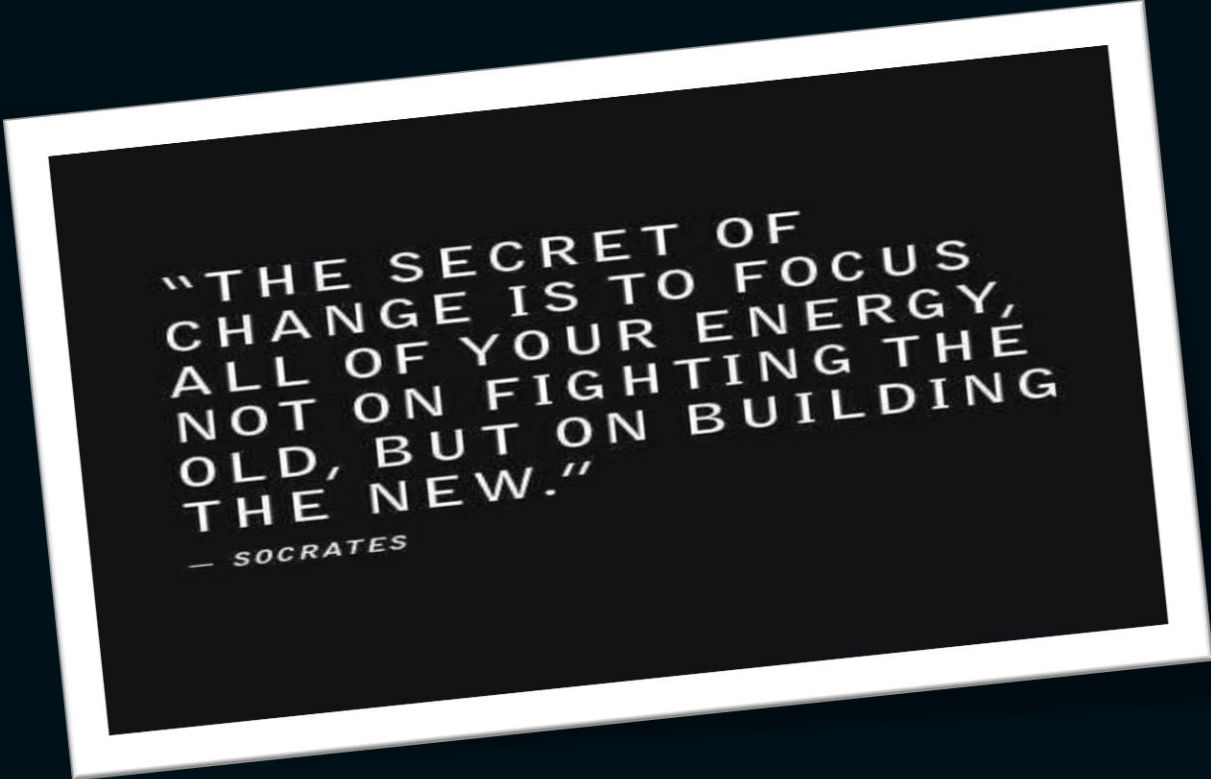


From Auto-motive to Compu-motive

Evolution of testing in a powertrain and vehicle development

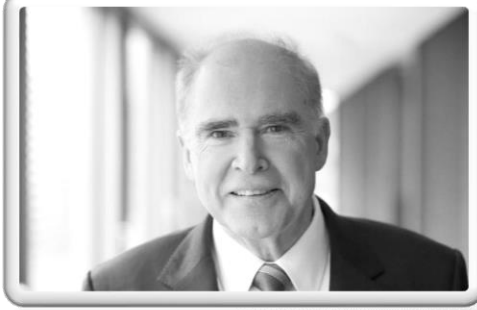


"THE SECRET OF
CHANGE IS TO FOCUS
ALL OF YOUR ENERGY,
NOT ON FIGHTING THE
OLD, BUT ON BUILDING
THE NEW."

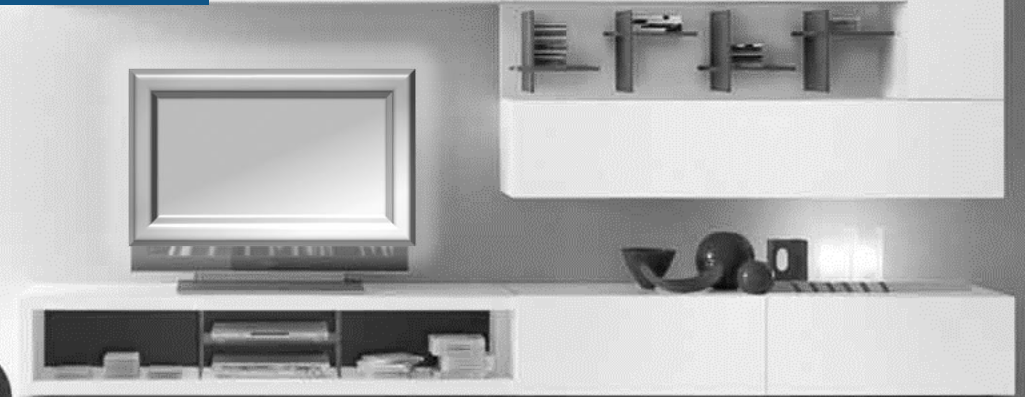
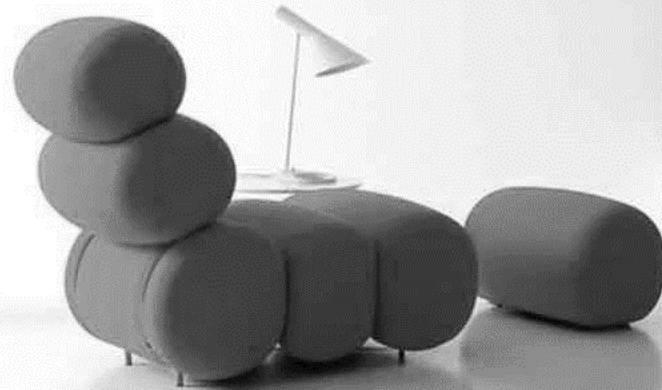
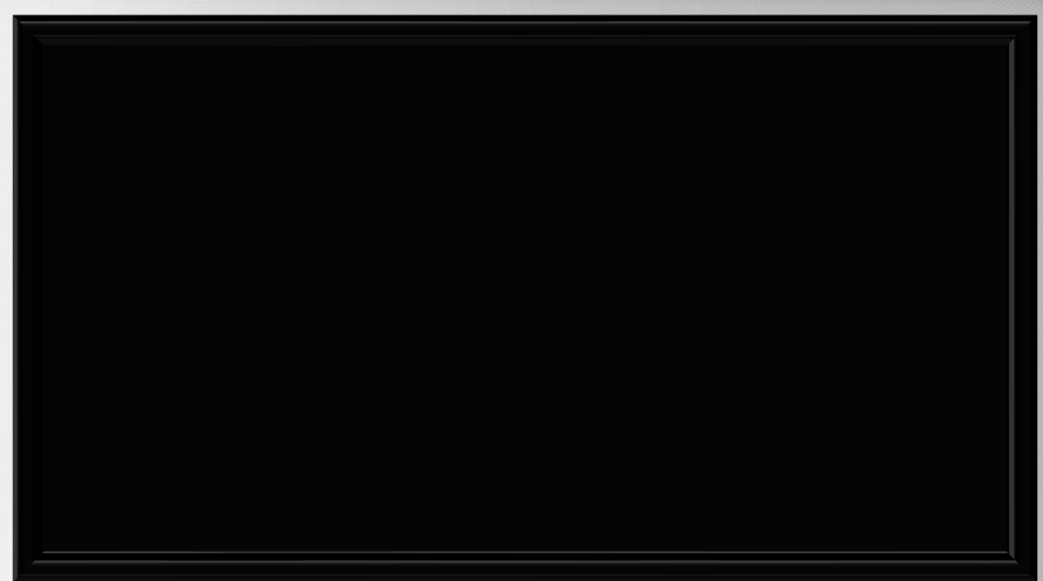
— SOCRATES

Giuseppe E. Corcione

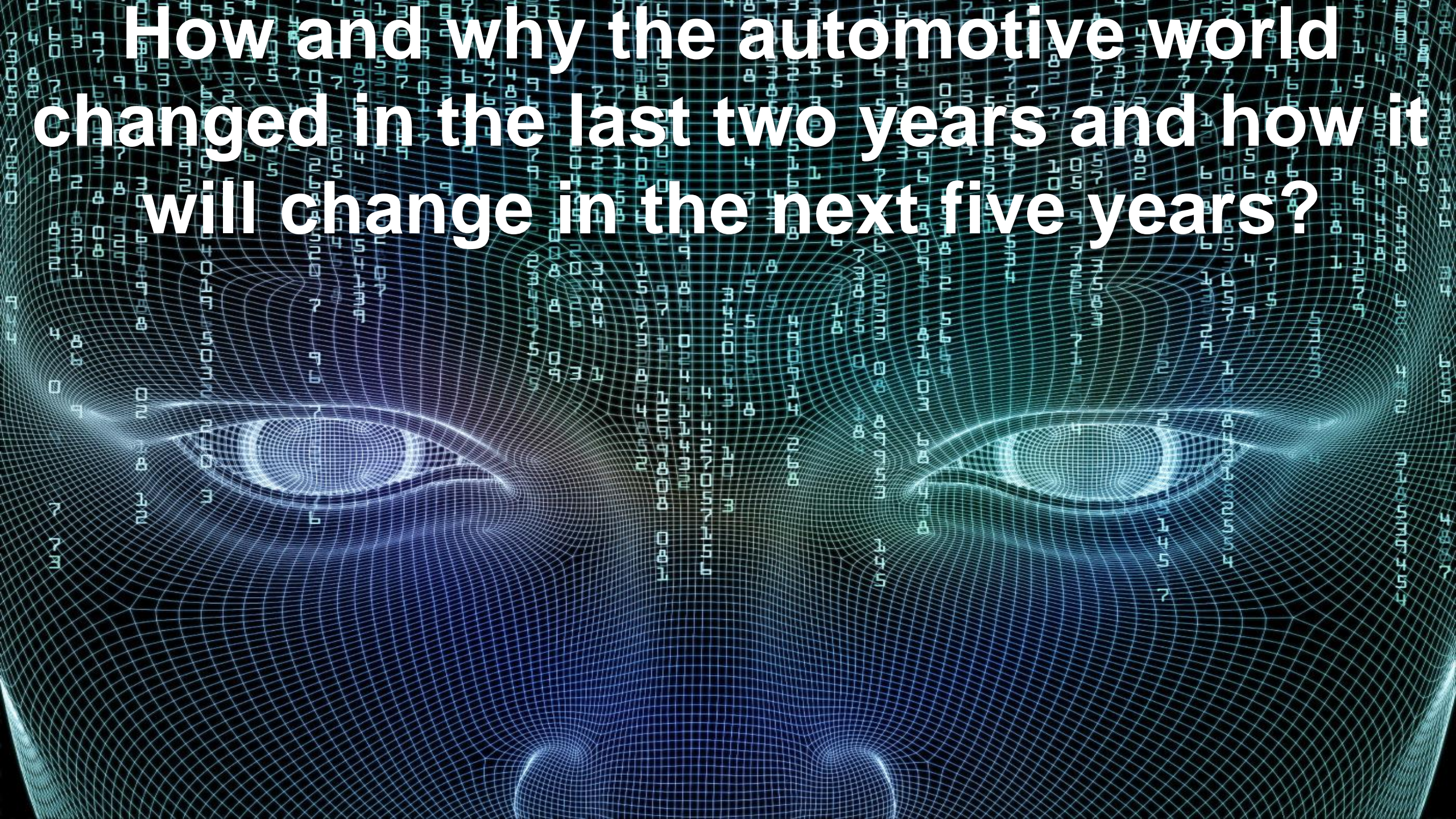
Head of Powertrain Test Systems (BU P)
Global Business Unit Manager ITS / P
AVL LIST GMBH



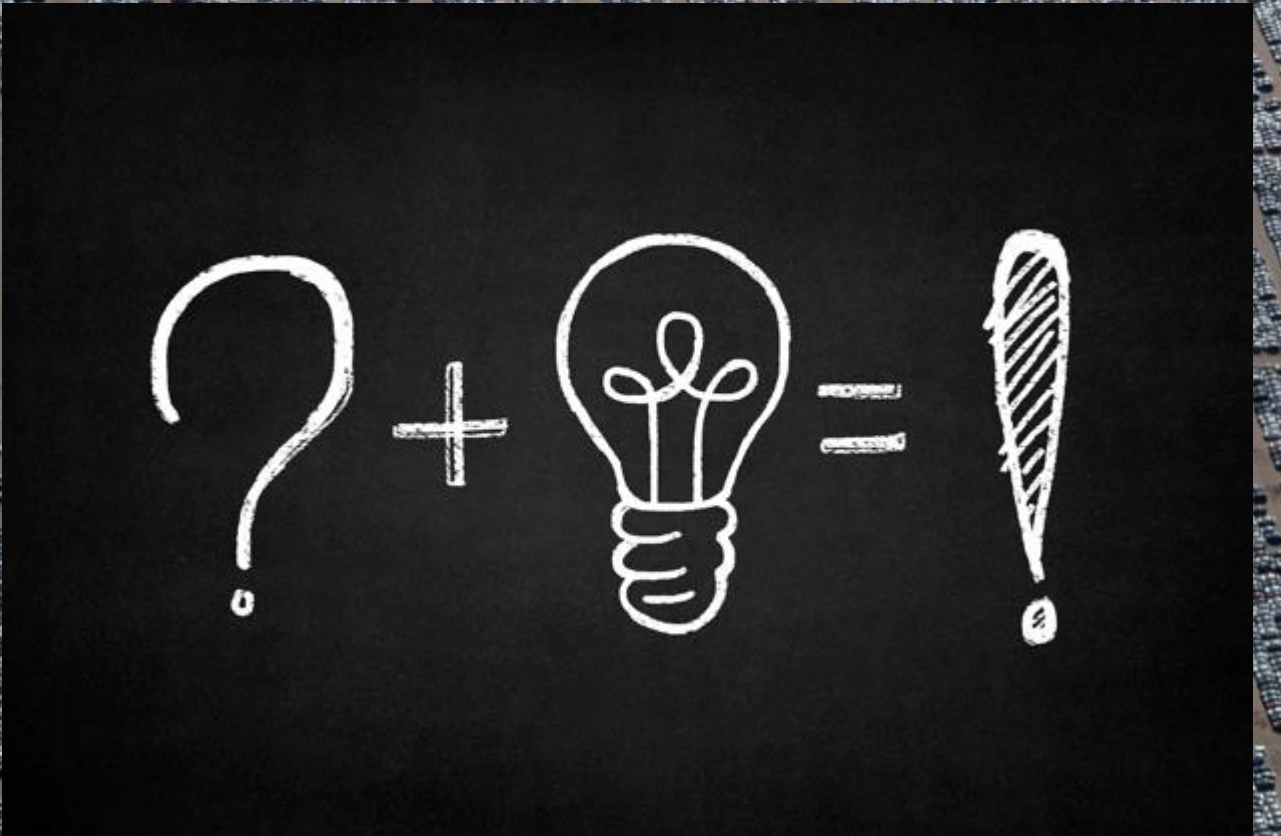
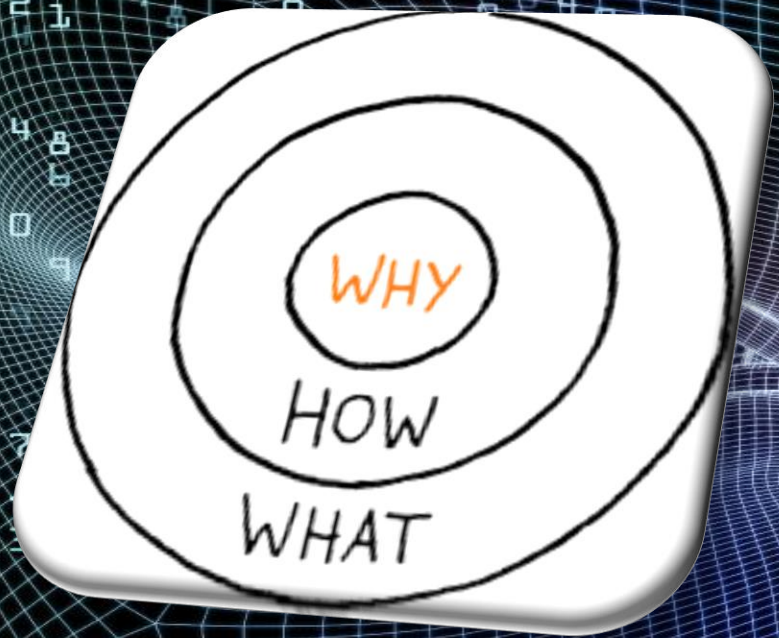
„Explore what are the technologies to achieve your dream“



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

The background of the image is a digital wireframe face, rendered in shades of blue and green. The face is composed of a grid of lines that form the contours of the head, eyes, nose, and mouth. The eyes are particularly prominent, with a glowing, circular pattern inside each. The overall aesthetic is futuristic and technological, suggesting themes of artificial intelligence, data processing, and digital connectivity. The text is overlaid on the upper portion of the face, appearing as a central question.

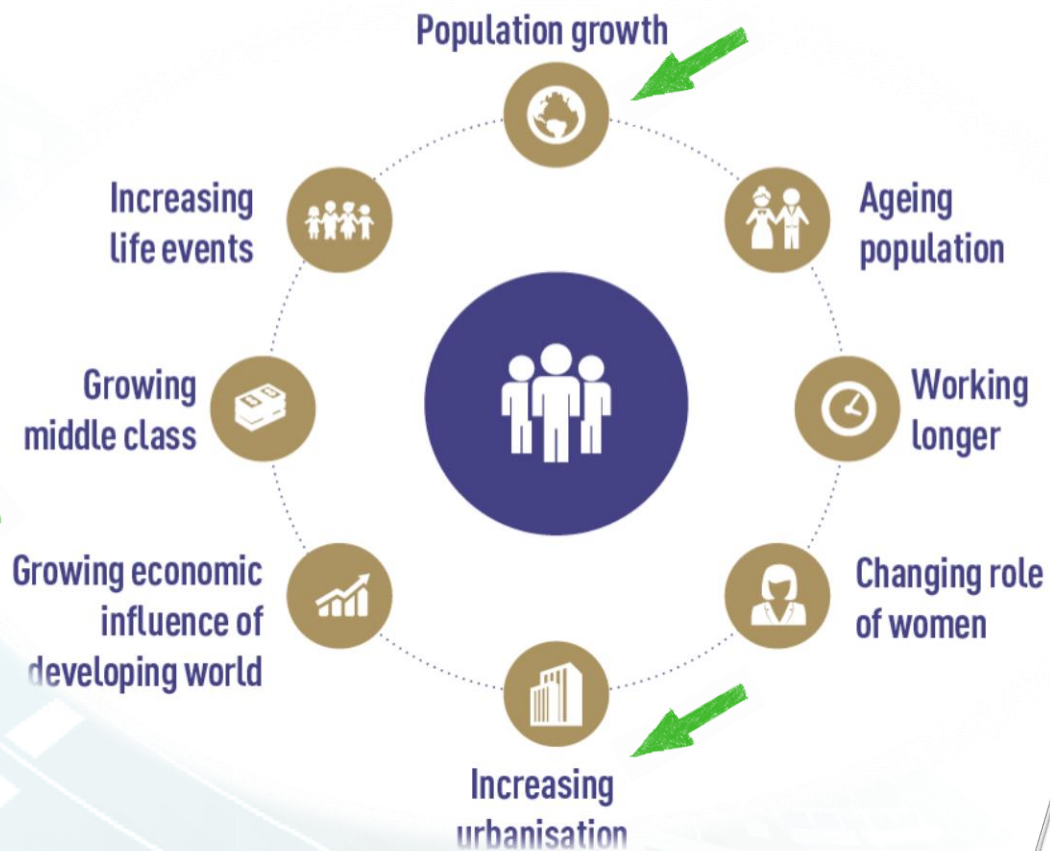
How and why the automotive world changed in the last two years and how it will change in the next five years?



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

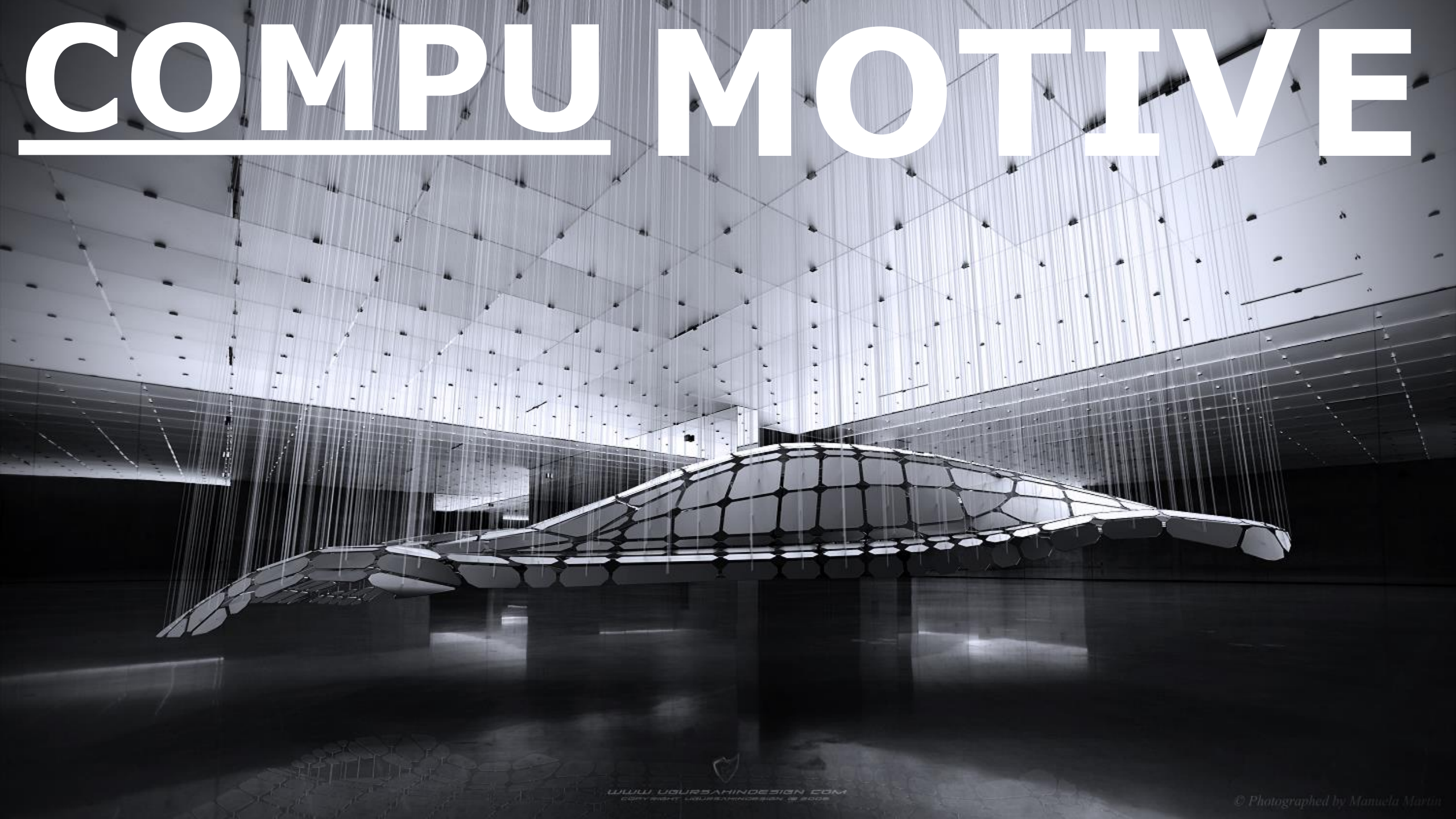
AUTOMOTIVE



AUTOMOTIVE



The Disintegrating series by Fabian Oefner



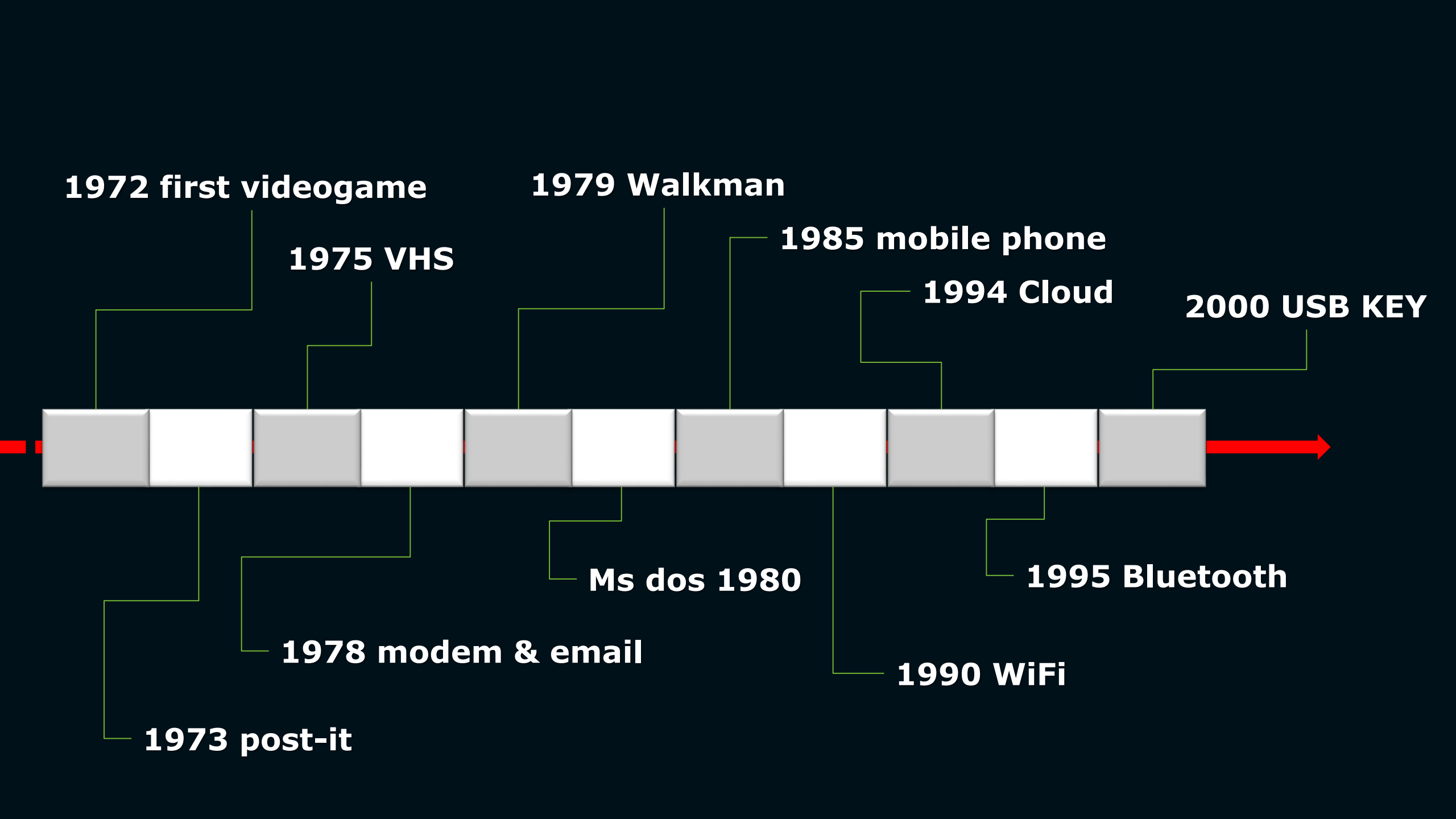
COMPU MOTIVE

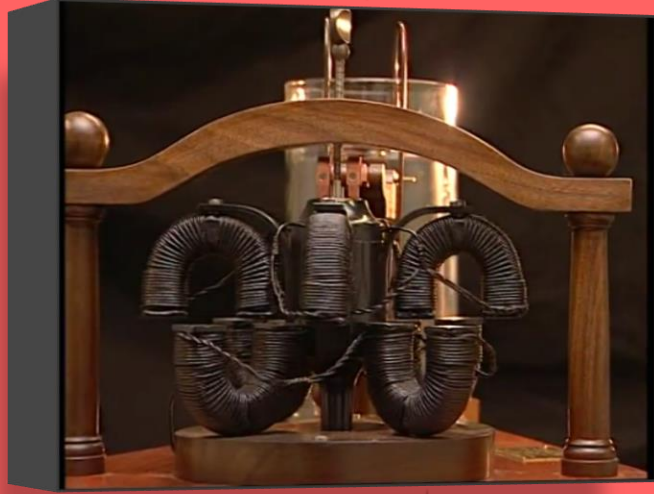
28 giugno 1971

"I THINK IT IS POSSIBLE FOR
ORDINARY PEOPLE TO CHOOSE
TO BE EXTRAORDINARY."

1971 FIRST MICROPROCESSOR
Federico Fagin, Marcian Hoff - INTEL







MADE IN
1835



MADE IN
1971



Many YEARS TO IMPLEMENT IT!



WHY?

SURROUNDINGS

SYSTEM

BOUNDARY

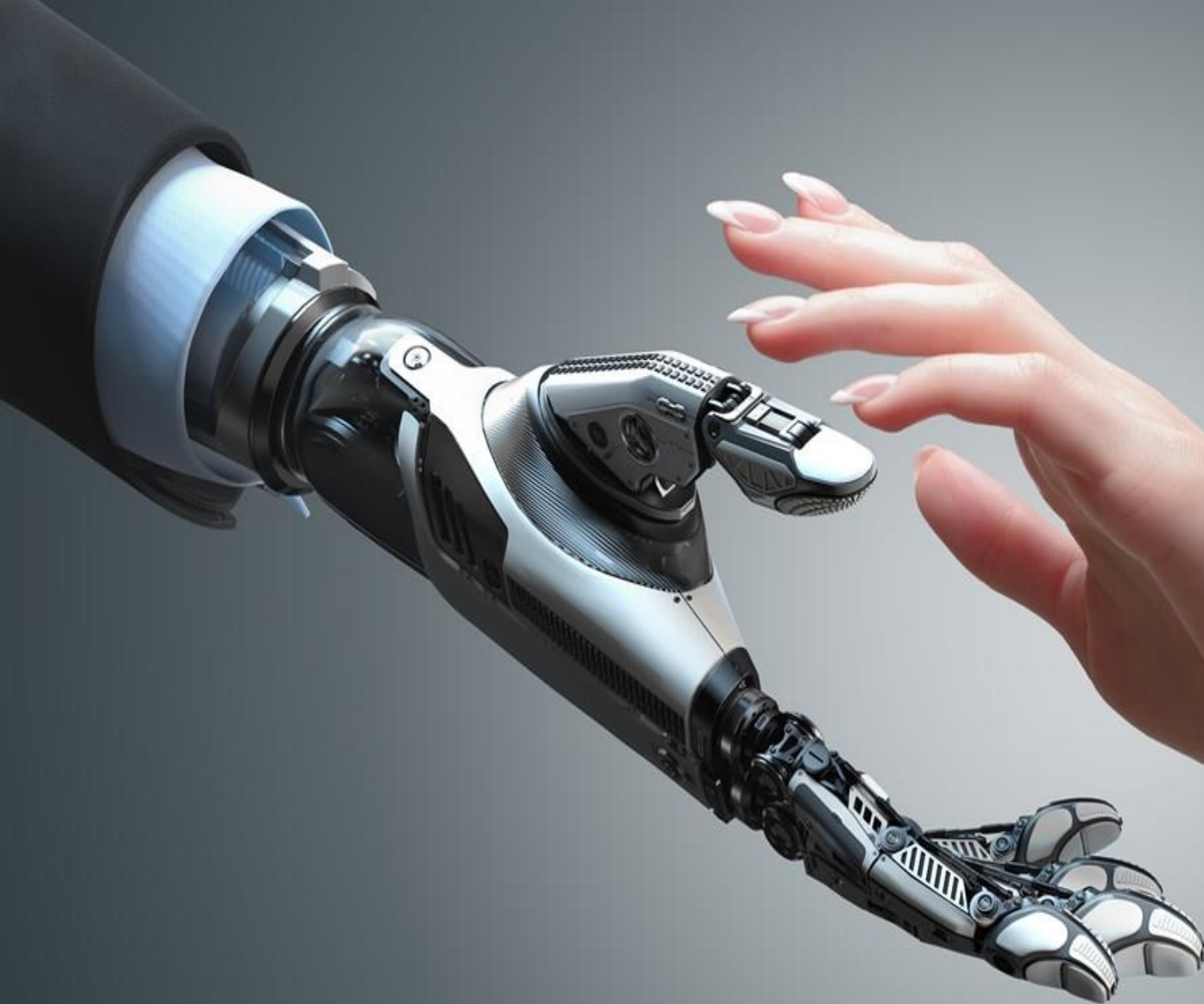




The rapid development and spread of CASE (connected, autonomous, shared and electric) technologies makes that prediction process even more challenging.

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



A network diagram consisting of numerous small, metallic, spherical nodes connected by thin, colored lines. The nodes are arranged in a complex, interconnected pattern, with some nodes having multiple connections. The lines are colored in various shades, including yellow, orange, red, purple, and green. The background is a light, neutral color.

Different Locations, same results!

Modular and flexible solutions

SMART AND CONNECTED

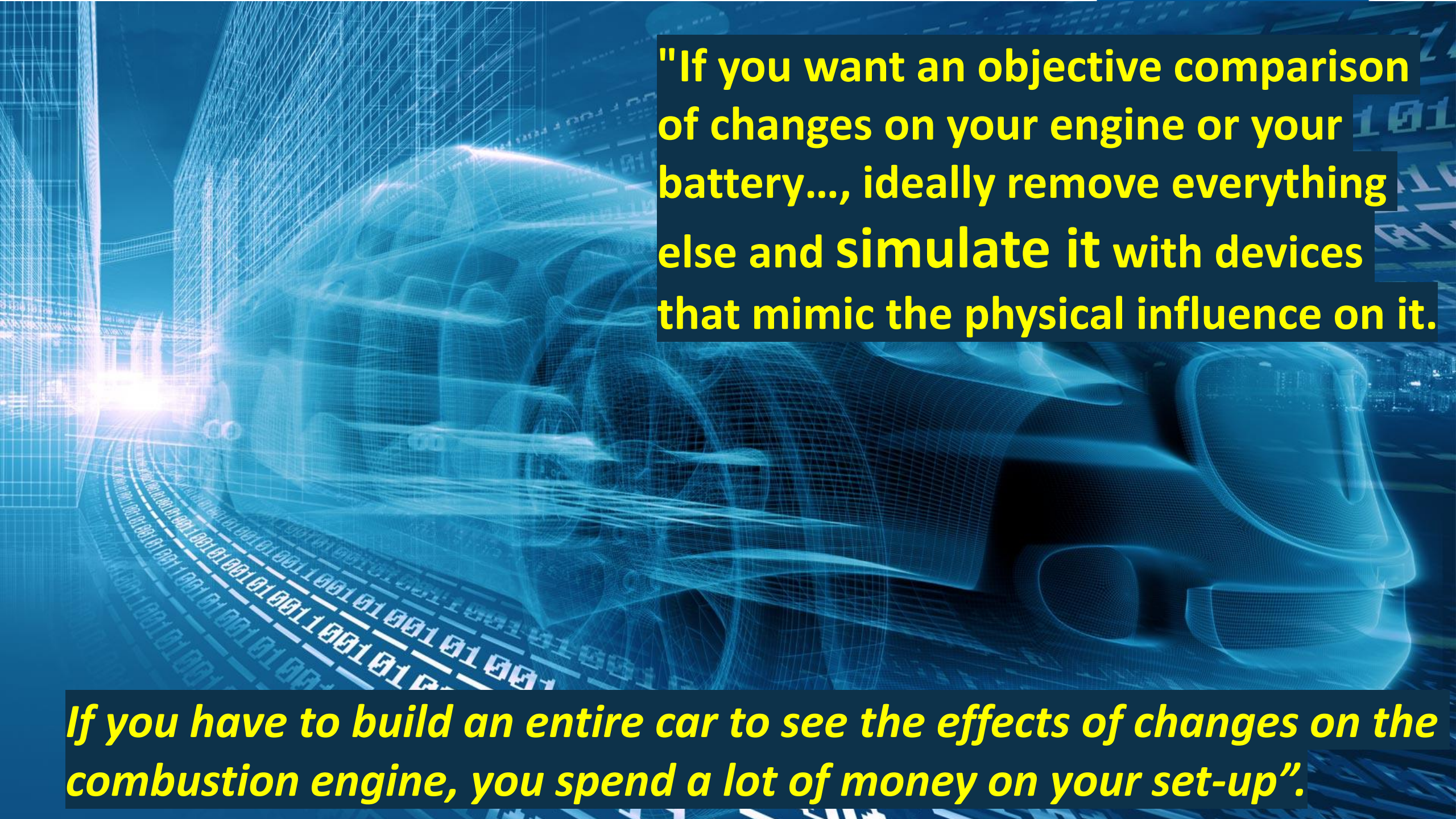
Easy to integrate and upgrade



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.

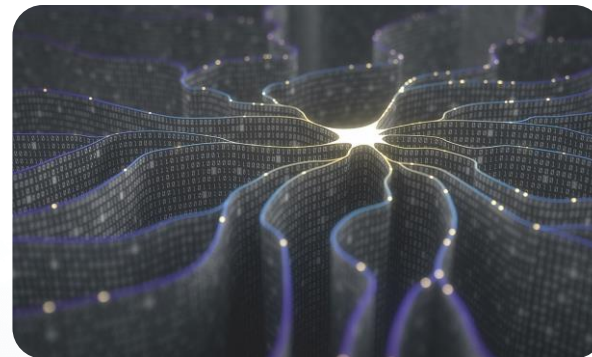
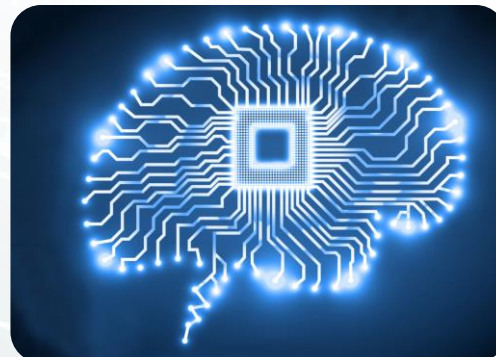
If you have to build an entire car to see the effects of changes on the combustion engine, you spend a lot of money on your set-up".

SIMULATION

VIRTUALIZATION

EMULATION

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



The Powertrain Test Bed for functional testing and Vehicle Validation



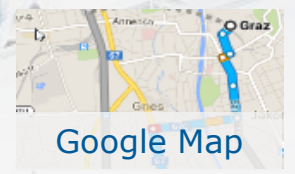
Virtual Vehicle Integration



Road Environment



Auto Import



When simulation virtually becomes reality!

Traffic & Environment



Driver / Driving



A close-up photograph of a black dog's face, likely a Labrador Retriever, wearing a pair of blue-rimmed glasses. The dog's eyes are visible through the lenses, and its black fur is the dominant color. The background is a soft, out-of-focus pattern of light and dark tones.

**WE ARE READY
FOR FUTURE
NEEDS!**

