

Oslo: State of the City

2021

The pandemic will continue to change how we live, work, and create in ways we can only imagine. Oslo's annual benchmark, "Oslo State of the City," is more relevant than ever. The comprehensive outside-in review of Oslo is based on 750 global benchmarks and indexes. It examines how Oslo is progressing in areas like business, city development, liveability, and the visitor economy, and the region's opportunities on the global stage.

**Oslo's international
benchmark performance**

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The Business of Cities

oslo

Oslo Business Region

Oslo's international
benchmark performance

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The report is written by **The Business of Cities**, an urban intelligence firm based in London that provides data and advice to 100 global cities and companies.



Foto: Kamil Klyta



Executive Summary

Oslo after the pandemic: Recovery, Resolve and Renewed Ambition

Oslo as a region is enduring the profound Covid-19 shock within a much longer 20 year context of expanding population and economic change, during which its regional character and identity is becoming more clear and compelling. The pandemic's impacts and scars on health, jobs and wellbeing in Oslo have been severe, and the clock may be now counting even faster to a post fossil fuel world. Yet the longer term building blocks the region has been putting in place now provide the basis for renewed optimism about Oslo's place in the world in the 2020s.

The world's attention is returning to the prospects of cities and a revised model for how cities succeed is coming into view. In a context where many regions are enveloped in doubts about their business base or their political stability after Covid-19, the relative confidence and trust in Oslo's ability to bounce back post-Covid in fact appears to be high.



More of the world is looking to Oslo

The data from hundreds of studies reviewed for the 2021 State of the City point to a bigger visibility jump for Oslo than ever before. This reflects growing confidence among overseas residents, a reputation for resilience among investors, and enthusiasm among entrepreneurs, visitors and residents alike for Oslo's combination of high social trust and global leadership ambition in the areas of sustainability and wellbeing.

The Oslo performance spidergram in 2021

This spidergram captures the overall picture of how Oslo is performing in the wider world of cities.

The dark blue line shows Oslo's objective performance in each of the 10 themes, compared to the other 50 cities in its wider peer group. In light blue are the areas where there is also data on perceptions about Oslo. Where the dark blue score is higher than the light blue, it means Oslo is actually performing better than it is perceived to be. When it is the opposite it means Oslo's reputation is greater than its real performance.

This year Oslo rates an impressive 9/10 (2nd decile) or better in half of the 10 core themes. The main areas where other cities are ahead are for business environment and innovation ecosystem, while there are perception gaps about what Oslo's spaces and places have to offer. These trends are explored in this report.

Source: The Business of Cities Research. Decile scores (1-10, peer average 5.5) calculated according to an ELO algorithm that computes Oslo's aggregate position across all benchmarks in each theme, relative to the average among its peer group (see Methodology for full details).



The advantage to build upon

Oslo's economy is well placed to adapt to the Covid-adjusted future. It has a larger workforce that is 'remote work friendly', a skills base that is more flexible to work disruption, as well as the lifestyle and environment ingredients that are more in demand among entrepreneurs and talent: superior air quality, more gender fairness, and some potential to make the '15-minute city' come true across the region.

Oslo's specialisations have also been accelerated by the pandemic. As the region continues to diversify, it is more often recognised as a leader globally in sectors ranging from EVs and green finance, to software engineering and disruptive technologies, and from cleantech to fintech. Oslo is also fast becoming a home for start-ups and foundational technologies capable of disrupting whole industries. These can be built on further.

Bouncing back decisively

Oslo has the chance to heal the scars of the pandemic and emerge stronger if it:

- **Re-establishes a compelling offer and story to talent.** The region can gain more of the benefit of the doubt when attracting talent if it communicates Oslo's wellbeing edge and the path the region is pursuing to build back better. Given the effect of the pandemic on work patterns, Oslo will have to show to entrepreneurs and growth companies that it can provide a more flexible, agile and mixed-use city centre, a fantastic regional lifestyle and mobility, and more affordable spaces, if it is to provide a compelling offer. Articulating Oslo's advantages confidently, and correcting any misperceptions that Oslo is not ready for the new mantras of flexibility, will be required.

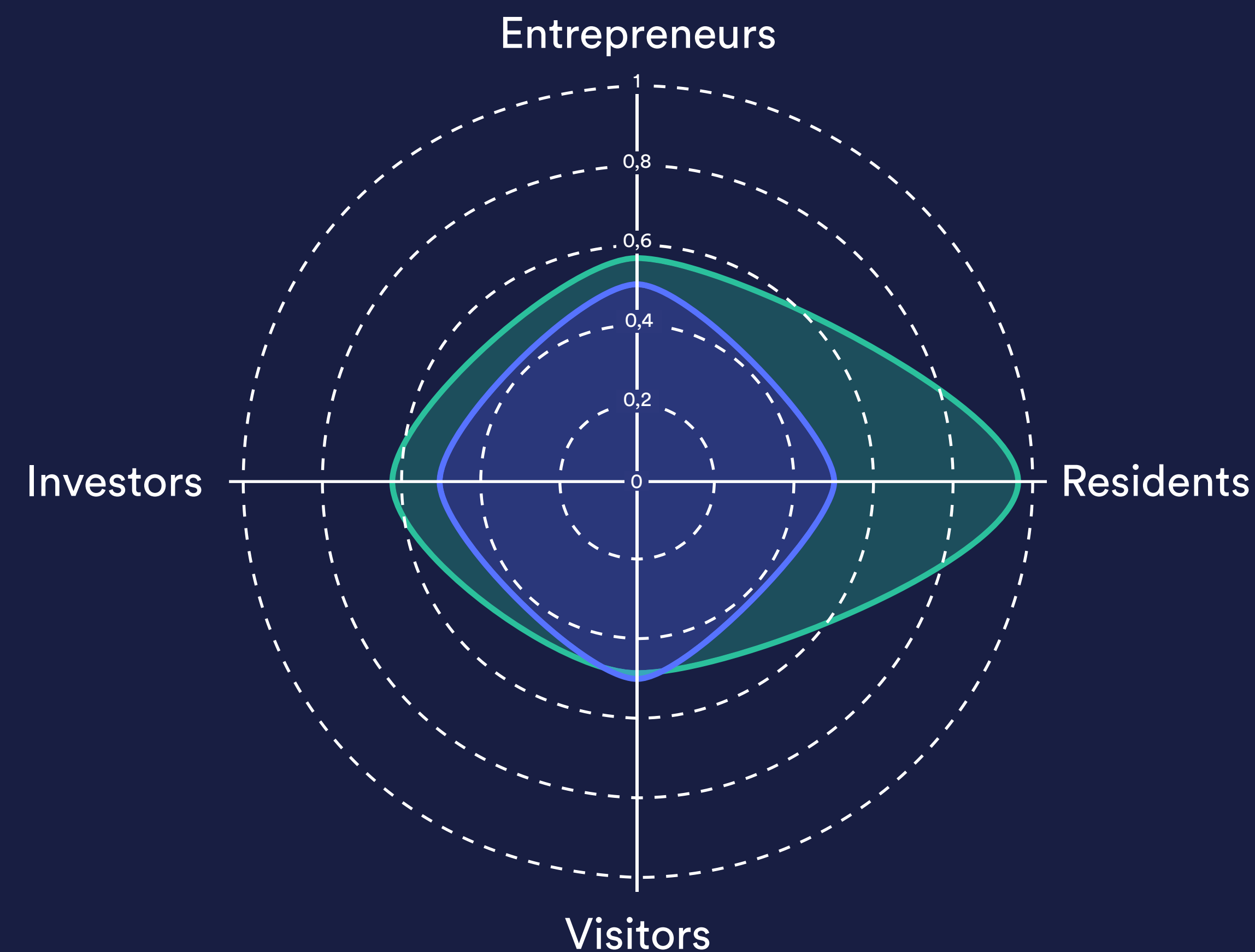
- **Proves to the world Oslo is ready for the hybrid future** – this means being able to fully harness digital tools to better serve the region's flexible future of work and lifestyle, while also celebrating the magic of place. Oslo will need to ensure more ultra-fast digital connections at home and at work and all the places in between. The region can use digital platforms to ensure that more buildings are used to their potential, 24/7, so they are safe and healthy but also easily adapted to serve many uses (work, events, culture). Oslo will have to show it can embrace the use of data for better services and a better region, and that it can animate more quality places to spend time in.

The world already perceives Oslo's to be a competent, cooperative and well-run region, and admires its bold moves to preserve planetary health, and its high social capital. This is the time for the region's edges in leading sectors, niches and districts to come to the fore.

The risk of missed opportunity

If Oslo does not continue to communicate the scale of appetite and transformation the region is on, the region may become too narrowly associated with its resident and sustainability brand. Other cities and regions will be more successful at attracting the interest of innovators, expertise, scaling businesses and forward-thinking investors.

Oslo's attraction to residents outweighs its familiarity to other audiences in 2021



The Business of Cities Research. Percentile scores (0-1.0, peer average 0.5) calculated according to an ELO algorithm that computes Oslo's aggregate position across all benchmarks that relate to each audience, relative to the average among its peer group (see Methodology for full details).

The war for talent and for broad-based appeal requires Oslo not only to uphold its famous advantages of liveability, green living, and social equality. It also means staying true to its innovation promise – in the way it promotes flexible uses, facilities and pop-ups that provide for enriched and meaningful experiences and a more seamless urban lifestyle.

In particular, the 2020-21 data suggests that Oslo's challenges will be mainly around:

- **Supporting more innovative firms to reach global scale,** and making more entrepreneurs, innovators and start-up founders aware of what Oslo's innovation economy has to offer in terms of advanced industries, training and value for money.
- **Protecting the region's hard-won social cohesion model,** and showing that it is possible to achieve growth and global reach while at the same time staying a world leader for fairness, inclusion and social democracy.
- **Using digital to develop Oslo as a platform.** The region can make it easier for residents to access information and services online, solve problems, and ensure more people participate in a flexible and digitally connected economy.
- **Showing sustainability leadership across the full spectrum.** Oslo has become a global leader for EVs, e-mobility and green finance. But protection of carbon sinks, green buildings, and the circular economy, are all areas where other cities are making faster strides.
- **Making Oslo's cultural variety more visible and tangible.** More residents are happy with the cultural offer. But this has not yet spilled over to visitor and global perceptions, which will need powerful reminders after Covid-19.

Championing the future

This moment therefore calls for the region to co-ordinate government, investors, entrepreneurs, residents and civic leaders even more closely. There are many agendas Oslo should consider prioritising:

1.

A convening and organising story for the Oslo region's innovation platform that confidently maps the superb places and spaces that make up the region, explains why and how Oslo companies are succeeding, and shouts about the region's special successes.

2.

Communicating the plan ahead, and the big adjustments after Covid (land use, mobility, work, people) the Oslo region is prepared for and embracing.

3.

A more targeted focus on the specialist talent, experts and enablers that will enable certain sectors to go to the next level.

4.

Using its green credentials to also communicate its commitment to wellbeing, fairness, gender inclusion, community and social cohesion.

5.

Creating more platforms for civic innovation and citizen co-creation, including to use data for public goals, and to expand and enrich the notion of what it means to be a citizen and 'member' of the Oslo community.

6.

Redefining and fully integrating the proposition about Oslo's leisure, culture and family-friendly mix at the wider region scale.

7.

Making the most of Oslo's flagships – its innovation district, signature buildings, key companies and bold initiatives.

Above all, Oslo needs to keep going with its long-term transition into one of the world's most innovative, specialised and resilient cities. The art of success for a city on this journey is in perseverance, and willingness to operate in new ways to reflect the new circumstances in which the region finds itself.

Introduction

It is now six years since the Oslo region launched its brand strategy and since The Business of Cities began systematically benchmarking Oslo's progress on the global stage.

These annual 'outside-in' reviews provide a window into how the world sees Oslo, and how its strengths and reputation compare to other high-performing cities on the international stage.

In 2021 we continue to track Oslo's performance and progress across the widest possible set of more than 750 global benchmarks, rankings and comparative studies. Tracking Oslo's aggregate performance across all benchmarks remains more effective than simply looking at a few indexes. It helps to capture the big picture about how Oslo is performing and how it is perceived by investors, residents, entrepreneurs and visitors, amongst its real peer group of cities internationally. This year, we have again tracked Oslo's progress in objective indicators and in subjective perception studies, to illuminate the differences between perception and reality.

The last 12 months have seen so much global travel and face-to-face exchange on hold. Nevertheless benchmarks, rankings and other comparative studies of cities continue to shape the global imagination. Global benchmarks shape the intuitions and decisions

of businesses and investors, and their audience visibility, particularly in a hybrid world, means they inform the decisions and appetites about which cities to visit, invest in, or consider moving to after the pandemic subsides.

Figure 1: New areas of post-Covid focus in the global studies and benchmarks

Diversification & Distribution

1. The blended region
2. Hybrid services
3. Agile land use
4. Unlocking new locations

Innovation

1. New industries
2. Green economy
3. Ecosystem & revenue
4. Equipped talent & skills

Brand & Story

1. Health
2. Good Governance
3. Opportunity & Appetite
4. DNA, Values, Openness

Wellbeing & Resilience

1. Future sources of work
2. Preparedness for shocks
3. Civic capital

How is the world starting to think of cities differently after Covid-19?

Global attention has been turning to questions of how well cities protect wellbeing, how well their whole regions work, and how prepared they are for the future of jobs, lifestyle and climate change. Studies of the softer factors that make up cities' overall brand and story - such as governance, values and healthy living - loom larger than ever before (see Figure 1).

Oslo's status as a city with a faster pace of growth, change and diversification is helping it to emerge from Covid-19 as a special sort of European city.

Unlike others, Oslo is still rapidly urbanising. Its shift from commodity-based economic sectors to metropolitan tradeable sectors is still ongoing. It is also upgrading its city systems and assets faster as it heads towards a 2 million person region. This puts Oslo in contrast to other cities where the change drivers are fewer and where the aim will be to tweak existing systems.

This means that the choices and imperatives Oslo now faces will therefore also be unique.

The main priorities will be around:

- 1. Continuing to diversify the economy and specialising in the top tradeable sectors.**
- 2. Growing the innovation ecosystem, building its innovation clusters, and developing the expert knowledge and skills required to underpin it.**
- 3. Showing to the world that it is possible to grow rapidly while also remaining green, planet-conscious, and committed to the needs and desires of citizens.**

4. Protecting wellbeing and work-life balance through regional infrastructure and services, and specialised centres.

5. Sharpening the reputation for warmth, welcome and work-life balance.

A framework fit for post-Covid

This report gauges how Oslo's performance stacks up against global perceptions in these priority areas. Together it provides a lens on how the region can emerge on the front foot as the pandemic subsides. Responding to the way Covid-19 has prompted cities around the world to reflect on what really makes cities work, the report is adjusted to provide a new more, forward-looking analytical framework based around 5 main dimensions.

The analytical framework underpinning this report:

1	Opportunity	How recognised is Oslo as a region that is prosperous and open for business?	1.1 Productive and future-proof economy 1.2 Business and investment friendliness
2	Innovation	How is Oslo regarded for its capability to build companies and its access to specialist skills?	2.1 Innovation ecosystem 2.2 Knowledge and skills
3	People	How well is Oslo known for what it offers people in terms of health, lifestyle and warm welcome?	3.1 Healthy living 3.2 Welcome and inclusion
4	Place	What is the day-to-day physical experience like in Oslo, of working, living and travelling in the region?	4.1 Infrastructure platform 4.2 Spaces and places
5	Preparedness	How well is Oslo known for being ready and bold about the 21 st century future?	5.1 Competence and leadership 5.2 Green and planet-conscious

This report:

- Provides a full review of Oslo's comparative performance since the pandemic hit Europe in February 2020.
- Provides a computed framework of Oslo Region's performance, and highlights where international perception diverges from this.
- Assesses whether Oslo's international visibility in these comparative studies is improving, declining or stable.
- Summarises the key implications and actionable priorities for different stakeholder groups in Oslo that together can contribute to creating a high-functioning innovation, business and talent ecosystem (government, businesses, start-ups, universities and others).

The work also includes special features on Oslo's readiness for the hybrid future and a deep dive on the region's attractiveness to talent - both areas that require renewed attention in the year ahead.

As we have updated the underlying framework for assessing the state of Oslo, this report does not evaluate how Oslo's position has changed year-on-year across the different areas of competitiveness. This will return in future based on the new baseline 2021 data.

Explanation of 10-point scale

As in previous years, we detail Oslo's position in each theme along a 10-point scale, calculated by an algorithm based on all the input benchmarks. Where there are sufficient indicators in both the performance and perception categories, Oslo's position is shown twice to reflect how performance and perception compare. The scale is explained in more detail in the appendix.



This is an example scale.

The State of the City report continues to benchmark Oslo among a peer group of 50 regions that are all: medium-sized, upper income, high quality of life, and globally connected.

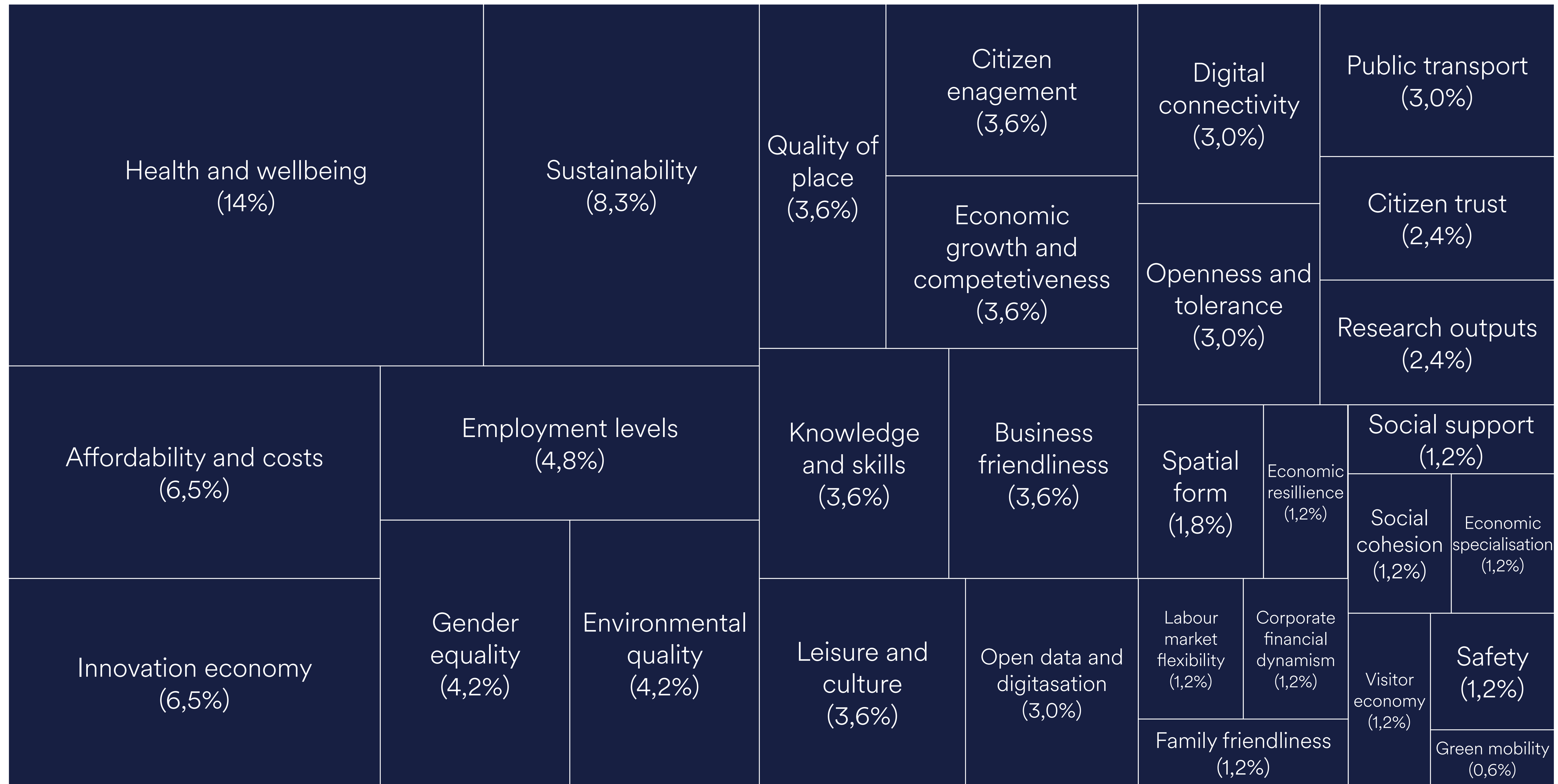
Oslo's visibility before, during and after Covid-19

Oslo's visibility and global relevance had been steadily growing in the last 5 years, as more of the world recognised the region's climate leadership, growing knowledge economy, and striking urban fabric. The region is in many ways still riding the wave of having been European Green Capital.

The crisis and hardship of Covid-19 has added more emphasis to issues where Oslo had been concentrating hard prior to the pandemic. Benchmarks have shifted quickly to health and wellbeing, sustainability, how to make places and spaces better, and improving city resilience (see Figure 2). Oslo's track record of social cohesion and capital, good governance, and relatively high citizen trust, has meant it has been viewed by experts, investors and the general global public as one of the more effective cities at managing the crisis.

Oslo is being measured in more ways than ever before

Figure 2: Themes measured in all datasets comparing Oslo in 2020-21, by % of all metrics



Oslo's visibility in the benchmarks has increased significantly over the past year. In 2020-21, Oslo was the 33rd most visible city globally in benchmarks and comparative studies – a big jump from 48th the previous year. The region now appears in nearly half (46%) of all global studies. This represents a notable step forward.

33rd

most visible city

(up from 48th)

Oslo is in the global top 35 for visibility in comparative benchmarks

Table 1: Oslo's visibility in global benchmarks, 2015-16 to 2020-21

	2015–16	2019–20	2020–21
Global visibility rank	-	48 th	33 rd ↑
% of studies featured in	39%	42%	46% ↑
Visibility rank among peers	18 th	20 th	14 th ↑

This includes some breakthrough appearances for Oslo in high-calibre indexes. For example, the region was included in the latest edition of the major study of promising fintech clusters, and has also appeared prominently in the [UN World Urban Happiness Report](#), studies of the [most resilient European investment markets to Covid-19](#), and [the cities best managing the post-Covid economy](#).

Signs of Oslo's Progress

Indexes showing the largest (most positive) year-on-year change for Oslo:

Resonance World's Best Cities: Prosperity

What it measures: GDP per capita, income equality, employment rate and number of Fortune 500 HQs

62nd to 20th

IESE Cities in Motion Index: Governance

What it measures: Composite measure of city-wide governance efficiency

52nd to 14th

StartupBlink Cities Ranking

What it measures: Size, scale and growth trajectory of start-up ecosystem

119th to 105th

IQAir Air Quality and Pollution City Ranking

What it measures: Average annual exposure to air pollution

15th to 6th

Hickey & Associates' Global Innovation Hubs

What it measures: All-round innovation ingredients and outputs

25th to 15th

1 Opportunity

1.1 Productive and future proof economy

1.2 Business and investment friendliness

1.1 Productive and future proof economy

Performance



Summary

Oslo has been rated the leading region globally for managing the pandemic, and this has meant that negative effects on productivity have been more muted than in other city regions. The low rate of Covid-related deaths, clearly communicated restrictions, and less severe changes to footfall and mobility patterns, have all helped to strengthen potential appeal to investors and entrepreneurs.

Oslo's productivity recovery can be underpinned by a growing specialisation in high-tech industries, more jobs that can be done remotely, and the momentum of its financial and business sectors. Strong macro fundamentals suggest that Oslo can emerge a winner, while others take longer to bounce back.

Highlights

Performance

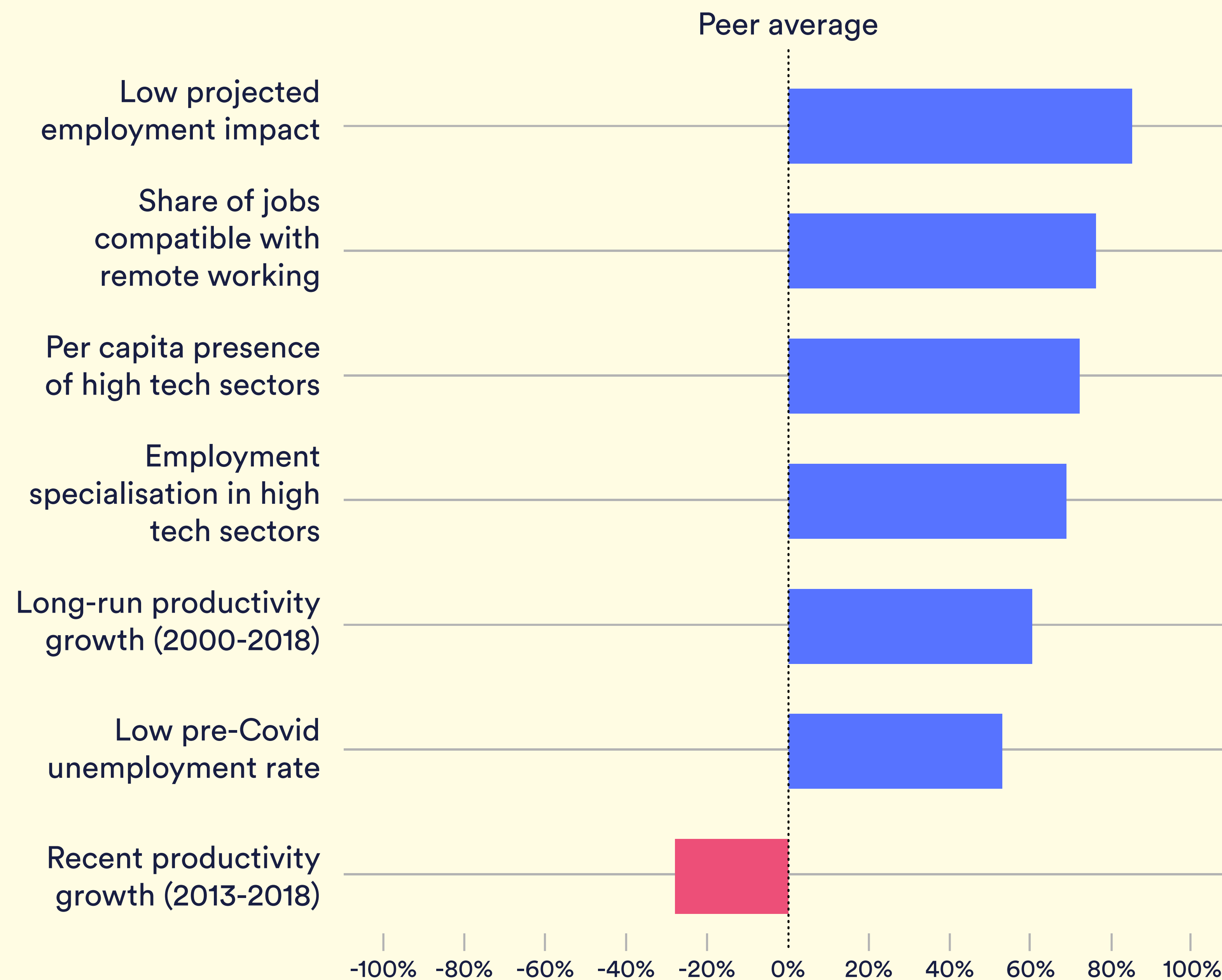
- **Growing high-tech sector.** Oslo is 6th among European peers for the percentage of residents employed in high-tech sectors.¹
- **Highly compatible with entrepreneur demands for remote working.** Oslo ranks 8th among more than 250 European regions for the share of jobs which can be done remotely.²
- **Impressive productivity growth.** Since 2000, Oslo has ranked 15th among peers for total GDP per capita growth.³
- **Low unemployment.** For the forecast level of unemployment following the pandemic, Oslo ranked 2nd among 24 peers.⁴

Influential all-round indexes

- **Faster adaptation to COVID-19.** Oslo ranks as 1st globally in a study for the all-round economic and social impact of Covid-19.⁵
- **Maturing competitiveness.** In a measure of all-round competitiveness, Oslo holds its own at 4th of 35 peer regions, or 17th globally.⁶
- **More equally shared prosperity.** Oslo has climbed 42 places to 20th in a global study of prosperity, due to a new focus on current and future unemployment and income inequality alongside existing measures of the presence of top corporates and GDP per capita.⁷

Oslo's productivity seems resilient – but pre-Covid trends require vigilance

Figure 3: Oslo's performance compared to peers across different measures of productivity



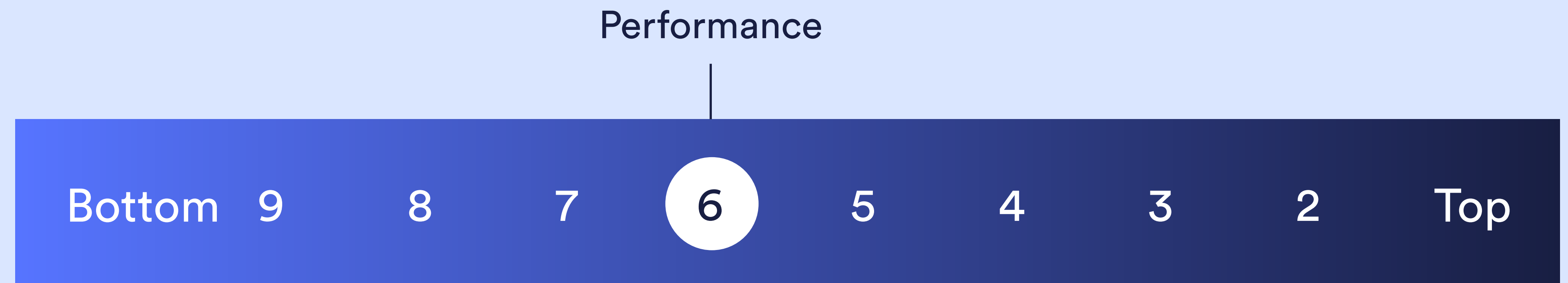
Source: IMF, OECD, Forbes, Eurostat, OECD, OECD.

Implications for Oslo

In the next period, it will be important for Oslo to:

- Continue to be resilient and adaptive to economic challenges faced during recovery.
- Support government agencies, business leaders and investors to adapt to new kinds of guidance on employment and working practices in the 'new normal'.
- Draw on relatively strong public finances and a robust economic policy framework to maintain a reputation for inclusive growth as challenges from the pandemic persist.

1.2 Business and investment friendliness



Summary

New data suggests that Oslo's investment market is likely to be one of the most resilient in Europe to the effects of the pandemic. The region's track record of having bounced back relatively quickly following the global financial crisis has helped to buoy confidence among potential investors. Liquid multifamily markets and reliance on domestic and intra-Nordic demand will also work in the region's favour. On the other hand, regulatory barriers to cross-border real estate transactions appear to still be more established than in other city regions.

Oslo's financial sector has matured in recent years but seems to have fluctuated more over the course of the pandemic than in other regions. In 2020, Oslo stood out as one of only a handful in Europe to have become more financially competitive, although perceptions of financial experts who are less familiar with Oslo had been slower to catch up. Into 2021, Oslo's financial sector performance has slipped, raising questions about what a new normal will look like once the pandemic has subsided, and whether it will play a global or more regional role. Data also points to other city regions being more successful than Oslo at hosting offices of top international professional services firms.

Highlights

Performance

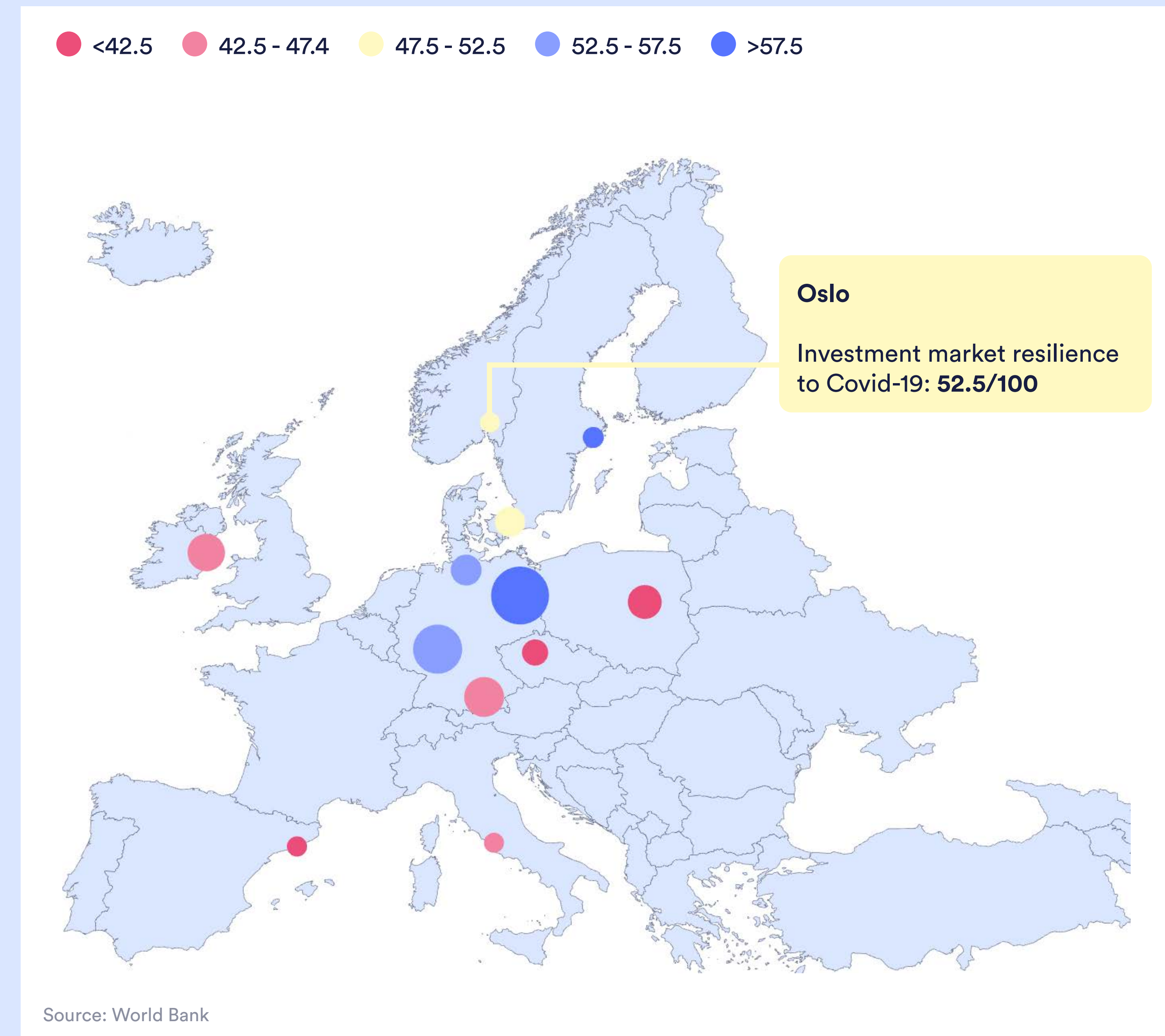
- **More high valued global publicly traded companies.** Oslo is 8th of 37 peer regions for the number of Global 2000 companies per person.⁸
- **More difficult for investors to buy real estate.** Oslo's barriers to real estate transaction processes are more established than in other cities as it ranks 61st globally.⁹
- **Other cities are globalising more rapidly.** Oslo has slipped 7 places since last year in a measure of the global reach of international companies in the region.¹⁰

Influential all-round indexes

- **Favourable post-Covid investment environment.** Oslo's investment market ranks as the 8th most resilient in Europe.¹¹
- **Inconsistently rated financial sector.** Between March and September 2020, Oslo was one of the only European regions to climb for financial sector performance and perceptions among financial experts. But since September, Oslo has slipped 20 places and now ranks 70th globally.¹²
- **Expert perceptions of Oslo's financial maturity remain behind.** The performance and global connectedness of Oslo's financial industry continues to exceed its reputation among global professionals, where Oslo is seen to be 14th among its 15 European peers.¹³

Oslo's real estate market is likely to be highly resilient to the effects of Covid-19

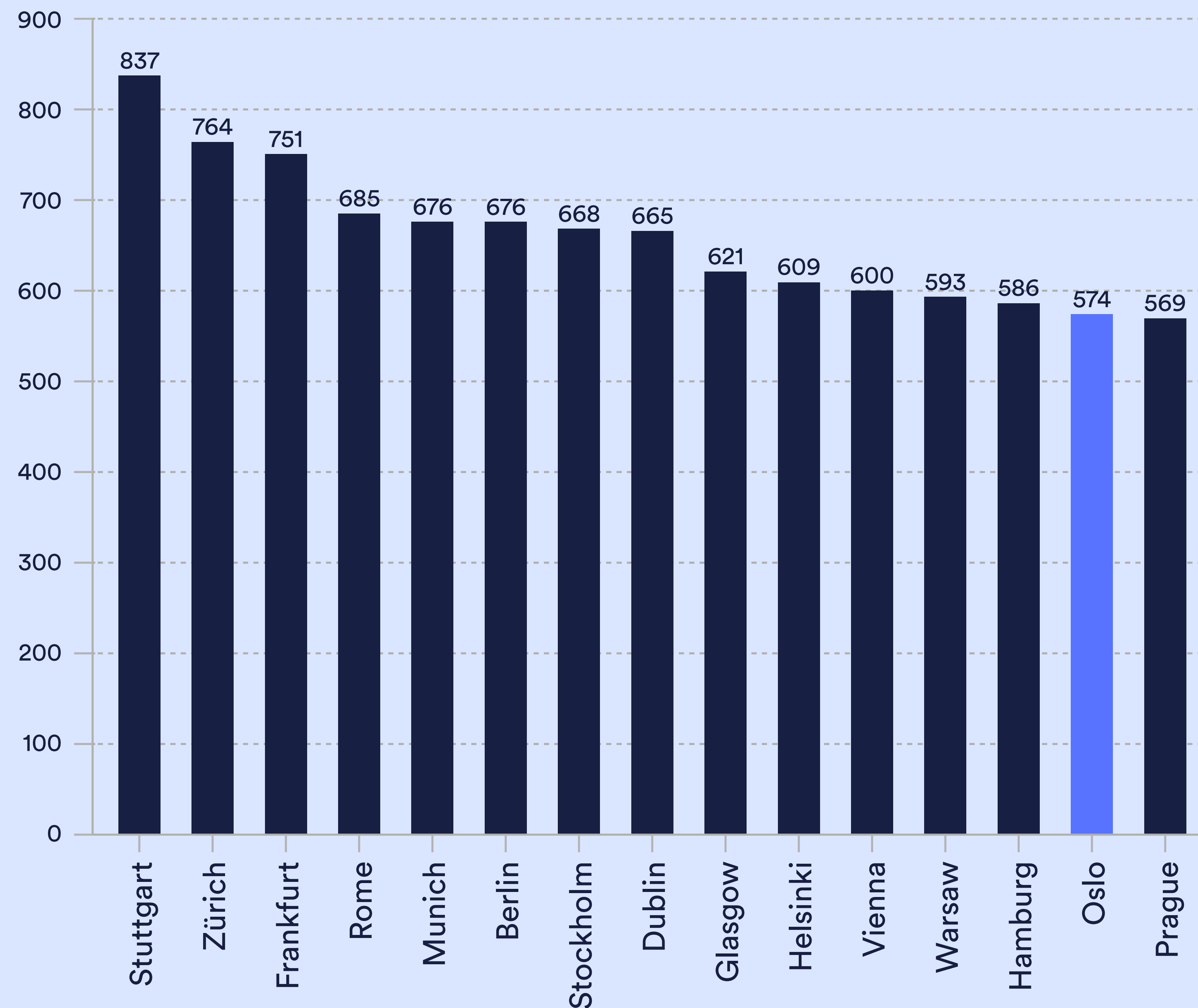
Figure 4: Map of Oslo and European peer cities' real estate market resilience to Covid-19



Source: Savills, JLL. Bubble size proportional to pre-Covid cross-border real estate investment (3 year rolling average to June 2020).

Global financial professionals do not yet fully grasp the opportunities in Oslo's financial sector

Figure 5: Aggregate rating score of cities' financial sectors among global financial professionals, Oslo and selected peer cities



Source: Global Financial Centres Index 29.

Implications for Oslo

In the next 12–18 months, it will be important for Oslo to:

- Make sure that Oslo communicates that it is open for business after Covid.
- Boldly explain to global audiences what makes the region's fintech scene tick, and the story behind Oslo's recent success stories.
- Ensure that more Oslo business are in a position to access green finance, deploy new business models, and operate around new ESG standards and metrics. Recognise first-mover advantages within key sectors and develop necessary technologies.

2 Innovation

2.1 Innovation ecosystem

2.2 Knowledge and skills

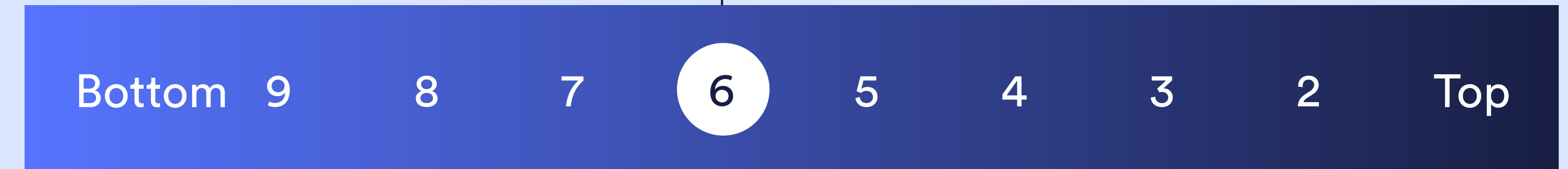
2.1 Innovation ecosystem

Summary

Despite the shock of the pandemic, over the past year Oslo has continued to evolve its innovation and start-up ecosystem. The region continues to build its number of home-grown tech firms faster than others and there is growing evidence to suggest that these firms now also have access to more early stage funding. New data also shows that the Covid-19 pandemic has helped to spur growth and recognition in many of Oslo's emerging specialisations in future industries, for example EdTech (e.g. Kahoot!), FinTech (e.g. Monner, Zwipe), and MedTech (e.g. via UiO's SPARK programme).

However, there is still much more to do for Oslo to translate its innovation promise into more high value jobs and inventions. More focus is required to scale and finance innovative firms to become globally influential players, relative to other city regions. Oslo is also not yet as recognised for its track record of publishing high impact scientific publications and patent applications.

Performance



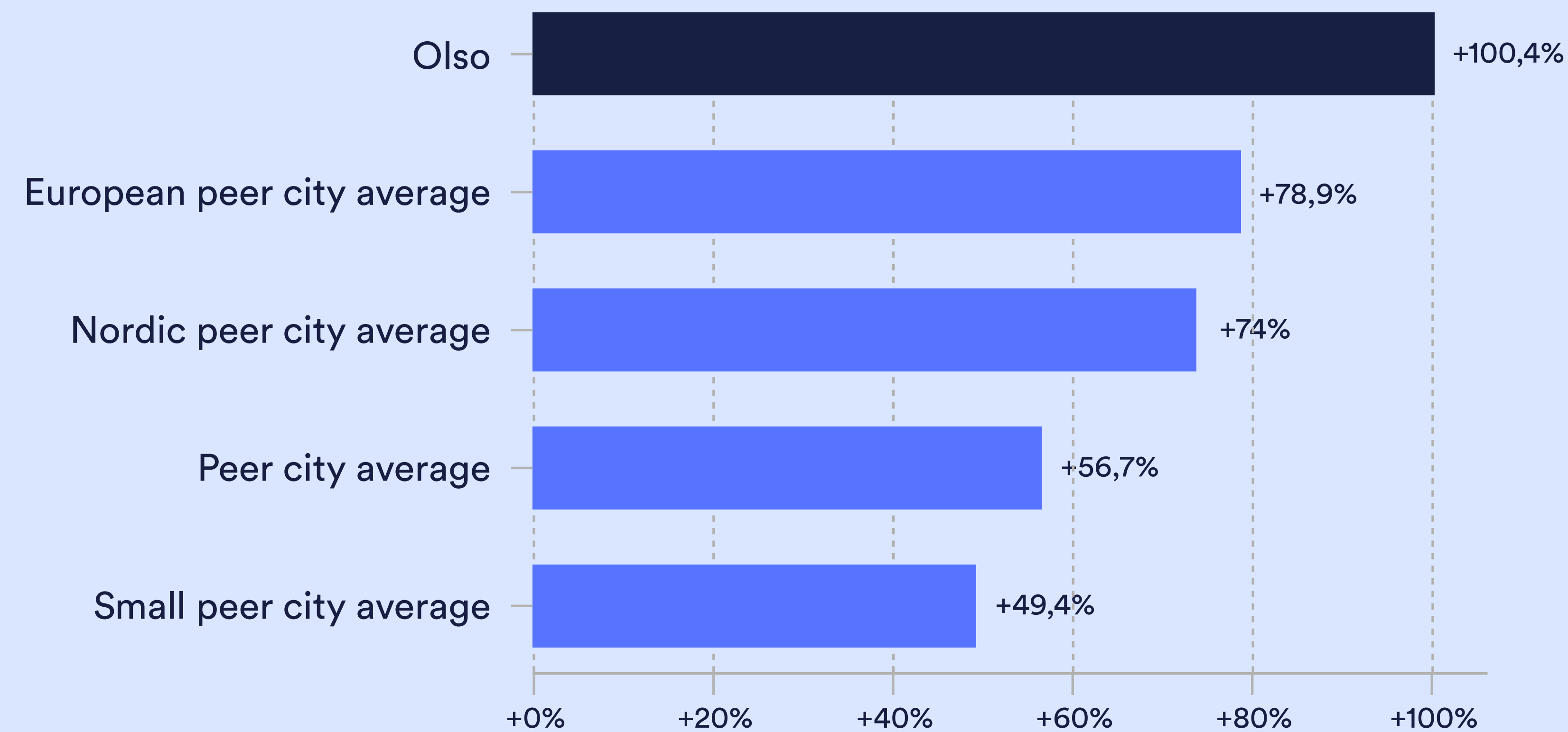
Highlights

Performance

- **Fast growing ecosystem.** In 2020-2021, the Oslo had the 4th highest year-on-year growth in the number of local tech-enabled firm HQs among 29 peers.¹⁴
- **Promising ecosystem size.** Oslo's all-round innovation ecosystem value of \$2.6bn puts it 11th among its 25 'emerging ecosystem' peers, or 9th relative to size.¹⁵
- **Specialisms in future-proof industries.** Oslo is in the top 25% of its peer group for relative innovation specialisation in Clean and GreenTech, DeepTech and Disruptive Technologies, and FinTech and Financial Services. Oslo's specialisation in BioTech, Pharma and Life Sciences is also growing.¹⁶
- **Fewer high-value success stories.** Relative to its size, Oslo is 12th among its 25 'emerging ecosystem' peers for the number of high-value innovation exits.¹⁷
- **Fewer globally disruptive tech firms.** Oslo ranks 19th among 29 peers for the number of globally influential tech firms.¹⁸
- **Less visible track record of commercialising research.** Oslo was not recognised in a global study of the top 115 innovation clusters for scientific publications and patent applications.¹⁹
- **Fewer venture capital investments.** In 2020, Oslo was 9th among 10 European peers for the amount of VC invested compared to population size.²⁰

Despite the shock of the pandemic, Oslo's cadre of high-innovation firms has grown rapidly

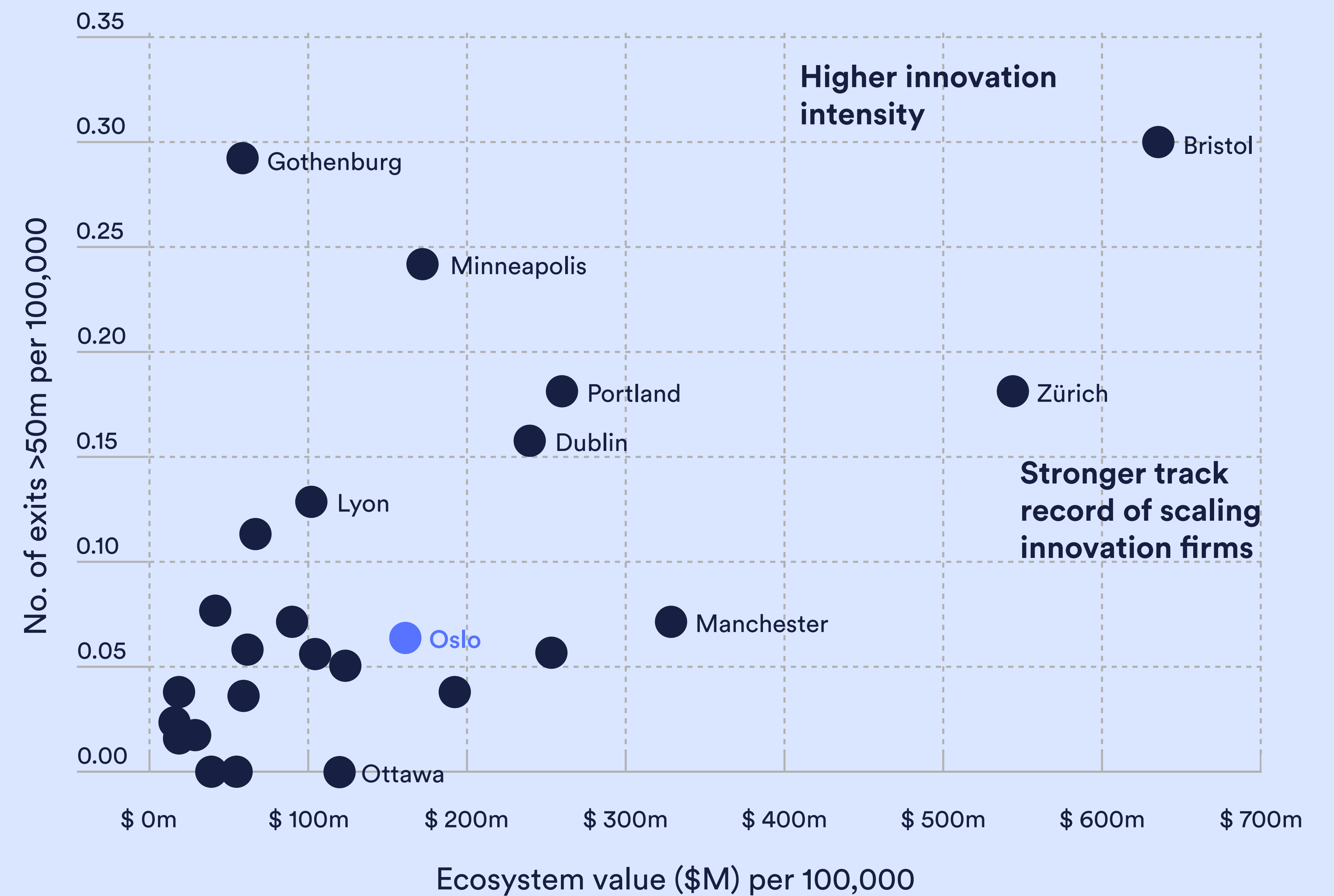
Figure 6: Year-on-year growth in the number of high-innovation firm HQs, Oslo and European peers



Source: Crunchbase (December 2019 to December 2020). *Small cities refers to regions with metropolitan populations of less than 2m.

Oslo's ecosystem has great promise, but needs a consistent track record of scaling companies

Figure 7: Ecosystem value and high-value innovative firm exits per 100,000 people, Oslo and selected peers



Source: Global Startup Ecosystem Report.

Oslo is the 27th most trusted among European start-up founders and entrepreneurs, among 75 European start-up hubs.

The race for start-ups is heating up. Oslo remains outside the global top 100 for the size, scale and growth trajectory of its start-up ecosystem, despite having improved by 14 places since last year.

Highlights

Perception

- Emerging fintech ecosystem.** In 2020, Oslo gained enough assessments among global fintech experts to be included in the major study of promising fintech clusters. 21 Oslo has the 8th most highly regarded fintech ecosystem among all featured smaller regions.²²
- Trusted start-up hub.** Oslo is the 27th most trusted among European start-up founders and entrepreneurs, among 75 European start-up hubs.

Oslo's innovation ecosystem is becoming more specialised in future-proof industries

Figure 8: Oslo's innovative firms by industry (word cloud) and specialisation in select industries relative to peers (table)



Specialisation	% of local tech-enabled firm HQs - Oslo	% of local tech-enabled firm HQs (peer regions)	Rank among 29 peer regions
CleanTech and GreenTech	2.1%	1.6%	5 th
DeepTech and Disruptive Technologies	6.2%	5.5%	5 th
FinTech and Financial Services	7.4%	6.2%	7 th
BioTech, Pharma and Life Sciences	1.7%	2.4%	19 th

Highlights

Influential all-round indexes

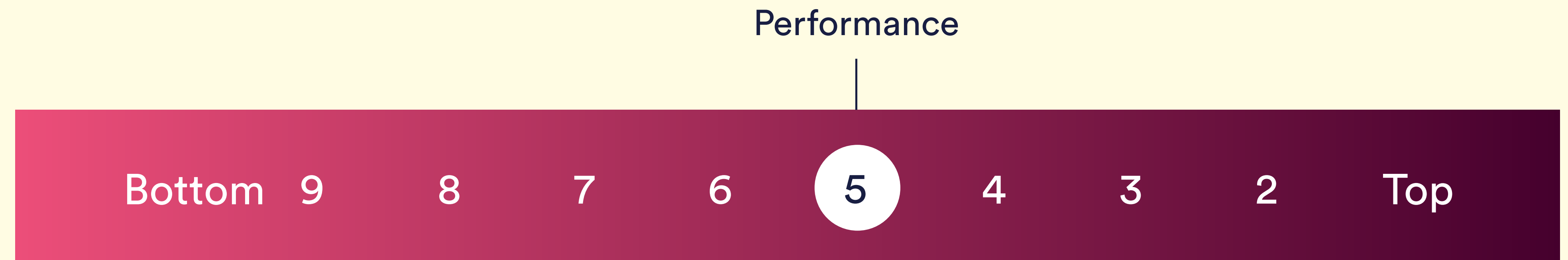
- **Investment driving innovation.** Oslo is an impressive 15th in Europe, the Middle East and Africa for the all-round ingredients for innovation (e.g. R&D expenditure, investment in high-tech sectors), as well as the outputs (e.g. VC investment, patent applications) in innovation hubs.²³
- **Growing fintech specialisation.** Oslo ranks among the top 10 small city regions globally for the all-round size, scale and growth trajectory of the fintech ecosystem.²⁴
- **The race for start-ups is heating up.** Oslo remains outside the global top 100 for the size, scale and growth trajectory of its start-up ecosystem, despite having improved by 14 places since last year.²⁵

Implications for Oslo

In the post-Covid cycle, it will be important for Oslo to:

- **Make more of the successes of financing and scaling growth-minded firms, and what these say about Oslo's entrepreneurial capability.**
 - **Target high growth innovation sectors (e.g. DeepTech, CleanTech, EdTech, BioTech) with a laser-like focus as the pandemic subsides. New and expanded industry-specific platforms, new procurement approaches, and incentives such as provision of dedicated spaces or client service agreements, can all help to make a step change. Ensure**
- that the tech propositions are distinctive relative to how other cities and regions promote themselves.
- **Grow the confident communication around Norway's first innovation district, Oslo Science City, as an experiment in a new model of collaboration and commercialisation.**
 - **Support investors to develop more flexible and amenable product and lease terms for start-ups and entrepreneurs, as well as the kinds of mixed-use spaces necessary to support co-working and exchange of ideas in areas outside the city centre.**

2.2 Knowledge and skills



Summary

Oslo's skills profile will underpin the region's resilience as the pandemic subsides. Oslo is still a leading European region for higher education attainment and English proficiency, although others are gaining fast. A track record of high-impact academic research is becoming more visible and is helping to establish Oslo as an attractive city for researchers and innovators.

However, Oslo is not as STEM-ready as other regions. It has fewer STEM students and dedicated life sciences programmes and a less established track record of excellence in key STEM areas relative to other city regions. All-round talent competitiveness is also held back by a lower perceived value for money compared to others: high salary expectations for skilled jobs such as software engineers dampen start-up founders', entrepreneurs' and investors' perceptions of the city's "bang for buck" on investment in high-tech sectors of the economy.

Highlights

Performance

- **Highly educated workforce.** Oslo still has the 3rd highest % of adults with a degree level qualification or higher among European peers, though other regions are catching up.²⁶
- **More progress in science.** Oslo improved 13 places to 135th in the major measure of the world's top science cities.²⁷
- **Promising bilingual appetite.** Oslo is in the top 5 global cities where English is not the first language for the % of the population who speak English proficiently.²⁸
- **Broad interest in coding.** Oslo is 4th among its 25 'emerging ecosystem' peers for the number of registered coders on GitHub with more than 10 followers.²⁹
- **Expertise in software programming.** Oslo is 7th among its 25 peers for the share of top-rated coders on GitHub among all registered programmers.³⁰

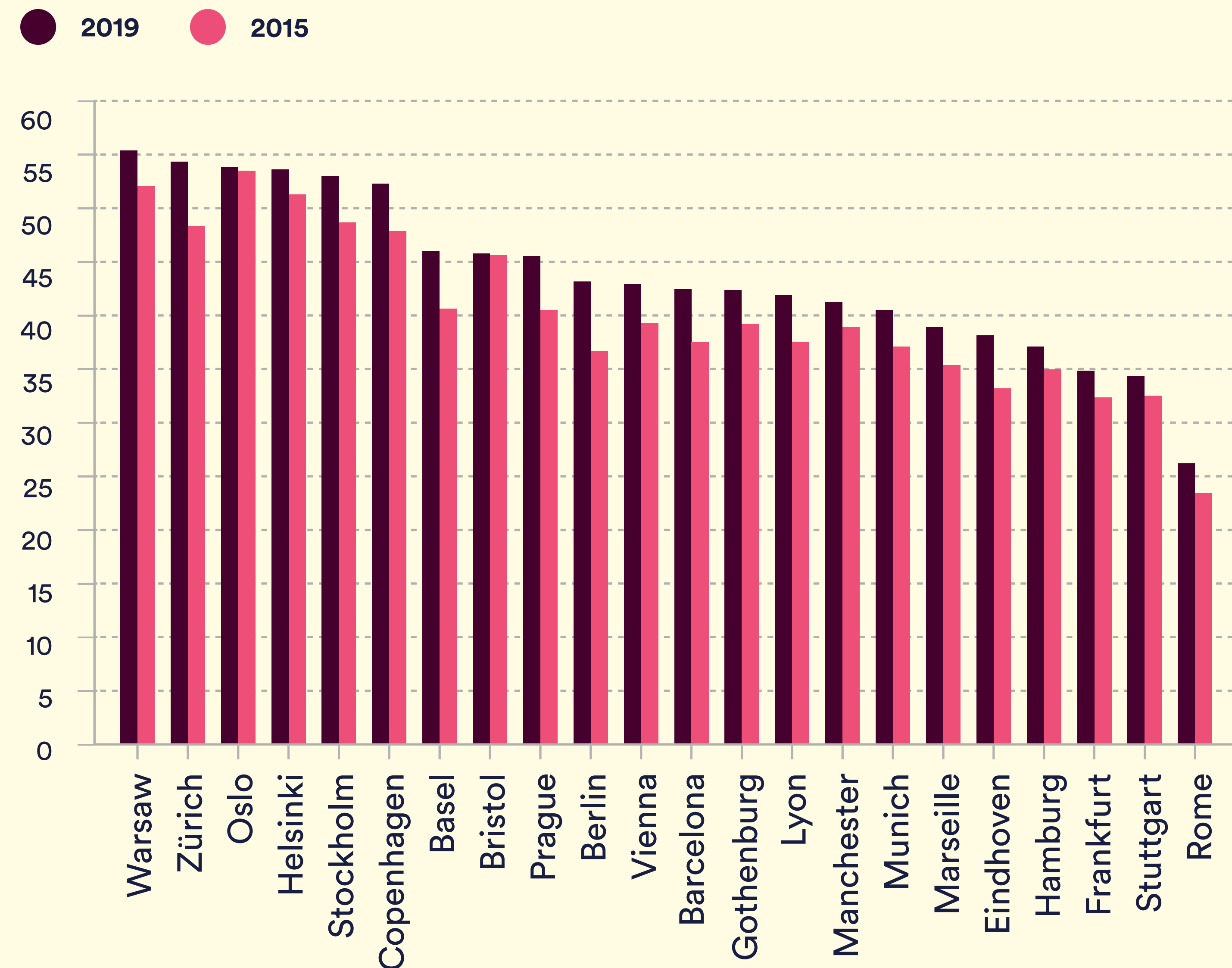
- **Diverse labour pool.** Oslo is 35th globally for the percentage of foreign-born residents.³¹

Influential all-round indexes

- **Middle of the pack for tech talent competitiveness.** Oslo scores 4/10 for all-round talent competitiveness, which measures the cost, quality and accessibility of tech and life sciences talent and amount of entrepreneur scaling experience.³²
- **Less visible track record in natural sciences.** Oslo does not yet feature in the top 50 science cities for life sciences, physical sciences or chemistry.³³
- **All-round skills base has room for improvement.** Oslo ranks 19th among 35 peer city regions for the strength of its all-round human capital base.³⁴

Oslo is a leading region for higher education attainment, but others are catching up

Figure 9: % of adults with a degree level qualification or higher, Oslo and European peers



Source: Eurostat

Implications for Oslo

In the next 12–18 months, it will be important for Oslo to:

- Use the recovery from Covid-19 to fine tune the skills supply for the innovation economy, for example by convening universities, colleges, entrepreneurs and corporates to share insights and developing a roadmap for more responsive and future-ready curricula.
- Translate the region's improving track record for research and innovation into efforts to collaborate more closely with external businesses and investors, in order to maximise outreach.
- Work with universities and educational institutions to demonstrate to prospective international students and researchers that Oslo is responsive to evolving trends in what students seek from higher education after Covid, especially in terms of jobs opportunities.



SPECIAL FEATURE

Talent attraction and retention

This chapter was made with the support from Oslo Region Alliance

The early signs are that Oslo is on the radar among those exploring **new work and lifestyle opportunities** after Covid.

Oslo's talent opportunity after COVID

For Oslo's quest to attract and retain the future talent it needs, is Covid-19 a friend or a foe?

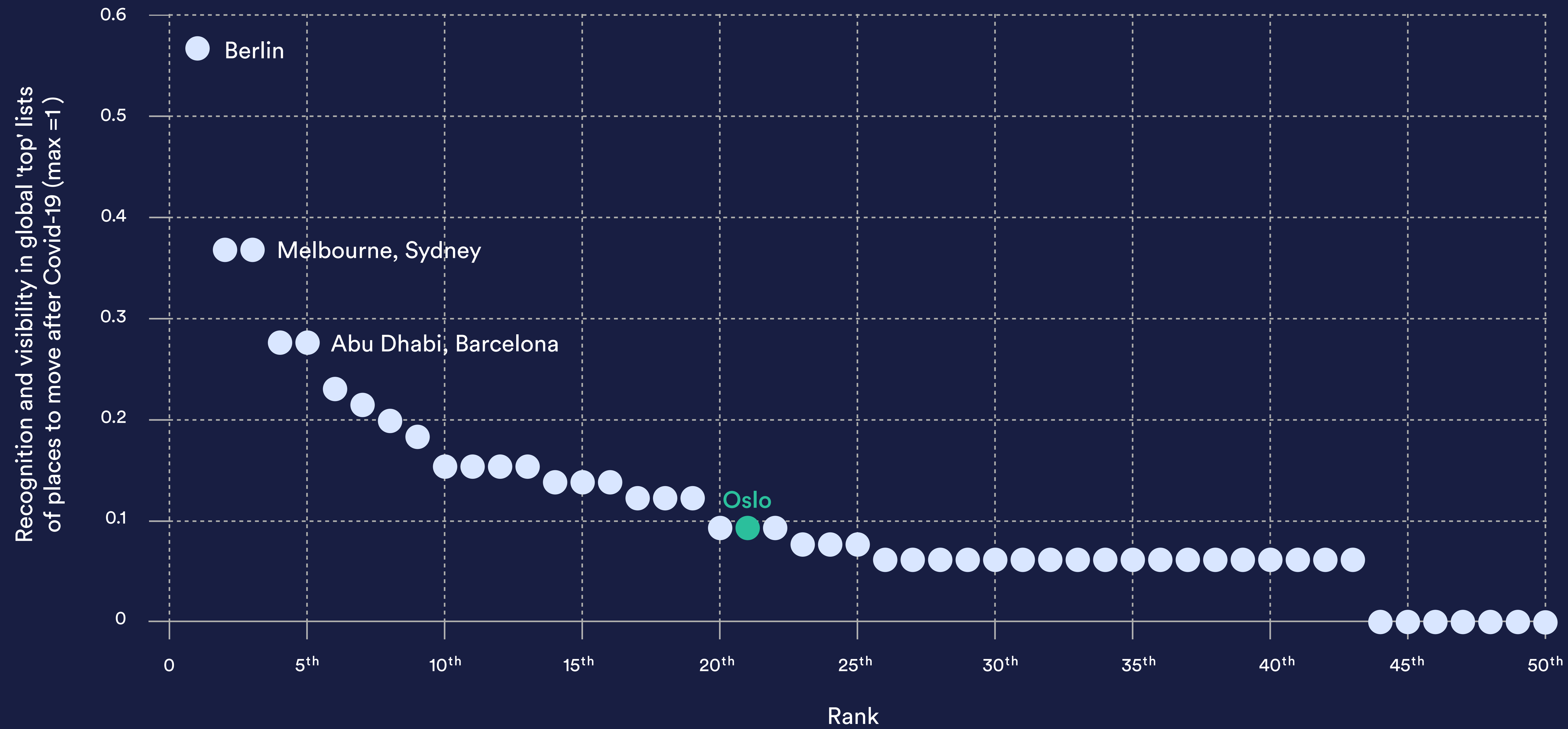
The choices that will be made by mobile talent have never been so open to change as they are in 2021. Covid-19 has created a new set of relationships between life and work, an increased duty of care for businesses, new attitudes to the workplace, and altered priorities about where and how individuals and families wish to live.

More than two-thirds of global citizens have changed their perceptions about countries based on how well they have managed the pandemic. Cities have to win back the benefit of the doubt after more than a year of hiatus and health risks. The race is now on for many cities to shore up their proposition to talent, and establish themselves as winners in the shake up that is 'city-to-city' and also 'city-to-region'.

The early signs are that Oslo is on the radar among those exploring new work and lifestyle opportunities after Covid, although it is not as visible as many of its peer regions. The challenge ahead is to gain wider recognition as a preferred location – not only among prospective residents, but also among prospective students, entrepreneurs, innovators and investors.

Oslo and Norway in studies of the top places to move to post-Covid

Figure 10: Aggregate recognition and visibility of Oslo and peer cities in global 'top' lists of places to move to post-Covid, since mid-2020



Source: The Business of Cities research. *Max = city or country appears in all top lists and is consistently rated in the top 5. See Appendix for full scoring system.

There are clearly at least some favourable dynamics that point to Oslo being a beneficiary from the great reset in talent's expectations. Yet this requires **very decisive differentiation to gain from this 'flight to competence'.**

The push and pull of talent towards Oslo after the pandemic

One big question for Oslo is whether Covid-19 in the medium term will accelerate a drive towards a more distributed system of cities in Europe, by pushing demand towards smaller cities with a higher quality of life, where health systems are strong and green and where climate-conscious development is a priority. There are clearly at least some favourable dynamics that point to Oslo being a beneficiary from the great reset in talent's expectations. Yet this requires very decisive differentiation to gain from this 'flight to competence'.

The evidence suggests that more of the region's edge will hinge on how well it attracts and retains talent in high growth, high productivity industries and how well it demonstrates that it is prepared for a more blended environment shaped by automation and agile collaboration teams.³⁵ This requires a distinctive proposition to specialist and talent alongside closer relationships between education and businesses to prepare all types of talent for digital transformation and an AI-influenced future.³⁶

Key predictions of the future of talent attraction and retention

The talent war between cities will resume

“[The] high-stakes race to attract talent, new business and capital...for the most part...will continue, albeit under new rules. Those markets that can adapt to a post-pandemic world will be best-placed to succeed.”
[Urban Land Institute]³⁷

“Capital regions... show a relatively higher risk of job disruption [relative to] other regions.”
[OECD]³⁸

Cities have to adjust their offer to foster flexibility and collaboration

“It’s the amenities and experiences available...that have become highly sought-after commodities.”
[Knight Frank]³⁹

“[Covid 19] has shone a light on the importance of developing cities in smaller modules, with essential services concentrated around community hubs.”
[Arup]⁴⁰

“We will see even greater emphasis placed on creating the best possible human experience, with more focus on supporting learning and development, creativity and collaboration”
[World Economic Forum]⁴¹

Cities must support their businesses to adapt

“To hire and keep top talent, the scarcest capital of all, means creating a unique work experience and committing to a renewed emphasis on talent development.”
[McKinsey & Co.]⁴²

“Organisations need to draw visible linkages as to how their contributions are making an impact on the organisation and society as a whole.”
[Deloitte]⁴³

New battle lines for talent

“Emerging technologies like AI, robotics, smart manufacturing and autonomous vehicles, are making the war for tech talent even fiercer.”
[City Nation Place]⁴⁴

“Upskilling today’s workforces is critical if companies are to harness the power of AI, capitalise on their talent and stay competitive.”
[Deloitte]⁴⁵

Which types of cities are becoming more attractive to talent?

Another key dynamic is the gradually growing talent competitiveness of Asia-Pacific cities.⁴⁶ More cities from the Middle East through to New Zealand are performing higher up the rankings for the most desirable locations after Covid and are perceived to have been very effective at managing the pandemic. Cities in South East Asia, China and Russia are proving more effective at retaining talent and attracting returning talent, with one study finding that 80% of Chinese students studying overseas now return home, compared to 15% in the early 2000s.⁴⁷

There are also three city-level dimensions that have already emerged as more important for talent attraction: (1) sustainable city living; (2) regional convenience; and (3) high experience workspaces.

The pandemic recovery provides a window of opportunity for Oslo to appeal to sustainability-minded talent. Covid-19 has led to a renewed focus on health, safety and the environment; all of which will become more important to the ability of cities to attract and retain talent.⁴⁸ Preferences of residents and entrepreneurs are shifting to favour electric vehicles, bicycles and e-scooters as well as walking and cycling, and mobility facilitated by contactless, fully digitised payments systems.⁴⁹ To justify their commutes, talent is demanding more effective measures against pollution from road traffic, such as zero-emission zones and car-free city centres.⁵⁰ Oslo is already ahead of the curve on many of these agendas, yet has to demonstrate it can use its green credentials to cement its position even more strongly as it emerges from the pandemic.

The pandemic recovery provides a window of opportunity for Oslo to appeal to sustainability-minded talent.

As well as seeking nature and a more balanced pace of life, urban consumers will demand more authentic, fresh and ‘never-before’ experiences as a trade-off for coming ‘back to the city.’

What talent may now expect from cities

More people demanding a more compact ‘15 minute’ city model that combines medium density with high amenity can also work to Oslo’s advantage. Throughout the pandemic, as public transport has been shut down, the importance of having essential services, amenities and health facilities within walking distance of residential areas has come into focus like never before.⁵¹ But as well as seeking nature and a more balanced pace of life, urban consumers will demand more authentic, fresh and ‘never-before’ experiences as a trade-off for coming ‘back to the city.’ Smaller and more compact cities like Oslo will be well equipped to meet these desires. Yet to attract top talent they will have to combine strong work opportunities with a way to show they can translate their renowned liveability advantage into this post-Covid context, and to invest in the pop-ups, flexible uses and new service models to accommodate a high experience, low-friction urban lifestyle.

The shift towards working-from-home and the office-as-a-service model can be an opportunity for Oslo’s appeal to the next generation of entrepreneurs and workers. Regions will be better at attracting and retaining new talent if their business culture is more strongly focused around cultivating employee experience and wellbeing, which younger generations value highly. With workspaces set to become centred more around human experience, collaboration, fitness and creativity, Oslo will be tasked with more proactive communication of its message around sustainability and wellbeing in order to capture more of the dividends of this shift.



Oslo's position

How good is Oslo at retaining talent?

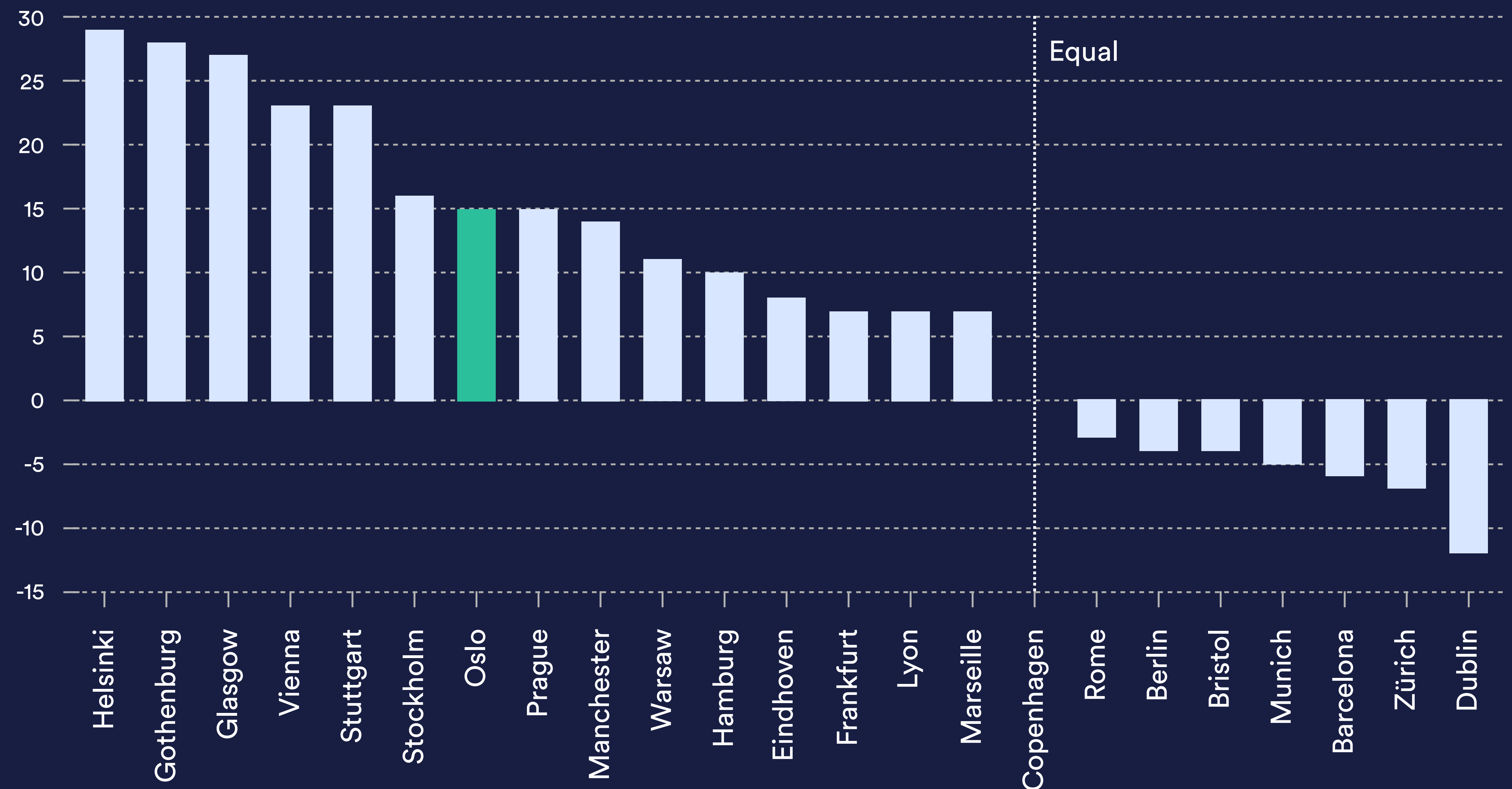
Covid-19 has been a unique crisis, yet one that also emphasises Oslo's ability to retain top talent. In the 12 months to January 2021, Oslo is 2nd among its peer group across all measures relating to talent retention, versus 17th for talent attraction.⁵² Along with Copenhagen and Zurich, Oslo is one of only 3 European cities among its wider peer group to feature in the top 20 on aggregate across both attraction and retention. New data also point to Oslo having retained a much larger share of its top-tier talent throughout the duration of the pandemic relative to other cities, with Oslo ranking 5th among its peer group for retention of graduates of the region's world top 1000 universities.⁵³

Oslo continues to perform better than others in the areas that push many urban residents to consider moving elsewhere. This includes air pollution, access to quality green space, satisfaction with public services and transport, and overall environmental quality.

Oslo has the ingredients to cater to talent in a post-Covid world

Figure 11: Aggregate ranking for ingredients for talent attraction and retention. Oslo and peer cities (Cities to the left hand side of the line perform more strongly for ingredients for talent retention Cities to the right hand side of the line perform more strongly for ingredients for talent attraction)

Difference in ranking between ingredients for talent retention and ingredients for talent attraction



Source: The Business of Cities research.

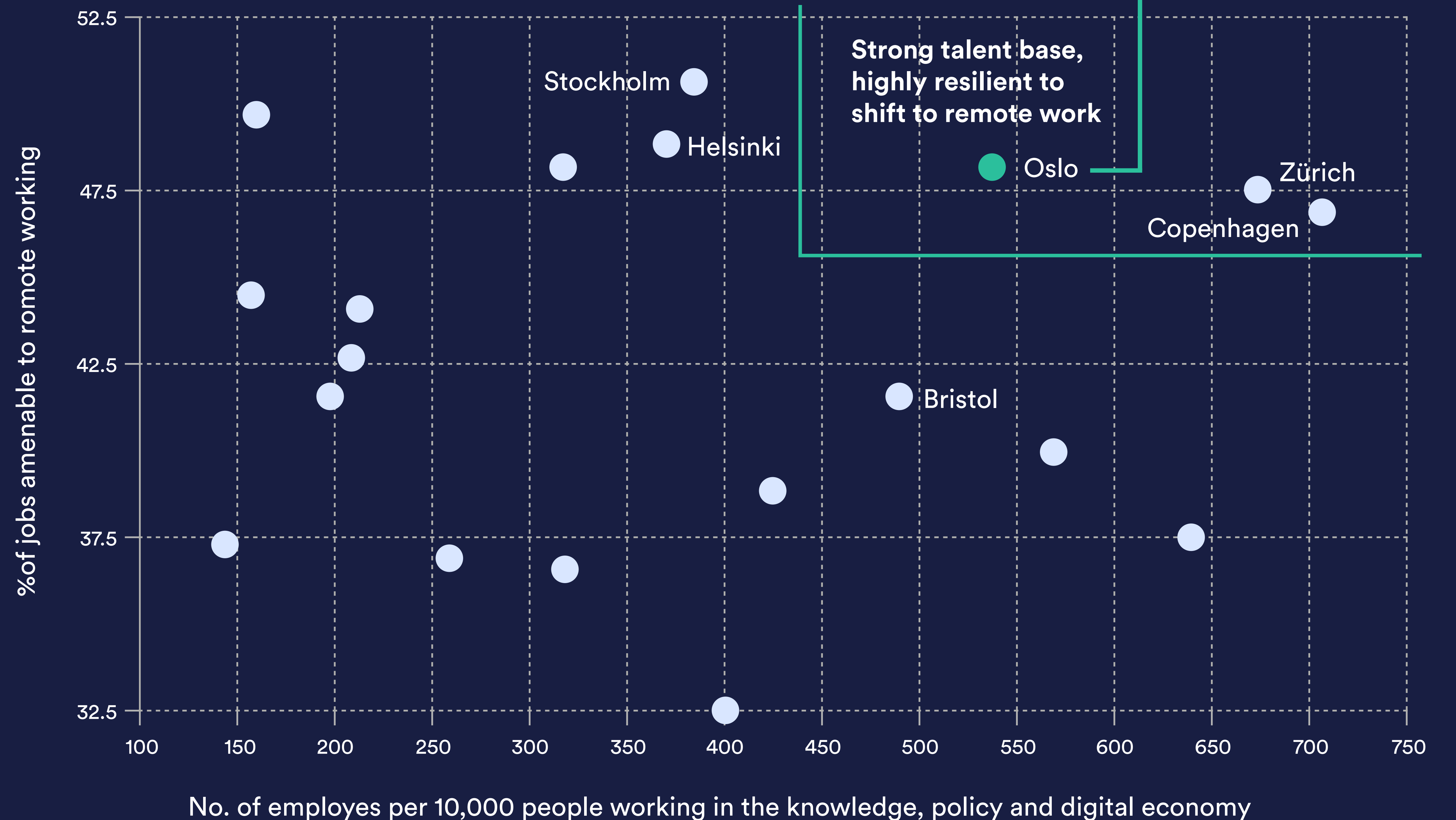
How well set up is Oslo for the future of work?

Oslo's industry structure means more jobs can be done remotely than in other regions, but the ingredients and culture for flexible working are not as externally visible to prospective entrepreneurs. Nearly half of jobs in Oslo are fit for remote working – the 8th highest share in Europe.⁵⁴ Oslo also benefits from a higher number of employees working in the knowledge, policy and digital economy relative to its size, compared to other European cities. However, emerging evidence suggests that the availability of registered co-working space is lower. It is also not as obvious to global audiences, based on externally facing job adverts, that employers recruiting during the pandemic support a culture of flexible working. Oslo ranks 27th of 30 cities for the number of desks, private offices and meeting rooms suited to co-working, and in Autumn 2020 had the 2nd lowest share of job adverts referring to the potential for 'flexible working' among 50 cities globally.⁵⁵

Nearly half of jobs in Oslo are fit for remote working – the 8th highest share in Europe.

Oslo's jobs base is highly suited to the shift to remote working

Figure 12: % of jobs suitable for remote working and per capita size of knowledge-rich talent pool in Oslo and selected peers



Source: OECD, LinkedIn Talent Insights. See Appendix for methodology.

How much of a deterrent is Oslo's cost of living?

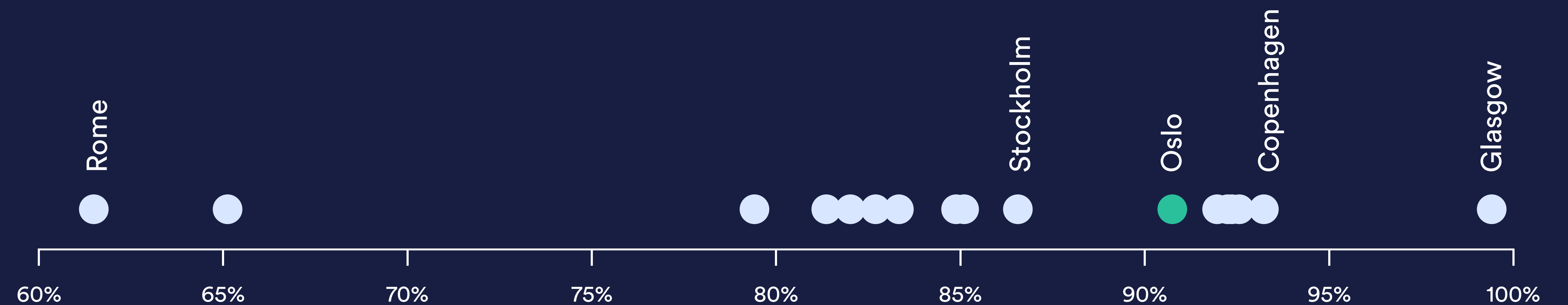
High salaries and disposable income remain a big draw for prospective talent, but local cost of living is still a challenge. Oslo is 30th out of 100 cities globally for household disposable income, but in one study, Oslo ranks 91st of 100 cities for rental affordability when non-rental costs are taken into account.⁵⁶ Once salaries and wages are offset against costs, Oslo remains firmly in the bottom third of its peer group, ranking outside the global top 150 for all-round purchasing power.⁵⁷ High costs, together with emerging evidence to suggest that people are becoming more cost-conscious consumers, may be one reason why Oslo and Norway are less visibly recognised in 'top' lists of the places entrepreneurs, innovators and others are seeking to move to after Covid-19.

How family friendly is Oslo?

Oslo has the fundamentals necessary to cater to long-term residents, but new data suggests that efforts to support family friendliness across all age groups may become more important. Oslo is now 2nd in its peer group overall for measures relating to long-term talent suitability.⁵⁸ But new survey data suggest that Oslo is not quite as strong for how well set up the region is for young families and elderly people. Cost is a major reason the region ranks 9th of 9 peer cities for its overall appeal to families and is outside the top 30 European regions for the proportion of residents agreeing that it is a good place for families with young children or elderly residents.⁵⁹

Oslo's family friendliness has room to improve

Figure 13: % of residents agreeing the region is a good place for families with young children



Source: EU Barometer Quality of Life in European Cities.

Implications for Oslo in the next cycle

Oslo's performance in talent metrics in 2020/21, combined with the insights from thought leaders and other city approaches internationally, point to 10 especially relevant features for Oslo moving forward to optimise its position.

1. Use post-pandemic reputation bounce.
2. Hybrid lifestyle: remote work, flourishing regional centres and '15 minute city' feel.
3. More affordable city centre housing.
4. Affordable innovation space
5. Family friendly city living
6. Well communicated sustainability and work-life advantage
7. Specialist talent attraction
8. Ingredients for talent retention: innovation, community, services
9. More flexible city centre workspace
10. Flexible and welcoming business culture

This means that it will be important to:

- Assess fully whether Oslo has gained a reputational edge through its management of Covid-19, and among which kinds of prospective talent (entrepreneurs, families, millennials, etc.).
- Develop a very clear, credible and well-communicated post-pandemic recovery plan. Oslo needs to show it has a clear sense of what changes it is making, and that there are new features to rediscover after Covid.
- The business community can work to more visibly demonstrate its culture of supporting employees to work flexibly and remotely.
- Use the opportunity to more confidently convey the opportunity and advantages of living in the region to families with young children.
- Prioritise more concerted policy attention on attracting specialist and international talent and differentiating the city amid a 'flight to competence'.
- Support real estate investors to design the types of new, flexible and innovative working environments, including via 'Office as a service' models, that can help to re-attract workers to the office as the pandemic subsides.

3 People

3.1 Healthy living

3.2 Welcome and inclusion

3.1 Healthy living

Summary

Oslo continues to top the global charts for wellbeing, healthcare and access to outdoor space – all areas where attention is growing as a result of Covid-19. Oslo’s world-leading work-life balance continues to be underpinned by strong national and local-level fundamentals including provisions for paid parental support, worker rights, and vacation days, and a smaller proportion of overworked residents, relative to other city regions.

Citizen satisfaction with healthcare facilities has improved significantly, while a rapid shift to electric vehicles and clean energy has underpinned vast improvements to city-wide air quality. Emerging data does however suggest that Oslo is behind for the availability of hospital beds.

Bottom 9

8

7

6

5

4

3

2

Top

Highlights

Performance

- **Leader for region-wide air quality.** Oslo has the 6th lowest annual air pollution exposure of 92 of the world’s major capital city regions, up from 15th in 2019.⁶⁰
- **Culture of work-life balance.** Oslo has the 2nd least overworked population among 50 regions globally, and the 7th lowest proportion of residents regularly working overtime.⁶¹
- **High spending on healthcare.** Oslo ranks in the top 20 for its spending on healthcare.⁶²
- **Leader for mental health provision.** Oslo is 1st among 24 peers for access to mental healthcare.⁶³
- **Supportive environment for new parents.** Oslo is 4th globally for the level of financial support given to employees when they are on parental leave.⁶⁴
- **High water quality standards.** Oslo is 2nd of 8 peer regions for the perceived quality and accessibility of its drinking water.⁶⁵
- **Lower availability of hospital beds.** Oslo is 9th among 14 European peers for the number of hospital beds per 100,000 people – putting it on a par with Rome and Barcelona.⁶⁶

Perception

- **Highly regarded healthcare facilities.** In 2019, Oslo ranked 9th among European regions for citizens’ happiness with local healthcare facilities – up from 26th in 2015.⁶⁷
- **Impressive medical services.** Oslo ranks 4th for the % of the population who are content with medical services in the region.⁶⁸
- **Perceptions of clean air.** Oslo is 2nd for the % of residents agreeing that air pollution is not a problem.⁶⁹
- **Manageable daily commutes for workers.** Pre-Covid, Oslo had the 7th lowest level of dissatisfaction with the daily commute.⁷⁰
- **Favourable work atmosphere.** Oslo has the 15th most pleasant environment at work in an employee wellbeing survey.⁷¹
- **Fulfilled residents.** Oslo ranks 7th globally in a study of the world’s happiest city regions.⁷²

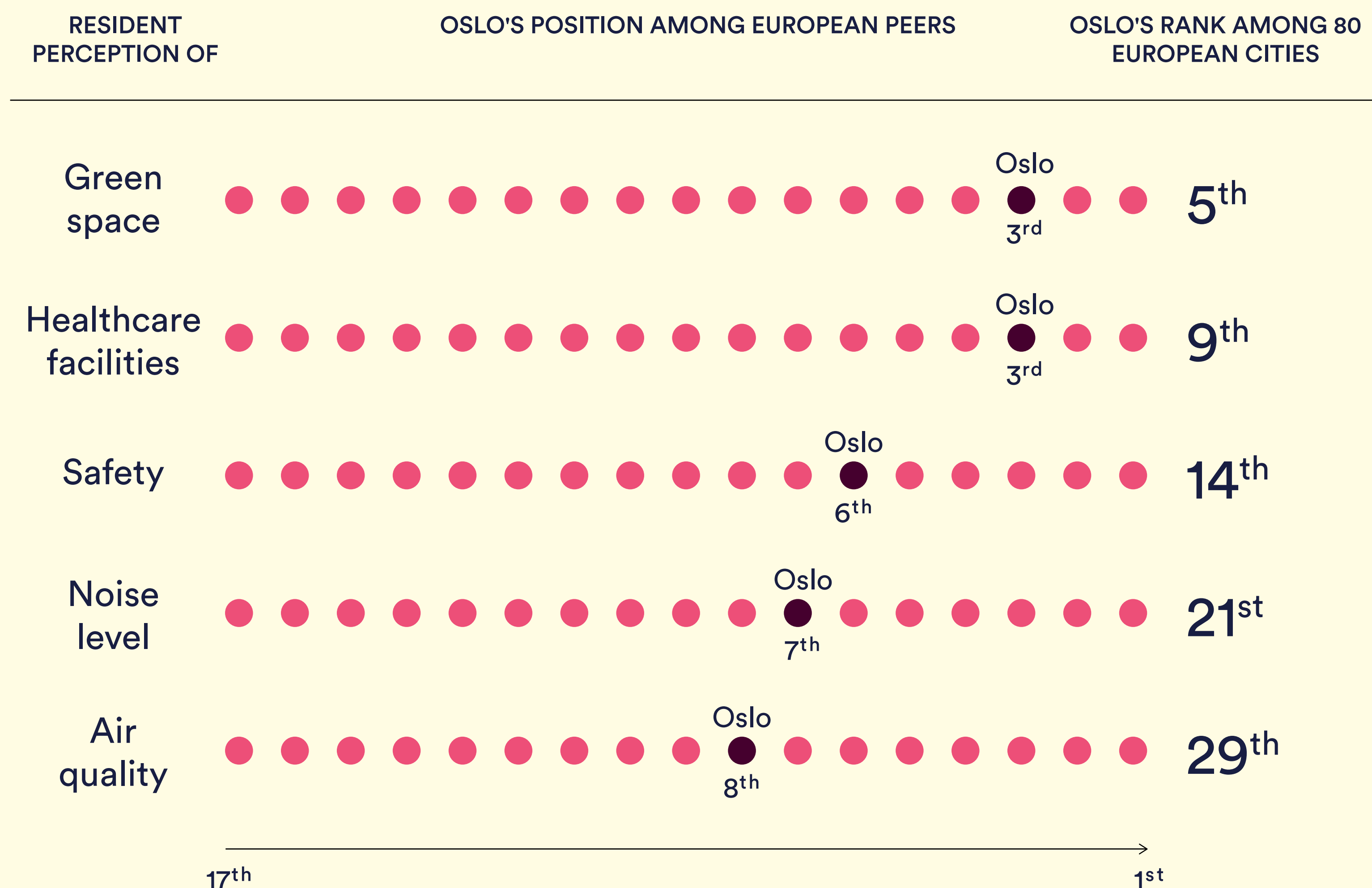
Leader for region-wide air quality. Oslo has the 6th lowest annual air pollution exposure of 92 of the world's major capital city regions, up from 15th in 2019.

Culture of work-life balance. Oslo has the 2nd least overworked population among 50 regions globally, and the 7th lowest proportion of residents regularly working overtime.

Leader for mental health provision. Oslo is 1st among 24 peers for access to mental healthcare.

Oslo's residents are highly satisfied with core systems and assets

Figure 14: Resident perceptions of liveability in Oslo compared to among European peers



Source: EU Barometer Quality of Life in European Cities.

Implications for Oslo

In the next cycle, it will be important for Oslo to:

- Use the growing attention on what people make of cities' public services, work-life balance, safety and amenities as a window of opportunity for appeal to sustainability and wellbeing-minded individuals and families.
- Ensure that government, investors and the business community have the tools to collaborate on protecting the region's reputation for world-leading work-life balance, encouraging remote and flexible working and showing the different dimensions that make the region flexible (the regional centres, the high quality of regional services, the flexible ways teams collaborate, the range of amenities and attractions, etc.)

3.2 Welcome and inclusion

Performance
& perception

Bottom 9 8 7 6 5 4 3 2 Top

Summary

As Covid-19 re-emphasises the importance of gender equality, Oslo can be well placed to demonstrate a fair and inclusive economic recovery. The city has one of the smallest gender employment and gender wage gaps regionally and globally, and is leading the way on efforts to ensure that innovation is gender inclusive, with a high number of women-founded start-ups and female entrepreneurs and a gender inclusive tech meetup scene. Oslo's status as a tolerant and welcoming city also remains undimmed from the perspective of citizen perceptions about minority and LGBTQI+ inclusion.

On the other hand, there are some emerging signs that Oslo's widely praised model of social cohesion was beginning to come under threat before the pandemic hit. More people are at risk of poverty and social exclusion.

Highlights

Performance

- **Equal employment opportunities.** Oslo has the 4th smallest gender employment gap among European peers.⁷³
- **Equal pay for women.** Oslo has the 3rd smallest gender wage gap globally.⁷⁴
- **More equal society.** Oslo has the 10th lowest level of income inequality globally.⁷⁵
- **Ahead of the curve for women's rights and equality.** At a national scale, Norway has the 5th lowest level of restriction to women's rights and resources.⁷⁶
- **Ahead of the curve for female growth company founders and entrepreneurs.** Oslo is 2nd among 14 European start-up ecosystems for the % of female start-up founders, and 4th for the % of women-focused meetups.⁷⁷
- **Higher poverty risk.** Oslo has the 9th highest rate of people at risk of poverty and social exclusion among 16 European peer regions.⁷⁸

- **Diverse labour pool.** Oslo is 35th globally for the percentage of foreign-born residents.³¹

Perception

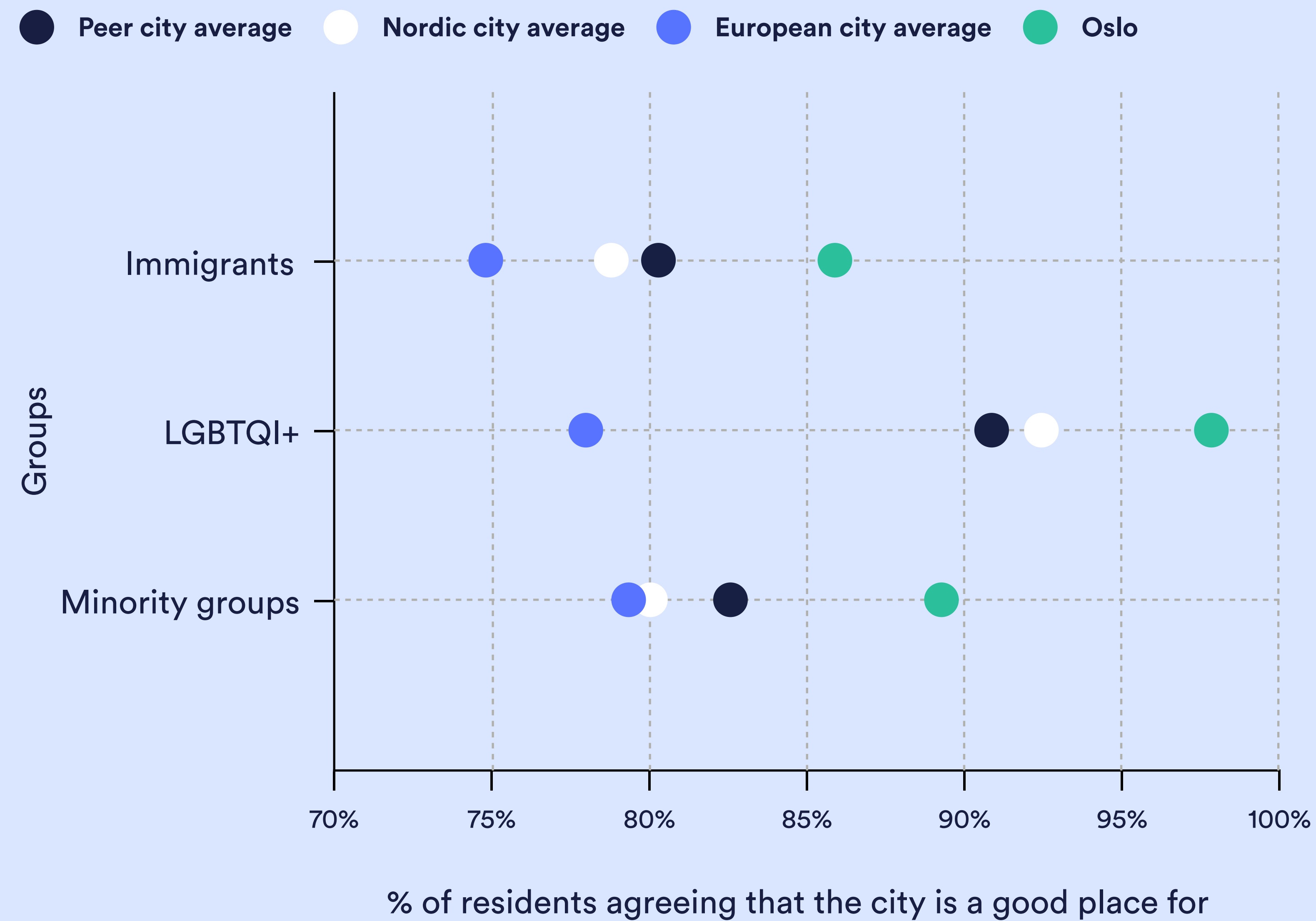
- **LGBTQI+ inclusive.** Oslo ranks 3rd among European peers for the % of residents who agree that the city region is a good place for LGBTQI+ populations, at 98%.⁷⁹
- **Embedded national culture of gender equality.** At a national level, Norway has the 3rd highest proportion of residents agreeing that companies provide women the same opportunities as men to rise to positions of leadership.⁸⁰
- **A warm welcome.** Oslo is in the top half of its peer group for the % of citizens agreeing that minorities feel welcome in the city region.⁸¹
- **Geared towards integration of immigrants.** Oslo is in the top 20 in Europe for the % of residents agreeing that the city region is a good place for immigrants.⁸²

Equal employment opportunities. Oslo has the 4th smallest gender employment gap among European peers.

A warm welcome. Oslo is in the top half of its peer group for the % of citizens agreeing that minorities feel welcome in the city region.

Pre-Covid, Oslo's status as a warm and welcoming city region was undimmed

Figure 15: Resident perceptions of Welcome and inclusion in Oslo compared to European peers



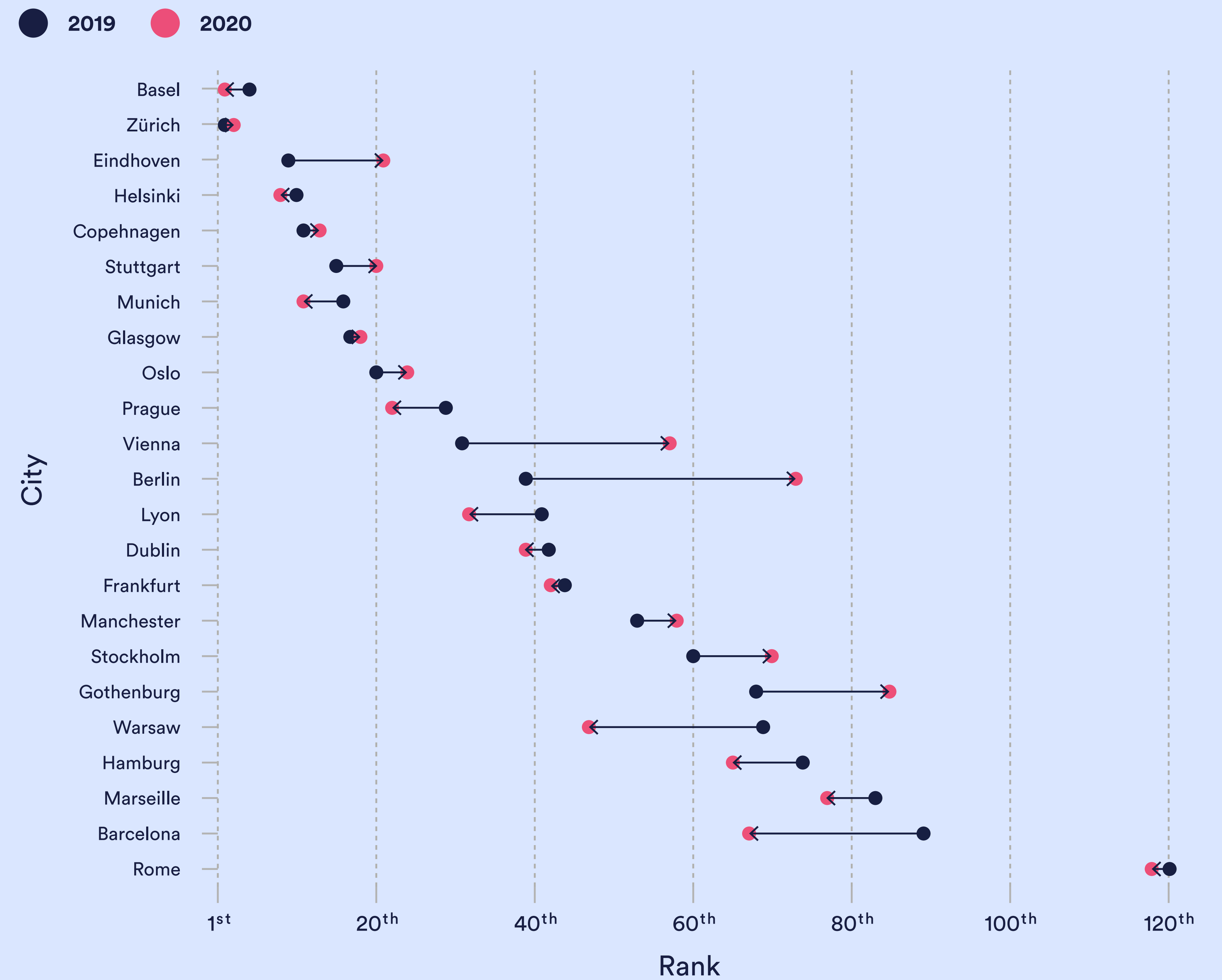
Source: EU Barometer Quality of Life in European Cities.

Influential all-round indexes

- **Social cohesion model under threat.** Oslo decreased 4 places for all-round social cohesion, despite still being ranked in the global top 25.⁸³

Oslo's model of social cohesion may be under increasing threat as a result of Covid-19

Figure 16: Year-on-year change for all-round social cohesion, Oslo and European peers



Source: IESE Cities in Motion Index.

Implications for Oslo

In the post Covid period, it will be important for Oslo to:

- Identify existing inequities which have been magnified during the pandemic. Work collaboratively to ensure that Oslo demonstrates how the economic recovery can address these and demonstrate how Oslo is avoiding the risks of other regions.
- Develop a more decisive and ambitious track record of supporting women in tech and female growth founders. Be ambitious in this area, adapting more opportunities

for women at different work/life stages and building the base of mentors, sponsors, and employee resource networks. Identify barriers to female talent attraction.

- Use the impetus of the pandemic to continue shaping the quality and values and purpose driven character of Oslo's identity.

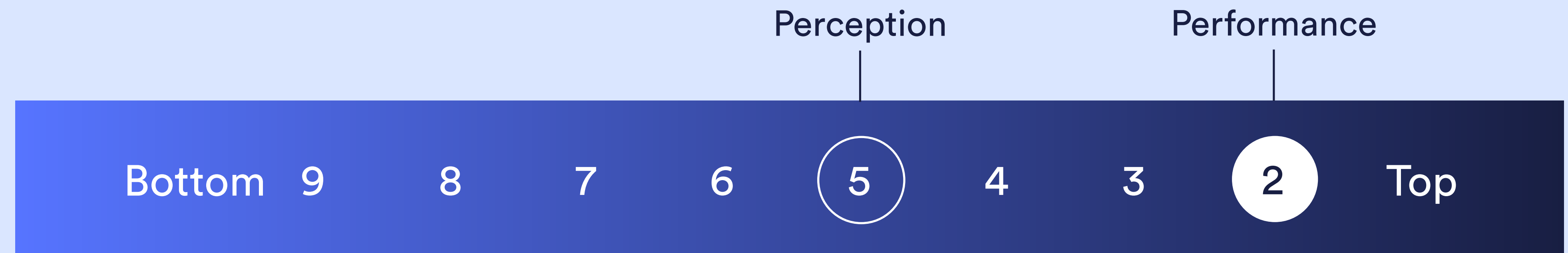
4 Place

4.1 Infrastructure platform

4.2 Spaces and places

**Oslo inherits a spatial form that
can enable it to more quickly pivot
to a '15 minute' city model.**

4.1 Infrastructure platform



Summary

Oslo inherits a spatial form that can enable it to more quickly pivot to a ‘15 minute’ city model, which evidence suggests is becoming more sought after among prospective entrepreneurs, residents and investors. In Oslo, more people live within easy walking distance of key education and healthcare facilities and access to public transport is higher. Resident satisfaction with the public transport system remains very high by global standards, which is partly due to the high frequency and perceived safety of services.

Despite this, other regions completing big system improvements to coverage and efficiency mean that Oslo’s overall infrastructure system scores have fallen back slightly. New datasets also highlight emerging perceptions that the reliability of public transport services could be better.

Highlights

Performance

- **A walkable region.** 78% of people in Oslo live within walking distance of education and healthcare services, compared to an average of 52% among peers.⁸⁴
- **Easily accessible public transport.** 61% of residents live within 500m of a frequent public transport connection in Oslo, putting the city region 3rd among 31 peers.⁸⁵

Perception

- **High satisfaction with transport.** 89% of people in Oslo are happy with the public transport system.⁸⁶
- **Safe and frequent transport.** 93% of residents agree that public transport is safe and 90% believe it comes often, which puts Oslo 6th in Europe for both measures.⁸⁷
- **Less reliable transport.** A lower proportion - 82% - of residents agree that public transport often comes when it says it will, which puts Oslo outside the top 25 city regions in Europe.⁸⁸

Oslo is one of the best placed city regions in Europe to pivot to the '15 minute city'

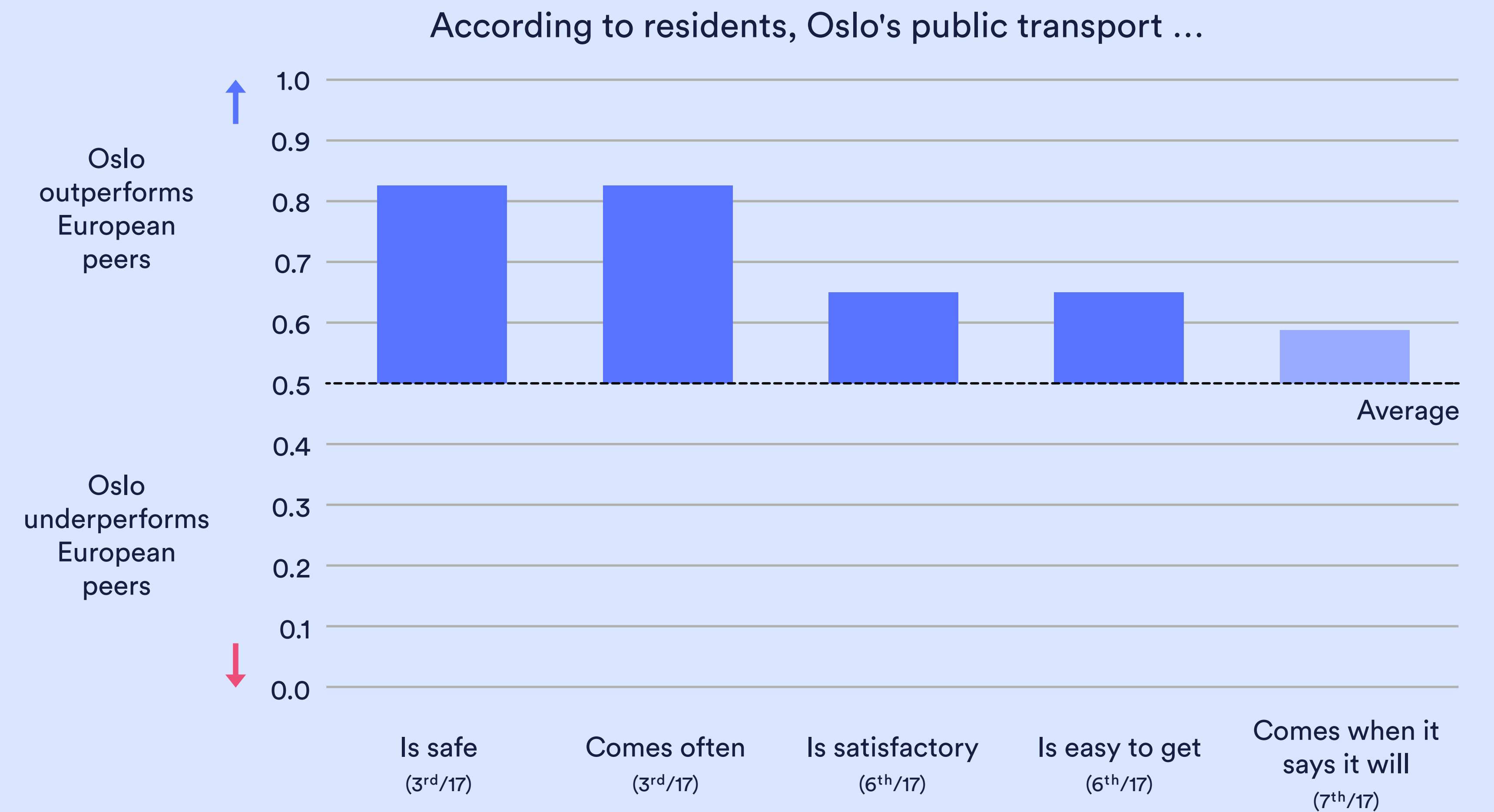
Figure 17: Public transport accessibility and walkability in Oslo and peer city regions



Source: ITDP Pedestrians First. Size of bubble proportional to weighted population density.

Residents rate Oslo's public transport system highly, but there are some concerns about reliability

Figure 18: Resident perceptions of Oslo's public transport system compared to European peers



Source: EU Barometer Quality of Life in European Cities.

Influential all-round indexes

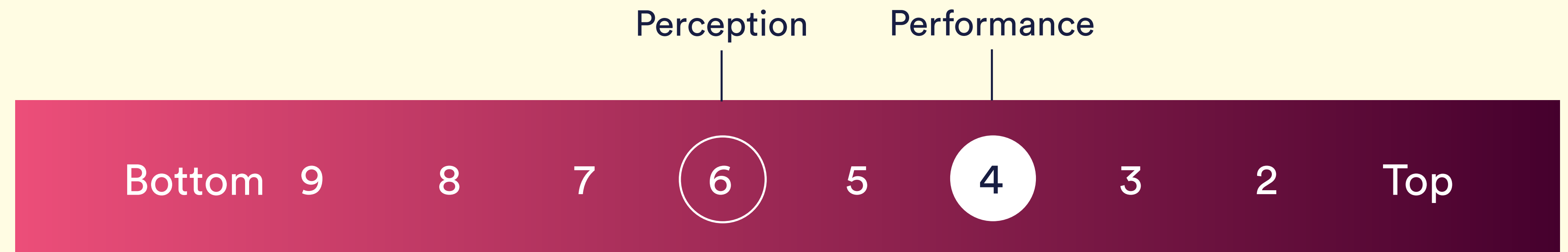
- **Other regions are making big strides.** Oslo has slipped 15 places to 35th for all-round strength of regions' mobility systems, as other regions have improved.⁸⁹

Implications for Oslo

In the next cycle, it will be important for Oslo to:

- Look for opportunities to use new infrastructure as a chance to test new technologies (e.g. self driving, systems integration) and build the on the ground innovation identity of Oslo.
- Explore ways in which the future Fornebu line can unlock other changes for the region, and demonstrate to global audiences that efficient, safe and affordable public transport can help to underpin a recovery from Covid-19.
- Ensure the balance of road and rail revenue tools enhance the long-term resilience of the public transport system and show that Oslo's public transport revenue and investment model will be in tact in the longer term.

4.2 Places and spaces



Summary

The recent cycle of culture-led improvements in the urban character and fabric of the city has paid off in the minds of locals and can help to underpin a recovery to the current crisis. The region’s residents are now highly satisfied with cultural facilities - more so than in larger cultural capitals such as Stockholm and Barcelona.

On the other hand, online platforms suggest that the region’s cultural momentum has not yet been reflected as strongly in perceptions of visitors and tourists. Perceptions of cleanliness and quality across all Oslo’s public spaces are not as strong as in other regions. Some evidence suggests the region may need to work harder to bridge the gap between home and workplace post-Covid, due to a relative lack of high quality co-working spaces outside of the city centre.

Highlights

Performance

- **Strong track record of car-free development.** 76% of residents in Oslo live within 500m of a car-free zone, putting Oslo 8th among 46 measured peers.⁹⁰
- **Less suited to demands of co-working.** Oslo is 27th out of 30 regions in a new study of the number of desks, private offices and meeting rooms suitable for co-working.⁹¹

Perception

- **High resident satisfaction with cultural amenities.** At 92%, Oslo ranks 12th in Europe for the % of residents who are happy with the city region’s cultural facilities.⁹²
- **Lower satisfaction with public spaces and the quality of the environment.** Only 82% of residents are happy with the quality of public spaces and streetscapes, putting

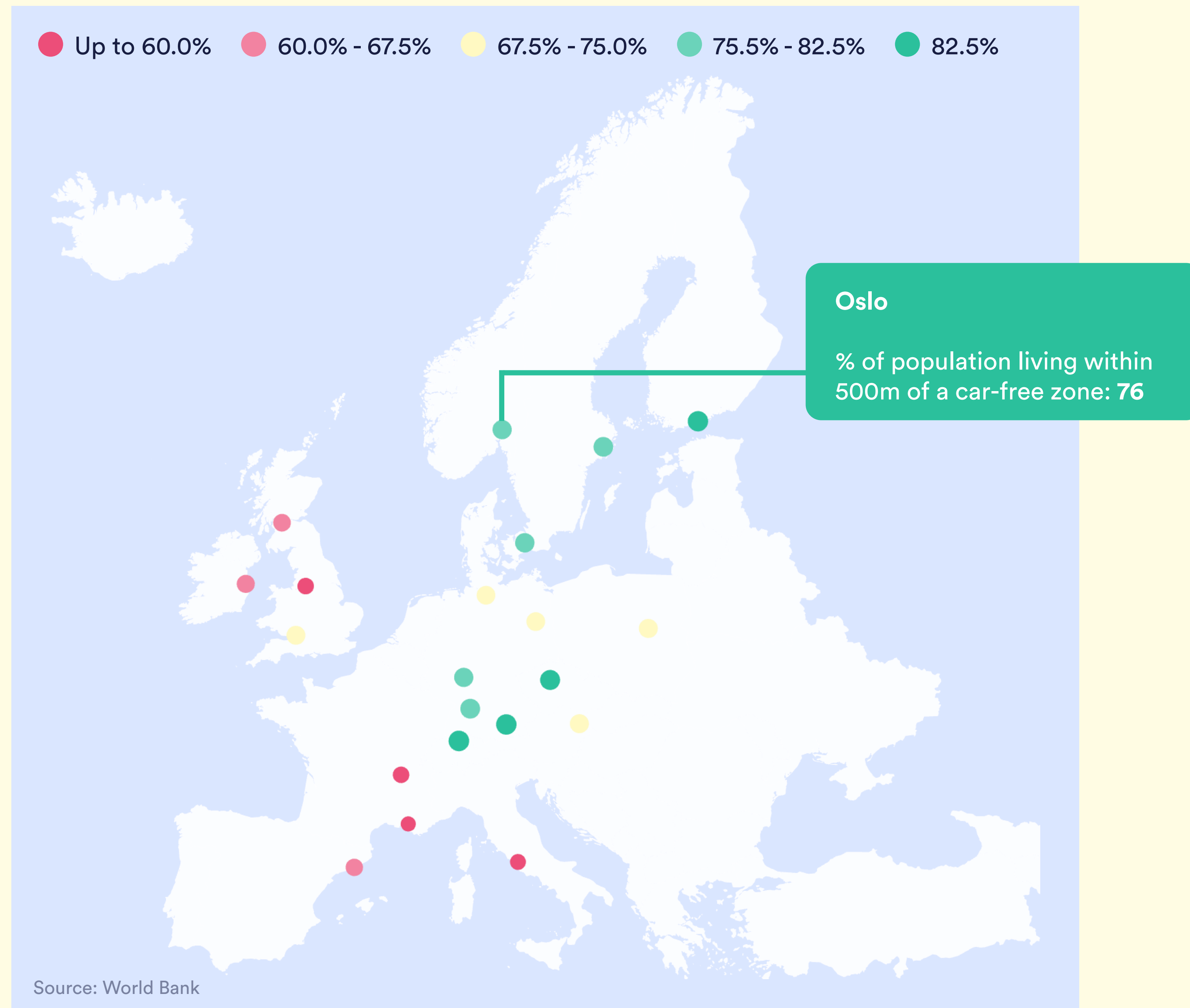
the region in the bottom half of all measured European regions. Oslo also ranks outside the top 30 cities in Europe for happiness with environmental quality and cleanliness.⁹³

Influential all-round indexes

- **Cultural scene not as highly regarded among external audiences.** Visitor, student and local review scores of the region's cultural, culinary and entertainment venues have seen Oslo fall 24 places to 150th globally.⁹⁴
- **Falling behind for cultural product.** Oslo ranks 9th among its 13 smaller peer regions for the size and accessibility of the region’s cultural hardware.⁹⁵

Oslo's approaches to mobility have made it one of the most walkable regions in Europe

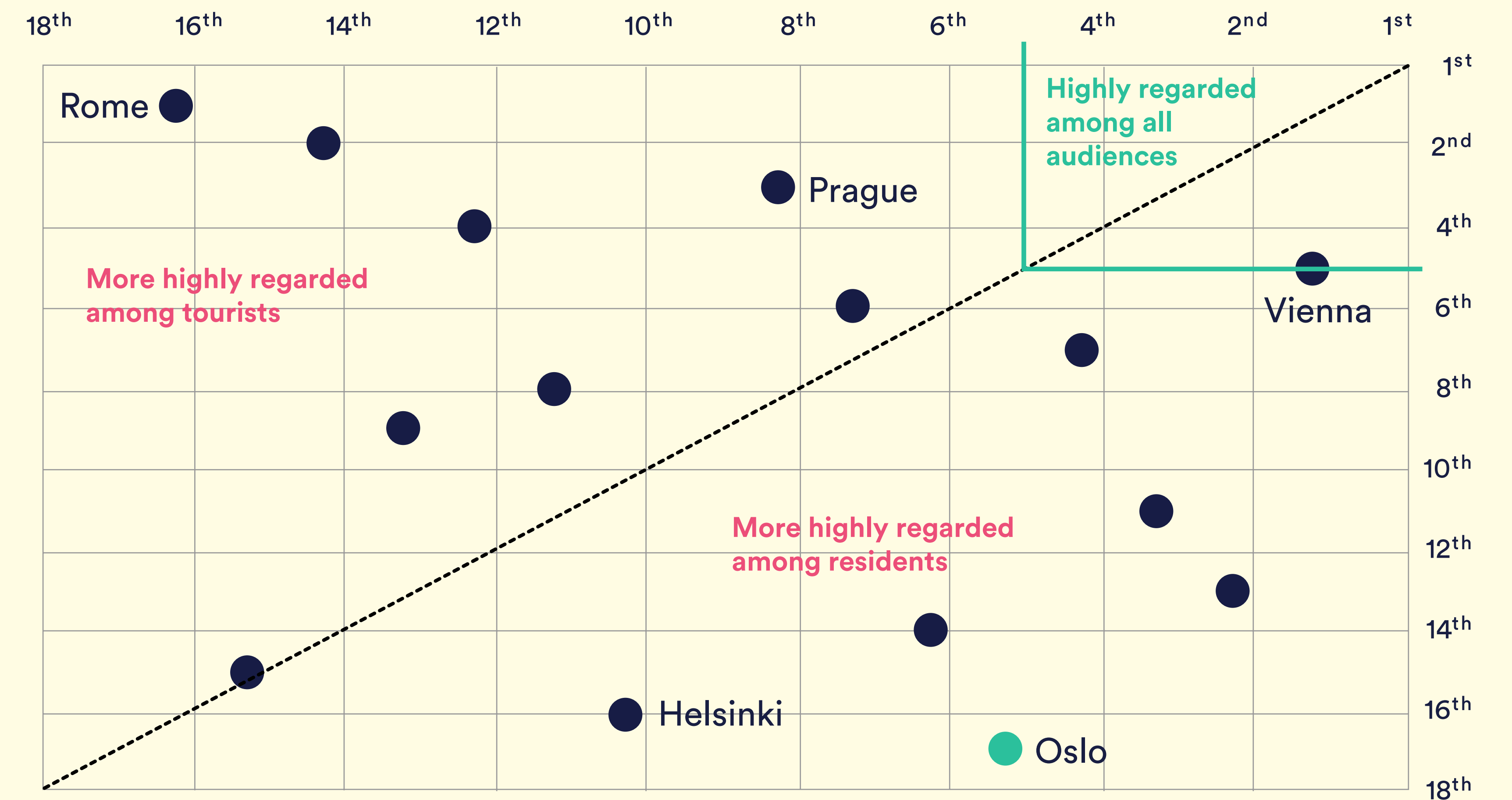
Figure 19: Percentage of residents living close to a car-free zone



Source: ITDP Pedestrians First.

Oslo's cultural facilities are more highly regarded among residents than among tourists

Figure 20: Oslo's rank among European peers for resident and all-audience satisfaction with cultural amenities



Source: Resonance World's Best Cities, EU Barometer Quality of Life in European Cities.

Implications for Oslo

After Covid, Oslo can:

- Protect the existing leisure, culture and innovation mix, and build a sharper proposition about them so that external audiences are more aware of what the city has to offer in a post-pandemic world.
- Work with real estate investors and the business community to prioritise working environments that are genuinely innovative and inclusive and show off new locations around the region.
- Preserve Oslo's place edge and work harder to orchestrate meaningful and authentic cultural experiences for locals and visitors in both the city centre and other suburban locations.
- Make the most of the upcoming Architecture Triennale as an opportunity to show leadership and practical demonstration of how local neighbourhoods, especially outside the city centre, can become more diverse, inspiring and equal after the pandemic.



SPECIAL FEATURE

Beyond digital

– Is Oslo ready for the hybrid future?

This chapter was made with the support from Oslo Region Alliance

Oslo's post-Covid competitiveness

The digital acceleration is pivotal to how top cities and regions adjust to COVID-19. With working-from-home, more restricted movement, fewer commutes and less travel, digital has emerged not only as the enabler of major lifestyle changes, but also as an accelerator of the emergence of new industries and as a lifeline for social cohesion.

A key task for Oslo will be to translate this into a positive new normal, one where governments and individuals no longer think about 'digital' as something separate, but take seriously how the city is now 'blended' and how this in turn creates new opportunities and risks to Oslo's competitiveness.

In a post-Covid world, gaps will open up between cities that see digital simply as a driver of remote working and a threat to city centres, and those who see it as part of a much wider hybrid future for the city, and so use digital as a tool for enhancing public trust, improving how government operates, supporting a culture of entrepreneurship, and raising productivity of people and land.

How well will Oslo 'blends' the physical and the digital will be essential both to its success, and to its long-term appeal among prospective visitors, residents, investors and entrepreneurs.

What is the hybrid city?

A hybrid city is one that embraces the flexibility that remote working and virtual interaction can offer, yet also provides the public and private spaces to meet face-to-face, deepen relationships, socialise with friends and relatives, and collaborate and invent in person. A hybrid city harnesses the power of technology to make it easier and more efficient to work, access services, enjoy lifestyle, and participate in civic culture. Yet it also requires a step change to ensure that:

- Cities' advanced businesses thrive in the digital shift and benefit from local clusters that are vibrant and forward-thinking."
- Cities have the meeting places, destinations, and work places that are inspirational as well as 'smart'.
- Cities harness the power of data responsibly for better and more democratic services.
- Cities make sure digital acceleration does not leave people, ideas or industries behind.

These issues are especially important for Oslo because they strike to the heart of the region's differentiation – its commitment to diversify, innovate and include everyone.

This means that becoming a leader in blending digital with city life will be important to Oslo's competitiveness.

Figure 21: The different dimensions of competitiveness that digital can support post-Covid

Digital and the hybrid city



The move to the hybrid city has the potential to amplify Oslo's leadership on key agendas of sustainability and wellbeing. More emphasis than ever before is being placed on generating, collecting and evaluating citizen data, and using this to guide better decisions in our cities in support of public health and planetary sustainability.⁹⁶ The pandemic has provided a unique opportunity to listen to the needs of citizens in how services are delivered and to build deeper partnerships between the public and private sector.

But the rapid acceleration of digital in our lives also means that Oslo will need to be vigilant to make sure Oslo is superbly connected, communicating to the outside world in new ways, finding the right balance to foster the data economy, and ensuring governments and institutions embrace technology to improve how they work. Oslo's push for attracting more specialist international talent, innovators and entrepreneurs will depend on addressing these imperatives head-on.

Key predictions on our hybrid future

Digital as a driver of city competitiveness and change

“COVID-19 provides a unique opportunity to upscale innovation and the use of online/digital tools in cities.”
[OECD]⁹⁷

“Experts predict that...Tele-everything is embraced... [and there will be] fewer forays in public than has been in the case in recent years[...]. The pandemic will speed up adoption of new education and learning platforms... some individuals, cities and nation-states will become more insular and competitive as survival mode kicks in [while] the rapidly expanding weaponization of cloud-based technologies divides the public.”
[Pew Research]⁹⁸

“Governments that...actively promote their digital economy are likely to have greater success in attracting investments. Success ... can significantly benefit local companies, especially SMEs.”
[World Economic Forum]⁹⁹

“[The pandemic] has cemented technology’s role at the heart of transformation, driving new ways of interaction, sharing, engaging and decision making.”
[Capgemini]¹⁰⁰

“For governments looking to drive economic recovery after the pandemic, supporting digital competitiveness will be key.”
[World Economic Forum]¹⁰¹

The opportunity for smaller regions to improve digital visibility

“Smaller urban areas may be the biggest winners in using digital conversations to improve their visibility to access new opportunities. The most forward-thinking places area already using a long-term strategy to identify and share their unique story.”
[ING Media]¹⁰²

Cities have to prioritise civic dialogue and citizen co-creation

“Local and regional governments will [need to] play a crucial role in shaping digital technologies in a way that ensures transparent, open and inclusive decision-making processes.”
[UCLG]¹⁰³

This special feature reviews the latest evidence from city benchmarks and studies and real-time datasets to explore:

1. Oslo's track record of home grown digital innovation
2. The competitiveness of Oslo's digital infrastructure and how well suited the city is to the demands of home working
3. Resident attitudes towards open data and the data economy, and perceptions of the extent to which government uptake of digital has strengthened trust, agility and efficiency
4. Oslo's uptake of digital tools to enhance resident and visitor experience
5. Oslo's digital and online visibility



By summer 2020, Oslo's innovative businesses had one of the highest levels of specialisation in sectors allied to digital technologies across smaller and medium-sized peers.

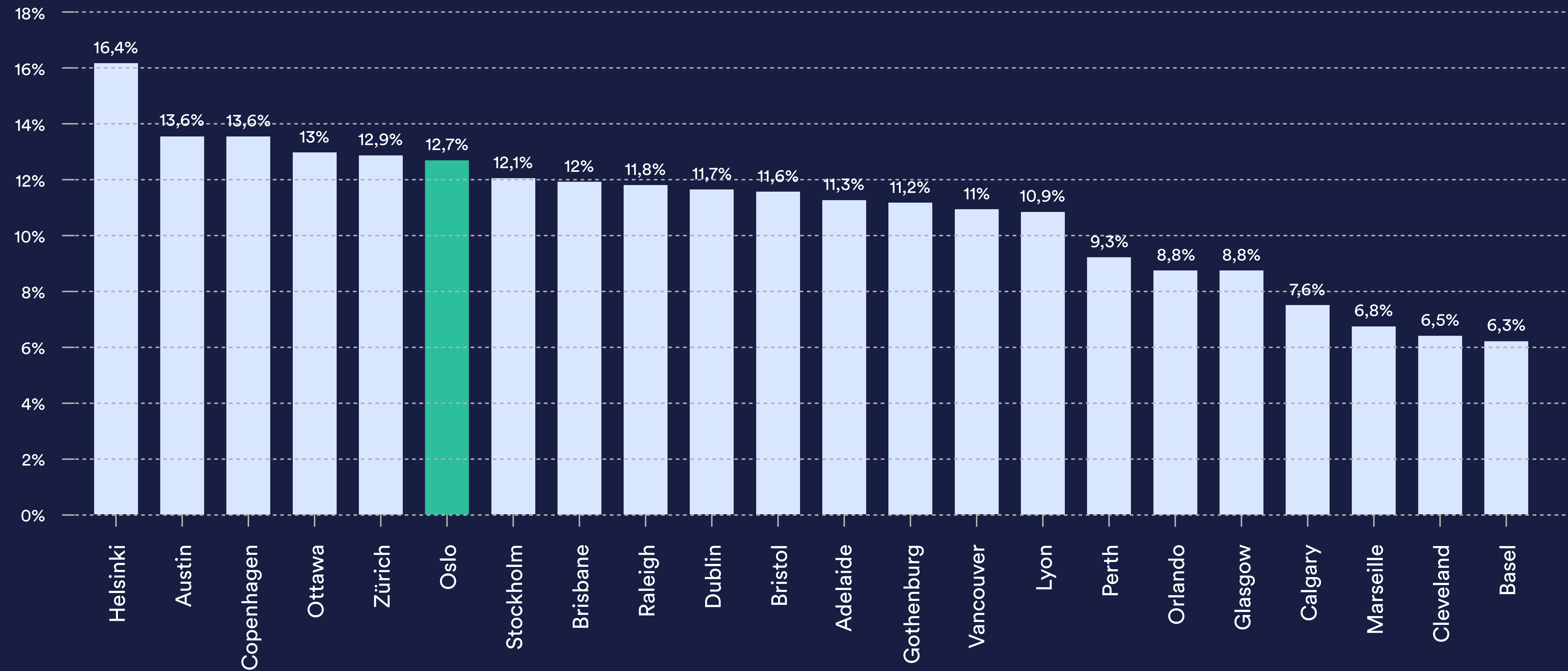
How is Oslo's digital innovation doing?

Digital competitiveness will be crucial to the success of Oslo's companies, start-ups and institutions.¹⁰⁴ The latest evidence suggests that up to 85% of leading firms have accelerated digitisation since the pandemic hit, including through increased adoption of automation and AI. Cities are becoming known as digital ready, or digital unready. Businesses and talent will gravitate to those places where the adjustment is seamless and where the whole larger region is digitally as well as physically connected.

The early signs are that Oslo's digital economy – the companies and sectors where digital capability is fundamental to their edge - has really accelerated through Covid-19 and has great momentum and potential to develop further. Ongoing efforts to diversify the economy and grow the number of digital and tech-oriented firms, together with the Covid-19 pandemic, have spurred many Oslo-based digital firms to attract global attention and recognition. These include the secure Norwegian video conferencing company Pexip, a rival to zoom, and the new AI platform Exabel, which recently won 1 of 5 places for fintechs through the Investment Association's innovation hub. By summer 2020, Oslo's innovative businesses had one of the highest levels of specialisation in sectors allied to digital technologies across smaller and medium-sized peers (see Figure 22).

Oslo's innovation specialisation in digital is growing

Figure 22: Percentage of tech enabled firm HQs specialising in advanced digital sectors



Source: Crunchbase (July 2020 data).

Examples of Oslo-based companies that are successfully adapting to the hybrid world

Start-ups and scale-ups

PortalOne, a hybrid gaming start-up, has recently announced \$15 million worth of seed funding from Atari and others as it prepares to launch an app that allows people to play on-demand games and also watch live shows in which they can play against special guests.¹⁰⁵

The Oslo-based online education start-up **Kahoot!** is looking to launch a “re-IPO” to a main market listing in the city and expand into Asia following its success during the pandemic.¹⁰⁶

Large corporates and established players

The digitisation of **DNB**, Norway’s largest bank, has helped it to weather the effects of the pandemic more effectively than other European lenders. New technology for fully automated loan decisions and mobile payments helped it to maintain a profit per employee around 85% higher than European competitors.¹⁰⁷

Opera, one of the world’s leading internet browser providers, has recently launched a new European Fintech that offers customers an in-browser cashback service and standalone wallet app with current account and debit card.¹⁰⁸

Retail and hospitality firms

SNØ, the world’s largest indoor skiing hall, recently won the Global Digital Signage award in the Sports and Entertainment category for its future-proofed content strategy and adoption of infotainment via live camera streams, live TV and real-time social media updates.¹⁰⁹

Holzweiler, an Oslo-based, family-run fashion label has seen multichannel growth throughout the pandemic as it restructured to focus on deeper collaborations and digital showrooms. It is planning to open a flagship store that combines retail and a restaurant near to Oslo’s New Munch Museum.¹¹⁰

Moniker, a Norwegian fashion brand house, has undergone a retrofit to its flagship store in Oslo’s city centre, focusing on providing a new immersive space for customers via integration of new spaces and digital tools.¹¹¹

Is Oslo's digital infrastructure fit to serve the region's long term ambitions?

Oslo's digital speeds across the region remain competitive, but the shift towards remote working means government needs to be up to the challenge of ensuring that residents in all parts of the region have access to fast, reliable broadband.

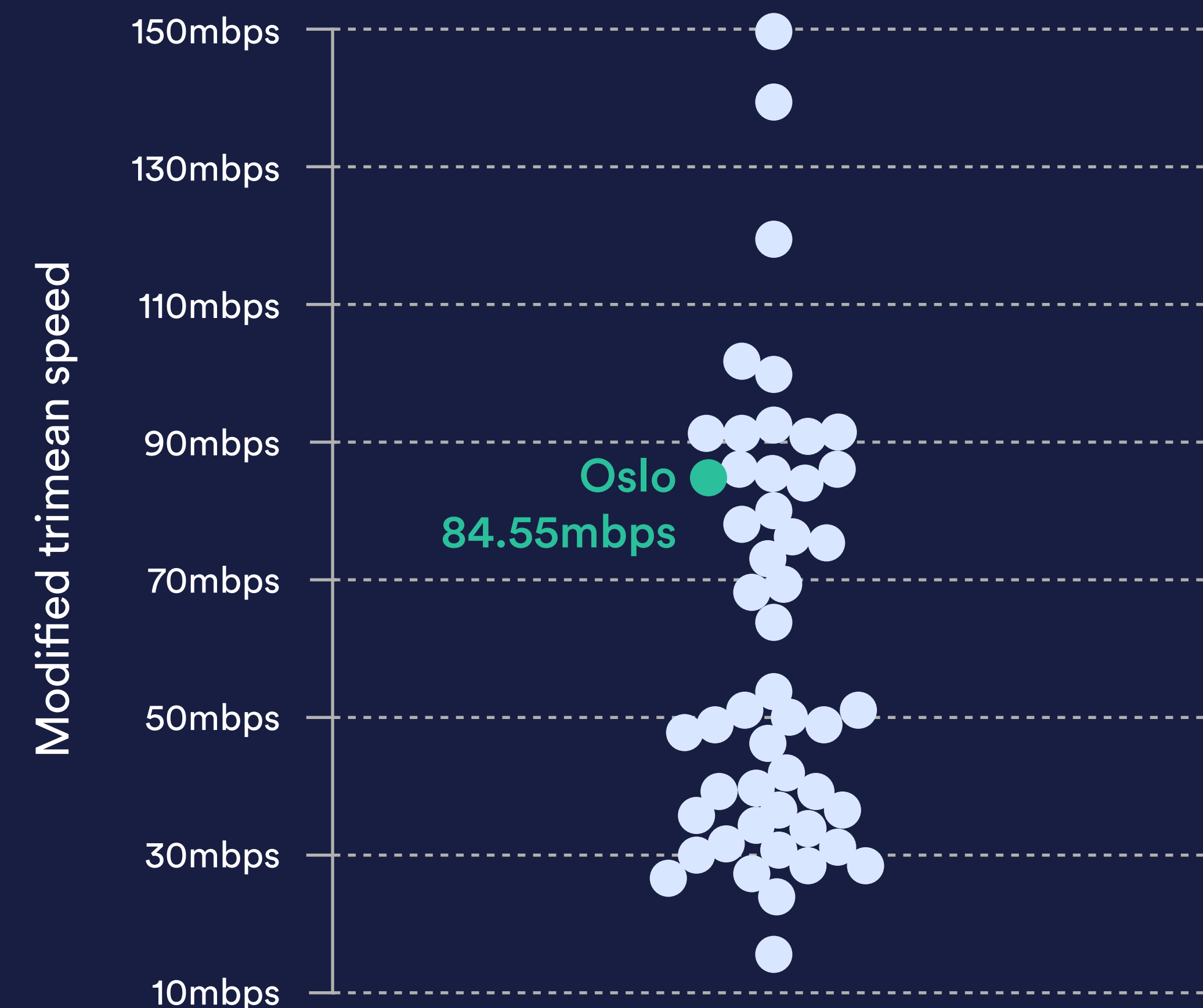
Investment in digital infrastructure is likely to be very important to cities' long-term recovery.¹¹² Although people worked predominantly in offices and workplaces prior to the pandemic, over the past year there has been a profound shift to remote working that many think will be here to stay. This means workers and entrepreneurs are more reliant on lower bandwidth residential networks.¹¹³ Cities such as Oslo will therefore face new imperatives to rise to the challenge of ensuring that citizens have fast, reliable broadband in their homes and that high internet speeds are available city-wide as opposed to concentrated in the city centre.

Oslo's average internet speeds are high by global standards, and put it in the top 30% among similar cities.¹¹⁴ But a new survey undertaken just before the pandemic showed that Oslo ranks 19th out of 28 peers for the share of residents who agree that current speeds meet reliability and connectivity needs.¹¹⁵ Oslo also has the 11th highest variability in regional internet speeds among its peer group.¹¹⁶ The recent city-wide commitments to 5G, and the impact of the city's new fibre agreement on the stability of international traffic, could see improvements into the middle of the 2020s, but Oslo will need to remain vigilant to ensure that it remains as well connected as the best.

Oslo's average internet speeds are high by global standards, and put it in the **top 30%** among similar cities.

Oslo's region-wide digital speeds remain competitive, but demands are growing

Figure 23: Modified trimean internet speeds in Oslo and peer cities



Source: MLab (Q1 2021).

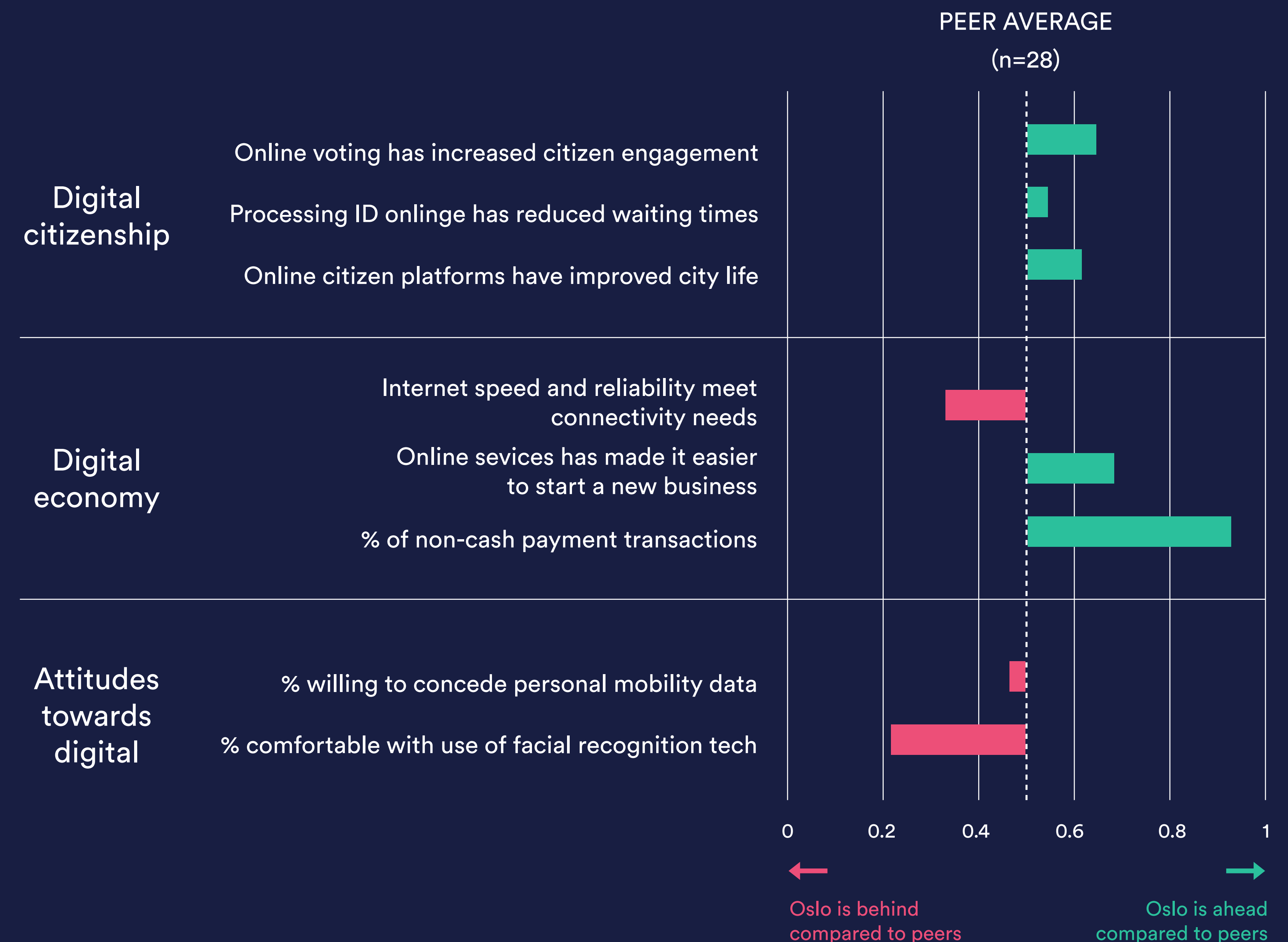
Will Oslo use digital technologies to enhance public trust, civic dialogue and government efficiency?

Despite high uptake of digital technologies, Oslo's residents remain more cautious than other cities about the use of open data. The region scores highly in measures of how well digital has been used. Oslo has the 2nd highest proportion of non-cash transactions amongst 28 peer regions, with 85% of purchases being completed without cash compared to a peer average of 74%.¹¹⁷ However, citizens are less comfortable with the use of facial recognition technologies to prevent crime (22nd / 28 cities), and despite recent moves to enable more widespread access to information on the availability of vehicles, registrations and drivers licenses, are also less willing to concede personal data to improve traffic congestion in the city (15th / 28 cities).¹¹⁸

Despite high uptake of digital technologies, Oslo's residents remain more cautious than other cities about the use of open data.

Oslo excels for digital citizen engagement, but there is a lot of scepticism towards open data

Figure 24: Oslo's position across the different dimensions of digital competitiveness



Source: IMD Smart City Index.

Technology aspirations depend on the government becoming more digitally equipped. Oslo is in the middle of the pack for the proportion of residents who agree that online platforms to propose ideas have improved city life (10th / 28), or that online voting procedures have improved citizen engagement and participation (11th / 28).¹¹⁹ But the city scores even less highly in perception measures of the extent to which local government information and services are easily accessible online, where it is behind the European average. In this measure, Oslo ranks 13th of 17 city regions, and is ahead Barcelona, Berlin and Rome, but behind Copenhagen and Vienna.¹²⁰

Moving forwards, a key question for Oslo will be whether the pace of digitising government and public services is too slow. Together with fairly high public caution about the data economy, it will be important to avoid the risk this inhibits local demand for expertise of digital businesses, and, in turn, holds back Oslo's regional progress as a future leader in digital entrepreneurship.

The global comparative evidence suggests that Oslo's ability to stay relevant and grow its appeal to the next generation of consumers will depend on scaling efforts to re-imagine its retail stores and accelerate the integration of digital tools in cultural settings.

Can Oslo ensure a more seamless experience for visitors and residents?

Data and digitisation are fast emerging as a means of making urban destinations more compelling, visible and accessible. Accelerated digitisation will place a premium on destinations that provide enriched and meaningful experiences that cannot be replicated online. Digital will be a key enabler of agility, specificity and consumer confidence among urban dwellers. The appetite for a digital future will continue into a post-COVID world, adding urgency to the imperative for regions like Oslo to mainstream the use of data and digital tools in industries such as retail, hospitality and leisure.

The global comparative evidence suggests that Oslo's ability to stay relevant and grow its appeal to the next generation of consumers will depend on scaling efforts to re-imagine its retail stores and accelerate the integration of digital tools in cultural settings. A global survey undertaken before the pandemic hit showed Oslo ranked 20th among its 28 peers for resident perceptions of the impact of digital purchasing and booking options on the seamlessness of cultural attendance and participation.¹²¹

The latest data also shows that relative to its size, Oslo is behind for innovation specialisation in sectors allied to the future of retail, hospitality and leisure. As of the start of 2021, Oslo ranks 27th among 29 peers for the number of innovative tech firm HQs specialising in these sectors, with more than 25% fewer such firm HQs per resident compared to on average among its peer group.¹²² Looking to the future, Oslo can accelerate efforts to re-imagine stores and cultural spaces in order to create more immersive and distinctive experiences for customers and users, as has recently been done in Oslo's Moniker store on the city's high-end shopping street Bogstadveien.

Can Oslo gain a larger share of the digital conversation?

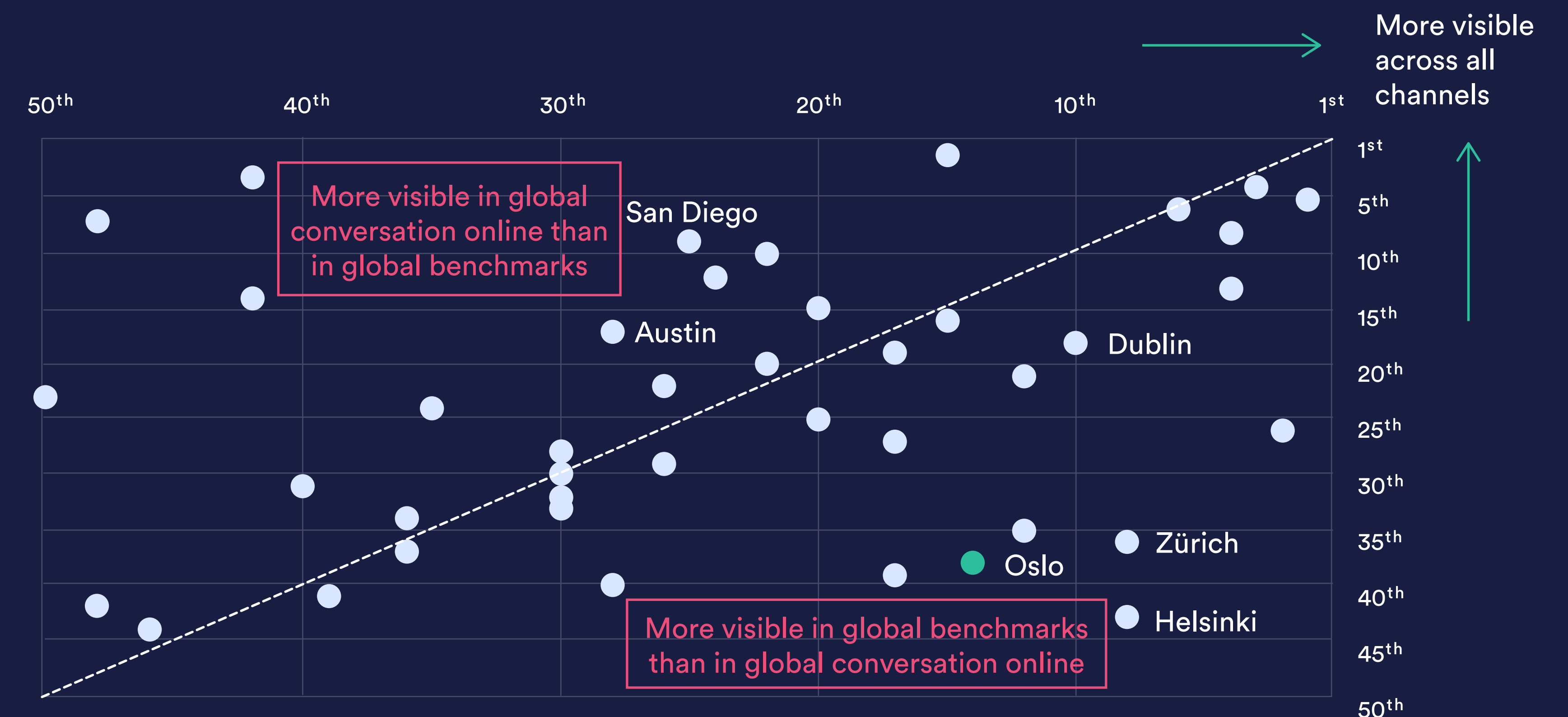
Oslo is less visible on online and digital platforms than other cities. With so much global travel and physical exchange on pause, proactiveness on digital promotion and visibility is more important than ever before.¹²³ Throughout the crisis social media, news outlets and informal online forums have been where much of the conversation about which cities to visit or move to once the pandemic has subsided has taken place. Oslo is well placed to build its digital profile and access new opportunities in a post-Covid world, but will need to be up to the challenge of emerging from the pandemic on the front foot with a clearer and more digital friendly proposition. This can underpin a renewed cycle of confidence in and enthusiasm for the region among prospective visitors, residents and investors.

Recently, Oslo has garnered significant global media attention for its safe streets and lack of pedestrian related deaths. The city is also commonly recognised for leading the charge on uptake and testing of electric and autonomous vehicles. But overall attention on Oslo, including on social media platforms and in the news more broadly, remains behind. Oslo held steady at 142nd globally for the quantity of stories, references and recommendations shared about the city online in 2020 and stands out as a city that is much less visible online than in comparative studies of city performance (see Figure 25).¹²⁴

Oslo is less visible on online and digital platforms than other cities.

Oslo is much more visible in global comparative studies than in the online conversation

Figure 24: Difference in ranking between visibility in global benchmarks and visibility in the online conversation



Sources: Resonance World's Best Cities; The Business of Cities research.

Implications for Oslo

Oslo's performance in 2020/21, combined with the insights from thought leaders and the approaches of other cities internationally, suggest that there are 8 especially relevant features that moving forward will be important to Oslo's hybrid future:

1. Ultra-fast connectivity access across the region to enable flexible work.
2. Regular audits to map and secure the region's digital infrastructure assets.
3. Focus on digital upskilling and communicating the benefits of digital.
4. One-stop shops for civic engagement and innovation for the whole region.
5. Digital buildings and place management to make districts more dynamic and flexible.
6. More accountability and confidence in tech systems, finding ways to make online a healthy space for positive democratic debate.
7. Mainstreaming gender equality and accessibility in digital.
8. Use of digital to build attachment and affinity to different places and experiences in the region.

Overall, 3 priorities emerge for Oslo to work on collectively:

1. Prove to the world that Oslo is ready for the hybrid future and capable of serving a new flexible work-live-play model. This means investing in ultra-fast digital connections across all places and embracing digital platforms to make sure that buildings and assets in all parts of the region are used to their full potential.
2. Create more virtual and face-to-face environments for citizens to co-create and for civic innovation to occur on key agendas, that make it easier for residents to access information and services online, solve problems, and participate in the enlarged digital economy.
3. Grow Oslo's digital presence and narrative through recruiting digital ambassadors, storytellers and developing next generation city dashboards. These can become powerful tools for sharing experiences online and addressing misperceptions about what it is like to visit, study, invest and live in Oslo in 2021 and beyond.

As strategies for Oslo's positioning after Covid take shape, this means it will especially be important for Oslo to:

- Ensure that it remains as well connected as the best, by conducting a full audit of the region's digital connectivity and inclusion and identifying gaps in access to ultra-fast broadband.
- Assemble shared lessons from recent digital initiatives and use these lessons to develop larger and more successful Civic Innovation Challenges that can bring digital companies into closer contact with social challenges and government agencies.
- Develop an accessible one-stop civic engagement, reporting and feedback platform to make it quicker and easier to tackle problems and provide a more up-to-date evidence base.
- Pave the way in showing how cities and regions can improve digital capabilities in ways that build citizen trust and confidence, while actively communicating the potential of digital.
- Fast-track efforts to explore multi-sector leadership, governance and joint resourcing of the region's 'Smart' and 'Digital' approaches so that they become more integrated and less siloed.
- Mainstream the use of digital twins and visualisations into major developments and use them to improve cooperation between developers, planners, and communities about future place character in Oslo.

5 Preparedness

5.1 Competence and leadership

5.2 Green and planet-conscious

5.1 Competence and Leadership



Summary

Oslo's long-standing culture of citizen-government interaction can help to put the city on the front foot as it emerges from the pandemic. Before the pandemic hit, residents had high confidence in local authorities, and felt able to contribute to local decision making and provide feedback on local government projects. Perceptions of corruption remain very low by regional and global standards.

On the other hand, new data has exposed gaps in the perceived agility of city leaders to respond to and tackle civic problems. Emerging data suggest that before the outbreak of Covid-19, residents felt less able to access and understand information on local government decisions and priorities, and less satisfied with the time taken to solve local problems. It remains to be seen what impact the swift and decisive approach taken to the Covid-19 pandemic may have on these perceptions, and, in turn, as Oslo's reputation as a place in which to build a career and to live over the long term.

Highlights

Perception

- **Low levels of corruption.** Only 33% of residents in Oslo perceive corruption to be a problem - much lower than the European average of 51%. This puts Oslo 16th in Europe.¹²⁵
- **Clear pathways for citizen involvement in decision making.** Oslo is 6th for the proportion of residents who feel they are able to provide feedback on local government projects. Meanwhile, Oslo has the 2nd highest % of residents who agree that they can contribute to local decision making.¹²⁶
- **Established culture of citizen-government interaction.** Pre-Covid, Oslo ranked 31st in Europe for citizen confidence in local authorities.¹²⁷
- **Lower transparency of government decisions.** In pre-Covid perception measures of the ability of citizens to access and understand local government decisions, Oslo ranked 15th of 17 peers.¹²⁸

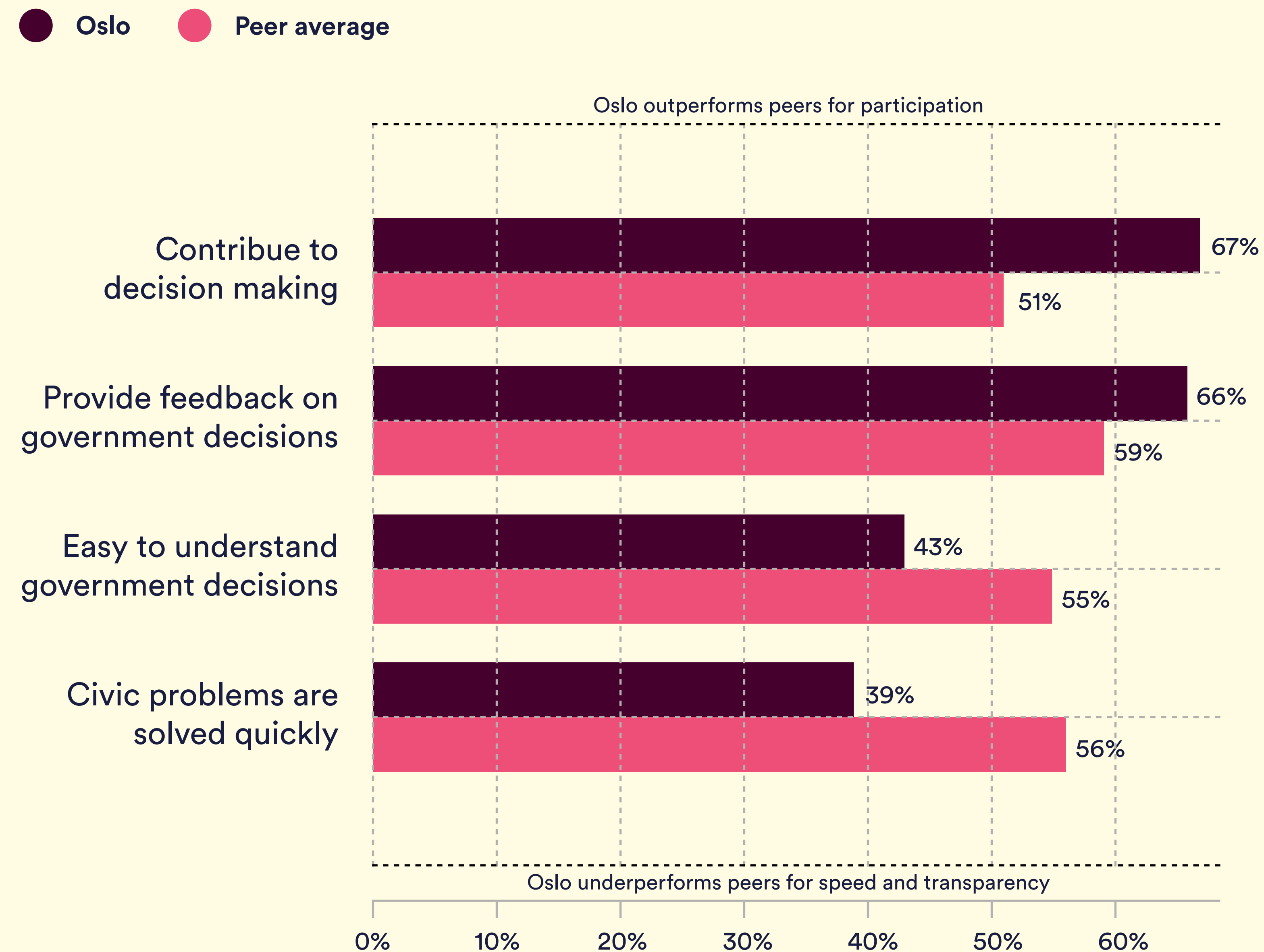
- **Slower to solve civic problems.** Before the pandemic, only 39% of residents were happy with the time taken to solve local civic problems, the 3rd lowest proportion among European peers.¹²⁹

Influential all-round indexes

- **Leader for managing the health risks of Covid-19.** Oslo ranks 1st in the world for the effectiveness of health measures to combat the spread of Covid-19, including the introduction of online diagnostic tools and AI technologies.¹³⁰
- **Efficient and decisive leadership.** In a new study of leadership and government response to the Covid-19 pandemic, Oslo ranks 7th globally.¹³¹
- **Citizen-centred development.** Oslo ranks 27th globally in a new study of the smartest city governments, based on its track record of 'smart' and human-centric development, the strength of government vision and leadership, and deployment of financial tools.¹³²

Pre-Covid, Oslo excelled for governance participation, but was not as strong for speed and transparency

Figure 26: Oslo's performance across perception measures of resident relationships with government



Source: IMD Smart City Index 2020; EU Barometer Quality of Life in European Cities.

Implications for Oslo

There is clear potential for Oslo to:

- Collate, generate and evaluate data collaboratively, for example via the deployment of civic technologies, apps and dashboards, and use it to create transparent solutions that can be applied at the scale of buildings and neighbourhoods.
- Foster the platforms that enable residents and entrepreneurs to voice ideas and solutions in the context of Covid-19 recovery.
- Pivot more decisively to a govtech model that embraces inclusive innovation - including those who are older, disabled and vulnerable.

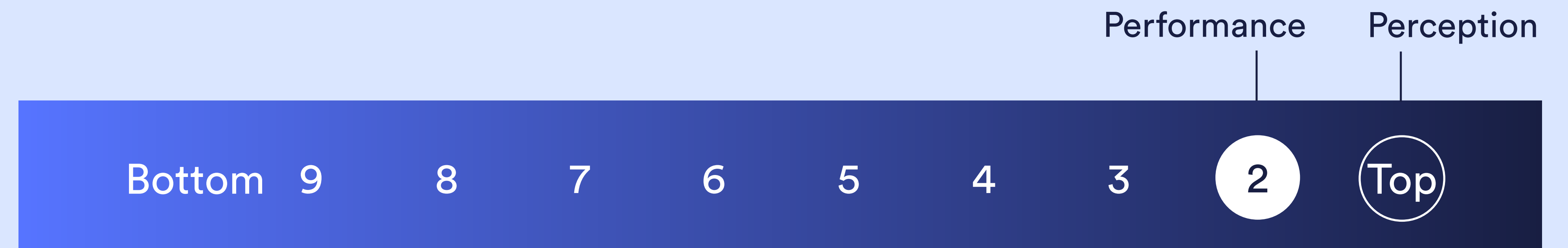
5.2 Green and planet-conscious

Summary

Long known as a city leading the charge towards more sustainable mobility, Oslo retains its status as a world leader for the uptake of electric vehicles, and also is fast emerging as a capital of green finance and green business tourism.

Oslo's all-round environmental friendliness remains very high by global standards, and now benefits from more appetite among residents to trial new ways of living and moving around the region. This could be of great benefit in a post-Covid world, as attention turns towards the environment and a good quality of living.

However, new data suggests that Oslo has not been as good over the long term at protecting its urban greenery relative to other regions, and that urban forests are not as ecologically healthy as elsewhere. There are also signs that others are moving faster than Oslo on green buildings and managing waste. This raises questions about how the region can become a true sustainable city, beyond its early trendsetting in two areas (e.g. electric mobility and green finance).



Highlights

Performance

- **Sustainably powered urban rail.** Oslo is a leading region globally for efforts to reduce the amount of electricity used in its rail networks. 56% of all public transport journeys are powered by renewable energy.¹³³
- **High uptake of electric vehicles.** Oslo ranks 7th globally, and 1st in Europe, in a study of the world's foremost electric vehicle capitals.¹³⁴
- **Sustainable business tourism.** Pre-Covid, Oslo was in the global top 20 for adoption of sustainable practice and policy among business tourism providers. In Oslo, 100% of business tourism venues, and nearly 95% of hotels, are sustainability certified. There is also a clear culture of reporting, oversight and long-term strategic planning among the region's destination management organisations.¹³⁵
- **Growing openness to electric scooters.** Oslo ranks joint 8th for the maturity of legislation for e-scooters among 20 European capitals.¹³⁶

- **Good access to quality green space.** In a new survey that applies computer vision, deep learning and satellite imaging techniques to analyse the amount of urban green space and how easy it is to access, Oslo ranks 21st globally - or 7th among 32 peers.¹³⁷
- **Slower progress in protecting carbon sinks.** From 1992 to 2018, Oslo lost 6.2% of its metropolitan level tree coverage. This puts Oslo in the bottom 10% of all measured cities globally.¹³⁸
- **Lower uptake of recycling.** Oslo ranks 5th among 10 peers for the percentage of waste recycled within the city.¹³⁹
- **Less established culture of sustainable buildings.** Oslo is 79th globally for the presence, maturity and uptake of green construction systems and techniques.¹⁴⁰
- **Less visible concentration of green jobs.** Oslo did not feature in a recent list of the top 10 cities for green jobs, unlike many of its peers (Stockholm, Helsinki, Zurich).¹⁴¹

Perception

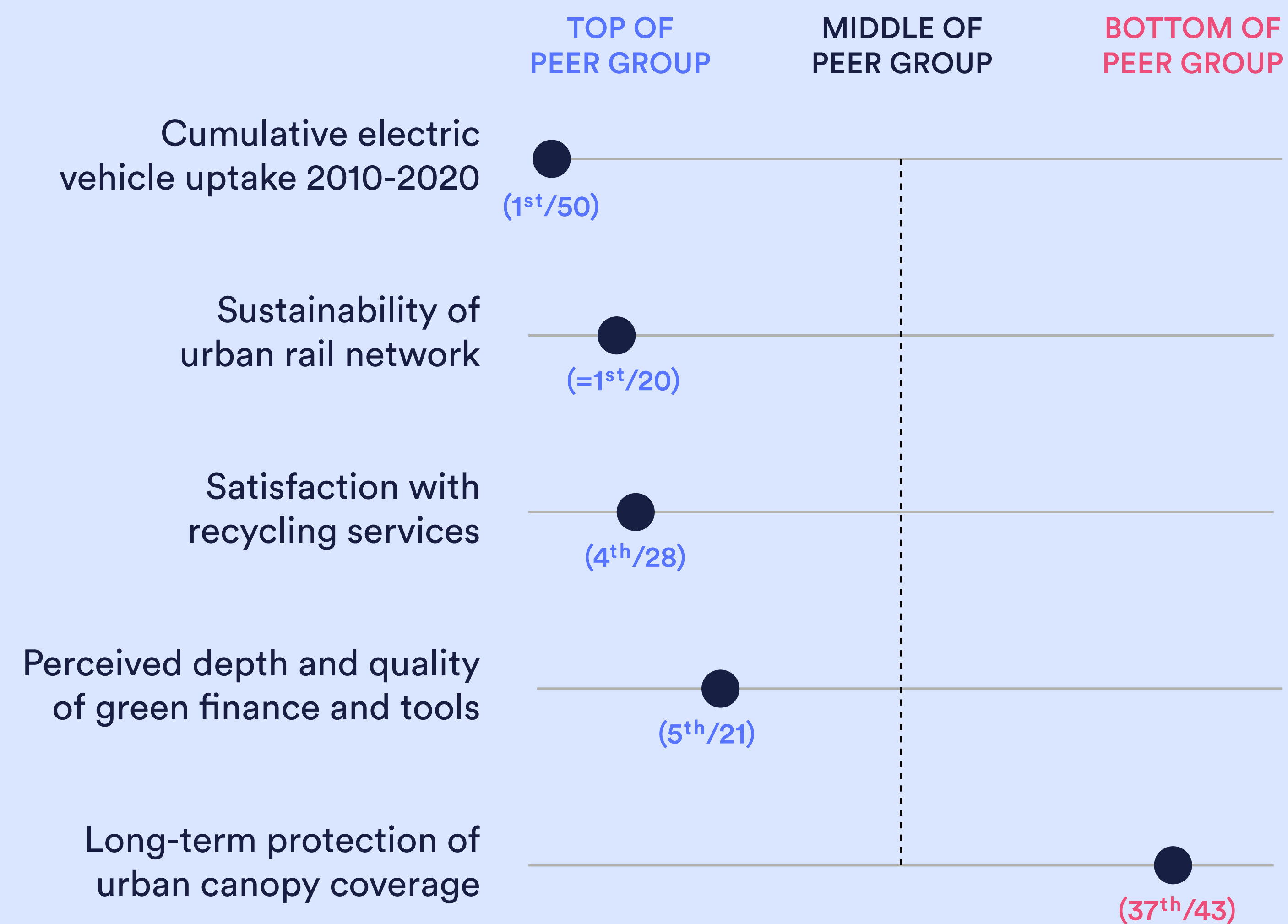
- **Efficient waste management systems.** 80% of residents are satisfied with recycling services, putting Oslo 4th among its peers.¹⁴²
- **Emerging as a green finance capital.** Oslo ranks 10th globally for the depth and quality of its green finance tools.¹⁴³

Influential all-round indexes

- **High all-round environmental friendliness.** Oslo remains in the top 10 city regions globally for its all-round sustainability.¹⁴⁴
- **An ecologically healthy city.** The city of Oslo ranks 4th in a new study of the world's most eco-friendly cities.¹⁴⁵
- **Promising progress towards decarbonising transport.** Oslo ranks 9th for overall sustainable mobility.¹⁴⁶

Oslo continues to excel for green mobility and finance, but protecting carbon sinks will require vigilance

Figure 27: Oslo's performance compared to peers across the main sustainability metrics



Source (from top to bottom): ICCT, local sources, IMD Smart City Index 2020, Global Green Finance Index 6, OECD Cities and Regions at a Glance 2020.

Implications for Oslo

There is clear potential for Oslo to:

- Reiterate and re-establish Oslo's message around sustainability and wellbeing, and the relationship between the two, in coordination with companies and institutions.
- Continue to expand the supply and effective regulation of micro-mobility, in order to facilitate eco-friendly and safe travel as the pandemic subsides and demonstrate Oslo's embrace of sustainable innovation.
- Incentivise more businesses and investors to decarbonise operations, via the development of bolder procurement and buildings standards, high profile industry competitions, and open data platforms for sustainability reporting.
- Actively communicate how Oslo's higher carbon industries are trialling innovations and technologies.



Methodology

Oslo's overall performance by theme (spidergram and sliding scales)

- i. For each of the 16 themes, Oslo has been evaluated in multiple comparative indexes, benchmarks and metrics.

For each theme, Oslo's competitiveness has been graded on a 10-point scale, based on its performance relative to all other comparator cities that appeared in at least one index, benchmark or metric within each theme.

- ii. For each index, benchmark or metric, rankings were inputted to our ELO algorithm which is used to compute the overall performance of all the measured comparator cities for each theme.

The ELO algorithm rates cities or regions by comparing their performance in every possible permutation against a list of other cities/regions. The system produces the most accurate comparative assessment of city/region performance, as it accounts for the fact that some cities/regions appear in more rankings than do others, and that each ranking measures a different number of cities.

For themes where there was more than one perception-based measure, two ELO algorithm runs were undertaken - one using all the rankings taken from purely performance-based measures, and another for all measures containing a perceptual element. For these themes, Oslo receives a score for both performance and perception. Any of the 50 cities not appearing in at least one index, benchmark or metric were discounted from any ELO algorithm runs.

- iii. Oslo's final score for each theme is based on its overall score, where Oslo's rank compared to all other measured cities within that theme determines the decile in which it falls. A score of 0.9-1 would put Oslo in the top decile, 0.8-0.9 in the 2nd decile, and so on.

- e.g. In performance only measures, Oslo ranks 29th out of 50 comparator cities for Innovation, giving it a score of $1 - (29/50) = 0.42$. This puts Oslo in the 6th decile for Innovation performance.

-e.g. In measures with a perception element, if Oslo ranked 13th out of 45 cities for Places and Spaces, it would get a score of $1 - (13/50) = 0.71$, putting Oslo in the 3rd decile for Spaces and Places perceptions.

Oslo's overall performance by theme (spidergram and sliding scales)

Figure 10

Source: The Business of Cities research. *Max = city or country appears in all top lists and is consistently rated in the top 5. Includes the following studies/articles: MoveHub Where to Move after Coronavirus; ExpatNetwork Top Cities for Expats to Move to post-Covid-19; Global Finance Magazine Best Cities to Live; The Street Best Places to Live if you Can Work from Anywhere; Forbes World's Top 10 Places to Move; BCG Decoding Global Talent 2021; InterNations Best and Worst Cities for Expats; Shiplt Best 10 Places for Digital Nomads After Covid.

Scoring system as follows:

If city is mentioned: top 5 = 5 points; top 10 = 4 points; top 15 = 3 points; top 20 = 2 points; top 25 = 1 point; top 30 = 0.5 points
If the home country is mentioned: top 5 = 2.5 points; top 10 = 2 points; top 15 = 1.5 points; top 20 = 1 point; top 25 = 0.5 points

Figure 12

Measures the per capita number of employees working in roles in the knowledge, policy, and digital economies, as registered on LinkedIn as of June 2020. Includes the following industries: Architecture and planning, aviation and aerospace, biotechnology, civil engineering, commercial real estate, computer and network security, computer hardware, computer software, defence and space, design, industrial automation, information services, international affairs, international trade and development, internet, mechanical or industrial engineering, medical devices, nanotechnology, online media, philanthropy, program development, public policy, renewables and environment, telecommunications, transportation, wireless.

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Includes all local tech enabled firm HQs tagged with one or more of the following: virtual reality, ticketing, virtual world, point of sale, sales automation, virtualisation, craft beer, distillery, farmer's market, restaurants, local shopping, made to order, retail, shopping, shopping mall, electronics, fashion, social shopping, virtual goods, wearables, museums and historical sites, music venues, nightclubs, nightlife, theatre, fitness, outdoors, wellness, casino, hospitality, hotel, tourism

References and endnotes

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2. OECD – Cities and Regions at a Glance 2020 - https://www.oecd-ilibrary.org/urban-rural-and-regional-development/oecd-regions-and-cities-at-a-glance-2020_959d5ba0-en;jsessionid=1NMuNKTX7zzPmXTRtpto2AG0.ip-10-240-5-190
3. OECD – Cities and Regions at a Glance 2020 - https://www.oecd-ilibrary.org/urban-rural-and-regional-development/oecd-regions-and-cities-at-a-glance-2020_959d5ba0-en;jsessionid=1NMuNKTX7zzPmXTRtpto2AG0.ip-10-240-5-190
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5. Kisi Best Cities for Work-life Balance: Covid Impact – <https://www.getkisi.com/work-life-balance-2020#table>. Note: measures changes to footfall and mobility, rate of Covid-related deaths, projected impact on economy, and extent and stringency of Covid related restrictions.
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