



How can unmanned drivers survive better?

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Today's Discussion

Part1 Theme Introduction;

Part2 Raise Question;

Part3 Solutions;

Part4 Further Improve.



TODAY'S DISCUSSION

01

Today's Discussion

Theme

Introduction

Imagine a scene



编号: 20150113124820413200 上传者: cxh148

**Suppose you
hesitate for
three seconds, it
may happen
that...**





or





02 **Raise Question**

**When we turn on the automatic driving mode of the car,
and hand over the driving authority to artificial intelligence.**

- **What will happen?**

Maybe we'll have a nice trip.




There may also be emergencies that the system cannot avoid.





Since it has hidden dangers, is it better to abandon this technology?

**No, then we should solve the problem --
How can unmanned drivers survive better?**



03 **Solutions**

Who is working in this area?

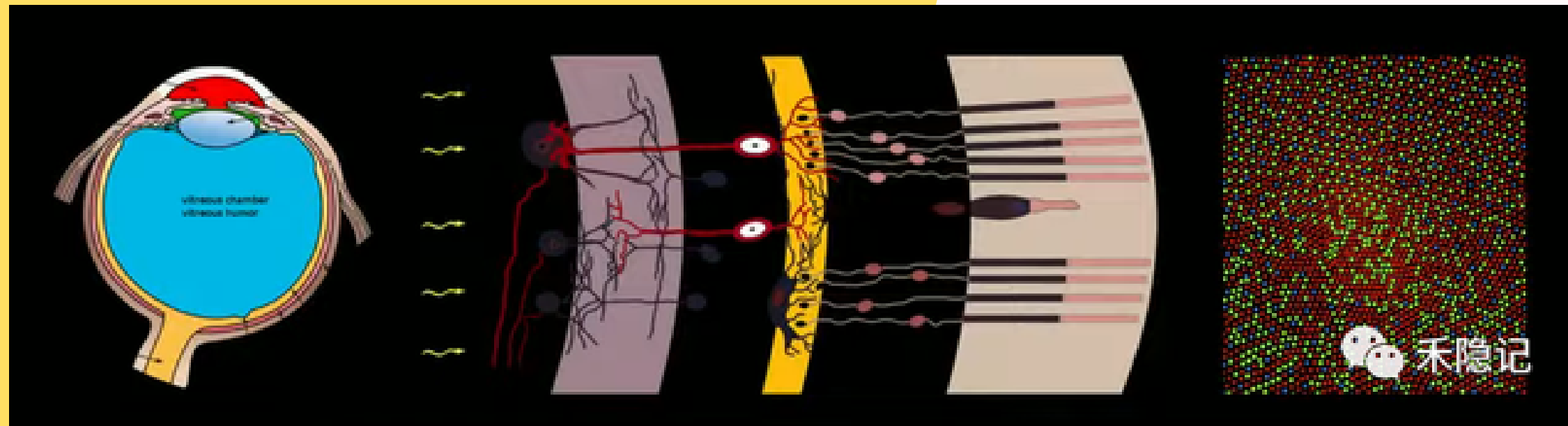
Project planning



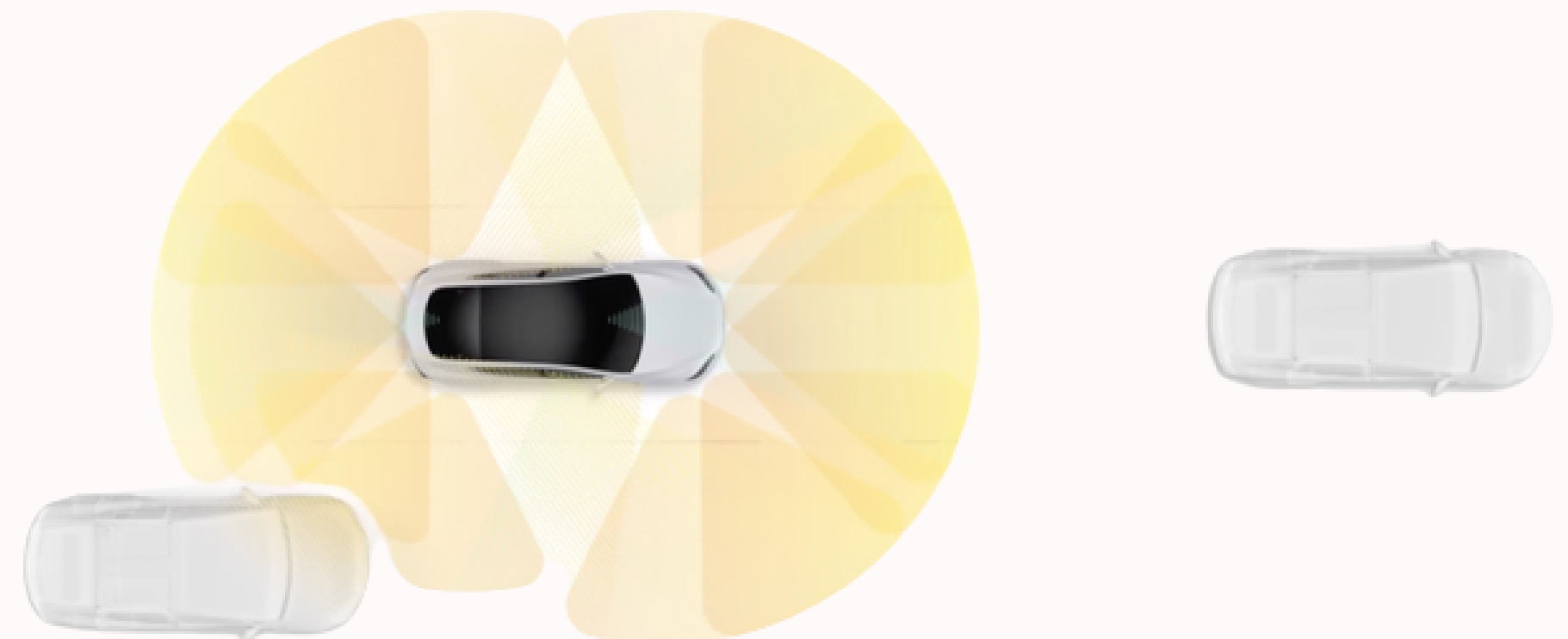
TESLA



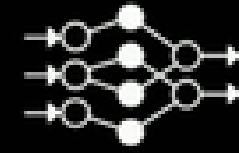
Humans perceive the world through their eyes



The machine senses the world through sensors



8 Cameras



3-Dimensional "Vector Space"



Persisting Vehicles & Pedestrians Through Occlusions



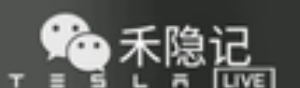
Why Plan Jointly?



oncoming car's prediction to yield (low probability)

oncoming car's prediction to go around other parked cars (high probability)

ego vehicle decides to pull-over



Fastest AI Training Computer



D1 Chip

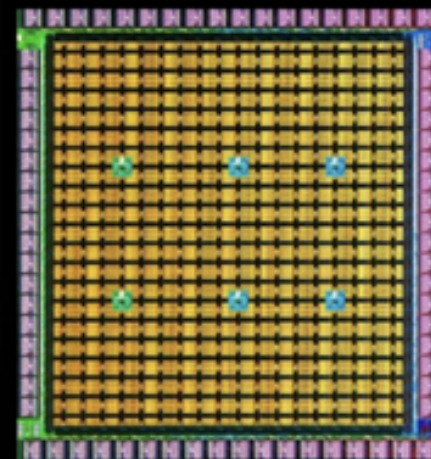
362 TFLOPs BF16/CFP8

22.6 TFLOPs FP32

10TBps/dir. On-Chip Bandwidth

4TBps/edge. Off-Chip Bandwidth

400W TDP



645mm²
7nm Technology

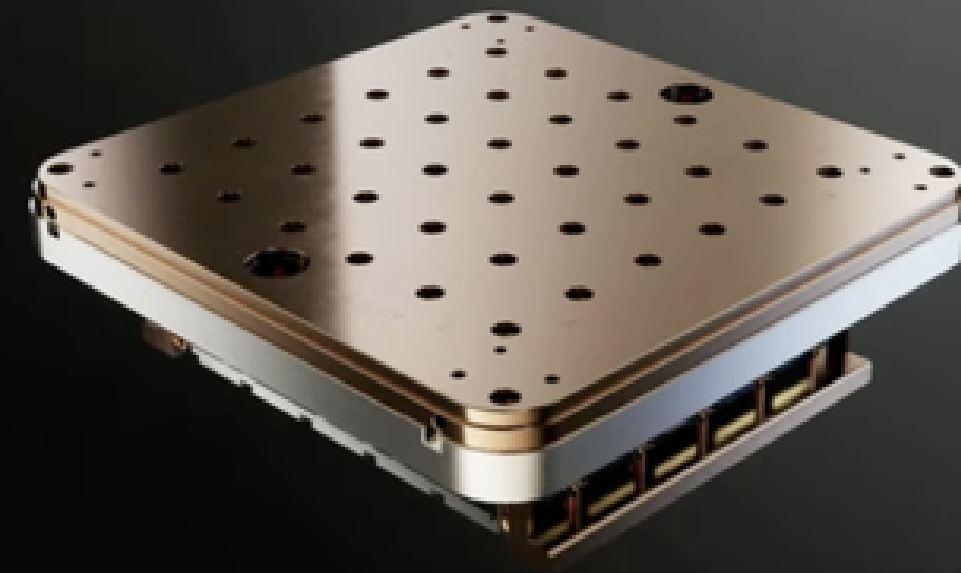
50 Billion
Transistors

11+ Miles
Of Wires

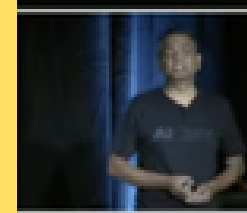
禾隐记
TESLA LIVE

Training Tile

9 PFLOPs
36TB/s I/O BW
< 1 cu Ft



High-Performance
Extremely High-Bandwidth
Low Latencies
Lower Energy Communication



禾隐记
TESLA LIVE

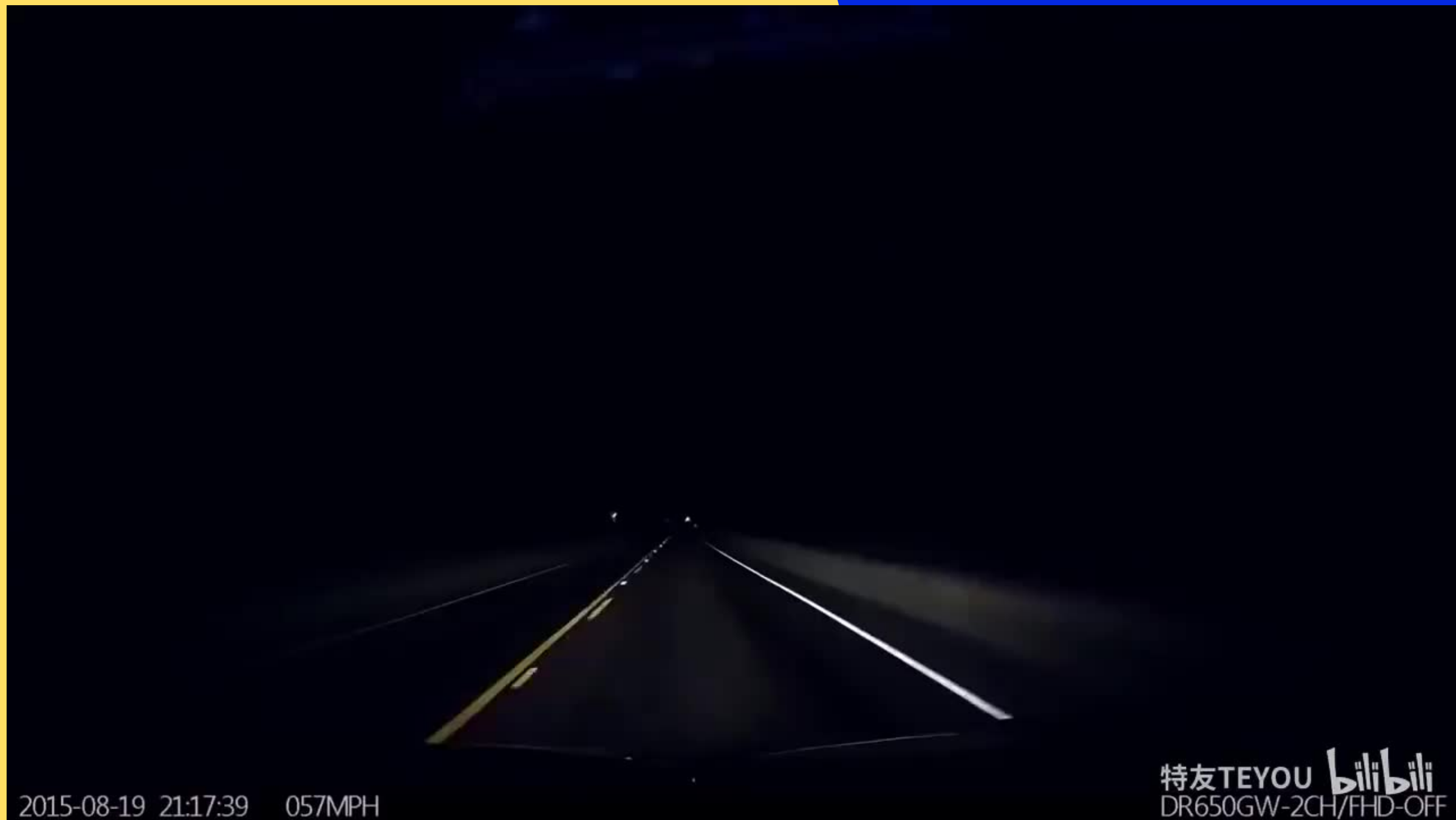
Before



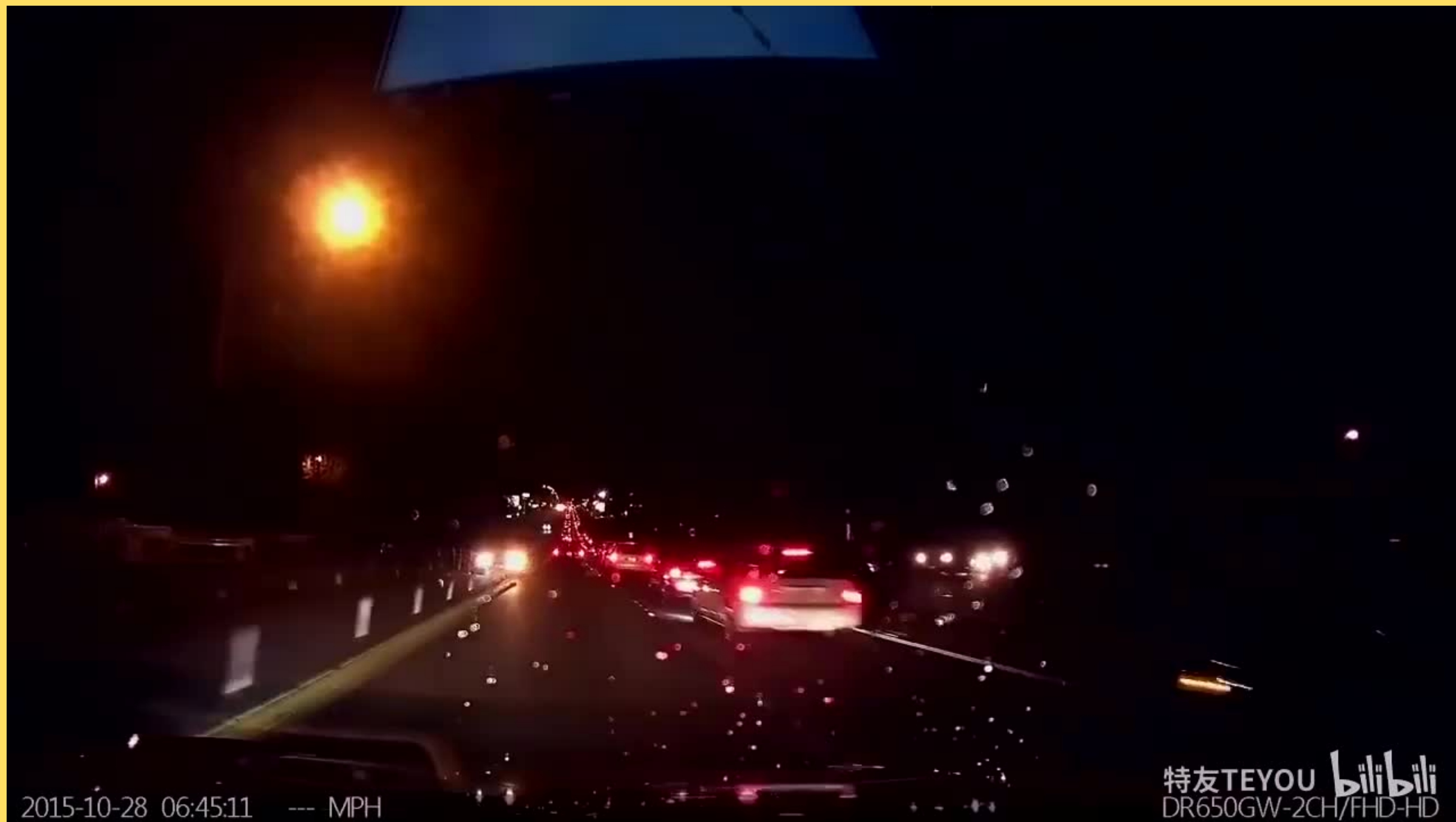
Before



After



After



The background features a large yellow shape on the left side, with a wavy edge. In the top right corner, there is a cluster of small yellow oval shapes. In the bottom left corner, there is a cluster of small white oval shapes. The text '04 Further improve' is centered in the middle of the page.

04 **Further improve**

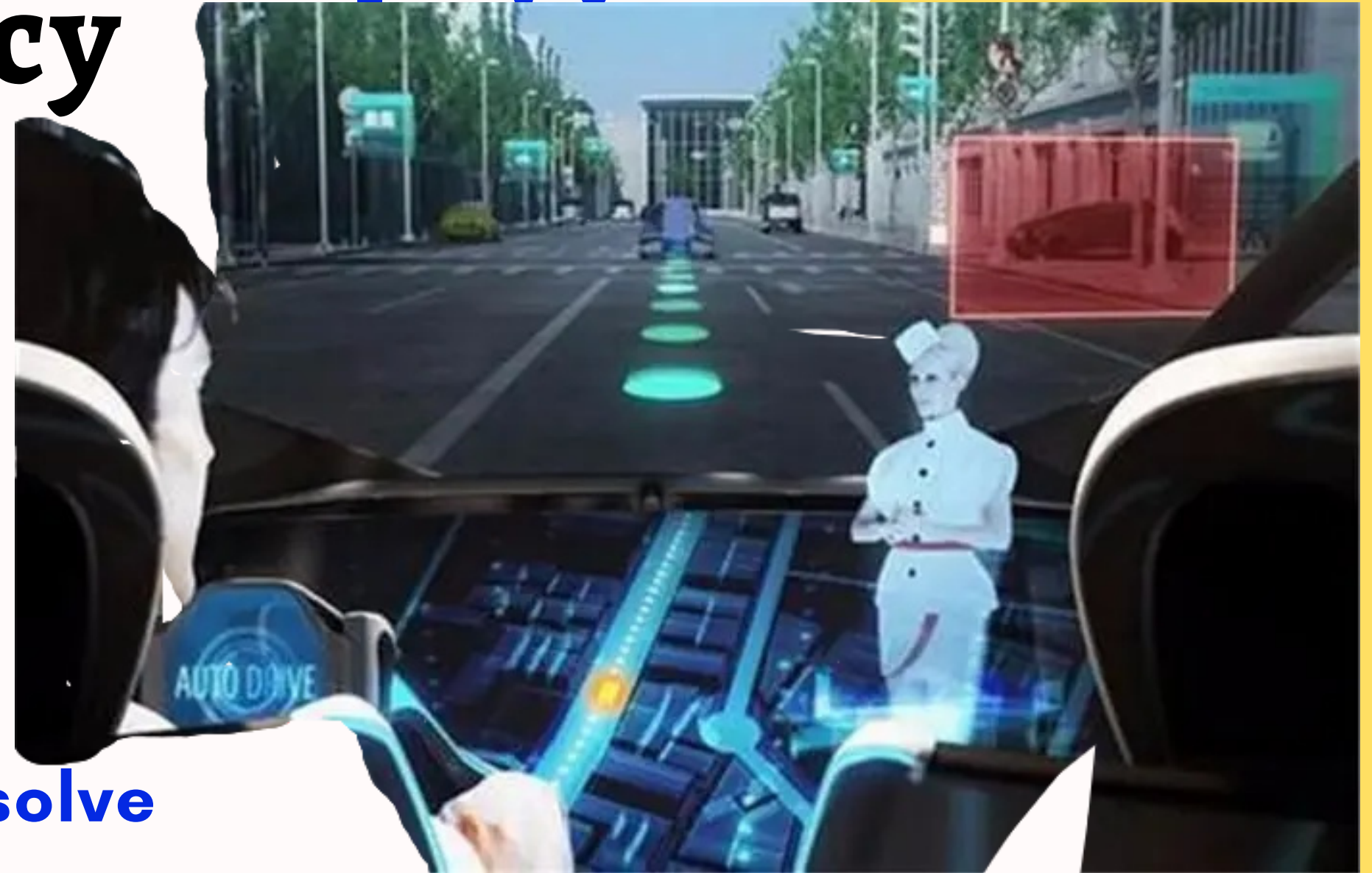


Software design and optimization

**To really release the driver's
hands, better technology is
needed to ensure that there is
no jam or error for a long time**

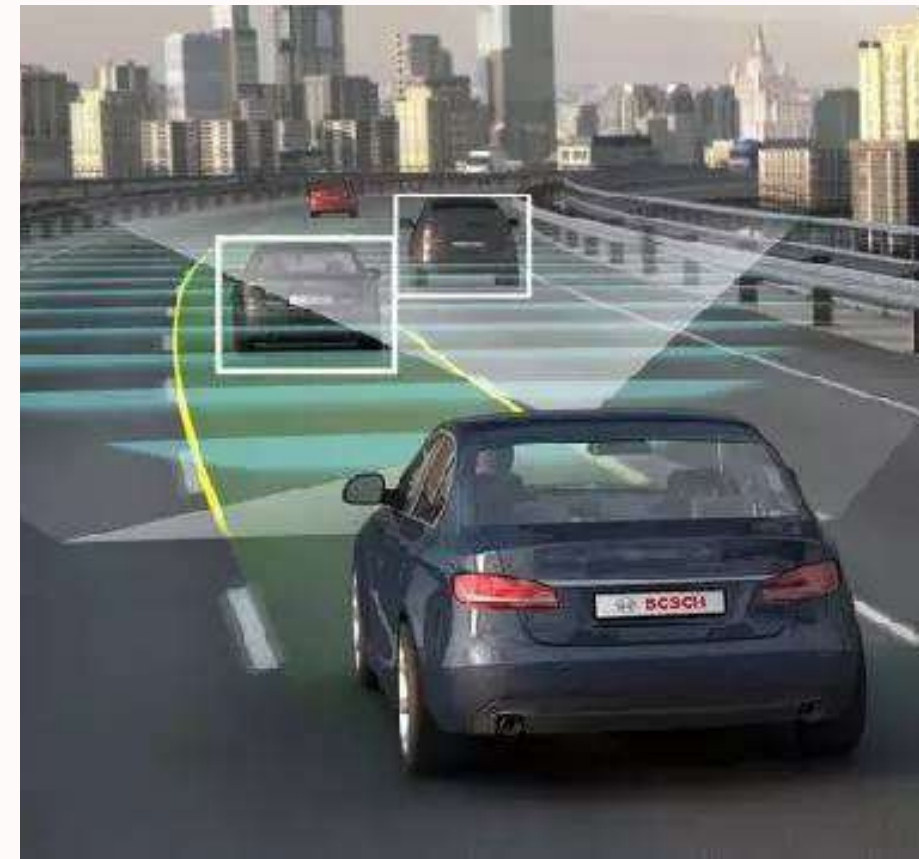
Improve the accuracy of intelligent navigation

Improving the accuracy can better solve the problem and reduce the need to return the driving right to the driver. In the face of a fork in the road, it can be solved by technology.

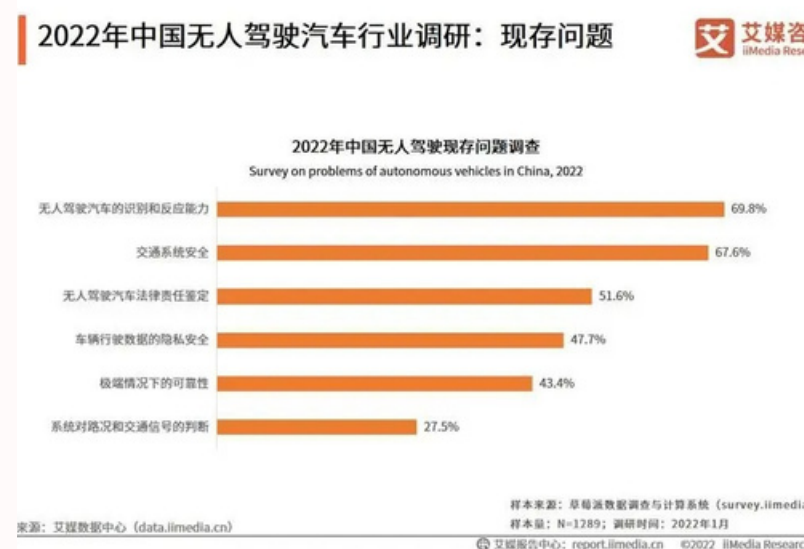


Have better sensors

Avoid obstacles and uneven
roads, and keep a safe
distance from the vehicle in
front



When
driverless,
who should
be
responsible
except for
the accident?



The era of
intelligence is coming



Thank You