



The Global Association for
Corporate Real Estate

AUTONOMOUS / DRIVERLESS VEHICLES

Survey: Pending Shifts in Corporate Real Estate

By Cushman & Wakefield in
collaboration with CoreNet Global

Fall 2018

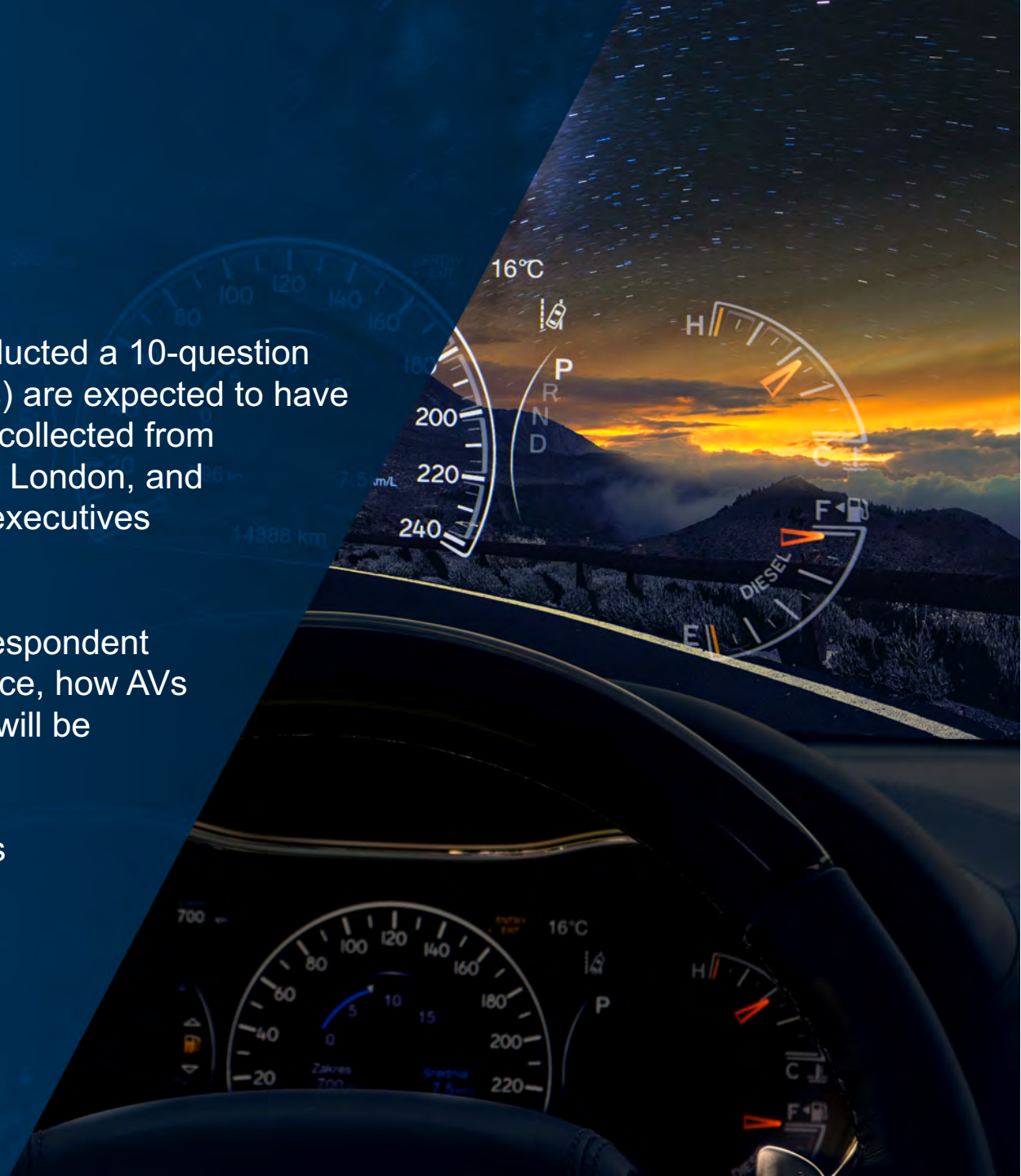


EXECUTIVE SUMMARY

Cushman & Wakefield, in partnership with CoreNet Global, conducted a 10-question survey on the impact that autonomous / driverless vehicles (AVs) are expected to have on businesses and their real estate decisions. Responses were collected from attendees at the 2017-2018 CoreNet Global Summits in Seattle, London, and Singapore. The 500 responses represent corporate real estate executives from companies headquartered all around the globe.

The following report explores the key findings uncovered from respondent feedback, including when AVs will begin to impact the marketplace, how AVs will change employees' workdays, and how real estate strategy will be impacted by the technology.

In reviewing corporate real estate (CRE) executives' perceptions of AV technology, a few trends emerge.



EXECUTIVE SUMMARY (CONTINUED)

- **Decade Away:** Outlooks vary, but a majority predict that AV technology will become prevalent between 2025 and 2034. A fifth of respondents don't expect AV dominance to happen until after 2040.
- **Net Positive:** Implementation of AVs will have a positive impact on business. Optimism is highest at companies in the life sciences and TMT—technology, media, and telecommunications—sectors.
- **The Main Thing Remains the Main Thing:** Considerations such as rental rates and neighborhood amenities will continue to be important for CRE strategy. Three-fourths of CRE executives foresee AVs having no impact on the quantity of office space required.
- **Business Focused:** Business travel and daily commutes are seen as the main reasons to be excited by AV technology, especially in the Americas and EMEA. Nearly 70% of respondents claim they will use “saved” commute time for work activities.

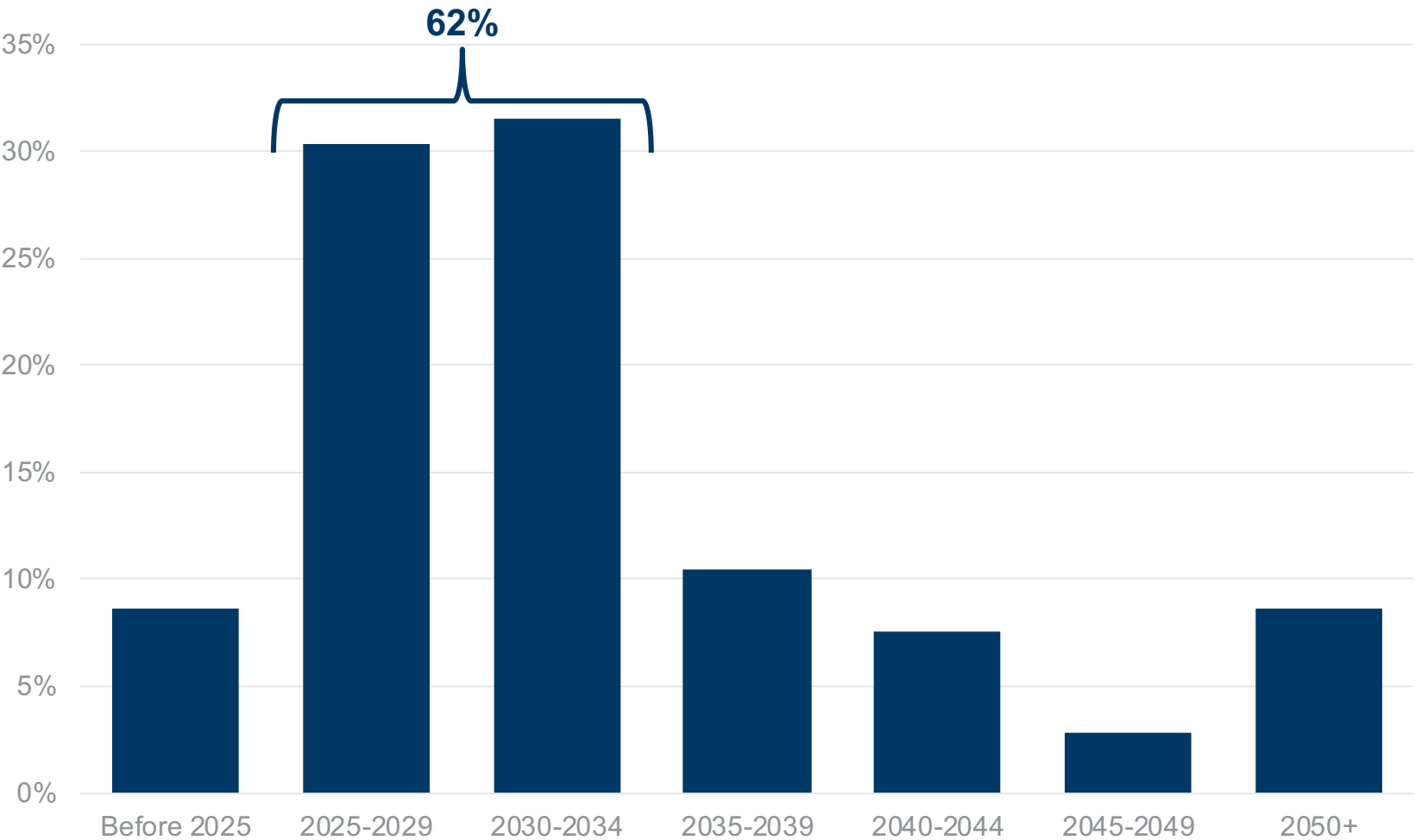




FORECASTED IMPLEMENTATION

Autonomous Vehicle Tipping Point

 In what year do you think the majority of transportation will be conducted by autonomous driverless vehicles?



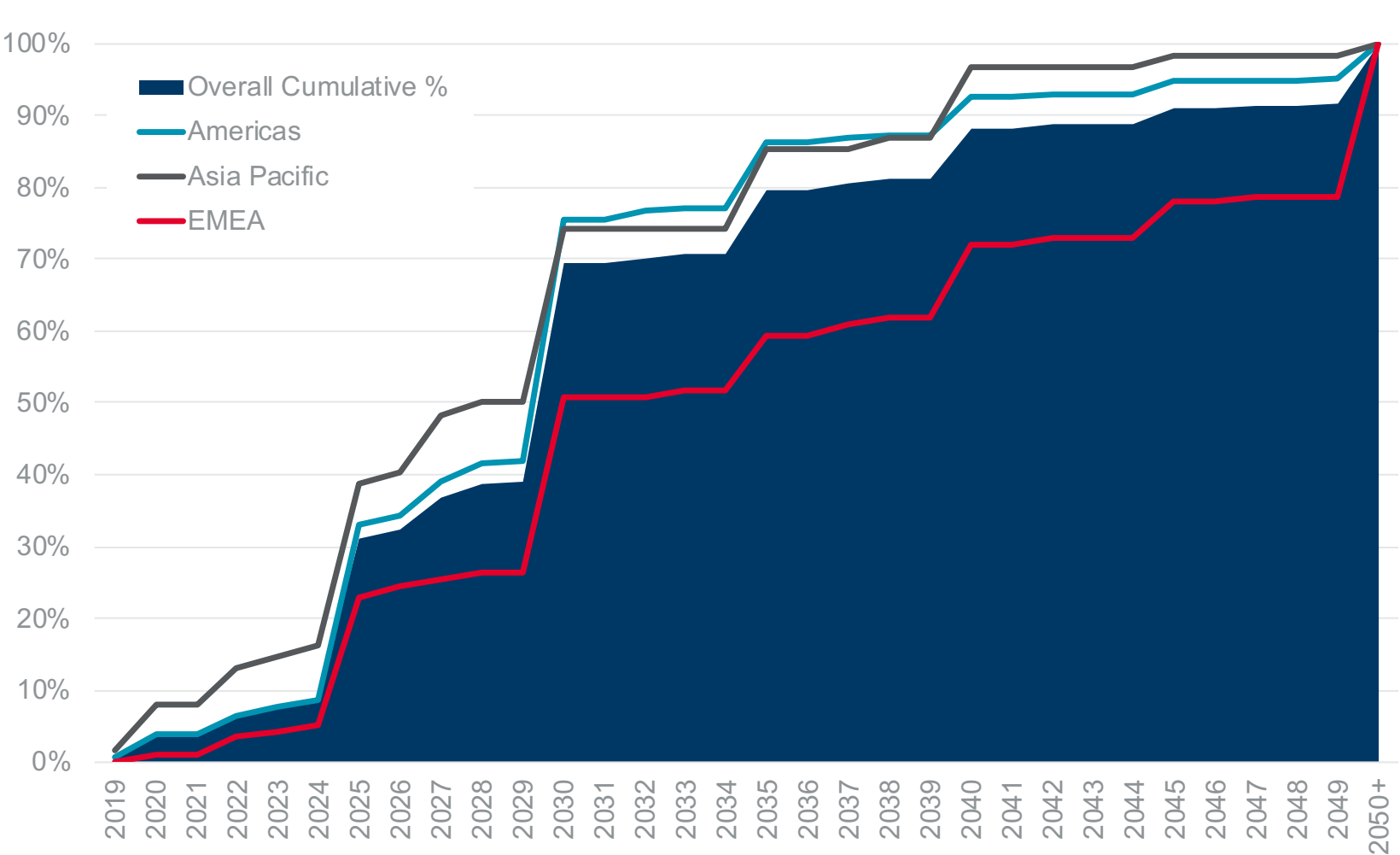
Source: CoreNet Global; Cushman & Wakefield

Autonomous / driverless vehicles (AVs) produced by Waymo and Uber have self-driven more miles than the average American would drive in 800 years. However, there remains significant progress to be made before AVs are our primary transportation source. Industry experts have varied thoughts on when AVs will become common-place.

CRE executives are not overly confident that AVs will account for the majority of transport in the next six years. However, nearly two-thirds (62%) believe the tipping point will take place in the decade between 2025 and 2034.

Autonomous Vehicle Tipping Point

 In what year do you think the majority of transportation will be conducted by autonomous / driverless vehicles?



Source: CoreNet Global; Cushman & Wakefield

A third of CRE executives expect the AV tipping point to occur by 2026. Over two-thirds are confident it will happen by 2030. Approximately 20% of respondents expect the shift to transpire after 2040.

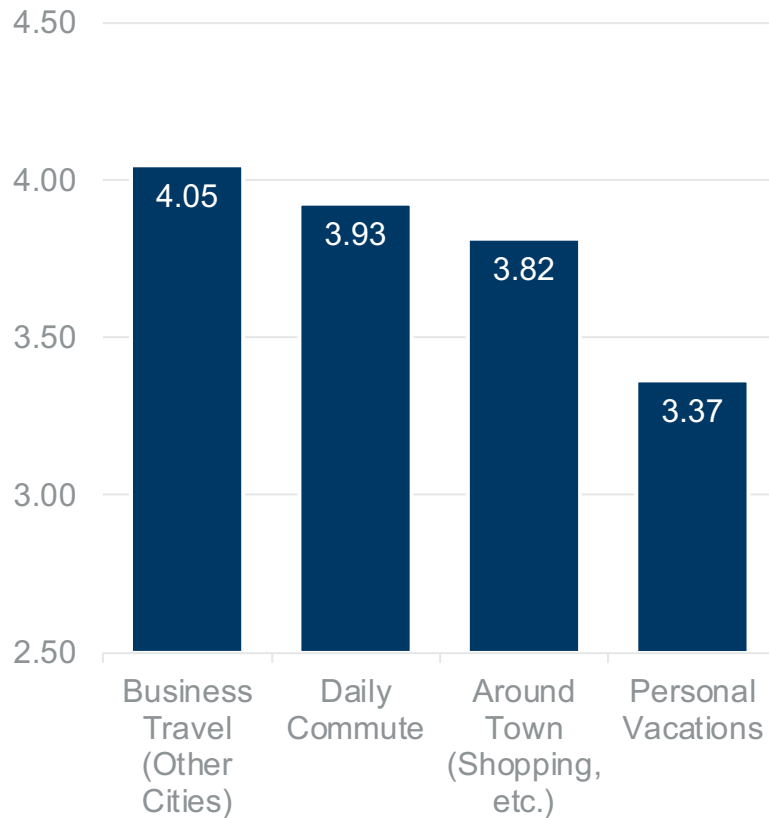
Pessimism is highest in EMEA. Only half of respondents from companies whose headquarters are in EMEA expect this to take place by 2034, as compared to 74% of Asia Pacific and 77% of Americas respondents. And, 21% of EMEA CRE executives believe it won't happen before 2050.

Excitement for Autonomous Vehicles

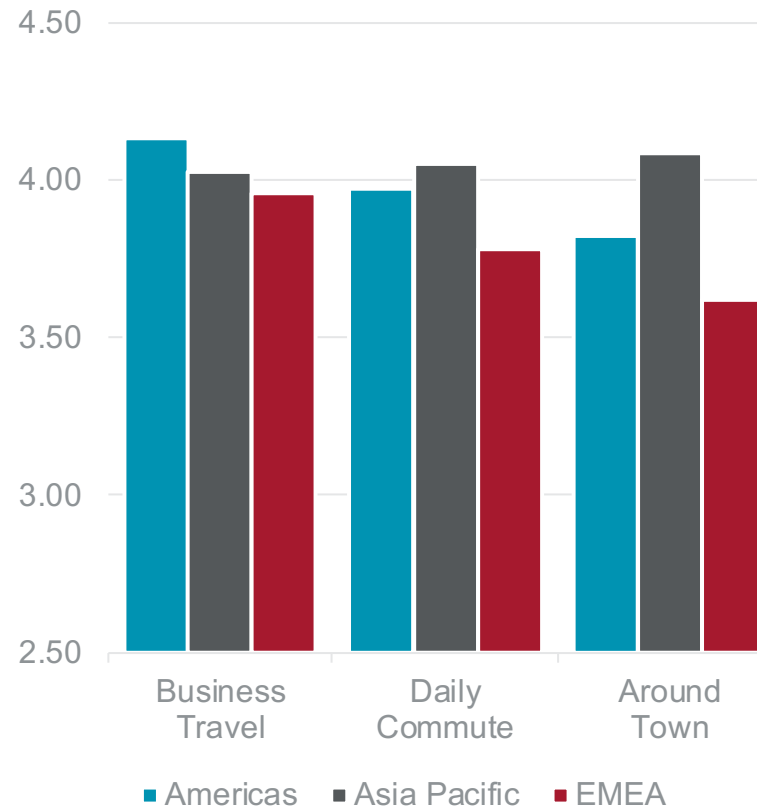


How excited are you to utilize driverless vehicles for the following transportation purposes?
(Scale: Extremely excited = 5 and 1 = Very unexcited)

Overall



Region of Respondent



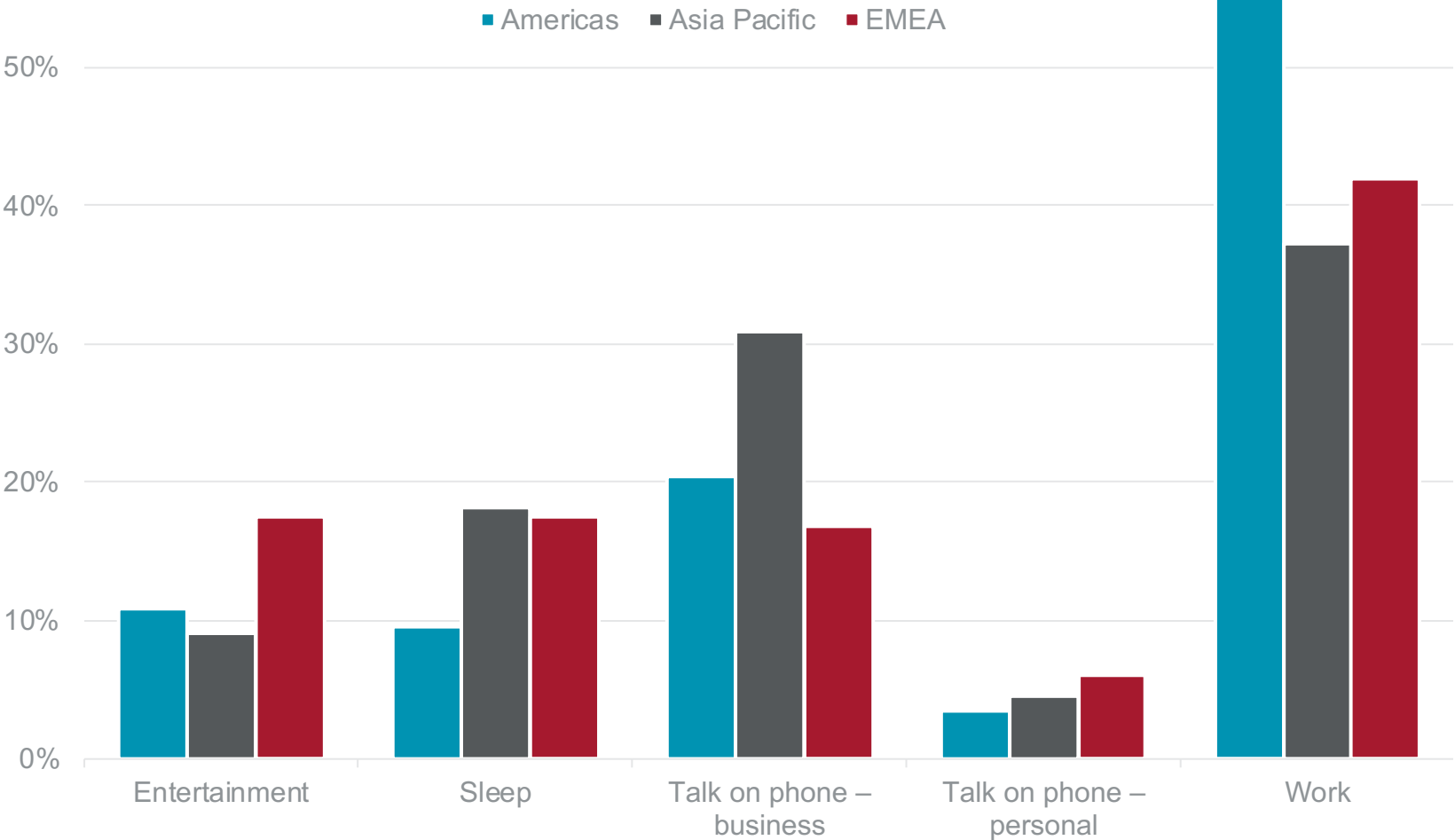
Source: CoreNet Global; Cushman & Wakefield

Looking forward, excitement is highest for the prospect of AV transportation's impact on business travel. The least appealing use is for personal vacations.

With the exception of business travel, respondents who live in the Asia Pacific region are more excited about AV transportation as a solution than their counterparts in the Americas or EMEA. In particular, getting around town (excluding daily commute) is considerably more interesting to respondents who live in Asia Pacific.

Time Utilization

 If your current commute was driven by an autonomous vehicle tomorrow, how would you utilize saved time?



Source: CoreNet Global; Cushman & Wakefield

Confidence is high that time currently spent driving or actively commuting will be replaced by work activities. Overall, 69% of respondents indicate they will use the time saved by AVs to either conduct business phone calls or complete work. This expectation is highest for CRE executives who live in the Americas (76%) and lowest in EMEA (59%).

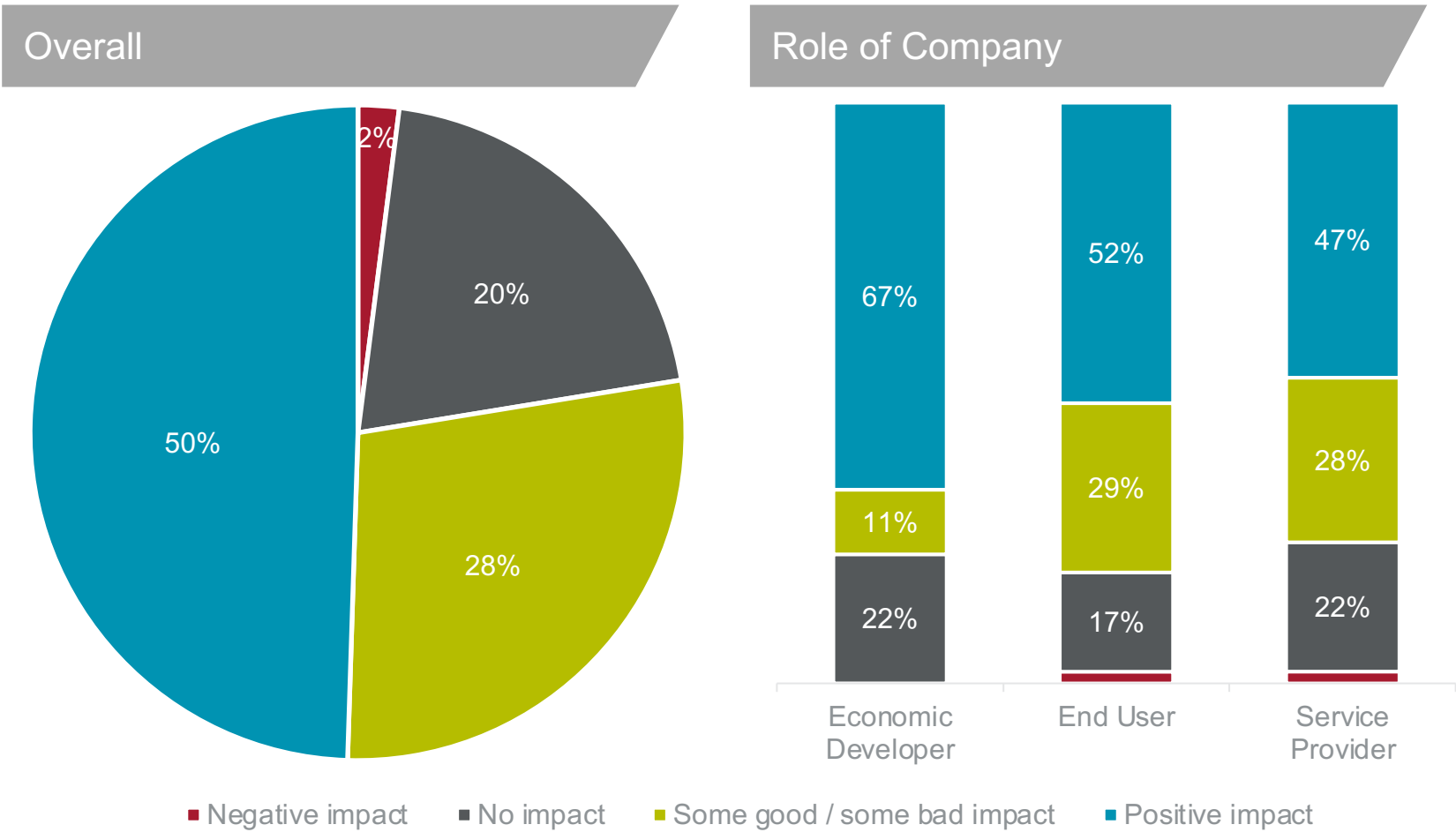
Respondents who live in EMEA are nearly twice as likely to use the time for entertainment, while those in the Americas are almost half as likely to say they would sleep during their commute.



IMPACT ON BUSINESS

Business Impact of AVs

? What sort of impact will driverless vehicles have on your company's business?



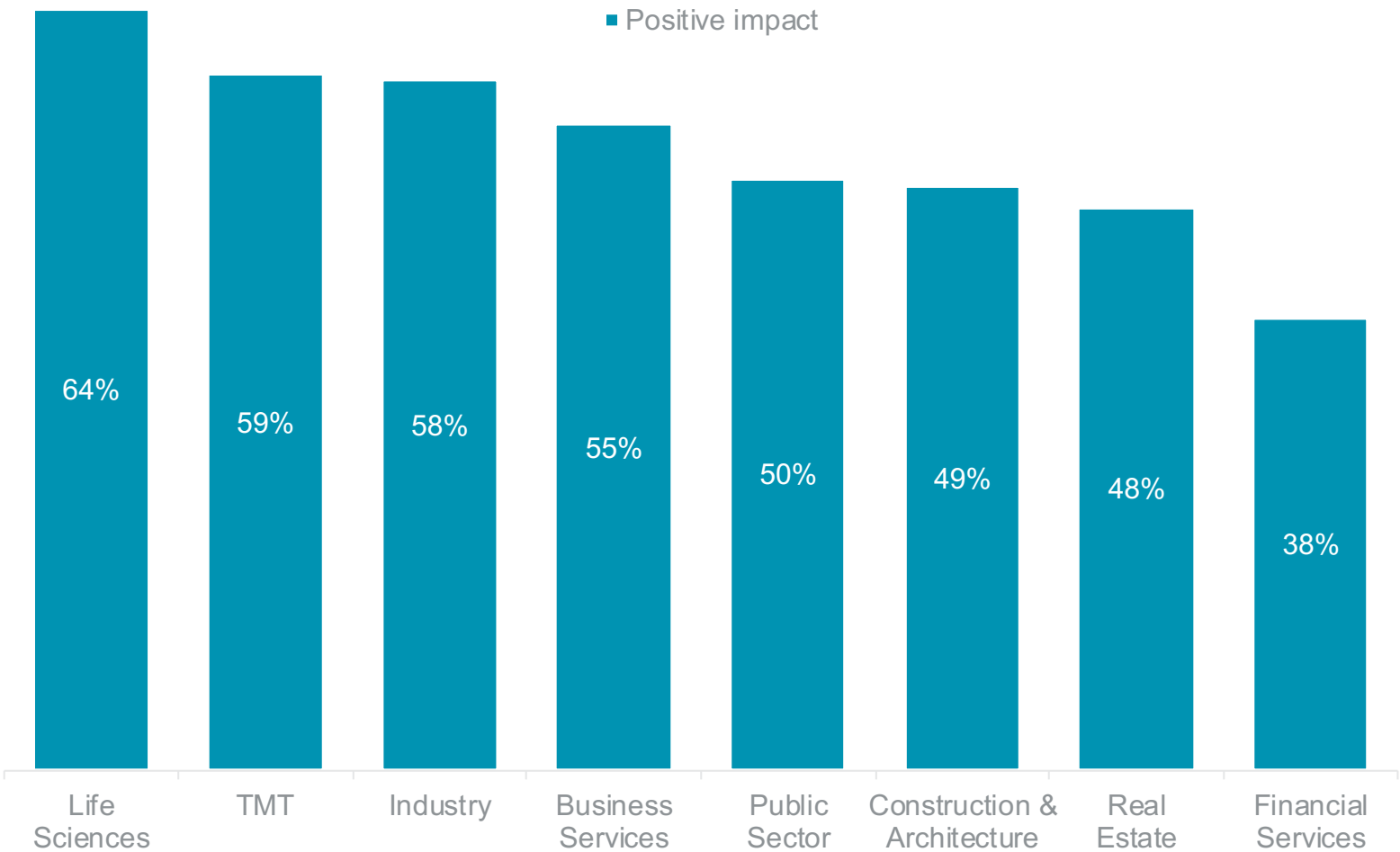
Source: CoreNet Global; Cushman & Wakefield

Sentiment towards the impact of AVs on business is generally positive or neutral. Only 2% of CRE executives believe AVs will have a negative impact on their company's business. Half of all respondents believe it will be positive. A fifth don't foresee any specific impact on their business and the remaining 28% expect it to be a mixed bag. These trends are consistent by region, although in Asia Pacific the expectation of "no impact" is higher.

Not surprisingly, economic developers are the most bullish on the positive impact of AVs.

Business Impact of AVs

? What sort of impact will driverless vehicles have on your company's business?



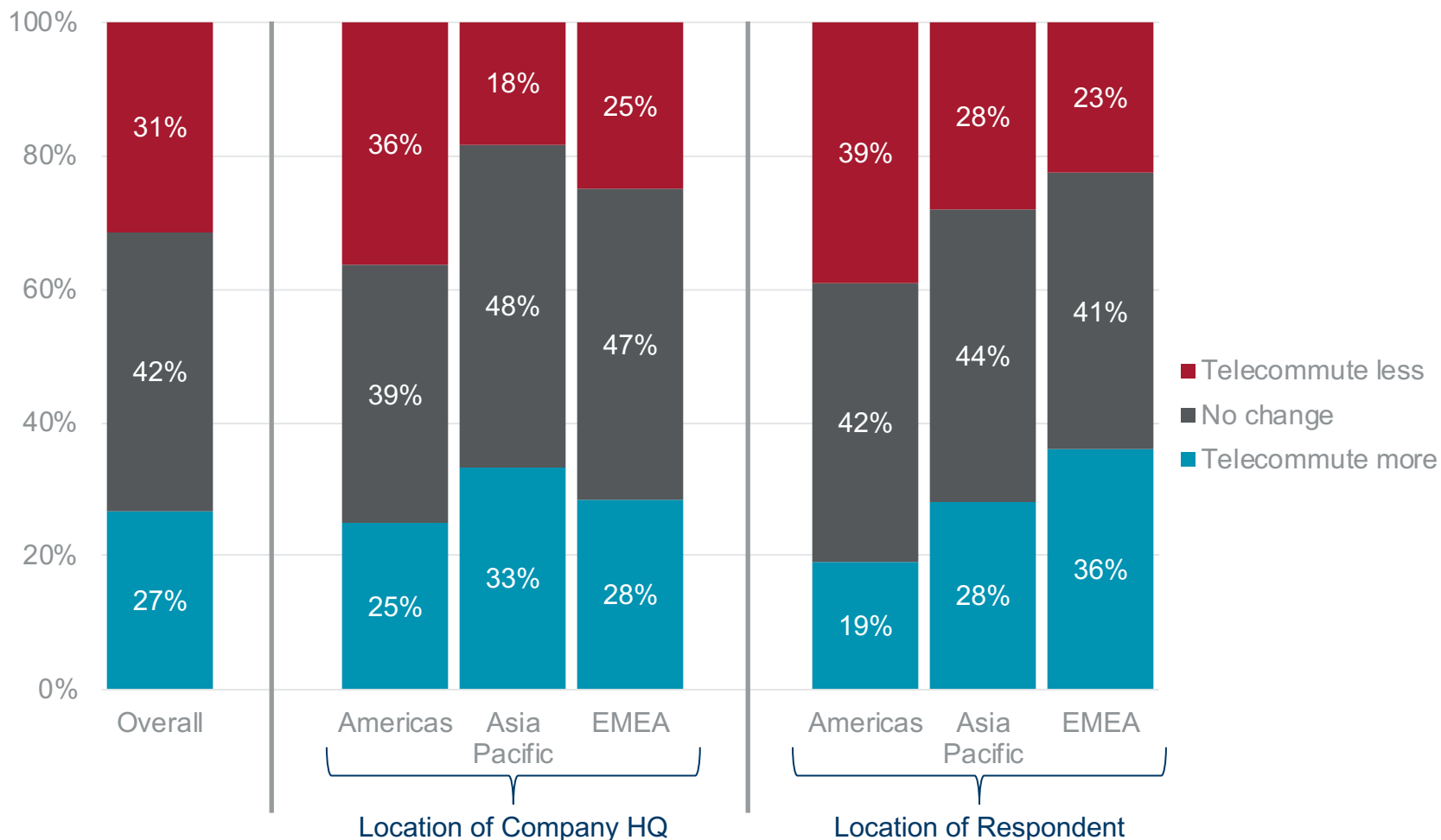
Source: CoreNet Global; Cushman & Wakefield

Optimism is highest among CRE executives in the life sciences sector with nearly two-thirds indicating AVs will have a positive impact on their business. Among TMT and industry respondents nearly 60% expect a positive impact.

On the other side of the coin, financial services is the only sector where there is not a plurality expecting a positive impact. Forty percent of financial services respondents see “some good / some bad impact” as the likely outcome, while only 38% predict a purely positive impact.

Impact on Employees' Telecommuting Patterns

? What impact will driverless car technology have on the amount of time employees at your company telecommute (versus work in the office)?



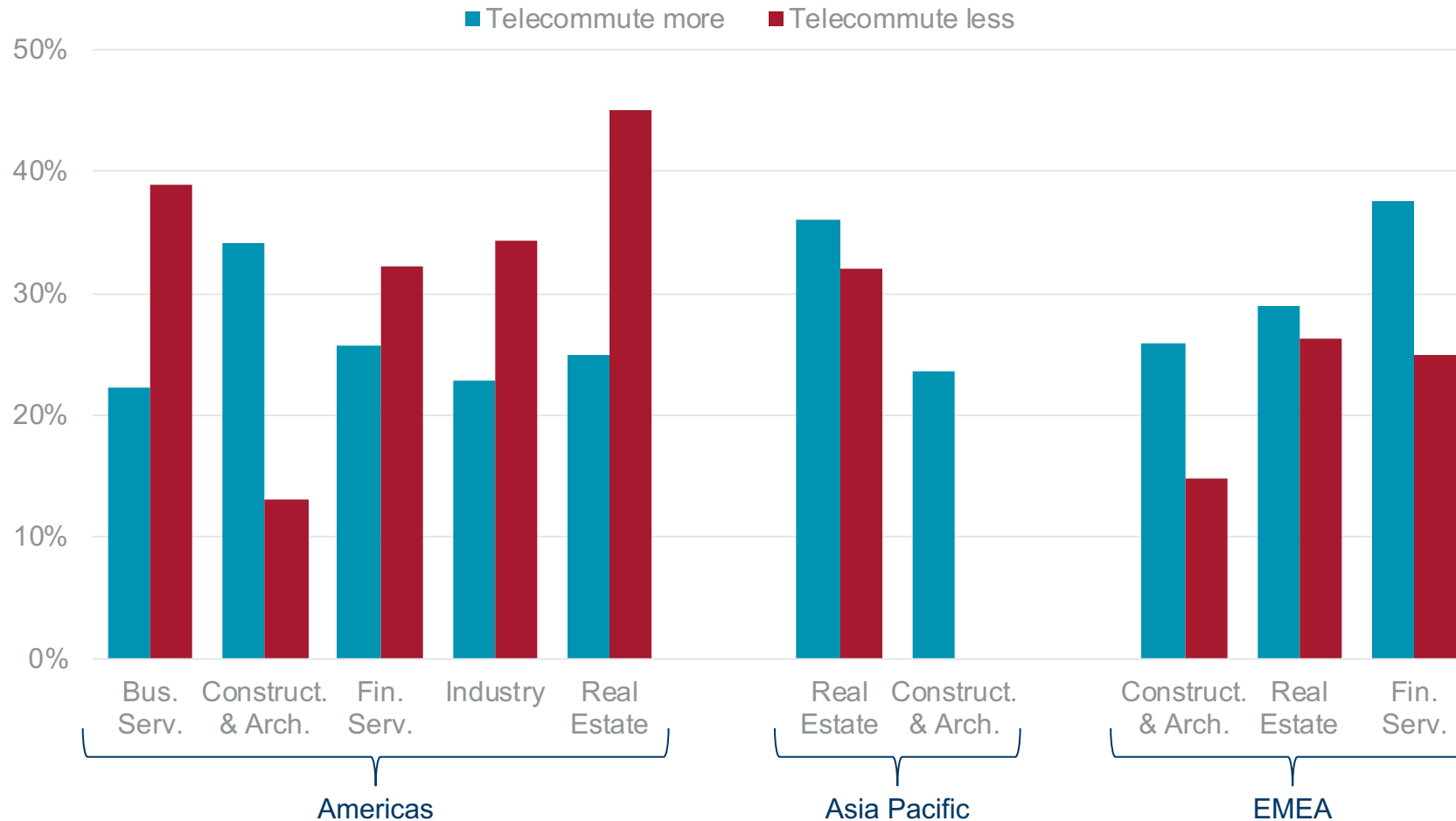
Source: CoreNet Global; Cushman & Wakefield

The impact on telecommuting patterns are mixed. Overall, 42% of respondents expect there will be no change in employees' telecommuting. Thirty-one percent of CRE executives see telecommuting happening less often in a world of AVs. This perspective is more common for those who sit in the Americas (39%) or work for companies headquartered in the Americas (36%).

Respondents from companies headquartered in Asia Pacific and those who live in EMEA are most likely to predict telecommuting will happen more often once AVs are commonplace.

Impact on Employees' Telecommuting Patterns

? What impact will driverless car technology have on the amount of time employees at your company telecommute (versus work in the office)?



Source: CoreNet Global; Cushman & Wakefield

*Includes all sectors with at least 15 responses.

For companies headquartered in the Americas, almost all sectors are more likely to see telecommuting decrease when AVs become viable. The only exception is construction & architecture where a third of CRE executives indicate telecommuting will be more prevalent as opposed to only 13% expecting it to become less common.

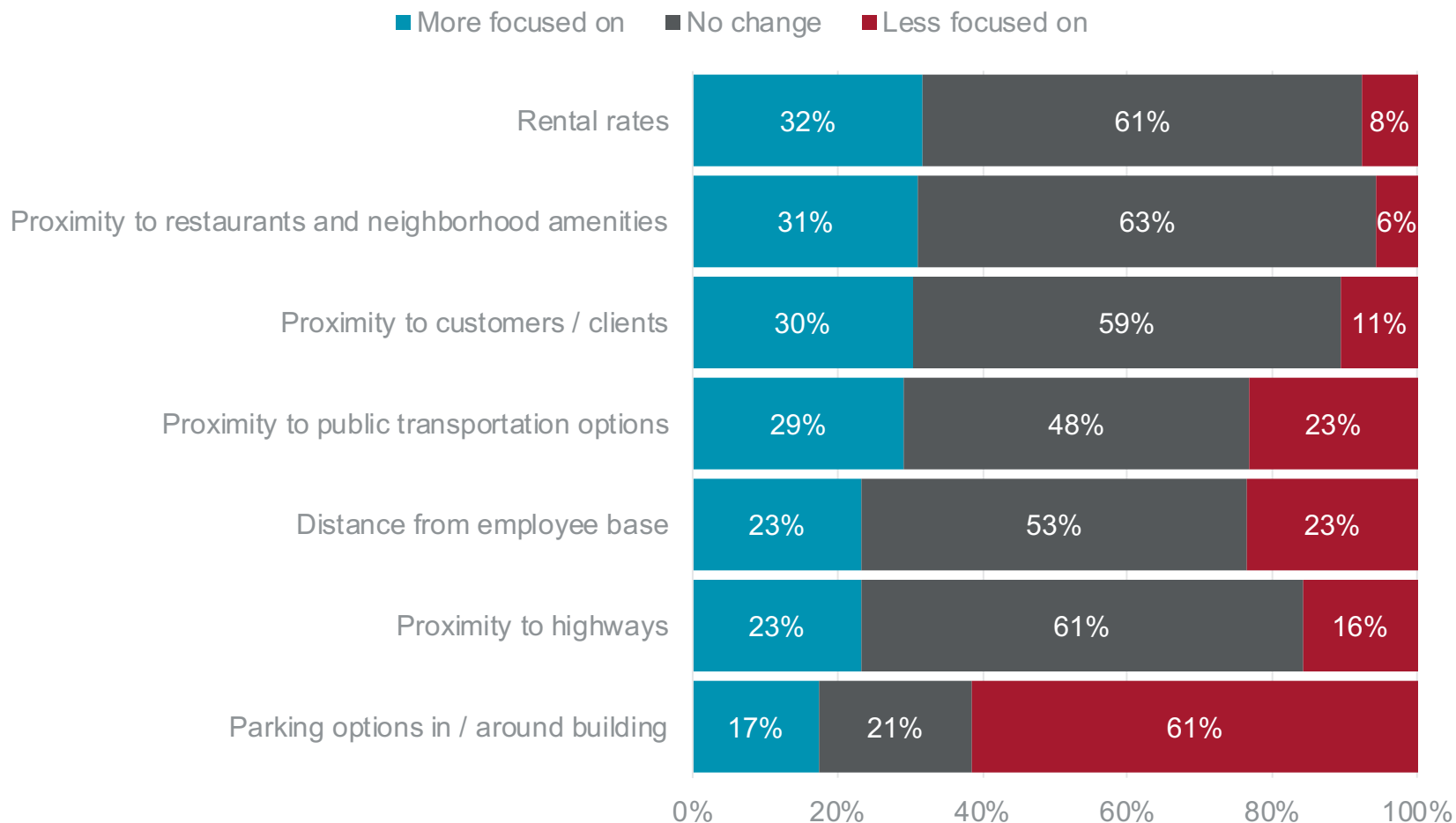
Companies with headquarters in the other two regions are consistently more likely to expect an increase in telecommuting regardless of the sector.



IMPACT ON CRE

Perspective on Office Space

? Will driverless car technology change how your company looks at office space?



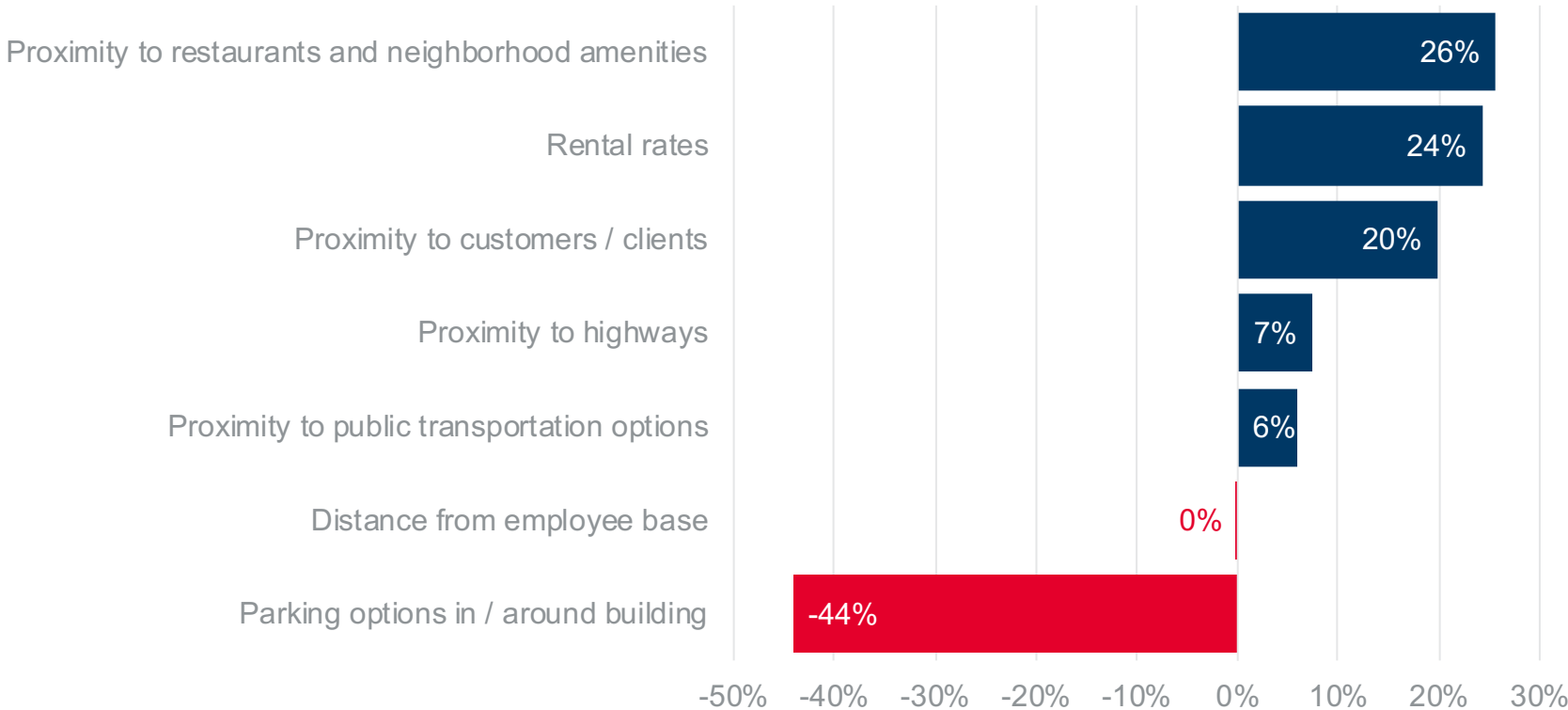
Source: CoreNet Global; Cushman & Wakefield

For many, AV technology is going to change CRE strategy. One obvious impact will be the lessening importance of parking around the office space. However, certain factors will continue to be extremely important. For example, over 90% of respondents indicate they will be equally or more focused on rents costs and the proximity of their office space to neighborhood amenities.

After parking, two other factors will require less focus according to 23% of respondents: proximity to public transportation and distance from employee base.

Perspective on Office Space

? Will driverless car technology change how your company looks at office space?



Five of the seven factors rated had more respondents indicating their focus on them would increase in a world of AVs. The only exceptions are parking options and the distance from employees, the latter which had almost exactly the same percentage saying “more” and “less” (23%).

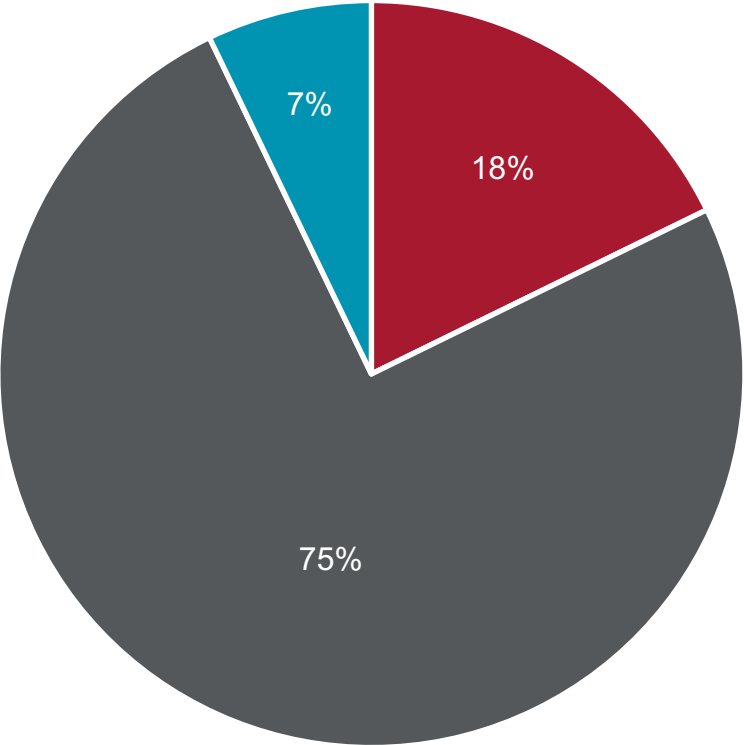
Proximity will increase in importance, with 26% more respondents citing an increase in focus on neighborhood amenities and 20% more focused on distance from customers / clients.

Source: CoreNet Global; Cushman & Wakefield

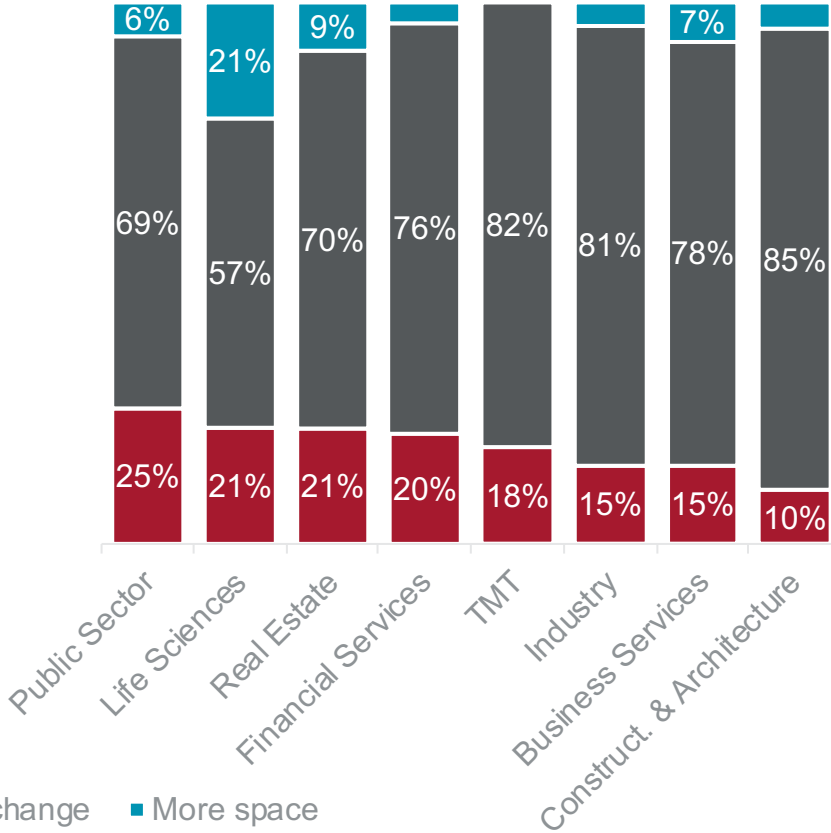
Amount of Office Space Required

? Will driverless car technology change the amount of office space your company needs?

Overall



Sector of Company



■ Less space ■ No change ■ More space

Source: CoreNet Global; Cushman & Wakefield

AV technology will not impact the quantity of office space required by most companies. This is consistently true across regions and business sectors.

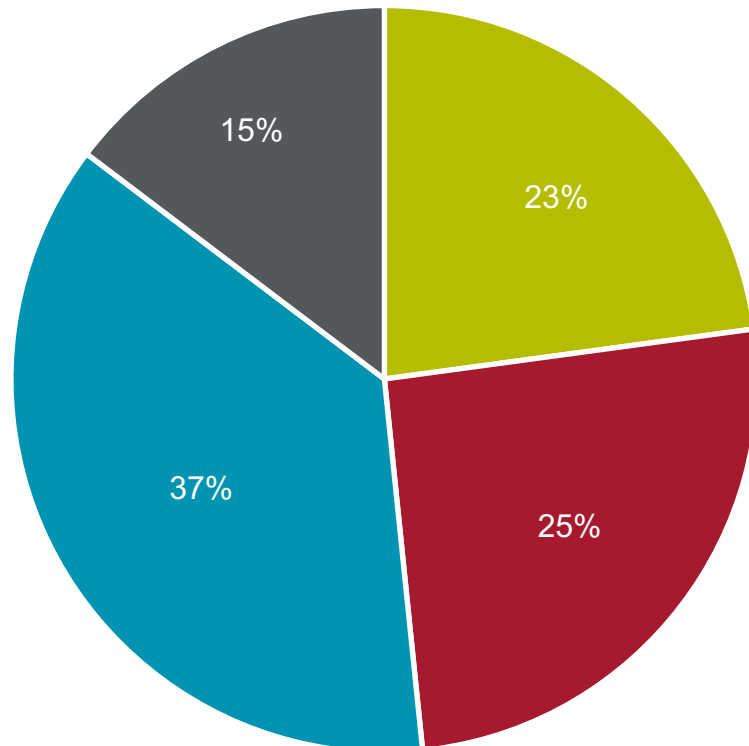
Very few companies expect AVs to lead to a demand for more office space. Approximately one-fifth of CRE executives believe they will end up needing less space because of the impact of AV technology. This is highest among public sector respondents (25%), followed by life sciences and real estate (both at 21%).

Impact on Parking Facilities



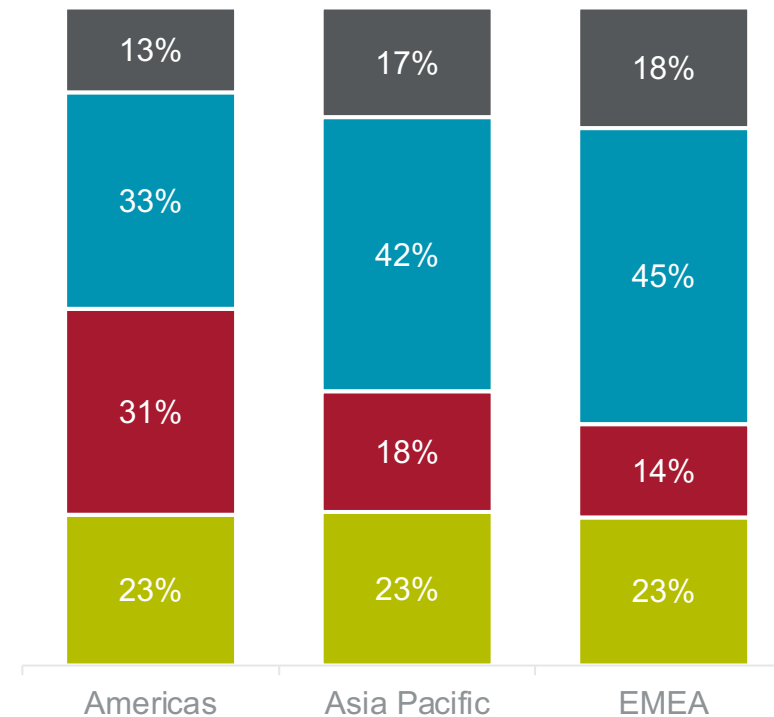
Will the adoption of driverless cars lead to obsolete parking facilities for your organization and how difficult do you perceive these to be repurposed?

Overall



- No parking facilities in portfolio
- Yes parking facilities – easy to repurpose
- Yes parking facilities – difficult and costly to repurpose
- Yes parking facilities – no impact

Region of Company HQ



- Yes parking facilities – difficult and costly to repurpose
- Yes parking facilities – no impact

One-fourth of respondents expect to have a difficult (and/or costly) time repurposing parking facilities in their portfolio that become obsolete with the implementation of AV technology. This is a significantly smaller issue for companies whose headquarters are in EMEA (14%) and Asia Pacific (18%) as opposed to the Americas (31%).

The sectors most concerned about parking facility repurposing are TMT (53%), life sciences (36%), and real estate (31%).

Source: CoreNet Global; Cushman & Wakefield



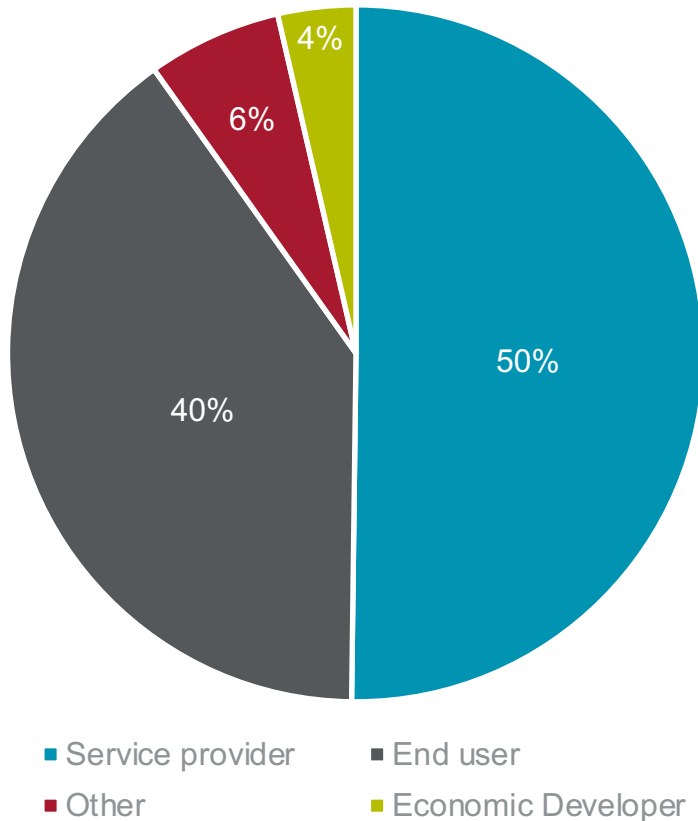
RESPONDENT DEMOGRAPHICS

Diverse Respondent Pool

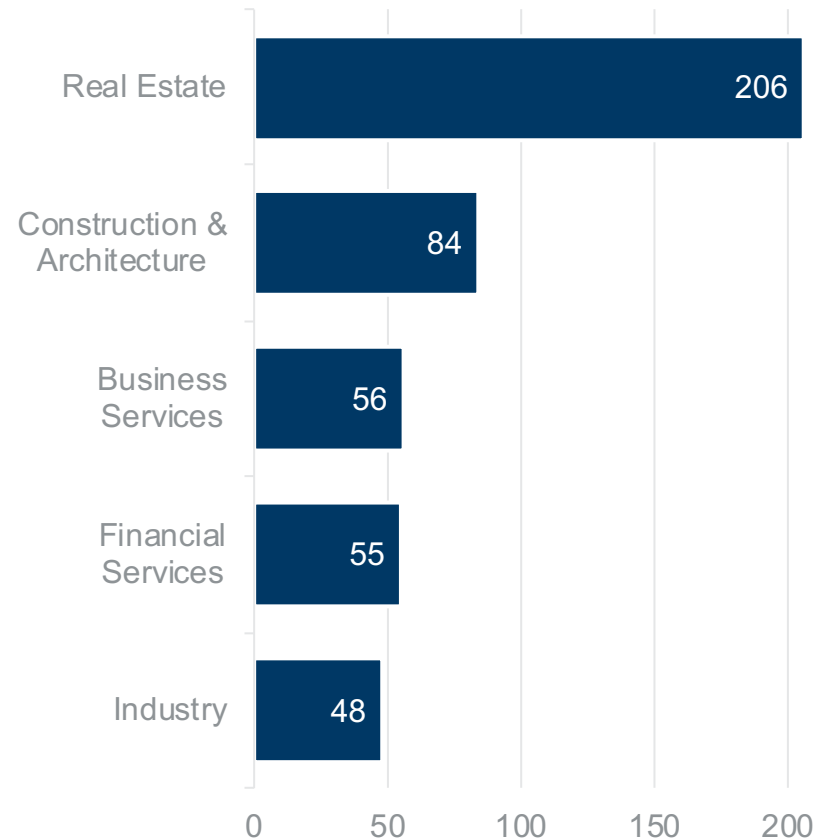


Responses received from 500 different CRE executives at CoreNet Global Summits

Role of Company



Sector of Company*



Source: CoreNet Global; Cushman & Wakefield

*Also received responses from the TMT, public sector, and life sciences sectors

A total of 500 responses collected from attendees during the 2017-2018 CoreNet Global Summits are included in the analysis:

- Seattle: 218
- London: 158
- Singapore: 124

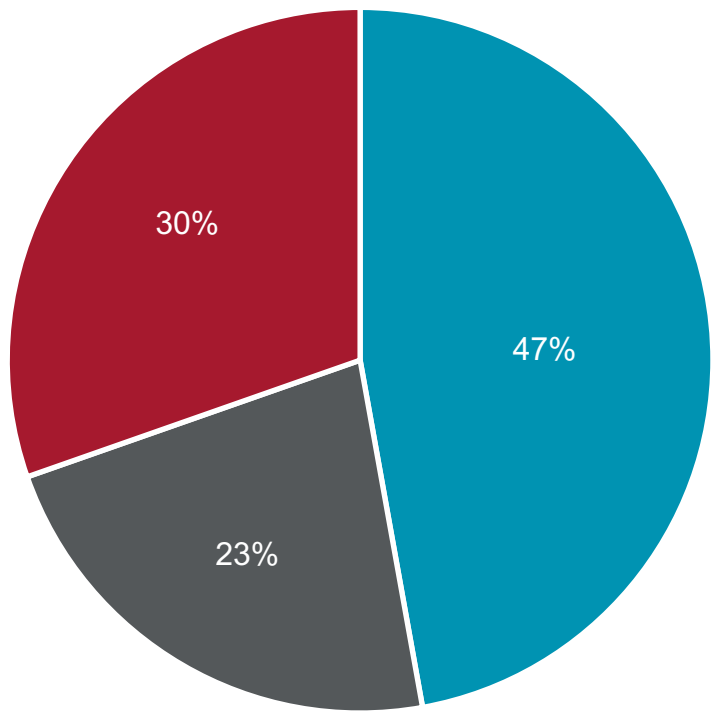
A diverse group of CRE executives with different roles and from various sectors are represented. The most common combinations are real estate service providers (30%), construction & architecture service providers (14%), and financial services end users (11%).

Diverse Respondent Pool

 Responses received from 500 different CRE executives at CoreNet Global Summits

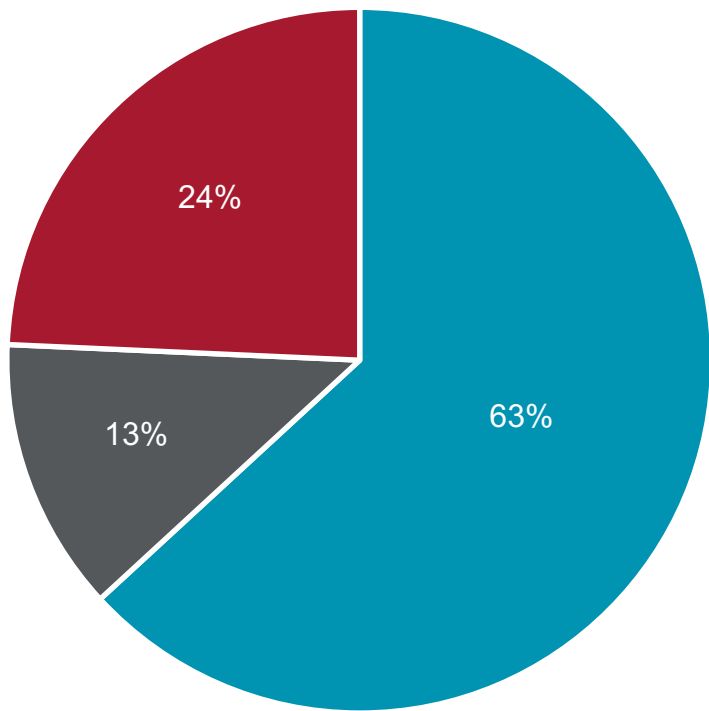


Region of Respondent



■ Americas ■ Asia Pacific ■ EMEA

Region of Company HQ



■ Americas ■ Asia Pacific ■ EMEA

Source: CoreNet Global; Cushman & Wakefield

Respondents were asked to identify the region where they work and the region in which their company’s global headquarters is located.

Just under half (47%) of respondents sit in the Americas while 30% are in EMEA, and one-fourth (23%) are in the Asia Pacific region.

The corporate headquarters are slightly more tilted towards the Americas (63), with one-fourth (24%) of respondents from EMEA, and 13% working for companies headquartered in Asia Pacific.



Autonomous / Driverless Vehicles

Survey: Future Impact on Corporate Real Estate

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About CoreNet Global

CoreNet Global is a non-profit association, headquartered in Atlanta, Georgia (US), representing more than 10,000 executives in 50 countries with strategic responsibility for the real estate assets of large corporations. The organization's mission is to advance the practice of corporate real estate through professional development opportunities, publications, research, conferences, designations and networking in 47 local chapters and networking groups globally.

About Cushman & Wakefield

Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value by putting ideas into action for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with 48,000 employees in approximately 400 offices and 70 countries. In 2017, the firm had revenue of \$6.9 billion across core services of property, facilities and project management, leasing, capital markets, valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.

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