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SWITCHING LANES

HOW TRANSFORMING GERMANY'S MOBILITY INDUSTRY CAN LAY THE FOUNDATION FOR A GREEN AND SOCIALLY JUST TRANSPORT SYSTEM

The transformation of Germany's automotive industry is in full swing.¹ The key issues are a) transnationalization accompanied by increased competition and relocations, b) the next competitive and profit-driven boost of rationalization (including Industry 4.0), c) the digitalization of mobility, and d) the necessary ecological modernization through a shift to electric vehicles, which has already started.

An employee survey by the German industrial workers' union IG Metall showed that more than half of companies in the automotive industry have announced they would cut jobs — 50,000 jobs are at risk in the short term, while another 180,000 are threatened in the medium term.² In 2020, the pandemic hit an economic cycle that had already come to an end a year earlier³ — for the automotive companies it was an undesirable, but ultimately favourable opportunity to first externalize the costs of overcapacities onto society via short-time work schemes, and then to use production losses as justification for the upcoming staff cuts. Most corporations — albeit not all of them, especially not the smaller suppliers — were making high profits again, but many thousands of jobs were cut and locations shuttered.

In Germany, 4.66 million cars were produced before the pandemic in 2019, compared to 5.65 million in 2017 — meaning that in only two years, about 1 million fewer cars were made.⁴ According to the German Association of the Automotive Industry (VdA), that figure was only 3.5 million (almost 25 percent less) at the end of 2020 (also due to the decline in production during the pandemic).⁵ The trend stabilized in 2021, rising slightly. In terms of domestic production, there are almost 40 percent fewer units today than in 2017. Thus, we are experiencing the shrinkage of the auto industry in a "disruptive way".⁶

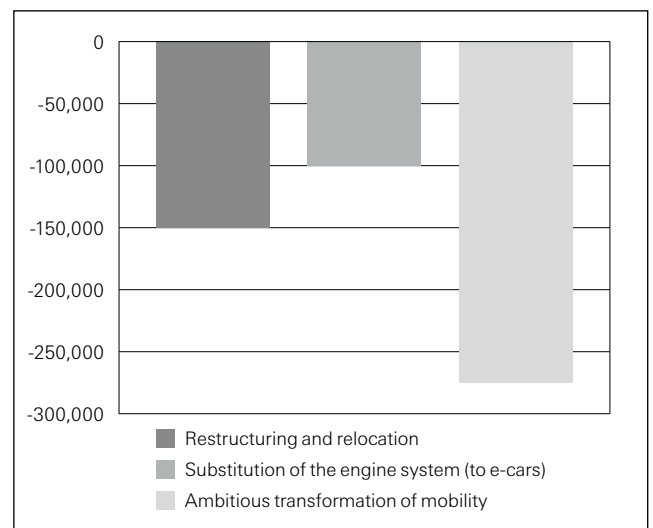
If we assume around 800,000 workers in production (including suppliers who primarily work for the automotive industry) and a loss of around 150,000 jobs due to the reduction of capacities or rather overcapacities and rationalization, as well as a loss of 100,000 jobs in the course of the switch to e-mobility, around 550,000 workers remain. If we take into account demographic developments — around 200,000 workers will retire in the next ten years (the average

age of those working in the automotive industry is around 45 years) — and add in initiatives to reduce working hours via collective bargaining as pursued by IG Metall, along with similar efforts by the companies, the dismantling might theoretically and purely quantitatively be organized in an almost entirely "socially acceptable" way, i.e. without layoffs — provided that the union's organizational power is sufficient to exert pressure on the corporations to do so.⁷

EMPLOYMENT LOSSES IN THE AUTOMOTIVE SECTOR BASED ON 800,000 JOBS

Numerous jobs and industrial employment prospects for younger and future generations are not the only things at risk. The heart of German unions' organizational power is also threatened: the well-organized core workforces in large companies with their high collective bargaining standards, on which the working conditions in other companies are based. And this organizational strength is expected to form the political power base for safeguarding social achievements (including their statutory regulations) and to be the

Decline in Employment in the Automotive Industry



prerequisite for the organization of other areas.⁸ A competition- and corporate-driven transformation taking place under an unfavourable balance of social forces and crisis conditions means that short-term requirements and long-term goals diverge on the trade union side.

In the competition- and corporate-driven transformation, a real mobility transition — as opposed to a simple decarbonization of existing transport options — is neither taken into account nor intended. There is no question of just transitions. But from a left-wing, socio-ecological point of view, something has to change. We are not interested in ecological horror scenarios leading to massive job losses — this is a permanent threat from the corporations anyway, and would cut short any debate with workers and unions. Rather, it is about the conceptual and organizational inclusion of unused potential to bring together ecology and employment prospects in the industrial sector. This is the crux of any debate about a transition for the transport sector.

A JUST TRANSITION INSTEAD OF A SIMPLE SWITCH TO DECARBONIZED TRANSPORT

In the debate about the decarbonization of the economy in general and the automotive industry in particular, it is always argued with regard to future employment prospects that such a restructuring will ultimately create more jobs than will be lost. We share this view. However, trade unions or workers often object that these are not comparable jobs, as the new industries usually offer poorer working conditions and wages. These sectors have a significantly lower (or hardly existent) degree of organization, and service professions as a rule earn poorer wages, etc. “After all, I can’t become a carer or bus driver”, is an attitude that is often expressed.

Despite the widespread pride of car manufacturers as “producers”, this is by no means meant to be derogatory. Rather, workers in the automotive industry agree that these professions should be paid significantly better, but given the circumstances, they do not see that this can be achieved in the near future. Therefore, such a job change would be concomitant with an individual decline.

Of course, there are enormous needs in other areas of society such as social infrastructure and services of general interest (at least 1 million jobs),⁹ not least in the area of local public transport and rail transport (at least 200,000 jobs).¹⁰

However, if we stick to the manufacturing part of transportation industries in a narrow sense, there are also needs that, strangely enough, do not play a role either in society or trade unions.

The fact is, there is a need for a massive expansion of other transportation approaches that rely centrally on public transport. This requires a consistent expansion of cheap (and, in the future, free-of-charge) and climate-neutral local public transport, 50-percent-cheaper regional and long-distance rail transport that runs at shorter intervals and which is also expanded into rural areas, and a more comfortable bike lane network. Ultimately, the share of buses, trains, cycling, and walking should constitute 80 percent of total traffic volume. This would be the basis of a real transformation of mobility, as proposed by the German socialist party, Die Linke.¹¹

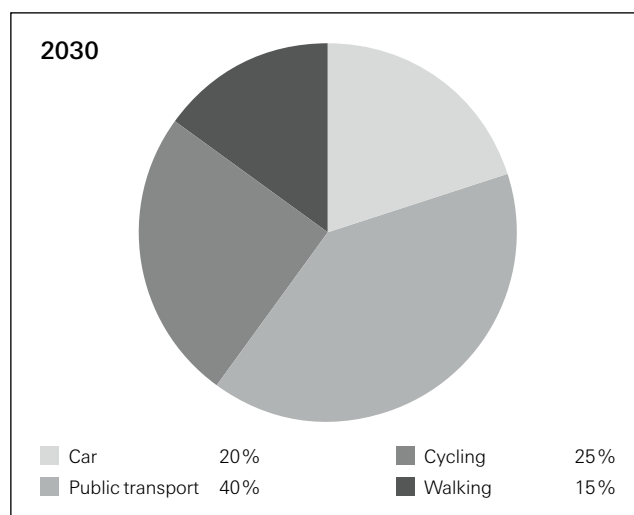
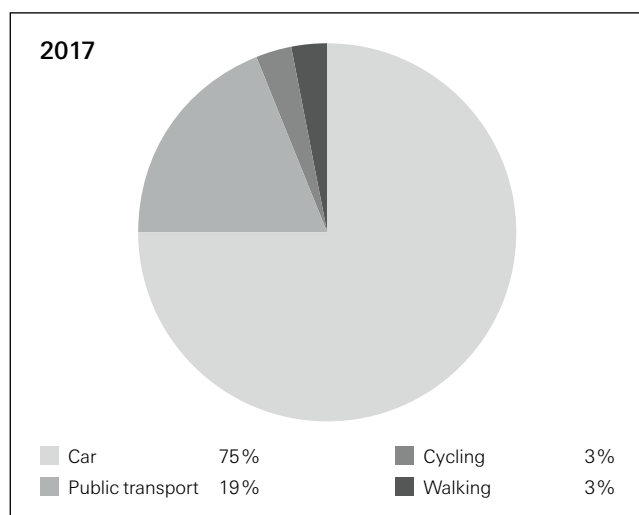
Winfried Wolf summarizes the potential as follows: the share of bicycle traffic in total traffic volume can be increased to 30 to 40 percent in all cities. Copenhagen has increased it to more than 50 percent. The share of footpaths in all routes (favoured by a policy that promotes decentralization and, for example, recreates decent shopping opportunities and leisure facilities in local areas) could be 20 to 25 percent. The share of local public transport can be 35 to 40 percent. In Zurich, it is already more than 40 percent.

Depending on the mix (which will vary from city to city), an overall traffic mix is possible in which car traffic is even less than 10 percent. Even rural areas — where around 25 percent of people in Germany live — could be (re)connected to regular and comfortable public transport (buses will play a special role here), as is already the case in Switzerland. Only such a transportation structure can meet self-imposed climate goals and improve quality of life. Cities need to be rebuilt if this is to be achieved, but there is also a great need for alternative industrial production.

NEW JOBS THROUGH ALTERNATIVE PRODUCTION

A need for alternative production exists for, among others, the following areas: rail vehicle construction, wagon and railcar production (e.g. for suburban and underground trains, trams, regional, long-distance, and freight trains), railway control systems and safety technology, rail infrastructure as well as repair and maintenance workshops, production of

Shares of Urban Traffic



e-bus systems (including overhead lines), small and on-demand buses, specialized e-vehicles for ambulances, taxis, technicians, etc., cargo bikes and e-bikes — all of this will be needed. For our own use, but also for moderate export.

We analysed the status and development of the rail vehicle industry as well as the bus and e-bus industry in various studies.¹² Based on these findings, we attempted to estimate the employment potential a little more precisely by approaching the question via two different scenarios.

Rail Vehicle Industry

Probably the largest division in the German mobility industry (apart from the car industry) is the production of rail vehicles and infrastructure as well as control and safety technology. This sector currently directly employs around 53,000 people in the country. Together with the related supplier industry and multiplier effect, the figure reaches around 200,000 workers. The companies in the industry supply cutting-edge technologies across the entire product range all the way up to developing complete systems. Two thirds of the demand in Germany is met by companies based inside the country and one third is imported, with the same proportion being exported by local companies.

In terms of quantity, industrial capacities are therefore in line with domestic demand. The situation is thus completely different than in the severely export-dependent automotive industry. This also means that an increase in domestic demand translates more directly into additional orders for local providers, even under the given conditions (i.e. without any controlling intervention by the state).

That said, this only applies to the extent that the necessary capacities exist. The fluctuating demand in the past, particularly in an era of massive thinning of long-distance and especially regional and local transport,¹³ has led to a reduction of capacities in the aforementioned industry. Planning periods for new equipment (or even new model series) for local transport companies or Deutsche Bahn tend to be long. Bottlenecks in production, however, often increase waiting times dramatically, so that the delivery of a new subway or tram could take ten years.

Demand has risen steadily (at least until the outbreak of the pandemic) for the last ten years. Planning reliability for producers has improved significantly, even if there is still a lot to be done here.

Our worker survey shows that clear political targets would help to significantly shorten planning and development times.¹⁴ However, the railway industry suffers from a shortage of skilled workers, especially among engineers and software developers. Given the industry's "well-filled order books", companies hardly rely on temporary work, but rather on their own permanent workers covered by collective bargaining agreements. Salary increases in the industry were ten-percent higher than the wage index average, meaning they are not significantly lower or even comparable to the core of the automotive industry.

So how does an ambitious and fair socio-ecological transportation transition affect employment potential in the industry? A study by the consulting company M-FIVE on "Employment Effects of Sustainable Mobility" commissioned by the Hans Böckler Foundation assumes an additional employment potential of 69,000 employees by 2035.¹⁵ This means that rail vehicle construction could rise in importance as the automotive industry declines.

The German government is striving to double the number of passengers in rail transport, while refraining from commenting on local transport because it is not or does not feel responsible for it. Nor does it include any additional measures to reduce car traffic. Hence, we initially assume this for our first scenario, but include local public transport. Our second scenario assumes a real investment offensive in local public transport and rail, as developed in the proposals for a left-wing Green New Deal,¹⁶ as well as a halving of the number of cars in the next ten years — which leads to an estimated increase in the number of passengers by a factor of 2.5. In addition, a significant part of the route network, the control and safety technology, and the vehicles must be renewed. Thus, what matters is not just growing needs, but also an extensive renewal of existing inventory.

In any case, whether old or new, all vehicles have to be equipped with climate-friendly drives. Additionally, there is a need to digitalize networks and operations with an inherent trend towards increasingly complex products — here alone, investments of around 32 billion euro would be needed by 2040.¹⁷ The reactivation of disused routes along with the construction and expansion of lines will also be added, as well as the expansion and construction of maintenance workshops. Not yet included is the associated innovation boost in the industry characterized by high research and development intensity, with which the sector can position itself as a leading industry for innovations on the world market because global demand will grow dramatically, as already becomes clear with the example of China. A considerable expansion of production capacities is therefore required.

Taking into account the potential for rationalization and automation in production (which should not be underestimated, but is significantly lower than in the automotive industry), Bernhard Knierim comes up with 100–155,000 additional jobs in scenario 1 (doubling the number of passengers). In scenario 2, there would be 145–235,000 additional jobs. With a manageable amount of retraining, many of the workers required can be taken over directly from other sectors with "declining needs such as the automotive industry".

Bus Industry

There are 81,000 buses in use (over 57 percent manufactured by Daimler/Evo, 21 percent by MAN) in the Federal Republic of Germany, of which over 50,000 are in public transport. A total of 98 percent of the buses are diesel-powered. In terms of e-buses and hybrid models, Germany has so far lagged behind internationally: only 385 fully electric buses and 1,000 with hybrid drives are in use, while there are over 500,000 worldwide. Very few minibuses, only 1,700, are still used in public transport. The entire stock (buses and minibuses) is out of date.

There is thus a lot of catching up to do, but local manufacturers have ignored the trend towards the mobility transition and cut jobs. The situation with public transport companies is quite different: more than 50,000 specialists in the driving service, technical operations service, and administration are wanted here.

This is because the number of passengers is growing (apart from a decline due to the pandemic) and will continue to increase — the demand for new buses, especially climate-friendly ones, is rising accordingly. According to EU directives, at least 65 percent of the fleet must be climate-friendly by 2030. The number of e-buses doubled

within a year in 2020–2021. Most of the manufacturers come from abroad (Solaris from Poland/Spain, VDL from the Netherlands, Irizar from Spain). A trend can be observed here: producers are moving from “pure manufacturers to integrated service providers”.¹⁸ Proximity to the location of demand is necessary, as every client wants a special design and different functions and equipment.

Almost 6,000 buses are produced annually in Germany, of which almost 50 percent are exported (11 percent market share worldwide, 37 percent in Europe). The production of the chassis and body and of course the engine is central to value creation. At the same time, the depth of added value is significantly lower in comparison to automobile production (18–30,000 individual parts).

Unfortunately, in the past, many German manufacturers’ production capacities were relocated abroad or reduced. This resulted in 5,000 job losses. A total of only 10,200 workers are still active in the division, compared to around 22,000 for suppliers. Almost all of the process involved qualified skilled work, was highly unionized and bound by collective bargaining agreements, with tariffs almost “twice as high as the tariffs” guaranteed by the service union Ver.di. The switch to electric drives carries the risk of job losses in the existing central engine production facility.

If German manufacturers were to succeed in catching up with foreign providers with quality products, service, and maintenance as system suppliers, the increasing demand could even overcompensate for the job losses, especially since new employment potentials arise from the increasing demands on the digitalization of vehicles. We roughly assume that the effects will disappear, even if the type of employment shifts from manufacturing to IT. A real transition in mobility, however, would bolster demand considerably, so that production capacities would have to be significantly expanded. According to Antje Blöcker, “In light of the positive development in the bus fleet in Germany, there is a big gap between bus demand and bus production by German manufacturers.”

The existing stock must be converted or renewed by 2030 — if there is an increase in local public transport by a factor of 2 or 2.5, the existing stock must be increased accordingly. It is estimated that around 70 percent of the stock has to be converted or renewed: approximately 33,000 new vehicles to renew stock, and approximately 5,000 in addition. There would be a further 50,000 (scenario 1) or 75,000 (scenario 2) needed for the expansion of local transport. The current annual production of 6,000 corresponds to the current need for renewal (without the mobility transition), of which 50 percent have also been exported so far. This results in a production gap of 55,000 or 80,000 units by 2030. These numbers so far do not include an increase in demand abroad, which is also to be expected.

This domestic demand potential must now be assessed, taking the associated employment potential into account. By 2030, around 4,125 buses will have to be converted into climate-friendly vehicles with modern transport standards and digital control systems each year. The retrofitting involves activities that are difficult to rationalize and are relatively labour-intensive. A careful calculation of an employment effect of 50 percent less than that of new production results in an additional employment requirement of roughly 9,900 workers.

In scenario 1, based on a doubling of the numbers in local passenger transport, and taking into account replacement

requirements in the existing stock, an annual increase in production of 6,875 units would be required. Considering rationalization effects, this results in an additional employment potential of around 33,000 workers. Together with the requirements for retrofitting, there is an additional total potential of 43,000 workers (41,000–45,000) in the e-bus industry.

In scenario 2, based on an increase in the numbers in local passenger transport by a factor of 2.5 and taking into account the replacement requirements in the existing stock, an annual production increase of 10,000 units would be required. Again, considering rationalization effects, this results in an additional employment potential of approximately 48,000 workers. Together with the requirements for retrofitting, there is an additional total potential of 58,000 workers (55,000–61,000) in the e-bus industry.¹⁹

Bicycle Industry

As the Wuppertal Institute for Climate, Environment, Energy and the Institute for Work and Technology remarked in a joint study on the German bicycle industry, “the strong growth is remarkable”.²⁰ Employment rose by 20 percent between 2014 and 2019, sales by 55 percent between 2013 and 2018.

According to the Zweirad-Industrie-Verband (ZIV, the association of the German cycling and motorcycle industry),²¹ over 5 million units are sold in Germany every year, of which 3.7 million are imported from abroad. Almost 2 million are already e-bikes, 78,000 of which are cargo bikes. An e-bike costs an average of 3,190 euro. Due to the higher added value, sales of e-bikes already amount to 40.6 percent of total sales (an increase of 30 percent compared to the previous year).

The share of imports has decreased by 16 percent, i.e. more domestically produced models are being bought and their exports are also increasing. The reasons for this can be found in the increasing demand for e-bikes (combined with an increase in added value), the growing demand for rental bikes, and the introduction of the 1-percent rule for company bikes as well as tax benefits. In 2020, 2.15 million bicycles were produced in Germany — an increase of 11 percent.

Calculated as full-time positions, in 2019 there were already 21,000 workers employed in the bicycle manufacturing industry, trending upwards — without taking the boom in demand triggered by the pandemic into account! According to the ZIV, the total turnover of the German bicycle industry exceeded the 10-billion-euro mark in 2020 — in 2017 it was only 7 billion euro. Of this, 6.4 billion euro were realized on the German market — an increase of almost 61 percent compared to the previous year. The remaining 3.6 billion in revenue comes from exports (an increase of 7.9 percent), in particular exports of e- and e-cargo bikes to the EU (especially the Netherlands), which corresponds to 1.57 million units (an increase of 15 percent).

Germany has a 21-percent share of the European bicycle market and 40 percent of the European market for e-bikes — almost twice as much as the second-placed Netherlands. The potential is enormous: 31,700,000 e-bikes were sold worldwide, 5,100,000 in Europe alone (including Switzerland) — an increase of 42 percent compared to 2019. By comparison, the number of e-cars sold worldwide between 2009 and 2016 was only 1.3 million.

As in the other areas of the “environmental network” — mobility by bus, train, etc. — we may take an increase in

bicycle traffic by a factor of 2 or 2.5 as the basis, especially in the area of commercial cargo bikes and in export. Taking possible rationalization effects due to increased production into account and the fact that, despite high dynamics in e-bikes sales, according to Destatis over 80 percent of households already own one or more bicycles, we calculate more cautiously here: we only assume an additional employment potential of around 10–14,000 people in the first scenario and 15–18,000 in the second scenario.

Total Potential of Alternative Production for Employment

Scenario 1, “a moderate transformation of mobility instead of a simple switch to e-cars”: increase in the number of passengers in public transport and rail traffic as well as in bicycle traffic (i.e. the “environmental network” without foot traffic) by a factor of 2

Rail vehicle industry:	100–155,000
E-bus industry:	41–45,000
Bicycle industry:	10–14,000
Total potential:	151–214,000 additional jobs

Scenario 2, “ambitious transformation of mobility instead of simple switch to e-cars”: increase in the number of passengers in public transport and rail traffic as well as in bicycle traffic (i.e. the “environmental network” without foot traffic) by a factor of 2.5

Rail vehicle industry:	145–235,000
E-bus industry:	55–61,000
Bicycle industry:	15–18,000
Total potential:	215–314,000 additional jobs

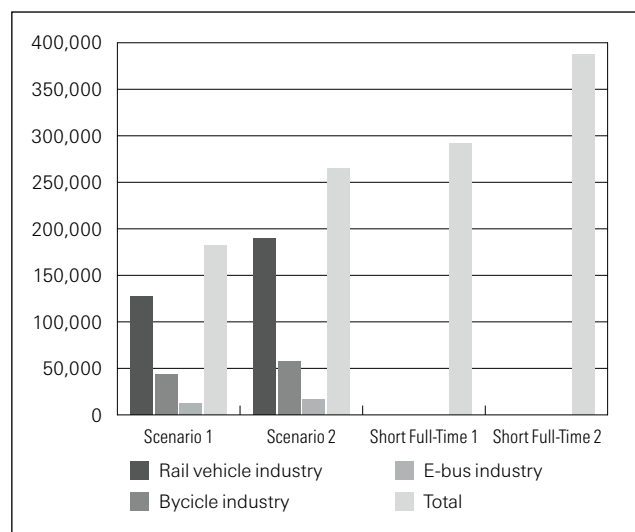
The overall potential would be even higher if we were to set a “short full-time for everyone”,²² that is, a reduction in working hours that revolves around the 30-hour week (between 28 to 32 hours per week). This would result in an average of around 27,000 (scenario 1) or 40,000 (scenario 2) additional jobs in the area of alternative production alone, not counting the automotive division. A reduction in working hours based on the model of “short full-time” proposed by Die Linke would add 82,500 jobs in the automotive division. This brings us to an additional **total potential of an estimated 260–323,500 (scenario 1) or 337–436,500 jobs (scenario 2).**

What is not taken into account is that these production lines are definitely suitable for moderate export — moderate, because production alternatives are also required in other countries and the German export model with its current account surpluses, which aggravate the crisis, is not sustainable for the rest of Europe (or the world, for that matter).

In addition, a left-wing Green New Deal²³ would include the development and construction of smart traffic management systems and the creation of additional energy infrastructure. The new jobs that could be created in CO₂-neutral steel production and the jobs that will be lost due to falling demand in car production are likely to roughly balance each other out. These figures still do not include the many workers needed in the operation of local public transport, the railways, or in civil engineering for the renovation of infrastructure. We estimate that there is a need for more than 220,000 additional workers here alone.

The ecological goal of reducing automobile production by half by 2030 and converting to electromobility should therefore be achieved with a comparatively slow process of

Additional Jobs: Scenarios 1 and 2 and Short Full-Time



reducing 230,000 cars per year. If we use a simple halving as a basis, looking at the 550,000 remaining jobs in the automotive industry, we estimate that about 275,000 jobs will be lost through rationalization as a result of consistent socio-ecological transformation in the future. This could already be absorbed in scenario 1 by the expansion of alternative production. Scenario 2 leads to considerable overcompensation or an increase in employment. If we add the “short full-time” working hours as part of a “new normal employment relationship”, the result would be the creation of hundreds of thousands of additional jobs.

Hence, we’re not talking about just a few additional jobs, but about compensation or overcompensation for projected job losses, and consequently the expansion of industrial employment in IG Metall’s core area. And it is not just about “replacement jobs” — if we rely on a new producer pride among the workers and engineers, and if we take the workers’ socio-technical knowledge seriously, it is about activities which are indispensable for society, in the spirit of creating an industrial foundation for the climate-friendly transition of the transportation system!

AGAINST THE CORPORATIONS, BUT SIDE-BY-SIDE WITH THE WORKERS

The transformation requires an immense amount of labour power. However, from the point of view of the workers, this will not always mean that they will be able to stay in the same company or the same sector. To avoid a socio-ecological transformation being fraught with fear (or even opposed by those affected), Die Linke’s proposals for a Green New Deal include the demand for a job guarantee: everyone who wants a job should have the right to publicly financed employment, paid according to tariff standards, with “short full-time” conditions.²⁴ Not just less, but different work and working differently is needed.

Many arguments have been made that this is impossible: that rail traffic and local public transport cannot be expanded in such a way, that people just want to drive their cars, etc. But if that were true, past social and cultural changes would not have been possible, either. Moreover, there is too much evidence for a cultural shift, especially in urban areas and among younger generations.

Operational objections are also raised, including that some companies are too highly specialized to be adapted to the manufacture of completely different products. This may apply to some highly specialized companies. However, machine systems are much more flexible today. According to one shop steward, in many locations “every metalworking industry is conceivable, in terms of technology and know-how”.²⁵ In many places, there is still experience with former rail vehicle and/or bus production, which management abandoned. In some cases there is still bus production, such as at Daimler subdivision EvoBus, or facilities were sold off like Daimler Rails Systems (which even produced bicycles). In other places, the car, bus, and rail vehicle industries exist at least in (fairly) close proximity to each other, as in Salzgitter, albeit in different companies. At locations like these, the barriers to considering a transition to different forms of production are significantly lower.

That said, it is not a given that there will be a dialogue between workers from the different sectors on this topic. In any case, many respondents from the companies complain that there are far too few discussions about IG Metall’s transformation strategies, and that these were not systematically held and hardly discussed and translated to the shop-floor level. From our point of view, it would be of particular importance to bring together the different backgrounds of experience across the sectors of the various transportation industries. For example, a worker from a city bus plant told us in an interview: “Our colleagues are highly qualified and constitute a highly paid group. Because every bus is like a single-family home, every customer wants a different bus, and it’s the same with a tram.” The differences in requirements and company cultures are less than many believe.

Experiences with conversion processes carry a rather negative connotation here. This also applies to major processes of structural change. One works council member from Daimler told us, “It didn’t work that well with coal and steel, either. For example, the service companies that were supposed to all spring up like mushrooms — it just wasn’t like that. We’re a transportation company. I won’t get them to produce windmill blades.”²⁶

This quote exhibits two common misunderstandings. Our approach is not about producing completely different products or even going into the service sector (“becoming a bus driver”), but rather working in a closely related production division of transportation industries. The second misunderstanding is based on the fact that conversion is often only thought of as operational or within the sector. Business conversion is an indispensable and important approach, but this is about a structural change that cannot be carried out purely on an operational level, nor even regionally — it is a macroeconomic and political task.

There will certainly be a regional shift in production and employment, as the main centres of the German railway industry so far have been in North Rhine-Westphalia, Berlin/Brandenburg, and partly Munich — i.e. more in the east and north — while the automotive industry is strong in Baden-Württemberg, Bavaria, and southern Lower Saxony. Structural change is certainly easiest in the regions where existing rail industry (e.g. Alstom, Siemens, and Knorr) or bus industry locations (e.g. EvoBus) are situated, including abandoned production centres such as the former Daimler Rail Systems.

In cases where such structural change is not possible, it is important to develop alternatives. A targeted socio-ecological industrial and structural policy should facilitate this.²⁷ Short-time work allowances for the purpose of transformation and further entitlements to vocational training can facilitate the transition to future-oriented companies. The qualification and re-profiling of workers and professions is an essential means to achieve alternative industrial and related employment prospects. This necessary drive for re-qualification in turn requires more workers (which are not yet included in our calculations).

Right now, it’s about setting the course for the future. Understanding the transformation as a process is crucial, because this is the only way to involve wide swathes of the population. It will take at least ten years to accomplish this conversion. Taking the energy transition as an example, the government is planning the phase out of lignite on a 15- to 18-year timescale. Forty billion euro are being made available for structural change in Germany’s coalmining regions. However, the coal industry is many times smaller than transportation — which illustrates the order of magnitude we are facing. At the same time, there is time pressure if climate change is to be mitigated, making it imperative that we start the transition immediately and recognize that we must restructure our transportation systems, not just engage in a simple substitution of decarbonizing vehicles.

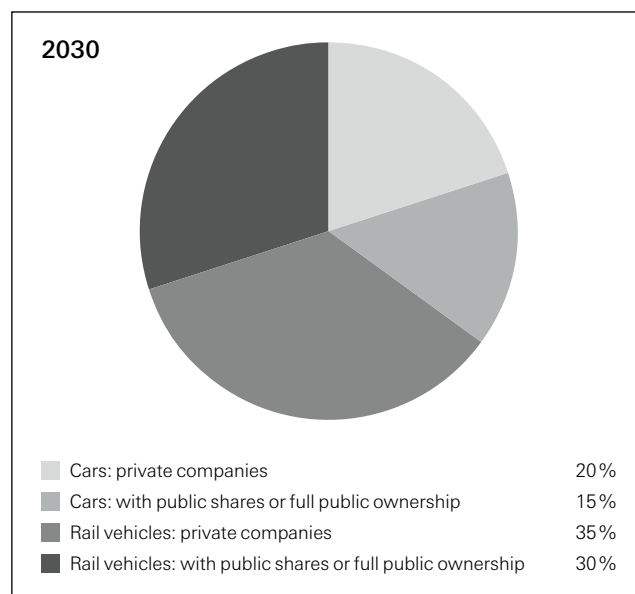
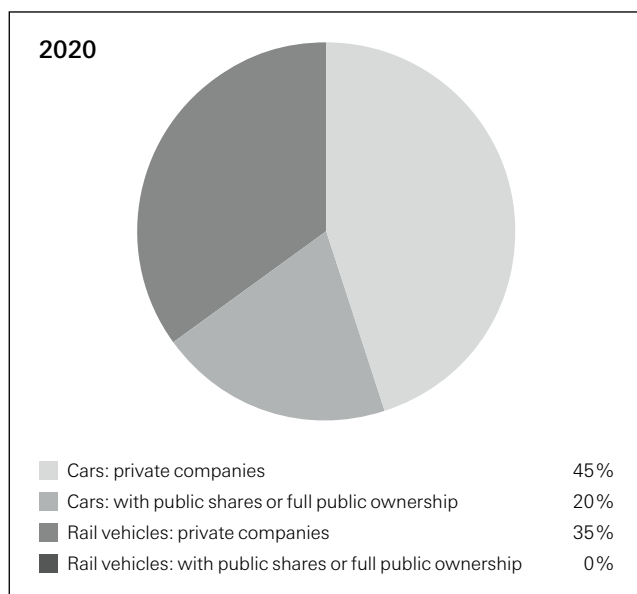
Management’s reluctance is often rightly cited as a reason. Corporations will not voluntarily participate in this transformation. They rely on the utilization of invested capital and on high profits from the sale of SUV models (including electrically operated ones),²⁸ and they will “ride the horse until it is dead”, according to a worker in the automobile sector.²⁹ Investments in unsafe business areas, smaller (e-) cars, e-buses, or even conversion are more than unlikely, and there are already experienced competitors on the market for rail vehicles.

It is clear that state capital aid for the transformation will have to be used as a lever in order to develop pressure in the direction of alternative production and to ensure participation in ownership or, in the future, to enable the full socialization of companies.³⁰ Public participation would have to be combined with extended participation in decisions for workers, trade unions, environmental associations, and the general public, for example in the form of regional councils. They could decide on the concrete steps necessary to promote the conversion of automotive groups into ecologically oriented service companies to serve public needs for mobility.

Such restructuring can only succeed if it is supported by extensive participation. The people in the affected regions, especially the workers, know that structural change has to happen. Tying this in with workers’ enormous knowledge, self-esteem, and producer pride would be a positive step. The key question is: will we manage to create a socio-ecological restructuring of industry that will secure jobs — not least in the metals sector — and the future of humanity on this planet?

Perhaps it is necessary to go one step further, as “socializing” the corporations appears to be an almost impossible task. Even if planning reliability could be created with large government contracts, and even if private companies would expand desired production, this would only remain an additional market segment for the corporations, and the costs would tend to be higher because of the expected

Automotive and Rail Vehicle Industries in Public and Private Hands in 2020 and the Target for 2030



returns. Why shouldn't a public company be established for the alternative production of the necessary e-buses, trams, and trains, strictly oriented towards the common good — a publicly owned enterprise dedicated to just mobility?

Ultimately, that would be a project to be addressed at the federal political level, but it could be started at the regional and municipal level, like the example of the "Bauhütte" in Berlin, a public enterprise dedicated to the ecological construction of schools and kindergartens out of wood. Municipal associations could initiate their own production sites for different e-buses or trams. The transformation of the automotive industry and a different material infrastructure for mobility can actually only be achieved by changing ownership structures. This discussion, however, has not even started.

An exhausting route will have to be taken until possible application. But what we're missing are places for exchange, for spreading ideas, and for organizing these processes. More intensive discussion is needed, along with many working groups for alternative production in which workers, engineers, environmental associations and movements, mobility initiatives, social associations, and political representatives come together. Pressure from the company level, including on IG Metall, is needed to back this process up against the corporations' one-sided strategies. What is missing is a way to take the producer knowledge of workers and engineers into a cross-company initiative, and make it usable for an alternative industrial production that facilitates a transition of the transportation sector. This should be part of a broader socio-political alliance between trade unions, the environmental movement, and the political Left.

The potential of other mobility industries and corresponding suppliers in particular is hardly mentioned in the debates about transformation. A great deal of potential is being wasted here, especially with regard to the question of fair transitions, so that job security and climate justice cannot so easily be played off against each other.

Of course, IG Metall has to pursue feasible strategies in its difficult partnership with capital and the government, and currently there is nothing to prevent it from going down the path of substitution of conventional vehicles towards e-mo-

bility. IG Metall is by no means just structurally conservative due to lack of insight, or a narrow perspective. In fact, rapid structural change might lead to a loss of its organizational power — the balance of power doesn't allow for more.

But why not pursue a dual strategy with independent concepts that do not operate on the premise of a transformation driven by big companies? In this way, the union's own standards could be set, developing a second line together with the environmental and climate movement and the broader Left in Germany. The debate is already perceived as narrow by workers themselves: "The prevailing opinion in the upper echelons of IG Metall: a substitution of vehicles towards e-mobility and not a transformation from individual to collective mobility", said one works council member at Daimler. A VW shop steward added, "the narrow crisis of purely operational issues" must "be broken through".³¹

In this way, Germany's trade unions could not only position themselves as independent actors with a general political mandate and social responsibility, but also put additional pressure on their "conflict" partners in order to push through more compromises in their favour. If they do not pursue a more independent transformation strategy, they are exposed to changes caused by corporate decisions (relocation, restructuring, remodelling), ecological reforms, and crises. For the time being, the existing institutional power of the trade unions is not sufficient for more. But the power to independently shape the transformation could be created through organizing — locally and operationally, sector-wide and across society.

What is to be done begins with a merging of defensive struggles in the automotive supplier industries and ends with new alliances for a fair mobility revolution³² — or even for a "Green Industrial Revolution", as it was called by Jeremy Corbyn. Only if it is possible to combine the different power resources will it be possible to build up sufficient countervailing power. That means bringing together unions (including different unions like IG Metall, the Railway and Transport Union, and Ver.di), movements (from Fridays for Future and the German Friends of the Earth or the Verkehrsclub Deutschland, to local mobility initiatives) and left-wing organizations, as well as Die Linke. Fridays for Future and Ver.

di have started to think this way and to develop connective practices³³ entirely in line with ecological class politics and a left-wing Green New Deal — possibly also with left-wing or progressive governments.

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1 This policy paper is a translated adaption of Mario Candeias, "... das braucht unglaublich viel Arbeitskraft!", Spurwechsel, edited by Mario Candeias and Stephan Krull, Hamburg: VSA, 2022, pp. 385–402. The entire German-language volume can be downloaded for free at the Rosa Luxemburg Foundation's website: www.rosalux.de/publikation/id/45696/spurwechsel-buch (last accessed 23 May 2022). 2 IG Metall, "#FAIRWANDEL jetzt!", 2020, www.igmetall.de/tarif/tarifrunden/metall-und-elektro/fairwandel-jetzt-argumente-zur-tarifrunde (last accessed 23 May 2022). 3 The shutdown of essential parts of social and economic life caused by the COVID-19 pandemic encountered an economic cycle that was already drawing to a close, see Institut für Gesellschaftsanalyse, "Ein Gelegenheitsfenster für Linke Politik?", LuXemburg-Online, April 2020, www.zeitschrift-luxemburg.de/ein-gelegenheitsfenster-fuer-linke-politik-wie-weiter-in-und-nach-der-corona-krise/ (last accessed 23 May 2022). This began in the autumn of 2019 at the latest, following a nine-year weak growth cycle. Unlike in 2007–2008, the current crisis is not triggered by the credit system (subprime crisis) but has to do with a slump in production. Industrial production in Germany fell by almost 5 percent in 2019, while production growth worldwide fell to zero. The main cause is massive overcapacities in the global automotive industry (but also in the chemical and steel industries). For the last two years, an absolute decline in production has been recorded of over 1 million cars in Germany alone. In the 2009 crisis, the slump in car manufacturing was (over)compensated for by the enormous expansion of the market in China. This time, production in China also fell drastically, with over 2 million units prior to the COVID crisis. See also Winfried Wolf, "Weiter so mit Alibi. Warum die deutschen Autokonzerne bislang recht gut durch die Krise kommen", LuXemburg, no. 1, 2020, www.zeitschrift-luxemburg.de/weiter-so-mit-alibi-warum-die-deutschen-autokonzerne-bislang-rechtgut-durch-die-krise-kommen/ (last accessed 23 May 2022). 4 Statista, "Anzahl der produzierten Personenkraftwagen in Deutschland von 1990 bis 2021", 2022, de.statista.com/statistik/daten/studie/75210/umfrage/produktion-von-pkw-in-deutschland-seit-1990/ (last accessed 23 May 2022). 5 Alexander Fritz, "Die Produktion der Automobilindustrie internationalisiert sich zunehmend", VdA – Verband der Automobilindustrie, 2021, www.vda.de/vda/de/themen/automobilindustrie/marktentwicklungen/produktionszahlen-standortfragen-arbeitskosten (last accessed 23 May 2022). 6 Stephan Krull et al., "Die Autoindustrie vor und nach 'Corona': Konversion statt Rezepte von gestern!", Rosa-Luxemburg-Stiftung, 24 April 2020, www.rosalux.de/news/id/42065/die-autoindustrie-vor-und-nach-corona-konversion-statt-rezepte-von-gersten/ (last accessed 23 May 2022). 7 The latest ifo study for the VdA calculates that at least 215,000 jobs — 165,000 of them in the automotive industry — will be lost by the automation transition by 2030. Age-related retirement by 2030 is estimated at around 147,000 workers. There is a slight difference in the figures here, so that an employment gap would remain despite retirement, but a reduction in working hours is also not being considered, see Oliver Falk, Nina Czernich and Johannes Koenen, Auswirkungen der vermehrten Produktion elektrisch betriebener Pkw auf die Beschäftigung in Deutschland, Munich: Verband der Automobilindustrie, 2021, p. IV. 8 For details, see Mario Candeias, "Strategische Probleme eines gerechten Übergangs", LuXemburg, no. 1, 2011, pp. 90–97. 9 See Cornelia Heintze, Rainald Ötsch and Axel Troost, Die Beschäftigungslücke in der sozialen Infrastruktur. Ungedeckte Bedarfe für eine gute Versorgung mit öffentlichen und gemeinwohlorientierten Dienstleistungen in Deutschland, Berlin: Rosa-Luxemburg-Stiftung, 2020. 10 See Carl Waßmuth and Winfried Wolf, Verkehrswende. Ein Manifest, Cologne: Manifest, 2020, pp. 153ff. 11 See the issue of LuXemburg, no. 1, 2020; Bernd Riexinger, "A Left-Wing Green New Deal", Rosa-Luxemburg-Stiftung, 27 August 2020, www.rosalux.de/en/news/id/42875/a-left-wing-green-new-deal (last accessed 23 May 2022). 12 See Bernhard Knierim, "Beschäftigte in der deutschen Schienenfahrzeugindustrie", Spurwechsel, edited by Mario Candeias and Stephan Krull, Hamburg: VSA, 2022, pp. 295–324; Antje Blöcker, "Busse — Seitenstrang oder Potenzial für die Mobilitätswende?", Spurwech-

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IMPRINT

POLICY PAPER 2/2022 appears online and is published by the Rosa-Luxemburg-Stiftung
 Responsible: Loren Balhorn
 Straße der Pariser Kommune 8A · 10243 Berlin, Germany
www.rosalux.de
 ISSN 1867-3171
 Editorial deadline: May 2022
 Translation: Corinna Trogisch
 Proofreading: Gaya Sris
 Layout/Typesetting: MediaService GmbH Druck und Kommunikation

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