High precision Headlamp Digital Aiming

Ludovic Toulisse DVN WORKSHOP USA 21-22 SEPTEMBER 2021

What is Digital Aiming?

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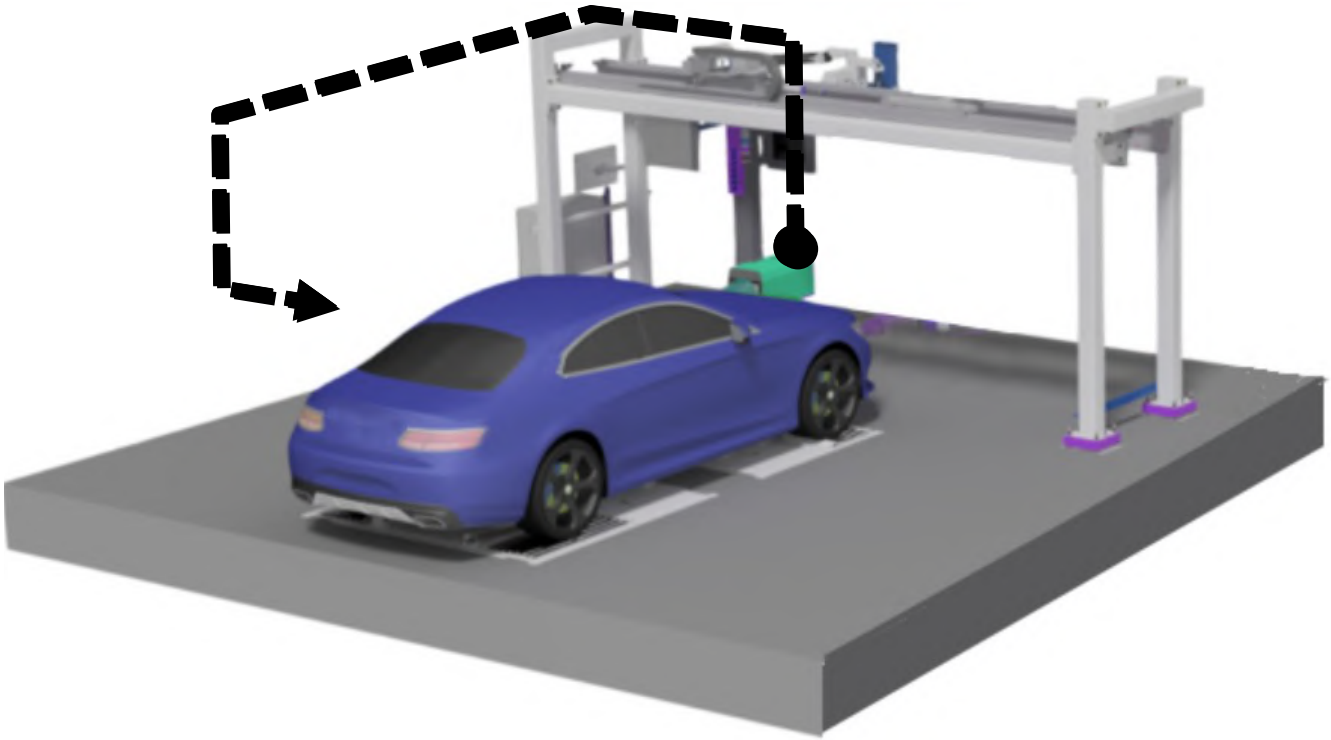
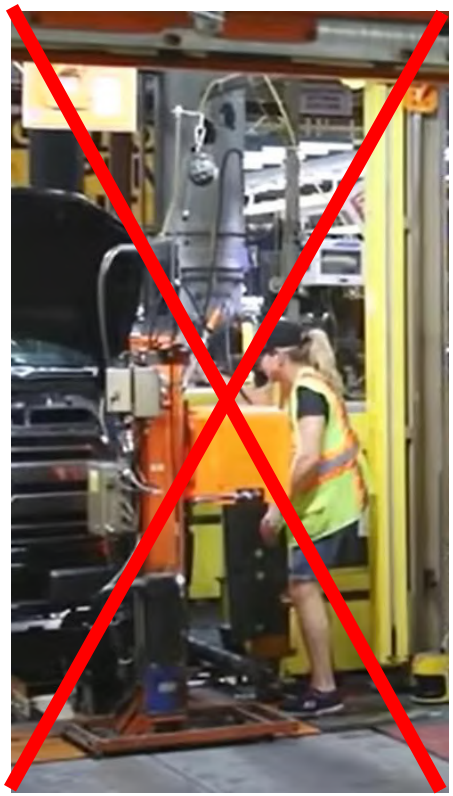
How to digitalize the aiming : Car assy line





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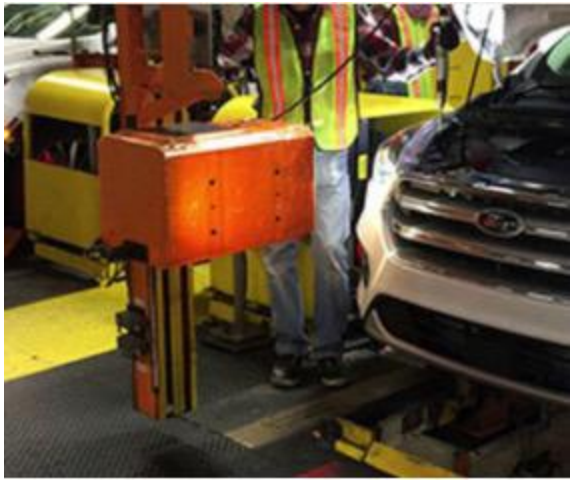
Human factor on aiming precision



- Screwing machine inertia
- Manual start / stop
- Torque variations

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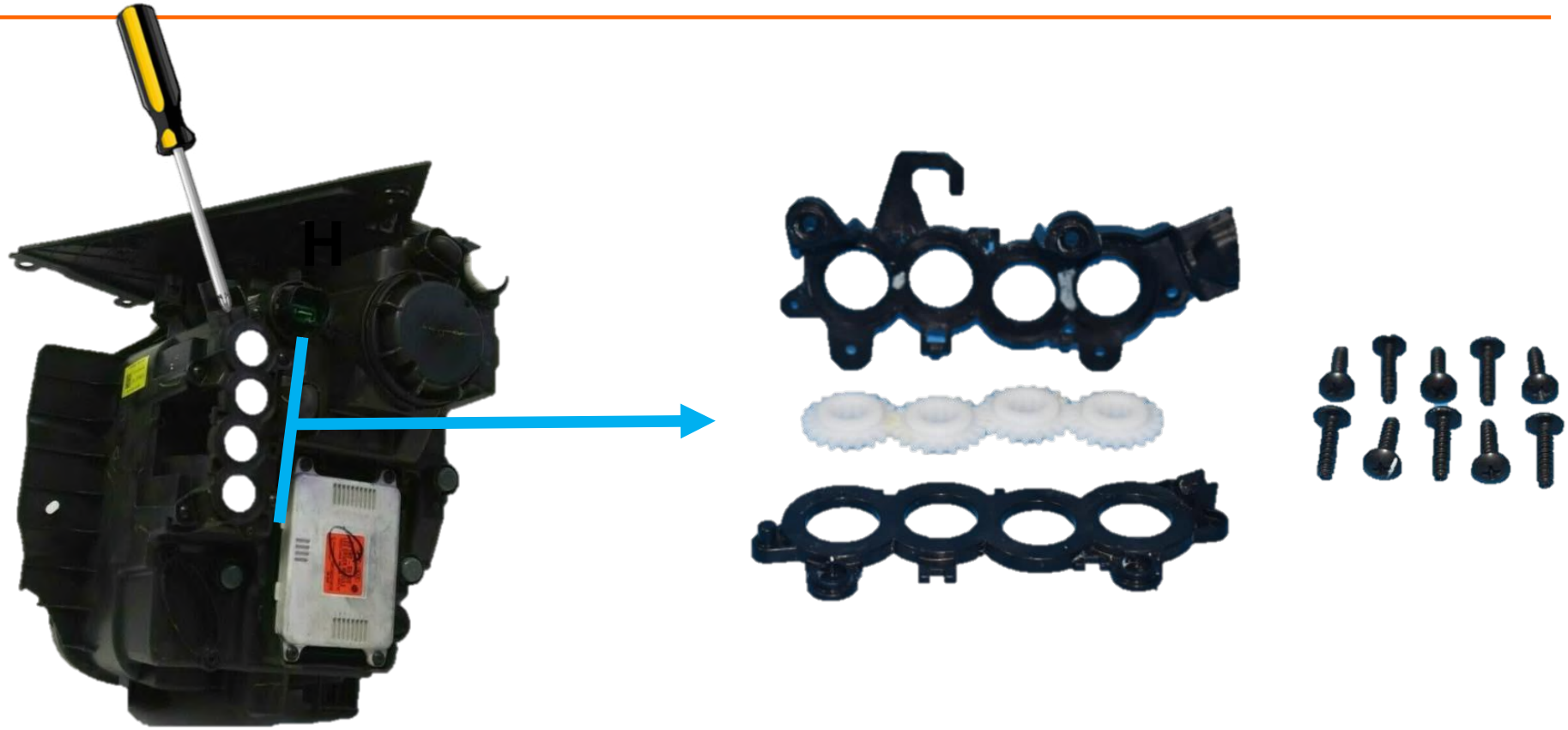
Aiming components : factors of aiming degradation

- Gears Brackets Bars Sliders Cables Seals and Screws

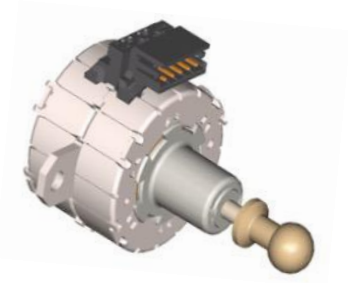
One example of aiming complexity



6 plastic components and 10 screws

Solutions for Digital Aiming for SAE headlamps

- Simplified stepper « aimer »
  - Dynamic leveler optimized for aiming
  - Fast and precize
  - Variable speed / Microstep driving
  - Typical angular precision +/-0.07%



- DC « Aimer »
  - Basic analogic driving
  - Constant speed

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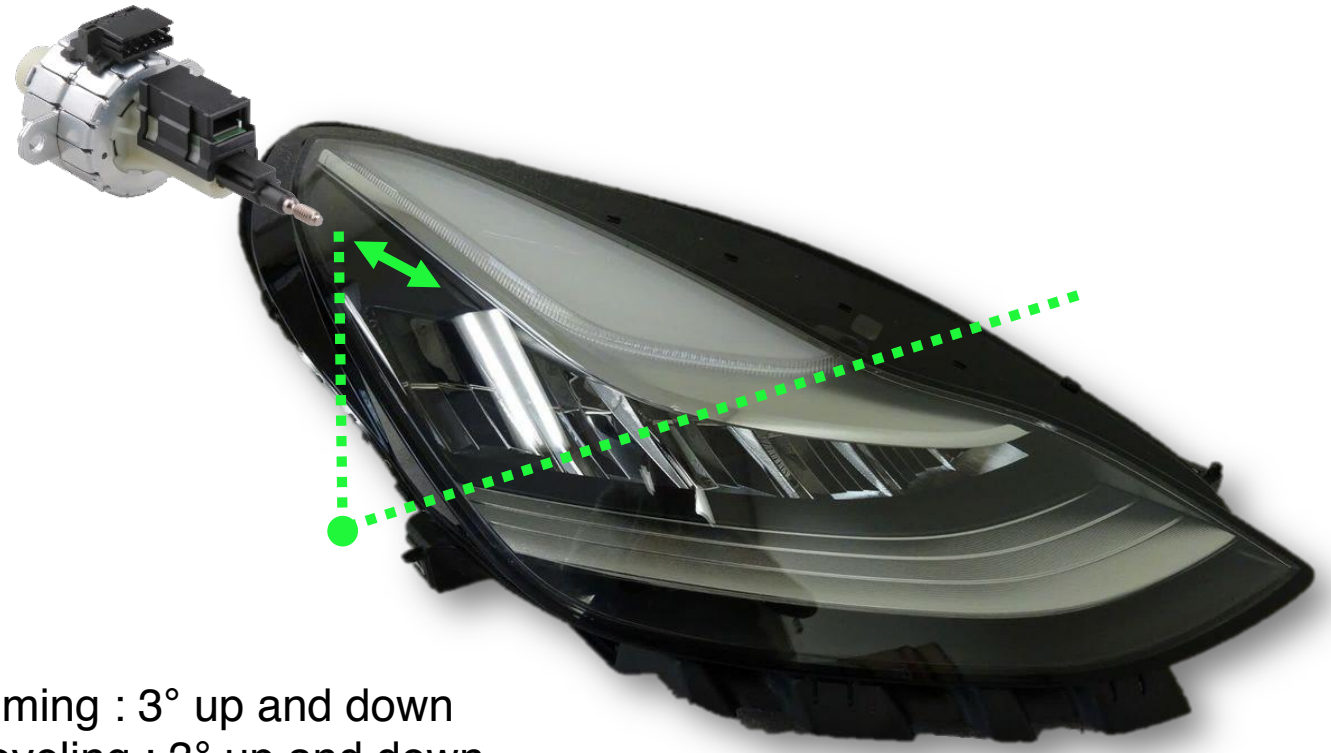
Solutions for ADB headlamps :
Vertical aiming + dynamic leveling



Aiming : 3° up and down
Leveling : 3° up and down

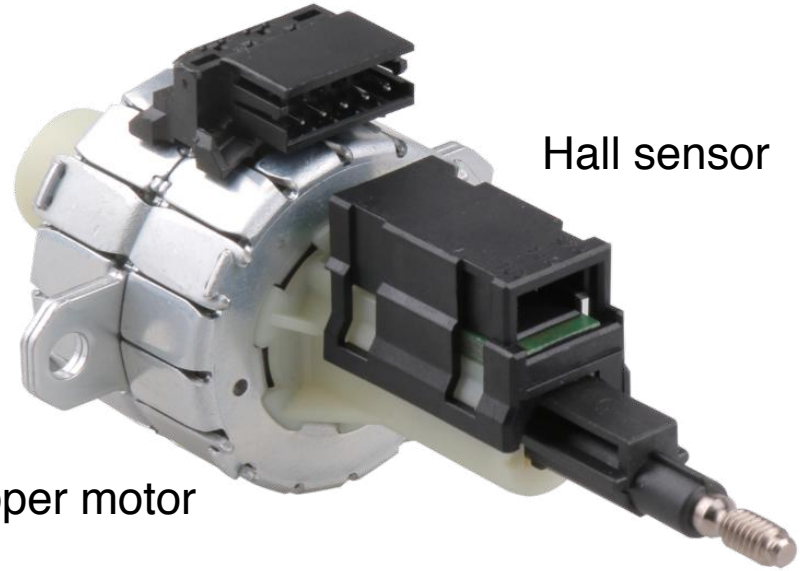
Thin

Vertical

Reference run of the stepper motor

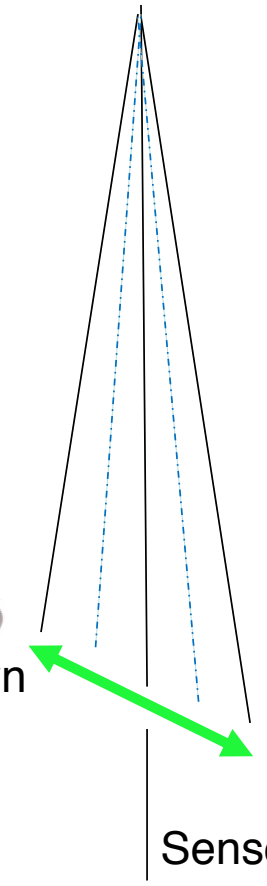
- Long stroke Vertical Leveling + Aiming : Long Motor reference run

Reference run Noise cancelling motor



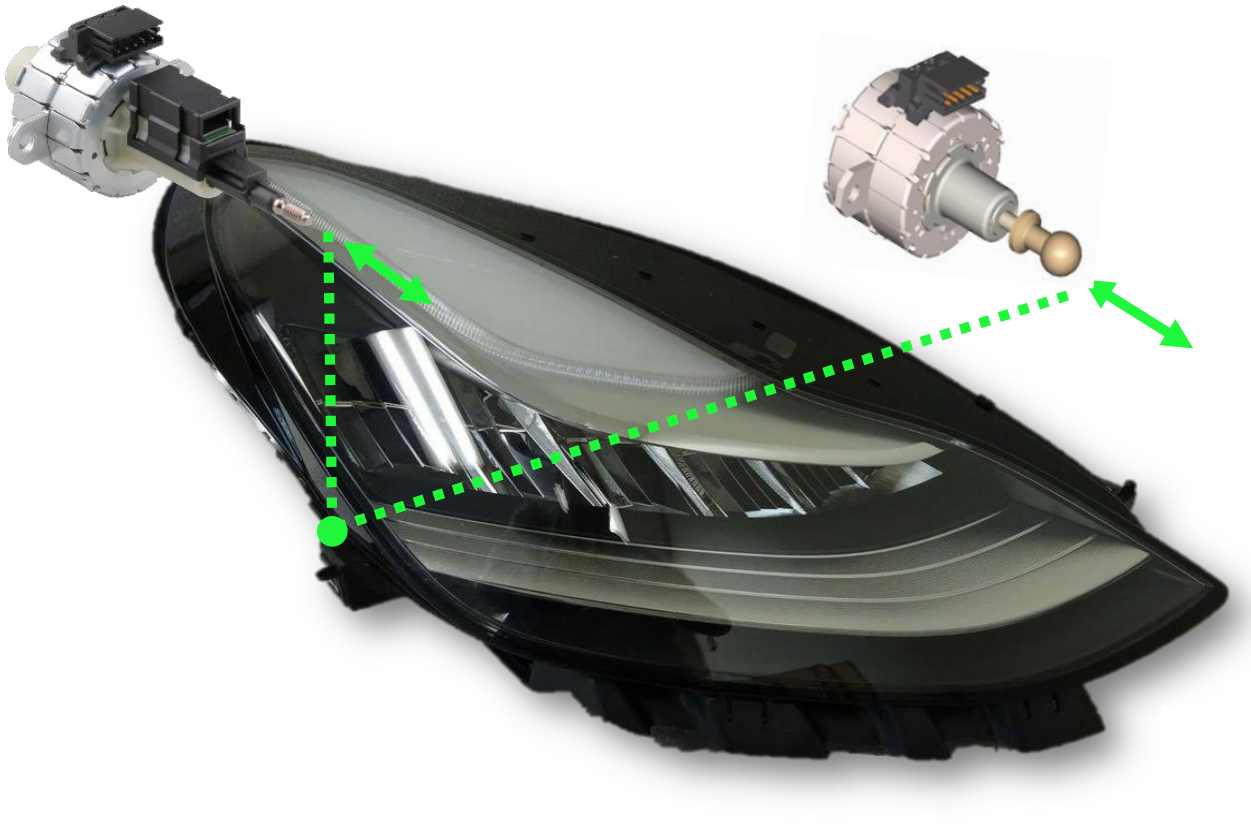
Hall sensor

Stepper motor

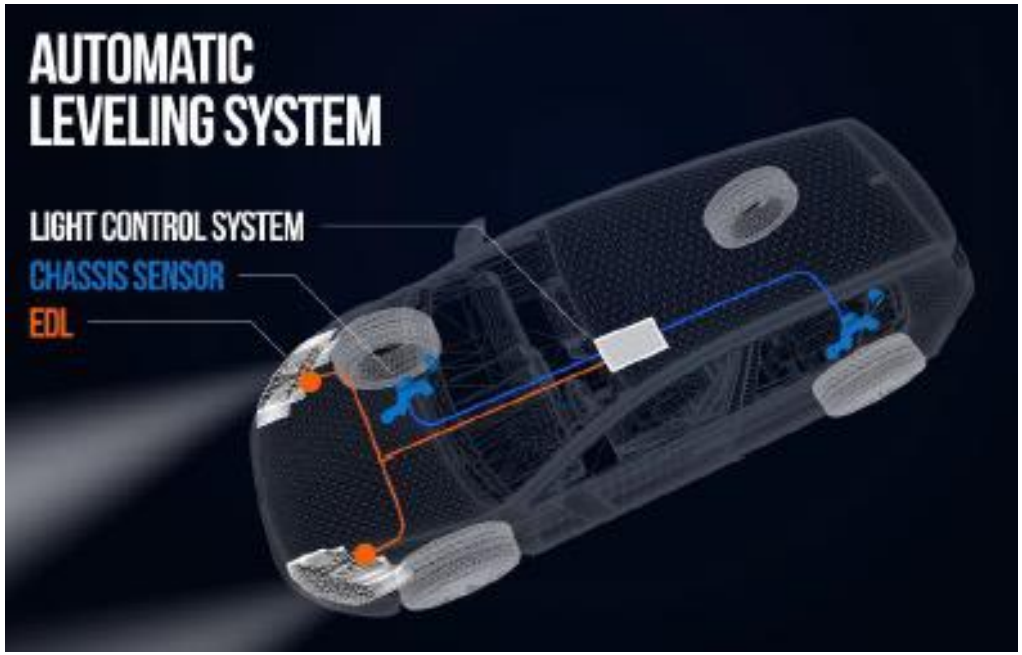


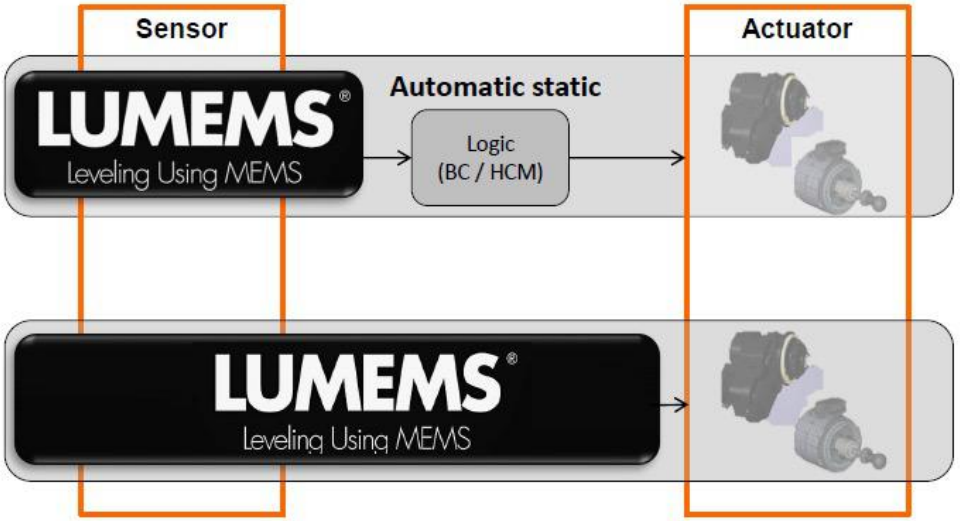
Aiming : 3° up and down
Leveling : 3° up and down

Solutions for ADB headlamps : Horizontal aiming



Merging with « Lumems »





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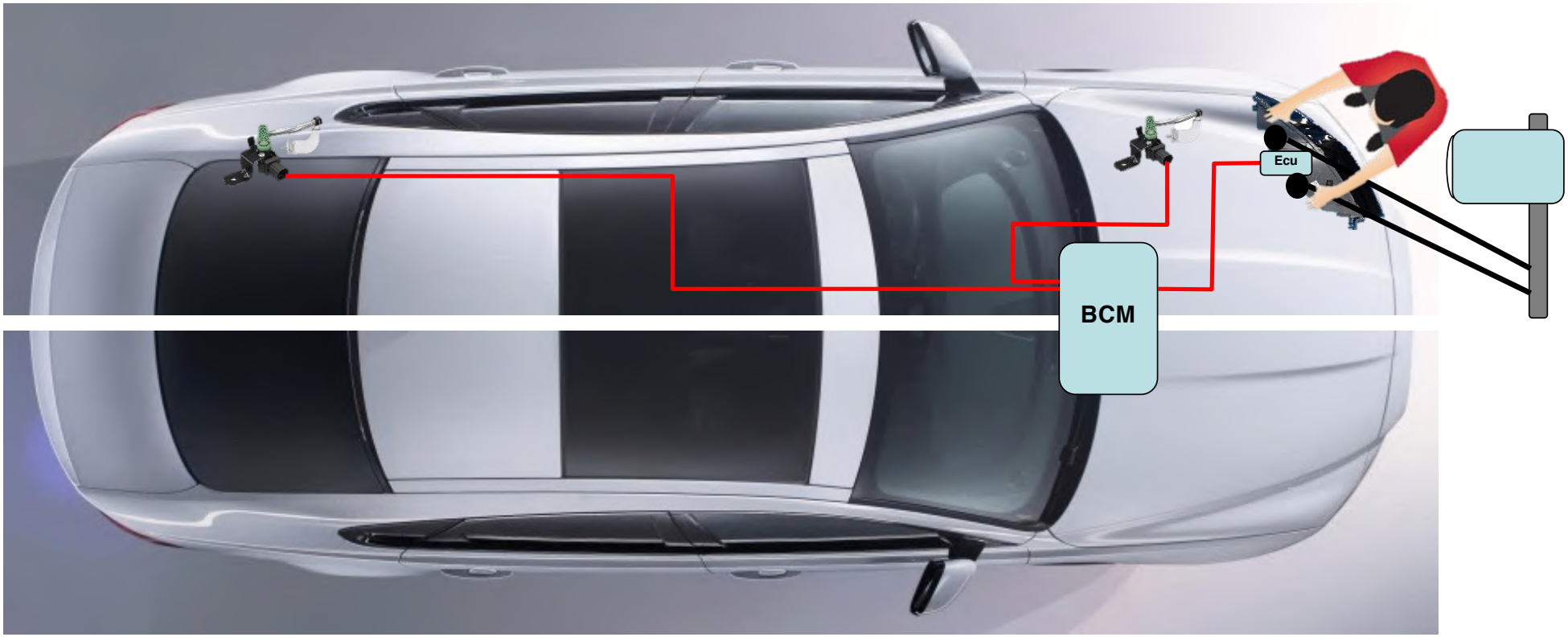
Ideal Aiming and Leveling architecture of an ADB car



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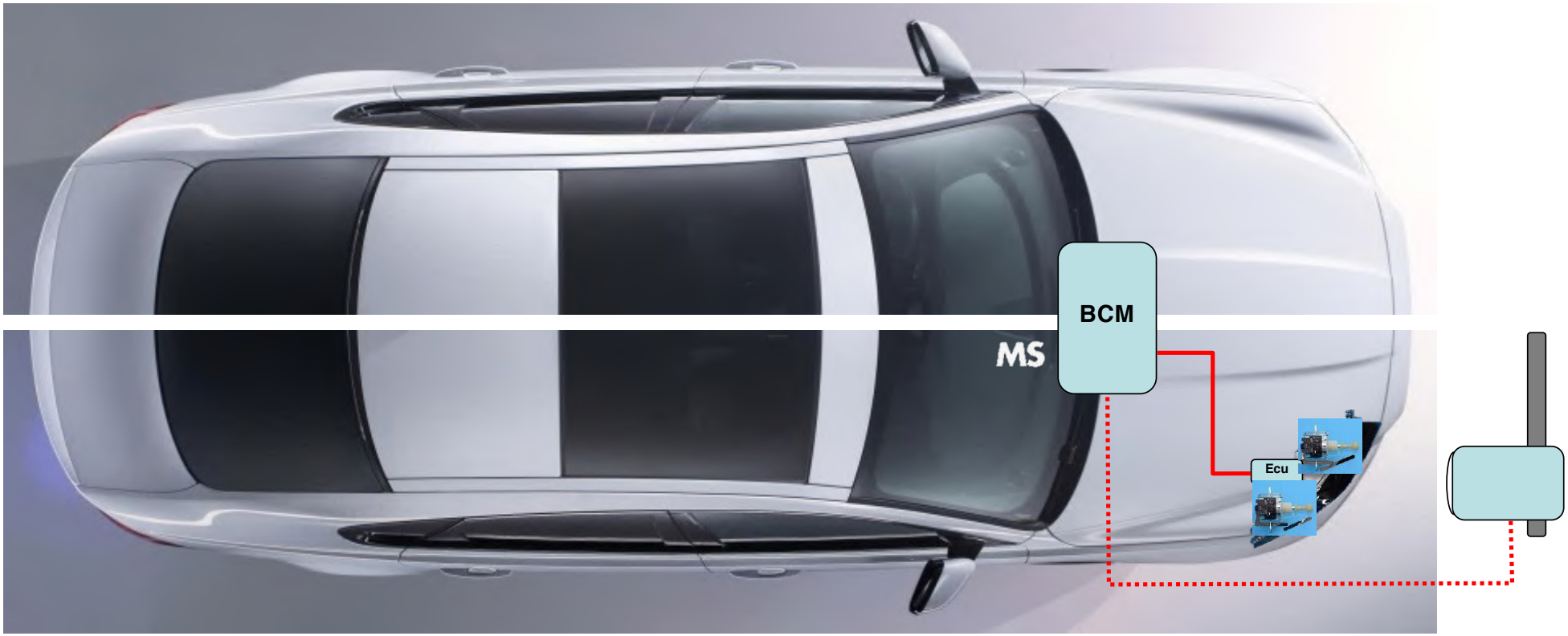
Ideal Aiming and Leveling architecture



Headlamp Digital Setting

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Mahalo
Koszonom
Obrigado
arigato
THANK
YOU
Спасибо
Takk
Рахмет
Prasom
Danke
Gracias
Dziekuje
Merci
Multumesc