

KPI Vehicle Safety

Methodological guidelines

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18/09/2023	3.0	Feedback processed from countries, review and Euro NCAP + some small additions/modifications
08/05/2024	4.0	Adaptation after removal of the third indicator on the whole fleet of passenger cars

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About Trendline

Trendline brings together 29 European countries (25 EU Member States and 4 countries as observers) for data collection, data analysis, delivery of road safety KPIs and for using these within road safety policies. Trendline is co-funded by the European Union and builds on the experience gained in the Baseline project. KPIs – Key Performance Indicators – are indicators that provide information about factors that are associated with crash and injury risks. At the core of Trendline project are eight KPIs:

Table 1. Eight KPIs in Trendline

Indicator	Definition
Speed	Percentage of vehicles travelling within the speed limit
Safety belt	Percentage of vehicle occupants using the safety belt or child restraint system correctly
Protective equipment	Percentage of riders of powered two wheelers and bicycles wearing a protective helmet
Alcohol	Percentage of drivers driving within the legal limit for blood alcohol content (BAC)
Distraction	Percentage of drivers NOT using a handheld mobile device
Vehicle safety	Percentage of new passenger cars with a Euro NCAP safety rating equal or above a predefined threshold
Infrastructure	Percentage of distance driven over roads with a safety rating above an agreed threshold
Post-crash care	Time elapsed in minutes and seconds between the emergency call following a collision resulting in personal injury and the arrival at the scene of the collision of the emergency services

These eight KPIs originate from the Commission Staff Working Document 'EU Road Safety Policy Framework 2021-2030 - Next steps towards "Vision Zero" SWD (2019) 283 final.' In addition, some new experimental and complementary indicators will be tested within Trendline (provisional names):

- Driving under the influence of drugs
- Share of 30km/h road lane lengths in urban zones
- Red-light negations by road users
- Compliance with traffic rules at intersections
- Helmet wearing of PMD (Personal Mobility Devices) riders
- Self-reported risky behaviour
- Attitudes towards risky behaviour
- Use of lights by cyclists in the dark
- Enforcement of traffic regulations
- Alternative speeding indicators.

For each of the original eight KPIs and the experimental KPIs, a 'KPI Expert Group' (abbreviated as KEG) has been established. Their main role is to draft the common methodological guidelines, to give feedback on questions, and to review the report of the KPI which they are covering.

Website Trendline: <https://www.trendlineproject.eu/>

Terms and definitions

Euro NCAP ratings

Euro NCAP (2023) ratings are the vehicle safety ratings assigned by Euro NCAP to new car models appearing on the European market, which are valid for six full years after the year of test. The overall rating is based on a 5 star scale, with 5 stars being the highest safety rating.

Make

Make refers to the brand/manufacture of the brand (e.g. Renault, BMW, Volkswagen, Fiat, Volvo, Seat, Skoda, etc.).

Model

Model refers to the specific model of the make (e.g. Renault Clio, Volkswagen Tiguan, Volvo V40, etc.). It is important to define the year associated with the model (year of construction).

New passenger cars

New passenger cars refers to new cars registered for the first time in the year for which the KPI is determined.

Passenger car

According to the CARE CADAS glossary a passenger car is a "motor vehicle with 3 or 4 wheels, mainly used to transport people, seating for no more than 8 occupants. Motor vehicles with these characteristics used as taxis as well as motor caravans are also included" (European Commission, 2023).

For this KPI, the CARE definition of passenger car is used, except that cars adapted for drivers with disabilities and passenger cars derived from commercial vehicles/vans registered as passenger car are excluded from the indicator. This because those two types of cars have by default no Euro NCAP rating and their exposure on the road is relatively small. For further information, see paragraph 2.1.

Year of first registration

The year in which the vehicle was first registered in any country.

1. Introduction

1.1. Context

The Communication of the European Commission “Europe on the Move – Sustainable Mobility for Europe: safe, connected and clean” of the 13th May 2018 confirmed the EU's long-term goal of moving close to zero fatalities in road transport by 2050 and added that the same should be achieved for serious injuries. It also proposed new interim targets of reducing the number of road deaths by 50% between 2020 and 2030 as well as reducing the number of serious injuries by 50% in the same period. To measure progress, the most basic – and important – indicators are of course the result indicators on deaths and serious injuries.

In order to gain a much clearer understanding of the different issues that influence overall safety performance, the Commission has elaborated, in cooperation with Member State experts, a first set of key performance indicators (KPIs). The KPIs relate to main road safety challenges to be tackled, namely: (1) infrastructure safety, (2) vehicle safety, (3) safe road use including speed, alcohol, distraction and the use of protective equipment, and (4) emergency response. The aim of the KPIs is connected to EC target outcomes.

The Commission Implementing Decision C(2021)5763 final of 5.8.2021 concerning the adoption of the work programme for 2021-2023 and the financing decision for the implementation of the CEF (Connecting Europe Facility) foresaw a technical assistance action for the collection of Key Performance Indicators for road safety in EU Member States. The action builds on a previous CEF support action in 2020-2022 which established the Baseline project to collect eight road safety Key Performance Indicators (KPIs) in 18 EU Member States. On the 10th of August 2022, a call was published with reference “MOVE/C2/2022-54— Technical Assistance for the development and collection of Road safety Key Performance Indicators (KPI)”. A consortium of 25 EU Member States proposed the “Trendline” project to continue and elaborate the work on key performance indicators.

1.2. Main indicators

This document presents the methodological guidelines for the KPI Vehicle Safety. It describes the minimum methodological requirements to qualify for this KPI. The main indicator for vehicle safety is defined as:

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

Like in the Baseline project, two thresholds will be used: 4 and 5 Euro NCAP stars. The Euro NCAP coverage area includes all 27 EU countries as well as the UK.

In the Baseline project, this indicator was calculated for cars registered in the last year, which was 2019 and 2020. One indicator for each year was calculated. For Trendline this indicator will be calculated again

for cars registered in the last year, being 2022. Optionally, countries can also calculate this indicator for 2023.

In order to reflect better the safety status of the vehicle fleet, it is the aim to expand the indicator to a larger part of the vehicle fleet, and if possible, the whole vehicle fleet of passenger cars. One optional additional indicator is therefore proposed and recommended: A KPI covering all passenger cars with age 0-5 years. This is relatively easy to implement as Euro NCAP ratings have a validity of 6 years (starting from the year after the test).

In the future it is the aim to develop a KPI covering the whole vehicle fleet of passenger cars. This requires a different methodology, as Euro NCAP ratings have a validity of 6 years and thus covering the whole vehicle fleet requires a rescaling of the ratings. A historical adjustment is needed to deal with changing Euro NCAP protocols. For the Trendline project, it was examined whether the KPI could be expanded to the whole vehicle fleet of passenger cars but this turned out not to be feasible. For the successor project of Trendline the feasibility of an indicator for the whole vehicle fleet of passenger cars will again be evaluated.

In the Baseline project, there were two alternative KPIs for the KPI Vehicle Safety: (1) average age of the total vehicle fleet of passenger cars and (2) percentage of the passenger cars that are roadworthy. Eventually, none of the countries in the Baseline project delivered one of the two alternative KPIs as an alternative for the standard KPI on Vehicle Safety (Wardenier & Silverans, 2023). The average age of the total vehicle fleet of passenger cars is freely available via ACEA (2023) and will be discussed, as in Baseline, in the Trendline report on the KPI Vehicle Safety. The evidence of a relationship between road worthiness tests and periodic technical inspection on the one hand and road safety in terms crashes, fatalities or serious injuries on the other hand is inconclusive (e.g. Assemi & Hickman, 2018; Blows et al., 2003; Christensen & Elvik, 2007; Elvik, 2023; Fosser, 1992; Keall & Newstead, 2013; Martín-delosReyes et al., 2021). Because of these reasons, it was decided not to keep these alternative KPIs for the KPI Vehicle Safety in Trendline.

The relation between Euro NCAP ratings and real world outcomes in terms of severity of crashes and injuries has been shown in older studies (e.g. Kullgren et al., 2010, 2019; Pastor, 2013; Strandroth et al., 2011), but not recently taking into account also active safety features. Studying this relationship with crash prevention is more challenging methodologically, partly because it is hard to estimate the number of accidents that have been avoided due to active safety features. A few studies have evaluated individual technologies (e.g. Cicchino, 2017, 2018; Leslie et al., 2022; Sternlund et al., 2017) but a general evaluation of the relation between Euro NCAP ratings and crash prevention and outcomes has not been undertaken yet. It is also outside the scope of Trendline. Nevertheless, it is urgent that this research gap is addressed to enhance the value of this KPI.

It should be noted that although cars with better active and passive safety systems help in avoiding road crashes and protect their occupants and surrounding vulnerable road users better, it is not self-evident that the same relationship holds for national KPIs and the overall improvement of safety at national level. It is yet to be shown that a higher national score on the main indicators on vehicle safety listed in these guidelines is associated with national road safety performance.

2. Calculation of the KPI

2.1. Standard KPI: percentage of new passenger cars meeting or exceeding the threshold, cars registered in last year

For the standard indicator, the following data is required (for each year for which the KPI is calculated, 2022 and optionally 2023):

- the total number of new passenger cars registered
- the number of new passenger cars registered by make and model, i.e. how many new passenger cars have been registered for each make/model
- the list of valid Euro NCAP star ratings for each of the passenger car models (where applicable)
- the number of stars to be used as a threshold, namely 4 and 5 stars.

The number of new passenger cars registered by make and model needs to be obtained from national sources, typically the public authority or agency that registers new cars. These figures may also be obtained from other sources such as international organisations, car related national associations and federations. This list of the number of new passenger cars registered by make and model should contain, if possible, also (type) approval number and year of construction of the car model. Taking those variables into account while linking with Euro NCAP ratings improves the accuracy of the estimation of the indicator (see explanation further). The total number of new passenger cars registered can be calculated from the list of new registered passenger cars by make and model.

The Euro NCAP star ratings for each of the passenger car models tested are available on the Euro NCAP website and are included in a database prepared for the Trendline partners by Euro NCAP.

As to the safety threshold, two thresholds are being used:

- a 'minimum' threshold, corresponding with a 4-star rating
- a 'strong' threshold corresponding with a 5-star rating.

After collecting these data, the national dataset containing the number of new passenger cars registered by make and model and the list of Euro NCAP ratings should be linked with each other. This linking can be done by the variables type approval number, make and model and year of construction. There are several possibilities:

- By type approval number (if available) + year of construction (see explanation in next paragraphs)
- By make and model + year of construction
- By make and model + year of registration (as proxy for year of construction)

A description of the linking method used should be included in the metadata that needs to be provided.

If the national data on new registered passenger cars by make and model contains type approval numbers per vehicle and the year of construction, a linking by type approval number can be done. Taking also into account year of construction while linking by type approval number is necessary, as type approval numbers can be used for consecutive versions of the same car model for many years (newer

versions of the same car model are then approved on the existing type approval number). Type approval numbers have the following structure (examples): E1*2007/46*1892***06** (Audi A1) or E1*2001/116*0480***36** (Mercedes EQC). The last two digits of a type approval number (indicated in the examples with bold) are specific to a certain version of the car model. The Euro NCAP rating is valid for all versions of the car model¹, so therefore the last two digits of the type approval number can be ignored while linking the data. For this reason, the type approval numbers in the list of Euro NCAP ratings are also without those two last digits (for the Audi A1, for example E1*2007/46*1892). Lastly, it is not possible to link all records in the national data with the Euro NCAP ratings by type approval number. This has three reasons. Firstly, some type approval numbers are used for more than one car model. Secondly, cars that are approved individually receive a specific approval number that replaces the regular type approval number and as a consequence they cannot be linked. Thirdly, not for all car models the list of Euro NCAP ratings mentions the type approval number. The remaining unlinked car models have then to be linked by make and model and year of construction.

If available in the national data on the number of new registered passenger cars by make and model, the year of construction should be taken into account for linking with the list of Euro NCAP star ratings. For example, a new car registered in the year 2022 could be either a model of 2021 or a model of 2022 with the respective Euro NCAP ratings being different. If the year of construction is not available for a part or for all new registered passenger cars in the country, year of registration can be used as a proxy for year of construction. Whether year of construction or year of registration as a proxy is used during linking, should be mentioned in the metadata.

Regarding the linking by make and model, it should be noted that the categorization of vehicle models into 'makes' and 'models', as used by Euro NCAP, is a simplification of a more complex reality. From a formal point of view, vehicles are defined by 'make', 'type', 'variant', 'version' and 'commercial description', as specified in the Council Directive 1999/37/EC of 29 April 1999 (European Commission, 1999). So sometimes it may not be straightforward to link the 'model' with the 'type', 'variant', 'version' and 'commercial description'.

It may therefore be necessary to first create a conversion table between the variables used in the national database and the model names used in the Euro NCAP dataset. Table 2 is an example of a part of a conversion table made in the Netherlands, used to link the commercial name of the vehicle with the Euro NCAP model name.

¹ Some exceptions exist but these should not be considered for calculating the KPI. See for more information paragraph 3.2.

Table 2 Example of a conversion table to link commercial name in national data with Euro NCAP model name

Make	Commercial name	Model in Euro NCAP database
AUDI	A1 SPORTBACK	A1
BMW	420l	4-Series
BMW	X1 SDRIVE20l	X1
CITROEN	C1	C1
FORD	FIESTA	FIESTA
HYUNDAI	IX20	IX20
HYUNDAI	KONA	KONA
KIA	CEED	CEED
MERCEDES-BENZ	A 160	A-CLASS
NISSAN	NISSAN QASHQAI	QASHQAI
NISSAN	NISSAN LEAF 30KWH	LEAF
NISSAN	NISSAN QASHQAI	QASHQAI
OPEL	KARL ROCKS / VIVA ROCKS	KARL
PEUGEOT	208	208
RENAULT	CLIO	CLIO
RENAULT	KADJAR	KADJAR
RENAULT	ZOE	ZOE
SEAT	ARONA	ARONA
SEAT	ATECA	ATECA

The conversion table can then be used to group the number of newly registered cars by make and model, and then link it to the Euro NCAP star score. The result could then look like in Table 3.

Table 3 Example of the calculation of the KPI Vehicle Safety

Make	Model	Count	Star Rating	Year of Test
		46425		
Alfa Romeo	Giulia	522	5	2016
Alfa Romeo	Giulietta	408	3	2017
Alfa Romeo	Stelvio	288	5	2017
Audi	A3	4022	5	2012
Audi	A4	2669	5	2015
Audi	A5	1411	5	2015
Audi	A6	1272	5	2011
Audi	A6	229	5	2018
Audi	Q2	1729	5	2016
Audi	Q3	552	5	2011
Audi	Q3	6	5	2018
Audi	Q5	496	5	2017
Audi	Q7	54	5	2015
Audi	TT	32	4	2015
BMW	i3	1631	4	2013
BMW	X1	2306	5	2015
BMW	X2	694	5	2015
BMW	X3	1279	5	2017
BMW	X4	111	5	2018
BMW	X5	38	5	2018
Citroen	Berlingo	113	3	2014
Citroen	Berlingo	7	4	2018
Citroen	C1	4174	3	2012
Citroen	C3	4520	4	2017
Citroen	C3 Aircross	2206	5	2017
Citroen	C4 CACTUS	1806	4	2014
Total		471806		

In a few cases, the list with Euro NCAP star ratings contains two ratings for the same model. An example is the Kia Niro for which ratings are available for 2016 and 2022. The following example shows how to deal with this: for cars with year of construction 2021, the rating of 2016 should be used; for cars with year of construction 2022, the rating of 2022 should be used.

Two specific types of passenger cars are excluded from the indicator and thus from the calculation of the KPI, as they cannot be linked to a Euro NCAP rating and their exposure on the road is small: (1) cars adapted for drivers with disabilities; and (2) passenger cars derived from commercial vehicles/vans registered as passenger car (e.g. Mercedes-Benz Vito equipped with passenger seats and registered as passenger car). This means they are excluded from the indicator as a whole, so both in the numerator and the denominator in the calculation.

Regarding cars adapted for drivers with disabilities, there could be two kinds in the national data on new registered passenger cars. Firstly, cars based on existing car models that get a new make and model name, such as Tripod Berlingo or Allied Vehicles. Secondly, there are also cars that have the original make and model in the data but can be distinguished by a different approval number. In this case, some countries might not have (type) approval numbers or all info in their data to distinguish these cars. Both kinds of cars adapted for drivers with disabilities should be excluded from the indicator. If countries do

not have (type) approval numbers in their national data or cannot make a distinction based on (type) approval number, it is accepted that they include this type of cars adapted for drivers with disabilities in the indicator. This should be mentioned in the metadata. Cars modified for drivers with disabilities cannot be linked to a Euro NCAP rating as the vehicle has been changed to such an extent that the Euro NCAP assessment no longer applies. For instance, vehicles adapted for drivers with disabilities must also be re-approved and receive a new and different approval number than the original car model.

Passenger cars derived from commercial vehicles/vans registered as passenger car such as Ford Transit, Mercedes Sprinter or Mercedes-Benz Vito also do not have a Euro NCAP rating. Vans are tested by Euro NCAP, but not given a Euro NCAP star rating like passenger cars. As the exposure on the road of this type of cars is small, they should also be excluded from the indicator.

In the final step one needs to calculate the total number of all new passenger cars that meet the threshold (i.e. 4+5 or 5) and divide this number by the total number of new passenger cars registered.

The data file in which the data has to be reported foresees two versions of the KPIs. The first version ignores the vehicles for which no Euro NCAP star rating is available. If for, e.g. 50 of 1000 new vehicles registered, no Euro NCAP star rating is available, the KPI is calculated for 950 vehicles. In the second version, the vehicles for which no Euro NCAP star rating is available are included in the calculation (which is equivalent to have them a star rating lower than 4). By definition, this second version of the KPI will have a slightly lower value than the second one. Countries are required to calculate both versions.

The KPI should be calculated for the year 2022. Countries can also calculate and deliver the KPI for the year 2023 if they wish to do so.

For tax reasons some car manufacturers register cars in one country and export these immediately to another country of the European Union as used models with 0 km. This affects the validity of the KPI and the comparability between countries. Requiring a minimum age cut-off or that the car has to stay in the country for a certain amount of time (e.g. 3 months) could be a part of the solution to this. However, since access to such information is difficult in most countries, it was decided not to apply such a minimum age cut-off or requirement. Moreover, cars imported to the country with 0 kms should then also be included in the calculation, which is also information that is possibly not easy to access. But in case this kind of information would be easily accessible within a country, it is recommended to calculate the KPI a second time (next to the standard KPI) taking into account new cars exported and imported with mileage 0 km. In this case, the datafile for the KPI can be filled in twice.

2.2. Second indicator: percentage of passenger cars with age 0-5 years meeting or exceeding the threshold

The calculation of the second indicator 'percentage of passenger cars with age 0-5 years meeting or exceeding the threshold' follows the exact same procedure as described in the paragraph above (2.1), except that the indicator is calculated for all registered passenger cars with age 0-5 years on 31/12/2022.

For the calculation of this indicator, a list is needed of the number of passenger cars registered on the date 31/12/2022 with age 0-5 years by make and model. Again, this list ideally also contains (type) approval number and year of construction of the car model for accurate linking with the list of Euro NCAP

ratings. If the year of construction is not available, the year of first registration (the year in which the vehicle was first registered in any country) can also be used as a proxy for the year of construction for the linking.

It should be noted that it is the objective to have a list of the number of registered passenger cars by make and model with age 0-5 years on 31/12/2022. This is not exactly the same as the list of newly registered passenger cars by make and model that were registered in the past 5 years (2018-2022), since such a list also includes cars that are no longer registered in the country. So, it is important that the list contains only cars that are still registered on 31/12/2022, including imported cars from abroad with age 0-5 years.

If countries have a list of the number of passenger cars registered with age 0-5 years by make and model that is not on the date of 31/12/2022 but another date in 2022, this is also accepted. This information should be mentioned in the metadata.

If countries wish to do so, they can also calculate and provide this indicator for 2023. In order to do this, a list is needed of all registered passenger cars with age 0-5 years on 31/12/2023 (or another date in 2023 if not possible).

2.3. Coverage

For the standard KPI covering all newly registered passenger cars in 2022, the indicator should cover all newly registered passenger cars in 2022 in a country. For the second indicator covering passenger cars with age 0-5 years, the indicator should cover all passenger cars with age 0-5 years on 31/12/2022 in a country. Deviations from this should be mentioned in detail in the metadata. Optionally, countries can calculate and provide for the two indicators also the indicator of the year 2023.

3. Sources of data

3.1. Data on the number of (new) passenger cars registered by make and model

The national data on the number of passenger cars registered by make, model and year of first registration (new in 2022 or with age 0-5y) needs to be obtained from national sources, typically the public authority or agency that registers new cars. These figures may also be obtained from other sources such as car related national associations and federations. From certain sources this data is not free of charge and needs to be purchased. International commercial sources that can be consulted for obtaining such car sales data are JATO (www.jato.com) and Carsalesbase (carsalesbase.com).

There could be small discrepancies between the figures of different sources, depending on the classification and counting method used.

3.2. Vehicle safety data for standard KPI and second indicator

A database (in Excel format) with Euro NCAP ratings has been developed and is available to the Trendline project partners. It includes, for every passenger car model the following data:

- Make
- Model
- Make + model
- Type Approval Number
- Year of test: year in which the technical safety assessment has been conducted
- Start of production: year in which the production of the model started (which could be different from year of test)
- Euro NCAP car category
- Star rating
- Passive Score %
- Active Score %

The database only includes variables for car models that have been tested since 2016, since Euro NCAP ratings have only a validity of six years starting from the year after the test.

The provided list of Euro NCAP ratings contains for each tested car model the star rating. On the website of Euro NCAP, for each rating it is shown whether the rating is valid for all versions of the car model (under "Rating Validity"). Most of the time, the rating applies to all variants, however sometimes there is a variant where this is not the case. The Euro NCAP website also sometimes makes a distinction between the rating for a car model with the standard safety and the car model with extra safety pack. The provided list of Euro NCAP ratings contains the ratings for the car model with the standard safety. Our general guideline is that all countries use the one rating per car model that is on the provided list of Euro NCAP ratings. So, countries should not take into account that some star ratings are not valid for all car model

variants. Taking this into account would make the calculation too complex, and not all countries have access to such detailed national data. As it is also not common that Euro NCAP ratings do not apply to all variants, we are convinced this does not have a large impact on the KPI.

The provided list of Euro NCAP ratings has a small limitation: not for all car models who were tested two times between 2016 and 2022, the list contains the oldest rating of the two. As it concerns a low percentage of the car models (less than 1 or 2% on the total number of tested car models), we believe the effect on the estimation of the KPI is small.

4. Data to be provided

For the two indicators Trendline project participants will be provided with a data file template in Excel in which the data and the metadata can be entered.

4.1. Minimum requirements for the standard indicator

- Number of new registered passenger cars (once ignoring the cars for which no star rating is available and once including cars for which no star rating is available):
 - Total number of new passenger cars
 - Number of 0-3-star passenger cars
 - Number of 4-star passenger cars
 - Number of 5-star passenger cars
 - Number of passenger cars that could not be linked to a Euro NCAP rating
- KPI percentages for 2022:
 - using a threshold of 4 stars (ignoring the cars for which no star rating is available)
 - using a threshold of 5 stars (ignoring the cars for which no star rating is available)
 - using a threshold of 4 stars (including the cars for which no star rating is available)
 - using a threshold of 5 stars (including the cars for which no star rating is available)
- Metadata:
 - source(s) of the national database with the number of new passenger cars registered in 2022 by make and model
 - whether the database covers the whole country
 - which cars and/or which types of cars are missing in the national data (because the database on newly registered passenger cars is incomplete) + estimated percentage on the total number of newly registered passenger cars in 2022 in the country (in the case that the data does not cover 100% of newly registered passenger cars in the country)
 - which cars and/or which types of cars in the national data could not be linked to a Euro NCAP rating + percentage on the total number of newly registered passenger cars in 2022 in the country
 - detailed description on linking method between national data of number of new passenger cars by make and model and the list of Euro NCAP ratings (by type approval number + year of construction, by make and model + year of construction or by make and model + year of registration or a combination)
 - comment on whether and how cars adapted for drivers with disabilities were excluded from the indicator
 - issues encountered during the linking process
 - the percentage of new passenger cars in 2022 in relation to the entire vehicle fleet (all types of vehicles, also trucks) in 2022
 - the percentage of new passenger cars in 2022 in relation to the entire vehicle fleet of passenger cars in 2022.

If countries calculate the standard indicator also for the year 2023, they should provide all of the above data for the indicator of 2023 as well in a separate document or tab.

4.2. Minimum requirements for the second indicator (cars with age 0-5 years old)

- Number of passenger cars with age 0-5 years old (once ignoring the cars for which no star rating is available and once including cars for which no star rating is available):
 - Total number of passenger cars
 - Number of 0-3-star passenger cars
 - Number of 4-star passenger cars
 - Number of 5-star passenger cars
 - Number of passenger cars that could not be linked to a Euro NCAP rating
- KPI percentages:
 - using a threshold of 4 stars (ignoring the cars for which no star rating is available)
 - using a threshold of 5 stars (ignoring the cars for which no star rating is available)
 - using a threshold of 4 stars (including the cars for which no star rating is available)
 - using a threshold of 5 stars (including the cars for which no star rating is available)
- Metadata:
 - source(s) of the national database with the number of registered passenger cars with age 0-5y by make and model
 - whether the database covers the whole country
 - date of the national database containing all passenger cars with age 0-5y registered (this is ideally 31/12/2022, but other dates in 2022 are also accepted)
 - which cars and/or which types of cars are missing in the national data (because the database on registered passenger cars with age 0-5y is incomplete) + estimated percentage on the total number of registered passenger cars with age 0-5y in the country (in the case that the data does not cover 100% of registered passenger cars with age 0-5y in the country)
 - which cars and/or which types of cars in the national data could not be linked to a Euro NCAP rating + percentage on the total number of registered passenger cars with age 0-5y in the country
 - detailed description on linking method between national data of number of passenger cars with age 0-5y by make and model and the list of Euro NCAP ratings (by type approval number + year of construction, by make and model + year of construction or by make and model + year of registration or a combination)
 - comment on whether and how cars adapted for drivers with disabilities were excluded from the indicator
 - issues encountered during the linking process
 - other issues encountered while accessing data or calculating the KPI
 - the percentage of passenger cars with age 0-5y in relation to the entire vehicle fleet (all types of vehicles) in 2022
 - the percentage of passenger cars with age 0-5y in relation to the entire vehicle fleet of passenger cars in 2022.

If countries calculate the second indicator also for the year 2023, they should provide all of the above data for the indicator of 2023 as well in a separate document or tab.

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