



CEPS EXPLAINER

PREPAREDNESS IN THE LABOUR MARKET: A TOOLKIT FOR ANTICIPATING THE FUTURE OF WORK

Laura Nurski
Davide Monaco

2025-08



SUMMARY

Recent shocks and disruptions – from pandemics to technological breakthroughs – have made clear that simply waiting until a crisis hits is no longer an option. Preparedness requires anticipating change and shaping it before it unfolds. In response, the European Commission published its ‘Preparedness Union Strategy’ earlier in 2025, calling for a ‘preparedness-by-design’ culture across all policies, held up by the core pillars of foresight and anticipation.

However, translating this ambition into practice requires concrete tools to explore how the future of work might evolve. This CEPS Explainer presents five such approaches: forecasting, task-based analysis, strategic foresight, discourse and narrative analysis and backcasting. Each engages with the future in a distinct way – predictive, explorative or normative – and offers researchers, policymakers and organisations practical tools to anticipate change, assess risks and inform strategy.

By outlining their main features, strengths and limitations, the Explainer provides a bird’s eye view of how these approaches can be applied to the world of work. Taken together, they form a future-oriented toolkit for moving beyond passive adaptation towards proactive and inclusive preparedness. By combining data-driven analysis with strategic imagination and critical reflection, they help ensure that labour market transitions – including those triggered by AI – are not only anticipated but actively shaped.



Laura Nurski is an Associate Research Fellow and Head of Programme on Future of Work in the Jobs and Skills unit at CEPS. Davide Monaco is a Research Fellow in the Jobs and Skills unit at CEPS. The authors thank Koen Lambrechts, Resourceful Humans Manager at Vivaldis Interim, for his helpful feedback, and Daniel Cassidy-Deketelaere for his careful editing.

CEPS Explainers offer shorter, more bite-sized analyses of a wide range of key policy questions facing Europe. Unless otherwise indicated, the views expressed are attributable only to the authors in a personal capacity and not to any institution with which they are associated.

© CEPS 2025



INTRODUCTION

Preparedness has become a central concept in European policymaking. The European Commission's 2025 [Preparedness Union Strategy](#) calls for a 'preparedness-by-design' culture across all policy domains, with foresight and anticipation as core pillars. This shift is also reflected in the Commission portfolio of Executive Vice-President Roxana Mînzatu, whose official title – Social Rights and Skills, Quality Jobs and Preparedness – underscores the importance of future-readiness in the world of work. Anticipating and shaping labour market transitions is no longer a peripheral concern; it's essential for building more inclusive and resilient societies.

The impulse to prepare for what lies ahead is hardly new. Throughout history, people have sought ways to anticipate the future – not just out of curiosity but to guide decisions and manage uncertainty. From palm reading and consulting an oracle to more systematic methods, the deep-rooted human desire to understand what comes next has always shaped human behaviour and institutional action. Today, our tools for looking ahead are more evidence-based and systematic – but the core motivations remain the same.

Work has long been a focal point of hopes and anxieties about the future. From the Luddite protests against mechanised looms to Keynes' vision of a 15-hour workweek, each technological shift has [sparked debate](#) about job losses, exploitation or even liberation. The term 'future of work' gained traction in the late 20th century and has become more prominent in recent years, driven by a series of disruptions – like the global financial crisis, the rise of platform work, the Covid-19 pandemic and the rapid development of generative AI – that have redefined how, where, and by whom work is performed.

When it comes to AI, we're now beginning to see the early signals of how these changes may unfold. Recent evidence suggests that work opportunities for [freelancers](#) and [early-career workers](#) are already declining in occupations highly exposed to AI. These groups may be the '[canaries in the coal mine](#)', alerting us to where disruption hits first and where preparedness is most urgently needed.

With all this in mind, preparedness depends on more than instinct or experience. It requires robust methods for exploring possible, probable and preferable futures – and for translating insight into action. The future cannot be directly observed, measured or predicted with certainty, but it can be approached using a range of analytical and strategic tools designed to navigate complexity and support informed decision-making.

This CEPS Explainer introduces five approaches to exploring the future of work that are relevant to both labour policy and human resource (HR) management within

organisations (**Table 1**). It first describes each method in general and then applies it to labour policy and HR management in a series of green boxes. The first two – forecasting and task-based analysis – predominantly rely on quantitative methods and are aimed at *predicting* future outcomes. Strategic foresight and discourse and narrative analysis are mostly qualitative and more *exploratory* in nature. Finally, backcasting, while also relying on qualitative methods, is inherently *normative*, meaning that it aims to devise what type of future we would most like to see materialise.

Table 1. Approaches for exploring the future

Approach	Methods	Time horizon	Purpose
Forecasting	Quantitative	1-5 years	Predictive (what <i>will</i> happen)
Occupational automation risk	Mostly quantitative	5-10 years	Predictive (what <i>will</i> happen)
Strategic foresight	Qualitative	> 10 years	Explorative (what <i>may</i> happen)
Discourse/narrative analysis	Mostly qualitative	> 10 years	Explorative (what <i>may</i> happen)
Backcasting	Qualitative	> 10 years	Normative (what <i>should</i> happen)

Source: [Monaco & Nurski \(2025\)](#)

Thus, each approach engages with the future of work in its own way and serves distinct purposes. Although none of them offers 100% certainty, together they provide a toolkit for navigating such uncertainty in a more structured manner.



FORECASTING — PROJECTING PAST AND PRESENT EMPLOYMENT TRENDS INTO THE FUTURE

Forecasting refers to predicting future outcomes based on analysing current and historical data. Being predominantly a quantitative approach, it draws heavily on statistical models, time series analysis and econometric techniques. Forecasts can be produced for different time horizons – short, medium or long term – depending on their purpose. In practice, however, short-term forecasts (typically covering one to five years) tend to be more reliable, as they are less exposed to future uncertainties.

Among the most common forecasting methods, [time series forecasting](#) identifies patterns in how a phenomenon has evolved over time at regular (or even irregular) intervals, and uses that information to project what might happen next. For instance, a time series forecast of consumer demand might analyse monthly sales data from the past five years to estimate next year's Christmas sales, assuming similar seasonal dynamics continue.

In **labour market policy**, forecasting is widely used to anticipate future developments in the labour market – especially around employment levels and skills across both sectors and occupations – based on trends observed in historical datasets. This approach is typically commissioned or deployed by national and regional public authorities to inform education and training policies, as well as to design economic and employment strategies.

At EU level, notable examples include the [Skills Forecast](#) produced by the European Centre for the Development of Vocational Training (Cedefop) and the [Demographic Scenarios](#) developed by the Commission's Joint Research Centre (JRC). At national or regional level, labour market forecasting is widely applied across many contexts, from Bulgaria's [Forecasts for the Development of the Labour Market](#) to the [Integrated Labour Market Projections](#) in Flanders, Belgium. In the Netherlands, the [Education-Labour Market Project](#) run by the Research Centre for Education and the Labour Market (ROA) at Maastricht University focuses on the alignment between education and occupation. Sophisticated approaches to anticipate skill needs combining AI tools and big data analytics have also recently emerged (**Box 1**).

Box 1: Education-labour market forecasting in the Netherlands

The Research Centre for Education and the Labour Market (ROA), part of Maastricht University's School of Business and Economics, conducts regular forecasts on how education aligns with labour market needs. Its flagship initiative, the [Education-Labour Market Project](#), provides mid-term projections that cover approximately 100 education programmes, 35 labour market regions and 21 sectors.

ROA's approach combines diverse data sources and econometric modelling to estimate labour demand (including expansion, replacement and substitution) and supply (based on the inflow of graduates). These projections, updated every two years, act as early warning tools to signal potential mismatches between education and employment. The results are relevant for a wide range of users: students making career decisions, jobseekers and training services considering retraining pathways, employers planning recruitment strategies and policymakers designing education and employment interventions. The forecasts are made publicly accessible via the [Labour Market Information System](#), an online platform offering both projections and actual labour market statistics.

ROA's work supports [evidence-informed decision-making](#) and contributes towards greater transparency in understanding employment trends and education outcomes.

Forecasting is also valuable in **HR management** within organisations. By examining both current and past data, HR teams can predict upcoming staffing requirements and design talent management plans in advance. For instance, anticipating employees' retirement can help organisations prepare for potential skill shortages by implementing targeted training programmes. It can also help with adjusting team structures and composition or reallocating tasks/responsibilities to better align with expected future needs (**Box 2**).

Box 2: Strategic workforce planning

Strategic workforce planning (SWP) is the process of assessing future staffing needs to ensure the organisation has the right people, with the right skills and are in the right roles at the right time. Unlike [day-to-day workforce planning](#), SWP takes a longer term perspective and aligns staffing with strategic objectives.

While SWP's exact form may vary, it usually involves [the following steps](#): 1) setting strategic goals and required people and skills; 2) forecasting the future available workforce based on trends such as staff turnover, training pipelines and recruitment sources; 3) forecasting future staffing needs based on workloads or demand for products or services; 4) comparing the available and needed workforce to identify potential gaps; 5) designing actions to close these gaps; and 6) monitoring progress.

Businesses can use SWP to drive efficiency, growth and employee satisfaction. Public organisations also use it to ensure the effective delivery of public services, including social and health care. Here, planning methods might be based on services required (service-based), population needs (needs-based), economic factors (econometric), current service use (utilisation-based) or population density (workforce-to-population ratios).

Forecasts offer a structured way of anticipating future developments in the workplace and the labour market by identifying trends and projecting past and present patterns forward. They can help policymakers and organisations think ahead and plan for likely changes, particularly over shorter timeframes where conditions tend to be more stable.

However, as forecasts assume that the future will (mostly) resemble the past, they can struggle to capture shifts that arise from unexpected developments, disruptive technologies, political and policy shifts, or structural changes. As such, they're often combined with other methods to better refine predictions, one example being multi-stage surveys with experts (commonly known as Delphi surveys).

TASK-BASED ANALYSIS — GRASPING THE LIKELY IMPACTS ON OCCUPATIONS

Another approach for grasping the future of work is to examine each job's current tasks and assess which of those tasks could be exposed to key drivers of change, including technological or organisational shifts. Rather than treating occupations as uniform units, this method disaggregates them into their component tasks (such as data entry, problem-solving or manual handling), allowing for a more fine-grained assessment of how work might evolve. Each task is scored according to its susceptibility to change, and these scores are then aggregated to estimate the overall exposure of an occupation, sector or labour market segment to transformation.

Building on Carl Frey and Michael Osborne's [seminal 2017 study](#), the task-based approach is widely used today in academic research to assess how occupations are exposed to technology and automation. It involves mapping current technologies' capabilities against occupational task profiles to generate exposure scores. While primarily quantitative in nature, task-based automation risk assessments also depend heavily on qualitative insights to assign accurate task scores. These insights often come from experts, workers or crowdsourcing, providing crucial context on the nature of tasks – including how routine, social or context-dependent they are – and how organisational factors might influence their susceptibility to change. This combination of quantitative scoring and qualitative input ensures a more nuanced understanding of how work is likely to evolve.

The task-based approach is widely used by major international organisations to measure occupational exposure to AI, with the aim of informing **labour market policy**. For instance, the International Labour Organisation (ILO), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) have all employed task-based frameworks to assess AI's impacts on employment (**Box 3**).

Box 3: Occupational automation risk studies by international organisations

International organisations increasingly use task-based frameworks to understand how AI may reshape work. A [2022 OECD study](#) draws on expert assessments to estimate the extent to which different skills and abilities can be automated. It finds that even in highly exposed jobs, only 18% to 27% of skills are easily automated, suggesting AI will transform rather than eliminate jobs.

A [2024 IMF study](#) expands this by including social, ethical and physical factors that may shield tasks from automation and create opportunities for AI to complement human work. It estimates 40% of global employment is exposed to AI, rising to 60% in advanced economies – roughly split between high and low AI complementarity.

The [ILO's 2023 study](#) on generative AI uses a large language model (LLM) to score task-level exposure, finding 2.3% of jobs at risk of automation and 13% with the potential for AI augmentation. An update in [May 2025](#) assesses more tasks, includes worker and expert input, and focuses on exposure gradients rather than automation versus augmentation. It finds 24% of global employment exposed to generative AI, with only 7.5% in the highest exposure group.

All studies show AI exposure is uneven, being higher in wealthier countries and among women.

Task-based analysis can be a useful tool in **HR management**. HR managers can collaborate with employees to examine role composition and assess how jobs may change with transformations such as AI adoption. They can identify which tasks could be automated, which could benefit from AI support and which will remain human-led. This can help inform training needs, role redesign and the reallocation of responsibilities to make best use of the time saved. In Singapore, the 'Guide to Job Redesign in the Age of AI' provides a task-based method to support the reorganisation of jobs and career paths (**Box 4**).

Box 4: Singapore's Job Redesign in the Age of AI

The '[Guide to Job Redesign in the Age of AI](#)', developed in 2020 by Singapore's Lee Kuan Yew Centre for Innovative Cities, offers organisations practical support for adopting AI in a responsible and inclusive way. It emphasises redesigning jobs not just to meet business needs but also to enhance the value of employees' contributions and to maintain trust in the workplace.

At the heart of the approach is a task-based analysis that helps identify how AI can be used effectively while preserving the human elements of work. The guide proposes a six-step approach: 1) breaking down jobs into tasks; 2) assessing how AI might affect each task; 3) deciding whether and the extent to which AI should be used; 4) gathering input from managers and staff on which tasks they value most; 5) setting timelines for implementation; and 6) reassembling the tasks into redesigned job profiles.

The Guide also includes practical case studies and offers advice on overcoming barriers to digital transformation, supporting worker-employer dialogue and facilitating the transition to future jobs.

Task-based analysis can help assess how major drivers of change may affect labour markets – even if these changes are not yet visible in past time series – and identify groups more likely to be at risk. However, it often [treats tasks as isolated units](#), overlooking how changes reshape broader work processes and organisational dynamics.

Task-based and other predictive approaches also share two key limitations. First, translating complex realities into numbers can create a false sense of precision and certainty, masking assumptions and inherent uncertainty. Second, they often imply that the future is fixed, rather than shaped by social and political choices. As such, they may allow decision-making to operate under a deceptive '[cloak of objectivity](#)'. Thus, they should be complemented by more qualitative approaches that shift the focus towards exploring alternative futures.

STRATEGIC FORESIGHT — EXPLORING DIFFERENT FUTURES OF WORK

While the previous two methods focus on *predicting* what *will* happen, foresight centres on *exploring* what *might* happen. It begins with analysing the present and identifying key drivers of change – megatrends likely to reshape or disrupt the current situation. This process can be based on desk research or developed collaboratively through workshops or expert consultations. It often draws on [specific tools and frameworks](#), such as [horizon scanning](#), which involves identifying ‘weak signals’ and emerging trends that may become significant over time.

Common analytical frameworks to help structure thinking across multiple dimensions include PESTLED (examining political, economic, social, technological, legal, environmental and demographic factors), PMESII-PT (covering political, military, economic, social, information, infrastructure, physical environment and time) and STEEP+ in general (extending the original STEEP framework of sociocultural, technological, economic, environmental and political factors). Drivers of change can also be ranked according to their likelihood and potential impact.

Strategic foresight then proceeds to develop multiple plausible future scenarios based on different combinations of these drivers. These scenarios aren’t predictions but structured narratives that explore how the future could unfold in various situations. Scenario building usually occurs through collaborative workshops involving diverse stakeholders and experts. This participatory aspect ensures that a wide range of perspectives are captured, increasing the legitimacy and uptake of the outcomes.

In **labour market policy**, institutions worldwide increasingly rely on strategic foresight to guide policymaking strategies, including the [UN](#). The OECD’s [Strategic Foresight Unit](#) supports governments and the organisation itself in identifying plausible future scenarios to strengthen long-term policymaking capacity in various domains. It has recently developed a [Strategic Foresight Toolkit for Resilient Public Policy](#) to guide governments and organisations for when they perform a rigorous foresight process. At EU level, the [Competence Centre on Foresight](#) provides methodologies and tools relevant to policymaking, including labour policy. Several EU labour stakeholders regularly engage with these methodologies, including through EU-funded Horizon Europe [projects](#) as well as at the European Economic and Social Committee (EESC) (**Box 5**).

Box 5: The EESC's strategic foresight on AI and the future of work

The EESC plays an active role in embedding strategic foresight into EU policymaking, with a clear emphasis on participatory and worker-inclusive approaches. By mobilising its networks of civil society organisations and social partners, the EESC helps to bring weak signals and long-term trends to the surface that may otherwise have gone unnoticed.

In its recent own-initiative 'Pro-worker AI' opinion the EESC combined evidence from two foresight workshops with its members and 40+ experts to identify levers for harnessing AI's potential in the workplace. The opinion emphasises that social dialogue and strong worker involvement are essential for safeguarding fundamental rights and ensuring the development of trustworthy AI in the workplace. It calls for legislative action to close existing gaps in worker protection and to ensure that humans remain in control of human-machine interactions, as well as a dedicated legal instrument to strengthen social dialogue on the deployment of AI.

In parallel, the EESC regularly commissions forward-looking studies and contributes to foresight papers written by the European Strategy and Policy Analysis System (ESPAS) – such as its 'Ideas Paper on Civil Society 2050' – helping to integrate foresight into social and labour market policy across the EU institutions.

Public and private organisations use strategic foresight to anticipate long-term change, to identify potential opportunities and challenges, and to prepare accordingly. Some companies already began relying on foresight to develop forward-looking strategies in the 1980s, mainly to ensure future growth, resilience, innovation and market expansion. However, beyond these 'hard' objectives, strategic foresight can also be applied in **HR management** and organisational development. This approach can be adopted by HR professionals to prepare organisations in a range of different areas (**Box 6**).

Box 6: Strategic foresight in HR management

By identifying key drivers of change – such as technological innovation, demographic shifts or new working patterns – strategic foresight can support HR management when designing flexible work arrangements by considering different scenarios, including remote or hybrid models. It may also help planning for future skills and roles by anticipating emerging needs and enabling targeted training or recruitment strategies.

Scenario development can be further enriched through a three-horizon approach that draws on different types of data: online job vacancy trends can inform near-term skill needs (Horizon 1), investment data provides insight into medium-term developments (Horizon 2) and patent data helps anticipate longer-term shifts in knowledge and capability requirements (Horizon 3).

Strategic foresight can also be used to explore long-term risks and opportunities related to diversity, equity and inclusion. By examining how structural and intersecting inequalities might evolve, this approach can help facilitate equity audits covering hiring, pay, promotions and employee satisfaction across different demographic groups. It can also support the design of mentorship programmes and training to enhance cultural competency and reduce bias, contributing to more inclusive and diverse organisations.

Unlike predictive approaches, strategic foresight explores a range of possible futures rather than a single expected outcome. By considering different scenarios, it helps design strategies that remain robust under varying conditions. Foresight complements forecasting by addressing uncertainty and recognising the role of human agency. Yet its openness can be a drawback, making it less precise and harder to act on.

For this reason, as with forecasting, it can also be complemented by Delphi surveys with experts to better refine and ‘stress-test’ the scenarios. As foresight processes also often involve multiple steps, they can be time- and resource-intensive, and they also require strong organisational commitment to be truly effective.



DISCOURSE AND NARRATIVE ANALYSIS – UNDERSTANDING FUTURE OF WORK IMAGINARIES (AND WHO LIES BEHIND THEM)

Discourse analysis and narrative analysis are exploratory approaches for understanding how the future is imagined and debated, whether in public debates or within organisations. They primarily employ qualitative analysis of texts, documents, speeches or media, though they can also apply quantitative tools to large datasets. But what exactly are discourses and narratives?

A *discourse* is more than just words or sentences, it's an organised way of speaking about and interpreting the world, shaped by values, social and political contexts, and power relations – and shaping them in turn. Discourses define what can be said, who can speak and what counts as normal or deviant. [Discourse analysis](#) examines how such meanings are produced and sustained in specific historical and institutional settings. *Narratives*, in turn, are stories about past, present or future events or processes, often (but not always) following a linear plot. They help people make sense of the world by linking events in a meaningful sequence. [Narrative analysis](#) explores how these stories are told, who tells them, and which discourses they draw on.

Both approaches deal with meaning-making through language but at different levels. Discourses set the broader conditions for what kinds of narratives can be told and taken seriously, while narratives express discourses through concrete stories about what happens, why and to whom. For instance, the discourse of 'market-driven innovation' frames how technological change is understood – the familiar story of a student creating breakthrough tech in a garage reinforces a narrative of individual genius, obscuring structural dynamics. Discourses and narratives are shaped by actors with differing interests and thus become contested. Some may eventually dominate a debate to the point of being widely perceived as 'common sense'.

In practice, discourse and narrative analysis are closely connected and the terms are often used interchangeably. Though mostly utilised in academic research, they can also support **labour market policy** by revealing how ideas about the future take shape and gain traction. They help trace which actors promote certain visions and whose perspectives are amplified or marginalised in public debate. Recent studies have highlighted differences in how the future of work is 'imagined' across different groups and countries (**Box 7**).

Box 7: Discourses and narratives about the future of work

The study of competing narratives about the future of work is gaining traction in the social sciences. [Marenco and Seidl](#) analysed newspaper articles and policy documents from eight European countries, finding that dominant narratives differ across contexts, shaped by local institutions and political economies.

[Dries, Luyckx and Rogiers](#) examined 485 media articles and surveyed experts, policymakers and citizens, showing that different actors promote contrasting visions of the future. For instance, technologists often back 'accelerationist' views, while journalists and authors are generally more critical.

Finally, [Schlogl, Weiss and Prainsack](#), after analysing 195 policy documents, found that although multiple narratives exist, one tends to dominate: the 'Machine v. Human' story. This frames rapid technological change as inevitable, with both risks and benefits, and places the onus on workers to adapt through re- or upskilling, while often neglecting debates on technology development and adoption, and alternative policy responses, like income support.

In **HR management**, discourse and narrative analysis help uncover the stories, meanings and power dynamics that shape workforce perceptions and HR decision-making. Beyond mapping [different HR approaches](#) among practitioners, they support more reflective and inclusive strategies to prepare for future transformations such as automation, AI or demographic change (**Box 8**).

Box 8: Discourse and narrative analysis in HR management

Discourse and narrative analysis can support HR management by revealing the deeper messages and assumptions embedded in organisational communication. For example, narrative analysis can explore employees' career stories to show how identities, motivations and progression pathways are constructed, helping to design policies that reflect lived experiences. These approaches can also be used to compare organisational or technological change narratives, identify differing group perspectives, anticipate which policies resonate or alienate, and adapt initiatives and messaging.

[Critical discourse analysis](#) can examine how language shapes [roles, norms and power relations](#). Thus, it [can help](#) uncover gender or other biases in job adverts, detect unconscious bias in performance reviews, support more inclusive training design and reveal which workforce groups may be marginalised by organisational practices.



While discourse and narrative analysis don't predict the future, they reveal the assumptions and power dynamics that shape how it's imagined. This makes them useful for identifying space for alternative visions – a good starting point for designing pathways to more desirable futures.

BACKCASTING – CHOOSING DESIRABLE FUTURES OF WORK

Beyond predictive or exploratory approaches, backcasting is a [normative approach](#) which shifts the guiding question from 'what will the future look like?' to 'what kind(s) of future would we like to see/create?'. It typically adopts a longer-term perspective – ranging from a decade to a century ahead – requiring a clear '[North Star](#)' to guide policymakers' long-term objectives for a desired future and the necessary steps to get there.

For instance, in environmental sustainability, a global collaboration effort has established such a North Star – a planet that can sustain future generations – allowing for the design of regulations and investments to achieve that goal. Backcasting's purpose is not to develop a rigid plan but to encourage defined desirable futures, to explore their implications and feasibility, and to anticipate and plan the necessary actions to achieve them.

An [expert report prepared for the European Commission](#) outlines the practical steps of a backcasting exercise. The first step is setting a *long-term vision* within a specific policy area, organisation or even the whole of society, through a collaborative process, involving different stakeholders and relevant experts through workshops or brainstorming sessions. The next step is a *baseline analysis* where the current system or situation is described and carefully examined to identify gaps and needs. At this stage, success stories that have already helped narrow the gap between the present and the future can be highlighted, so that they can be further supported and scaled up. The third step involves co-designing *actions* to close gaps and address needs, as well as identifying the *spheres of influence* where actors can play a role in effectively implementing them. The final step focuses on deciding *priorities* for action and putting timelines into place.

Backcasting is particularly relevant in **labour market policy**, as it's essentially the playing field of many [long-term trends](#), including technological, environmental, geopolitical and demographic changes. The [European Pillar of Social Rights](#) (EPSR) can be considered a 'North Star' for EU labour policy, as it's positioned as '*the beacon guiding us towards a strong social Europe that is fair, inclusive and full of opportunity*'. The linked [EPSR Action Plan](#) sets out concrete initiatives to turn the EPSR into reality by 2030. Another notable example of backcasting being applied to technological challenges in the labour market is Japan's Moonshot Programme (**Box 9**).

Box 9: Japan's visions of society in 2050

Japan's Moonshot Programme, launched in 2019 with an initial budget of JYN 100 billion (USD 963 million), outlines an ambitious vision for a human-centric future of work enabled by AI and robotics. A key goal is that by 2050, AI-powered robots will autonomously learn, adapt to their environments, evolve their intelligence and collaborate safely and comfortably with humans across a wide range of tasks. This vision responds to pressing societal challenges such as rapid ageing, labour shortages and hazardous working conditions.

To realise these ambitions, the programme supports research on co-evolution between humans, AI and robots, alongside the development of humanoid robots that can perceive, communicate and move in ways that align with human expectations. These robots are expected to support care work, act in disaster zones and dangerous environments, and serve as lifelong companions who grow and learn alongside people. The initiative emphasises ethical foresight and preparedness through stakeholder involvement, regulation and tamper-resistant design.

By imagining a long-term future and working backwards to identify needed changes, Japan's approach exemplifies backcasting applied to the future of work.

In **HR management**, backcasting shares core aims with other strategic approaches – such as identifying future staffing needs, reshaping roles and redesigning work processes – but differs in its starting point. Rather than projecting forward from the present, it begins with a desirable future and works backwards to identify the steps required to achieve it. This process may involve aligning the organisation's long-term vision with a corresponding vision for its workforce or work environment. HR managers can then identify capabilities and interventions needed to realise that vision (**Box 10**).

Box 10: Backcasting future visions for healthcare workforce

Backcasting can make for a structured method to align long-term health system goals with present-day workforce decisions. This approach can help anticipate the skills, education, distribution and working conditions required to support future care models. It also enables healthcare providers to sequence interventions over time, aligning with budgetary cycles while remaining focused on strategic transformation. This is particularly relevant when short-term crisis responses dominate and structural workforce issues remain unaddressed.

While not explicitly labelled as backcasting, the Topol Review in England, commissioned by the National Health Service in 2018, exemplifies this backcasting ethos. It outlines how technological advances (particularly AI, genomics and digital medicine) could change care

delivery and what training and system changes would be needed to prepare the health workforce.

By defining the capabilities required for a future-ready workforce, it works backwards to inform the overall education and workforce strategy. More broadly, backcasting encourages the inclusion of stakeholders in setting strategic priorities and co-designing implementation pathways. This would potentially enhance legitimacy and help overcome political and institutional bottlenecks for health workforce development.

In short, backcasting reflects a broader shift away from deterministic views of the future towards an approach that emphasises human agency and collective choice. Rather than treating the future as an extension of past and present trends, backcasting imagines desirable futures and takes active steps to shape them, highlighting that the future isn't fixed but rather shaped by present decisions and actions.

CONCLUSIONS

The future of work is uncertain – but not unknowable. While no single method can offer definitive answers, the five approaches outlined in this CEPS Explainer provide a practical toolkit for anticipating, understanding and shaping what lies ahead. Forecasting and task-based analysis help identify likely trends and risks using structured, data-driven methods. Strategic foresight invites us to explore a range of plausible futures. Discourse and narrative analysis expose the ideas and power dynamics that shape how we imagine change. Backcasting encourages us to define desirable futures and map the steps to achieve them.

Rather than passively undergoing change, we must equip ourselves to engage with it deliberately. These approaches offer the tools not only to grasp what is coming – including AI's impacts – but to question prevailing assumptions, include diverse perspectives and make more intentional choices. For researchers, policymakers and organisations alike, using this toolkit means supporting a shift from reaction to preparedness. In an era of accelerating technological disruption, building foresight capacity is essential for ensuring transitions in the labour market are inclusive, fair and future ready.

Alas, turning insights into strategy isn't straightforward. For many organisations – especially smaller ones – applying these approaches requires resources, time and specialised competences that may not be readily available in-house. Bridging the gap between conceptual understanding and strategic action often calls for external support, whether through expert facilitation or tailored tools. Policymakers have a crucial role to play in enabling this process by investing in capacity-building, accessible guidance and intermediary structures. Supporting organisations as they navigate the future of work isn't just a matter of competitiveness – it's essential for building preparedness across the economy and ensuring that AI and other transitions deliver on their social promise.

CEPS
Place du Congrès 1
B-1000 Brussels

