



CENTER FOR  
THE GOVERNANCE  
OF CHANGE



# EUROPEAN TECH INSIGHTS 2019

MAPPING EUROPEAN ATTITUDES  
TO TECHNOLOGICAL CHANGE AND  
ITS GOVERNANCE

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When we set about the task of creating the Center for the Governance of Change, we did so convinced that the emerging technologies space was where the greatest gap existed between the scale of the challenges we face and our individual and social readiness to tackle them. The growing velocity of social transformation brought with it not only great opportunity, but also enormous challenges. We could see that new technologies were changing everything; from the way we communicate and work, to the very definition of life. The speed of this process and its manifold implications were beginning to overwhelm our political, business and social institutions. We could already perceive this in the growing protests against the impact of the digital economy on jobs and income distribution. Importantly for us as educators, we could also see this first hand through the pressure that accelerated change was placing on our educational models.

The CGC was born precisely to produce knowledge and to provide solutions to these problems. In the last two years, we have launched seven research programs and hosted a number of events on topics such as artificial intelligence, automation,

data, and cryptocurrencies, through which we have gathered valuable insights from top academics, practitioners and policy-makers. But there was one important voice missing: the public. How do European citizens feel about the changes being brought about by technology? The opinion poll that you are about to read is our first attempt at shining light on these issues. The picture it paints is one of confusion, worry and even anxiety about how technology will affect people's lives, their jobs and their political systems. It is also one that demands greater policy action on virtually every front, from labor policy, to taxation, to the regulation of social media, to the ethical conduct of intelligent machines.

This survey will be the first of many. We intend to produce insights into public opinion about these matters on a recurrent basis. By doing so, we hope to enhance our understanding of the challenges that emerging technologies bring, and highlight the demand for urgent policy responses at a European and global level.

**Mr Diego Alcázar  
and Dr Manuel Muñiz**



# 1

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## SUMMARY

# EUROPEANS ARE ANXIOUS ABOUT TECHNOLOGICAL CHANGE AND WANT GOVERNMENTS TO TAKE ACTION

This survey explores how citizens of eight European countries (France, Germany, Ireland, Italy, Spain, The Netherlands, and the United Kingdom) feel about the technological transformations that are unfolding in their cities and workplaces and how they think their governments should deal with them. Its findings confirm a shared intuition among researchers: the Fourth Industrial Revolution is producing a growing sense of insecurity and uncertainty among our fellow citizens. Over two thirds of Europeans of all ages believe that, if not appropriately controlled, new technologies will cause more harm than good to society in the coming decade. This belief is, in turn, leading to a growing resistance to innovation and to a general demand for more regulation. The vast majority of Europeans surveyed expect their governments to set new laws and taxes to limit automation and prevent job displacement, even if that means stopping technological progress. These results are consistent across countries, age groups, genders and ideological tendencies. Perhaps unexpectedly, Europeans are not only worried about the challenges they will face on the job market, but also about what this will mean for their social lives: over two thirds of Europeans find it concerning that people will spend more time socializing online than in person in the future.

Our data also suggests that people not only worry about the incoming technological transition, but also feel that the institutions tasked with making this process manageable are failing. Most of the people surveyed feel that the educational system is not training them to tackle the challenges brought about by new technologies. This is particularly true for older university graduates who find themselves rudderless in a fast changing job market. Moreover, they also feel that the companies they work for are not adapting correctly to the new scenario and are likely to disappear in the next ten years. The growing disillusionment with the political class is reflected, in turn, in the number of individuals who would rather have an AI make policy decisions than politicians. The loss of trust in political elites that this reveals is consistent with a multitude of other surveys and opinion polls conducted in recent years, and highlights the paradox in which we live: people are disillusioned with governments, yet at the same time ask them to tackle the societal and economic negative effects that emerging technologies might have.

**Dr Diego Rubio  
and Dr Carlos Lastra**

## FOUR HIGHLIGHTS

The majority of Europeans are worried **that robots may substitute most human jobs.**

One of every four Europeans favors letting **an artificial intelligence make important decisions** about the running of their country.

40 % of Europeans think that **the company they work for will disappear** in the next 10 years unless they implement profound and fast changes.

Over 70 % of Europeans believe that governments should take **strong policy measures to limit automation** in businesses and tackle its socially negative effects.

# 2

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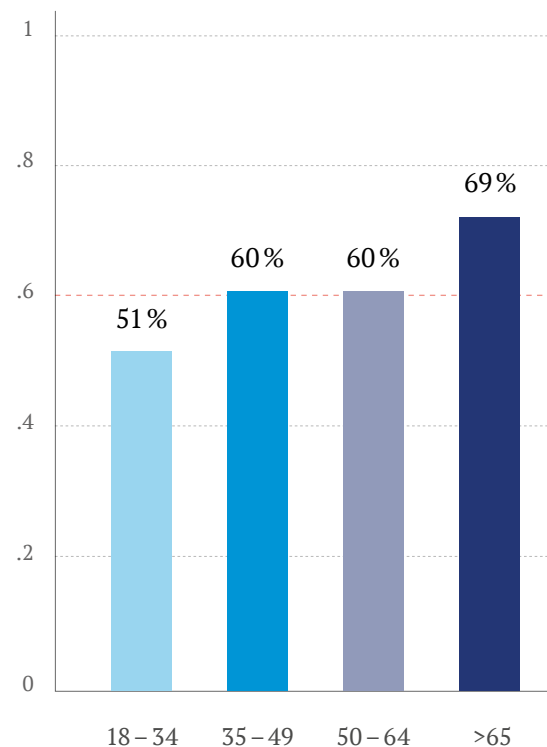
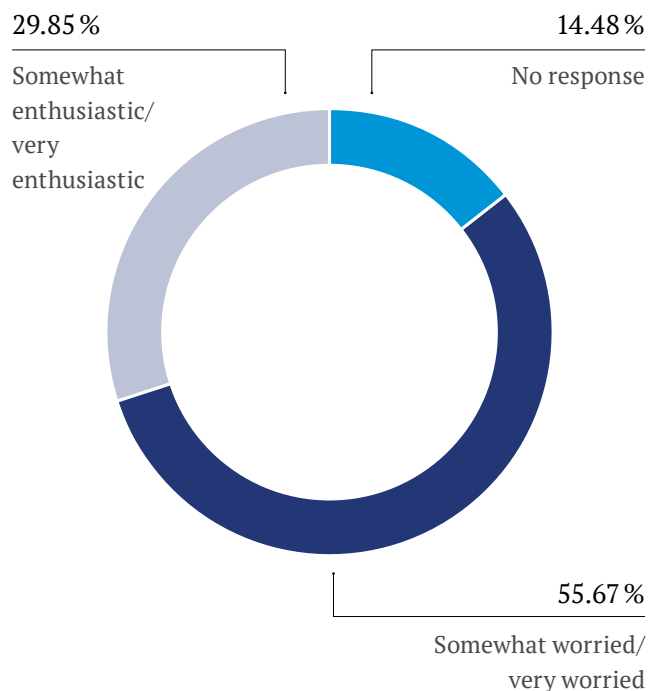
## PERCEPTIONS ON TECHNOLOGICAL CHANGE: MAJOR CONCERNS AMONG EUROPEANS

FINDING 1:

56 % of Europeans are somewhat or very worried about a future where robots will carry out most of human work.

QUESTION:

Do you feel enthusiastic or worried about the following potential/incoming technological developments? Robots will do most of human work.

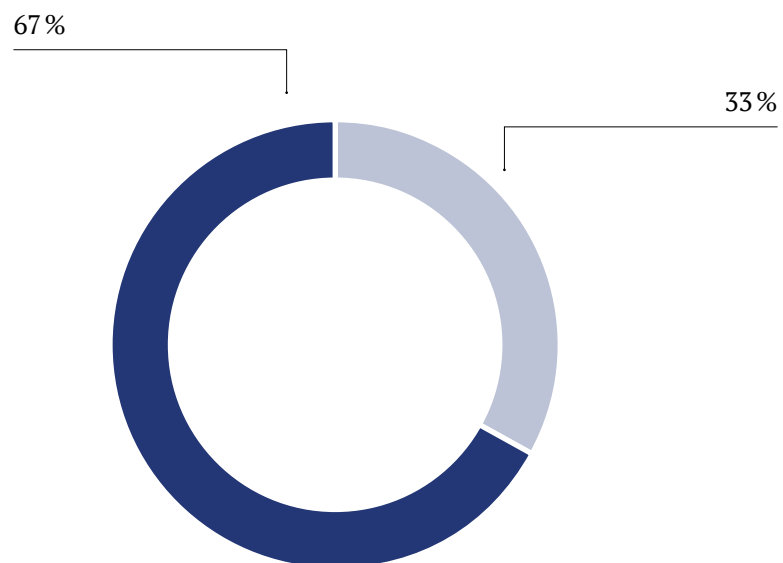


Silicon Valley celebrates ongoing advancements in robotics and automation as a phenomenon that will boost economic growth and improve people’s lives. But that narrative isn’t getting through to Europe, where 56 % of citizens express weariness about a world where machines perform most of the tasks currently done by humans. This level of concern, which increases significantly as people get older, is close to double the 30 % of citizens who are enthusiastic about the prospect. This may have wide-reaching implications for those companies working to automatize their production processes.



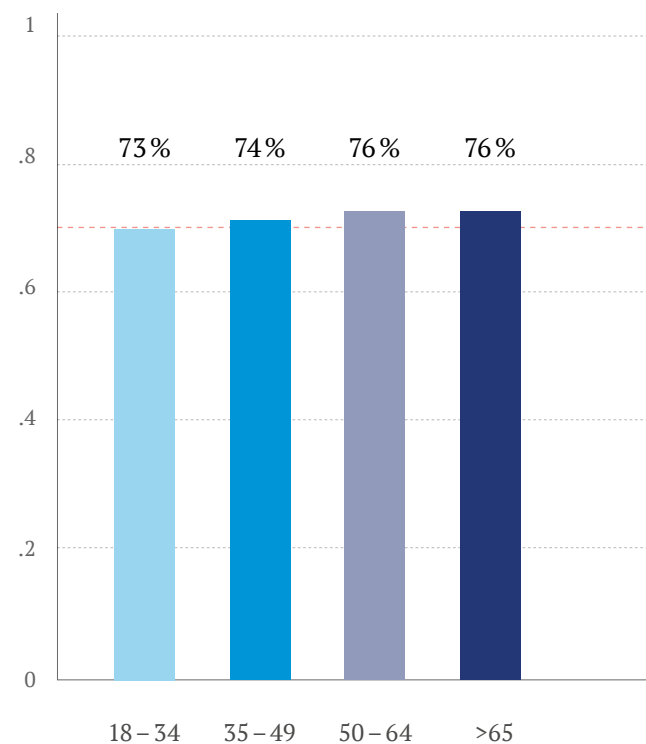
## FINDING 2:

67% of Europeans think that the governance of new technologies is, with climate change, the biggest challenge that the EU faces right now.



## FINDING 3:

70% of Europeans of all ages believe that, if they are not appropriately controlled, new technologies will cause more harm than good to society in the coming decade.

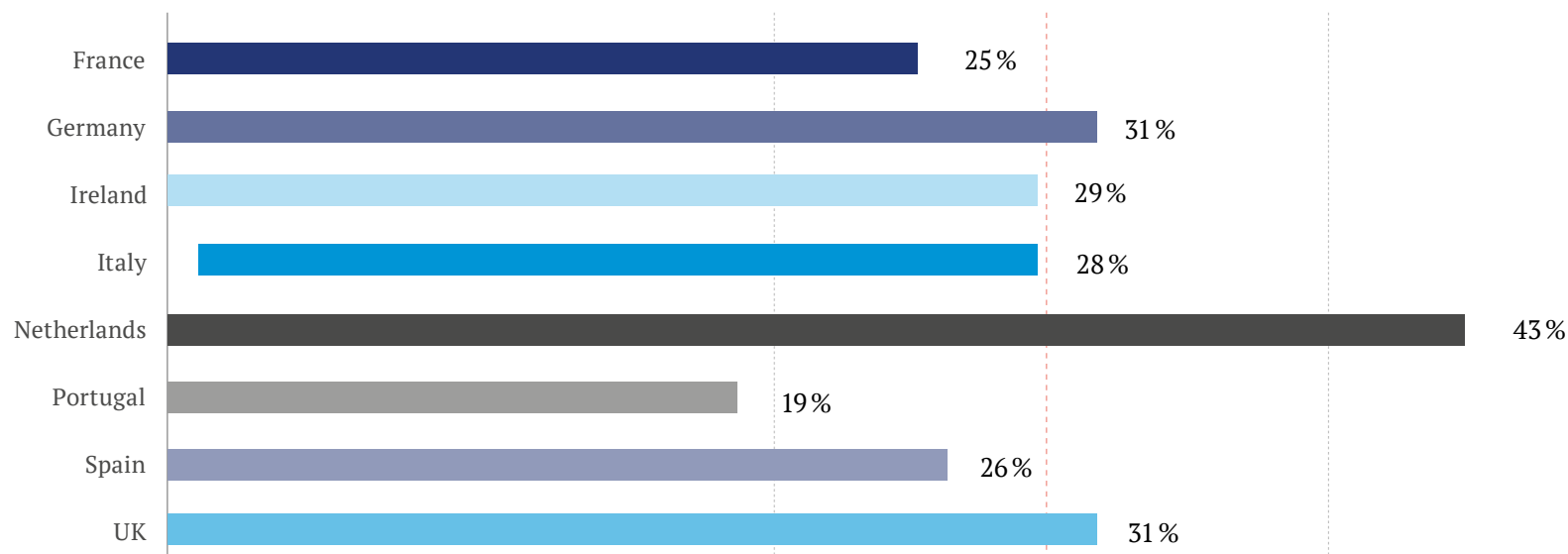


## FINDING 4:

25 % of Europeans are somewhat or totally in favor of letting an artificial intelligence make important decisions about the running of their country.

## QUESTION:

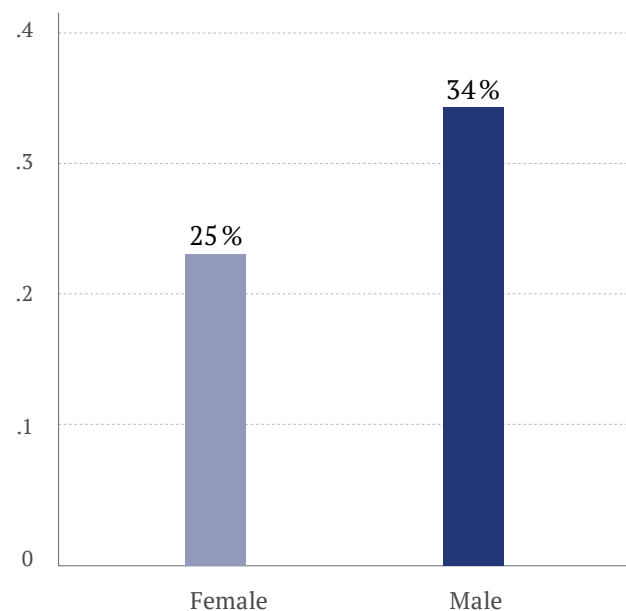
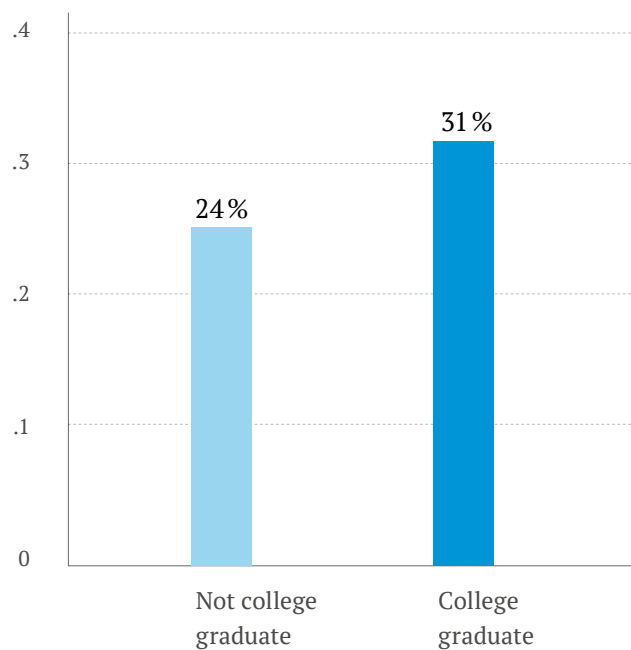
How do you feel about letting an artificial intelligence make important decisions about the running of the country?



One in every four Europeans would allow an artificial intelligence system to make important decisions about the running of their country. In nations such as the Netherlands, Germany, and the United Kingdom, the percentage is even higher – one in every three. This mindset, which probably relates to the growing mistrust citizens feel towards governments and politicians, underlies a questioning of the European model of representative democracy.

## FINDING 5:

Factors like gender, education and ideology do not affect people's willingness to allow an artificial intelligence to make policy decisions.



Contrary to what could be expected, people with university degrees are equally or even more inclined to leave policy decisions in the hands of an AI than those who did not go to university. We did not find significant differences in terms of gender, age, or ideology.

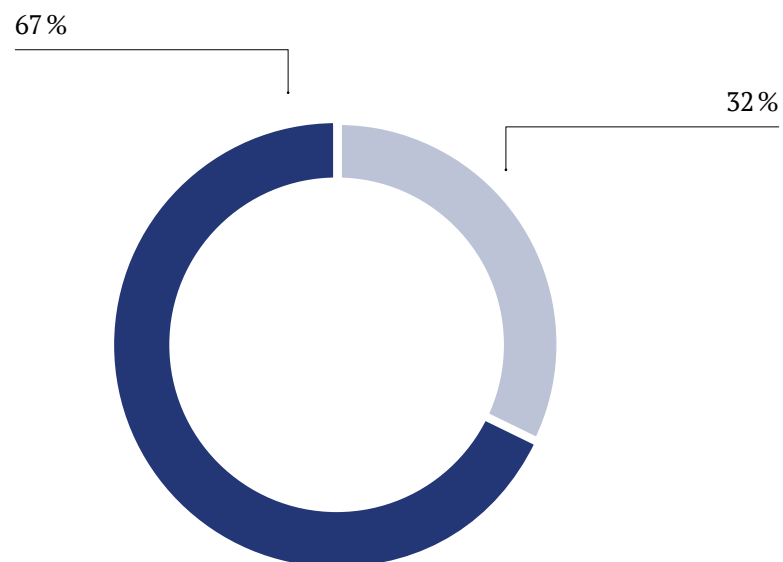
## FINDING 6:

68% of Europeans are worried or very worried that people will socialize digitally more than in person.

## QUESTION:

Do you feel enthusiastic or worried that people will spend more time socializing through digital devices than in person?

Very enthusiastic • Somewhat enthusiastic • Somewhat worried • Very worried



While work displacement by robots is a natural concern, Europeans are even more concerned about how new technologies may change the way people interact with each other, replacing human contact with digital contact. Older citizens are particularly concerned about this trend.

While a lot of policy debates rightly focus on the material effects of job displacement and the economic stress it creates, citizens are at least as worried about the broader societal effects that technological change may have.

# 3

A futuristic robot with glowing blue eyes and a hand reaching out, set against a background of a complex network of lines and nodes.

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**GOVERNANCE OF NEW TECHNOLOGIES:  
MASSIVE SUPPORT FOR REGULATION  
THAT LIMITS AUTOMATION**

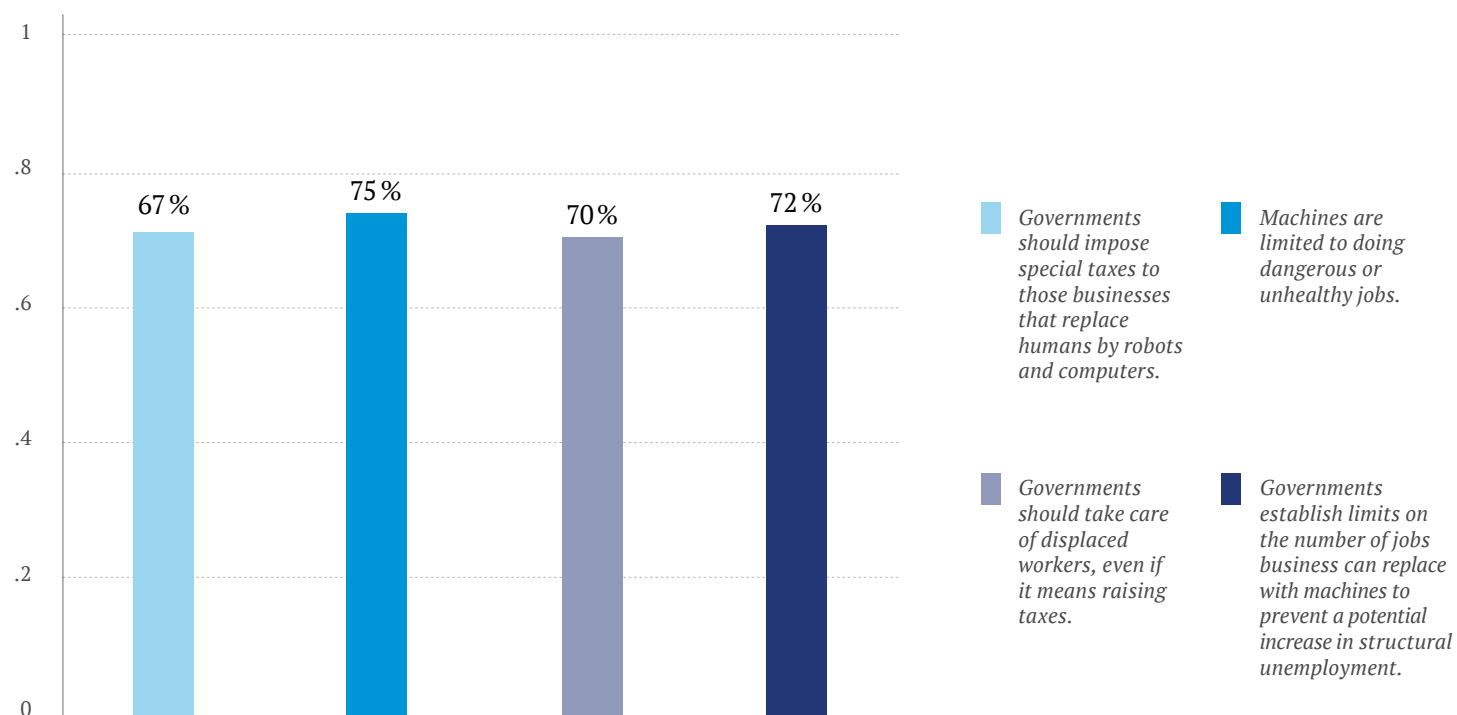
FINDING 7:

Most Europeans believe governments should intervene to limit automation and tackle negative effects on society.

QUESTION:

Would you support or oppose the following policies?

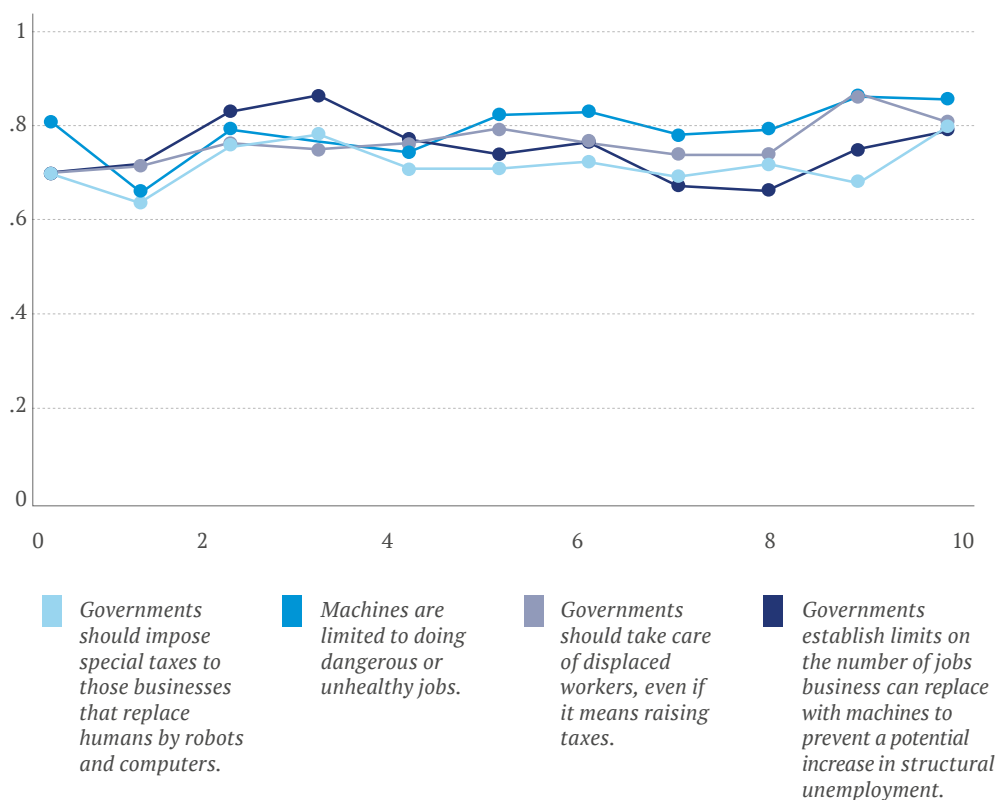
Strongly support • Tend to support • Tend to oppose • Strongly oppose



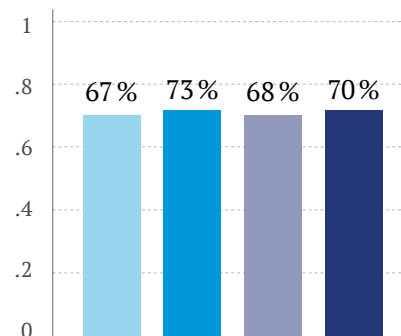
The majority of EU citizens are in favor of governments advancing policy measures for the curbing of automation that companies are able to introduce into their businesses. While the least interventionist measures such as proposing additional taxes for business that eliminate jobs due to automation (67%) or providing extra support for those affected through job losses (71%) receive a lot of support, more robust government interventions have even greater levels of support: 72% of individuals surveyed think that governments should set limits to the number of jobs businesses can replace with machines. 74% think that businesses should only be allowed to substitute jobs that are dangerous or unhealthy.

FINDING 8:

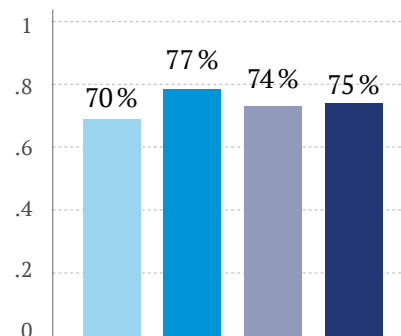
## Broad consensus across groups on the need for limits to automation.



### NO COLLEGE DEGREE



### COLLEGE DEGREE



Ideology seems to not be related to the levels of support for government intervention in the use of machines. When we analyze levels of support for respondents according to how they self-identify on a 0-10 left to right scale, they are broadly similar across all ideologies.

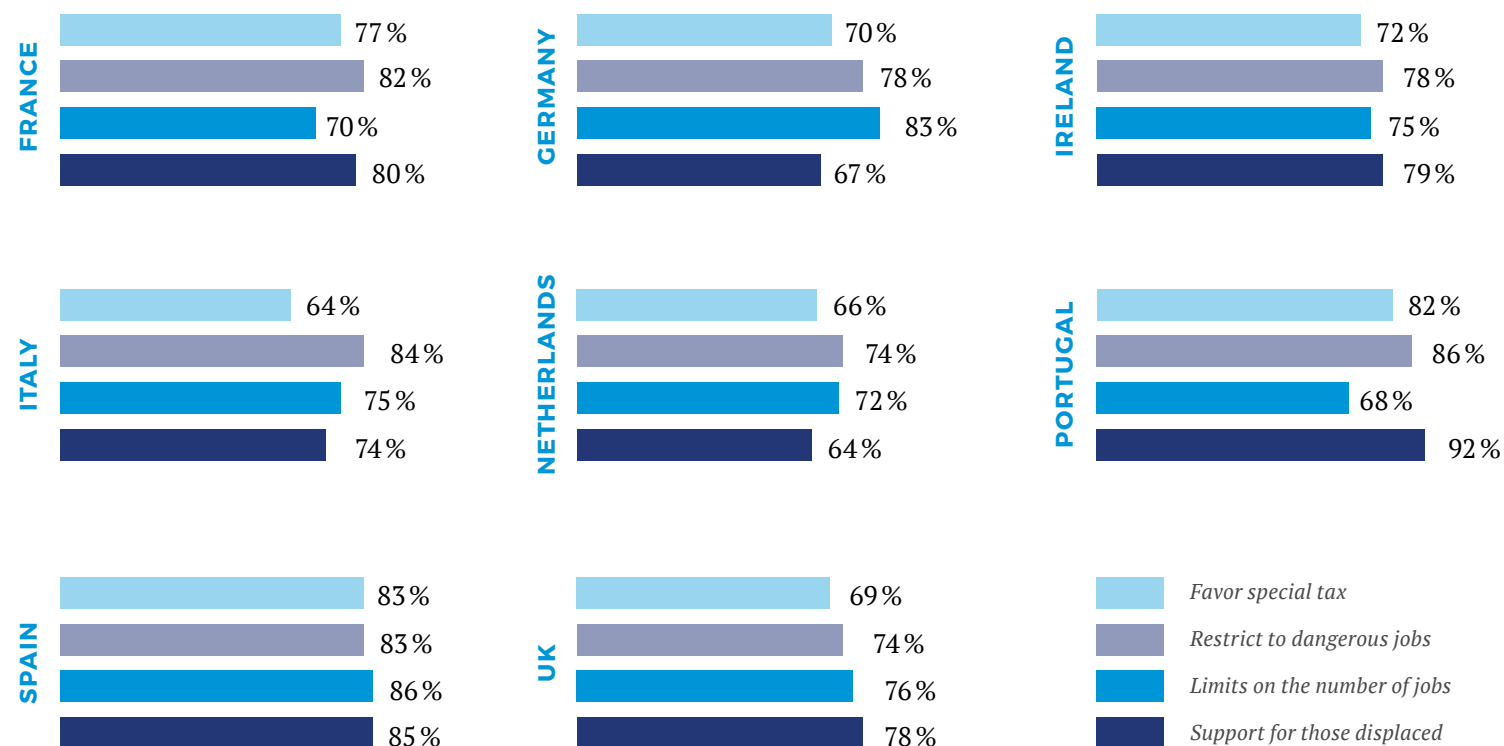
A slight exception is the level of support for compensation of displaced workers: while those on the left overwhelmingly support this action (84% for those who self-identify as a 2 or 3), the level goes down slightly for those on the right (68–69% for those who identify with a level 7 or 8).

Contrary to what could be expected, people with university degrees are equally or even more inclined to leave policy decisions in the hands of an AI than those who did not go to university.

We did not find significant differences in terms of gender, age, or ideology.

## FINDING 9:

All European countries equally support government interventions, despite the economic, political and cultural differences that exist between them.

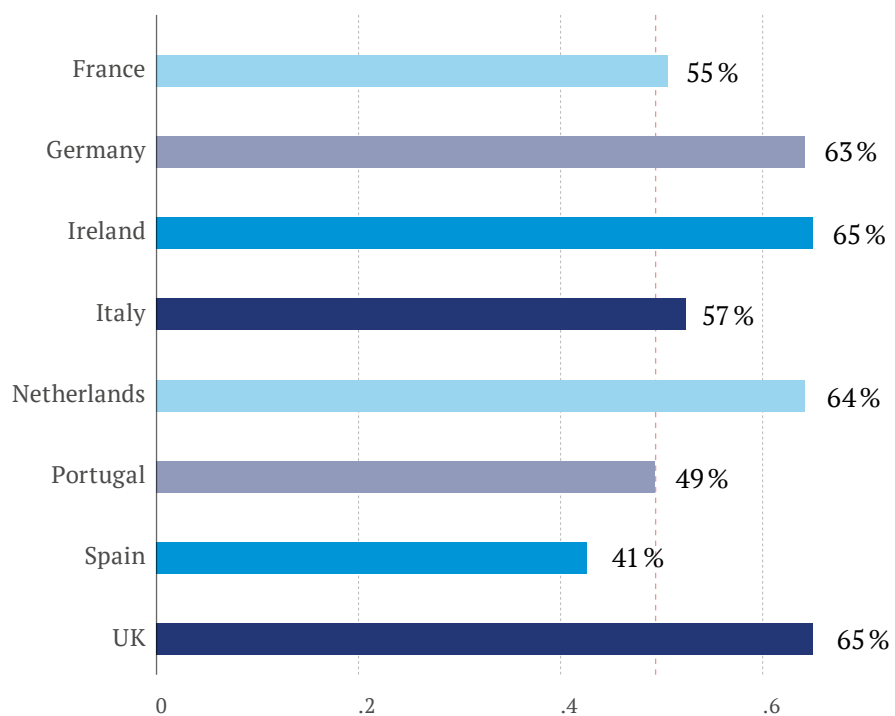


As with education and ideology, the most notable result on the levels of support of government intervention by country is just how similar and high support for intervention is in every country. Nonetheless, there are some small differences across countries: overall levels of support for intervention are highest in Spain, Portugal and Italy. In France (82%), Italy (84%) and the Netherlands (74%), the policy with the highest levels of support is restricting machines to harmful or dangerous jobs. However, the most favored policy in Germany (83%) and Spain (86%) is a general limit on the number of jobs automated. Finally, in Portugal (92%), Ireland (79%) and the United Kingdom (78%), supporting workers displaced by machines is the policy with greatest support. Support for special taxes receive the most varying levels of support across countries: Spain (83%) and Portugal (82%) have relatively high levels of support, while they are low compared to other policies in Italy (64%), the United Kingdom (69%) or Germany (70%).



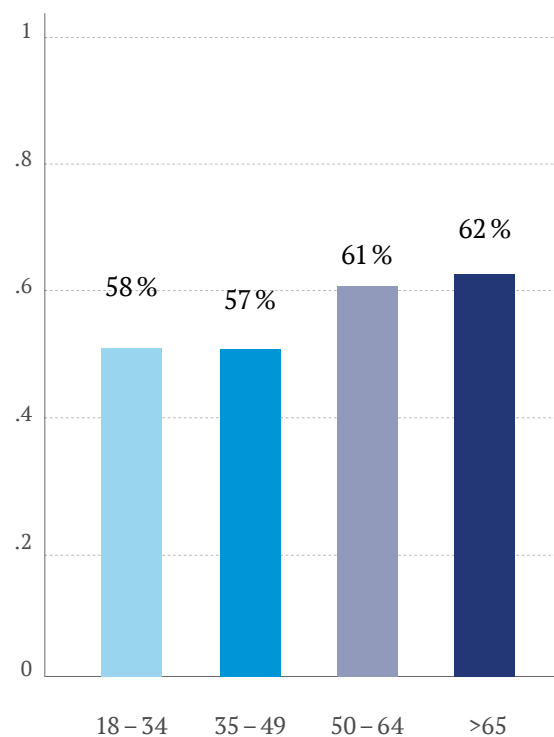
## FINDING 10:

More than 50% of Europeans believe that political and ideological content should be banned from social networks in order to protect democracy.



## QUESTION:

Would you support or oppose the following policy? Political and ideological contents should be banned from social networks in order to protect democracy.



In a reversal of the longstanding norms against censorship in the media and, in particular, of social media, the European public largely supports the banning of “political or ideological content” from social networks. On average, 53% of Europeans support such bans and values are high across all countries. There are some differences, however, while less than half of respondents in Spain (41%) and Portugal (48%) support the banning of content, this goes up to about two thirds or more in Germany (63%), the Netherlands (64%), and is highest in Ireland (65%) and the United Kingdom (65%). France (55%) and Italy (56%) present intermediate levels of support. There are no significant differences between age groups in their levels of support for bans on social media content, although older respondents have slightly higher levels of support for the ban of content: 62% for the over-65s, compared to 58% for the 18-34 year olds.



4

## PERCEIVED DIGITAL READINESS

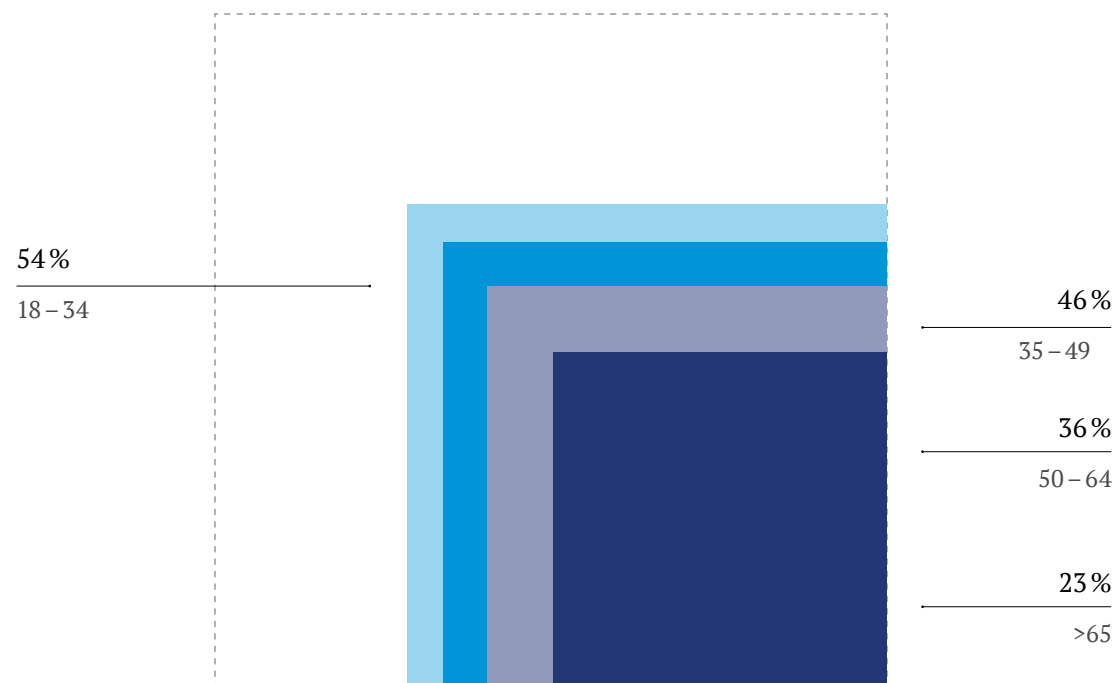
FINDING 11:

40 % of Europeans believe that the company they work for will disappear in the next 10 years if they do not implement deep and fast changes.

QUESTION:

To what extent do you agree with this statement: if the company I work for does not implement deep and fast changes, it will disappear in the next 10 years.

Strongly agree • Tend to agree • Tend to disagree • Strongly disagree • I do not work for a company

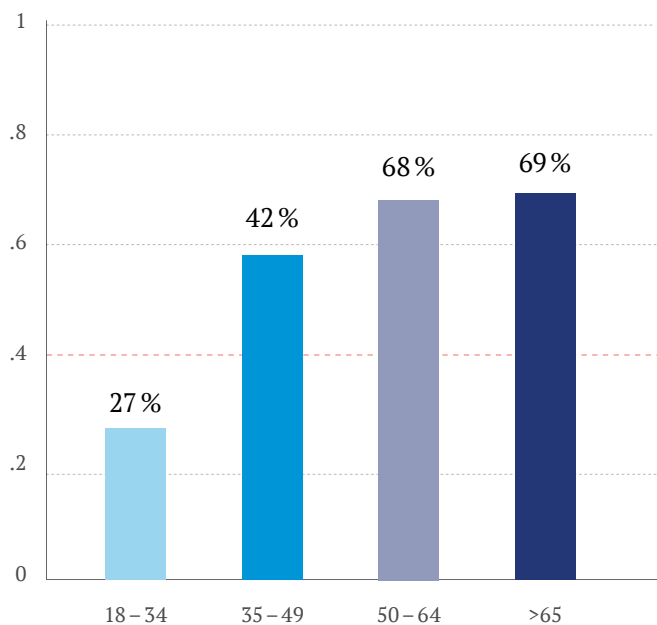


Four in every ten EU employees think that the companies they work for will probably disappear in the coming decade unless they apply major and quick changes to their productive systems and business models. This sense of fragility is particularly acute among millennials aged 18 – 34 (54%), who seem to have a rather pessimistic view on the future of their companies.

By contrast, senior employees over 65 years old are quite confident and only 22% question the continuity of their companies.

## FINDING 12:

60% of European graduates think their universities did not train them well to deal with the coming technological transformation.



## QUESTION:

How well do you think your university trained you to deal with the coming technological transformation?

Very well • Quite well •  
Not very well • Not at all well

The share of respondents who are university graduates and think their universities prepared them badly or very badly for the coming technological transformation is 60%. However, this varies greatly in terms of age. Recent graduates, aged 18-34, think universities prepare them fairly well, with only 27% thinking they were badly prepared. This increases steadily for older respondents and is a staggering 68% for those 50-64 and 69% of those over 65 (who are not retired). This gap in skills that older workers perceive underscores the digital divide in the workplace, where older

workers are unable to benefit from the opportunities that technology offers. Systematic lifelong programs of retraining and technological upskilling that target those groups will be needed to bridge those gaps. Moreover, ongoing technological transformations will mean that younger workers who feel prepared today will likely require additional training in the future.

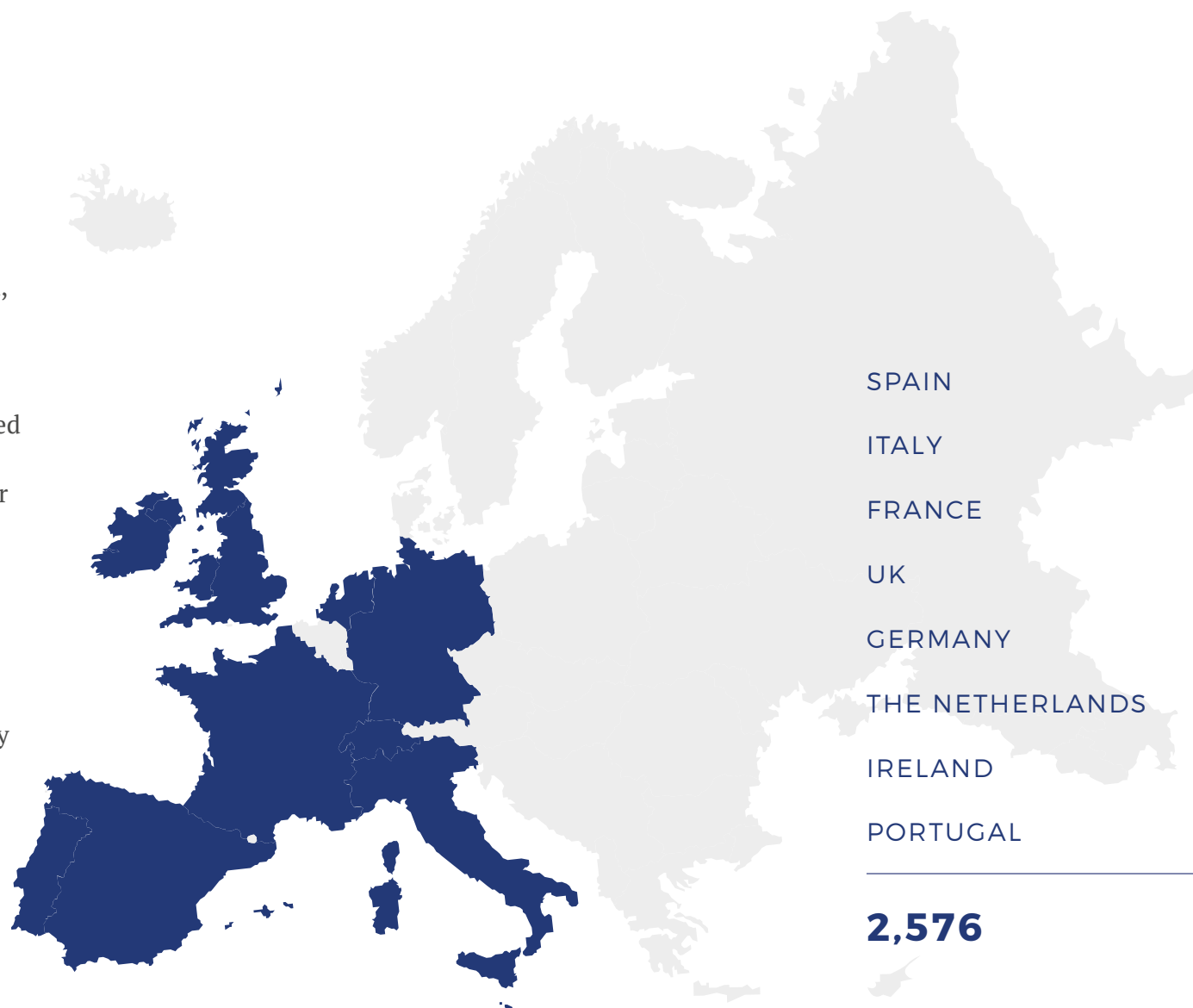
# 5

## METHODOLOGY



# SURVEY METHODOLOGY

We electronically surveyed 2,576 European adults (18 – 99), from France, Germany, Ireland, Italy, Spain, The Netherlands, and the United Kingdom. The initial goal was 300 completed responses per country, with a 3% margin of error. Respondents for this survey were selected from the Survey Monkey Audiences Online Panel in each country, and assigned to take our survey, at random, out of a number of possible alternative tasks. They were chosen to be representative by age and gender for each of the countries. Respondents received small payments to participate in the panel. The survey was fielded in January 2019 and the data was received and analyzed in February 2019 by the Center for the Governance of Change.



# AUTHORS

## DR DIEGO RUBIO

is a Professor of Practice of Applied History and Governance at IE'S School of Global and Public Affairs and the Executive Director of the Center for the Governance of Change.

His research analyzes the political and societal consequences of technological change in the long-term. Diego has advised a number of international organizations and his work has been featured in BBC World, El País, and TVE. He holds a PhD from the University of Oxford, a Master from the École Normale Supérieure de Lettres et Sciences Humaines, and a BA Hons from the Autonomous University of Barcelona.

## DR CARLOS X. LASTRA-ANADON

is an Assistant Professor at IE'S School of Global and Public Affairs and the Research Coordinator of the Center for the Governance of Change.

His interests lie at the intersection of political economy and policy, particularly education policy. His latest work focuses on the understanding of what sustains and enhances robust human capital formation and the role that the political process may play in facilitating its development. Carlos holds a Master in Public Policy, MA and PhD in Government and Social Policy at Harvard University and an MMathPhil in Mathematics and Philosophy from the University of Oxford. Prior to his graduate studies he was a consultant with McKinsey and Company.

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## CENTER FOR THE GOVERNANCE OF CHANGE

This study was conducted by the IE Center for the Governance of Change (CGC), an applied-research, educational institution that studies the political, economic, and societal implications of the current technological revolution and advances solutions to overcome its unwanted effects.

The CGC does so by producing pioneering, impact-oriented research that cuts across disciplines and methodologies to unveil the complexity of emerging technologies such as artificial intelligence, big data, blockchain, and robotics, and explores their potential threats and contributions to society.

Moreover, the CGC also runs a number of executive programs on emerging tech for public institutions and companies interested in expanding their understanding of disruptive trends, and a series of outreach activities aimed at improving the general public's awareness and agency over the coming changes.

All this for one purpose: to help build a more prosperous and sustainable society for all.



