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Promoting  
Safer Cars  
IN THE UN DECADE  
OF ACTION

Research Project:

Safer cars for India *by*

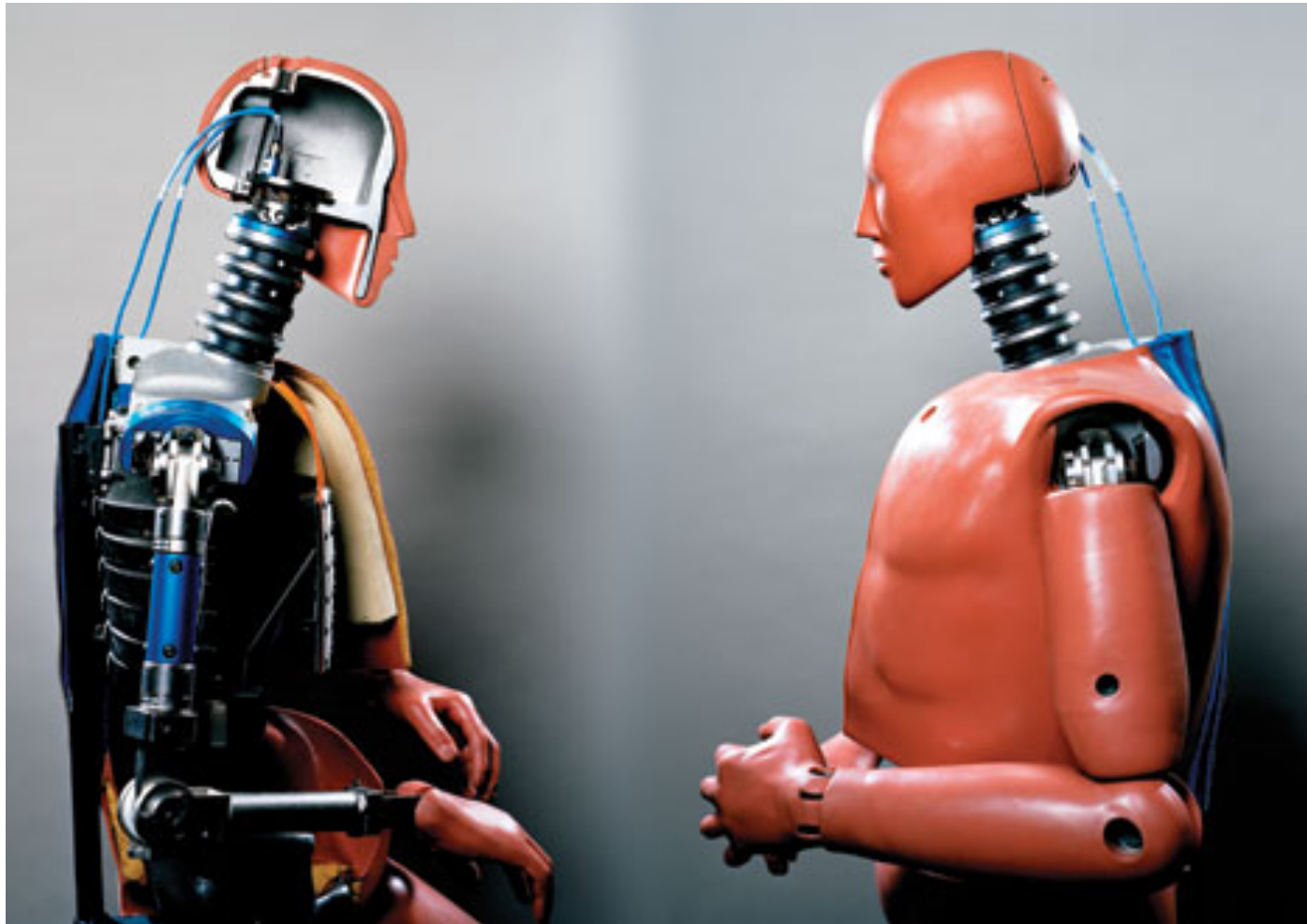


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*Alejandro Furas  
Delhi, India, January 31<sup>st</sup>, 2014*



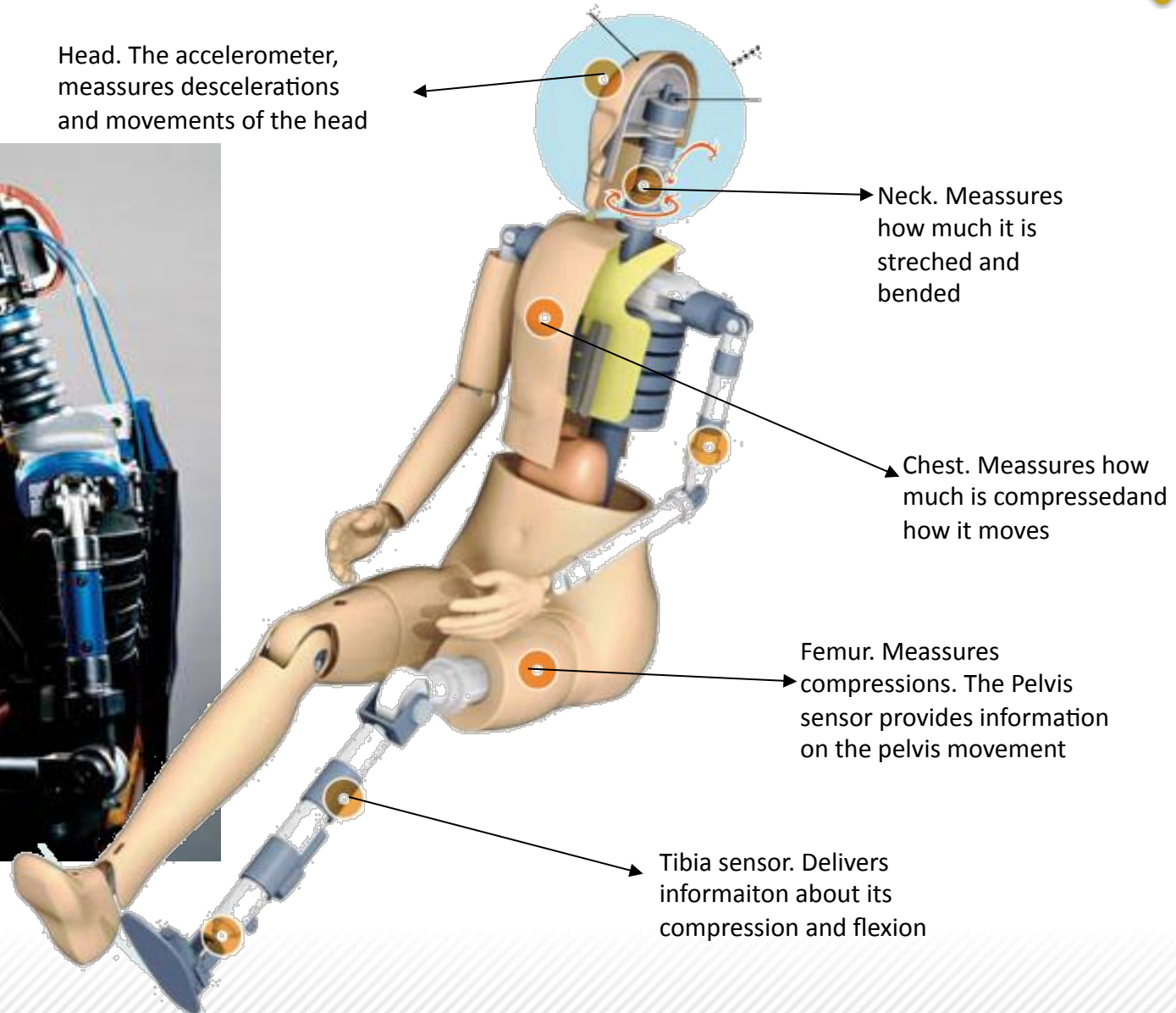
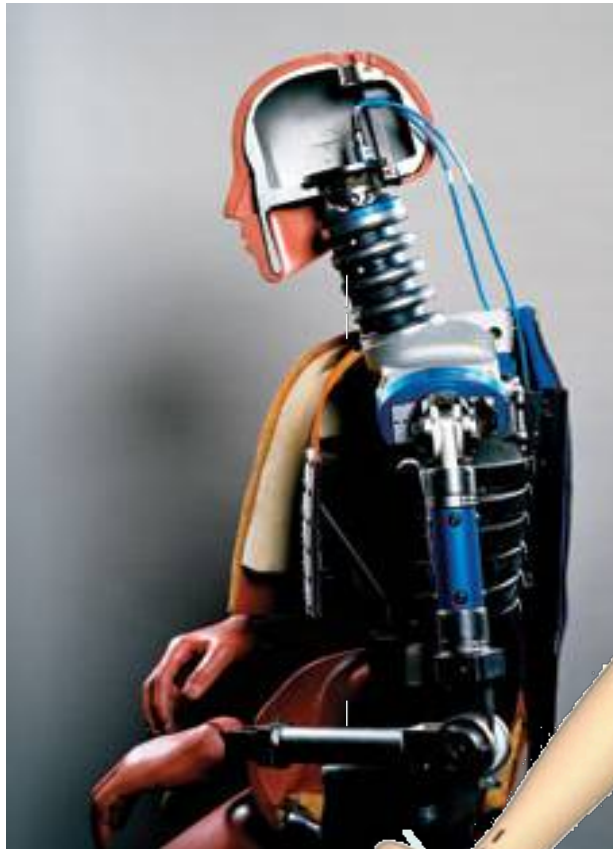
## How is car safety assessed?





# How is car safety assessed?

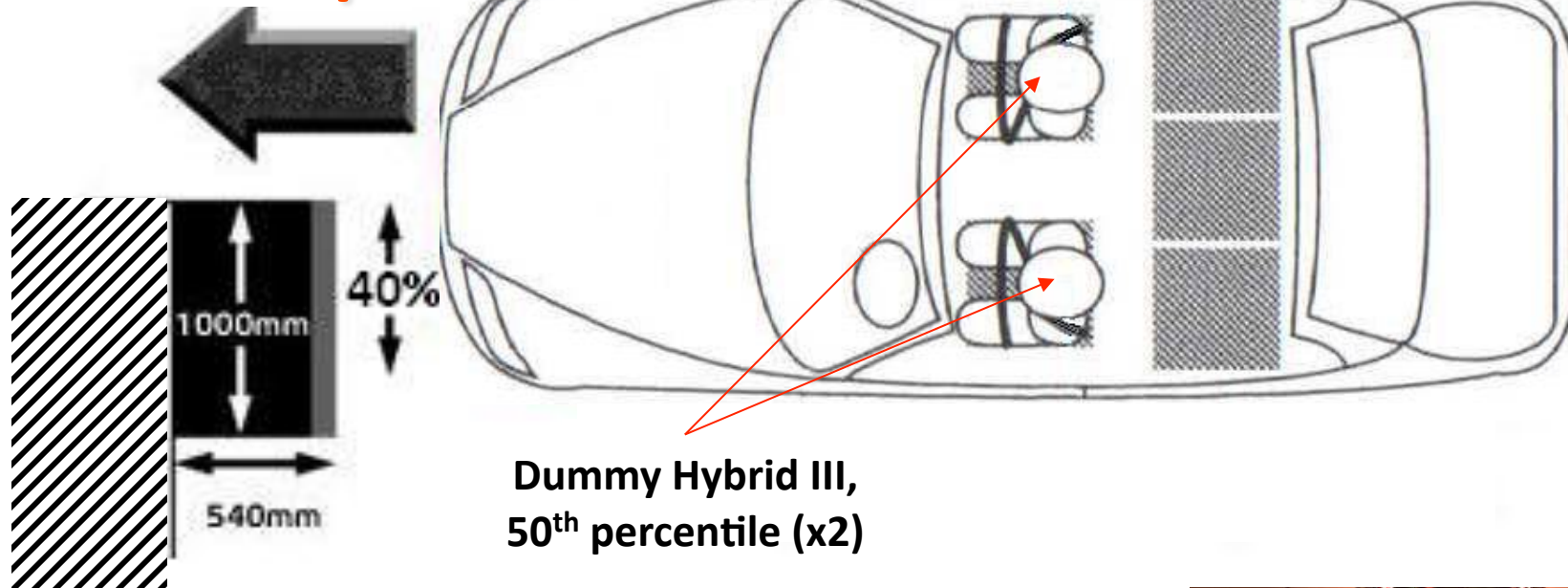
Head. The accelerometer, measures decelerations and movements of the head





## Crash Test: Frontal 40% offset against a deformable barrier

56 km/h



UN-R94

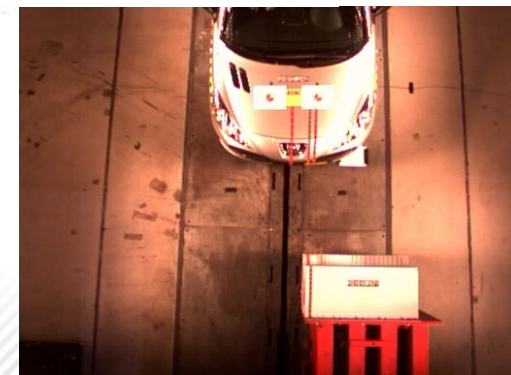
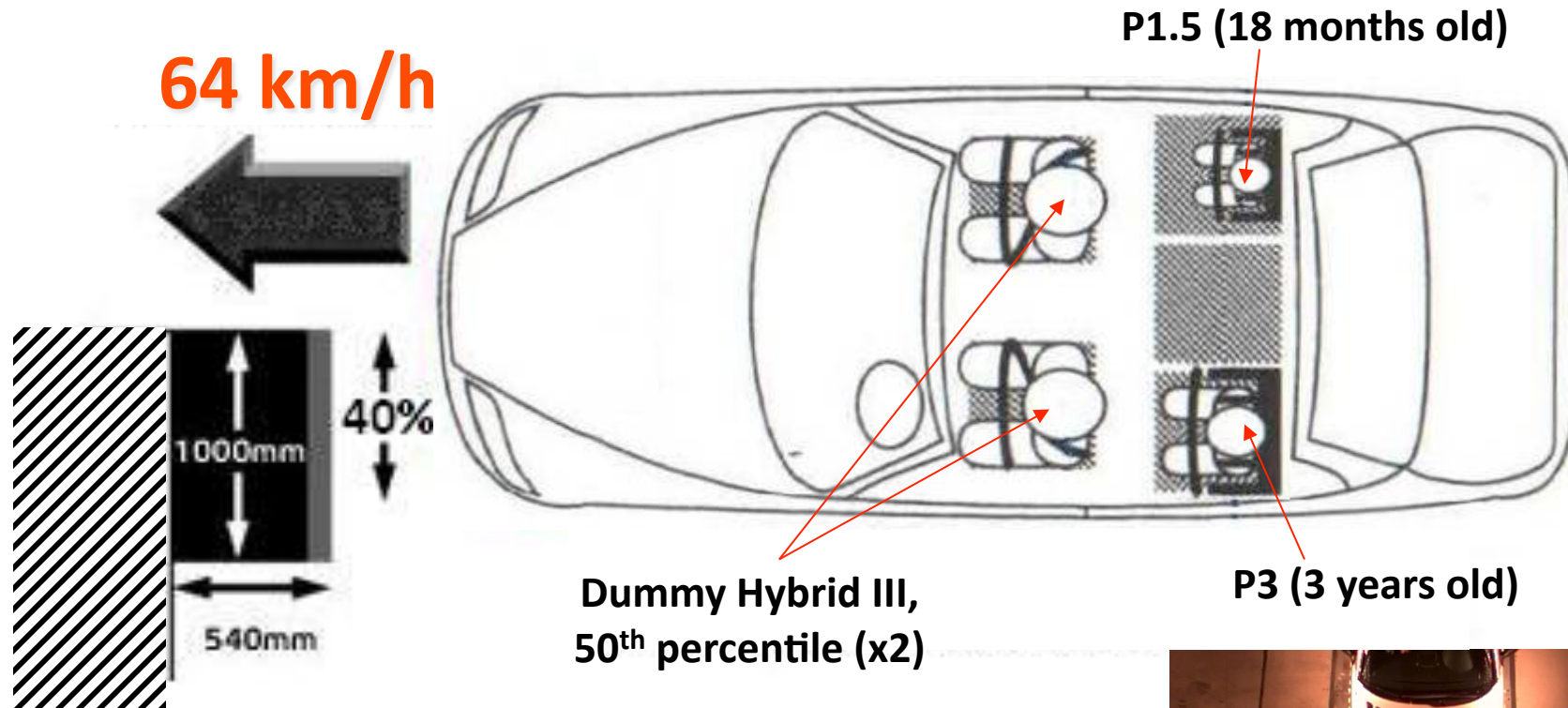




# How is the test performed for NCAPs?







## Crash Test: Frontal 40% offset against a deformable barrier





## Research Project: Safer cars for India highlights

-  The most basic safety equipped version available in the market was selected for testing.
-  The same model, same equipment, was tested according to: United Nations Regulation 94 and to Latin NCAP 2013 assessment protocols.
-  5 popular and important models were selected for testing
-  1 of the selected manufacturers changed production of its car and sponsored an extra test to show its improvements.



# Rating methodology





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# Car Brand and model



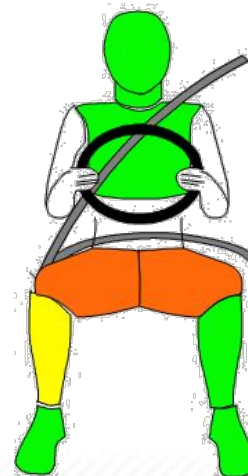
2.28 max. 17.00 - Adult occupant



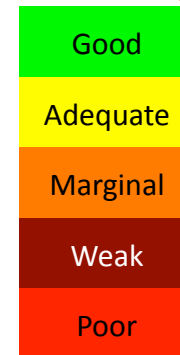
33.58 max. 49.00 - Child occupant



Front passenger



Driver





# Results



2.28 max. 17.00 - Adult occupant

Star rate: MAX 5 STARS

POINTS



33.58 max. 49.00 - Child occupant





# RESULTS codes in dummies



Green	Good
Yellow	Adequate
Orange	Marginal
Brown	Weak
Red	Poor



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# Tested Models

# Models tested for this Research Project: Safer cars for India



## Test Sponsored by manufacturer



**VW Decided to stop producing the  
Polo without airbags and offer it with  
double airbags as basic equipment**



# Summary of tested models

Mfr and model	Body type	Doors	AIRBAGS
Tata Nano	Hatchback	5	<b>NO</b>
Maruti Suzuki Alto 800	Hatchback	5	<b>NO</b>
Hyundai i10	Hatchback	5	<b>NO</b>
Ford Figo	Hatchback	5	<b>NO</b>
VW Polo	Hatchback	5	<b>NO</b>
VW Polo	Hatchback	5	<b>YES</b>



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# Results

## UN-R94







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# SAFER CARS FOR INDIA *by*



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## UN-R94 RESULTS



 Volkswagen POLO	✗	NOT PASS
 Maruti Suzuki ALTO 800	✗	NOT PASS
 Ford FIGO	✗	PASS
 Hyundai i10	✗	NOT PASS
 Tata NANO	✗	NOT PASS
 Volkswagen POLO	✓ 2	PASS <input type="text"/>



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# Results

## NCAP



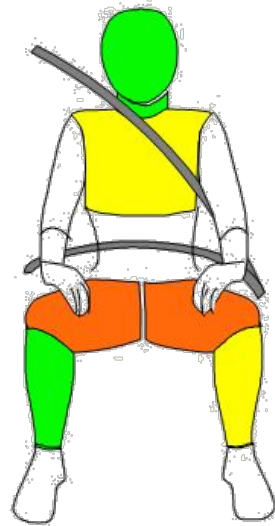
# VW Polo + 2 Airbags



**12.54** max. 17.00 - **Adult**



**29.91** max. 49.00 - **Child**



Front passenger



Driver

Good
Adequate
Marginal
Weak
Poor



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**VOLKSWAGEN POLO - 2 AIRBAGS**

December | 2013



12.54 max. 17.00 - Adult



29.91 max. 49.00 Child

**64**  
km/h

Valid for: Indian Market  
Car made in India



# VW Polo - NO Airbags



0.00 max. 17.00 - Adult



26.97 max. 49.00 - Child



Front passenger



Driver

Good
Adequate
Marginal
Weak
Poor



GLOBAL NCAP

**VOLKSWAGEN POLO - NO AIRBAGS**

August | 2013



**0.00** max. 17.00 - Adult



**26.97** max. 49.00 - Child

**64**  
km/h

Valid for: Indian Market  
Car made in India



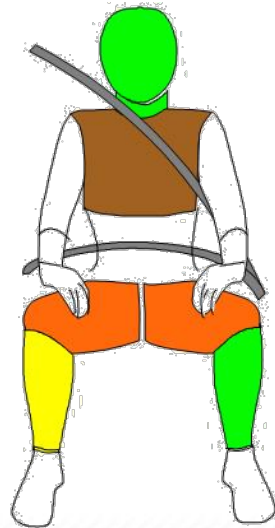
# Ford Figo - NO Airbags



0.00 max. 17.00 - Adult



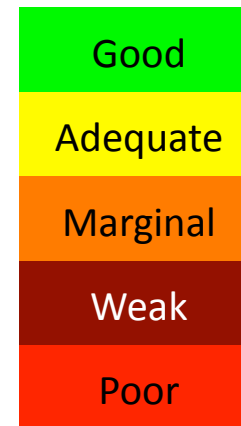
20.75 max. 49.00 - Child



Front passenger



Driver





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**FORD FIGO HATCHBACK - NO AIRBAGS**

September | 2013



0.00 max. 17.00 - Adult



20.75 max. 49.00 - Child

**64**  
km/h

Valid for: Indian Market  
Car made in India





# Hyundai i10 - NO Airbags



0.00 max. 17.00 - Adult



10.97 max. 49.00 - Child



Front passenger



Driver

Good
Adequate
Marginal
Weak
Poor



# Maruti Suzuki Alto 800 - NO Airbags



0.00 max. 17.00 - Adult



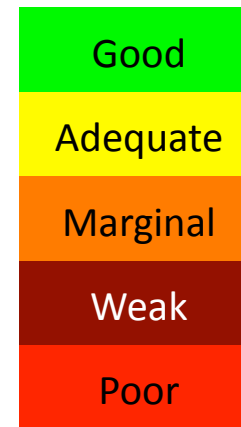
17.57 max. 49.00 - Child



Front passenger



Driver





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**MARUTI SUZUKI ALTO 800 - NO AIRBAGS**

August | 2013



0.00 max. 17.00 - Adult



17.57 max. 49.00 - Child

**64**  
km/h

Valid for: Indian Market  
Car made in India



# TATA Nano - **NO** Airbags



**0.00** max. 17.00 - Adult



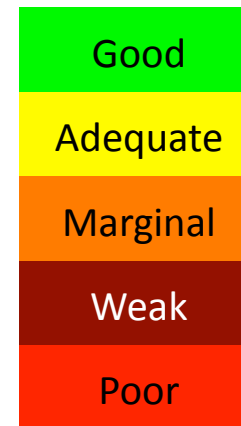
**0.00** max. 49.00 - Child



Front passenger



Driver





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TATA NANO - NO AIRBAGS

December | 2013



0.00 max. 17.00 - Adult



0.00 max. 49.00 Child

64  
km/h

Valid for: Indian Market  
Car made in India





# Research Project: Safer cars for India

## Summary of NCAP results

**RESULTS**  
2013

Volkswagen POLO	✓ 2	★★★★★	★★★★★
Volkswagen POLO	✗	☆☆☆☆☆	★★★★★
Maruti Suzuki ALTO 800	✗	☆☆☆☆☆	★★★★★
Ford FIGO	✗	☆☆☆☆☆	★★★★★
Hyundai i10	✗	☆☆☆☆☆	★★☆☆☆
Tata NANO	✗	☆☆☆☆☆	☆☆☆☆☆





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# Conclusions





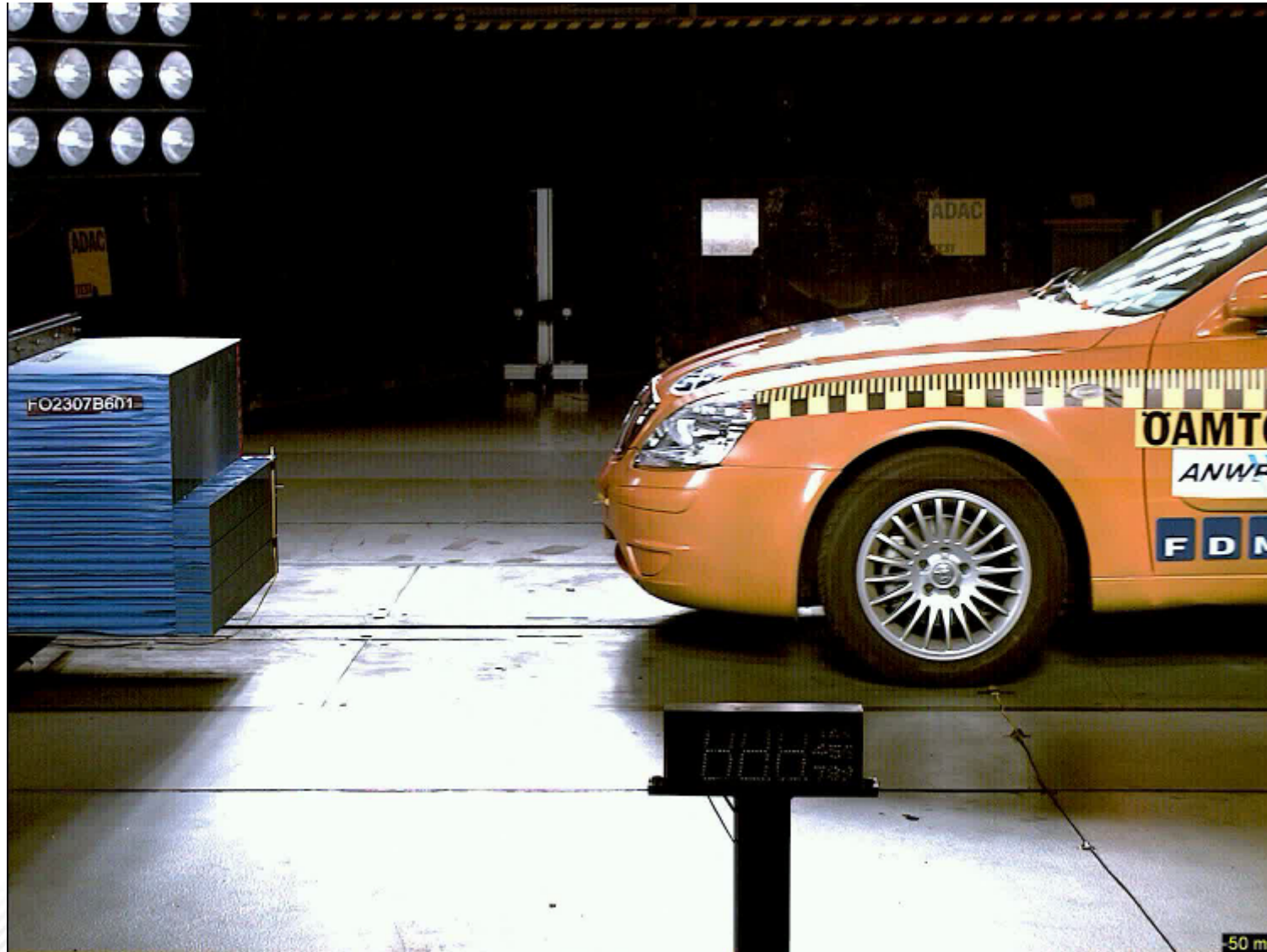
## Conclusions: Adult Occupant protection

-  Bodyshell integrity is critical for the protection of occupants even in cars fitted with airbags. Three of the five cars selected by Global NCAP for the Research project showed unstable body shells in the NCAP crash test.
-  The absence of airbags showed high risk of life threatening injuries for the passengers in a crash.
-  The tested cars showed low scores in the leg areas of the adult occupants.



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Bodyshell integrity is critical for the protection of occupants even in cars fitted with airbags.





GLOBAL NCAP  
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Bodyshell integrity is critical for the protection of occupants even in cars fitted with airbags.



TATA Nano



Maruti Suzuki Alto 800



# Indian cars reach 4 stars in Latin America (Suzuki Celerio)






	Adult			Niño	
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Bodyshell integrity is critical for the protection of Occupants even in cars fitted with airbags.



## Conclusions: Adult Occupant protection

-  Bodyshell integrity is critical for the protection of occupants even in cars fitted with airbags. Three of the five cars selected by Global NCAP for the Research project showed unstable body shells in the NCAP crash test.
-  The absence of airbags showed high risk of life threatening injuries for the passengers in a crash.
-  The tested cars showed low scores in the leg areas of the adult occupants.

Cars equipped with airbags, showed much better adult passenger protection than the SAME car without airbags.



**NO AIRBAG**

**+ AIRBAG**



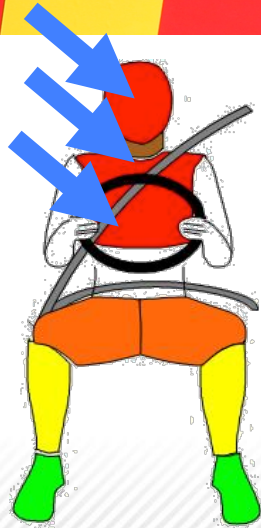
**Cars with airbags = better adult occupant protection than same cars without airbags with stable structure.**



## NO AIRBAG



## WITH AIRBAG






Good
Adequate
Marginal
Weak
Poor









## Conclusions: Adult Occupant protection

-  Bodyshell integrity is critical for the protection of occupants even in cars fitted with airbags. Three of the five cars selected by Global NCAP for the Research project showed unstable body shells in the NCAP crash test.
-  The absence of airbags showed high risk of life threatening injuries for the passengers in a crash.
-  The tested cars showed low scores in the leg areas of the adult occupants.

## Conclusions: Child Occupant protection

-  Protection of child occupants is low because of the marginal to poor protection offered by the CRS, the incompatibility car-CRS and the poor CRS *installation* instructions.
-  Acceptable child protection performance was also found in cars with weak structures and less developed restraint systems. Body shell deformation in the front reduces energy transfer to the rear seat passengers.



## General Conclusions - Recommendations

- ✈ Global NCAP recommends to implement Regulation UN R-94 (technical standard) mandatory for all cars.  
**Only airbag requirement is not enough.**
- ✈ Global NCAP recommends all governments to make CRS use and technical standard approval for CRS mandatory.
- ✈ Global NCAP promotes the use of CRS in cars and strongly recommends closer cooperation between car manufacturers and CRS manufacturers.
- ✈ Global NCAP recommends Automobile clubs, Consumer organizations, car and CRS manufacturers as well as governments to work on better adult and child occupant protection in road vehicles.



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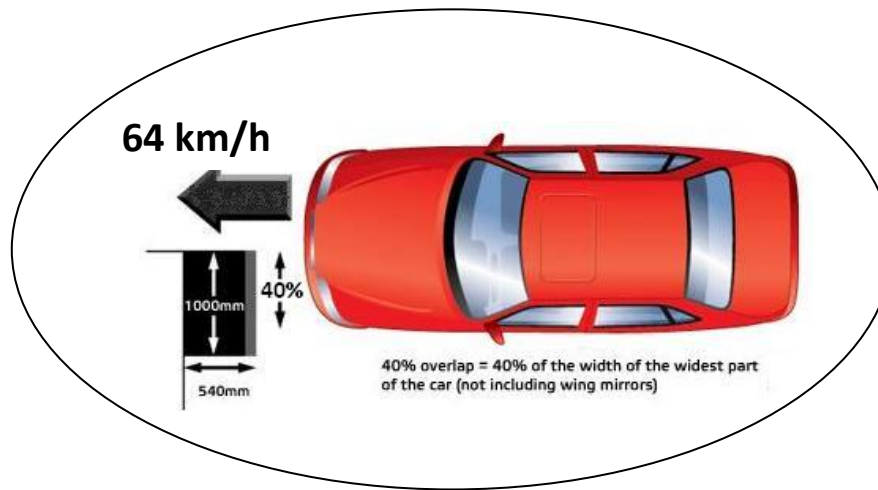
Thank you very much  
for your attention.

[www.globalncap.org](http://www.globalncap.org)

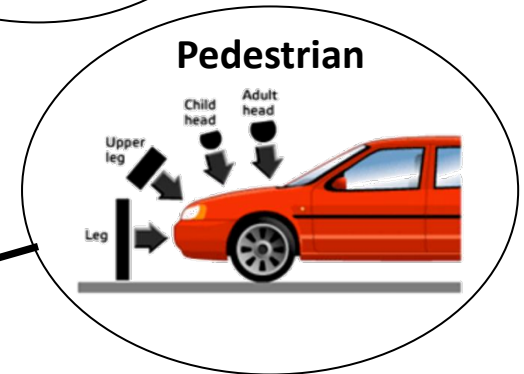
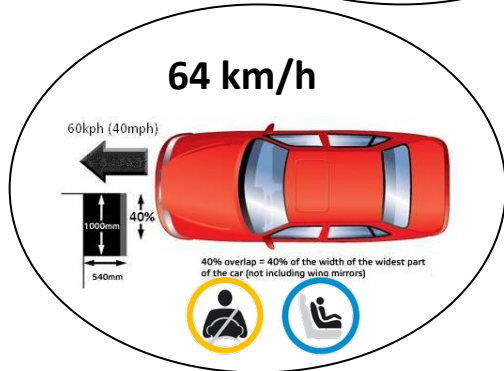
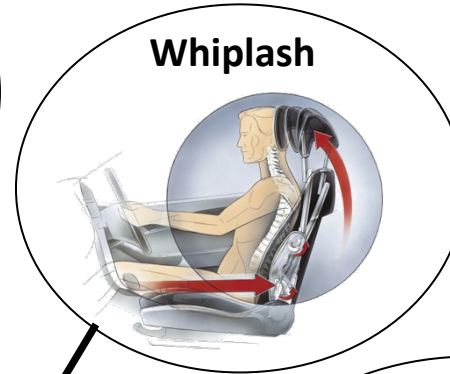
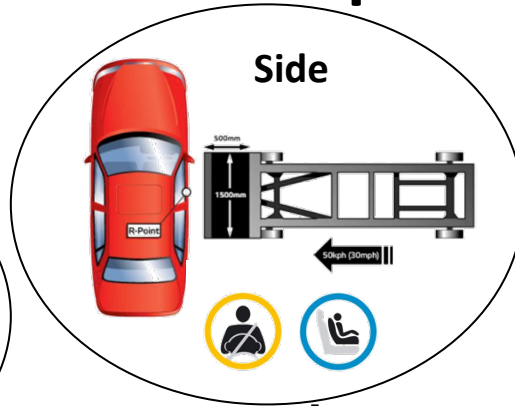
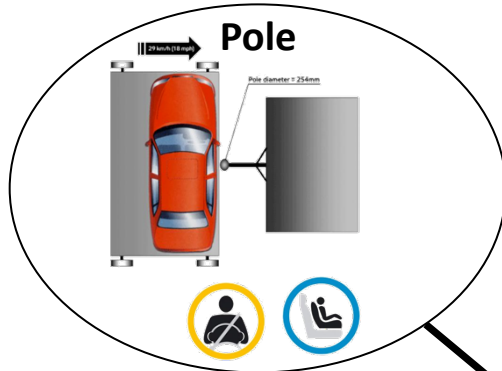




# Score Comparison



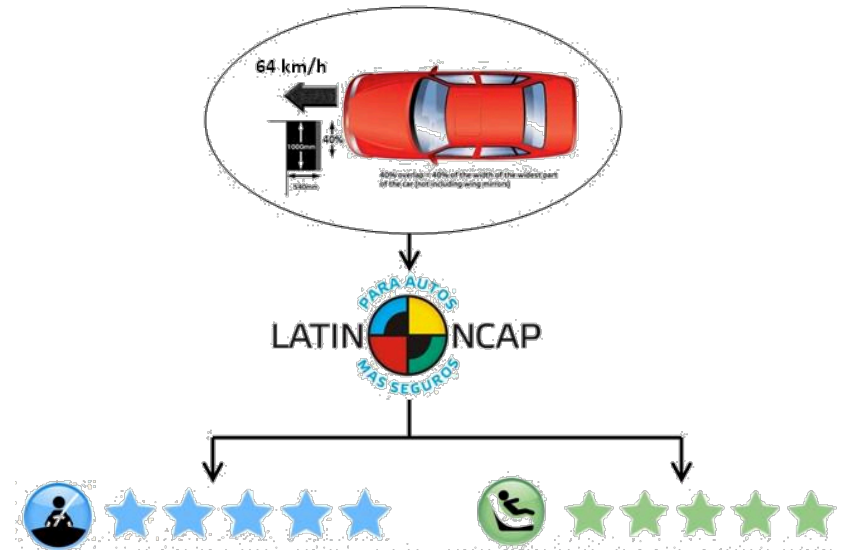
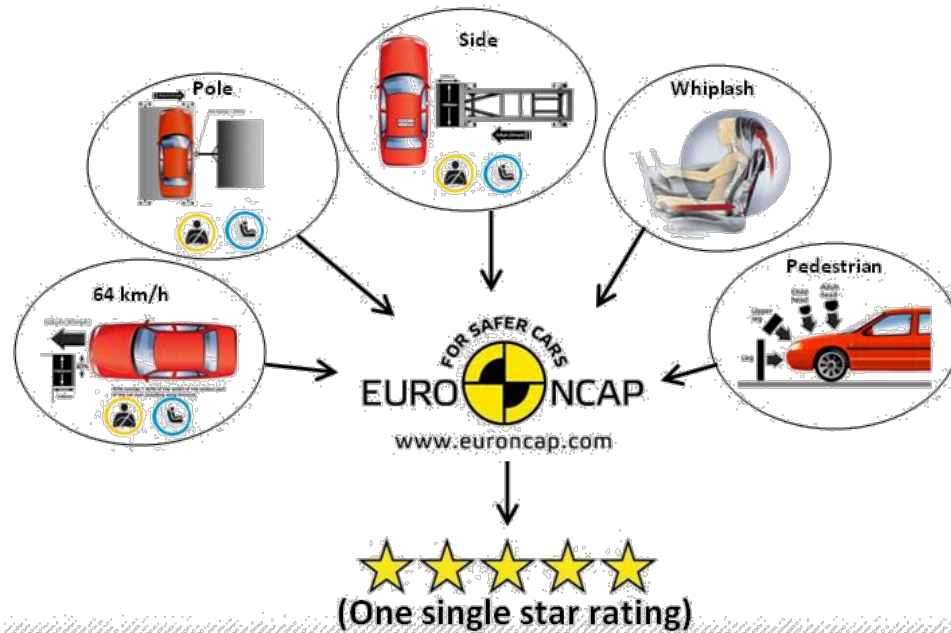
# Score Comparison



FOR SAFER CARS  
**EURO NCAP**  
www.euroncap.com

★ ★ ★ ★ ★  
**(One single star rating)**

# Score Comparison



**To compare, use ONLY the score of the frontal crash of both programs**



# *Cómo podemos empezar a efectivamente mejorar la seguridad de los automóviles?*



**Gobiernos exigiendo:  
Regulaciones de  
NACIONES UNIDAS (UN)**



**Sociedad**

