

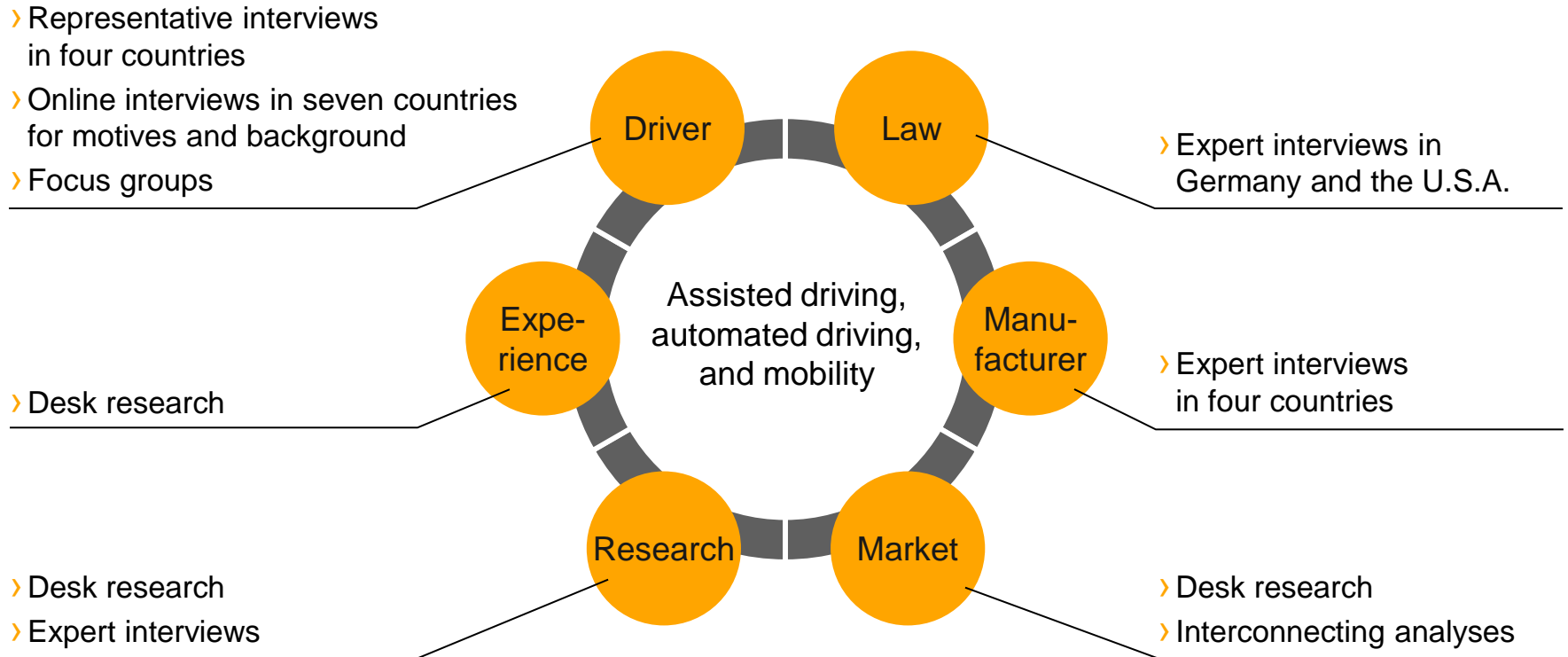
Continental 
The Future in Motion

Continental
Mobility Study 2013



Continental Mobility Study 2013:

Project modules and methodological approaches



International Perspective and Methodological Modules: 360-degree-approach involving all stakeholders

France



Germany



U.S.A.



Japan



Brazil



China



India



Representative interviews
with car users (1,000 per country)



Focus groups
with car users



Online interviews about
driving situations (200 per country)



Expert interviews

Continental Mobility Study 2013

Focal topics

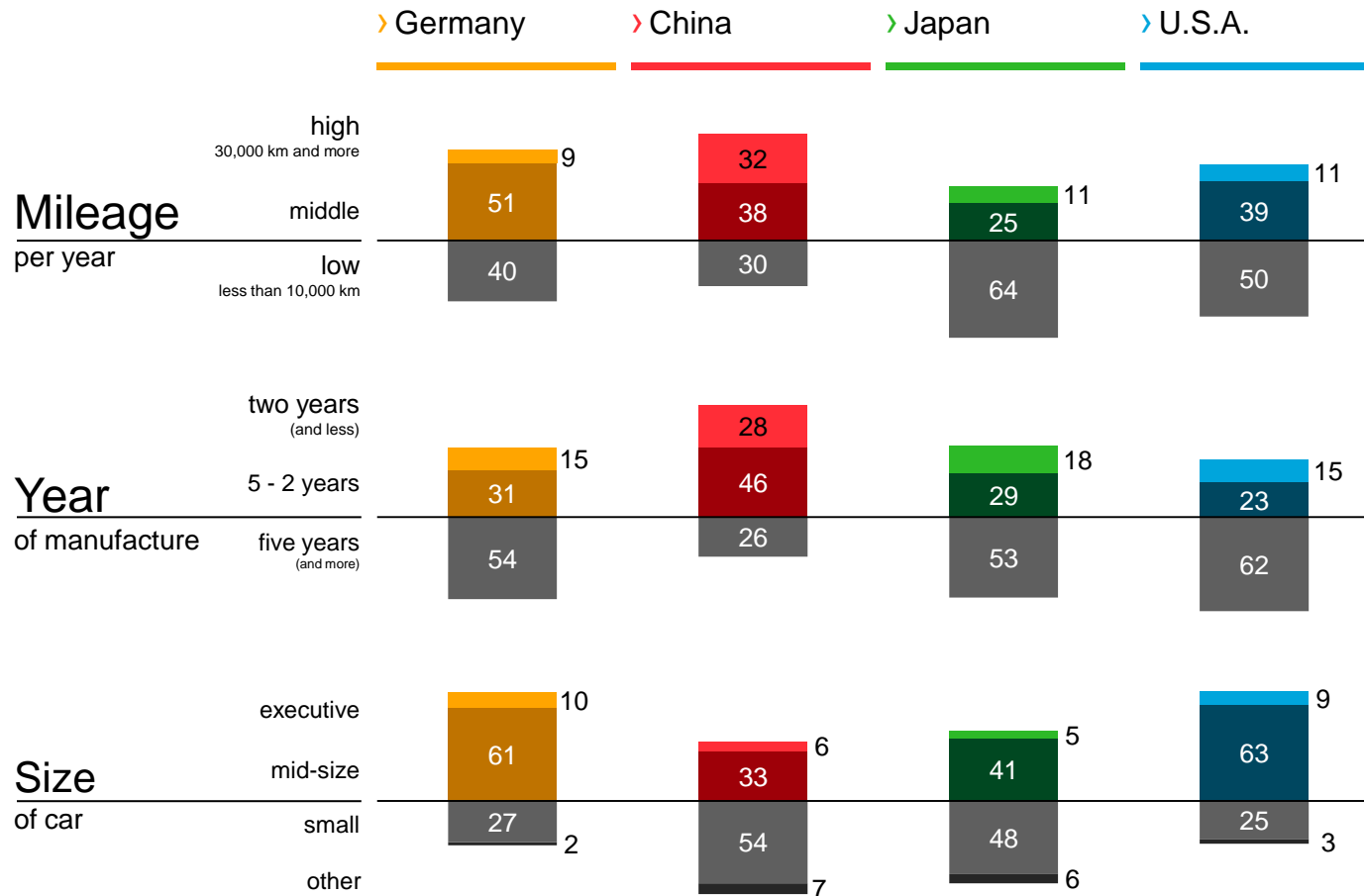
- A. Attitudes towards Driving
- B. Advanced Driver Assistance Systems
- C. Automated Driving
- D. Expert's View
- E. Summary

Continental Mobility Study 2013

Attitudes towards Driving

Car Usage per Country:

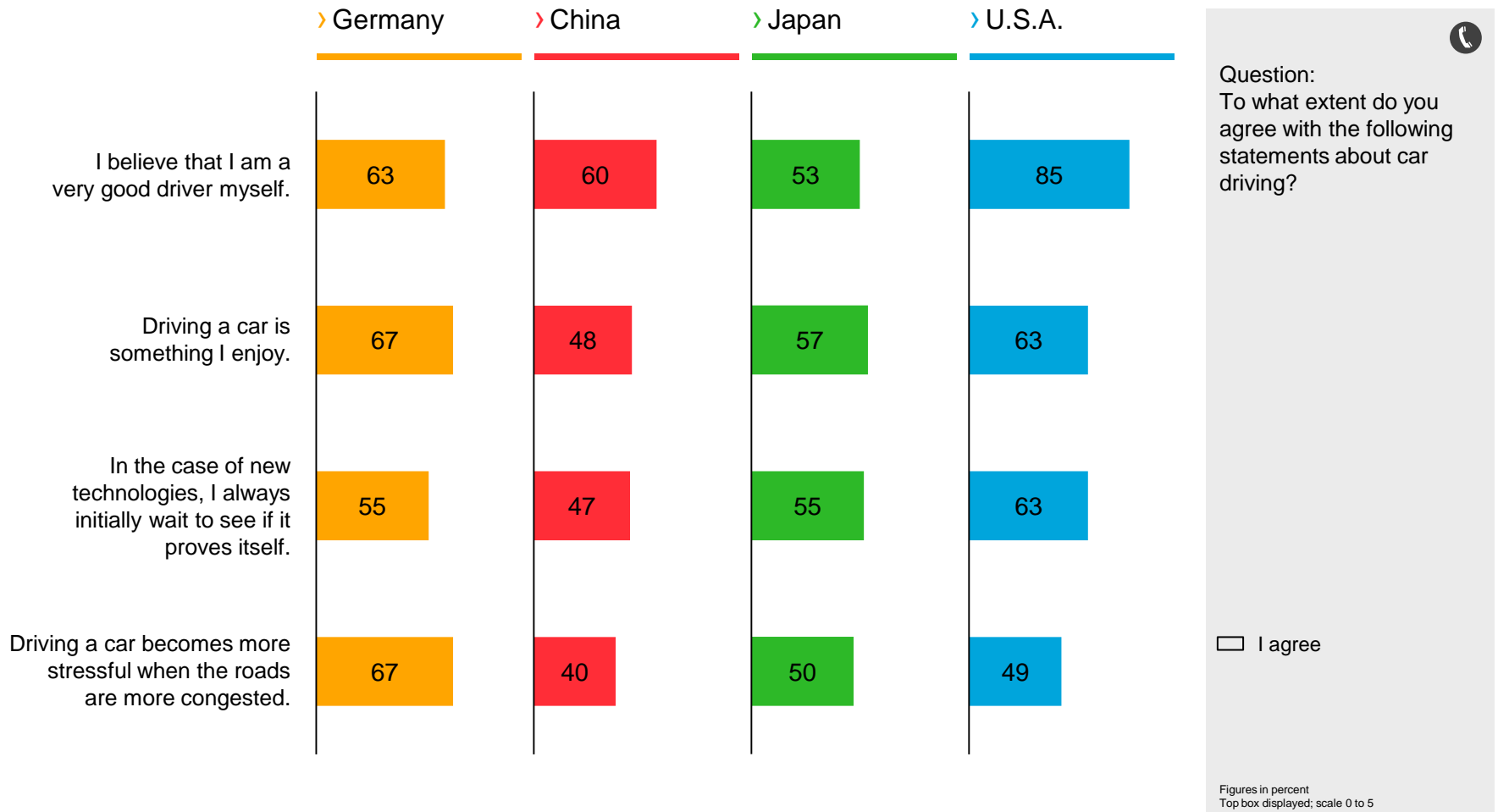
Different profiles



Figures in percent

Agreement with Statements About Car Driving:

Boon and bane – Joy and stress

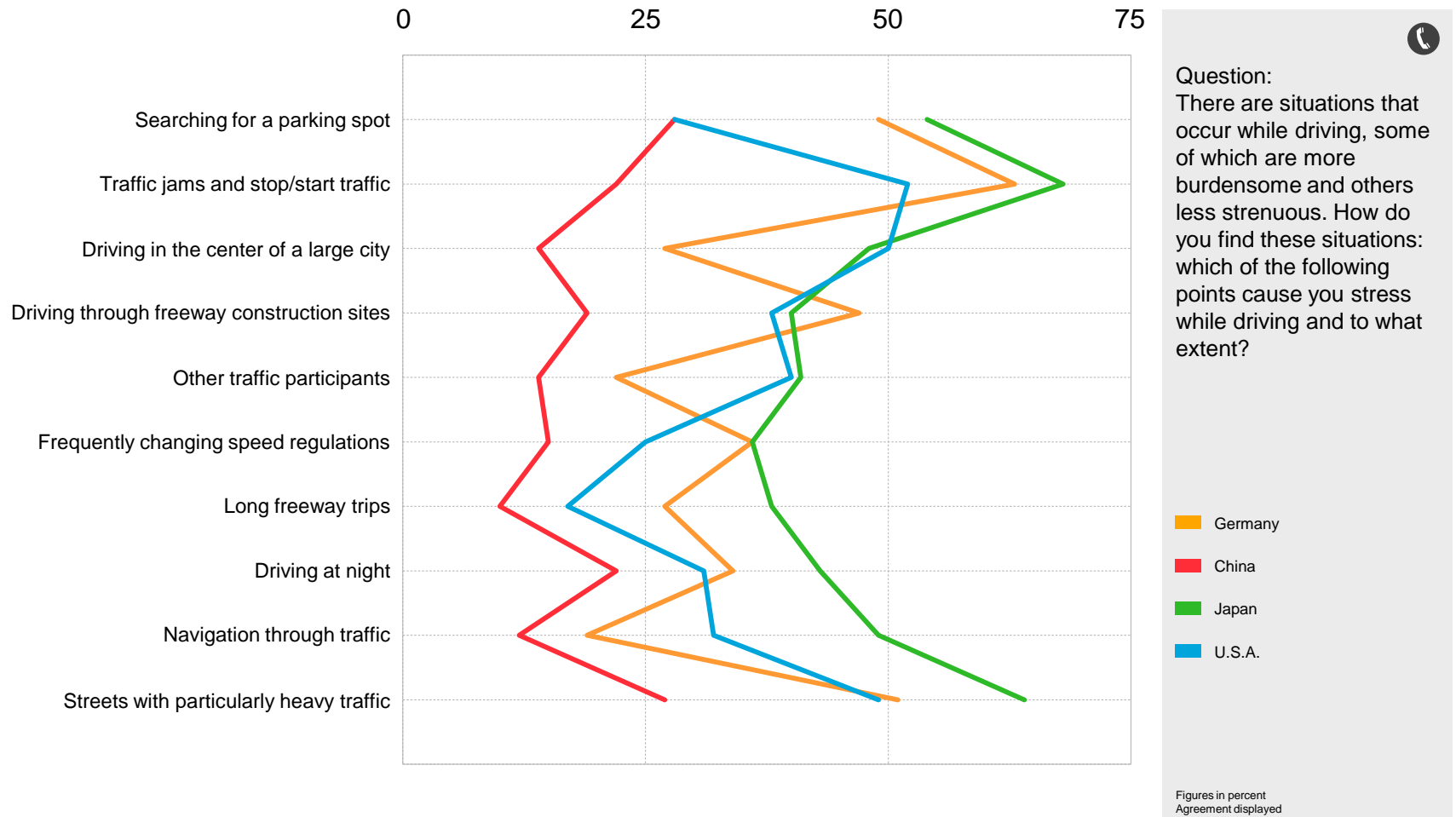




“The mounting volume of traffic poses enormous stress for me - stop-and-go on the freeway, for example.”



Stress Factors: Traffic jams at the top



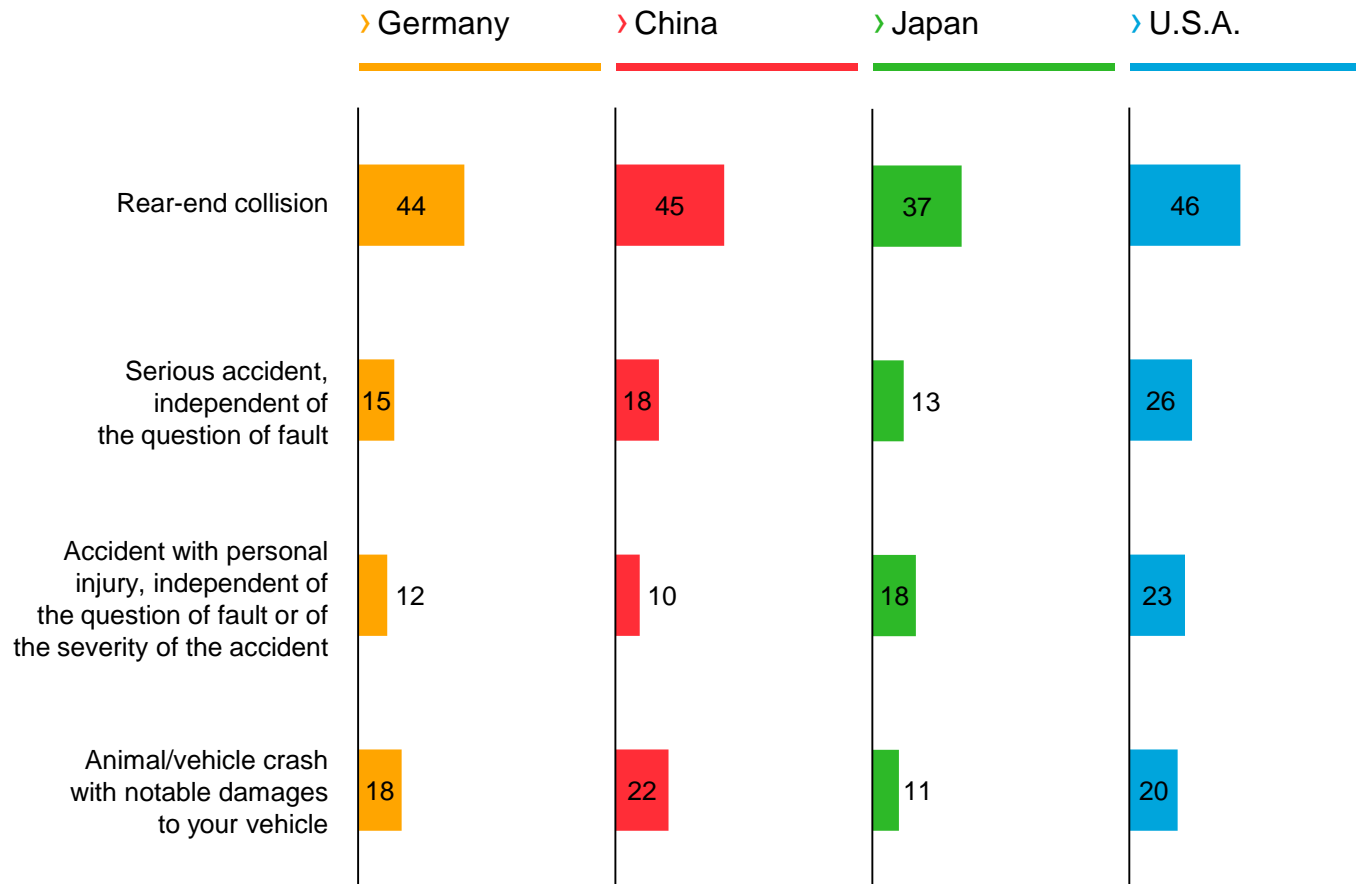


"In city driving, the emergency brake assist has happily relegated rear-end collisions to the past."



Experiences with Car Accidents:

Rear-end collisions at the top



Question:
Which of the following
situations has ever
happened to you as a
driver?

☐ I agree

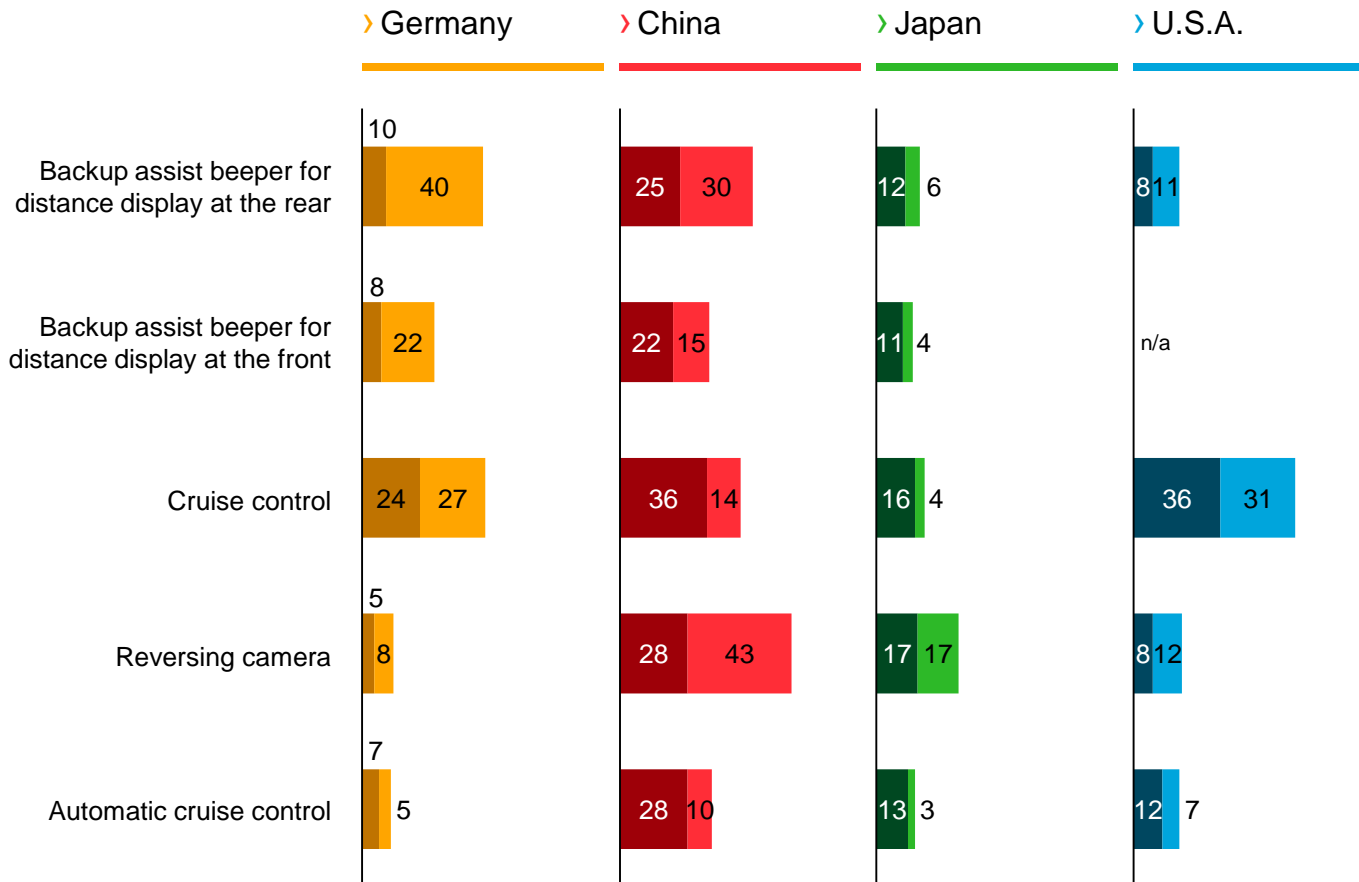
Figures in percent
Top box displayed; scale 0 to 5;
Share of yes displayed

Continental Mobility Study 2013

Advanced Driver Assistance Systems

Comfort-Oriented Advanced Driver Assistance Systems

Different usage rates throughout the nations



Question:
 Today's cars offer a lot of technical equipment that is aimed at supporting the driver. How often do you use these systems – regardless of whether they are in your car or another car? Do you use them regularly, every now and again, not at all, or are you not familiar with them at all?

☐ every now and again
☐ regularly

Figures in percent
 Answers "regularly" and
 "every now and again" displayed

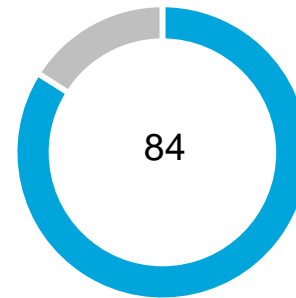
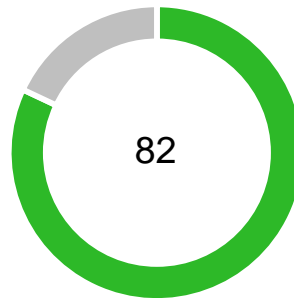
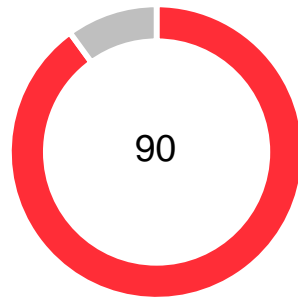
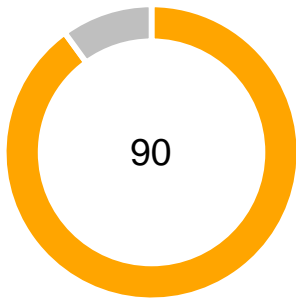
Comfort-Oriented Advanced Assistance Systems Considered to be helpful

› Germany

› China

› Japan

› U.S.A.



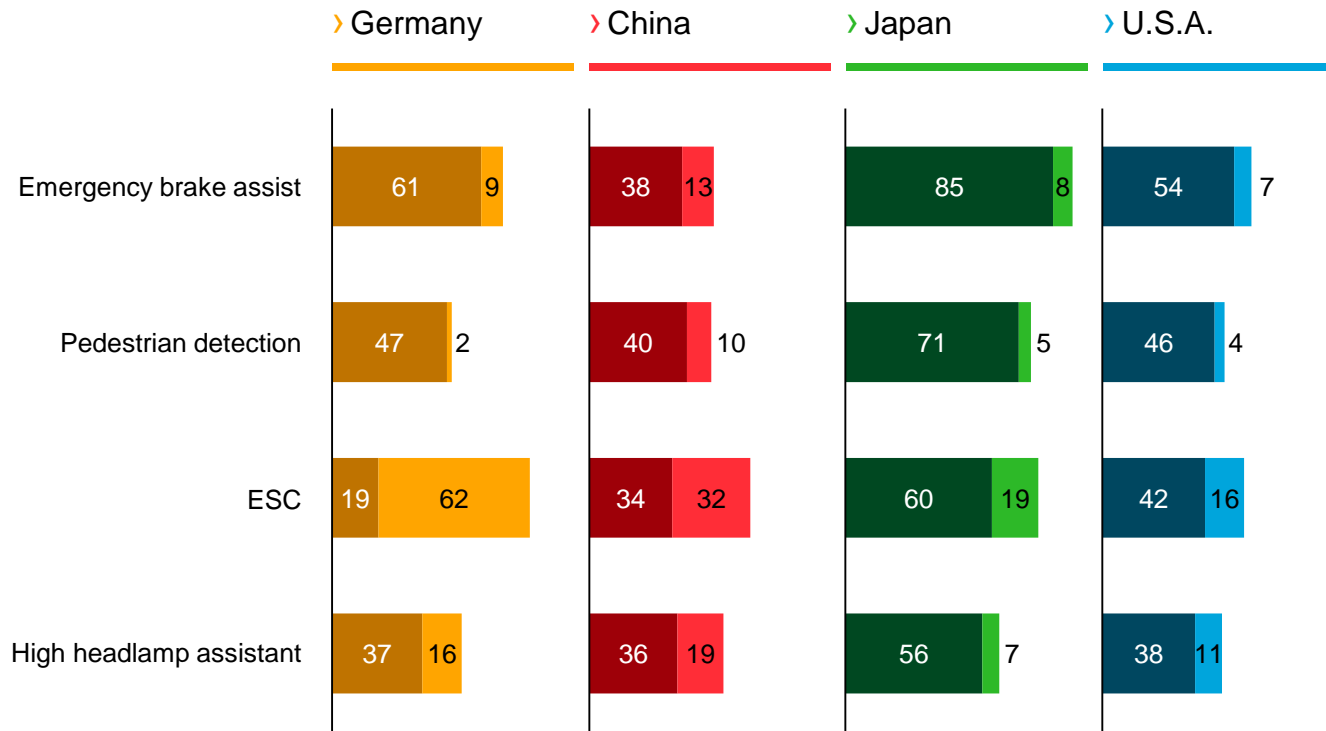
Question:
When you think of the
system mentioned: How
helpful do you perceive
such possibilities all in all
– entirely independent of
whether you already use
or know of these yourself.
Would you say these are
very helpful/
somewhat helpful?

☐ I agree

Figures in percent

Safety-Oriented Advanced Driver Assistance Systems

Safety systems rather well known



Question:
In addition to this system, which you actively use yourself while driving, there are a series of additional technical options that support you in the background.

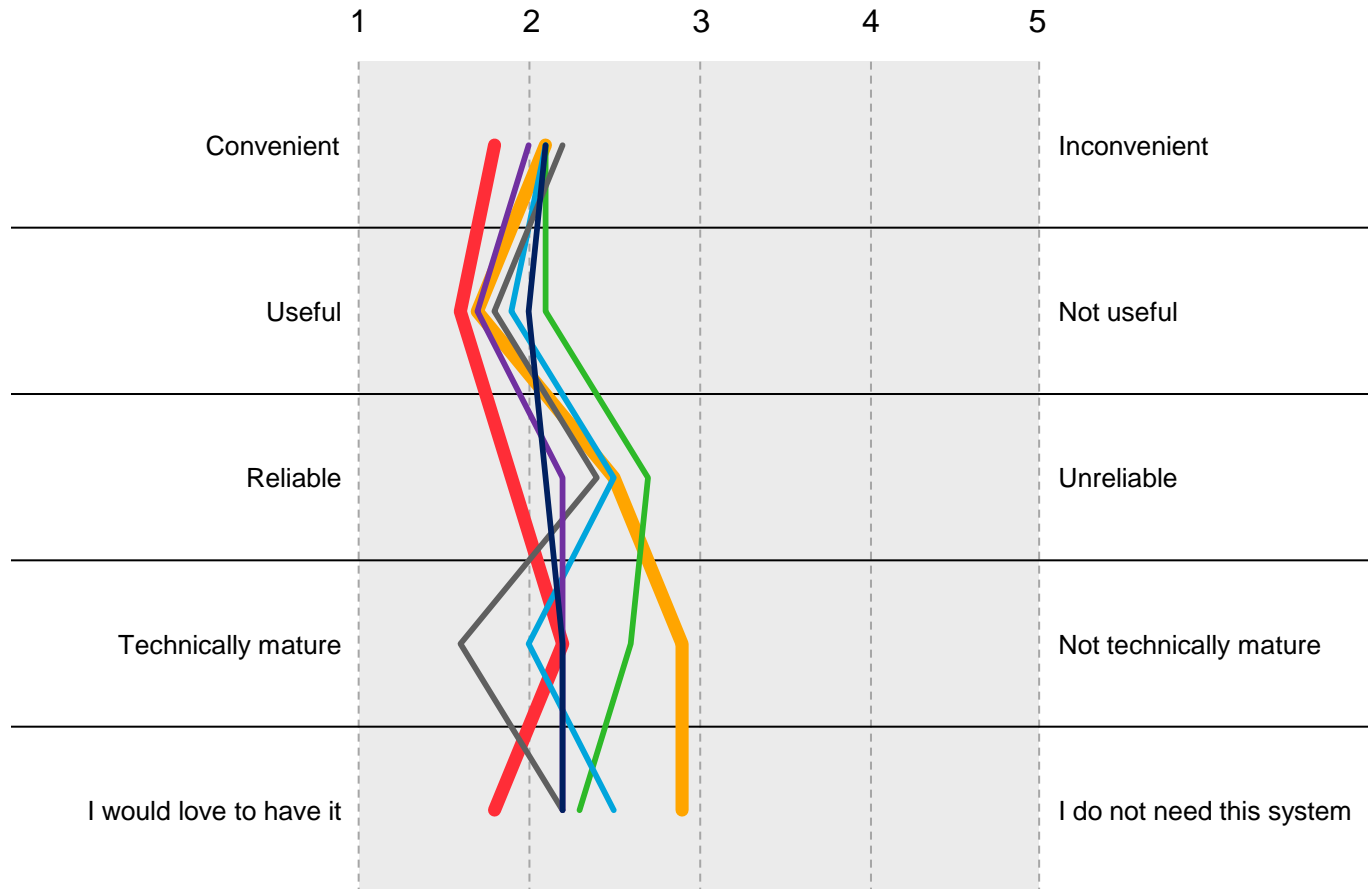
■ known but not used
■ already used

Figures in percent
Answer categories "I don't know this system" / "no answer" not displayed



Assessment of Pedestrian Detection System:

Positive statements



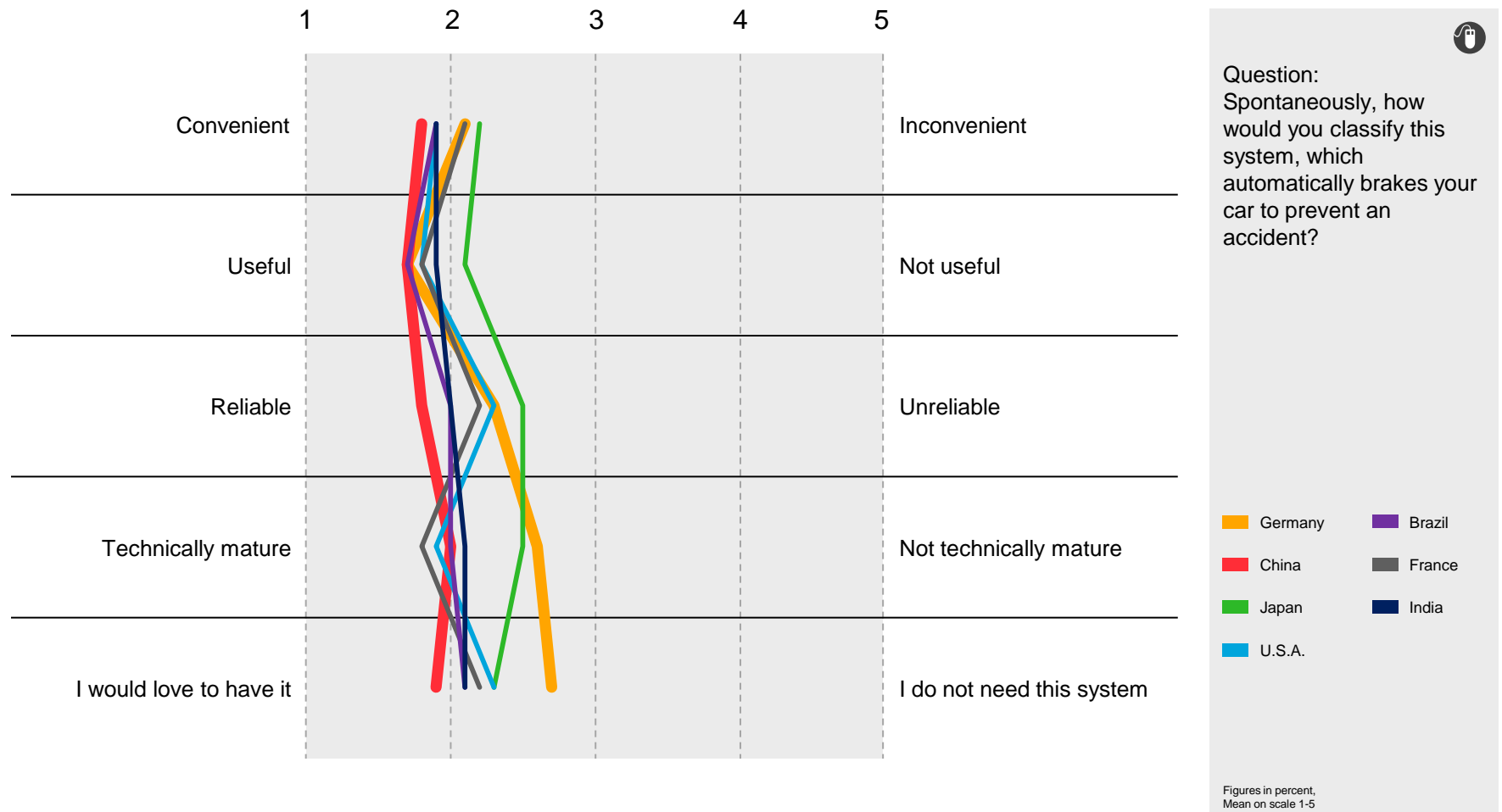
Question:
Spontaneously, how would you classify this system, which automatically brakes your car if a pedestrian or cyclist unexpectedly and suddenly steps in front of you on the road?

Germany China Japan U.S.A. Brazil France India

Figures in percent,
Mean on scale 1-5

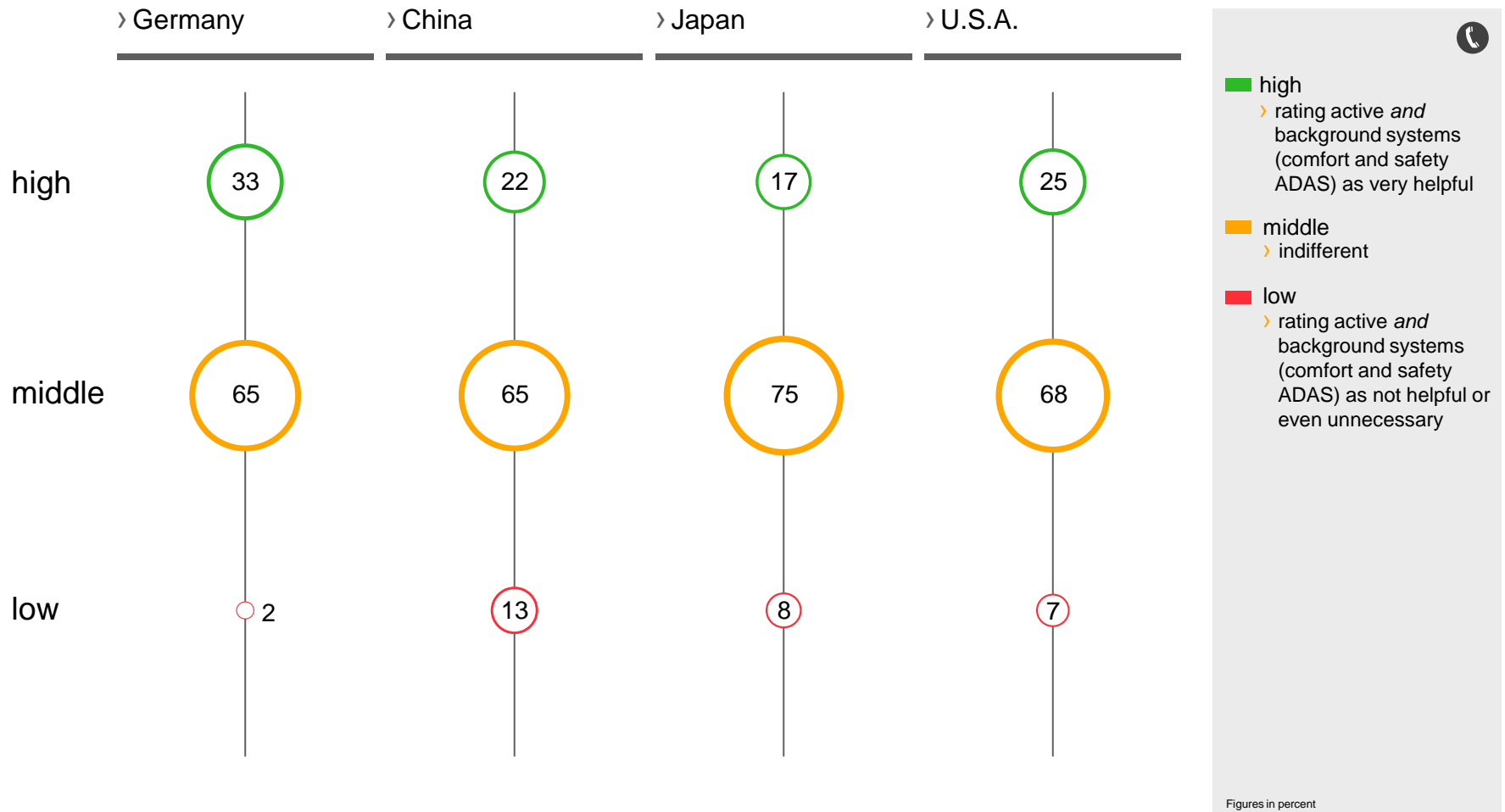
Assessment of Emergency Brake Assist:

Also positive judgment



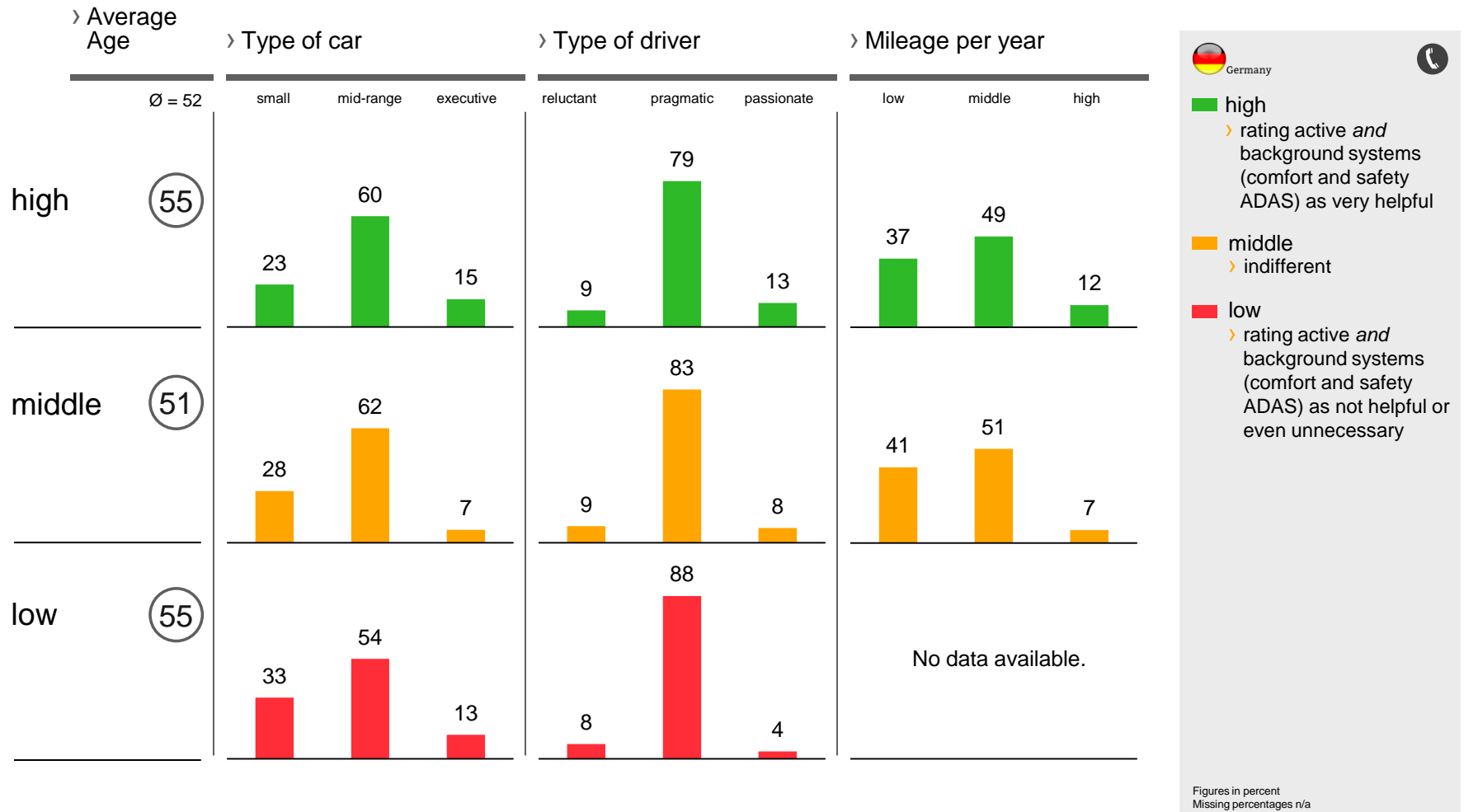
Segmentation: Helpfulness of Advanced Driver Assistance Systems

High, middle, low



Segmentation: Helpfulness of Advanced Driver Assistance Systems

Germany – Systems for everyone



Continental Mobility Study 2013

Automated Driving

Awareness of Automated Driving:

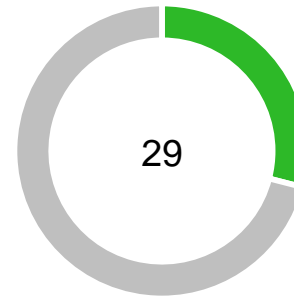
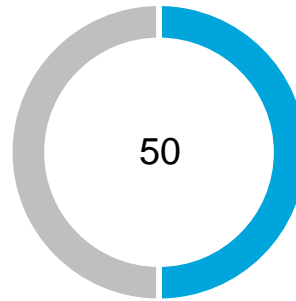
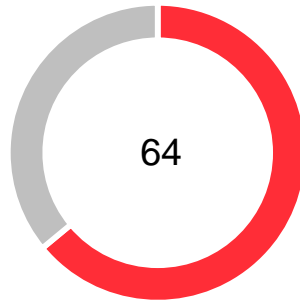
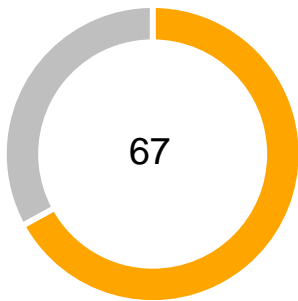
Majority in Germany and China aware of development

› Germany

› China

› U.S.A.

› Japan

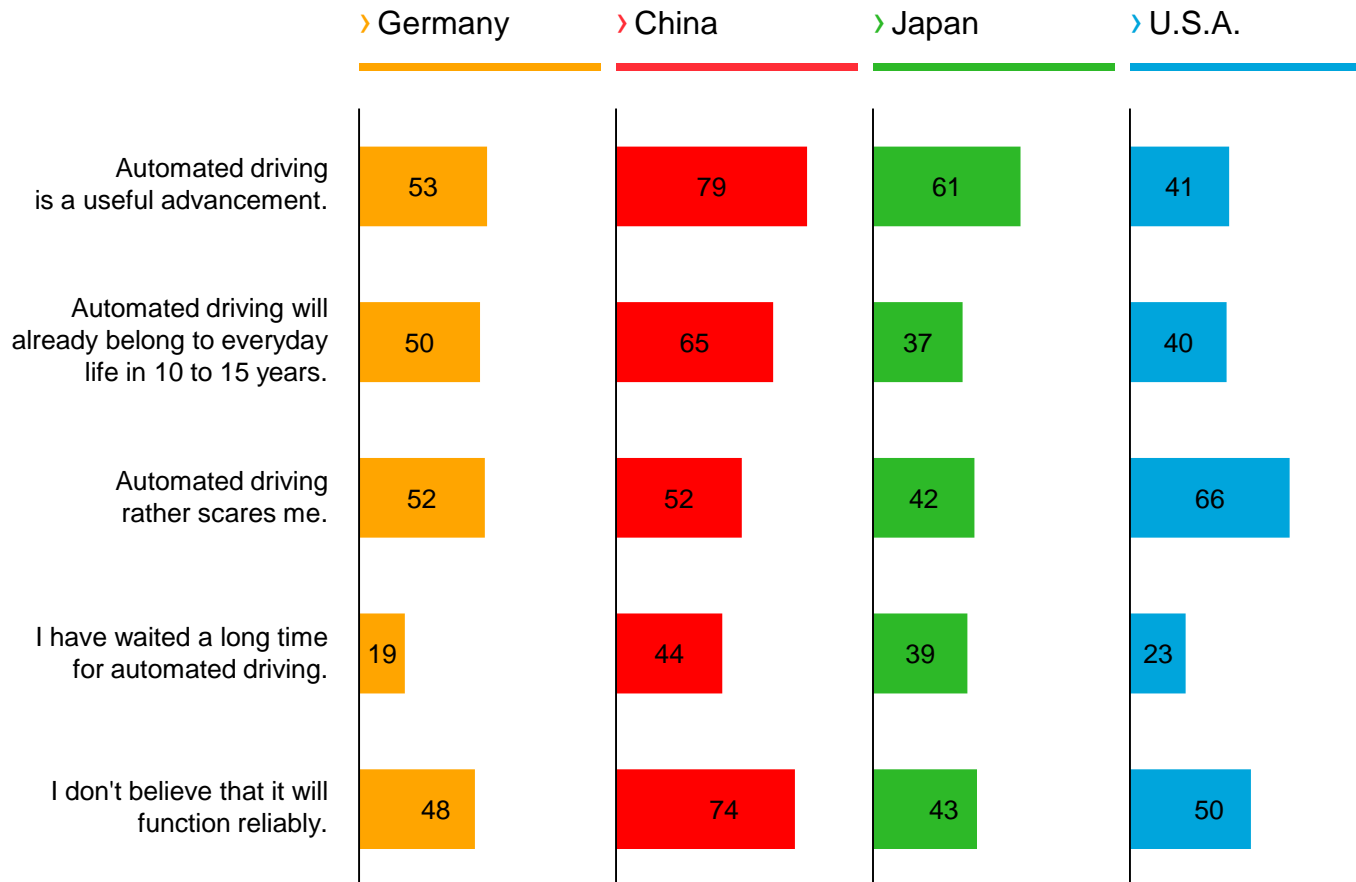


Question:
Had you ever heard about
automated driving prior to
this interview?

yes

Figures in percent
Answer category "no answer" not displayed

Attitudes towards Automated Driving: Useful but unnerving at the same time



Question:
There are various different opinions about automated driving. We have therefore prepared five short statements. Are you more inclined to agree with these or more inclined to object to these?

☐ I agree

Figures in percent
Agreement displayed



Will
automated
driving
be part of normal
everyday driving
in ten to fifteen years?

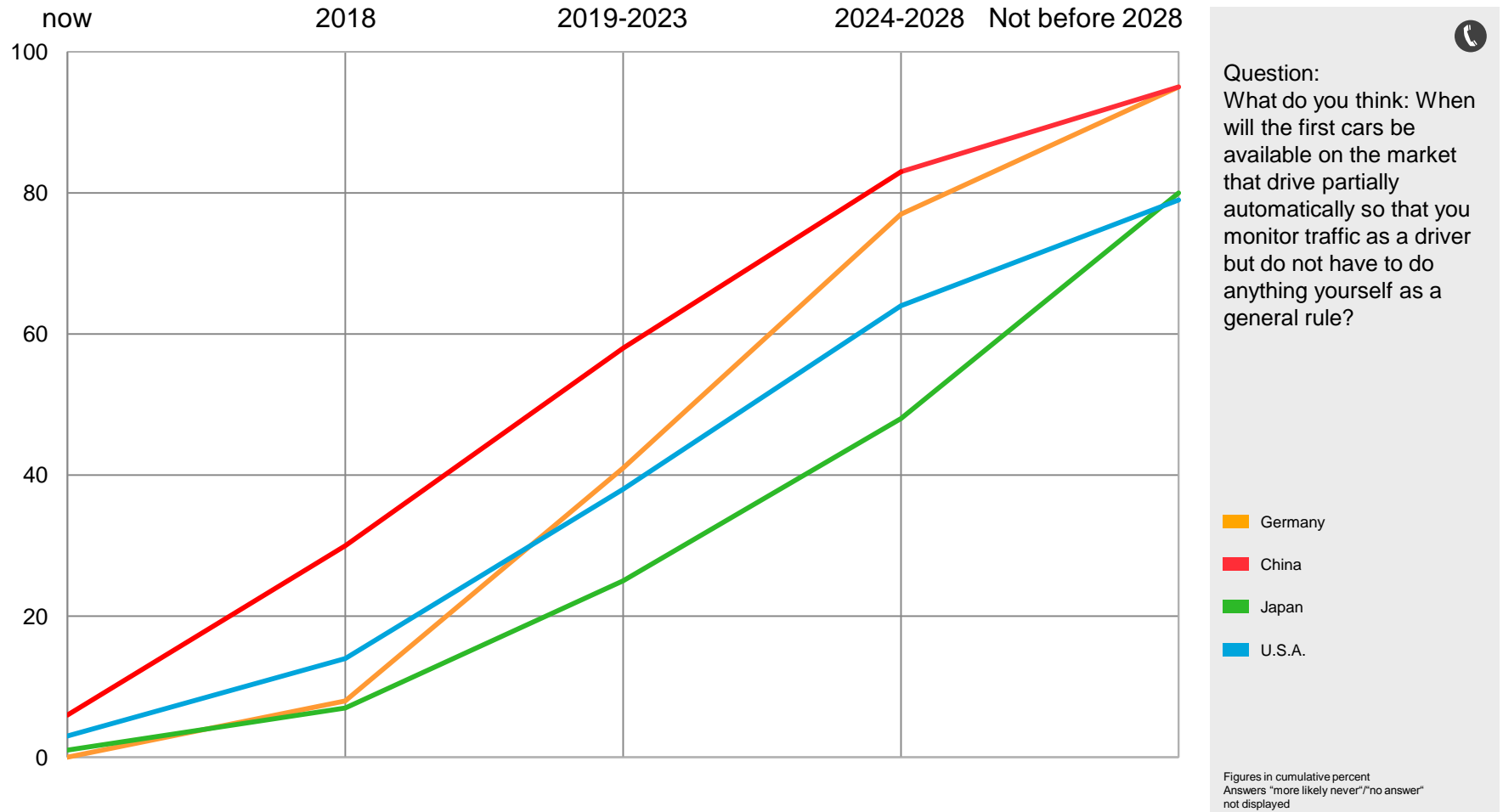


Source: Continental Mobility Study 2013 (in percentage)

"I love driving, but if the traffic proves too stressful, I'm happy to just ride along."

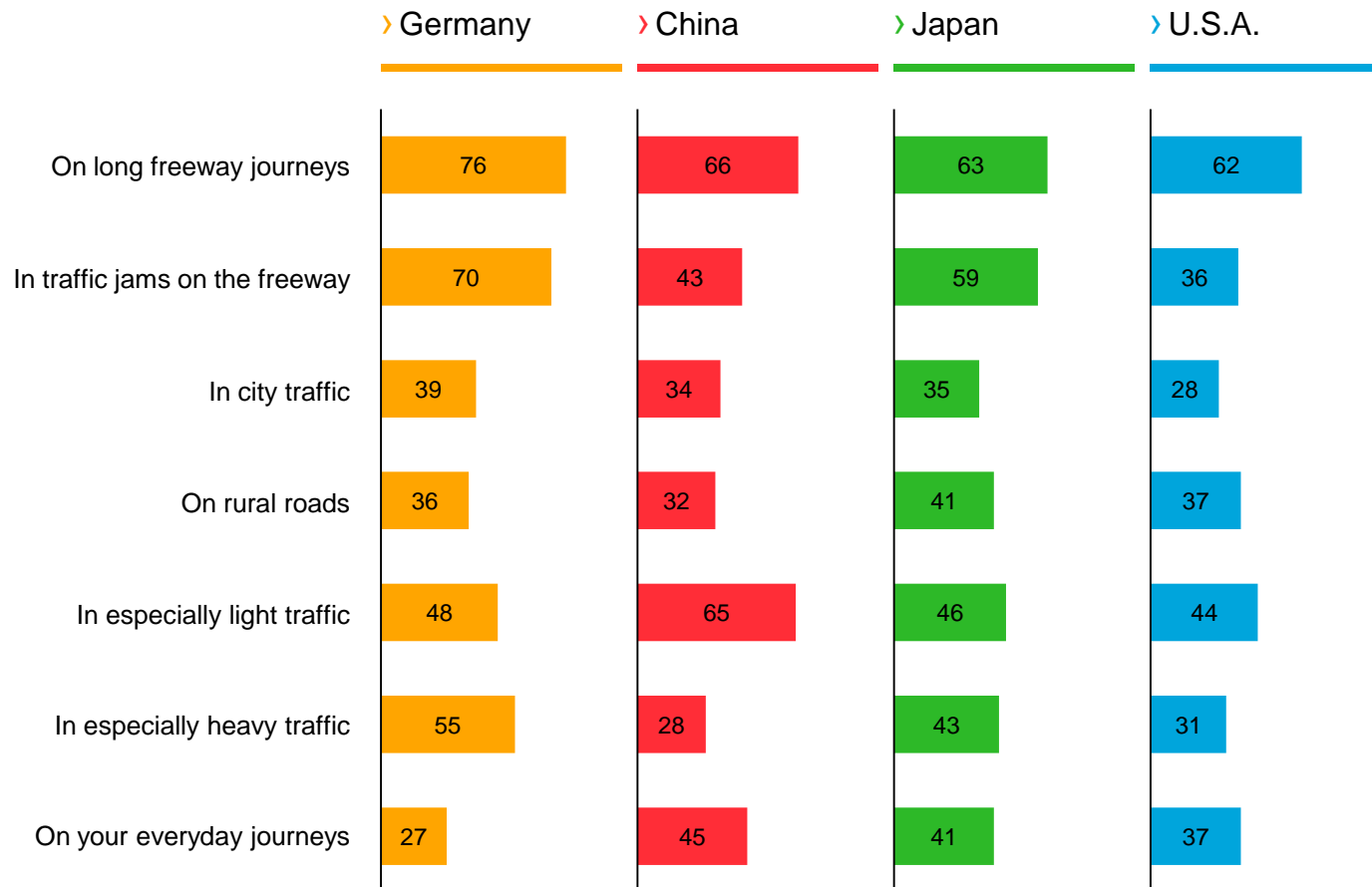
Expectations Towards Availability of Partially Automated Cars:

Majority expect partially automated cars within the next 15 years



Appropriate Situations for the Use of Automated Driving:

Freeway scenarios preferred



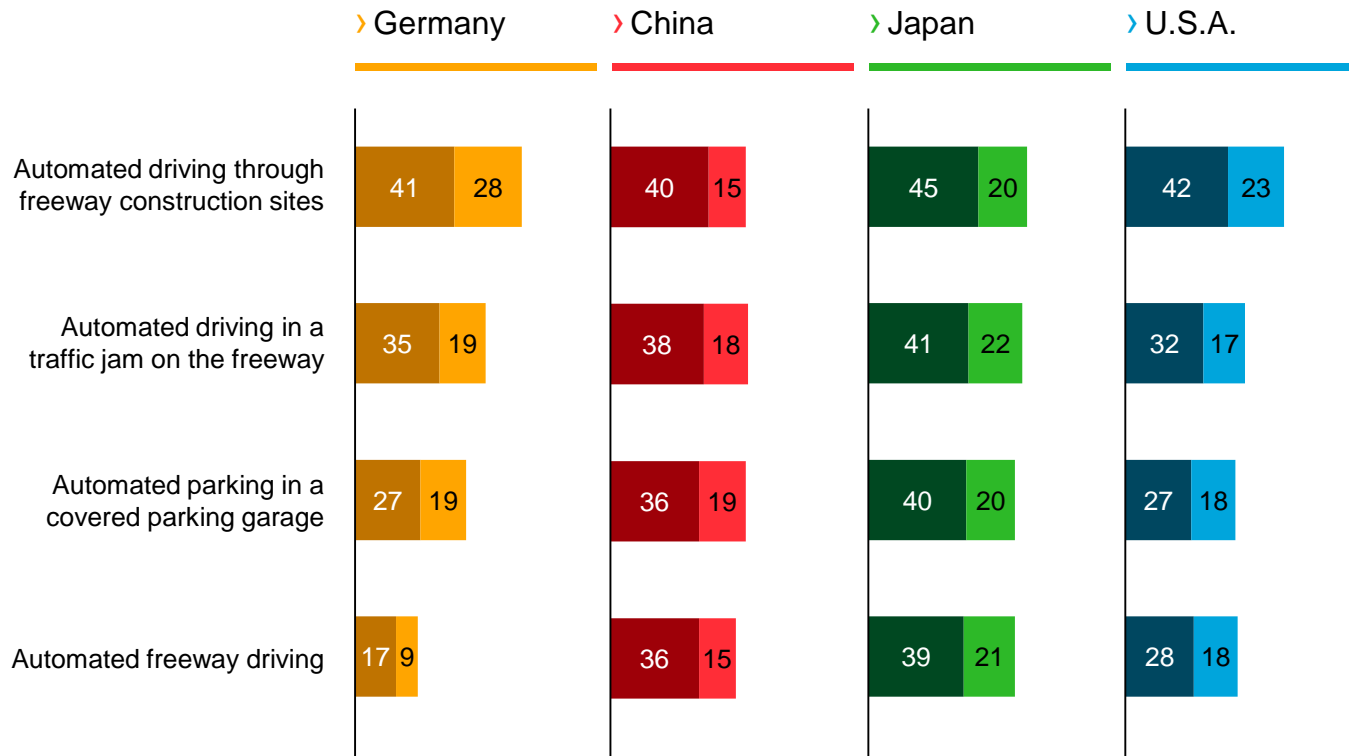
Question:
Automated driving can be used in various situations. For which of the following situations could you imagine it and for which situations more than likely not?

☐ yes

Figures in percent
Share of "yes" displayed

Intention to Use Automated Driving in the Future:

Automation of stressful freeway situations welcome







Question:
There will be additional technical assistance systems in the future. To what extent would you like to use the following systems in the future?

■ absolutely
■ perhaps

Figures in percent
Answer categories "I don't know this system" /
"no answer" not displayed

**In which
traffic
situation
would you
like to have
automated
driving
as an option
in the future?**

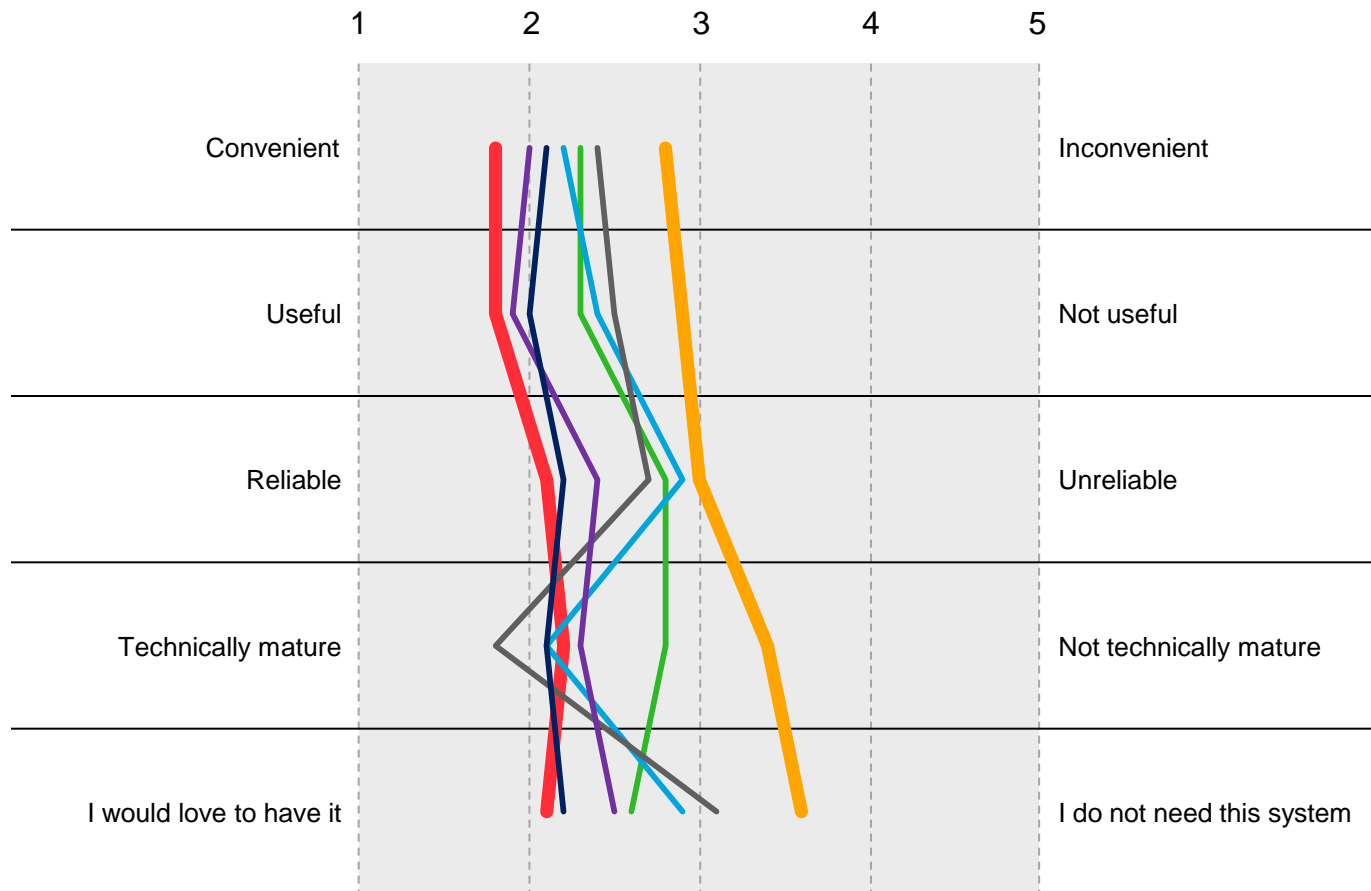
				
Roadwork on the freeway	69	65	65	55
Stop-and-go traffic on the freeway	54	49	63	56
Parking in a parking ramp	46	45	60	55
Freeway driving	26	46	61	51

Source: Continental Mobility Study 2013 (in percentage)

"I would like to have the car do the driving for me in tight roadwork situations on the freeway."

Continental

Automated Driving on Freeways: Car drivers in Germany hesitant

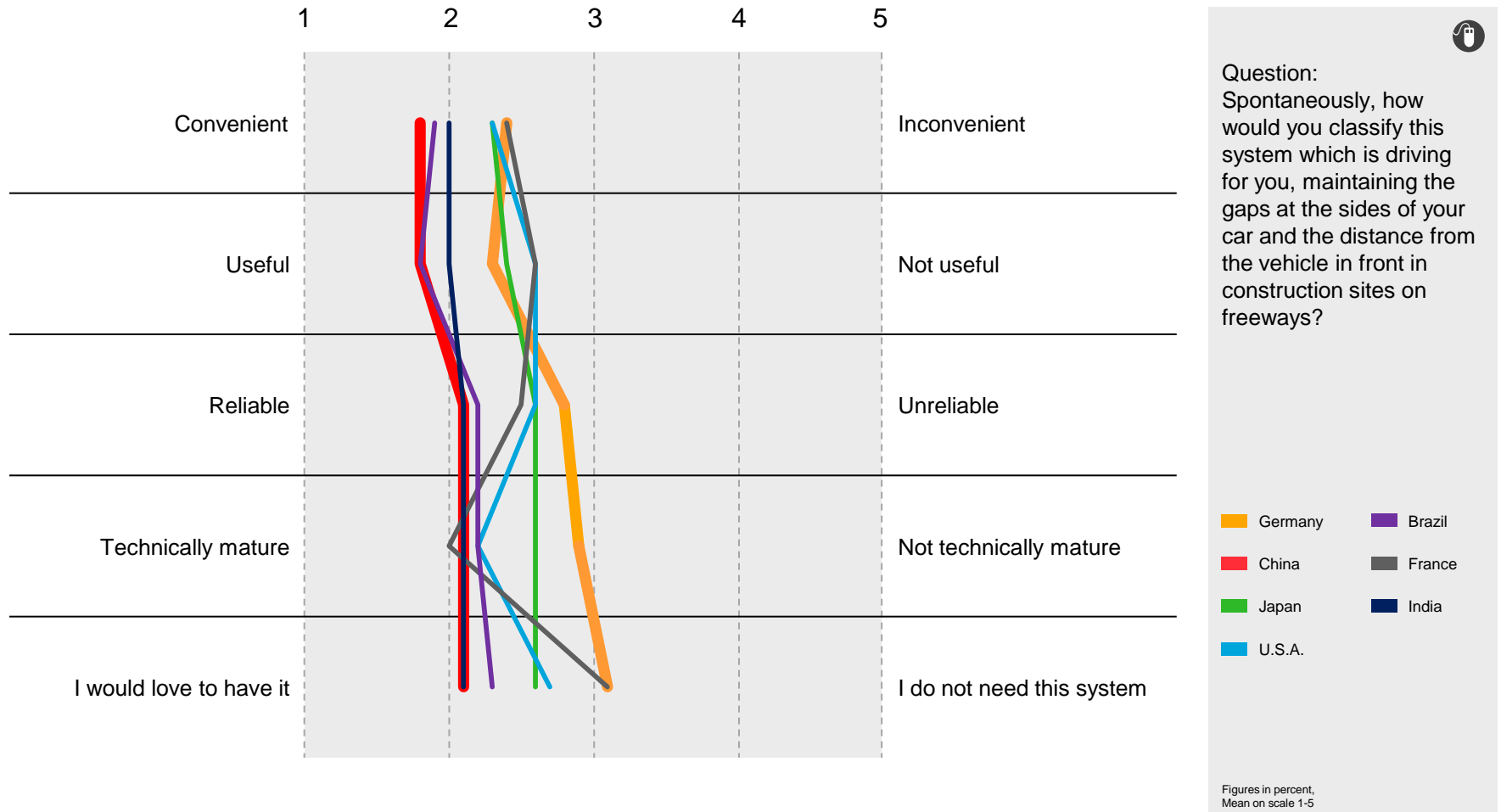


Question:
Spontaneously, how would you classify this system which regulates the speed, controls the distances and, if necessary, also changes lanes?

Germany China Japan U.S.A. Brazil France

Figures in percent,
Mean on scale 1-5

Assessment of Automated Driving in Construction Sites: Convenient and useful

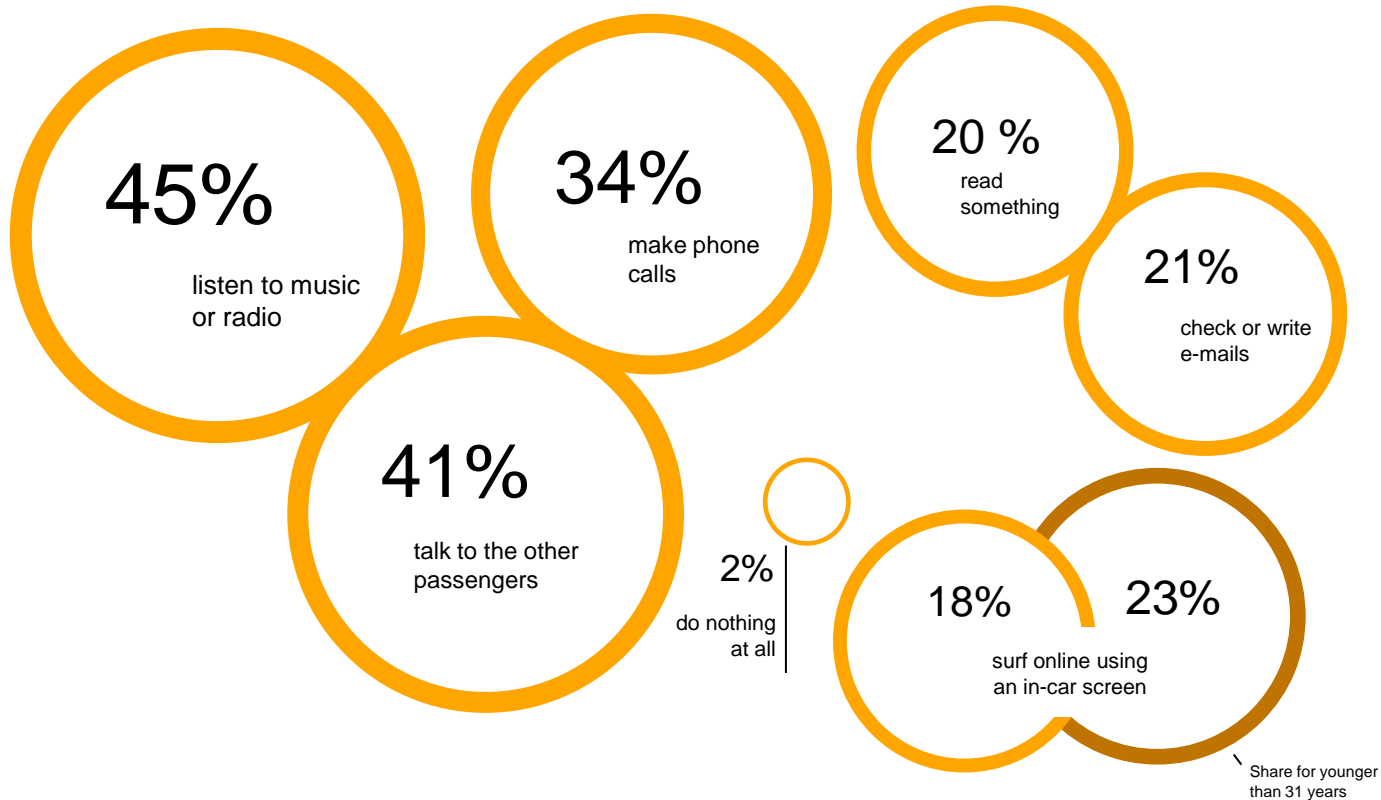


"If the car itself becomes my chauffeur, I would like to use the time for other pursuits."

Would you enjoy being able to use driving time for something other than actual driving?



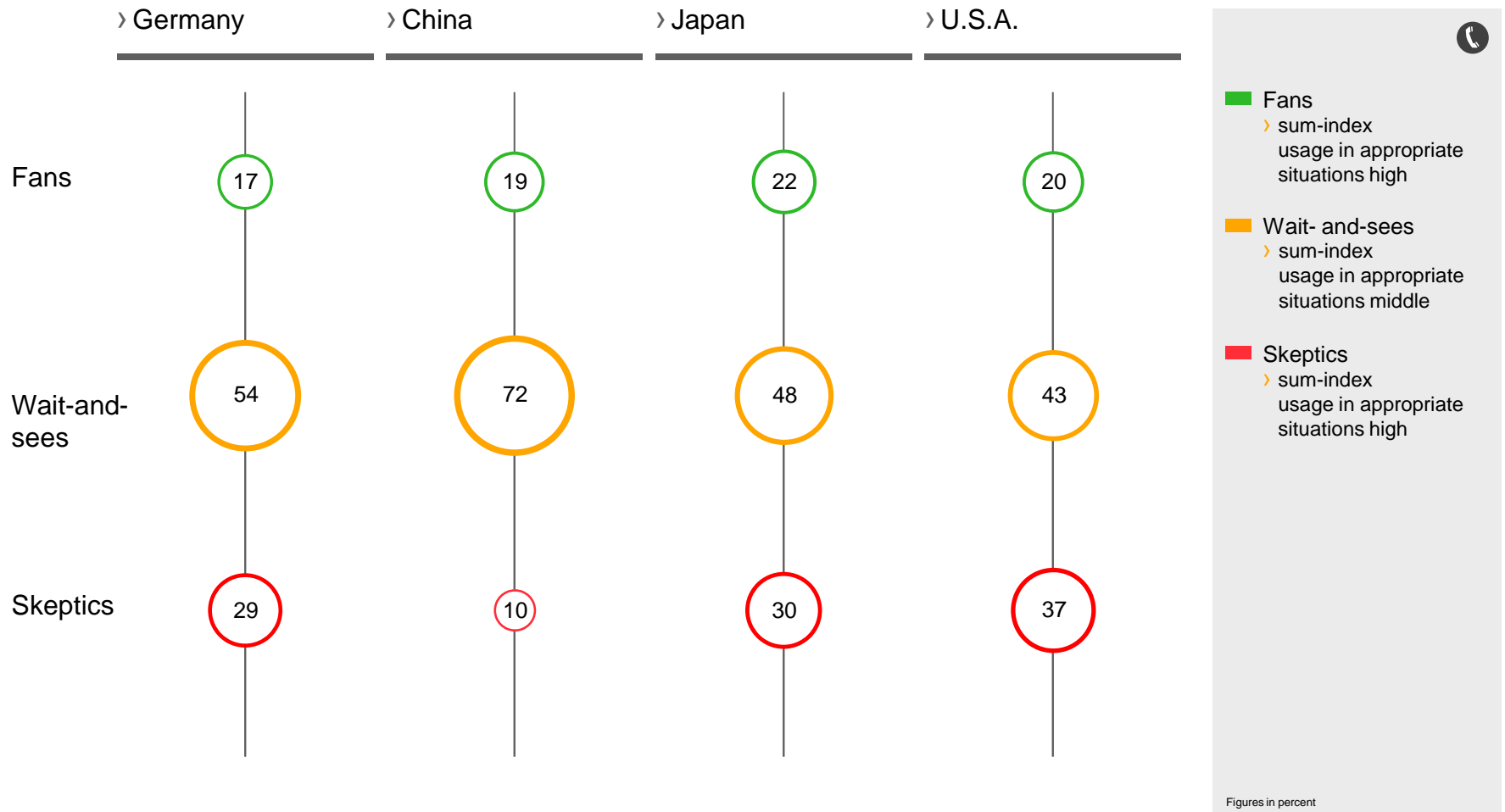
Sitting in a Highly Automated Car: Preferred alternative activities



Figures in percent
Share of "yes" displayed
Multiple answers possible
except for "do nothing at all"

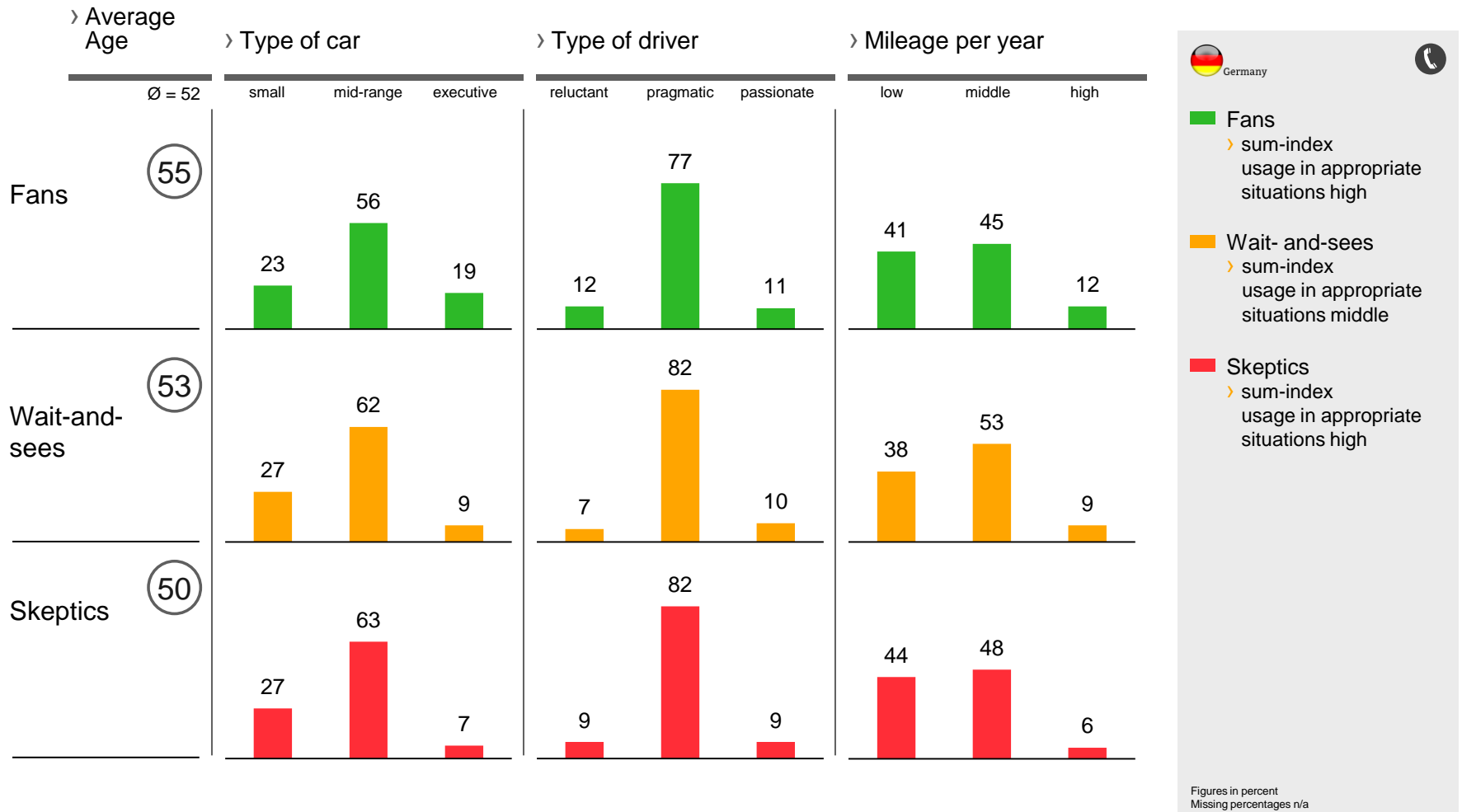
Segmentation: Acceptance of Automated Driving

Fans, wait-and-sees, and skeptics



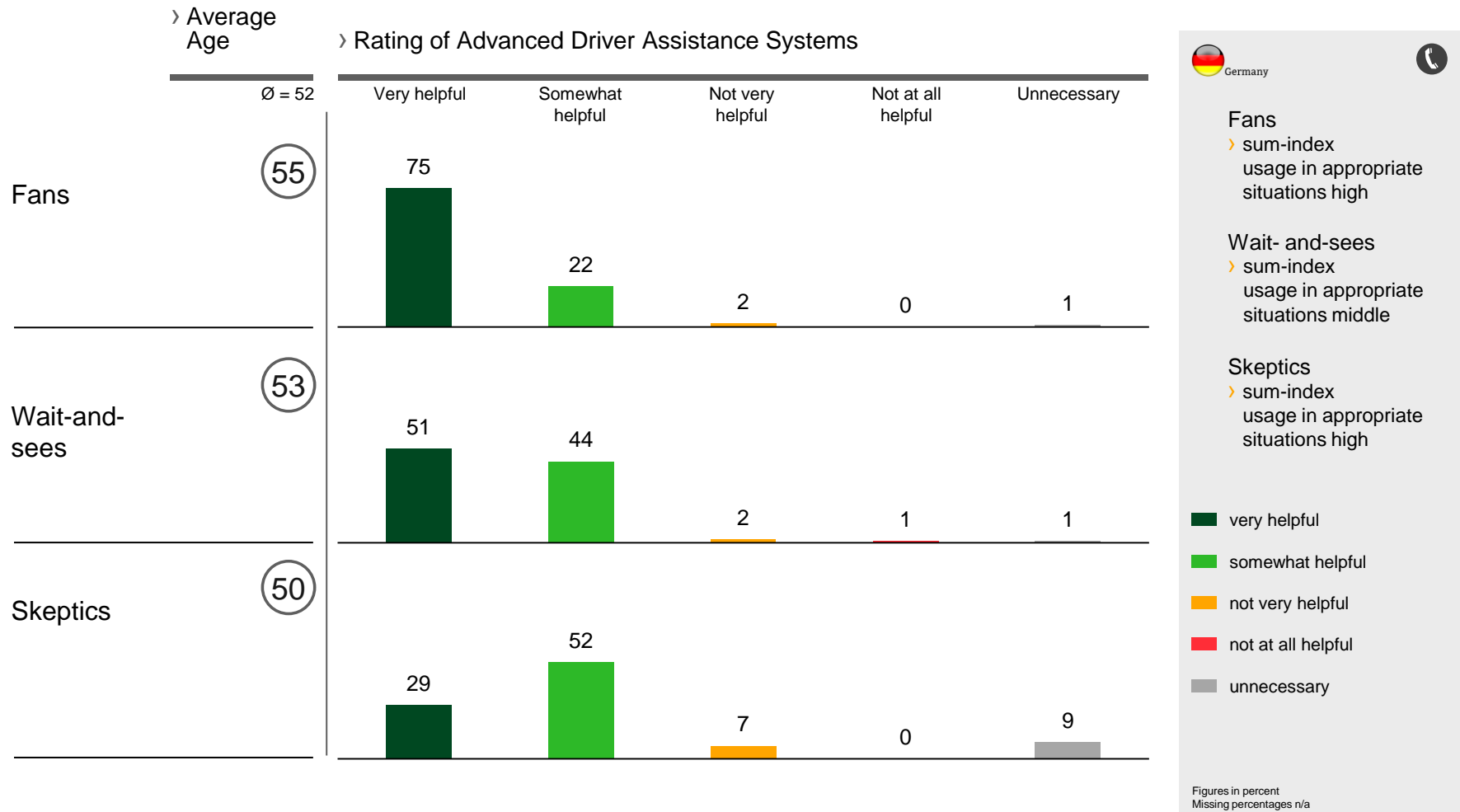
Segment Profiles: Acceptance of Automated Driving

Germany – Systems for everyone

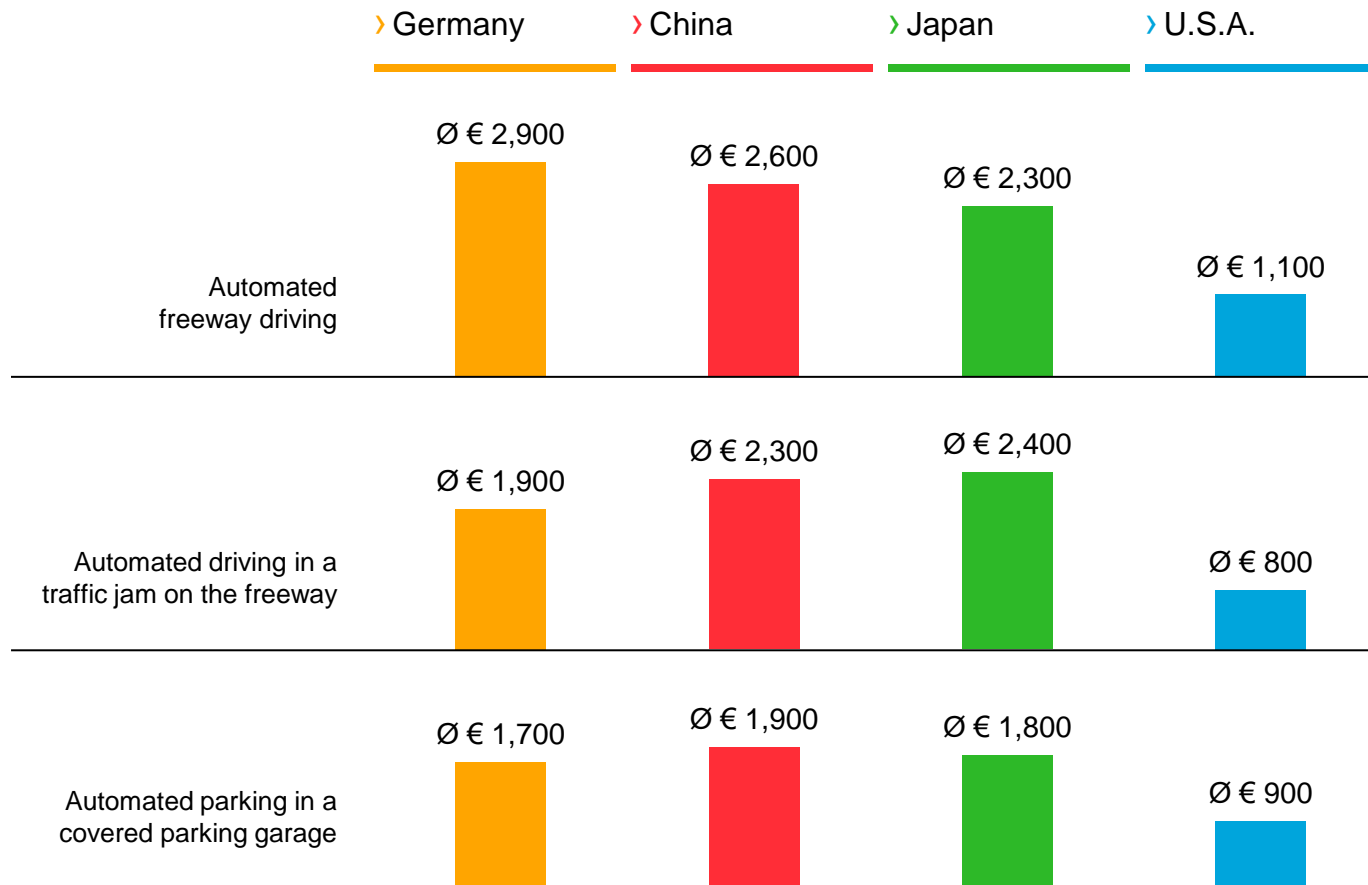


Segment Profiles: Acceptance of Automated Driving

Germany – ADAS has laid the foundations for acceptance of automated driving



Reasonable Price for Automated Driving: Germans Expect Extra Costs



Question:
Independent of your wish to use such a system at all, this is also a question of cost. We would therefore like to know what price you would expect for the following three systems – on the assumption of a single new car purchase. Initially automated driving again in a traffic jam. The car drives by itself and you merely observe traffic.

Continental Mobility Study 2013

Expert's View

Expert Insights into Prerequisites and Technology:

Confidence in technology



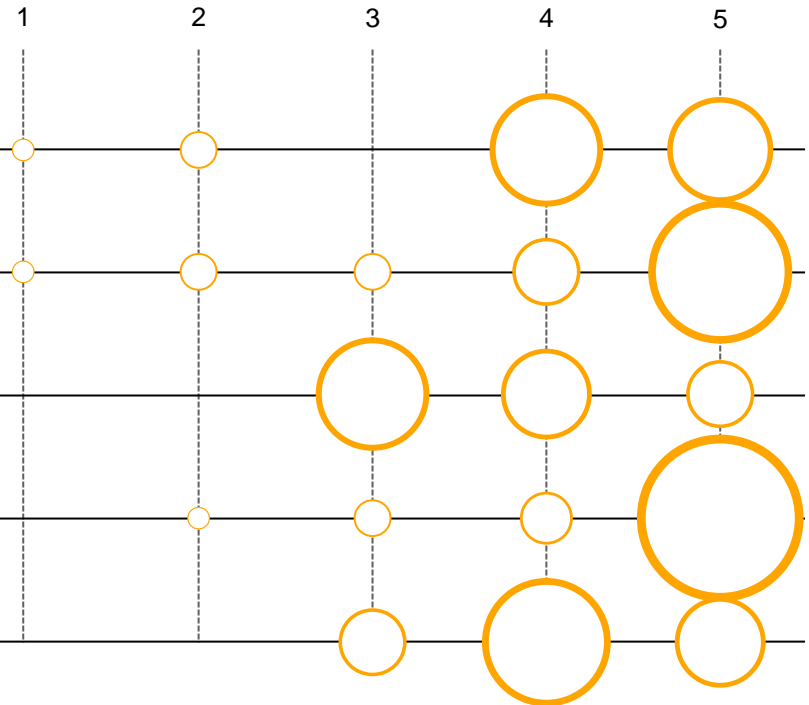
Automated driving vehicles will be **possible in everyday life** – without any accidents and traffic jams.

A **uniform, international legal basis** for the registration of automated driving vehicles is essential.

Possibilities for **simulating** the present **nonverbal communication** in complex traffic situations between “driver-driver” and “vehicle-vehicle” resp. need to be developed.

More innovative and reliable solutions for **software security** are still needed.

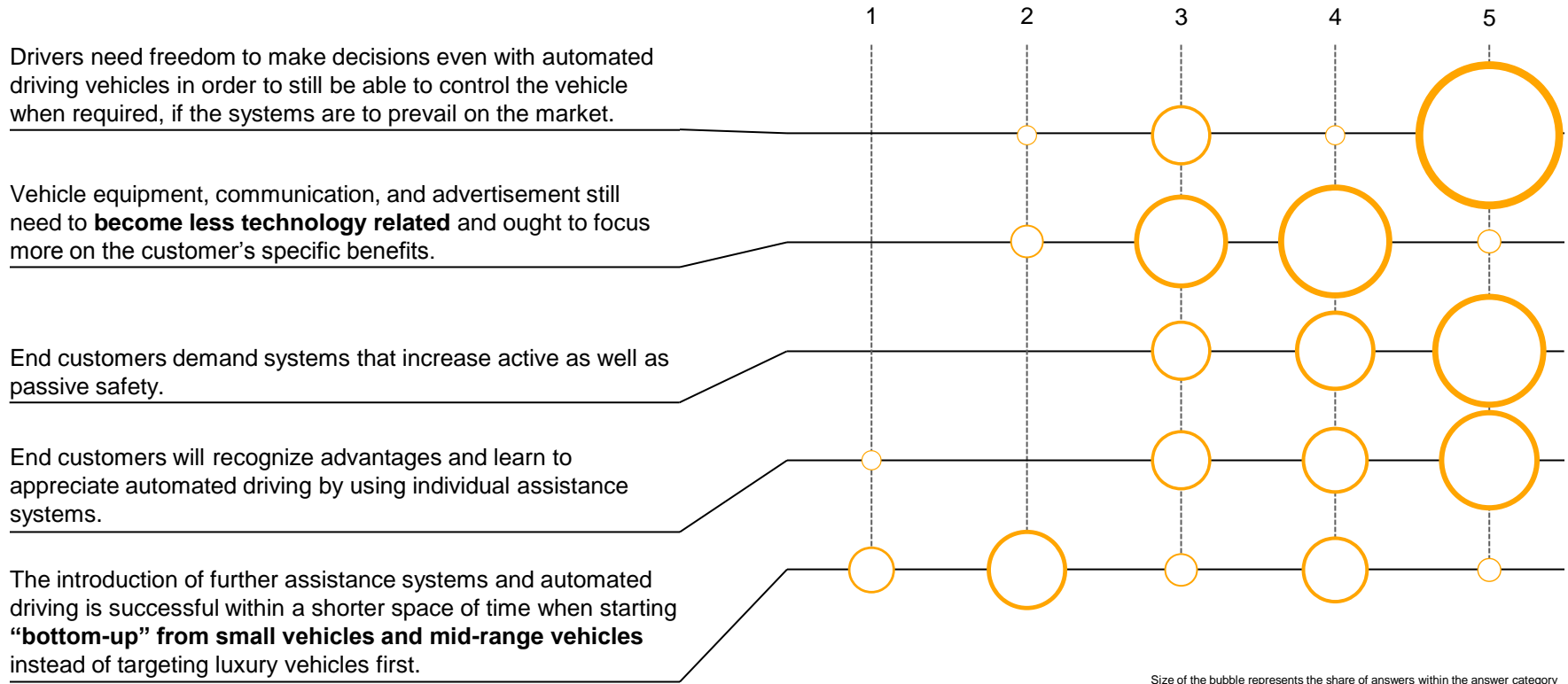
Automated driving increases the vehicle's **energy efficiency**.



Size of the bubble represents the share of answers within the answer category

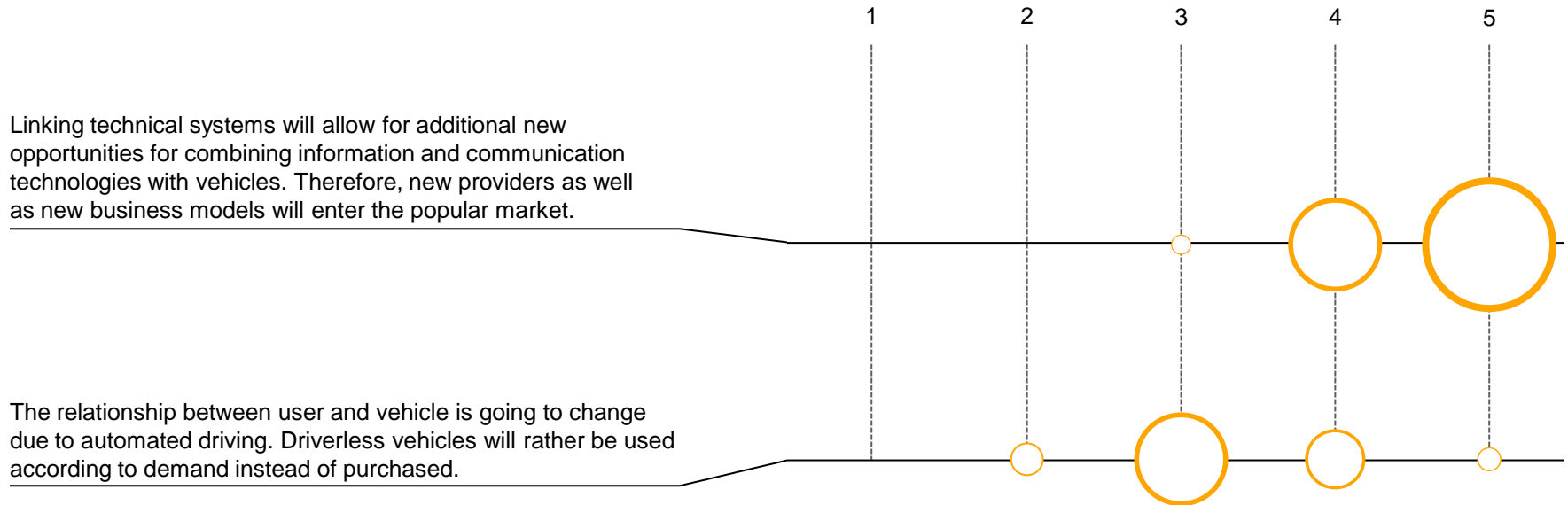
Expert Insights into Awareness and Car Drivers:

Freedom of decision as prerequisite for market success



Expert Insights into Awareness and Car Drivers:

New providers & business models will enter the market



Size of the bubble represents the share of answers within the answer category

Continental Mobility Study 2013

Summary

Summary

- › Car drivers in Germany, China, the U.S.A., and Japan are **open to automated driving** in principle.
- › A majority can see the **benefit** of a suitable technology **on the freeway** (e.g. traffic jams) in particular.
- › A glance at the distribution of the acceptance levels across driver characteristics reveals that there is no factor particularly affecting the acceptance of Advanced Driver Assistance Systems (ADAS). **There is no such thing as *the* typical user of these systems.**
- › The same applies to automated driving. Furthermore: **Acceptance of automated driving benefits from positive experience with Advanced Driver Assistance Systems.** The better car drivers' evaluate ADAS, the more open they are to automated driving.
- › At the same time, a large number of motorists feel **unnerved** by the development and don't believe that automated vehicles will **function reliably**.
- › The majority of car drivers expect **partially automated** vehicles to be available **after 2020**.
- › Germans expect more **extra costs for automated driving features** than drivers in other countries. Compared to the average price of a car in the surveyed countries, the price indications are more or less on a **realistic level**.
- › Experts **trust in reliability** of automated driving and see **freedom to make decisions as a prerequisite for market success**.