

THE CHALLENGES OF INTEGRATING NEW TECHNOLOGIES IN THE AUTOMOTIVE INDUSTRY

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TECHNOLOGIES

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THE CHALLENGES OF INTEGRATING NEW TECHNOLOGIES IN THE AUTOMOTIVE INDUSTRY



- › New technology
- › High entry bar
- › Evolving landscape



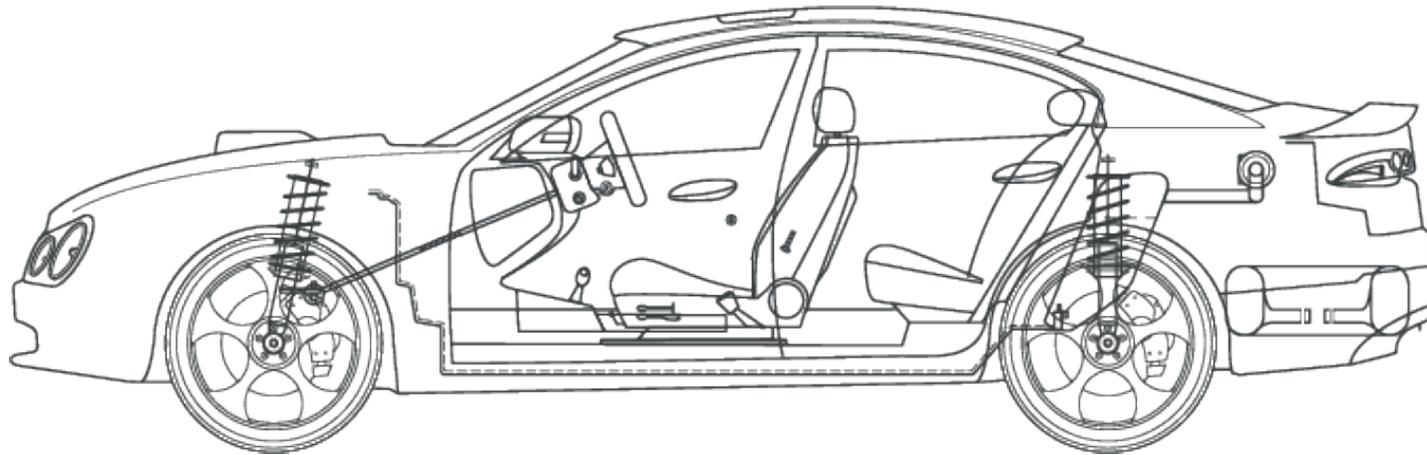
NEW TECHNOLOGY

1. Complex integration in the vehicle

Interface

Multiple suppliers

Different sensor types



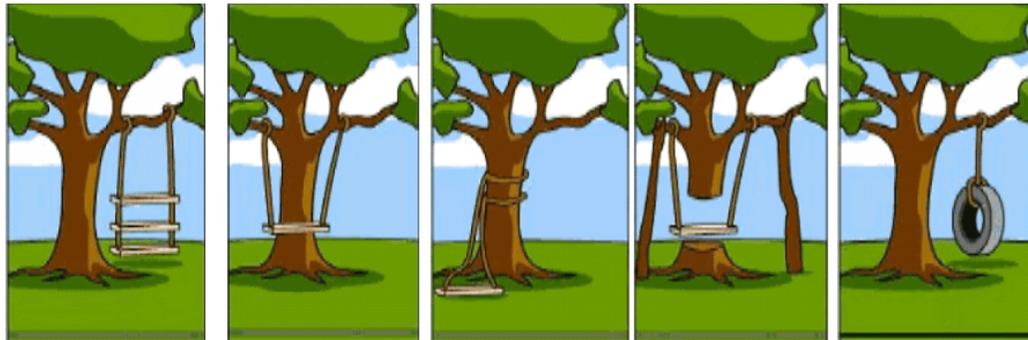
Testing and validation

Limited industry standardization

NEW TECHNOLOGY

2. Different OEM stakeholders

Stakeholders with different perspectives



What marketing suggested

What management approved

What was designed

What was delivered

What the customer needed



HIGH ENTRY BAR

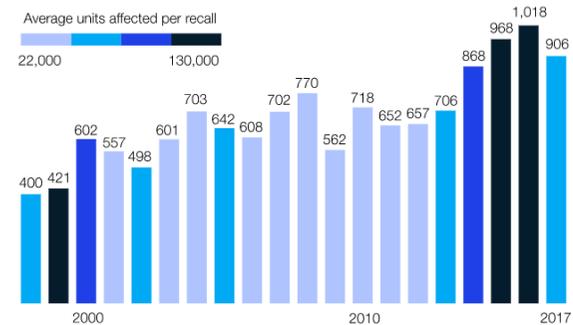
3. Challenging standards for young companies providing sophisticated components

› **Veteran, conservative industry – Driven by:**

- Recall challenges
- “0 KM failure”

› **Highly demanding automotive standards:**

- Harsh environmental and changing conditions
- Long Lifetime needed
- Functional safety
- Innumerable variety of use cases



NHTSA recalls in United States



“I know it’s being recalled –
I’m trying to bring it back now”.

HIGH ENTRY BAR

3. Challenging standards for young companies providing sophisticated components

› Aligning to strict timeline and demands

- A/B/C Samples
- DV/PV

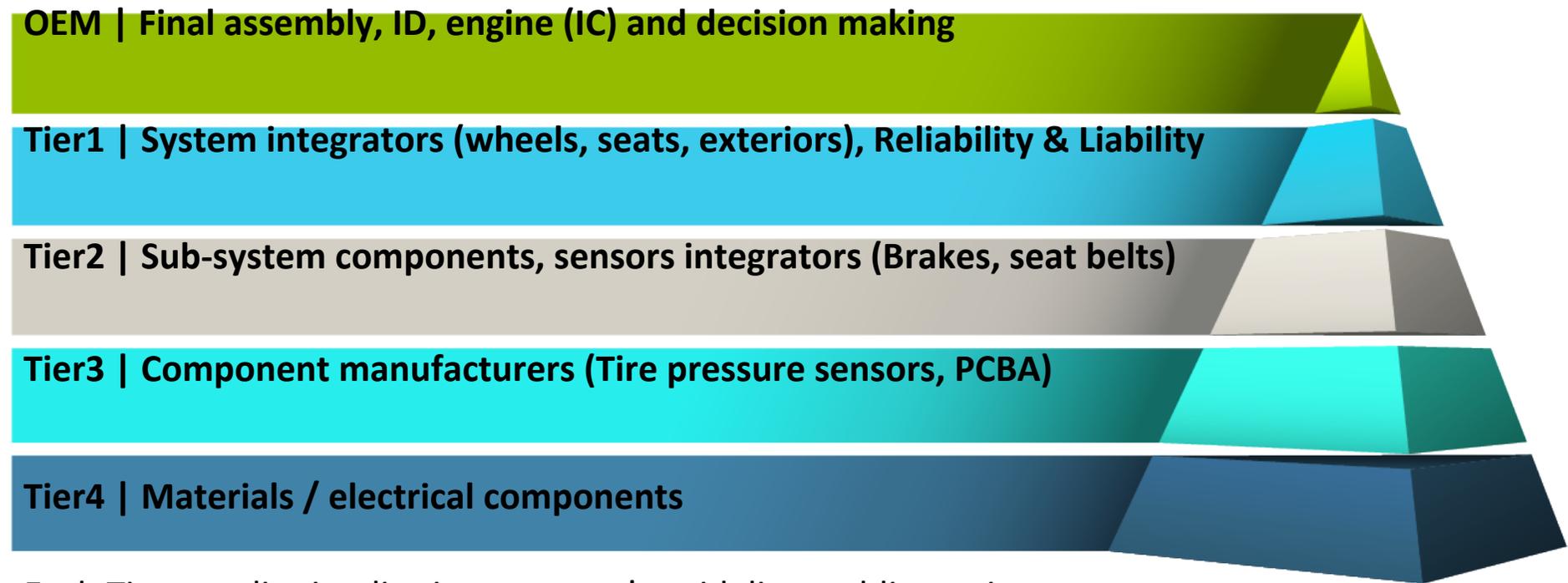
› Industrialization and mass production



"OH, NO -- THAT'S JUST THE
PROTOTYPE."

EVOLVING LANDSCAPE

Traditional Roles Of The Tier Supplier Hierarchy



Each Tier supplier implies its customer's guidelines adding to its own

Sources: [Top suppliers - Automotive news 2016](#), [Hanns Peter Becker, CFO, e&Co. AG](#)

EVOLVING LANDSCAPE

4. Hi tech companies break the classic “Tier” hierarchy

> OEM/T1/T2 Communication

- OEMs engage directly with Tier2s
- Defining classical RASIC is difficult

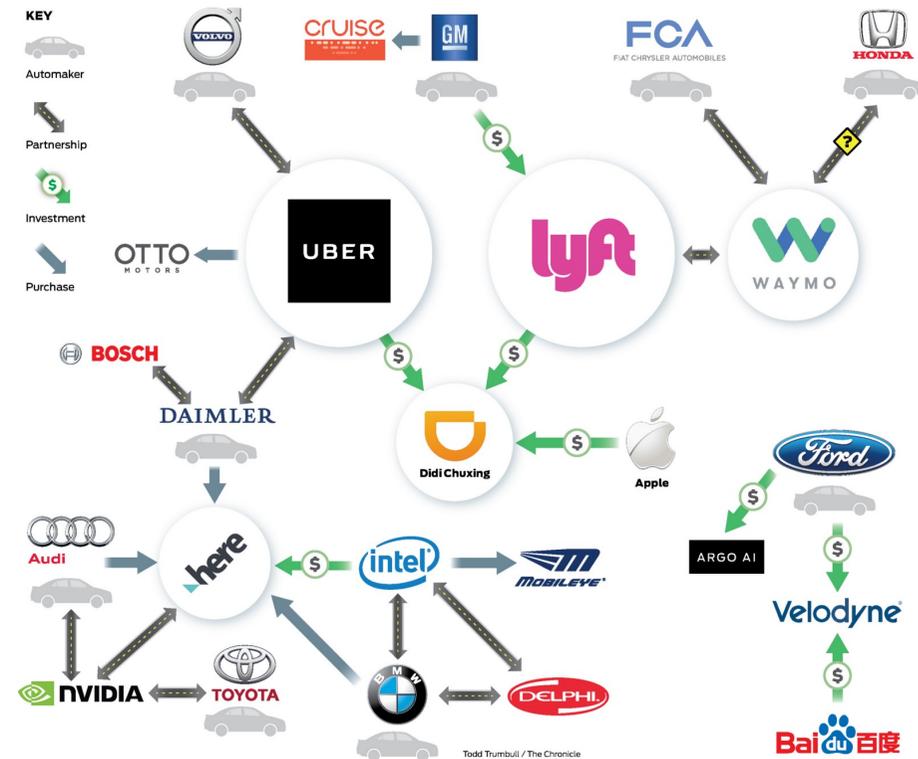
> OEMs are disrupted

- Against their conservative ways
- Find new revenue streams

> Changing markets

- Passenger ownership to fleets

> Partnerships all across the board



Sources: [Mapping the Autonomous Vehicle Industry Vehicles 3.0](#)

EVOLVING LANDSCAPE

5. Decision making is difficult in an evolving market

› Constant changes across the board:

- SOP timeline
- Volumes
- Requirements
- Standards



“This is where we bring people we’re thinking of hiring as decision makers”.

EVOLVING LANDSCAPE

6. LiDARs are integrated in new platforms –

› Connected, Autonomous, Shared and Electric (CASE):

- The balance between functionalities, use cases, needs are shifting



SUMMARY

The challenges of integrating new technologies in the automotive industry

New technology

1. Complex system for integration & testing
2. Different OEM stakeholders

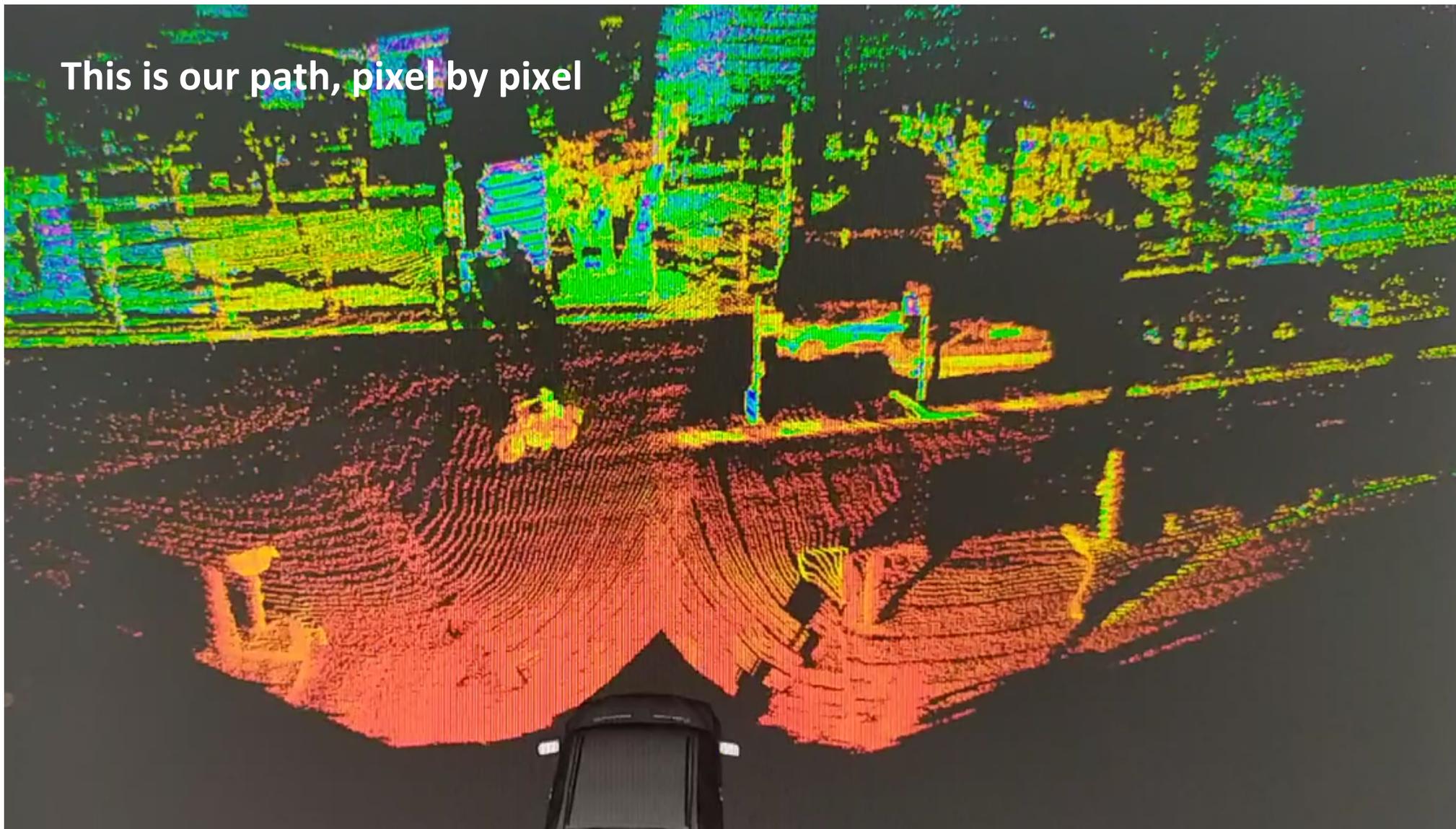
High entry bar

3. Highly demanding standards & timeline

Evolving landscape

4. Changes in automotive industry hierarchy
5. Decision making during market changes
6. New platforms & use cases

This is our path, pixel by pixel



Thank You!



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