



UNDERSTANDING SCOTLAND

A NEW SURVEY FOR SCOTLAND

TECHNOLOGY
OCTOBER 2023



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UNDERSTANDING SCOTLAND

Understanding Scotland is a new quarterly survey tool measuring the most important facets of our lives and decision-making in Scotland: our society, economy, and environment.

This high-quality, large-scale survey tool is brought to you by Diffley Partnership and Charlotte Street Partners.

Understanding Scotland: Technology is produced in partnership with the Scottish Police Authority.



SCOTTISH POLICE
AUTHORITY
ÙGH DARRAS POILIS NA H-ALBA

INTRODUCTION

TECHNOLOGY- OCTOBER 2023

We are delighted to present this issue of Understanding Scotland: Technology series, exploring the Scottish public's attitudes to and expectations of new forms of technology. As this is the third report in this series, we compare our findings with those of 2021 and 2020, examining current evaluations alongside changes over time.

We explore how people believe these new technologies will impact Scottish society – Scotland's people, economy, public services, and future. We find growing concern with the use and impacts of most new technologies. We note that pessimism is now particularly salient for Artificial Intelligence (AI), Augmented Reality (AR), and self-driving cars. More individuals are also reporting concern that data may be collected and shared by organisations.

Reactions are mixed as to how these new technologies will impact public service delivery. Overall, Scots believe that new technologies will result in changes to public services, but there is not consensus that these changes will create smarter or cheaper public services. Many are concerned with resulting job loss. Yet, the public remains clearly supportive of police adoption and use of new technologies for a wide range of applications.

Perhaps as a result of growing concerns, Scots are placing responsibility for regulating new technologies on a variety of actors. Most believe that the UK and Scottish Governments are responsible for this regulation, but one in three believe civil society and businesses also have a role to play.

This report explores these findings and more, as we continue to monitor changes in the data to track, explain and anticipate long-term shifts in public evaluations of new technologies.

UNDERSTANDING SCOTLAND

TECHNOLOGY IN 10 POINTS

This edition of Understanding Scotland brings you insights from over 2,000 members of the adult (16+) Scottish public.



01 CLEAR SUPPORT FOR USING NEW TECHNOLOGY TO TACKLE CRIME

A vast majority of Scots are supportive of the police using and adopting new technology to tackle crime. There is less support for the use of new technology to police large crowds and the use of tasers, although a majority remains.

02 MEN AND YOUNGEST GENERATION (16-34) MORE POSITIVE ABOUT THE IMPACT OF NEW TECHNOLOGY, BUT LESS SUPPORTIVE OF ITS USE BY POLICE.

Compared to their counterparts, men and younger generations are more likely to believe that new technologies like automation and self-driving cars will benefit society, albeit with some exceptions. Yet, both groups are more likely to say they are not supportive of the police using or adopting new technologies to police crowds or track movements of suspected criminals.

03 UK AND SCOTTISH GOVERNMENTS DEEMED RESPONSIBLE FOR REGULATION

For the first time in our series, Scots grant the UK and Scottish Government comparable amounts of responsibility in regulating new forms of technology. Nearly three in four Scots deem the UK and Scottish Governments responsible, up 17 percentage points and six percentage points respectively.

04 GROWING CONCERN AROUND RISKS AND IMPACT OF NEW TECHNOLOGIES

Concern that more data and information is being shared without the public's knowledge is on the rise, expressed by 89% of Scots and up six percentage points since 2021. That big companies might collect personal information and the government might use it are also key and growing areas of concern.

05 PARTICULAR CONCERN OVER JOB LOSS IN THE PUBLIC SECTOR

Two in three (67%) believe that lots of people who work to deliver public services will lose their jobs to new technologies, up eight percentage points from 2021. The working class – those in social grade C2DE – are more likely to report this concern.

06 MORE ARE SUGGESTING THAT CIVIL SOCIETY AND BUSINESSES PLAY A ROLE AS WELL

Around one in three Scots say that civil society and businesses are responsible for regulating new forms of technology, up four and 13 percentage points respectively.

07 THE MAJORITY BELIEVE PUBLIC SERVICES WILL BE IMPACTED BY NEW TECHNOLOGY

55% of Scots believe that new technologies will impact public services in the next ten years, and a plurality (45%) believes that these changes will be for the better.

08 NO CONSENSUS ON HOW NEW TECHNOLOGIES MAY CHANGE SERVICE DELIVERY

Less individuals are reporting that new technologies will lead to smarter public services, down 13 percentage points from 2021, or lead to cost reductions, down six percentage points. Many are sceptical that these changes would result in improvements to healthcare delivery, with 15% or more saying new technologies would have no impact on wait times or personalisation of health check-ups.

09 NOTED INCREASED SCEPTICISM FOR ARTIFICIAL INTELLIGENCE

More individuals thought that artificial intelligence would have a broadly positive impact on society in 2021. In 2023, more individuals disagree. Support for potential applications of AI is also on the decline, although using AI to analyse large datasets, handle repetitive tasks, and recognise faces still seen as generally beneficial.

10 LESS EXPECT NEW TECHNOLOGIES TO HAVE POSITIVE IMPACT ON SCOTTISH SOCIETY

This wave, the proportion reporting that each new technology will have a positive impact on Scotland's people, economy, and future has fallen from 2021 and 2020. Only evaluations of 3D printing and cloud computing retain much more positive evaluations than negative. Support for augmented reality and self-driving cars remains low.

EXPECTED IMPACTS OF NEW TECHNOLOGIES

In 2020 and 2021, Scots were generally optimistic about the impact emerging technologies would have on society, albeit with some notable exceptions.

The 2023 data presents a strong divergence from earlier-reported optimism. Now, across most technologies, less individuals are reporting that they will have a positive impact on Scottish society and more are reporting that they will not. This decline is most pronounced for artificial intelligence (AI), which previously commanded a generally positive reputation and is now viewed more negatively than positively across most aspects. For example, where 20% of Scots believed that artificial intelligence would not have a positive impact on the Scottish economy in 2021, 34% say the same now.

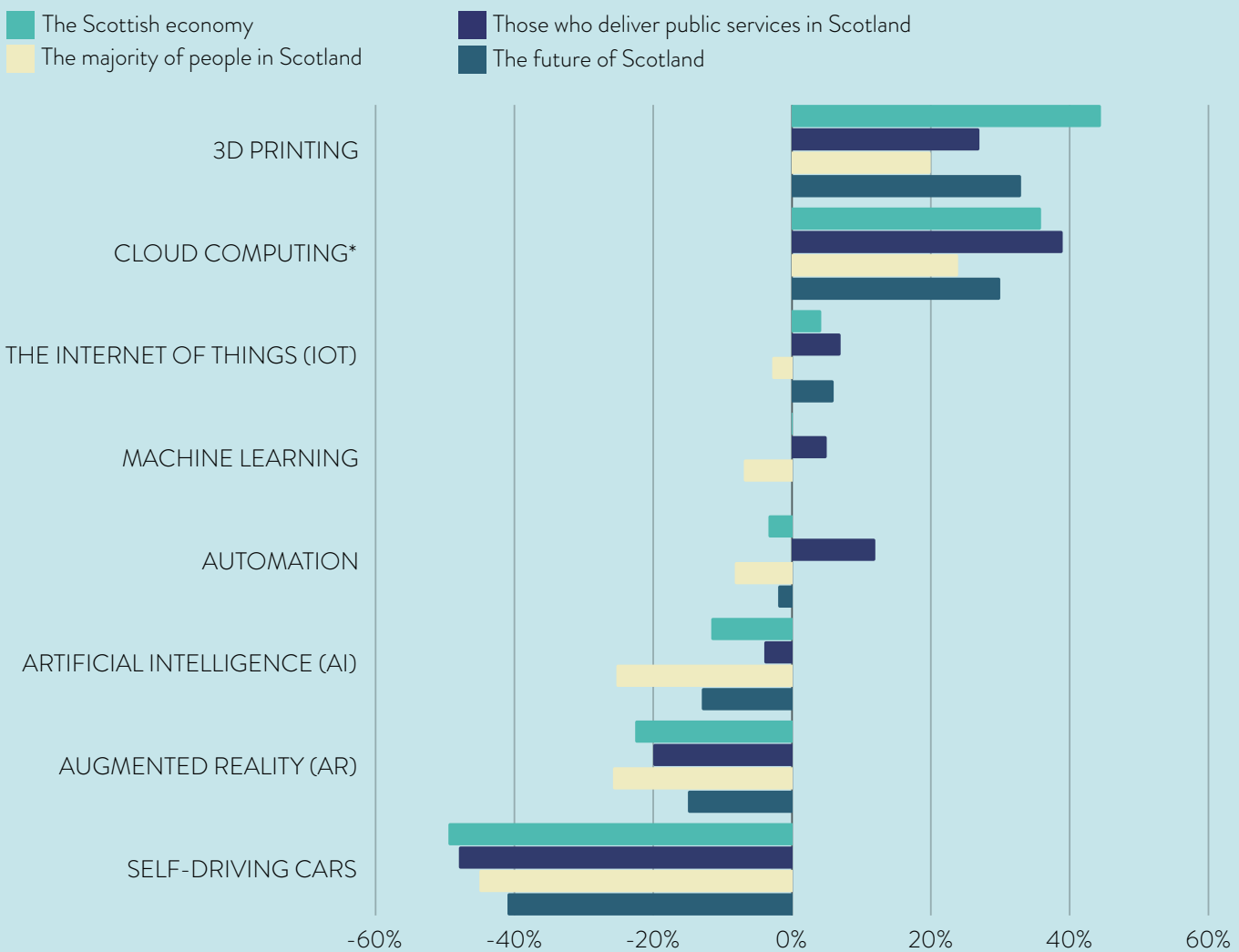
Barring these overall declines, ratings of 3D printing and cloud computing remain the most positive, with over 30% reporting that these technologies will have positive impacts on society. Self-driving cars and augmented reality are still perceived the most negatively. In the case of self-driving cars, nearly half the population believes these technologies will not have a positive impact on society.

In addition, Scots seem to rate the impact of each technology similarly across its impact on the economy, public services, the Scottish population, and the future of Scotland. In most cases, individuals believe that the impact of a technology will be less positive on the majority of people in Scotland, in continuation of a previous finding that the benefit of new technology on the general population is hard to perceive for many Scots.

There are notable differences in evaluations of new technologies on society by social group. Men are more likely to believe that certain technologies, such as AI, automation, and self-driving cars, will benefit society. Younger generations also tend to believe automation and self-driving cars will benefit society, but they are more likely to disagree that AI will benefit the economy, compared to the oldest generation (those 65+).

EXPECTED IMPACTS OF NEW TECHNOLOGIES

'Net' proportion of people saying that the following technologies will have a broadly positive impact on society minus the proportion saying that these technologies will not have a broadly positive impact (excluding 'Don't know')

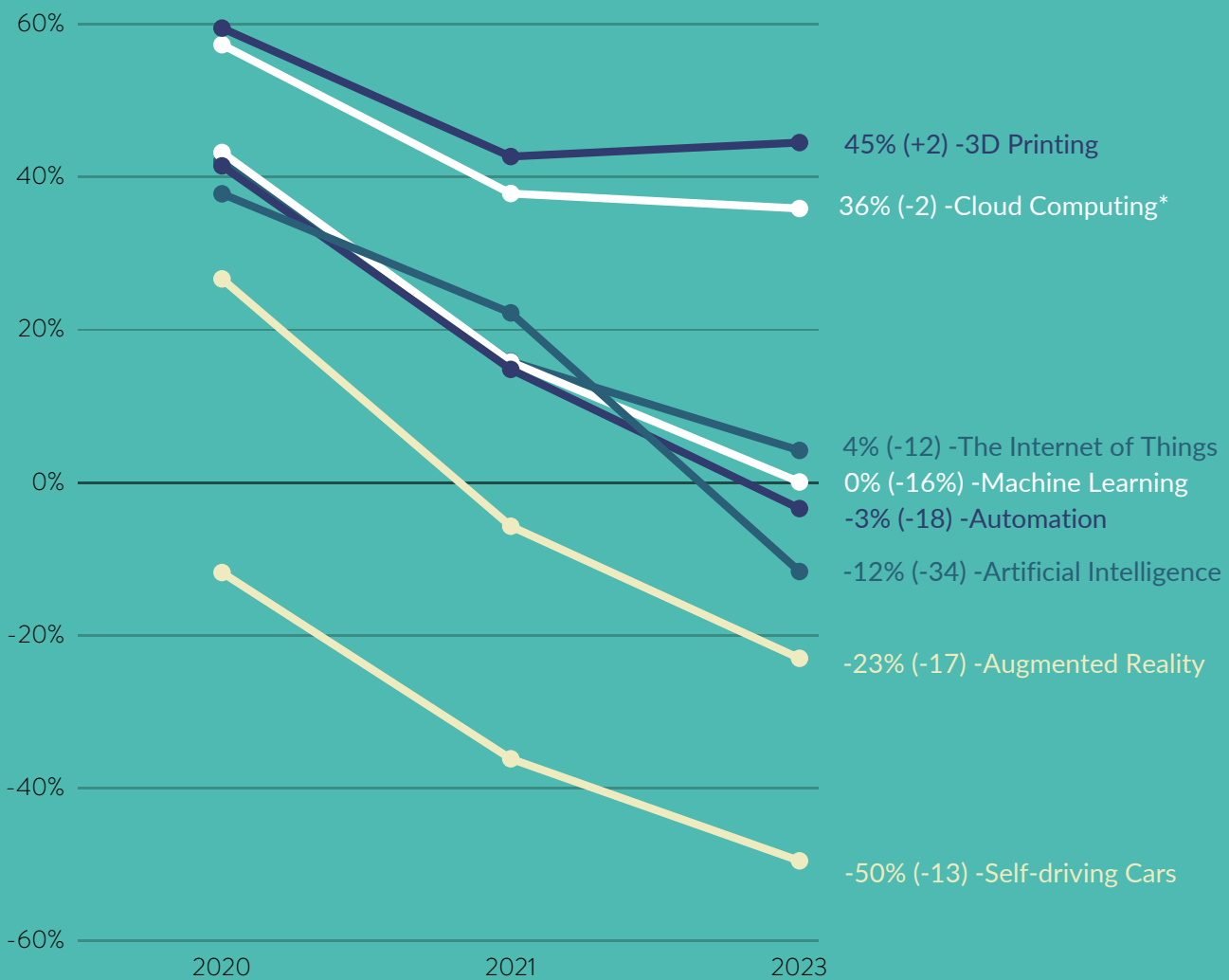


Thinking broadly about the issue of new technologies, to what extent do you agree or disagree that these technologies will have a positive impact on ...?

*Explanation provided

EXPECTED IMPACTS OF NEW TECHNOLOGIES ON SCOTTISH ECONOMY

'Net' proportion of people saying that the following technologies will have a broadly positive impact on the Scottish economy minus the proportion saying that these technologies will not have a broadly positive impact

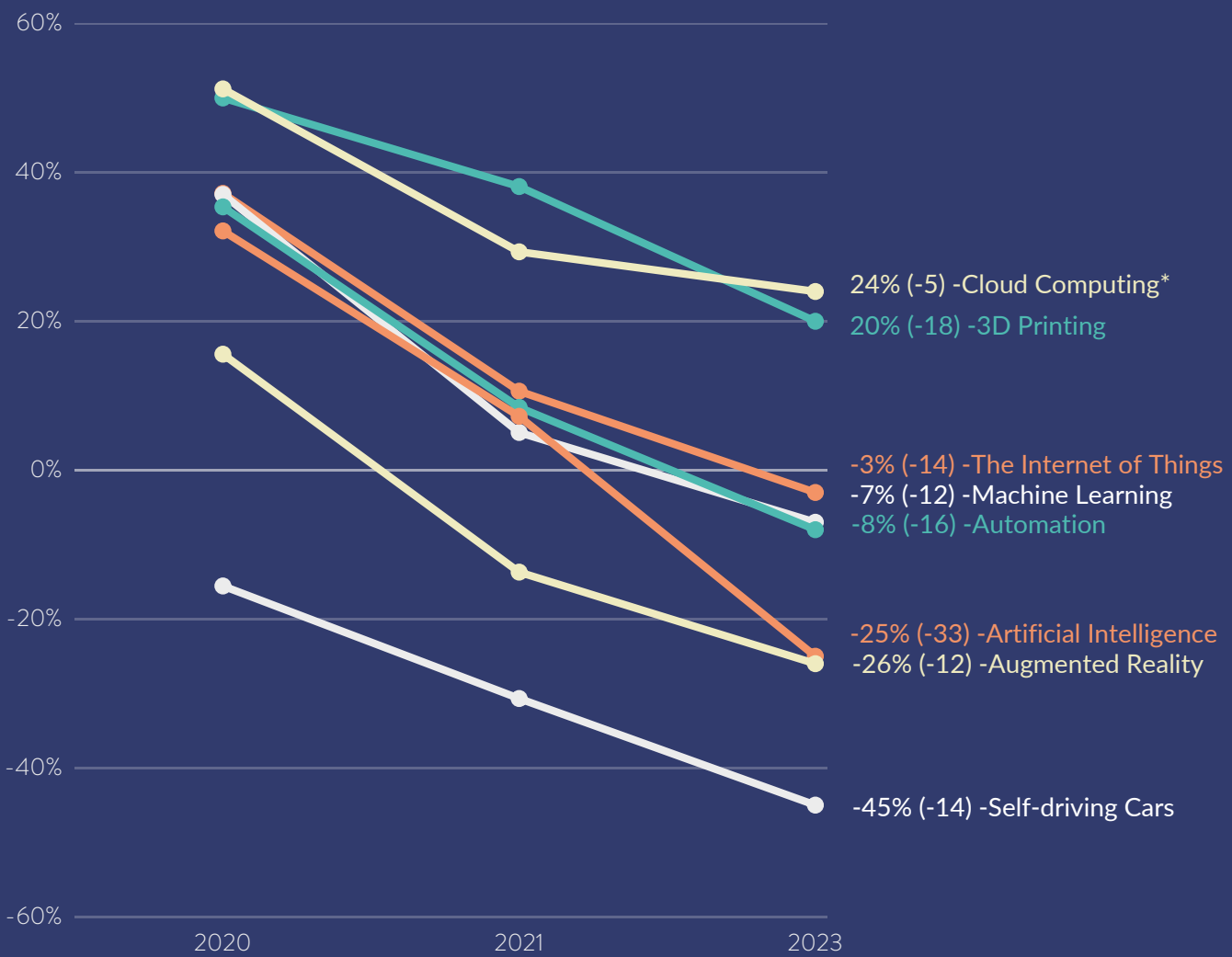


Thinking broadly about the issue of new technologies, to what extent do you agree or disagree that these technologies will have a positive impact on the Scottish economy?

*Explanation provided

EXPECTED IMPACTS OF NEW TECHNOLOGIES ON SCOTTISH PEOPLE

'Net' proportion of people saying that the following technologies will have a broadly positive impact on the majority of people minus the proportion saying that these technologies will not have a broadly positive impact



Thinking broadly about the issue of new technologies, to what extent do you agree or disagree that these technologies will improve the quality of life for the majority of people in Scotland?

*Explanation provided

USES & APPLICATIONS

Overall, the Scottish public demonstrated substantial support for the use of new technologies in tackling crime. Of the six areas queried, all were supported by a vast majority of the public - nearly two in three Scots or above. Support for these technologies has also remained relatively stable since 2021, falling by a few percentage points at most.

Scots were most supportive about the use of new technologies to identify and tackle online child sexual abuse, supported by 91% of those surveyed. Following closely behind, strong support was also given for using new technologies to tackle fraud and trace stolen money (89%), trace people who have gone missing from home (88%) and track the movements of suspected criminals (82%).

Scots were also generally supportive of the use and/or adoption of other technologies, including body worn video (90%), drones (87%), and identification tools (81%). In line with expectation, use of artificial intelligence/machine learning for large data analysis and tasers received the lowest levels of support, although still supported by a large majority of Scots (70% and 66% respectively).

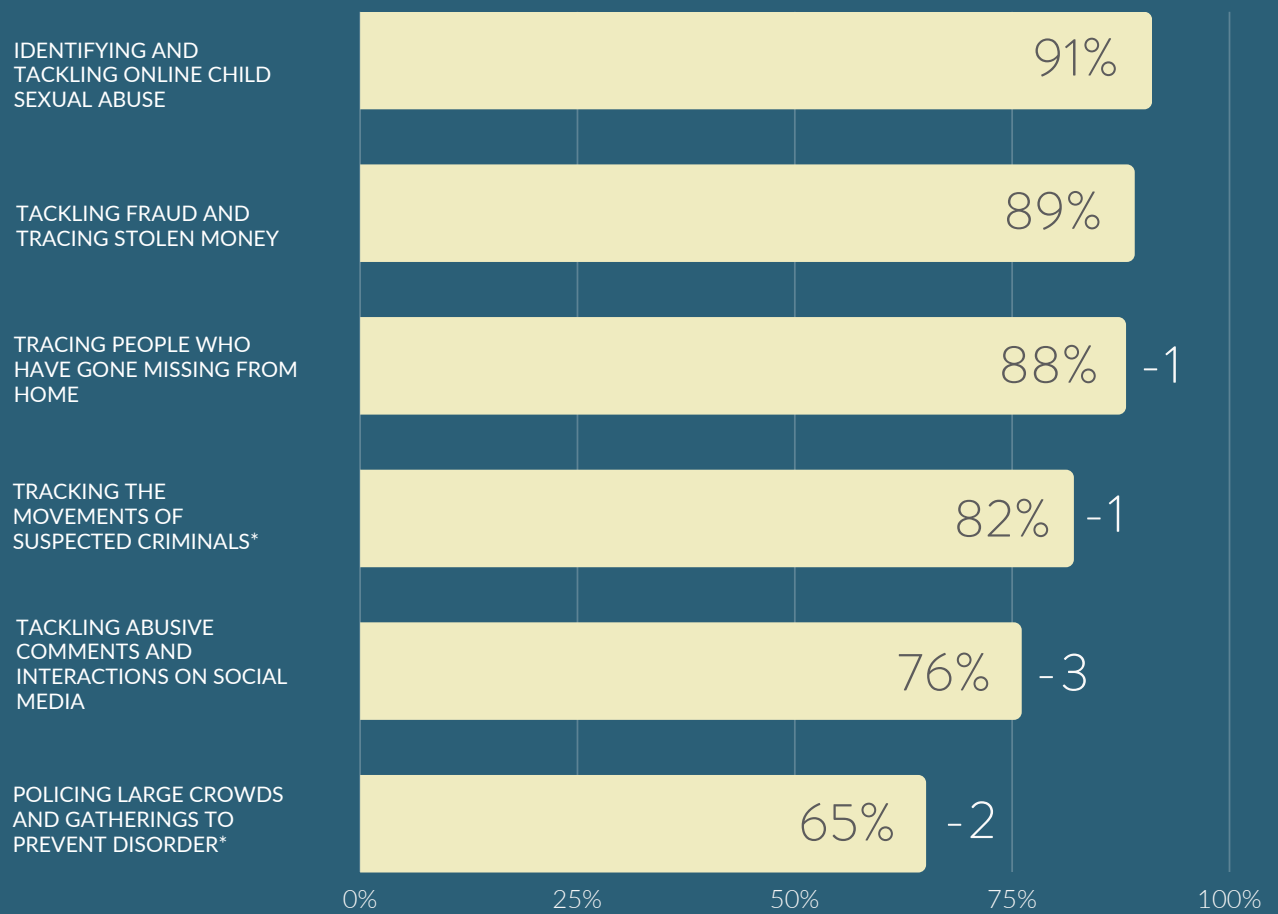
Across the board, men are generally more likely to say they are not supportive of the police using or adopting new technologies. This gender difference can also be observed when examining trust and confidence in police, suggesting some overlap.

In addition, there is a stark difference in response by age, with the oldest generation tending to profess support for the adoption of new technologies by police or the use of them to police large crowds and track movements of suspected criminals, while the youngest generation is more likely to object to the police's use and application of these technologies.

Glasgow and Lothian residents were especially more likely to say that they were not supportive of police using new technology to police large crowds and gatherings than those in any other region.

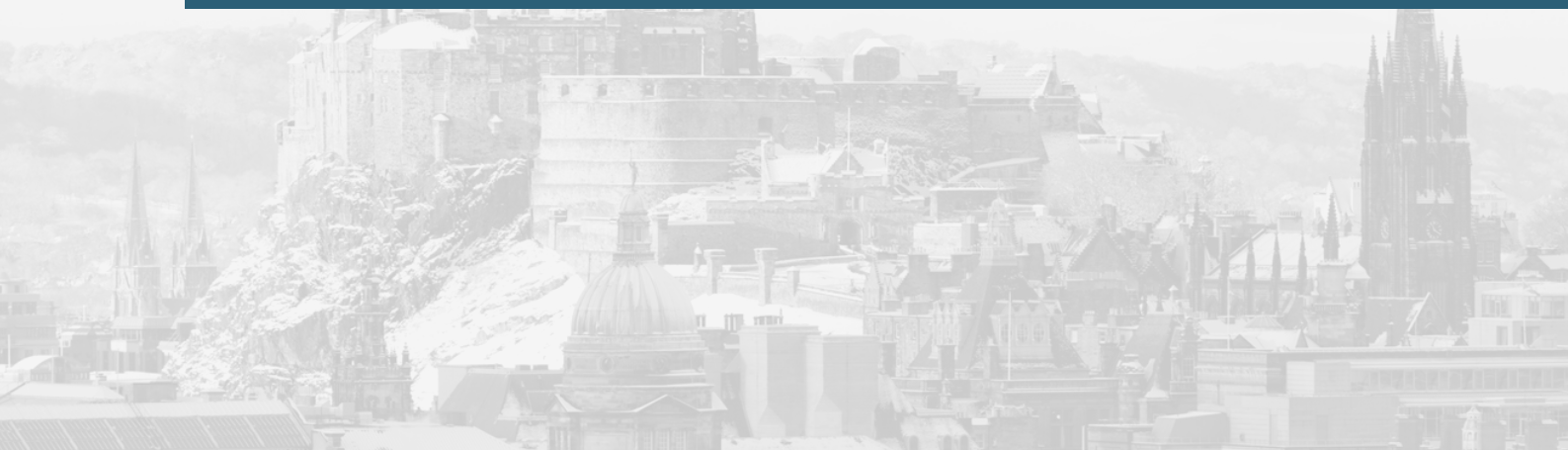
USING NEW TECHNOLOGIES TO TACKLE CRIME

Proportion of respondents expressing support for the use of new technologies in the each circumstance



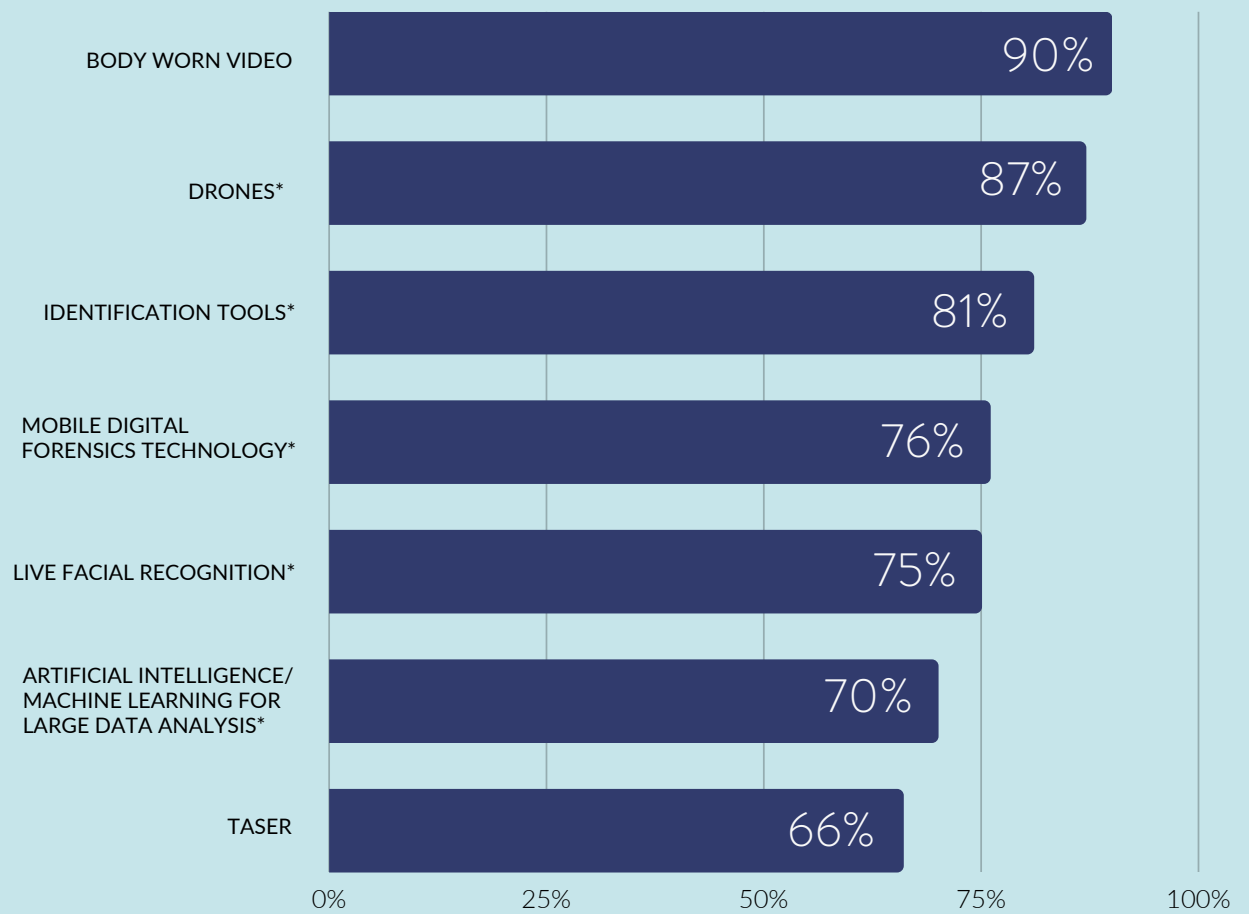
How supportive would you be of the police using new technologies in the following situations?

**Examples provided*



SUPPORT FOR ADDITIONAL TECHNOLOGICAL ADOPTION

Proportion of respondents expressing support for the use or adoption of the following technologies



And finally, how supportive would you be of the police using, or further adopting, the following specific technologies:

**Examples provided*



EXPECTED IMPACTS ON PUBLIC SERVICES

In line with last wave, the public generally believes that new technologies will impact public service delivery in Scotland in the next 10 years, reported by 55% of Scots. Only 23% state that new technologies will make no difference. A sizable proportion of the public also believes that changes will be for the better, reported by 45%.

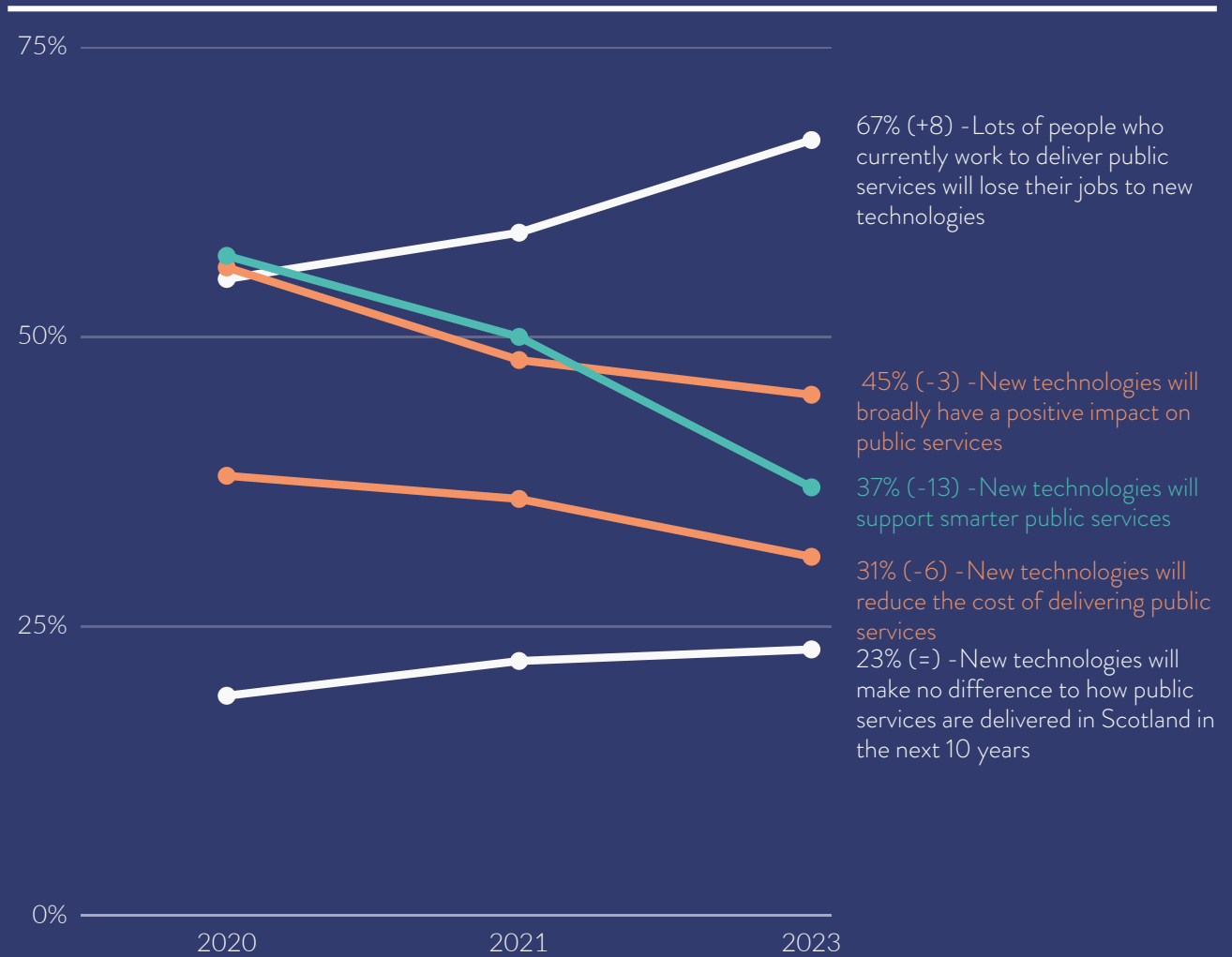
Scots are less convinced that new technologies will have other positive effects, such as supporting smarter public services or reducing the cost of delivering public services. Around four in ten (37%) say that new technologies will support smarter public services, down 13 percentage points from 2021, and 31% say that they will reduce the cost of delivering public services, down six percentage points. In addition, the public is increasingly concerned that new technologies will result in substantial job loss in the public services sector. Two-thirds (67%) say that lots of people who currently work to deliver public services will lose their jobs to new technologies, up eight percentage points from 2021.

When thinking about the impact that new technologies will have on key public services such as policing, education and healthcare, Scots believe new technologies will provide a marginal improvement to service delivery. The largest positive effects are projected for policing and education, where individuals report that new technologies can help the police tackle crime, help children learn at school, and help with skills development in higher and further education. Scots anticipated less impact on health services and delivery, with 15% or more of the population saying new technologies would have no impact on wait times in hospital or for GP appointments, as well as receiving a more personalised health check-up.

The youngest generation are more likely to believe that new technologies will have positive effects on public service delivery than older generations, as are those in social grade ABC1. Those in social grade C2DE are more likely to believe that there will be substantial job loss in public services from new technologies.

EXPECTED IMPACTS ON PUBLIC SERVICES

Proportion of respondents agreeing with the following statements over time

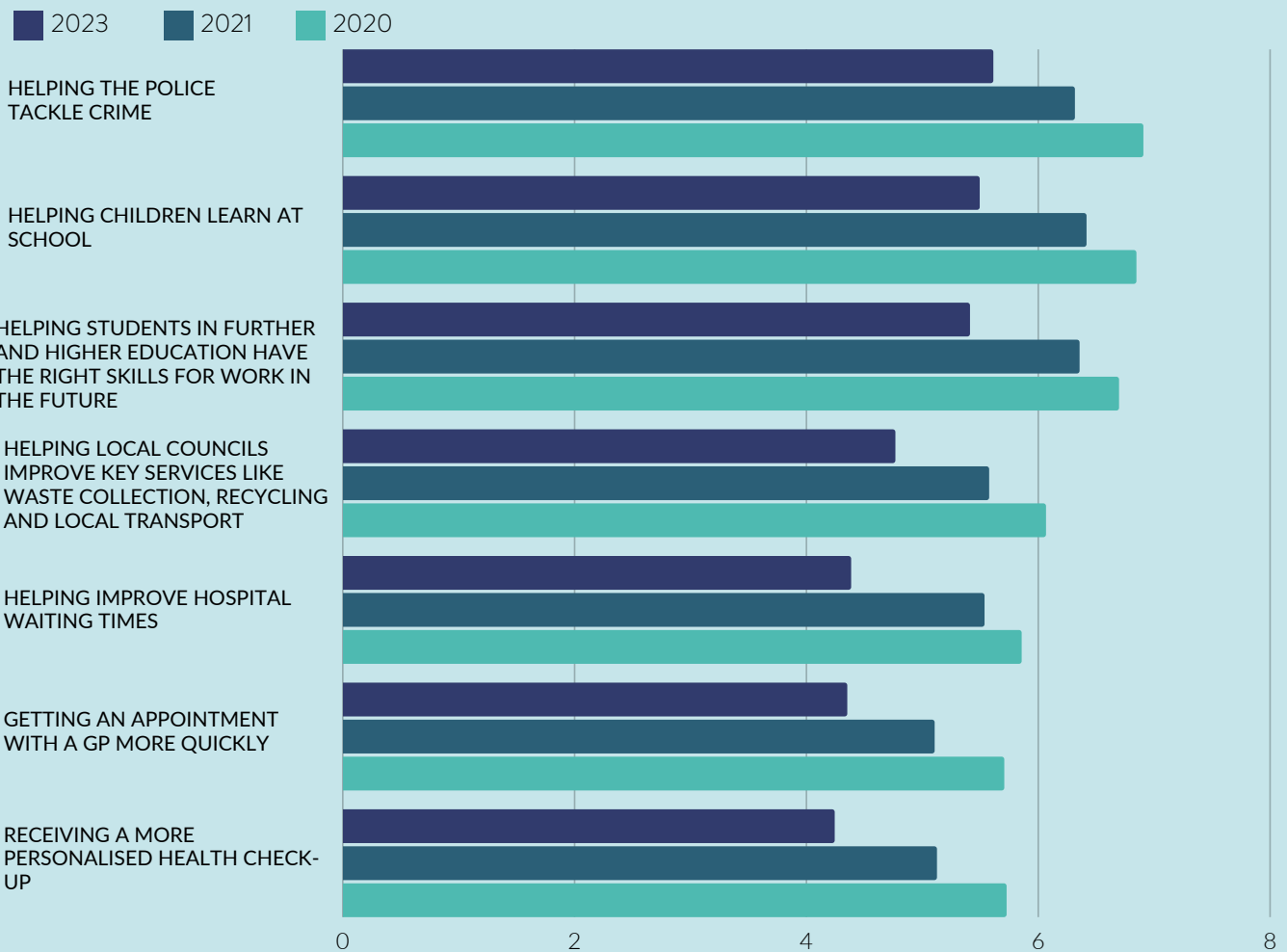


Thinking about how new technologies might have an impact on delivering public services like the NHS, education and policing in Scotland; to what extent do you agree or disagree with the following statements?

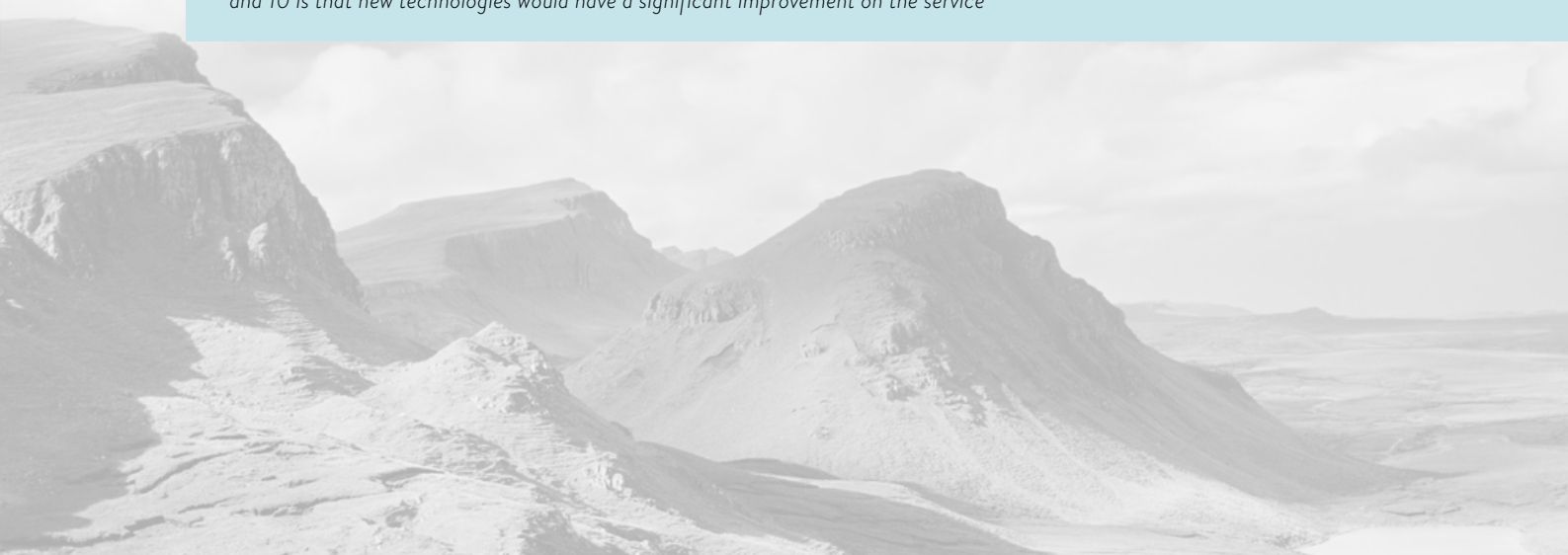


EXPECTED IMPACTS ON PUBLIC SERVICES

Weighted average, on a scale from 0-10, of how large an improvement people believe new technologies will make to the following over time



Thinking about the key public services in Scotland, listed below, for each please rank how you think new technologies might improve, if at all, the delivery of that service to the public. Please rate on a scale of 0-10 where 0 is that new technologies will not improve the service at all and 10 is that new technologies would have a significant improvement on the service



RISKS & CONCERNS

The Scottish public is more wary of new technologies than they were in 2021, with more individuals emphasising the risks associated with new technologies and reporting concerns.

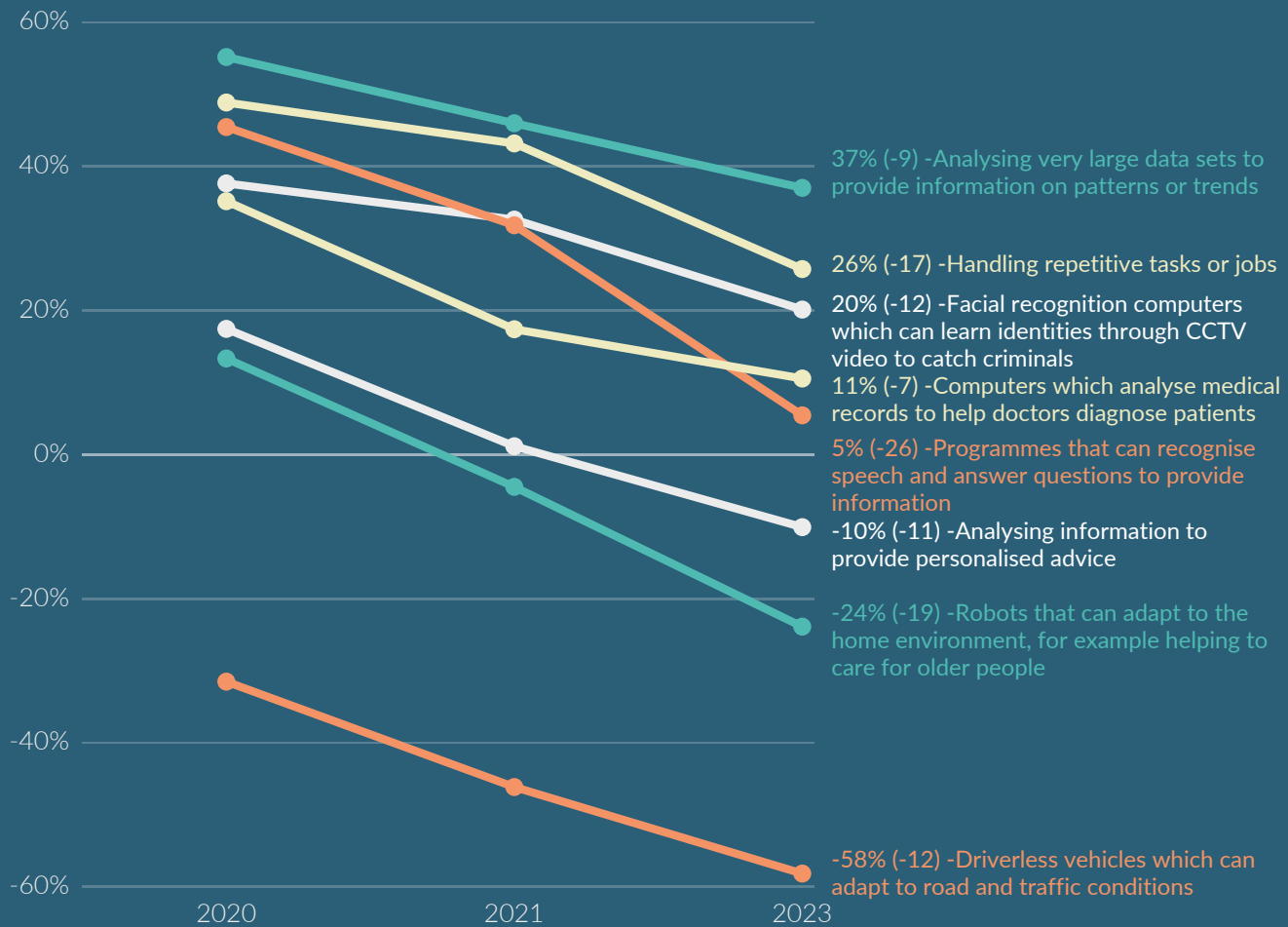
The public is most concerned that more data is being shared without individual's knowledge or consent, selected by 89% of those surveyed, although more than three in four report some level of concern with all aspects queried. This concern is not negligible, as over half of Scots say they are **very** concerned about the use and sharing of their information by a variety of actors. Scots are least concerned that new technologies may impact people's human rights, reported by 76%.

When thinking about the potential applications of Artificial Intelligence (AI), some applications are seen as more beneficial. For instance, a majority (51%) believe that the benefits of analysing very large data sets to provide information on patterns or trends outweighs the risks. Just under half say the benefits of using AI to recognise criminals through CCTV (46%), handle repetitive tasks (45%), or analyse medical records to assist in diagnoses (40%) outweigh the risks. In contrast, perception of driverless vehicles or robots that can adapt to the home environment remains substantially negative, with 66% and 46% respectively saying the risks of this application outweighs the benefits.

While concerns are spread consistently throughout the population, men, those in the youngest generation (16-34) and those in social grade ABC1 are more likely to believe that the benefits of AI outweigh the risks.

RISKS VS OPPORTUNITIES

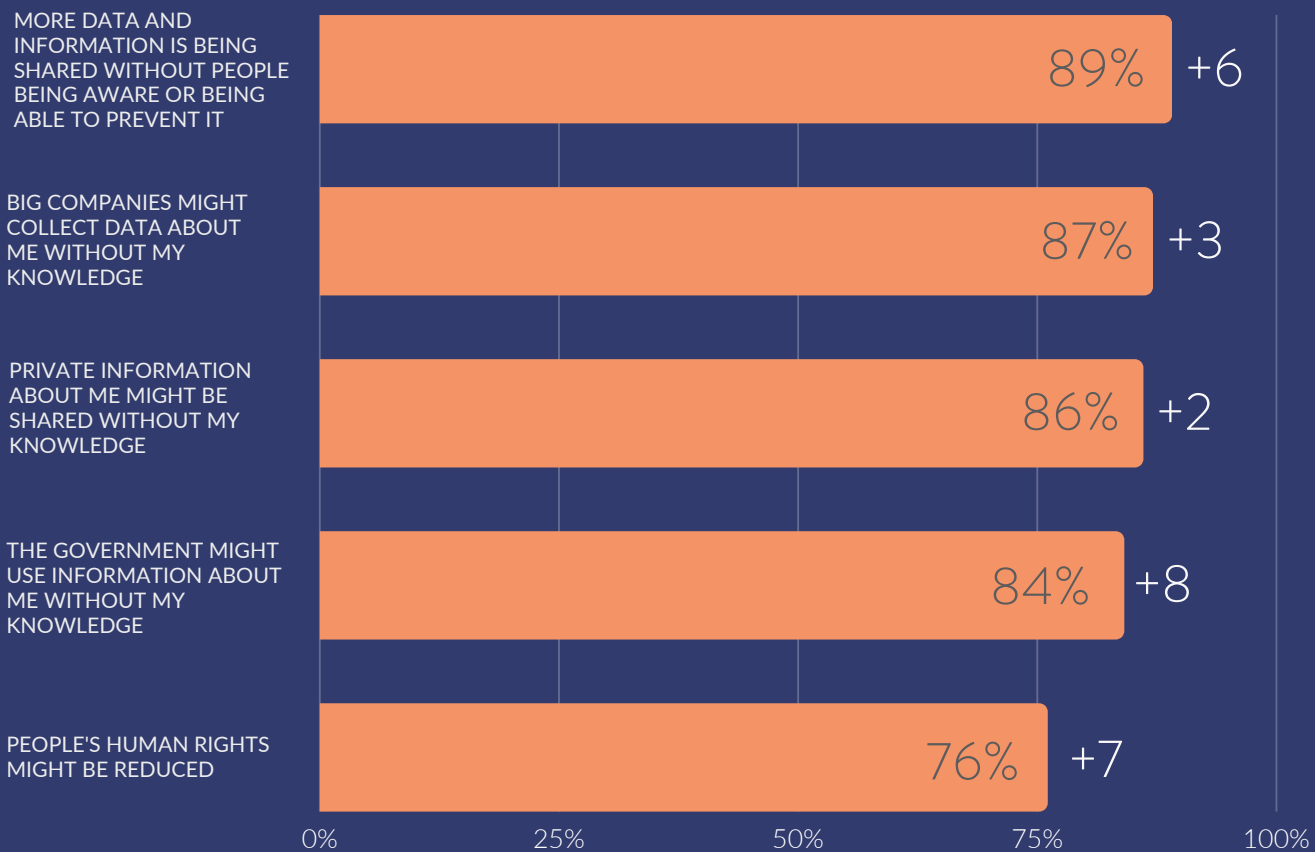
'Net' proportion of people saying the benefits of the following will outweigh the risks minus the proportion saying the risks outweigh the benefits (Excl. 'Don't know' answers).



There are a number of ways in which Artificial Intelligence could play a greater role in all of our lives in the future. For each of the following examples, please say to what extent the benefits outweigh the risks or the risks outweigh the benefits.

CONCERNS OVER NEW TECHNOLOGIES

Proportion of people reporting concern with the following



To what extent if at all, are you concerned about the following in relation to new technologies?

REGULATION & RESPONSIBILITY

In the continuation of a trend, the UK and Scottish Governments are deemed the most responsible for this regulation, identified by nearly three in four Scots (73% and 72% respectively).

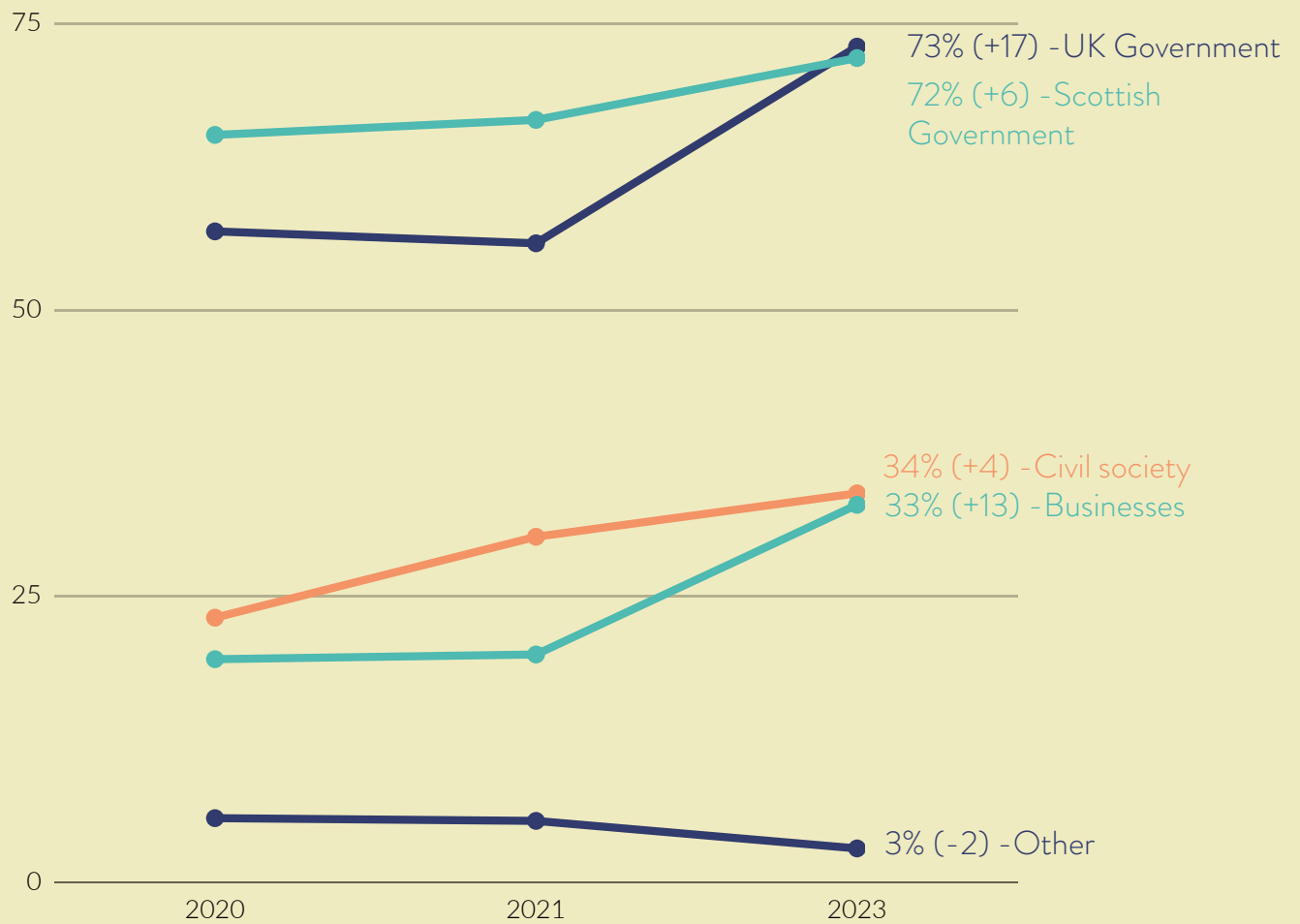
In departure from previous findings, the percent of the public finding the UK Government responsible for regulation new technologies has risen by 17 percentage points since 2021, eclipsing the Scottish Government as the actor deemed most responsible. However, more individuals are assigning responsibility for regulating new forms of technology to all listed actors, suggesting a desire for more regulation of new technologies overall. Businesses and civil society, deemed responsible by around one in three individuals, have risen in popularity by 13 and four percentage points, respectively.

Women are more likely than men to say that the Scottish Government and businesses have a responsibility to regulate new technologies, while the oldest generation (those 65+) is least likely to place responsibility for this regulation with the Scottish Government.



RESPONSIBILITY FOR REGULATION

Proportion of respondents deeming each actor responsible for regulating new forms of technology



Which of the following organisations do you think should be responsible for regulating new technologies and their impact on individuals and society?





TECHNICAL DETAILS

The survey was designed by Diffley Partnership and sponsored by the Scottish Police Authority. Invitations were issued online using the ScotPulse panel. Fieldwork was conducted between the 2nd - 8th August, and received 2,101 responses from the adult population, aged 16+, across Scotland. Results are weighted to the Scottish population by age and gender.



FIND OUT MORE

To explore the results for yourself, visit our website [here](#), and register for exclusive updates and a quarterly bulletin [here](#).

If you are interested in having your own questions asked and answered in future waves of Understanding Scotland, email us at contact@understanding-scotland.co.uk



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