Euro NCAP – the roadmap to 2020
Quick refresh

- Launched in 1997
- Involves 12 member organisations and 8 test laboratories across Europe
- Publishes star rating to promote excellence and innovation in vehicle safety
Euro NCAP safety tests cover passenger cars of all categories, as well as family vans

_The same workflow is followed for each model_

- Sponsorship
- Specification
- Car sourcing
- Laboratory selection
- Testing to protocol
- Post-crash inspection
- Reporting
- Auditing
- OEM meeting
- Publication
- Data pack
- Social media
Improving crash protection

The evolution in crash ratings illustrates major improvements in structures and restraints

![Graph showing improvement in crash ratings from 1997 to 2007.](image)
Embracing avoidance technology

The overall safety rating (from 2009) combines crash protection, crash avoidance and driver assistance.

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New car sales by rating

Euro NCAP has become a *de facto* industry standard

The lion's share of models sold as new has been rated by Euro NCAP

EU28* Passenger car & SUV sales 2016-Q1; Total sales 3.906.213 units

- Pre-2009 rating
  - 5 stars
  - 4 stars
  - 3 stars
  - 2 stars

Released under the overall rating scheme

Unrated, 4%

5 stars, 73%

4 stars, 17%

*EU28: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland.
Technologies that save lives

Recent milestones in crash protection & avoidance

- **2012**: New provisions for child passengers
- **2014**: Speed assistance
- **2016**: Advanced restraints for rear seat occupants
- **2016**: Rear-end collision mitigation
- **2016**: Pedestrian detection
What does this mean? An example

**Toyota Prius (MY 2009)**

- Front driver and passenger head airbags
- Knee airbag
- Side head and chest airbag
- ISOfix standard for child restraints
- Seat belt reminders on all positions

**Toyota Prius (MY 2016)**

- Rear seat belt load limiters and belt pretensioners
- i-Size standard for child restraints
- Auto-Brake for pedestrians
- Intelligent speed assistance system
- Autonomous emergency braking systems for low and high speed
- Lane departure alert with steering control
Effects on the vehicle fleet

Increased availability of important new safety systems

*For example Autonomous Emergency Braking*

AEB technology is available on over 70% of new cars rated in 2015.
Outlook 2020

Upcoming revisions of the rating scheme are clustered into four domains

Domain 1
- Front occupant protection and vehicle compatibility
- Far side occupant protection

Domain 2
- AEB Car to car
- AEB Cyclists
- AEB in obscure lighting conditions

Domain 3
- Lane keeping
- Road departure and evasive steering

Domain 4
- Speed assistance
- Driver monitoring
- Semi-automated driving, V2X demo

Guidelines for Information, Warning & Intervention

Ratings – Rewards – Tests Campaigns
Supporting robust levels of automation

New test scenarios to verify reliable system operation and improve real world effectiveness

- Complex driving scenarios
  - Rear-end with overlap
  - Lane change
  - Run-off road
  - Crossing and turning

- Night-time light conditions
  - Street lighting, etc.
  - Pedestrian longitudinal and crossing

- Cyclist crashes
  - Longitudinal
  - Crossing and turning
Towards automated driving

Future guidelines for automated driving and testing will build on these blocks:
Towards automated driving

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2025 Euro NCAP Roadmap
Conclusions

- Overall rating enables continued improvement in all areas of vehicle safety

- The latest technical updates prioritised key innovations in vehicle safety technology
  
  *Autonomous braking for cars, vulnerable road users, rear seat occupant, ...*

- Next rating revisions will ensure that the technologies that facilitate automated driving will be safe, robust and reliable