

KPI Vehicle Safety in Spain

General Assembly Baseline

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MINISTERIO
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Dirección General
de Tráfico

Observatorio Nacional
de Seguridad Vial

CONTENTS

- 1. Background and aim
- 2. Methodology
- 3. Preliminary results
- 4. Conclusions

Previous experience in Spain:

The assignment of Euro NCAP ratings to each of the registered vehicles has been carried in collaboration between DGT and Applus IDIADA since 2014:

- 1st phase: completed in early 2014, with data from year 2009 to 2014
- 2nd phase: data from years 2014 to 2016
- 3rd phase: data from 2016 to July 2021

Objective: Assess the safety of the vehicle fleet in Spain.

The scores can be correlated with injuries suffered in real accidents, etc.



Aim:

% of new passenger cars with a Euro NCAP safety rating equal or above a predefined threshold



1. Sources of data

1.1. New passenger car registered per year in the country (data from the Vehicle Registry of DGT)

Vehicle Registry
Database (DGT)

Registration date, make, commercial name,
type, type approval password, variant, version

1.2. Most recent Euro NCAP database

Euro NCAP
Database

Make, model, Overall rating, AOP,
COP, VRU's, Safety Assist

1. Sources of data

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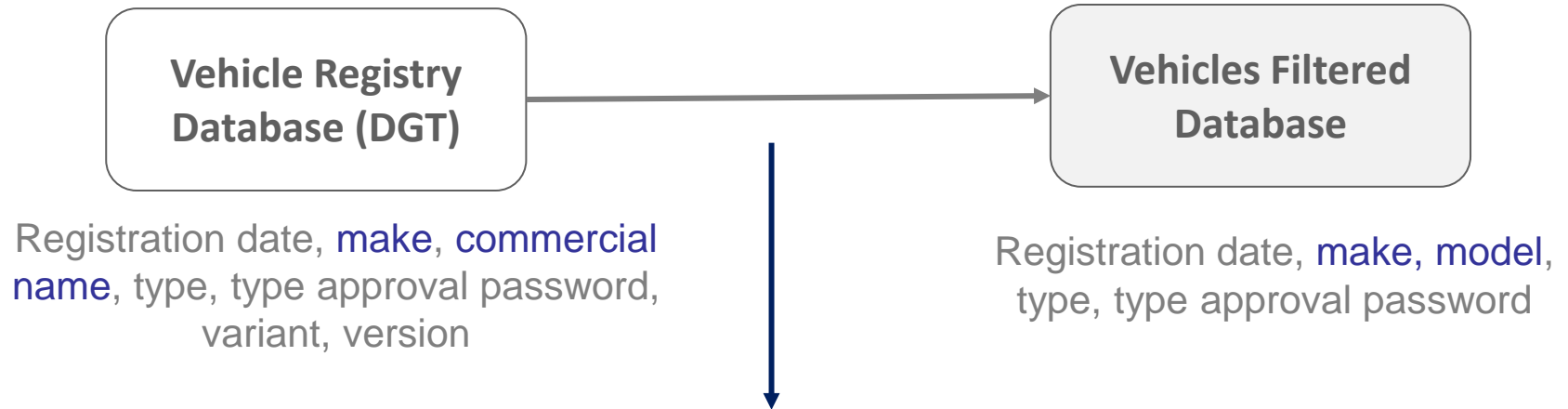
1.2. Most recent Euro NCAP database

Euro NCAP
Database

Make, model, Overall rating, AOP,
COP, VRU's, Safety Assist

Problem: we can't link both databases directly!

2. Vehicles Filtered Database with make and model



Extract “model” from the “commercial name” (e.g.):

Commercial name (make + model)

HONDA Jazz 1.4



Model

Jazz 1.4

Remove the make

3. Data matching → building a Master Database

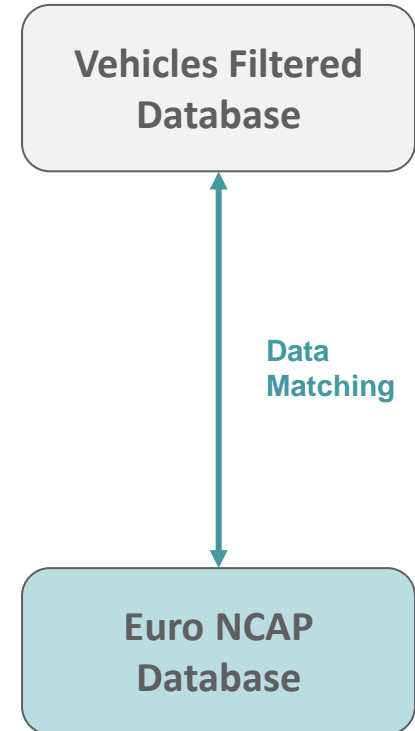
2.1. Link vehicle make in the “Vehicles Filtered Database” with the “Euro NCAP database”

2.2. Link model in both databases

2.3. Search for equivalences by type approval

2.4. If they do not match by type approval number, search by vehicle type

2.5. If they do not match by type approval number or vehicle type, search by commercial name



≈80% matching by type approval

3. Data matching → building a Master Database

E.g. (values are not real)

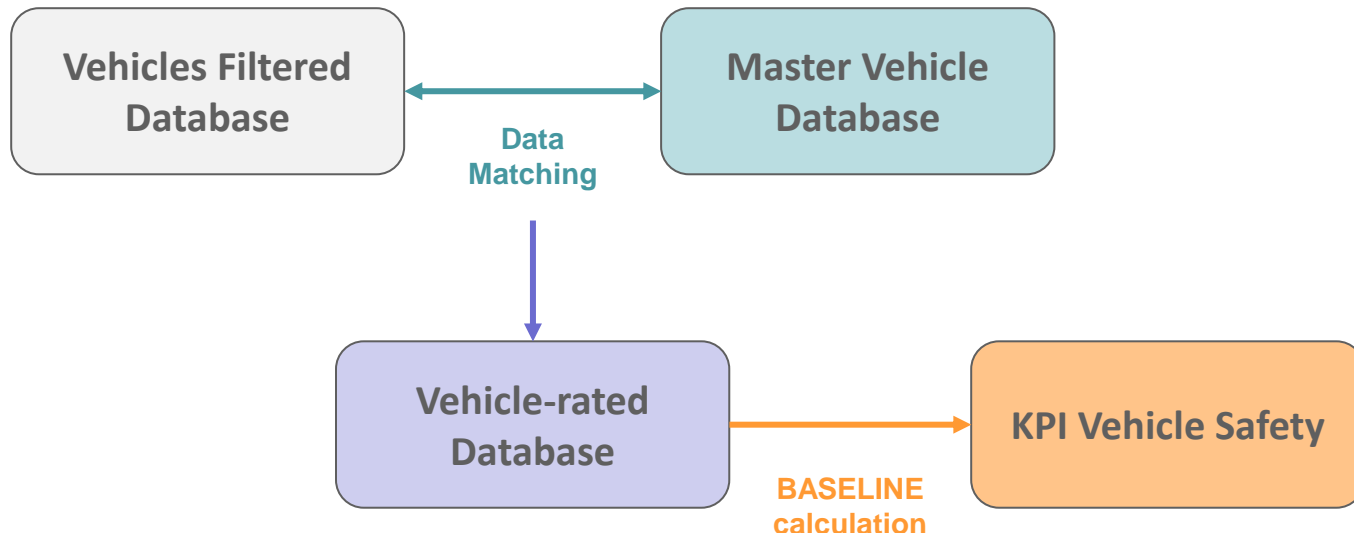
MAKE	MODEL	RATING	TEST YEAR	TYPEAPPROVAL
Alfa Romeo	Giulia	4 stars	2017	e3*2007/46*0027*24
BMW	1-Series	4 stars	2018	e3*2007/46*0435*00
Chevrolet	Trax	5 stars	2016	
Citroën	C4 Picasso	3 stars	2017	
Honda	Jazz	4 stars	2015	e1*2007/46*1914*00
Honda	Jazz	5 stars	2019	

4. Link each register of “Vehicles Filtered Database” with the “Master Vehicle Database” to find the Euro NCAP rating

4.1. Generate a ‘Spanish Vehicle-rated Database’ by pairing the information of registered vehicles in Spain and their Euro NCAP ratings (<1% don’t match)

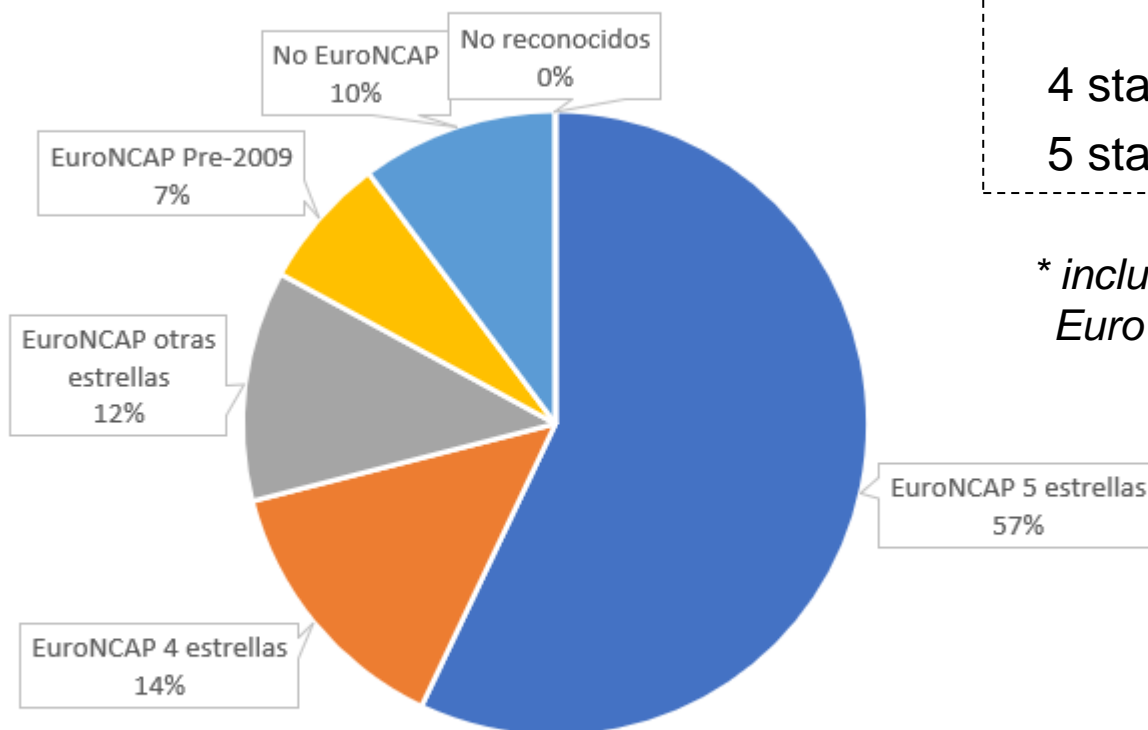
5. KPI calculation

5.1. Calculate the Vehicle Safety KPI according to BASELINE procedure



KPI vehicle safety for new passenger cars in 2019 (I):

EuroNCAP 2019



- EuroNCAP 5 estrellas
- EuroNCAP 4 estrellas
- EuroNCAP otras estrellas
- EuroNCAP Pre-2009
- No EuroNCAP
- No reconocidos

KPI vehicle safety for 2019:

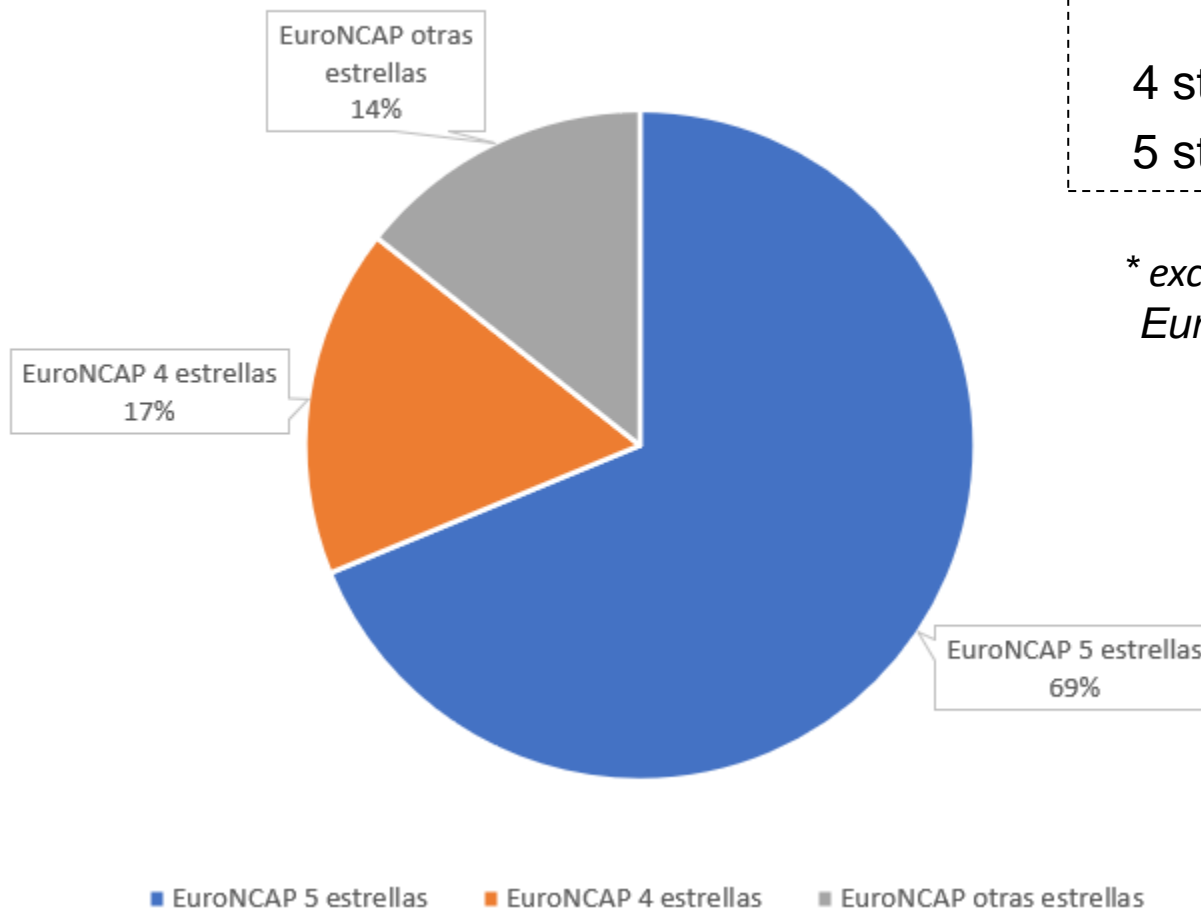
4 stars threshold = **13.97%**

5 stars threshold = **57.05%**

** including vehicles for which no Euro NCAP rating is available*

KPI vehicle safety for new passenger cars in 2019 (II):

EuroNCAP 2019



KPI vehicle safety for 2019:

4 stars threshold = **16.84%**

5 stars threshold = **68.79%**

** excluding vehicles for which no Euro NCAP rating is available*

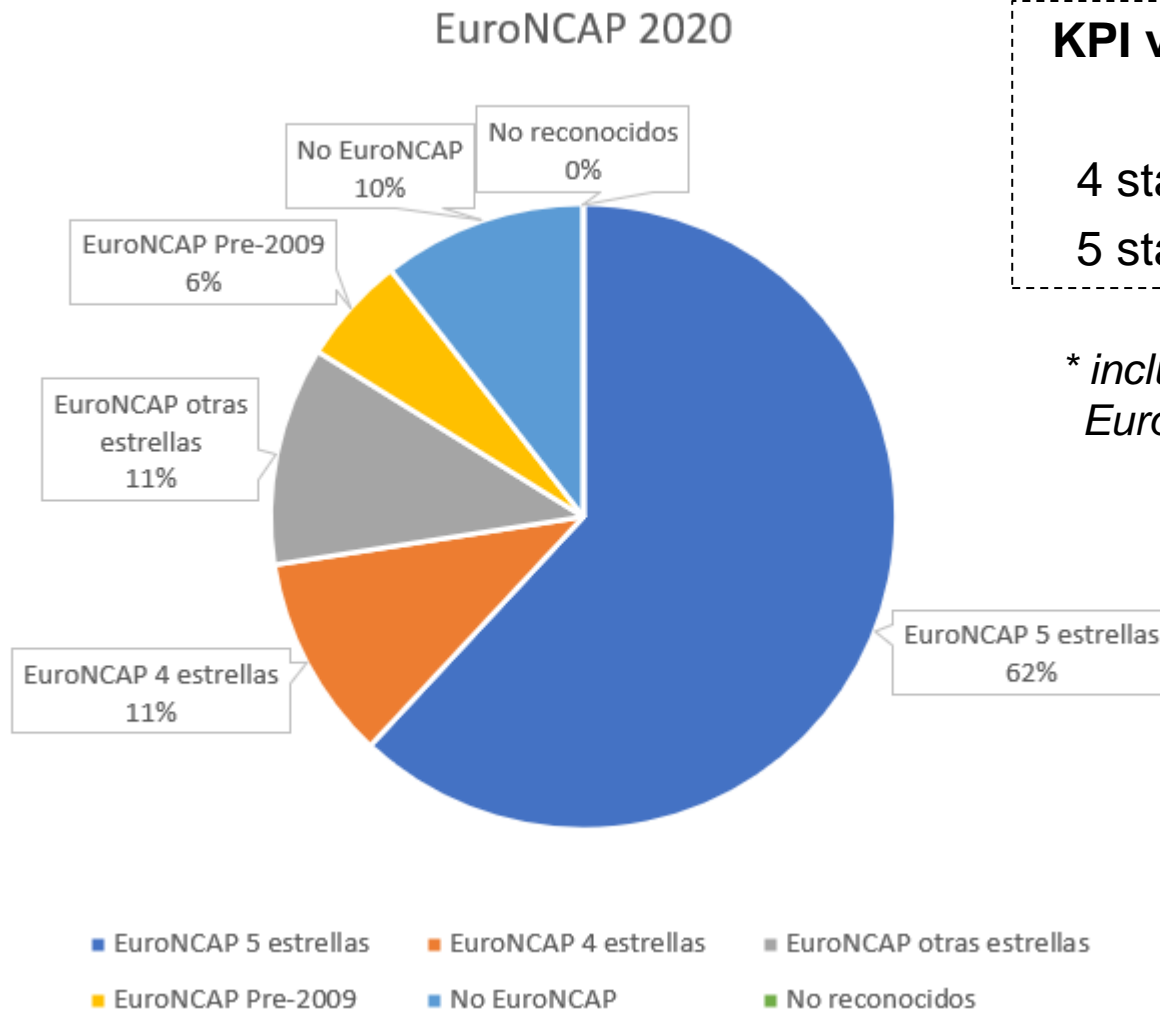
KPI vehicle safety for new passenger cars in 2020 (I):

KPI vehicle safety for 2020:

4 stars threshold = **10.61%**

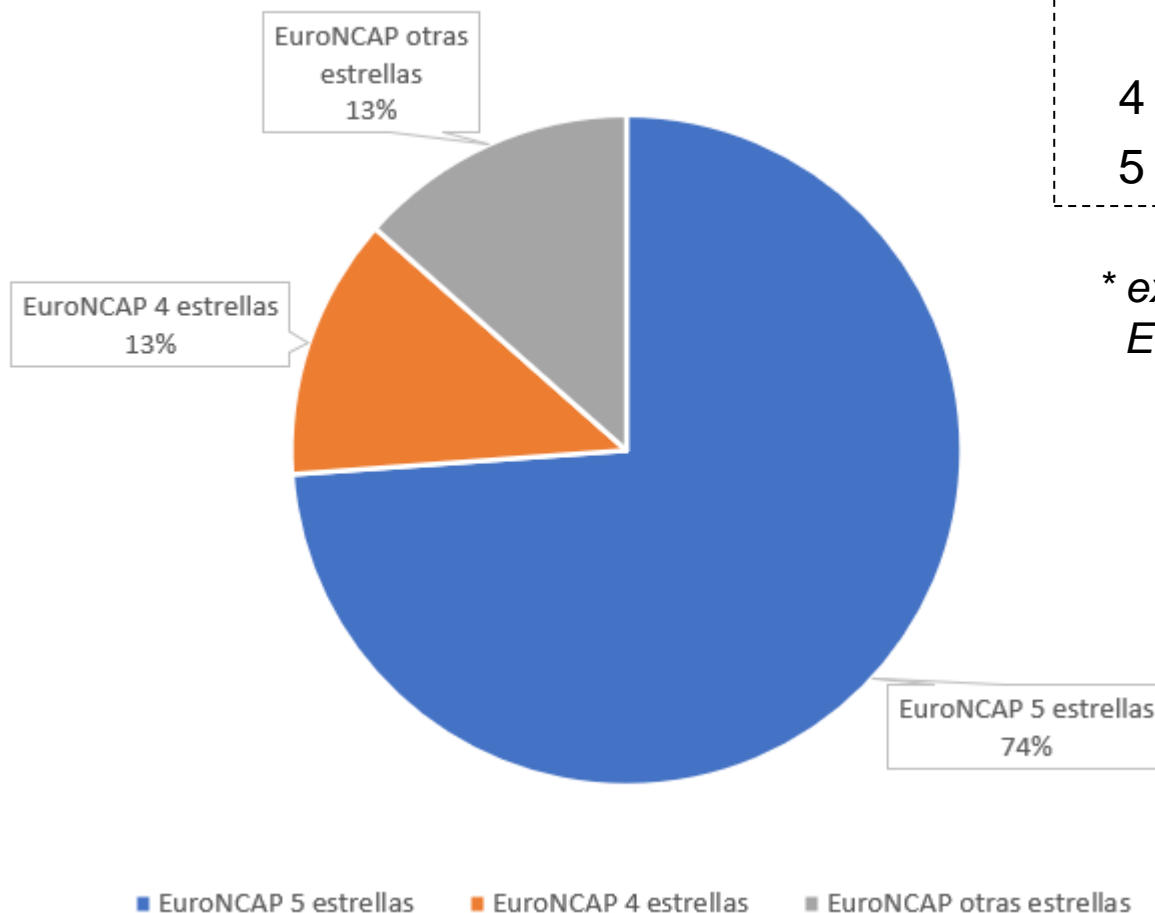
5 stars threshold = **61.94%**

** including vehicles for which no Euro NCAP rating is available*



KPI vehicle safety for new passenger cars in 2020 (II):

EuroNCAP 2020



KPI vehicle safety for 2020:

4 stars threshold = **12.65%**

5 stars threshold = **73.86%**

** excluding vehicles for which no Euro NCAP rating is available*

- Previous work on this KPI in Spain has led to a robust procedure to assign the Euro NCAP rating to registered vehicles in Spain.
- Future: introduce the Euro NCAP rating in the Spanish Vehicle Registry.



Thank you!

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