

F R O S T & S U L L I V A N

**Strategic Analysis of the European Market
for Transmission Technologies**

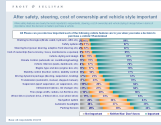
engineexpo2007

Day 3 - Transmissions

Stuttgart, 10th May 2007

***“Partnering with clients to create
innovative growth strategies”***

Transmission Technologies



Agenda

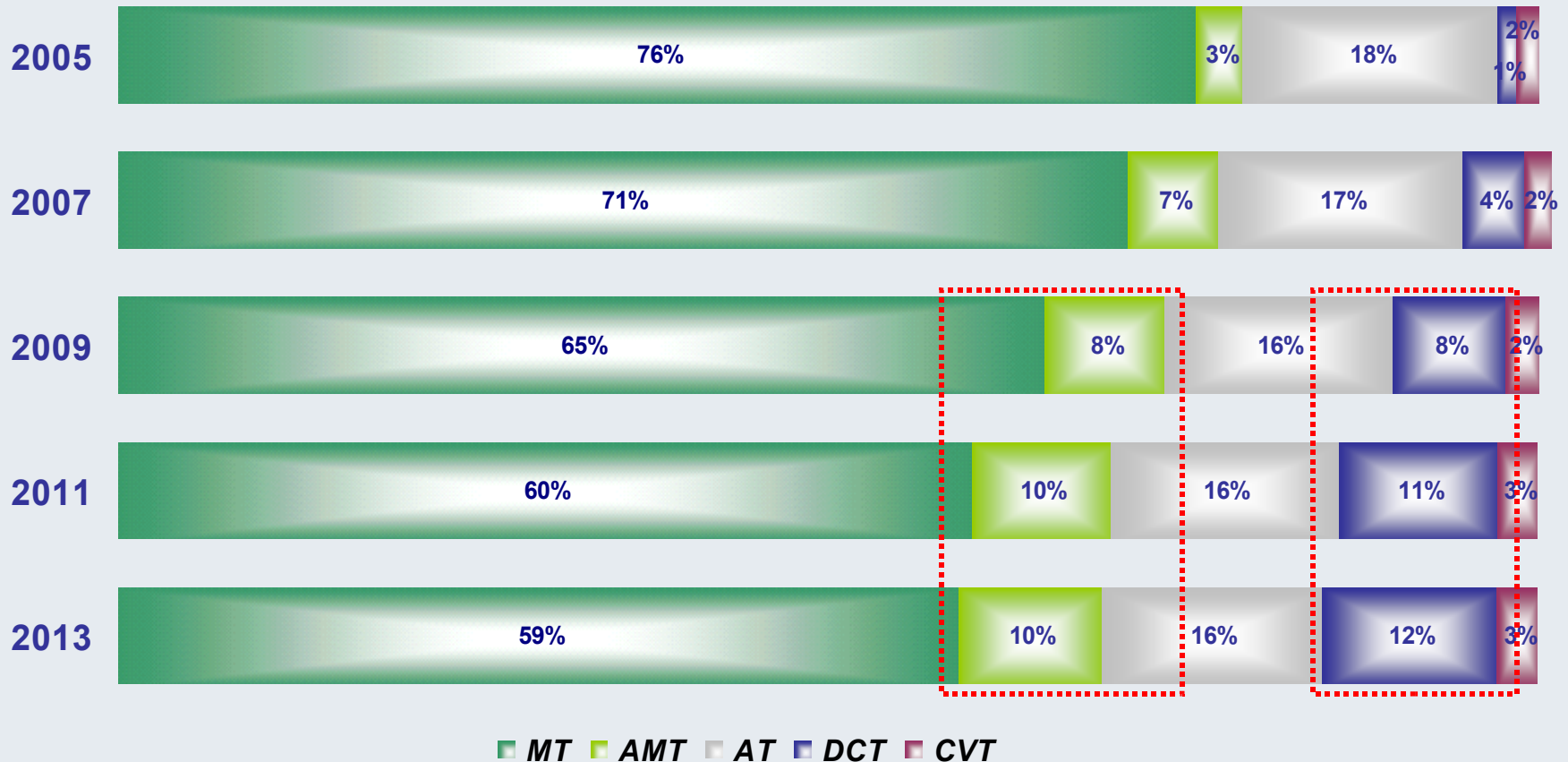
Transmissions in Europe - Overview

Driving Dynamics – Methodology and Overview

Driving Dynamics – Fuel Consumption perceptions

Prices and Willingness to pay

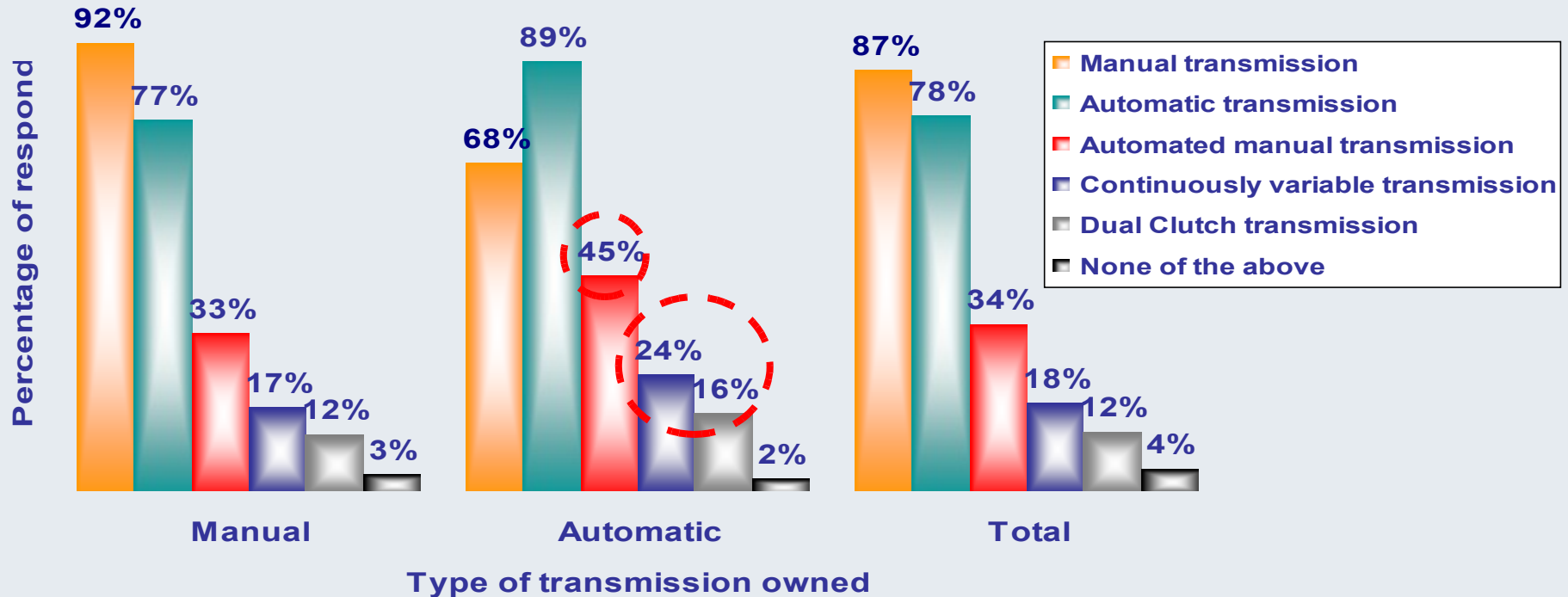
Transmissions in Europe – the future belongs to AMTs and DCTs



Market share of AMTs and DCTs to increase from about 5% in 2005 to about 23% towards 2013 mainly at the cost of stepped Manual Transmissions

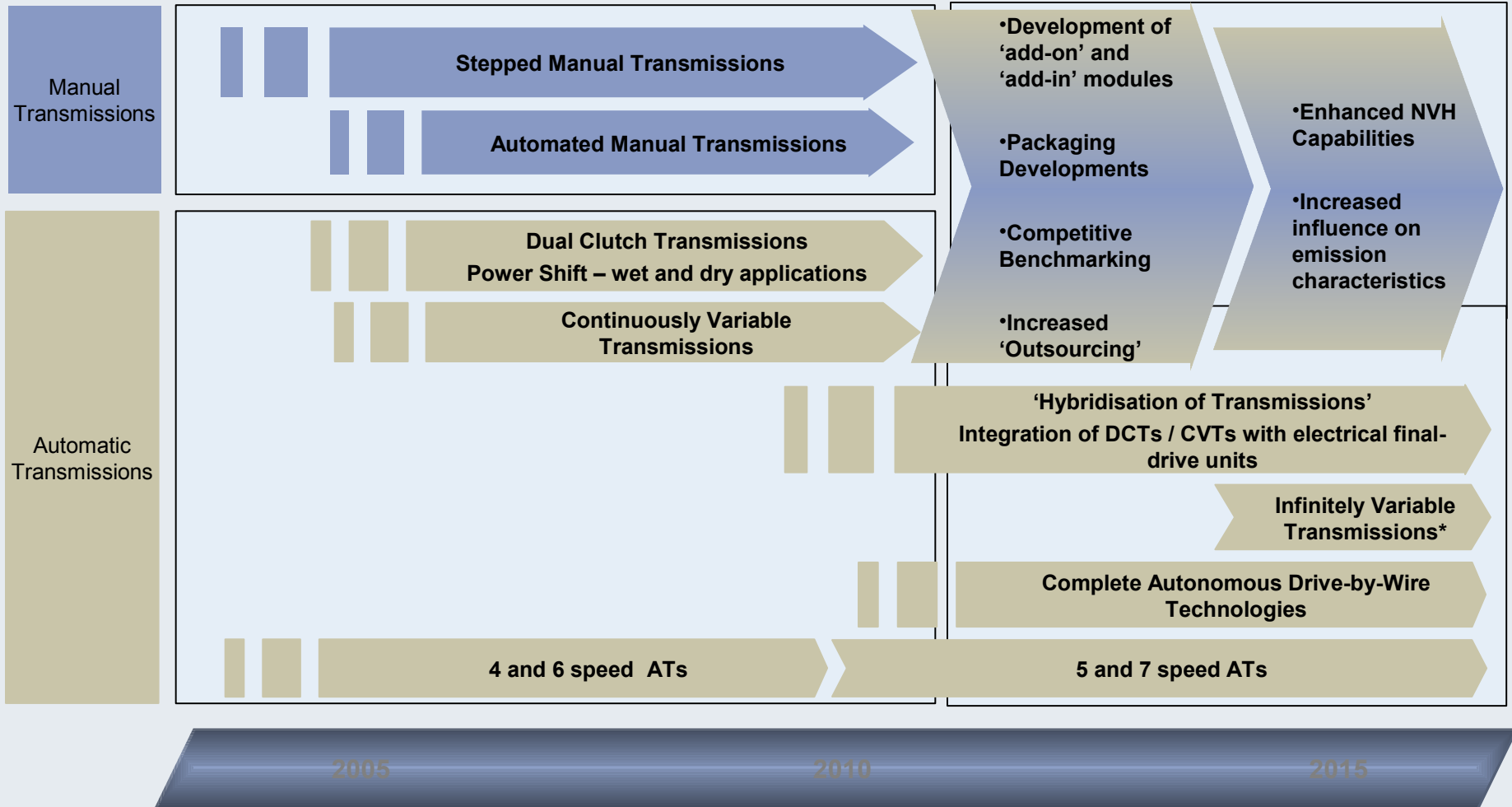
Stepped ATs and CVTs not likely to witness significant changes in market shares. The main change in ATs expected to be the shift towards increased speeds / gear ratios.

Technology Type and Comparative Analysis – end consumer awareness



- Stepped Manuals expected to remain the mainstay during the next 5-6 years albeit with a reducing market share – Significant trend towards 6 speed MTs
- Stepped Automatics expected to remain favourites for upper segment vehicles - over 40% of AT users likely to consider an AMT during their next purchase
- Hybridisation of transmission technologies likely to gain ground. DCTs are expected to be the favourites for Tier 1 suppliers.
- DCTs expected to gain popularity also at the cost of stepped MTs although popularity not as high as AMTs. Popularity of DCTs mainly due to VW Group.

Technology Roadmap - Importance of 'driver control' and 'comfort' to fuel penetration of AMTs and DCTs at the cost of Stepped Manuals



* - As Prototype only



Driving Dynamics: Transmission

Consumer Perceptions, Attitudes, and Willingness to Pay

November 2006

Sample Size & Methodology

- The study was based on a sample size of **2,013 interviews** across **5 regions** and **5 vehicle segments**
- F&S used **web-based surveys** with graphic explanation of new technologies/features to explain the benefits of features
- Target audience were **people that currently own or purchased a vehicle from 2003 to date and them owning an A&B, C, D&E, SUV or MPV vehicle.**
- **Driving Dynamics Features Measured** - the study assessed a number of driving dynamics categories including drive line, steering, suspension, tires, braking & stability and personalization features - this report focuses on Transmission
- **The MaxDiff (see driving dynamics report)** approach was used to conduct trade-off analysis which also provides relative importance values for each feature that can be directly compared to any other feature. Therefore, in contrast to traditional conjoint approaches this allowed us to compare the relative importance of features across different attributes (e.g., the relative importance of ABS versus Active Steering). This also allows us to reveal more accurate priorities because respondents are forced to differentiate among priorities by selecting their most or least desired features.

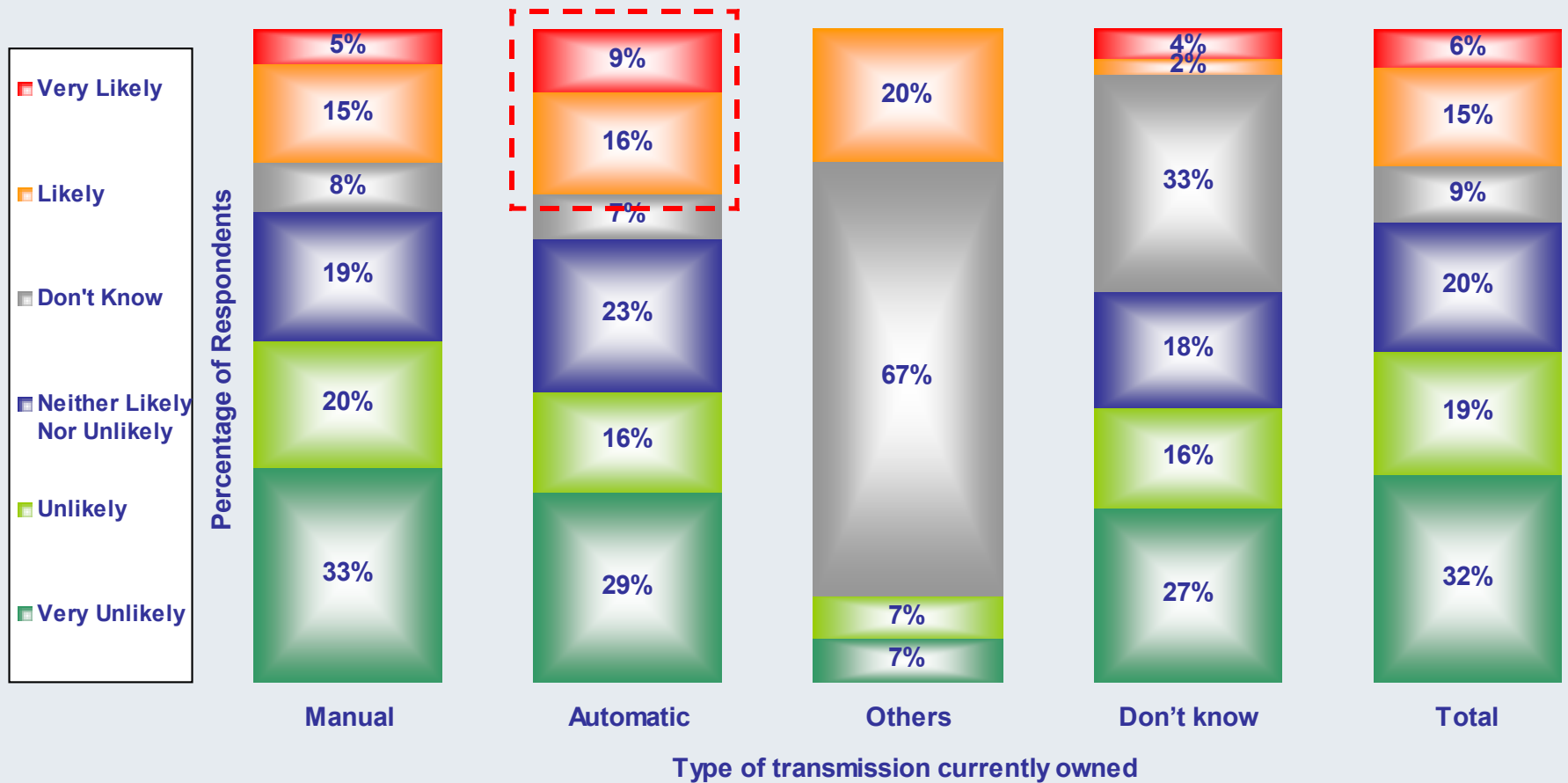
Sample Size / Segment

	A&B	C	D&E	SUV	MPV	TOTAL
• Germany	112	112	125	50	56	455
• Spain	51	56	51	27	25	210
• France	113	107	101	51	29	431
• Italy	175	107	105	53	54	494
• UK	110	106	105	50	52	423
Total	561	488	487	231	246	2,013

Automatic users more likely to switch transmission

Significantly greater number of automatic users are very likely or likely to switch transmission for next vehicle.

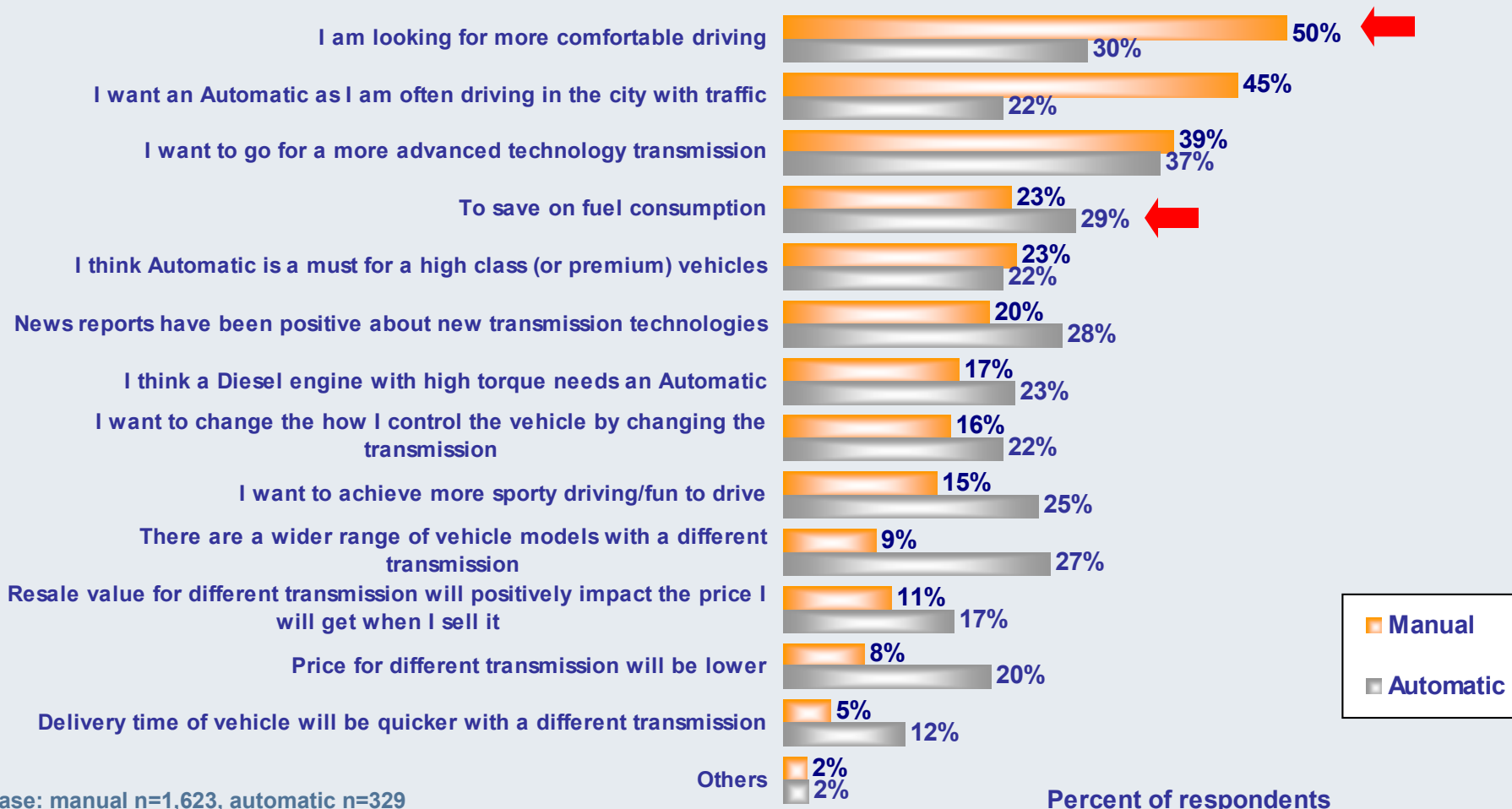
Q94 How likely are you to change transmissions for your next vehicle?



Fuel consumption discourages automatic owner perceptions

29% of automatic users are likely to switch transmission to save on fuel consumption, while 50% of manual users are looking for a more comfortable drive.

Q96 Why are you somewhat likely to change transmission type for your next vehicle? (Select all that apply)

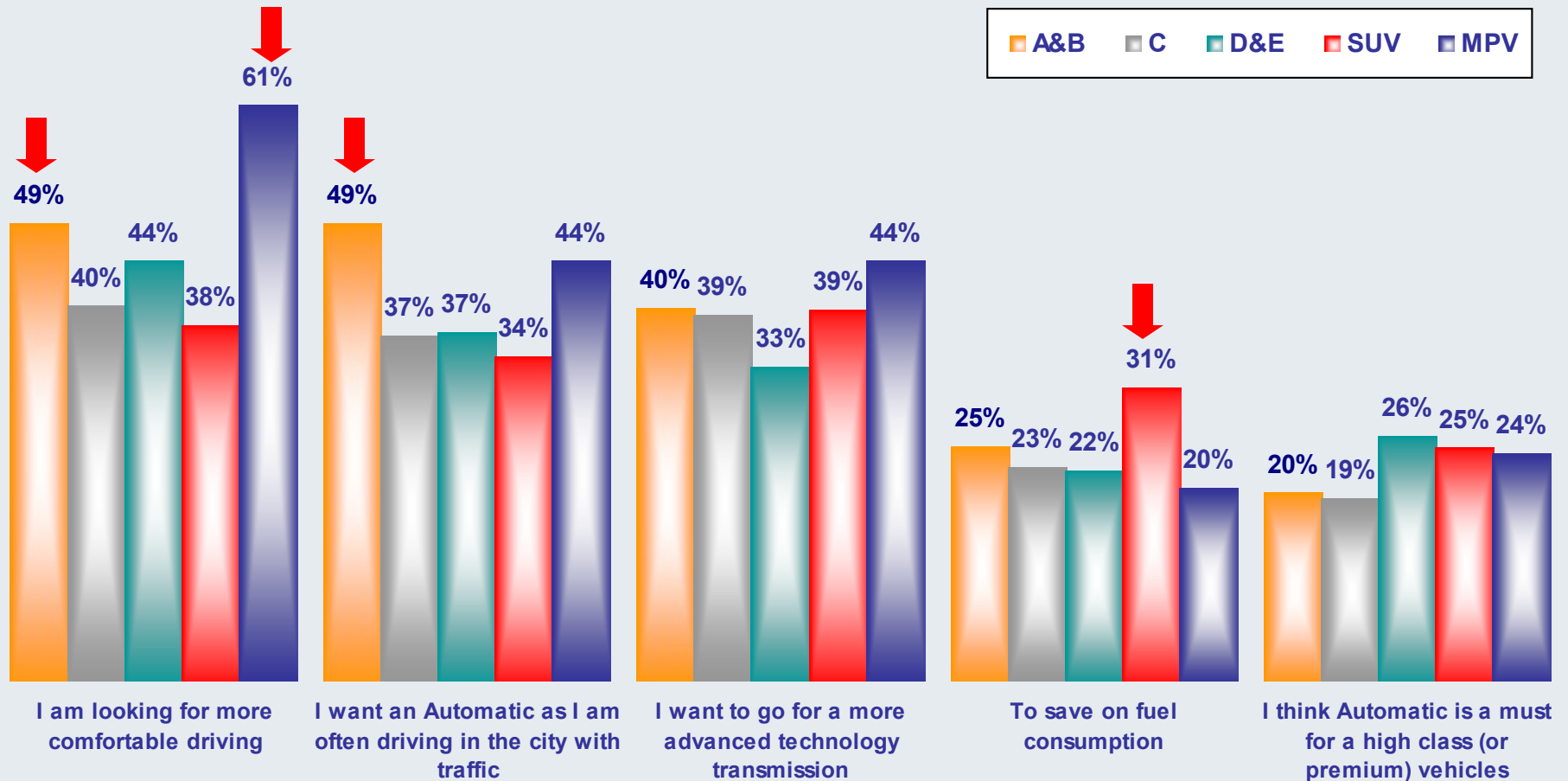


Base: manual n=1,623, automatic n=329

Top 5 Reasons for changing Transmission

MPV owners clearly showing interest in improving comfort of driving. A&B are also interested in changing transmission for comfort and city driving. 31% of SUV owners are looking to save on fuel consumption.

Q96 Why are you somewhat likely to change transmission type for your next vehicle? (Select all that apply)

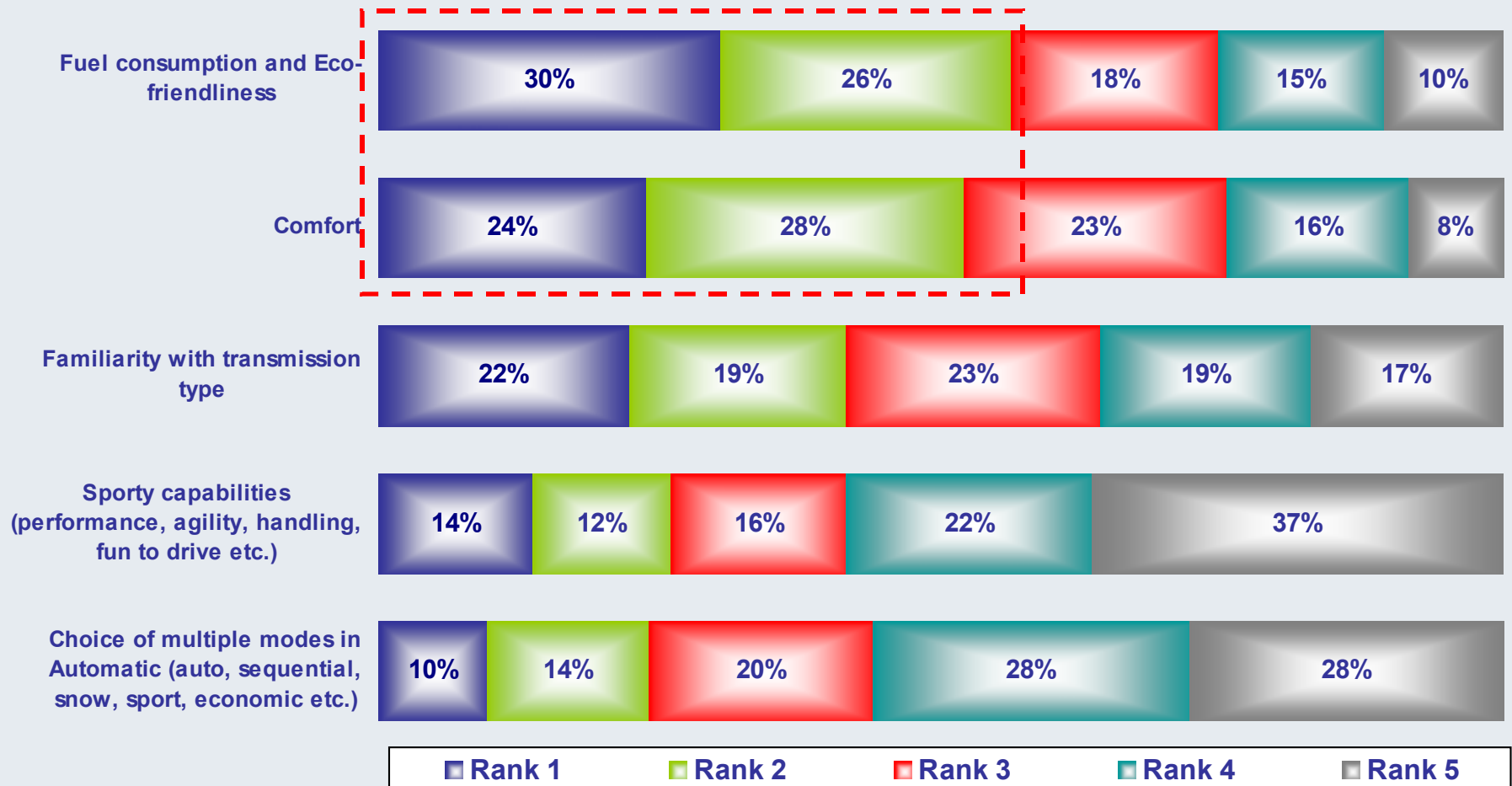


Base: A&B n=561, C n=488, D&E n=487, SUV n=231 and MPV n=246 (Europe)

Fuel consumption most important when choosing transmission type

30% of respondents rated fuel consumption most important when selecting the type of transmission they will select for their next vehicle

Q97 Please rank the following in terms of their importance to you when selecting what type of transmission you will select for your next vehicle? Please rank 1 to 5 – 1 being most important and 5 being least important



Fuel consumption most important to manual owners while auto owners want comfort

Significantly more respondents (33%) with manual transmission stated that fuel consumption and eco friendliness was most important while automatic owners ranked comfort first and fuel consumption second.

Q97 Please rank the following in terms of their importance to you when selecting what type of transmission you will select for your next vehicle? Please rank 1 to 5 – 1 being most important and 5 being least important

Fuel consumption & Eco friendliness

Manual owner



Automatic owner

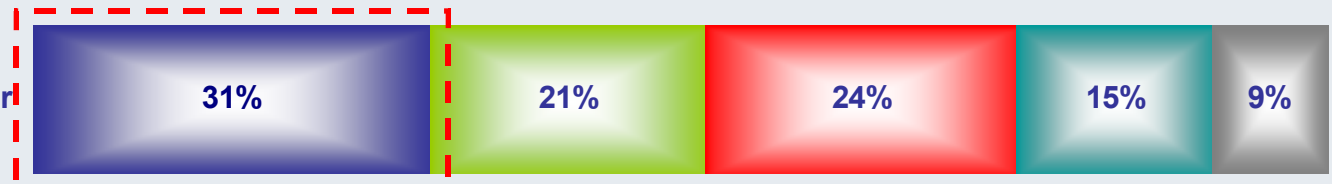


Comfort

Manual owner



Automatic owner

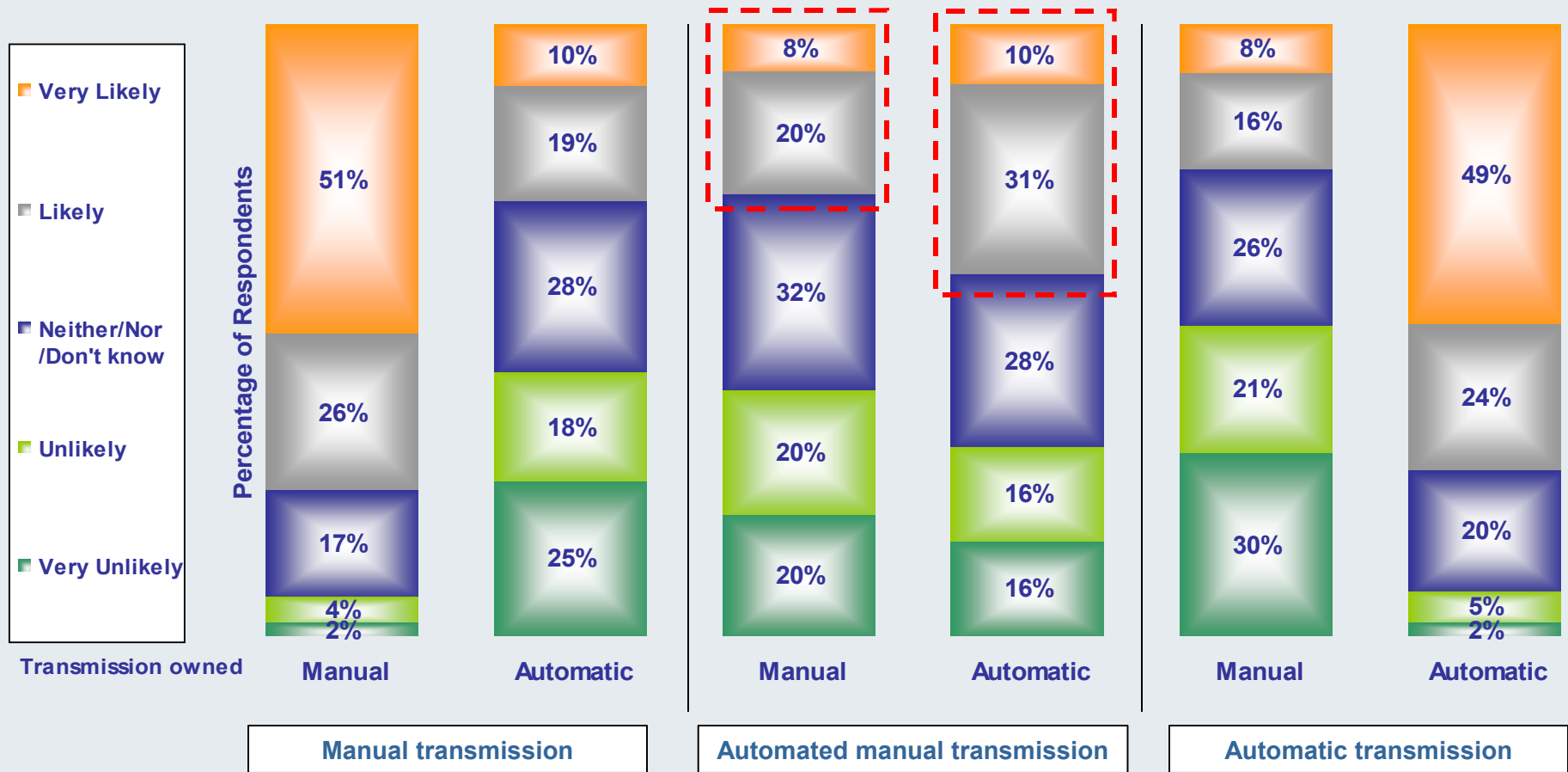


■ Rank 1 ■ Rank 2 ■ Rank 3 ■ Rank 4 ■ Rank 5

41% of AT and 28% of MT owners likely to consider AMT

Interestingly only half of all respondents with manual or automatic are likely or very likely to stay with their current transmission which means there is clearly an opportunity to persuade transmission owners to switch transmissions. The main reason for the likely switch is expected to be savings in fuel consumption for AT owners and improvement in driving comfort for MT owners.

Q100 How likely are you to purchase any of the following in your next vehicle?

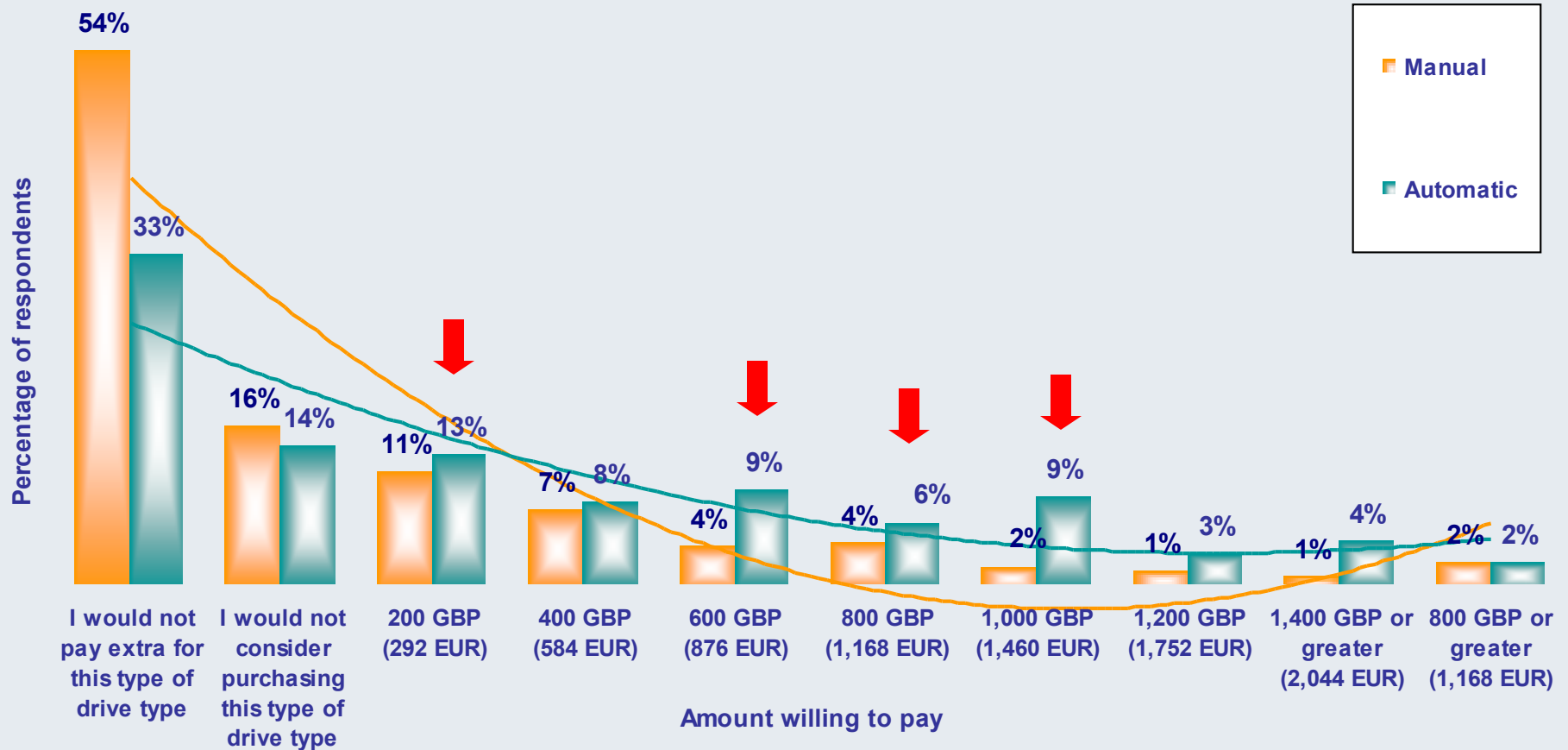


Base: manual n=1,623, automatic n=329

AT owners place greater value on AMTs

41% of automatic owners likely to consider paying GBP 400 (Euro 584) for automated manual transmission versus only 21% of manual owners. The reason is fuel savings potential of AMTs and a sportier feel of the vehicle.

Q104 How much more would you be willing to pay for the following transmission technologies above the cost of a standard model? - Automated manual transmission

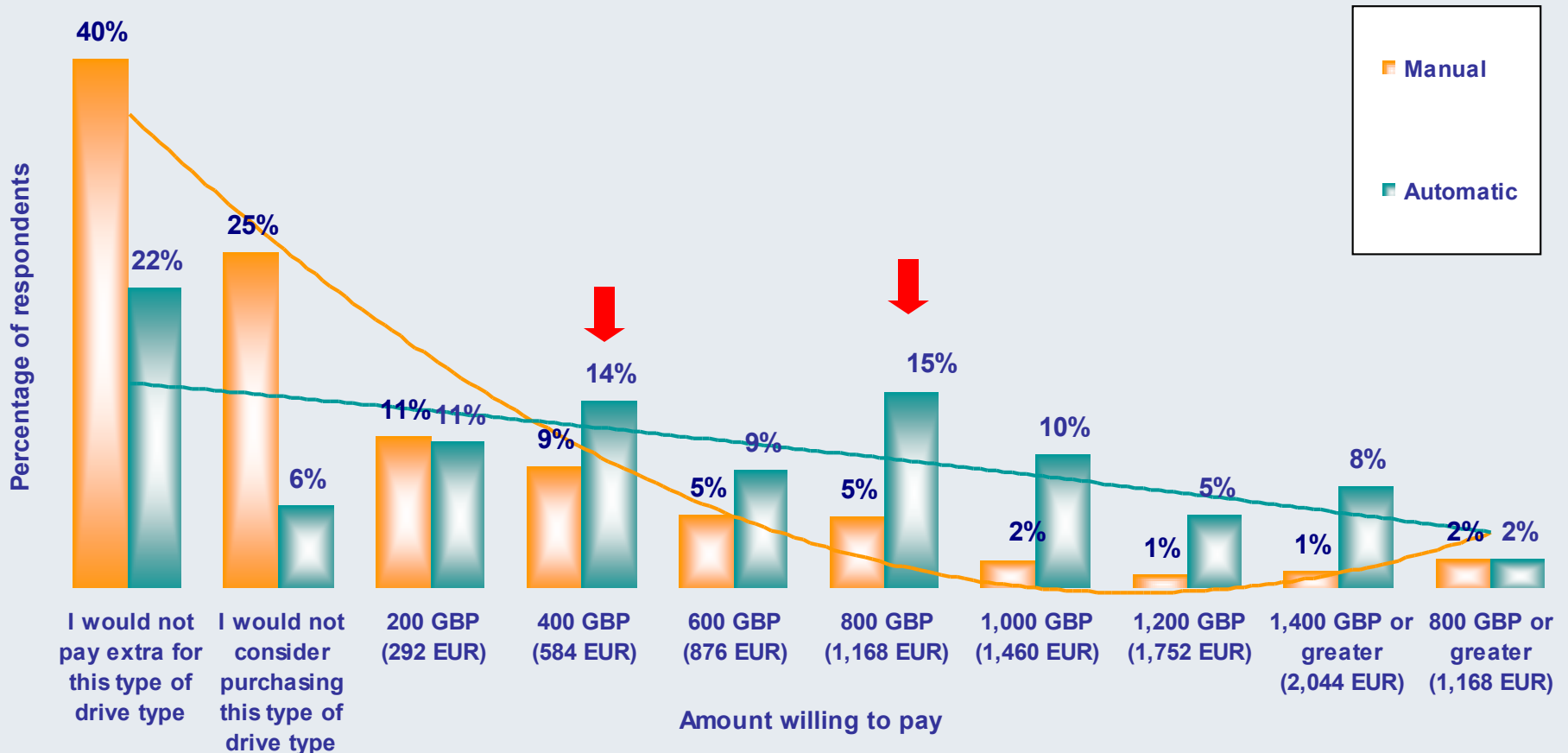


Base: manual n=1,623, automatic n=329

63% Automatic owners willing to pay GBP 400 (Euro 584)

As expected automatic users are willing to pay more for automatic transmission. While 36% of manual users would be willing to pay something for an automatic.

Q104 How much more would you be willing to pay for the following transmission technologies above the cost of a standard model? - Automatic transmission



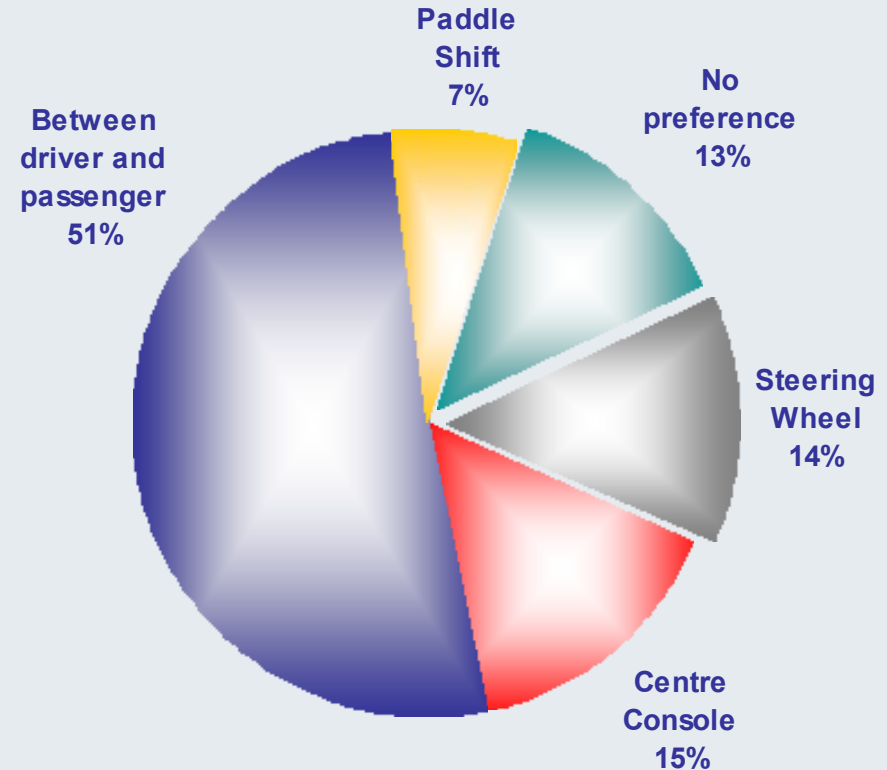
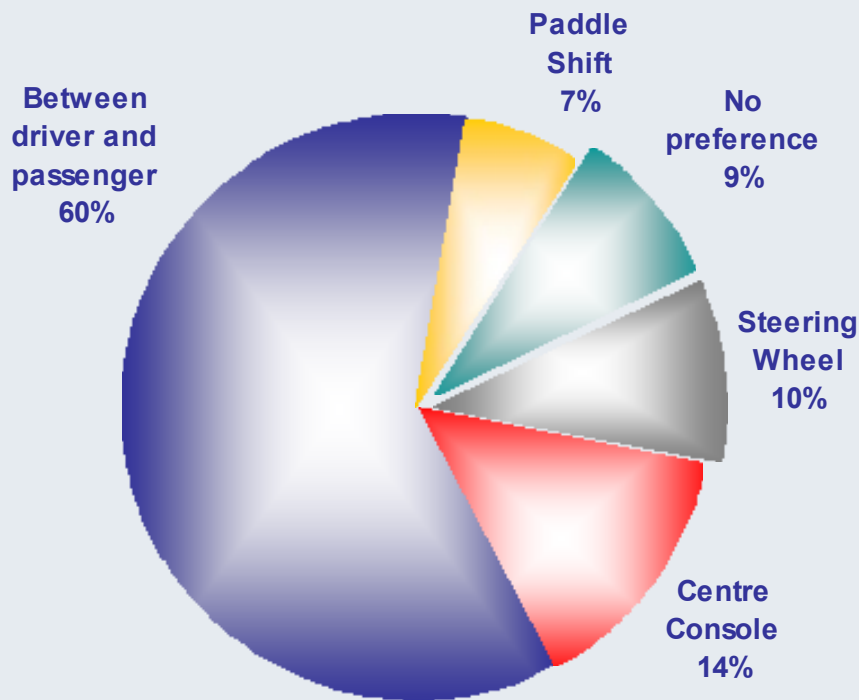
Automatic users open to new positioning of gear levers

27% of automatic either have no preference or would like their levers on the steering wheel significantly greater reception to changes in position of the levers over manual users..

Q102 Which of the following do you prefer? (Location of gear levers)

Manual owners

Automatic users



Base: manual n=1,623, automatic n=329

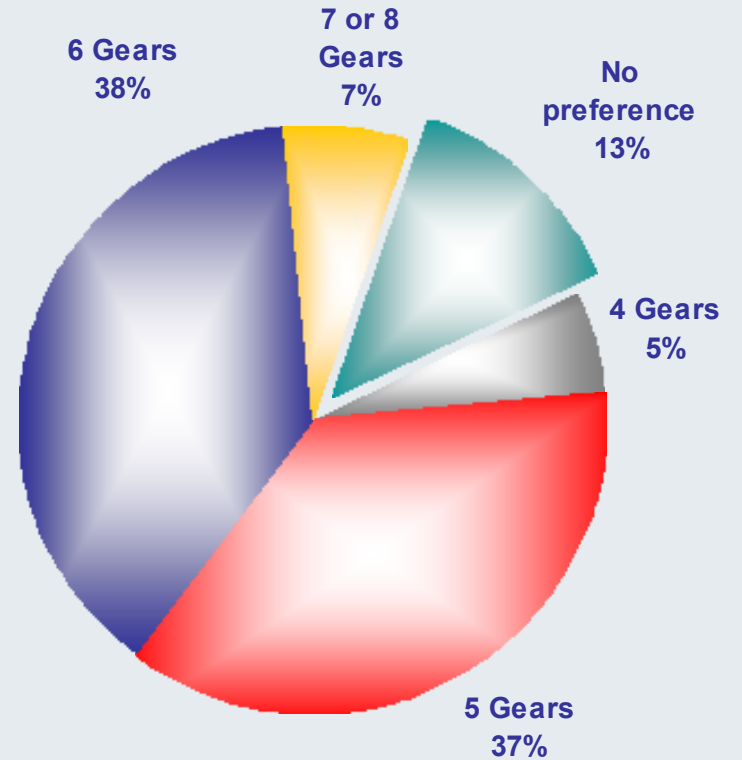
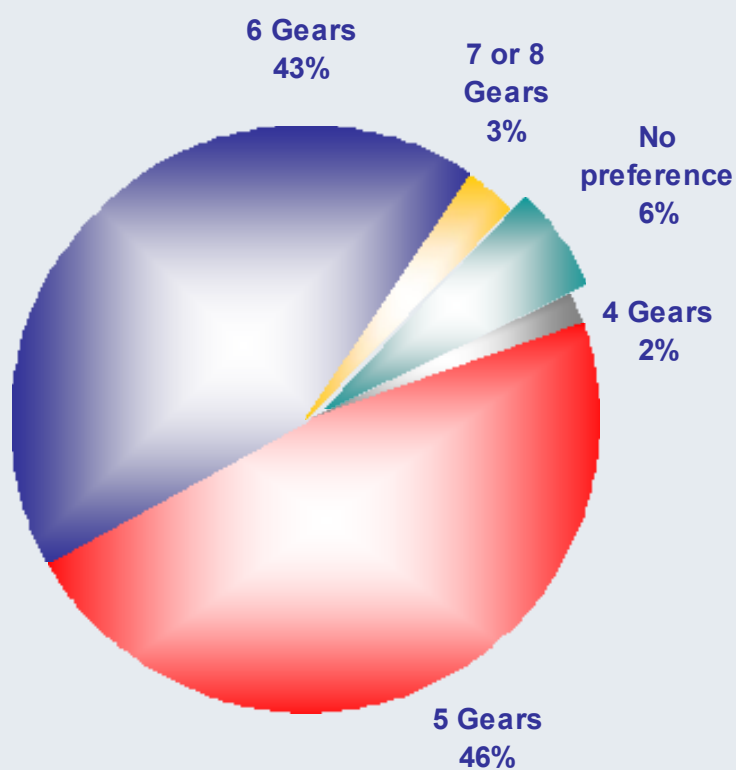
Manual users would like more gears, auto users no preference

46% and 45% of manual users would like 5 gears and 6 gears respectively.

Q102 Which of the following do you prefer? (Location of gear levers)

Manual owners

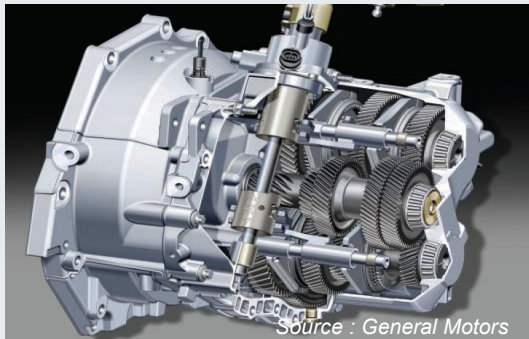
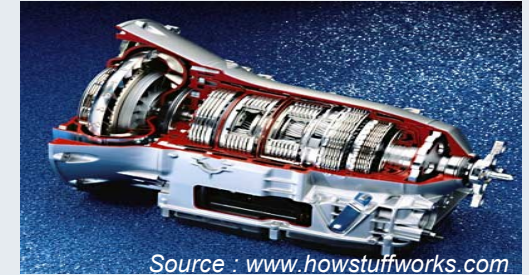
Automatic users



Base: manual n=1,623, automatic n=329

Key Conclusions

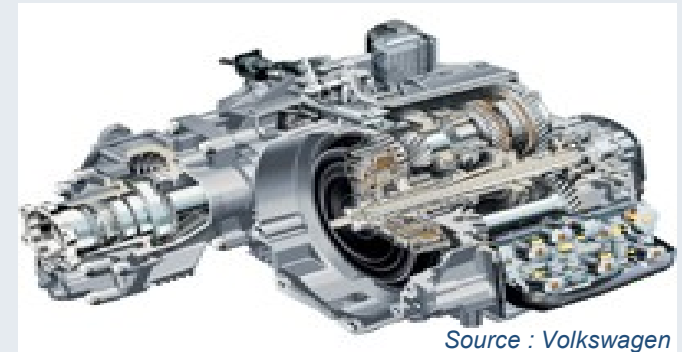
- *Stepped Automatics* expected to reach a point of stagnation with regards to improved efficiency and fuel consumption
- *Benefits of an 8 speed AT over a 7 speed AT not significant anymore*



- *Stepped Manuals* expected to remain the mainstay during the next 5-6 years
- *Significant trend towards 6 speed MTs*

- *Hybridisation of transmission technologies likely to gain ground. DCTs are expected to be the favourites*

- *DCTs and AMTs to witness highest growth during 2007 – 2012*
- *DCTs and AMTs to account for over 22 percent of the European Transmissions market by 2013*



Thank you for your time

Kaushik Madhavan

Programme Manager – Powertrain

www.transportation.frost.com

Tel : 0091 44 42044603

Kaushik.madhavan@frost.com