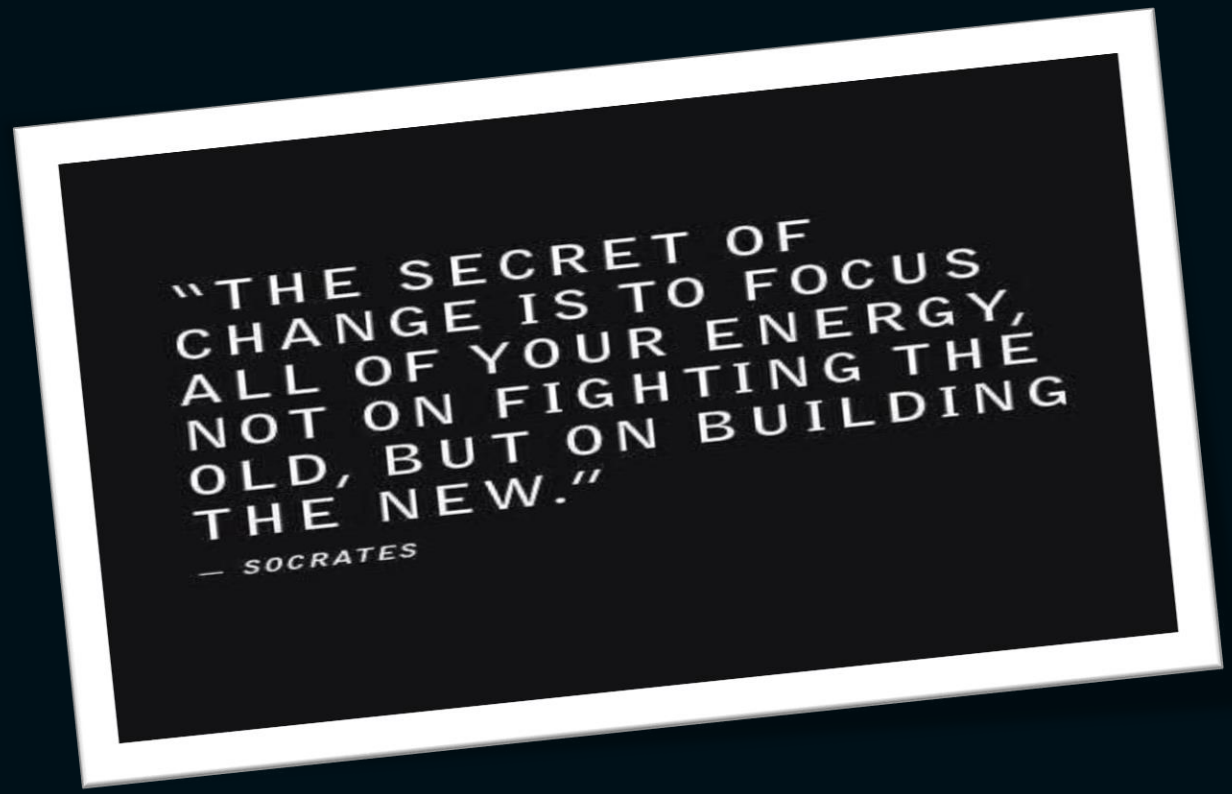
From Auto-motive to Compu-motive

Evolution of testing in a powertrain and vehicle development

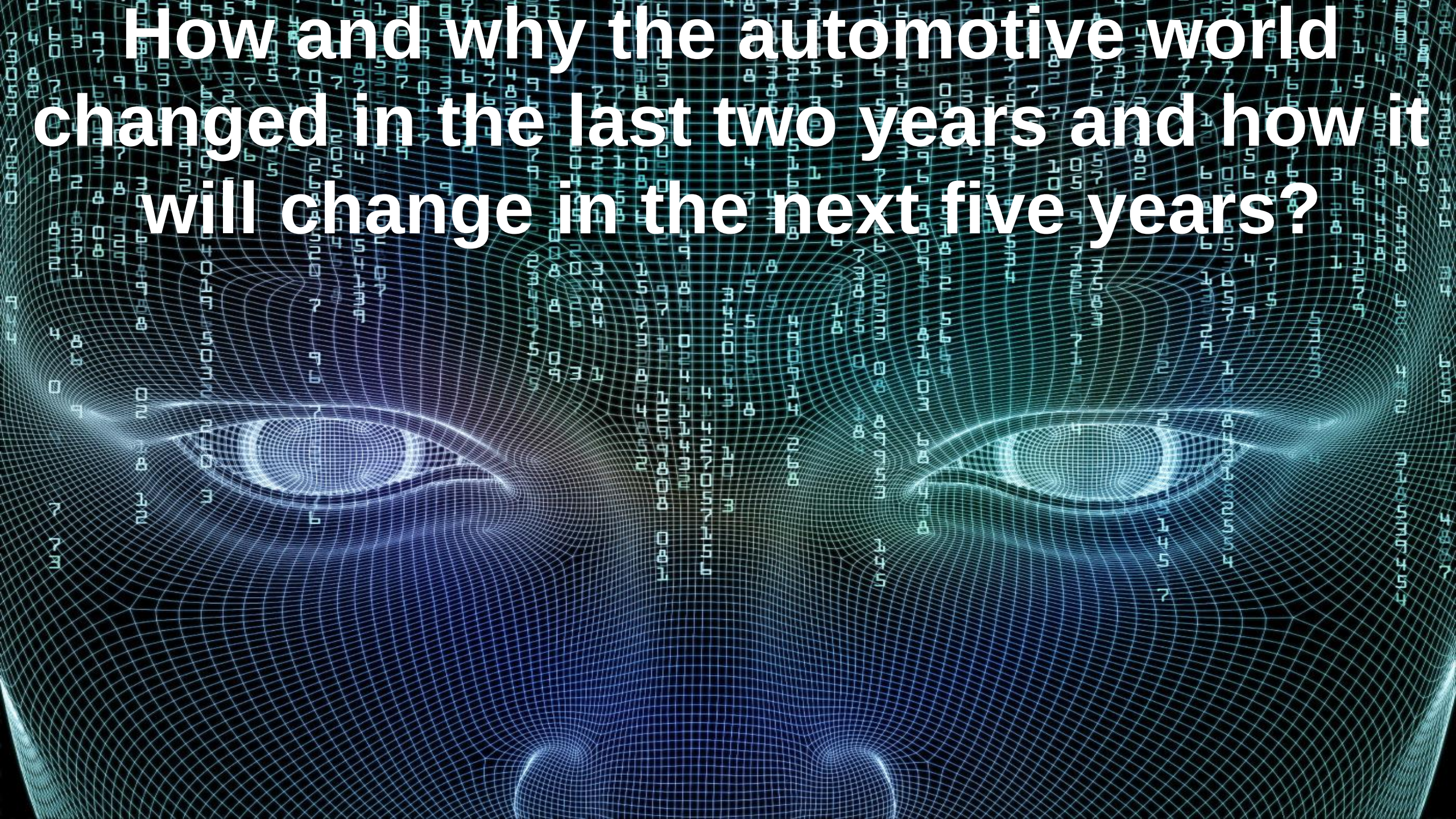


Giuseppe E. Corcione

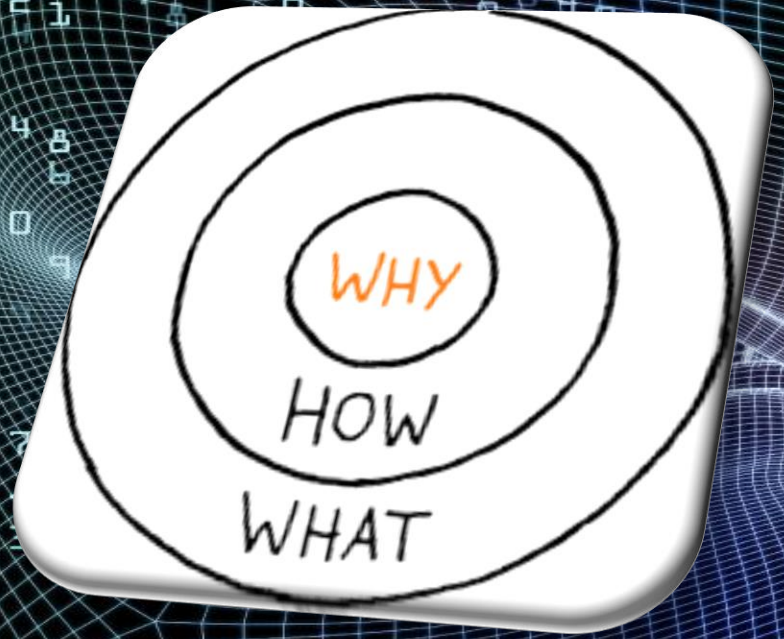
Head of Powertrain Test Systems (BU P)
Global Business Unit Manager ITS / P
AVL LIST GMBH

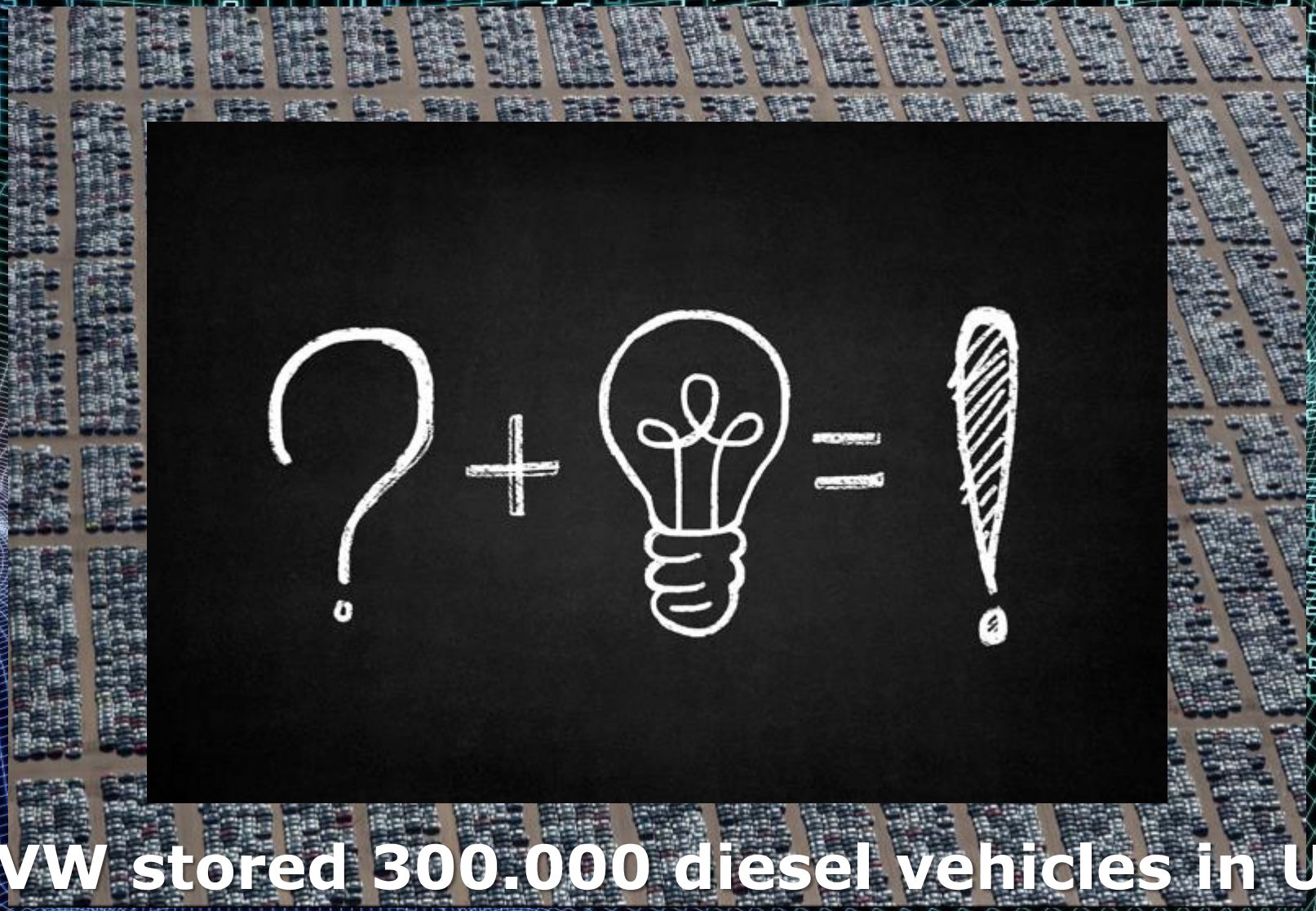
„Explore what are the technologies to achieve your dream“
AVL

How and why the automotive world changed in the last two years and how it will change in the next five years?



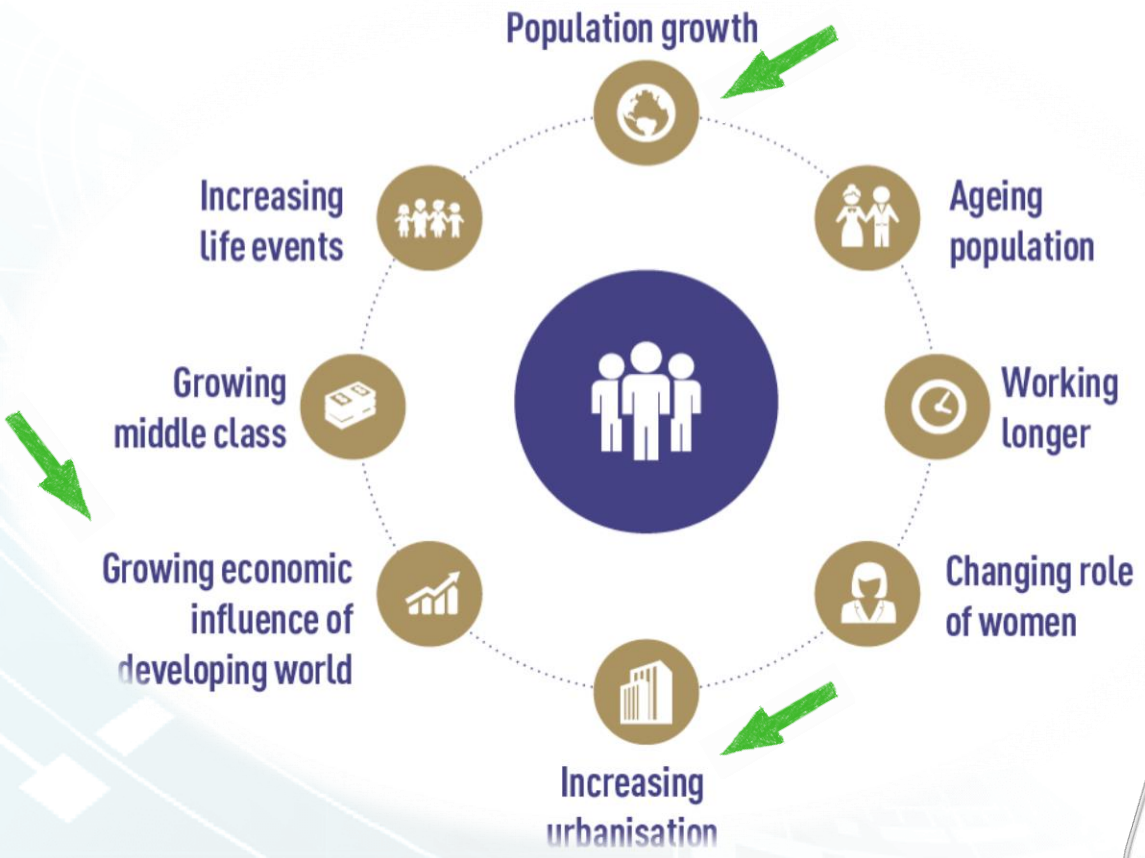
How and why the automotive world changed in the last two years and how it will change in the next five years?





VW stored 300.000 diesel vehicles in US

2030 BUSINESS MEGA-TREND



THE WORLD IS CHANGING

THE WORLD'S RICHEST MEDIA PLATFORM – DOES NOT CREATE ANY CONTENT .

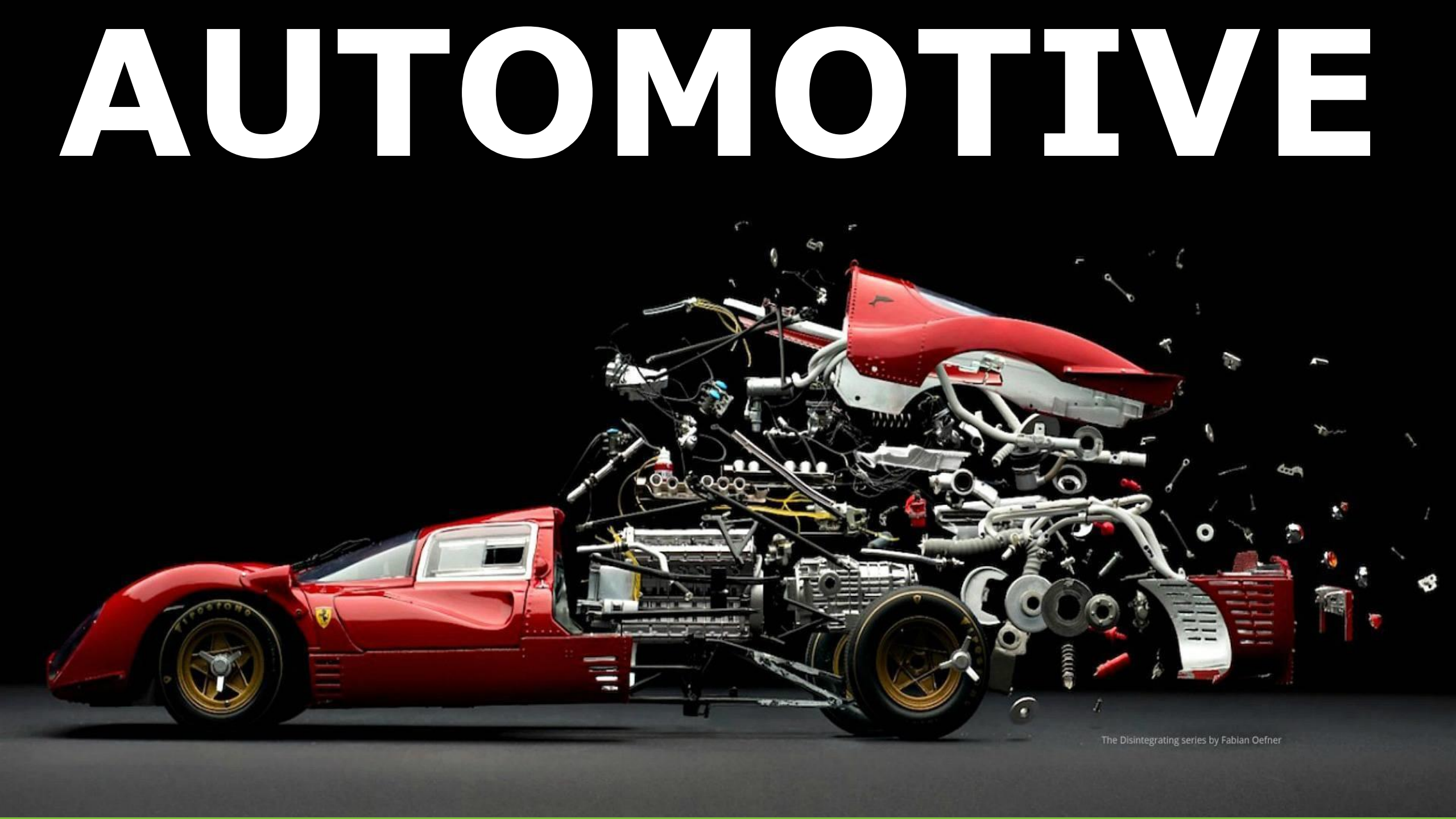
THE WORLD'S QUOTED B2B DEALER - DOES NOT HAVE A WAREHOUSE .

THE LARGEST RENTAL ROOM IN THE WORLD - DOES NOT HAVE ANY PROPERTY HOTEL

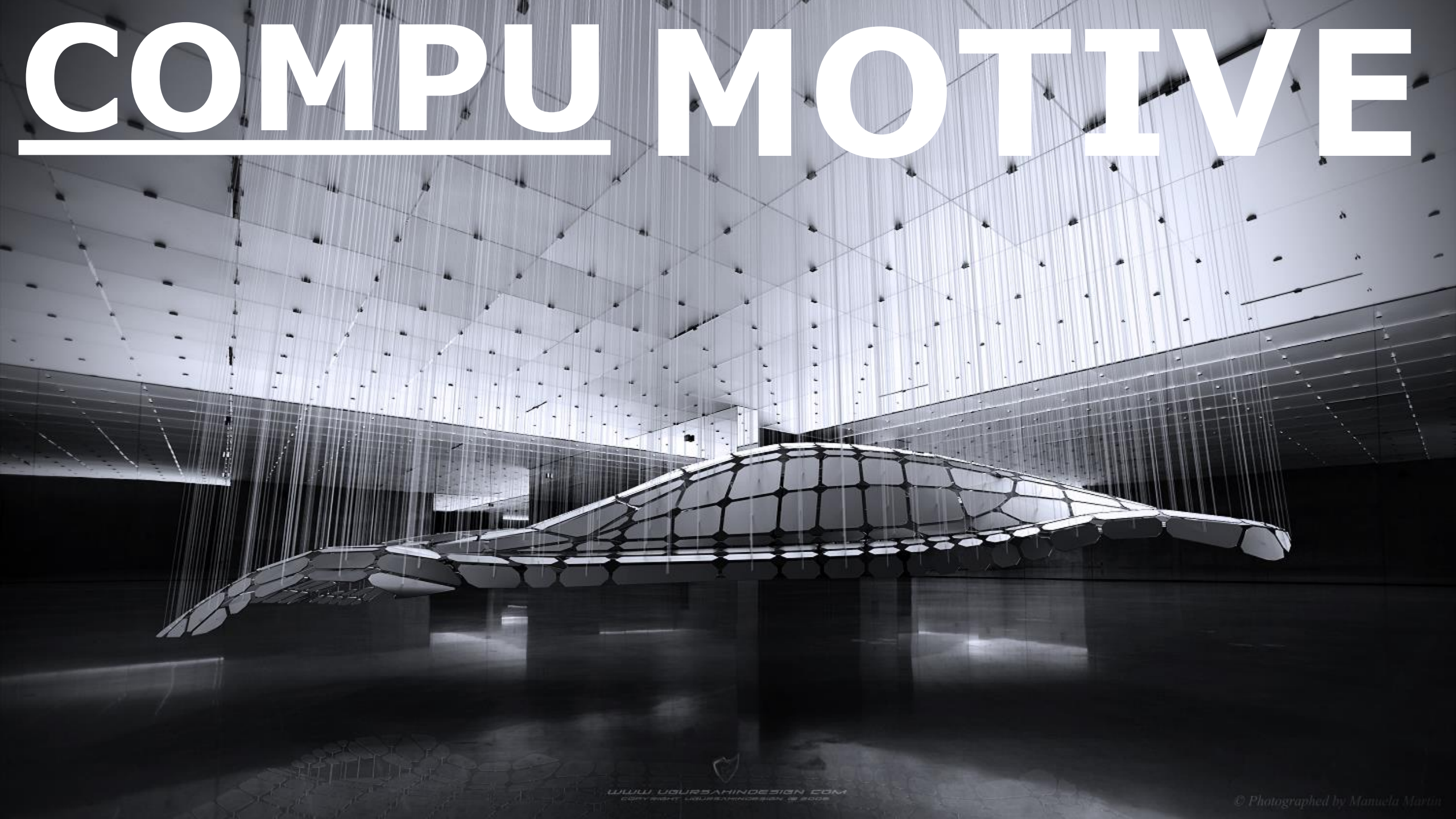
AUTOMOTIVE

?

AUTOMOTIVE

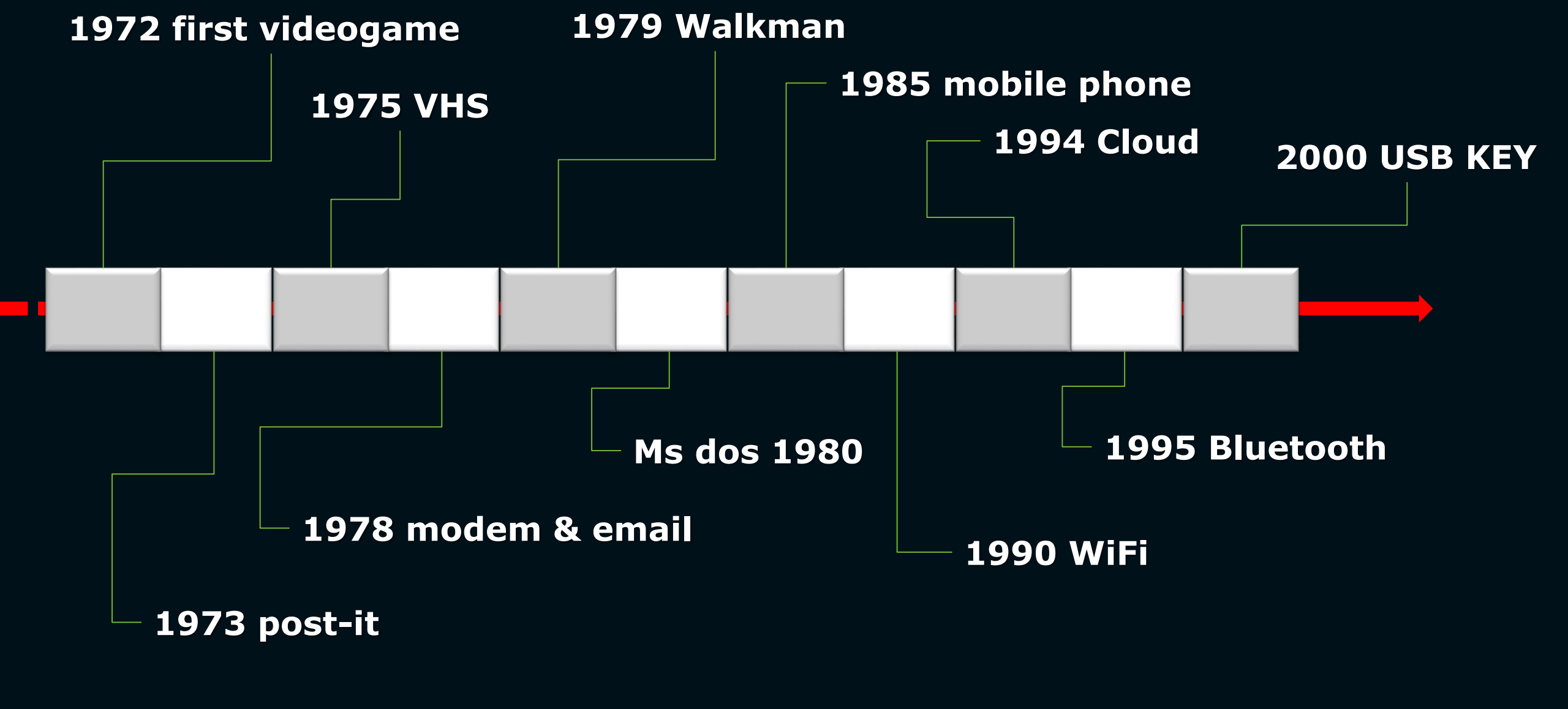


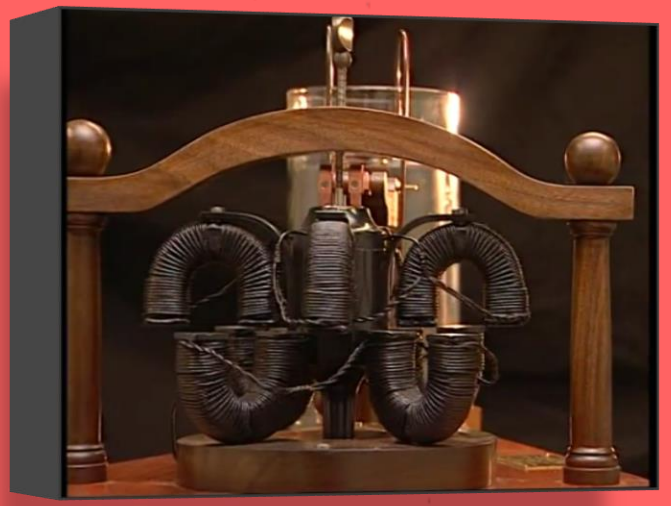
COMPU MOTIVE



28 giugno 1971

1971 FIRST MICROPROCESSOR
Federico Fagin, Marcian Hoff - INTEL


1972 first videogame
1975 VHS
1979 Walkman
1985 mobile phone
1994 Cloud
2000 USB KEY
1973 post-it
1978 modem & email
Ms dos 1980
1990 WiFi
1995 Bluetooth



MADE IN

1835

MADE IN

1971

Many YEARS TO IMPLEMENT IT!

WHY?

SURROUNDINGS

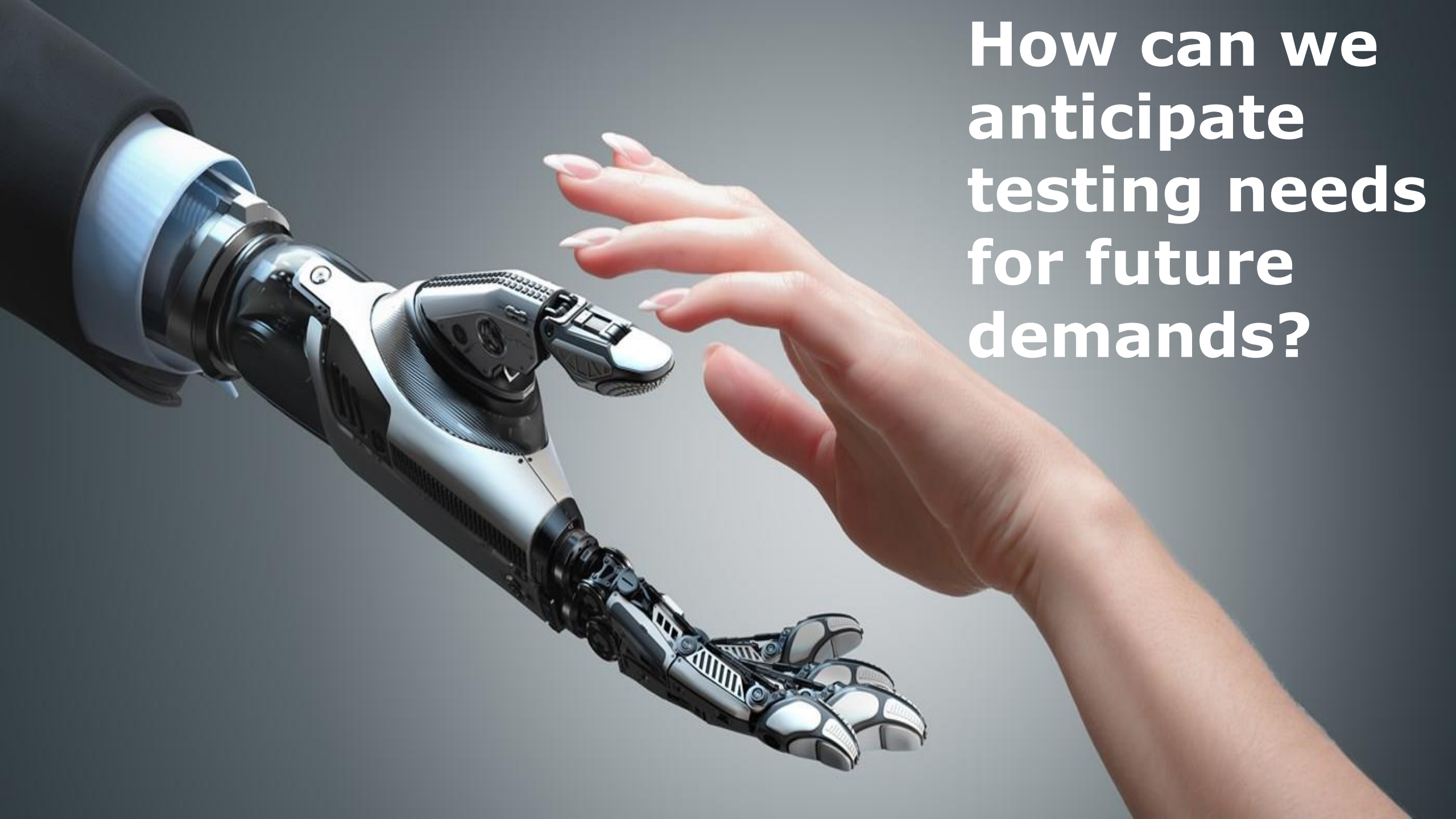
SYSTEM

BOUNDARY

The rapid development and spread of CASE (connected, autonomous, shared and electric) technologies makes that prediction process even more challenging.

Automotive industry product cycle times are growing shorter, but they are still long compared to other industries.

That means companies need to start thinking today about what the customer will want several years down the line.


How can we anticipate testing needs for future demands?

Enabling TestField Digitalization

IoT - Asset management

Planning

Smart Automated metric Collection

Smart Services

IoT –
Geolocalization

KPI dashboard

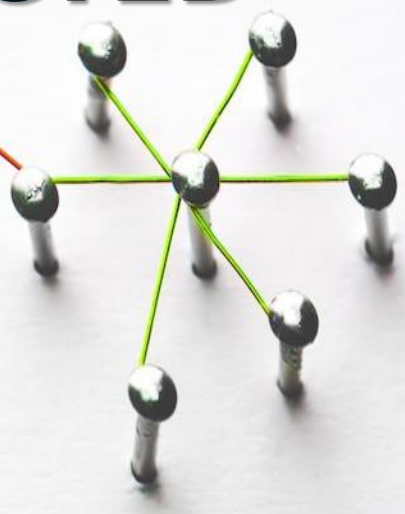
Big Data – improve efficiency and correlation

Test facility digitalization platform

Different Locations, same results!

Modular and flexible solutions

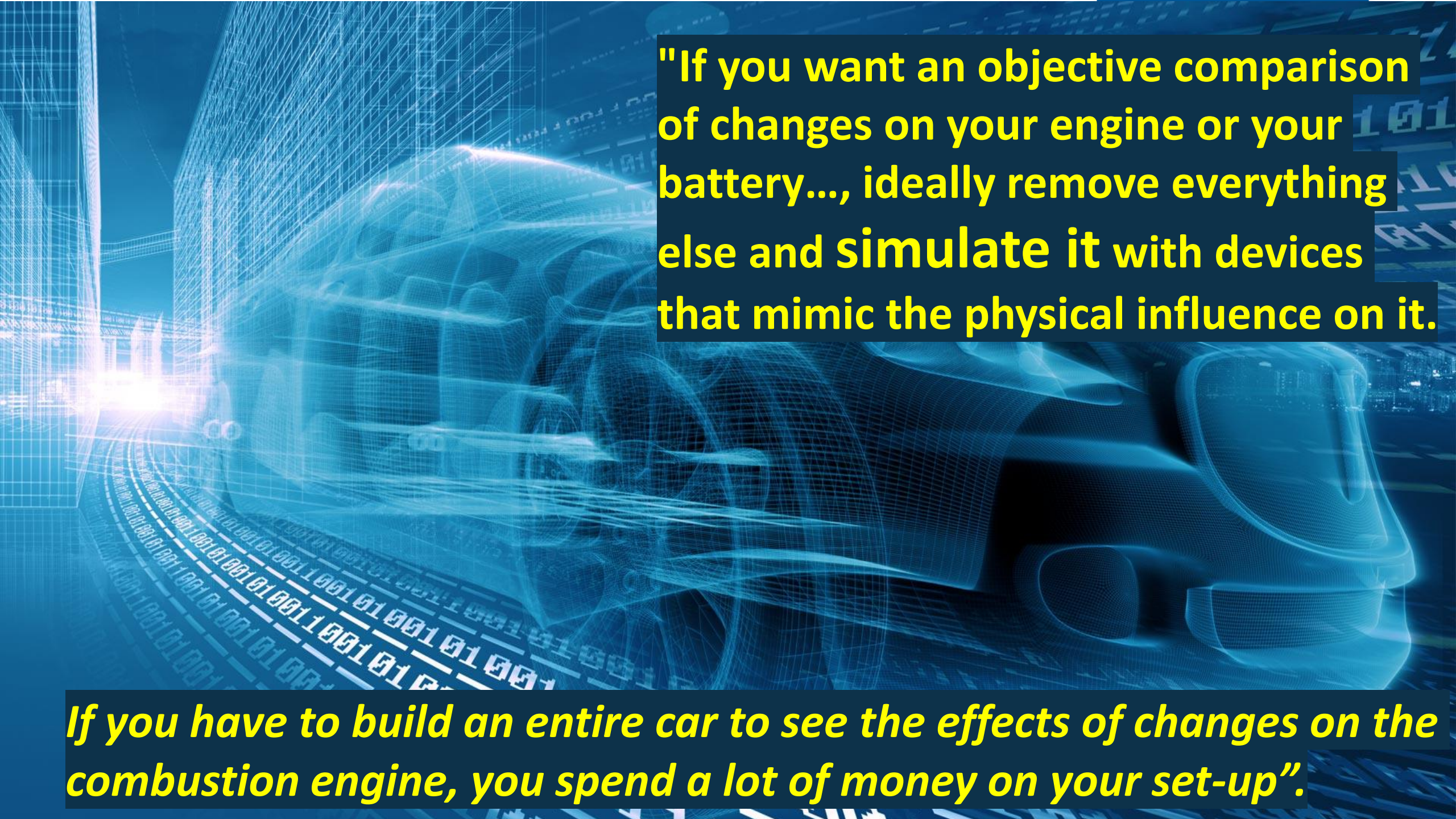
SMART AND CONNECTED



Easy to integrate and upgrade

DOMO

TEST

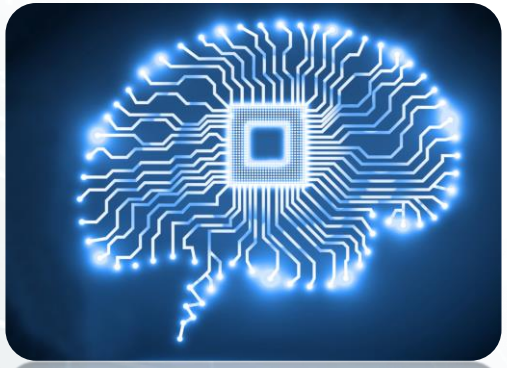
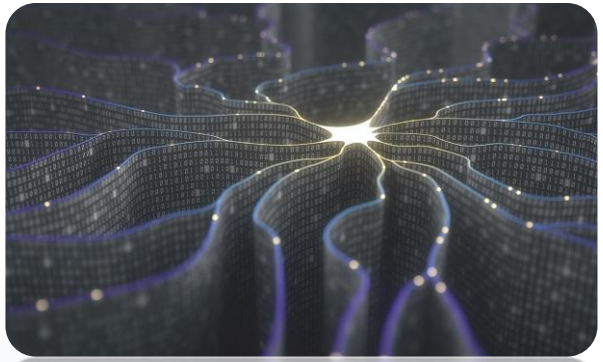

"If you want an objective comparison of changes on your engine or your battery…, ideally remove everything else and simulate it with devices that mimic the physical influence on it.
If you have to build an entire car to see the effects of changes on the combustion engine, you spend a lot of money on your set-up".

SIMULATION

VIRTUALIZATION

EMULATION

Data Mining - Machine Learning - BIG DATA - Neural Network - AI technologies

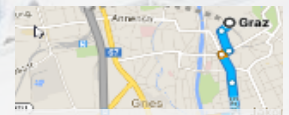
The Powertrain Test Bed for functional testing and Vehicle Validation

Virtual Vehicle Integration

Road Environment

Auto Import

ADAS RP



Google Map

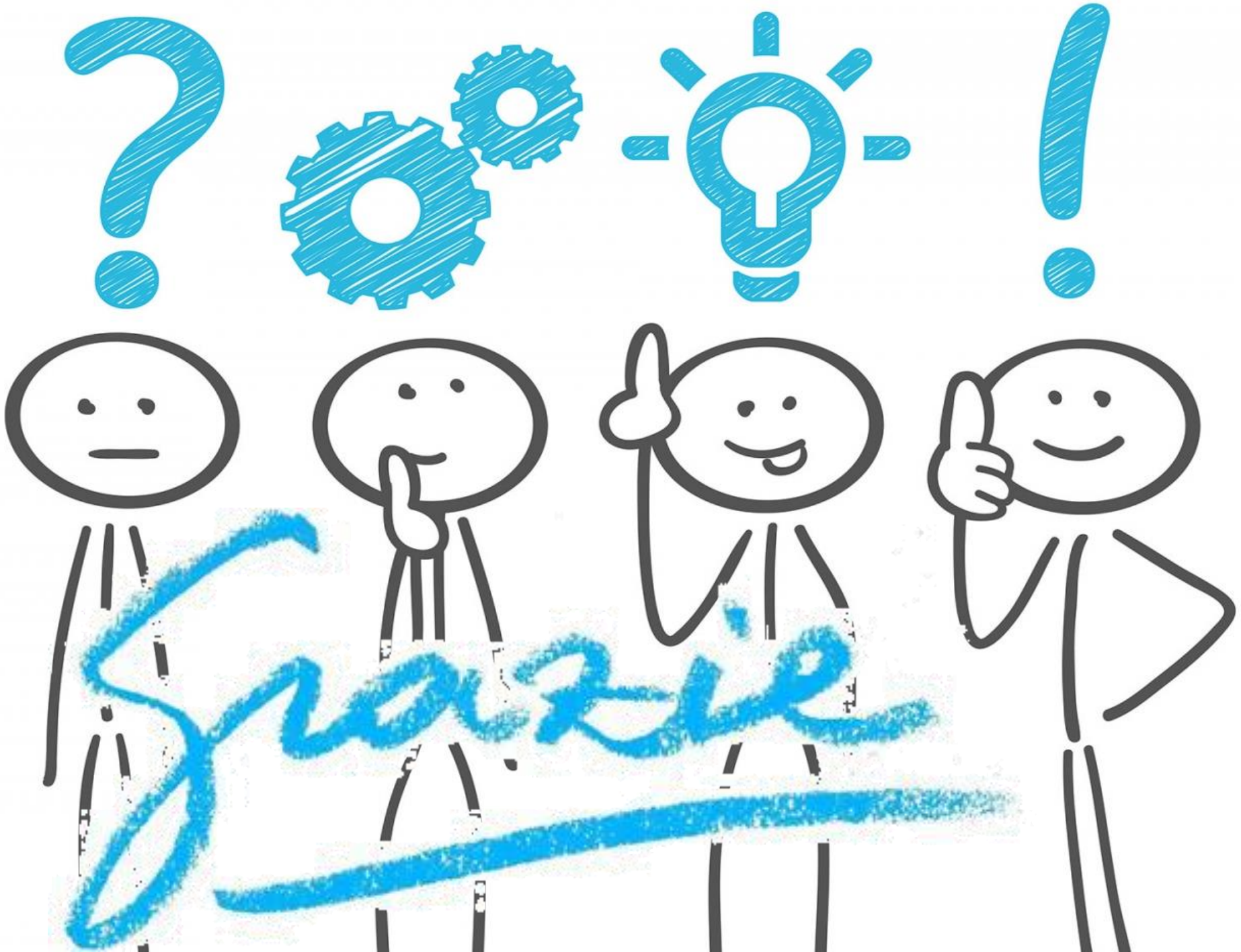
Measurement

When simulation virtually becomes reality!

Traffic & Environment

Driver / Driving

WE ARE READY
FOR FUTURE
NEEDS!


Grazie