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COMMITTED TO A SAFER MOBILITY
- Private Co. created in 2011
- A DNA around SAFETY for mobility
- A unique ecosystem of 22 shareholders and tech partners
- Investment of 20 millions made with private companies + IFSTTAR + French Gov., Region and City of Lyon
- International footprint in USA, Canada, Japan, China.
MAJOR PROJECTS WITHIN OUR SCIENTIFIC COMMITTEE

- Automated & connected vehicles
- Traffic management
- Telecommunication / 5G
- EV fast charging
- Fleet management
- Last mile delivery
- IoT
- Intelligent infrastructure
COMMITED TO THE AD COMMUNITY

NFI : member of the WG on homologation
PFA : commitment with CARA cluster
MOVEO cluster : member of the ADAS group of 12 tech SMEs
CARA cluster : member of the ADAS group for commercial vehicles
SIA : member of the SIA
IAMTS by SAE : membership in progress
OUR MISSION & VISION

Helping our customers accelerate the time to market of new and safe mobility solutions

Providing more added value services to innovate, test, validate Vehicles and Infrastructures
ACTIVITIES & BUSINESS LINES

SINCE 2016 : SAFETY FOR AUTOMATED AND CONNECTED VEHICLES

Engineering & simulation services - Testing & proving grounds for active safety

SINCE 2014 : SAFETY FOR PASSENGERS

Safety sensors manufacturer

SINCE 1984 : SAFETY FOR ROAD INFRASTRUCTURES

Simulation and crash test of road safety infrastructures
Transpolis is a test laboratory accredited by the COFRAC (French Accreditation Committee) member of the European Co-operation for Accreditation (EA) according to the requirements of the quality standard ISO / IEC 17025 (General requirements concerning the competence of laboratories calibrations and tests).

We perform tests on road devices of all types, according to the standards in force EN1317, EN12767, IWA 14-1 or other.
SAFETY FOR PASSENGERS
>100 PAIRS SOLD WORLDWIDE

Developed by IFSTTAR for the Q-Dummies / children from 1y to 10y old. Fitted vertically in the dummy’s abdomen they are an indispensable tool for assessment of abdominal lesions caused during crash tests on child restraint systems.

In the context of the new regulation ECE R129 abdominal pressure sensors are now adopted in the UN Regulation for dummies used to certify restraint systems for children.

International project ABISUP is under way to extend the use of this sensors to adult dummies.
SAFETY FOR AUTOMATED & CONNECTED VEHICLES
Engineering & simulation services - Testing & proving grounds for active safety
NEW PLAYGROUND

TOTAL 80 HA – CITY AREA 30 HA
- 40 buildings, 12 km urban streets, 30 intersections
- 20 streets from 100 to 300 m long, East / West
- Beltway with 3 lanes, Boulevards with 5 lanes
- Urban toll, Tunnel (in progress)
- Connectivity wifi, IoT, ITSG5, 3G/4G and 5G
- Cameras, RSU, lighting, connected trafic lights
NETWORK AND CONNECTIVITY

Control center
- Server with GPS clock
- Wifi
- LoRa
- Data center
- Control stations

Satellites GPS
- RTK base

3G/4G/5G

Transmitting messages to each others and to vehicles
- RSU
- Infrastructure monitoring

INTEGRATED NETWORK

Equipped vehicles
- Sensors:
  - GPS RTK, Accelerometers, Gyroscopes, Radars, Lidars, Cameras, Control states (wheel angles...)
  - Energy parameters
  - OBU: DSRC & 4G or 5G communications
  - Recording data during experiments and synch. using GPS
  - Data transmission to the control center

Road users
- Soft Target robots
- Driving robots

Infrastructures
- Urban lighting
- Dynamic signage

Road sensors
- Energy stations
- Tolls
- Traffic lights controllers

RSU
- Optical fiber
- Ethernet cable
AD, ADAS AND EURONCAP TESTING
EURONCAP 2018 ready =>
on the road to EURONCAP 2025

More specific scenarios to
develop the different functions of
the Autonomous Driving levels
and ADAS Systems

Apparition of new ADAS
systems:
- Automatic Emergency
Steering (evasive
manoeuvres)
- V2X

Apparition of a new target type:
Powered Two Wheelers
OUR ADDED VALUE ADAS & AD

- Performing EuroNCAP 2018 tests according protocols: control of equipments, test procedures, data processing methods
- Performing standard tests methods for ADAS vehicle assessment
- Developing technical skills and test engineering methods
- Controlling output data and report
- Developing test objectivation methods and robustness (ADAS vehicle assessment)
OUR TEST EQUIPMENTS
COMPLEMENTARY PROVING GROUND FOR COMPLETE VEHICLE TESTING

- 60 HECTARES – 42 KM TRACKS
- COMPLETE VEHICLE TESTING
- SPECIFIC TRACKS FOR COMMERCIAL VEHICLES / SUV
> Scenario design & management
> Test protocols and definition
> Vehicle instrumentation / sensors integration
  ➢ Virtual testing with digital twin and simulation tool
  ➢ Physical testing with proving grounds + open roads
> Data collection and analysis
> Unique Ecosystem of technology partners
SOME CUSTOMERS

- RENAULT NISSAN
- NAVYA
- VOLVO
- PLASTIC OMNIUM
- CNHI INDUSTRIAL
- JTEKT
- Bolloré
- KEOLIS
- SIEMENS
- ALSTOM
LESSONS LEARNED FROM OUR EXPERIENCE WITH CUSTOMERS

SOME CHALLENGES FOR CAV:

1. VALIDATION OF A LEVEL 5 AUTONOMOUS VEHICLE = BILLIONS OF KM
   ⇒ MORE SIMULATION NEEDED WITH A VIRTUAL TRANSPOLIS + SIMULATION TOOL.
   ⇒ THE MOST CRITICAL SCENARIO HAVE TO BE PHYSICALLY TESTED IN A SAFE AND CONTROLLED ENVIRONMENTS

Simulation allows for checking the behavior of autonomous vehicles in a huge number of scenarios, environments, system configurations and driver characteristic and can help focusing on the necessary physical tests to verify the simulation results. Field tests will contribute with further validation insights, which derive from unexpected driving situations and retroactive effects under real driving conditions.

2. DATABASE AND CHOICE OF SCENARIO TO FOCUS ON THE MOST CRITICAL

3. CONNECTIVITY V2X V2I: A NECESSARY MIX OF TECHNOLOGIES TO MAKE THE SYSTEMS MORE ACCURATE AND CAV MORE SAFE.
Contact

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