloc faced an economic crisis driven mainly by the sharp rise in oil prices, a shock that also affected the economies of Western nations and fueled social unrest on both sides of the Iron Curtain. However, in the wake of the United States' definitive defeat in Vietnam in 1973, the Politburo in Moscow became convinced that the Western model was in irreversible decline and concluded that the Soviet Union could extend its global influence through the dissemination of communist ideology and by providing economic, political, and military support to countries in the developing world.

Considering the subsequent historical developments, the Helsinki Accords signed on August 1, 1975, are today considered by historians a turning point in East-West relations to the sole advantage of the Western bloc.[10] Anyway, this was not the perception of the Soviets at the time of their conclusion. From the Soviet point of view, in fact, several objectives had indeed been achieved: first of all the western borders of Poland, established in 1945 after the occupation of Germany, had been finally accepted; secondly negotiations on nuclear disarmament hinted at a reduction in military spending to the benefit of the domestic economy; thirdly, international détente strengthened the collaboration and financial support already initiated in previous years with the West.[11]

The historical period from 1970 to 1989 is generally analyzed as a long exit of the countries of Central and Eastern Europe from communist totalitarianism. Polish history shows that it was only indirectly a struggle for democracy. In 1970, but at least until 1987, the global geopolitical balance did not foreshadow the sudden collapse of the communist regimes that occurred in 1989. The struggle conducted by the Polish opposition forces can be better described as a dispute between society and communist leadership for the creation of intermediate bodies even in the presence of this form of totalitarianism.

When in 1971 social tensions had finally eased, the Gierek government launched an innovative five-year plan (1971-1975) in which real state corporation were established and above all, the Polish economy opened to investments and funding from abroad. The Italian car company FIAT was the most striking case of the relocation to Poland of a part of the production of a Western industrial brand.[12] However, most of the foreign funding was used for the establishment of traditional industrial enterprises: the construction of infrastructure such as the Warsaw-Katowice highway but, above all, new mining facilities for the extraction of iron and copper and new steel mills. All at the expense of small-scale and medium industrial enterprises.[13]

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[10] "Carter and Human Rights, 1977-1981," U.*S. Department of State, Office of the Historian*, at https://history.state.gov/milestones/1977-1980/human-rights, 5 August 2025.

[11] V.M. Zubok, *A failed Empire. The Soviet Union in the Cold War from Stalin to Gorbachev*, Chapel Hill 2007, pp. 236-238.

[12] For an analysis of the case of Fiat in Tychy, see G. Meardi, "Trade Union Consciousness, East and West. A Comparison of Fiat Factories in Poland and Italy," *European Journal of Industrial Relations*, vol. 2, no. 3 (1996), pp. 275-302.

[13] A. Paczkowski, *The Spring Will Be Ours. Poland and the Poles from Occupation to Freedom,* Pennsylvania 2003, pp. 354-360.

The economic well-being generated by the mass of loans from abroad proved to be ephemeral, short-lived, and above all imposed from above and never subjected to the scrutiny and criticism of what in Poland, as in other socialist countries, did not exist: intermediate social bodies. As early as the end of 1975, 25% of export revenues[14] were being used to address the interest generated by the foreign debt, which had now amounted to eight billion dollars. In 1976, Poland was once again in economic crisis and the government was forced to sell food stocks abroad, thus increasing the price of common food items within the country.

The true reason for the Polish economic crisis, as well as for all other states belonging to the Soviet bloc, was not the perverse mechanism of foreign indebtedness per se, but the fact that the communist ruling groups had persisted in promoting an already obsolete industrial model. Research and innovation in the Eastern world were exclusively linked to the military sector. Here, the technological gap was sometimes bridged by stealing information from capitalist countries through an efficient espionage network. Meanwhile, in the Western bloc, the third phase of the industrial revolution was commencing, characterized by the strong entry of computer technology into production processes.[15]

The Solidarity movement emerged from this entire set of factors. However, the Polish trade union movement entered history at a moment when, in the West, new technologies were initiating a process of downsizing industrial-sector employment, while conversely, there was an exponential growth in jobs in the tertiary sector. In short, it was not only the socialist economic system that had become outdated, but also the social, political, and economic relations within it.

It is not historically just to judge the Solidarity phenomenon as something inevitable. *Solidarność* was rooted in the constant opposition of the Polish people to foreign domination, an aversion stemming from the country's deep tradition of independence and democracy; it is worth recalling that Polish monarchs were elected rather than hereditary. Solidarność *was not a political movement but a social movement*, wrote Jan Lipski, one of the founding members of KOR.[16]

During the 1960s, a general expansion of citizen movements began to take shape in Western Europe, in opposition to the large labor and party organizations of the preceding decades. In some cases, these movements were regarded as a form of anarchy, but they were better suited to the new reality of the labor world that was emerging in the 1970s. The worker of the 1980s would increasingly be less of a massified presence in a factory alongside thousands of peers and more of an individual with tasks were no longer narrowly defined but multifaceted. At the same time, production would no longer be based on low-tech goods, but on products tailored to the needs of individual consumers (so-called 'on-demand' production). Although the Polish productive

[14] By 1979, this percentage had already risen to 75%.

[15] C.S. Maier, *Dissolution. The Crisis of Communism and the End of East Germany*, Princeton 1997, pp. 152-168.

[16] See J. Lipski, *A History of the Workers' Defence Committee in Poland 1976-1981*, Berkeley 1985.

structure had not yet been converted to the type of computerized production, Polish intellectuals, both Catholic and leftist, embraced these new Western ideas revolving around the new concept of civil society.[17]

The structure of the movement never conformed to a pyramidal model or top-down control; *Solidarność* was rather a kind of federation, a container in which both individual factory workers' committees and regional union structures had their space. As Lech Wałęsa recalls in his autobiography: *The invocation for a moral order was the most revolutionary response that could be made to the increasingly dogmatic socialism practiced in Poland, and people were caught up in this wave of moral reawakening – each expressing it in his or her own way, at work or in the home, in professional and in personal relationship.*[18]

Wałęsa attributes the credit for this awareness of the moral strength of civil society to the speeches of John Paul II during his first pilgrimage in Poland in 1979. However, as he states in the earlier pages of his book, the government itself was already previously in a sort of trap. After all, a Communist Party could not criticize the moral strength of the proletariat.[19] Nevertheless, the opposition between the morality of the people and the immorality of the government is not particularly convincing in explaining the success of *Solidarność*. The true reason for the rise of this political entity lies instead in its political proposal, which is to ask the Government to authorize the establishment of a Self-governing trade union completely independent from the structures of the ruling party, with the goal of self-management of the industrial factories by the workers.

The recognition of workers' union rights – first and foremost the right to associate freely – had already led to an expansion of democratic representation in 19th century England even though the right to vote was limited to a small percentage of citizens. This consideration leads us to assert that in late 20th century Poland, in a similar situation of restriction of democratic rights, the recognition of trade union rights had the same function as that of previous England: the transition to semi-free elections.

SOLIDARNOŚĆ: FROM POLITICAL TRIUMPH TO INSTITUTIONAL DECLINE

Regardless of such speculative narratives, the political transformation of Poland at the end of the 1980s cannot be understood without acknowledging the central role of *Solidarność* as both a social movement and a political actor. Emerging from the strikes and civic mobilization of the early 1980s, it had, by the summer of 1980, united nearly ten million members across diverse sectors, regions, and political orientations, forming a coalition capable of challenging the very foundations of the communist state. Its

[17] See D. Ost, *Solidarity and the Politics of Anti-Politics. Opposition and Reform in Poland since 1968*, Philadelphia 1990.

[18] L. Wałęsa, *A Way of Hope. An Autobiography*, New York 1987, p. 96.

[19] Ibid., p. 95.

leadership – most prominently, though not exclusively, Lech Wałęsa – combined workplace demands for self-management with a broader vision of political pluralism, human rights, and national sovereignty. This dual identity proved decisive in the Round Table negotiations of early 1989, paving the way for partially free elections and the peaceful dismantling of communist rule in Poland.[20]

Yet, the very political triumph that elevated *Solidarność* to an emblem of democratic transition also carried within it the seeds of its decline as a trade union in the 'classical sense'. As it moved from a social movement into the arena of electoral competition, governmental participation and national policy-making, its ability to represent workers' everyday concerns became increasingly diluted. This development was shaped by Poland's particular position within the communist bloc. As highlighted earlier, in the wake of the Gdańsk strikes of 1980, the country had witnessed the creation of workers' councils and the birth of *Solidarność* itself, an unprecedented phenomenon in Eastern Europe. Nevertheless, the trade union's subordination to the Communist Party and its lack of real autonomy had never been fundamentally dismantled before the democratic transition. The early 1990s marked a decisive watershed: for the first time, the same factors influencing industrial relations in Western Europe – governmental attitudes, institutional guarantees, organizational capacity, patterns of representation, the structure of production and the state of the economic cycle – began to operate in Poland as well.[21] In this new environment, *Solidarność*'s leadership faced a dilemma: whether to remain primarily a trade union, defending the interests of its members, or to embrace the role of a political party shaping the new economic and institutional order. By choosing to take part in governing coalitions, especially during the premiership of Tadeusz Mazowiecki, the movement found itself standing alongside those who were designing Poland's radical turn to economic liberalization.[22]

The adoption of the Balcerowicz Plan in 1990 marked a decisive break with the centrally planned economy. Its 'shock therapy' approach, as is widely recognized, consisted of rapid price liberalization, privatization of state-owned enterprises, reduction of subsidies, and strict monetary policy, aimed at curbing hyperinflation and integrating Poland into the global market economy. While successful in stabilizing macroeconomic indicators, the plan had severe social costs, as evidenced by the sharp rise in unemployment, the widening of income inequalities, and the collapse of entire industrial sectors. From the standpoint of the labor movement, these transformations represented not just economic reforms but a structural shift in the balance of power between labor and

[20] See D. Ost, *The Defeat of Solidarity. Anger and Politics in Postcommunist Europe*, Ithaca–London 2005 and A. Macchia, *Solidarność e la fine del blocco sovietico*, Roma 2020, which offers one of the first coherent and comprehensive reconstructions of *Solidarność*'s trajectory, situating it within the broader framework of the complex international relations of the period.

[21] R. Pedersini, "Le nuove relazioni industriali in Europa centro-orientale: il ruolo della concertazione," *Stato e mercato*, vol. 71, no. 2 (2004), pp. 201-203.

[22] T. Nałęcz, "Geneza rządu Mazowieckiego – aktorzy pierwszego i drugiego planu," *Społeczeństwo i Polityka*, no. 3 (60) (2019), pp. 187-188.

capital. In aligning itself politically with the government implementing these reforms, *Solidarność* found itself alienating the very constituencies that had fueled its rise.[23]

By the mid-1990s, the erosion of *Solidarność*'s credibility as a defender of workers' interests was evident, amid the growing association of many of its post-1989 elites with political rather than trade-union careers. Membership, which had peaked at around ten million in 1981, plummeted dramatically, with large swathes of the workforce, particularly in newly privatized industries, turning away from union representation. The disillusionment was not confined to *Solidarność*; other federations, such as the All-Poland Alliance of Trade Unions (*OPZZ*) founded in 1984 as a system-conforming umbrella organization of branch unions, faced similar challenges. Although *OPZZ* was initially better positioned in certain public-sector strongholds, it too struggled to expand its influence in the rapidly changing labor market, which increasingly favored flexible, non-unionized forms of employment.[24]

The political instrumentalization of the movement in the early 1990s also reinforced the perception that unions were part of the political elite rather than independent advocates for workers.[25] This dynamic was not unique to Poland but reflected a broader post-socialist pattern in which trade unions became entangled in the legitimacy struggles of the new political systems. In the Polish case, however, the intensity of *Solidarność*'s political engagement, combined with the scale of the economic transformation, turned this difficulty into a profound rupture. The union was seen as complicit in policies that dismantled the social protections of the communist era without adequately replacing them with new mechanisms of welfare or labor security.

The weakening of institutional channels for worker representation was compounded by the rapid reorganization of production. Foreign direct investment and the influx of Western management practices introduced new industrial relations frameworks that often bypassed collective bargaining altogether. This shift progressively undermined the organizational foundations of unions, which had been built on large, homogeneous workforces in state-owned enterprises. As Pedersini notes, Poland's experience reflected a distinctive combination of persistent organizational continuity in trade unions and

[23] See L. Balcerowicz, *800 dni. Szok kontrolowany*, Warszawa 1992; G.W. Kołodko, *The Political Economy of Postsocialist Transformation*, Oxford–New York 2000; G.W. Kołodko, "Uwarunkowania i długookresowe implikacje Strategii dla Polski," *Gospodarka Narodowa*, vol. 298, no. 2 (2019), pp. 69-70. Kołodko notes that the *Strategy for Poland* would not have taken its final shape without both the achievements – irreversible market transition and overcoming 'shortageflation' – and the avoidable social and economic costs of the preceding 'shock therapy', a term he sees as misleadingly positive.

[24] P. Koryś, M. Grabski, "Wojna światów? Wpływ transformacji systemowej na kariery elit związków zawodowych OPZZ i NSZZ 'Solidarność' z lat 1980-1986: ujęcie prozopograficzne," *Roczniki Dziejów Społecznych i Gospodarczych*, vol. 86 (2024), pp. 195-221; G. Meardi, "Est Europa, sindacati al crocevia tra passato e futuro," *Alternative per il socialismo*, vol. 25, no. 2 (2013), pp. 71-78.

[25] See W. Kozek, *NSZZ «Solidarność» wobec nowych wyzwań od roku 1989*, Warszawa 2020. The author argues that *Solidarność*'s roots in popular Catholic tradition and its strong anti-communist orientation profoundly shaped the movement's evolution. While these features strengthened its identity during the struggle against the regime, over time they also became a limiting factor in its capacity to function as a representative trade union.

radical economic transformation. The rivalry between the two largest union federations, closely aligned with opposing political camps, long obstructed meaningful social dialogue. At the same time, a highly fragmented and decentralized privatization process, together with rapid economic restructuring, eroded unions' membership bases and confined their effective influence largely to the remaining large state-owned enterprises. The result was a steadily weakening and politically dependent trade union movement, unable to act as an autonomous partner in shaping the national agenda or in building public support for economic and social reforms.[26]

The symbolic capital of *Solidarność* as the 'union that defeated communism' retained some cultural resonance, but its practical capacity to influence workplace conditions was in steep decline. By the mid-1990s, it had become clear that the legacy of *Solidarność* was increasingly a matter of historical memory rather than an ongoing political force capable of mobilizing workers on a mass scale.[27] This shift from living movement to historical symbol was also borne out by longitudinal public opinion research. Survey waves conducted in 2000, 2009 and 2010 by the Public Opinion Research Centre *(CBOS, Centrum Badania Opinii Społecznej)* reveal a striking transformation in perceptions of *Solidarność*'s representativeness. When asked about the early 1980–1981 period, 64% of respondents in 2010 believed the union had represented the interests of the whole society, while only 14% saw it as representing particular trade-union interests and 11% attributed it to the narrow concerns of its activists. In contrast, when asked about its current role, nearly half (47%) saw Solidarność as defending primarily the interests of its own activists, 27% as serving its members, and only 9% as working for society as a whole.[28]

Perceptions of the two main trade union federations in Poland have likewise shifted towards the negative. In the 2010 survey "*Solidarność* – experience and memory" *(Solidarność – doświadczenie i pamięć)*, only one in four adult Poles rated *Solidarność*'s current activity positively, while almost two-fifths expressed a negative opinion. OPZZ fared worse, with just 15% positive evaluations against one-third negative. Both unions suffered from high levels of public indifference: almost 40% of respondents had no opinion on *Solidarność*'s actions, and over half said the same for OPZZ.[29]

Tracking CBOS survey results from the late 1980s to 2010 reveals the arc of this reputational decline. In November 1989, public approval for the movement stood at 84%, reflecting its identification with the broad social movement that had dismantled communist rule. Yet political involvement after 1989 – culminating in the 'war at the top' and the fragmentation of the post-*Solidarność* camp – eroded this authority. By 1991, positive and negative evaluations of the union had evened out, and the social costs of economic transformation, although associated in the public mind mainly with

[26] R. Pedersini, "Le nuove relazioni industriali in Europa centro-orientale...", p. 204.

[27] D. Ost, *The Defeat of Solidarity...*, pp. 125-127.

[28] CBOS, "Oceny historycznego znaczenia NSZZ 'Solidarność'," *Komunikat z badań*, no. BS/72/2010, p. 13, at https://cbos.pl/PL/publikacje/raporty_tekst.php?id=4183, 5 August 2025.

[29] Ibid., pp. 3-4.

Poland's deputy Minister and Finance Minister Leszek Balcerowicz, were also linked to *Solidarność*, further weakening its standing. Periods of heightened political engagement correlated with sharper declines in approval, with the nadir reached in December 2001: at the height of dissatisfaction with the Solidarity Electoral Action *(Akcja Wyborcza Solidarność, AWS)* government, disapproval of the union hit 70%.[30]

In retrospect, the trajectory of *Solidarność* between 1989 and the mid-1990s illustrates the paradox of post-communist unionism in Poland: a movement born as a broad social coalition succeeded in achieving systemic political change, only to find itself ill-equipped to defend workers in the neoliberal order that followed. Particularly costly, both economically and socially, were the shortcomings of the two four-year periods of post-*Solidarność* governments, when currents of right-wing populism and a distinctly Polish variant of neoliberalism overlapped and reinforced each other, exacerbating the social consequences of the transformation.[31] The very strategies that had ensured its political triumph – one need only recall its alliances with reformist elites and its engagement in high-level governance – became liabilities in the context of market liberalization and global economic integration. This initial phase of institutional decline set the stage for the deeper structural crisis of Polish trade unionism that would unfold in the subsequent decade.

The trajectory of *Solidarność* thus reveals a deeper paradox in the history of labor representation: the very forces that enabled its political success undermined its social resilience once the institutional terrain shifted from state socialism to market liberalism. Its decline illustrates how rapid technological and economic transformations can erode the mediating institutions that sustain democratic legitimacy. Understanding this dynamic is essential to grasp the challenges posed today by algorithmic management and the new asymmetries of power emerging in the digital economy.

FROM TRANSITION TO EUROPEAN INTEGRATION

The liberal post-1989 legal framework, which allowed groups of as few as ten workers to form a union, was initially regarded as a long-awaited democratic opening, the visible sign that after decades of authoritarian tutelage workers could finally organize autonomously within their own workplaces. The early 1990s witnessed an extraordinary proliferation of such initiatives: hundreds of small enterprise-based and sectoral organizations came into being, creating the impression of a pluralistic movement alive with civic energy. What appeared, at first, as the fulfilment of *Solidarność*'s emancipatory promise soon revealed its fragility. Most of these new unions were small, poorly resourced, and isolated from one another: they lacked the institutional weight to exert influence beyond their immediate environment, and their multiplication, far from consolidating labor's voice, ended up dispersing it. *Solidarność* and OPZZ retained their

[30] Ibid., p. 4.

[31] G.W. Kołodko, "Uwarunkowania i długookresowe implikacje Strategii dla Polski...," p. 82.

centrality at the national level, but the broader landscape was marked by fragmentation and incoherence, in which pluralism risked dissolving into weakness.[32]

These organizational shortcomings were compounded by the structural upheavals of the economic transition. Privatization, industrial restructuring, and mass unemployment deeply eroded the strongholds of organized labor in the large state-owned enterprises that had once sustained it. Union density, which in 1990 still encompassed almost half of the workforce, declined by half during the 1990s, falling to around one-quarter by the end of the decade, one of the steepest contractions in Europe.[33] In the private sector, the decline was particularly severe: while more than sixty percent of employees in state-owned companies still benefited from collective agreements, in the private economy coverage had dropped to around one-third by 2000.[34] In the new firms of retail, foreign-owned factories, and services, union membership ceased to be a normal feature of working life, and for a younger generation shaped by market liberalization, trade unions appeared as 'relics' of another age rather than as living instruments of representation, reflecting the broader marginalization of intermediate bodies in Poland's post-communist democracy.

Institutional reforms of the 1990s reinforced this weakening. The adoption of key Acts on trade unions, employers' organizations, and industrial disputes created a formal framework for industrial relations, but in practice collective bargaining remained weak and fragmented. Workplace-level organization dominated, while regional and national structures lacked the resources to coordinate effectively or recruit new members.[35] As Krzywdzinski notes, *even though, at the beginning of the 1990s, the existence of the employees' councils and Solidarity's attachment to the ideas of self-government seemed to be propitious conditions for the development of strong employee interest representation in the factories, the history took another turn*.[36] The abolition of these councils, largely accepted by the unions, deprived workers of an important channel of codetermination and reinforced the marginalization of labor in the new market order.

The establishment of the *Trade Unions Forum* (Forum Związków Zawodowych, FZZ) in 2002 further reshaped the landscape. Emerging as an 'apolitical' alternative to the two major confederations, it contributed to a sort of tripolar structure in which *Solidarność*, OPZZ, and FZZ became the three nationally representative union centers. In principle, this institutional pluralism might have promised a stronger and more

[32] D. Ost, *The Defeat of Solidarity...*, pp. 149-165; M. Krzywdzinski, "Trade Unions in Poland. Between Stagnation and Innovation," *Management Revue*, vol. 23, no. 1 (2012), pp. 66-73.

[33] J. Czarzasty, A. Mrozowicki, "Poland. Trade Unions Developing after a Decline," in J. Waddington, T. Müller, K. Vandaele (eds), *Trade Unions in the European Union*, Bern 2023, p. 837.

[34] E. Kwiatkowski, M.W. Socha, U. Sztanderska, "Labour Market Flexibility and Employment Security. Poland," *ILO Employment Paper*, no. 28 (2001), p. 38, at https://www.ilo.org/publications/labour-market-flexibility-and-employment-security-poland, 5 August 2025.

[35] M. Krzywdzinski, "Trade Unions in Poland...," pp. 71-73.

[36] Ibid., p. 73.

balanced system of representation.[37] In practice, however, collective bargaining coverage remained low, sectoral agreements were rare, and tripartite institutions were often described as 'illusory'.[38]

When Poland entered the European Union in 2004, the fragility of its trade unionism had already become apparent. Never before had the movement appeared so plural and institutionally recognized, and yet never had its influence on everyday labor relations seemed so tenuous. Brussels offered unions a stage through participation in European social dialogue, but at home the combined effects of liberalization, outsourcing, and mass migration steadily hollowed out their role.[39] The financial crisis of 2008 deepened the unions' marginalization,[40] and the collapse of the Tripartite Commission in 2013 marked the symbolic end of an already weakened social dialogue. The creation of the Social Dialogue Council two years later was meant to signal a new beginning, but in practice it remained a forum of limited weight, never recovering the authority its predecessor had once aspired to exercise. What remains today is a movement still visible in certain strategic bastions (mining, energy, education), but increasingly absent from the wider fabric of Polish society. The numbers speak clearly: in 2021 just 5.5 per cent of Poles declared union membership – barely one in ten employees – while two-thirds had never belonged to a union.[41] What began as a temporary crisis of adjustment in the

[37] One of the decisive benchmarks for national representativeness was access to the *Trójstronna Komisja ds. Społeczno-Gospodarczych* (Tripartite Commission for Social and Economic Affairs), restricted to unions numbering above 300,000 members. This threshold was reinforced by further conditions: unions had to demonstrate organizational presence in enterprises covering more than half of the sections of the Polish Classification of Activities (PKD), and, within each section, membership eligible for recognition was capped at 100,000. Such rules were meant to secure broad sectoral balance, but in practice they narrowed the field of eligible organizations. By 2010 only three confederations met the criteria – *NSZZ "Solidarność,"* OPZZ, and, from 2003, the Forum of Trade Unions (FZZ). J. Gardawski, A. Mrozowicki, J. Czarzasty, "Historia i teraźniejszość związków zawodowych w Polsce," *Dialog. Pismo dialogu społecznego*, vol. 3 (2012), p. 6.

[38] J. Czarzasty, A. Mrozowicki, "Poland. Trade Unions Developing after a Decline...," pp. 855-856.

[39] It should be noted that Polish unions were involved at the European level well before the 2004 accession. *Solidarność* joined the ETUC in 1996 (after several years as observer), followed later by OPZZ (2006) and FZZ (2012). All three confederations endorsed EU membership, and *Solidarność* in particular participated in consultative bodies linked to the accession process. In the years since, Polish unions have engaged with EU debates on posted workers, mobility, and minimum wage initiatives, though their influence has remained modest compared with their Western counterparts. Ibid., pp. 858-860.

[40] R. Śmietański, "Związki zawodowe i ich wpływ na rozwój społeczny i gospodarczy," *Studia Ekonomiczne*, no. 167 (2014), pp. 234-235.

[41] Unionization was markedly higher in the public sector and state-owned enterprises, where almost one in four employees declared membership, compared to just 4 per cent in the private economy. Rates also varied across occupations: around one-fifth of technicians, nurses, and police officers reported belonging to a union, while among clerical staff, shop assistants, and unskilled workers the figures remained in single digits. Union presence was also more common in larger workplaces, with over 13 per cent of employees in firms of 250 or more reporting membership, compared with only 5 per cent in small establishments. CBOS, "Związki zawodowe w Polsce," *Komuniat z badań*, no. 140 (2021), pp. 1-4, at https://www.cbos.pl/PL/publikacje/raporty_tekst.php?id=6350.

1990s has hardened into a lasting condition of weakness, leaving organized labor with only a limited place among the intermediate institutions of Polish democracy.

THE ALGORITHMIC CHALLENGE TO REPRESENTATION

The long arc of Polish trade unionism since 1989 has been defined by a progressive retreat from the position of social centrality once occupied by *Solidarność*. If the 1990s brought privatization, unemployment, and the erosion of workplace-based solidarities, and the 2000s confirmed the marginalization of organized labor within the framework of European integration, the present moment introduces an even more formidable challenge.[42] For the first time since the early years of transition, the question is not simply whether unions can defend workers within an established framework of industrial relations, but whether they can retain any access at all to the *new loci of power*.

Algorithmic management does not merely automate administrative functions: it constructs a parallel system of authority, encoded in lines of software, which organizes work without mediation by collective bargaining.[43] Scheduling, task allocation, productivity monitoring, and even disciplinary sanctions are increasingly determined by digital systems. The 'employer' becomes a set of decision rules embedded in code, resistant to challenge and shielded by corporate secrecy.[44] As Bini has observed in a different but related context, such dynamics epitomize the disruptive impact of digital transformation on the balance of representation and the processes through which collective will is formed, raising the question of whether new trajectories of representation must now be imagined.[45] In recent legal scholarship examining both the Italian and European regulatory panorama, Giaccaglia has stressed that existing rights to information are insufficient to address the risks posed by algorithmic management, and has therefore advanced the idea of an *algorithmic governance* framework, where workers or their representatives would participate in the co-management of digital systems. This could

[42] See, although focused primarily on the role of social networks, the interesting study by S. Bini, "Il social network: da luogo a soggetto della rappresentanza sindacale digitale?," *Labour & Law Issues*, vol. 5, no. 2 (2019), pp. 9-26, which explores the relationship between trade unions and digital platforms, and questions whether the latter may exercise representative functions traditionally associated with unions.

[43] See E. Ernst, R. Merola, D. Samaan, "The Economics of Artificial Intelligence. Implications for the Future of Work," *ILO Research Paper*, no. 5 (2018), at https://researchrepository.ilo.org/esploro/outputs/encyclopediaEntry/The-economics-of-artificial-intelligence-implications/995219185102676/filesAndLinks?index=0, 5 August 2025; "Social Dialogue Report 2022: Collective Bargaining for an Inclusive, Sustainable and Resilient Recovery," *International Labour Organization*, 5 may 2022, at https://www.ilo.org/publications/flagship-reports/social-dialogue-report-2022-collective-bargaining-inclusive-sustainable-and, 5 August 2025.

[44] M. Giaccaglia, "La gestione algoritmica dell'impresa tra tutele dei lavoratori e prospettive partecipative (sul modello della sicurezza sul lavoro?)," *Diritto della sicurezza sul lavoro*, no. 2 (2024), pp. 486-487. See also J. Woodcock, M. Graham, *The Gig Economy. A Critical Introduction*, Cambridge 2020.

[45] S. Bini, "Il social network...", pp.18-19.

include the presence of technical figures chosen by employees, able to translate and explain the functioning of AI in workplace decisions, and to guarantee transparency in accessible language. Rather than serving only as a hidden mechanism of control, algorithmic governance could be redirected toward prevention, for example using its vast data flows to identify risks and safeguard health and safety in the workplace.[46] Seen from this angle, the algorithm is transformed: it is no longer the invisible hand of management, but becomes a site of contestation, regulation, and potential co-determination.

In Poland, the spread of platform work has been relatively recent but rapid. Early surveys conducted by the European Trade Union Institute in 2019 began to map the presence of internet and platform labor in Central and Eastern Europe, including Poland, where evidence had until then been scarce.[47] More robust data come from Beręsewicz and colleagues, who – using mobile big data – found a steady increase in food delivery and ride-hailing services between 2018 and 2020.[48] Drawing on the Global Entrepreneurship Monitor Polska 2019, Jamka observes that while experts still considered Poland's gig economy to be in its infancy, it could already involve about 326,000 workers, roughly 1.3% of the adult population.[49]

In major Polish cities, food couriers have become an integral part of urban landscapes, operating under conditions of precarious self-employment contracts, often framed as civil law agreements rather than standard employment relations. These workers lack the protections of the Labor Code, are excluded from collective bargaining structures, and are subject to unilateral algorithmic evaluation. However, as Barłóg and Pisarczyk observe, algorithmic management in Poland is no longer confined to platform companies: logistics firms, delivery services, and warehouses increasingly rely on algorithmic systems to allocate, monitor, and evaluate work.[50] What appears as contractual autonomy often conceals a deeper asymmetry of power, where formal freedom becomes de facto dependence, unaccompanied by the protections normally afforded by labor law.

This dynamic helps to explain why Polish trade unions, prevalently rooted in strategic sectors, have struggled to adapt. *Solidarność* and OPZZ retain a presence in these domains but remain virtually absent in the gig economy. The result is a growing category of 'invisible workers', atomized, precarious, and difficult to organize.

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46 M. Giaccaglia, "La gestione algoritmica dell'impresa...,", pp. 497-501.

47 A. Piasna, J. Drahokoupil, "Digital Labour in Central and Eastern Europe. Evidence from the ETUI Internet and Platform Work Survey," *ETUI Working Paper*, no. 12 (2019), p. 6, at https://www.etui.org/publications/digital-labour-central-and-eastern-europe, 5 August 2025.

48 M. Beręsewicz, D. Nikulin, M. Szymkowiak, K. Wilak, *The Gig Economy in Poland. Evidence Based on Mobile Big Data*, preprint (2021), pp. 3-4.

49 B. Jamka, "Zarządzanie projektami: kompetencje pracy młodych w gig economy," in A. Laskowska-Rutkowska (ed.), *Zarządzanie projektami w dobie postępującej cyfryzacji i zwiększonego ryzyka*, Warszawa 2022, pp. 101-102.

50 M. Barłóg, Ł. Pisarczyk, "Polskie związki zawodowe w procesie zarządzania algorytmicznego w środowisku pracy," in *Studia z Zakresu Prawa Pracy i Polityki Społecznej*, vol. 31, no. 3 (2024), pp. 222-223.

The exclusion is not merely institutional but also cultural. For younger cohorts entering the labor market through digital platforms, unions appear as relics of a bygone industrial order. Surveys conducted by CBOS reveal generational differences: while older employees in state institutions remain relatively more unionized, younger workers in private services and platform-based jobs almost never encounter unions in their professional lives.[51] What unions represent to them is not solidarity, but bureaucracy, so distant and irrelevant to the fluidity of their working arrangements. In this sense, algorithmic management does not only reshape production; it accelerates the symbolic marginalization of intermediate bodies.

Comparative experiences suggest that this problem is not uniquely Polish, but its intensity is sharpened by the historical weakness of post-communist trade unionism. In Spain and Italy, unions such as UGT and CGIL have at least attempted to litigate the employment status of platform workers, winning court cases that recognized them as employees rather than contractors. In Germany, Ver.di has developed initiatives to support Amazon warehouse workers confronting algorithmic surveillance.[52] In Poland, however, litigation has been scarce, and mobilization even rarer. The handful of strikes by Uber drivers or couriers in Warsaw have remained small and fragmented, lacking the institutional backing of the main federations. This reflects the structural inertia of Polish unions, still anchored in sectors where collective bargaining remains possible, while digital sectors escape their grasp. This absence does not mean a complete lack of union activity. Trade unions have occasionally engaged in disputes and social dialogue concerning algorithmic management, but negotiations typically ended in agreements that, lacking statutory foundation, had no normative force and were soon abandoned by platform operators.[53]

In our view, this dynamic carries profound implications. First, algorithmic systems redefine the balance of power in the workplace by shifting it from managerial hierarchies to opaque technological infrastructures. Second, they fracture the very

[51] According to CBOS data on trade union membership by age, only 3% of employees aged 18-24 and 7% of those aged 25-34 are unionised, compared to 14% in the 35-44 cohort, 15% in the 45-54 group, and 10% among those ag. ed 55-64. CBOS, "Związki zawodowe w Polsce...," p. 3.

[52] See G. Pellacani, "Il Tribunale di Firenze, la Cgil, i riders e altre vicende. L'ordinamento 'intersindacale' è arrivato al capolinea?," *ADAPT Working Paper*, no. 14 (2021), pp. 1-10; see S. Ciucciovino, "I diritti di nuova generazione," *Idea Diffusa*, no. 1 (2020), p. 4, at https://binaries.cgil.it/pdf/2023/07/20/1689879267869_Idea_Diffusa01-2020_1689879267999.pdf, 10 August 2025; Digital Platform Observatory, *Collective Agreement at Just Eat (Spain)*, at: https://digitalplatformobservatory.org/initiative/collective-agreement-just-eat/ 10 August 2025; UNI Europa, "Berlin's Amazon Tower Inaugurated: UNI Affiliate Ver.di Protests and Demands Collective Agreement," *UNI Europa*, 16 June 2025, at https://www.uni-europa.org/news/berlins-amazon-tower-inaugurated-uni-affiliate-ver-di-protests-and-demands-collective-agreement/,10 August 2025.

[53] For instance, in 2019 *NSZZ „Solidarność"* and Inicjatywa Pracownicza launched a collective dispute at Amazon Poland over algorithmically enforced work norms. Glovo couriers organized several protests against opaque algorithms used to assign and calculate deliveries, which produced temporary agreements soon disregarded by the company. Renewed Glovo strikes took place in March 2024, while disputes at *pyszne.pl* over pay supplements eventually gained the support of OPZZ Konfederacja Pracy. M. Barłóg, Ł. Pisarczyk, "Polskie związki zawodowe...," p. 230.

constituency of organized labor by generating categories of workers whose conditions elude classical frameworks of representation. Third, they exacerbate the social costs of precarization, producing a new class of atomized, invisible workers who lack not only institutional support but also collective identity. The historical irony is evident: *Solidarność* once mobilized millions around the defense of workers' dignity in the face of authoritarian control. Today, workers confront a new form of algorithmic oversight, a regime of constraint with Orwellian overtones, from which trade unions have so far failed to reclaim their role as defenders of autonomy and rights. Unless addressed, this algorithmic challenge risks consolidating a dualized system of representation: on the one hand, traditional unions clinging to shrinking bastions of influence; on the other, a rapidly expanding digital economy populated by workers beyond any institutional protection. The future of Polish democracy, no less than its economy, depends on whether new mechanisms of representation can bridge this divide.

RETHINKING INTERMEDIATE BODIES IN THE AGE OF AI

While algorithmic management threatens the foundational logic of labor representation, it also forces a rethinking of intermediate bodies' role in a digital economy. In Poland, where unionism has been in structural decline since the early 2000s, this reckoning is especially urgent. Yet crisis can also be an opening. Rather than merely defending outdated prerogatives, unions can reconceive their role as institutional actors in the governance of artificial intelligence and data infrastructures. As Ciucciovino suggests, trade union representatives should be envisioned as active participants in processes of control, verification, and audit, where joint impact assessments can be carried out and used as a basis for re-examining corporate strategies and practices. Such involvement would open the way to new forms of participatory unionism, oriented toward a responsible and monitored use of AI in the workplace.[54] In this perspective, the following five strategic dimensions – algorithmic transparency, coalition-building, digital organizing, strategic litigation, and narrative redefinition – are proposed as an interpretative framework developed by the authors of the present essay to conceptualize how trade unions might reinvent their mediating role in the age of algorithmic governance.

The first imperative is *algorithmic transparency*. Algorithmic decision-making now governs task assignment, discipline, and evaluation, but still remains opaque. Workers subjected to such systems are often unaware of the parameters that affect their pay or continued access to work. The European Union's AI Act, with its strengths and weaknesses, proposes transparency obligations and risk classification frameworks that

[54] See S. Ciucciovino, "La disciplina nazionale sulla utilizzazione della intelligenza artificiale nel rapporto di lavoro," in *Lavoro Diritti Europa*, no. 1 (2024), pp. 1-19.

unions can appropriate.[55] In this space, unions could act as 'watchdogs', pressing for enforceable rights to information and scrutiny over algorithmic logic.

The second strategic axis is *coalition-building*. Platform workers do not constitute a unified labor market segment, and their institutional vulnerability is compounded by social dispersion. Effective representation will require cross-sectoral alliances – with NGOs, digital rights groups, legal researchers, and technologists. In Poland, where rival confederations (*Solidarność* vs OPZZ) often fracture labor's political leverage, this means stepping beyond legacy divisions and aligning with civic forces that share democratic concerns.

A third pillar is *digital organizing*. Though digital platforms isolate workers, they also provide spaces for shared experience and mobilization. Italian experiments such as Nidil-CGIL's initiatives with freelancers and atypical workers show how unions can adapt to digital environments to form communities and aggregate claims.[56] Nonetheless, they illustrate the potential of a 'digital unionism' that can reach fragmented and precarious groups of workers. Fourth, *strategic litigation* must become a union priority. In Spain, the riders law followed the Spanish SupremeCourt's 25 September 2020 ruling recognizing platform couriers as employees and emerged from social dialogue, strengthening workers' legal position.[57] In Poland, legal strategies could target the grey zone of civil law agreements, contest algorithmic opacity, or demand safety guarantees under national occupational health frameworks. A proactive legal approach, informed by data science and labor law, could bring algorithmic employment under judicial scrutiny, forcing platforms to open up and negotiate.

Finally, unions must *redefine their political narrative*. In an age of algorithmic governance, trade unions cannot merely be salary negotiators. They must become actors of 'technological democracy', capable of shaping how power is distributed in digital infrastructures. The symbolism of *Solidarność* remains powerful, but it must be reinterpreted: today, the fight is not against party bureaucracy, but algorithmic opacity. Reclaiming this historic role means presenting unions as institutions that defend transparency, accountability, and collective rights in an age of digital power.

If they fail, the risk is not just further marginalization, but democratic erosion. Without intermediate bodies, algorithmic control will operate unchallenged, turning workers into invisible inputs of a data economy. If they succeed, unions could reinvent representation itself, extending it from the factory floor to the algorithmic interface. As history shows, shifts in production regimes have always produced new demands for institutional forms. Just as the industrial era gave birth to unions, and the democratic

[55] Alongside the AI Act one should also recall the European Framework Agreement on Digitalisation, signed by the European social partners in June 2020. Ibidem, p. 15. For an in-depth commentary on the AI Act, see C. Necati Pehlivan, N. Forgó, P. Valcke (eds), *The EU Artificial Intelligence (AI) Act. A Commentary*, Alphen aan den Rijn 2024.

[56] For further discussion, see: Nidil-CGIL, *Nuove identità del lavoro*, at https://www.nidil.cgil.it/, 10 August 2025.

[57] See A. Todolí-Signes, "Spanish Riders Law and the Right to be Informed About the Algorithm," *European Labour Law Journal*, vol. 12, no. 3 (2021), pp. 399-402.

transition in Poland redefined them, the digital revolution calls for a new synthesis. This final reflection allows us to return to the broader questions raised at the beginning.

CONCLUSION

The historical trajectory traced in this study suggests a constant: transformations in the modes of production invariably generate new demands for intermediate bodies capable of mediating between technological change and social cohesion. The contemporary spread of artificial intelligence places us once again before such a turning point. What is at stake is not merely the reorganization of work, but the very frameworks of representation through which rights are defended and collective voice is articulated.

In this light, the first question posed at the outset – whether technological progress necessarily entails democratic advancement – can be answered only conditionally. Progress in production and technology does not automatically translate into political or social emancipation; rather, it generates tensions that must be mediated through new institutional forms. Each industrial epoch has required the invention of adequate mechanisms of representation to prevent innovation from turning into domination. Where such mediations have been absent, democracy has faltered; where they have evolved, democratic renewal has followed.

The second question – whether intermediary bodies such as *Solidarność* constitute an essential element at the very foundations of the democratic system – must therefore be understood as directly connected to the first. The Polish case itself shows that when these mediating institutions weaken, technological and economic change can become a source of exclusion rather than empowerment. Conversely, it is precisely through the renewal of such intermediary bodies that democratic progress can once again align with technological innovation. The *Solidarność* experience thus reaffirms that democracy cannot survive as a purely procedural order detached from social representation. Intermediary bodies, historically embodied by trade unions, remain indispensable for translating technological and economic change into legitimate, participatory governance. Their decline weakens not only workers' protection but the very architecture of democratic accountability. From the first Industrial Revolution onwards, technological progress has consistently required new institutional responses. Each epoch raised the same fundamental question: how to ensure that innovation enhances rather than diminishes human capacities. Artificial intelligence radicalizes this challenge. Algorithmic management is not only a tool of optimization; it is a new locus of authority, opaque in its logic and resistant to contestation. For this reason, a genuinely human-centered approach becomes imperative: technology must remain an instrument for expanding autonomy, prosperity and well-being, rather than reducing individuals to data inputs in a digital economy.

The European Union's *Ethics Guidelines for Trustworthy AI* point in this direction, affirming that artificial intelligence must be lawful, ethical and robust.[58] Yet regulation alone cannot suffice. What is required is the presence of intermediate bodies able to interpret these principles, to ensure transparency, and to embed democratic values within technological infrastructures.

It is here that the reflections of Jacques Delors retain their resonance: *In a world so difficult, it is essential to defend the moral and material interests of workers [...] Social actors [...] need autonomy to negotiate the rules that allow the world of work to be lived in dignity, enabling each person to realise and develop his or her personality.59* Building on this, Andrea Ciampani has observed that we should recover the habit of conceiving *the trade union movement as one of the most historically structured and organised social actors of solidarity, responsibility and participation, which constitute a necessary resource for shaping a virtuous regulation of today's open society.60* The future of democracy in the age of artificial intelligence will depend, as it always has, on the vitality of its mediating institution.

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[58] M. Giaccaglia, "La gestione algoritmica dell'impresa...", pp. 484-485.

[59] A. Ciampani, "Percorsi storici e tendenze attuali del sindacalismo italiano," *Quaderni di rassegna sindacale. Lavori*, vol. 3 (2015), pp. 215-216.

[60] Ibid., p. 216.

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