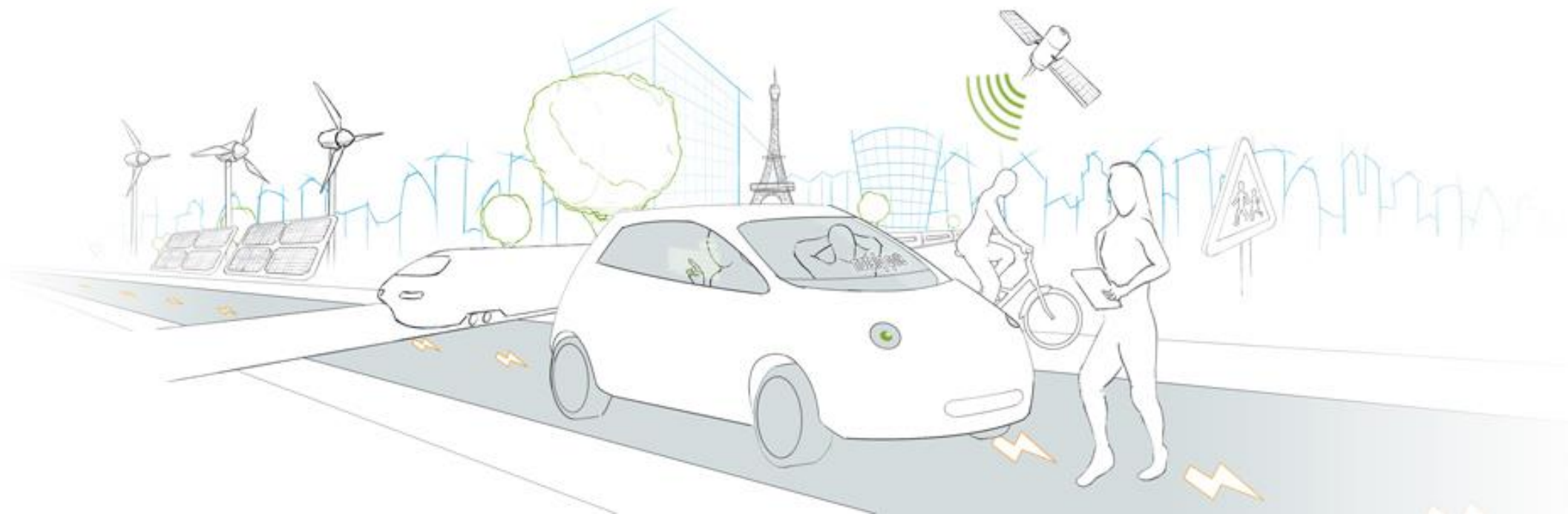


# FUTURE MOBILITIES : THE MAJOR DISRUPTION FOR AUTOMOBILE

**Rémi BASTIEN** - Chairman of VEDECOM Institute for Energy Transition  
VP Automotive Prospective at RENAULT

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AMA 2018, Sept 12, Berlin



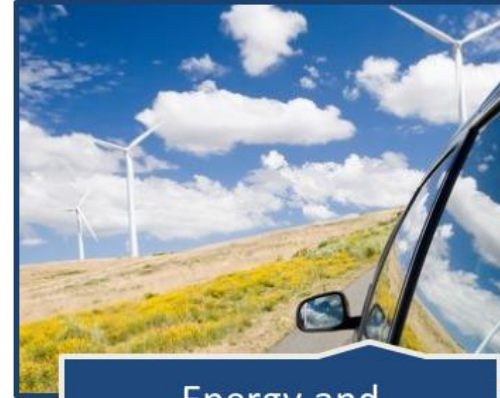
# 6 DRIVING FORCES FOR FUTURE MOBILITIES



Mobility and Living



Customer Values



Energy and Environment



Global Economic and Demographic Changes



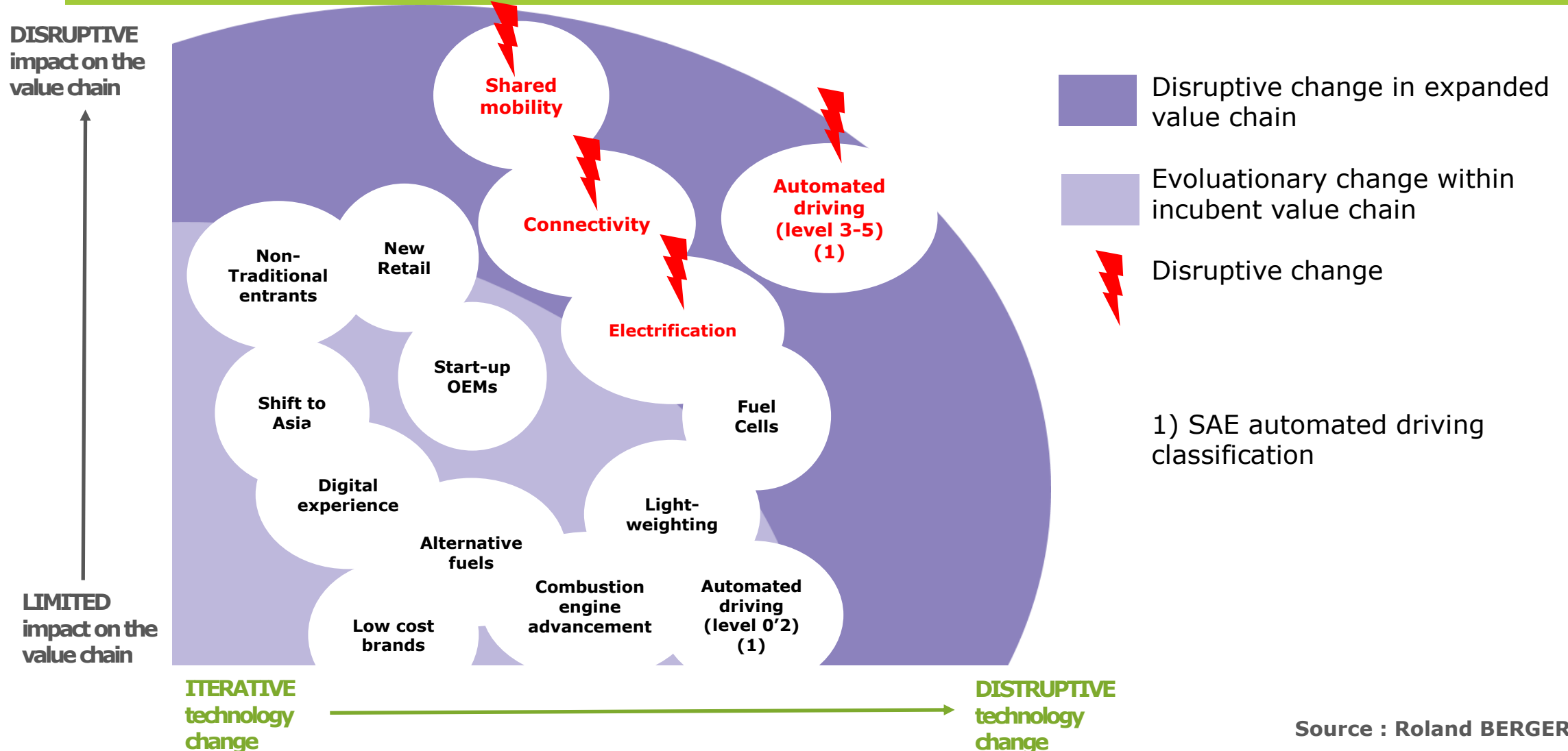
Technical Disruptions



Transport Infrastructure



# DISRUPTIONS IN VALUE CHAIN AND TECHNOLOGIES

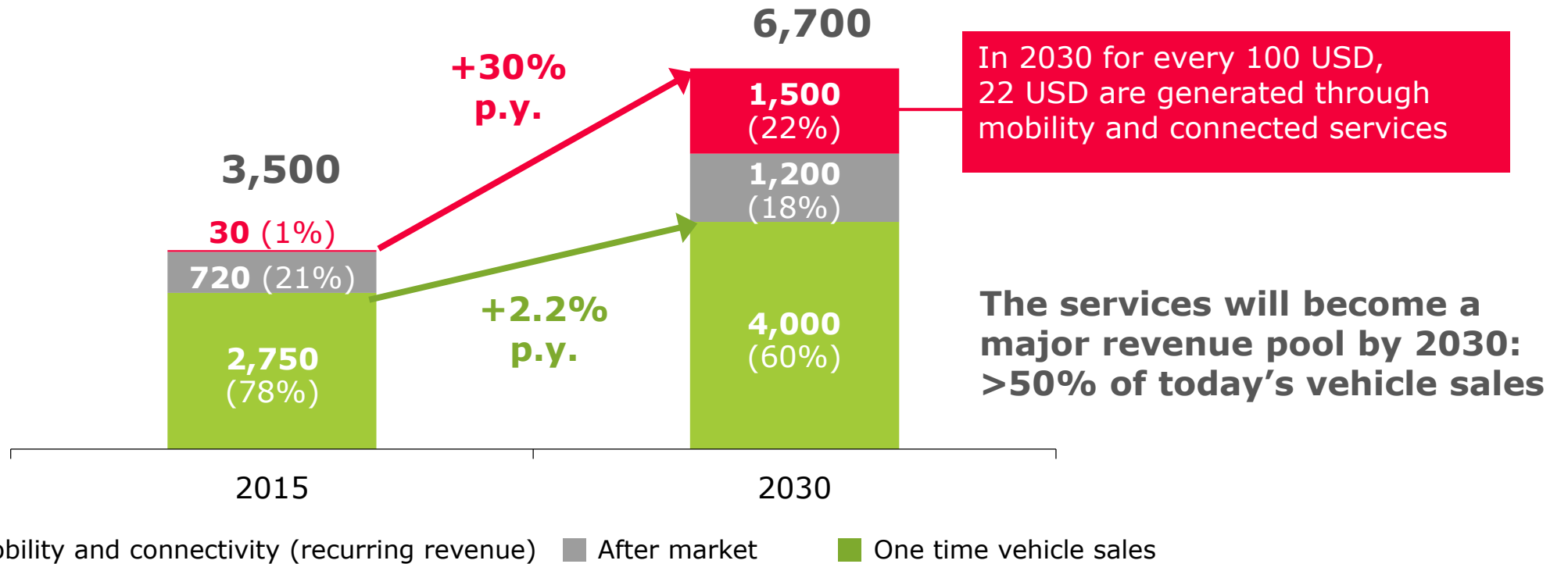


Source : Roland BERGER

# MOBILITY AND CONNECTIVITY SERVICES TO GROW BY 30% P.Y

## AUTOMOTIVE REVENUES 2015 ▶ 2030

In USD B.  
Source: McKinsey, Goldman Sachs





# VEDECOM 360° VISION & EXPERIENCE

3 programs to answer major society challenges



# VEDECOM'S VISION: TO PREPARE THE SUSTAINABLE MOBILITY FOR ALL

6

VEDECOM: a **cooperative** research hub



Industrials



Academics



Local authorities

## Towards...

- 0 emissions
- 0 fatalities
- 0 stress
- 0 left out (access to mobility)
- 0 waste (energy, time, space)



# VEDECOM'S MISSION: TO ADDRESS 3 MAJOR SOCIETY CHALLENGES

## Mission

Develop **disruptive technologies** and a **cross-disciplinary vision of new usages**, for **sustainable, safe, efficient and affordable mobility**

## Challenges

**Electric vehicle**

**Autonomous drive**

**Connected car**

## VEDECOM Domains



**Vehicle electrification**



**Driving delegation and connectivity**



**Shared mobility and energy**



# BENEFITS OF ELECTRIC VEHICLE



## VEDECOM's Mission



Vehicle electrification

**Contribute massively to air quality in urban areas and CO2 reduction**

by moving electric vehicle from niche to mass market



# BENEFITS OF AUTONOMOUS AND CONNECTED DRIVE

**Autonomous Drive Mode**



**Manual Drive Mode**



**Safety**



**Stress-free**



**Free time**



**Let's keep it for driving pleasure!**

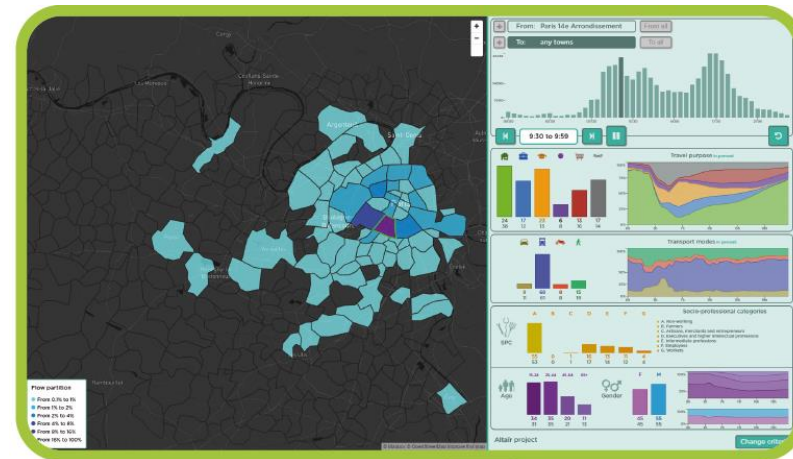
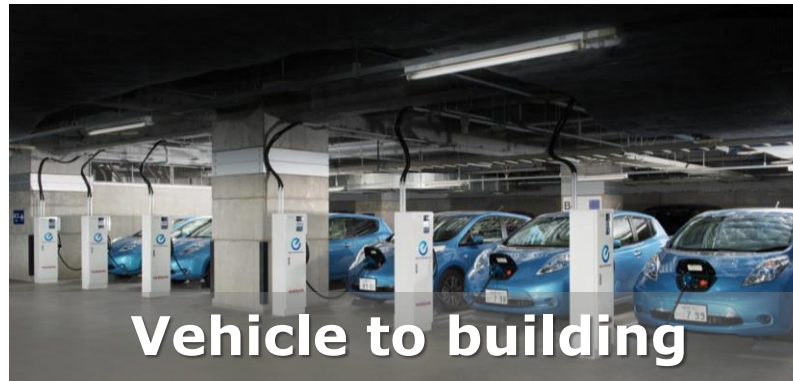
**VEDECOM's Mission**



**Driving delegation and connectivity**

**Offer sustainable, safe and efficient mobility**

**by accelerating the introduction of automated cars, with or without driver**



## VEDECOM's Mission



Shared mobility and energy

Optimize mobility systems on territories

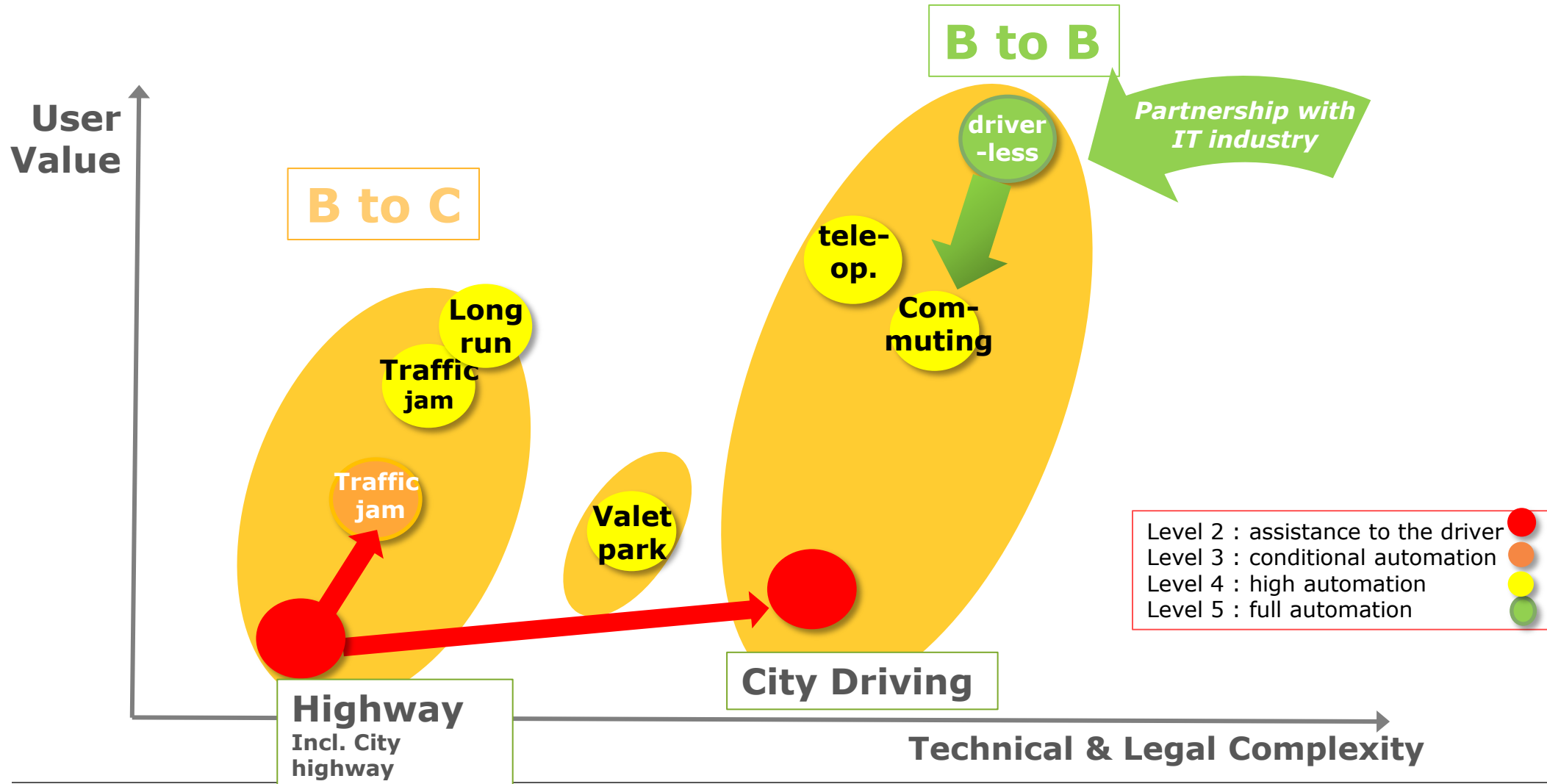
by analysing and experimenting new services linked with clean, autonomous and connected vehicles



# VEDECOM, A PIONEER FOR AUTONOMOUS DRIVING

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# TWO MAJOR FIELDS FOR AUTOMOTIVE CAR MAKERS





# PERI-URBAN DEMONSTRATION IN STRASBOURG - JUNE 2017

## CROSS-BORDER Automated On-demand MOBILITY SERVICE

- ① Robot taxi station
- ② Control station
- ③ Pick up point
- ③ Drop off





# PERI-URBAN DEMONSTRATION IN STRASBOURG - JUNE 2017

## CROSS-BORDER Automated On-demand MOBILITY SERVICE

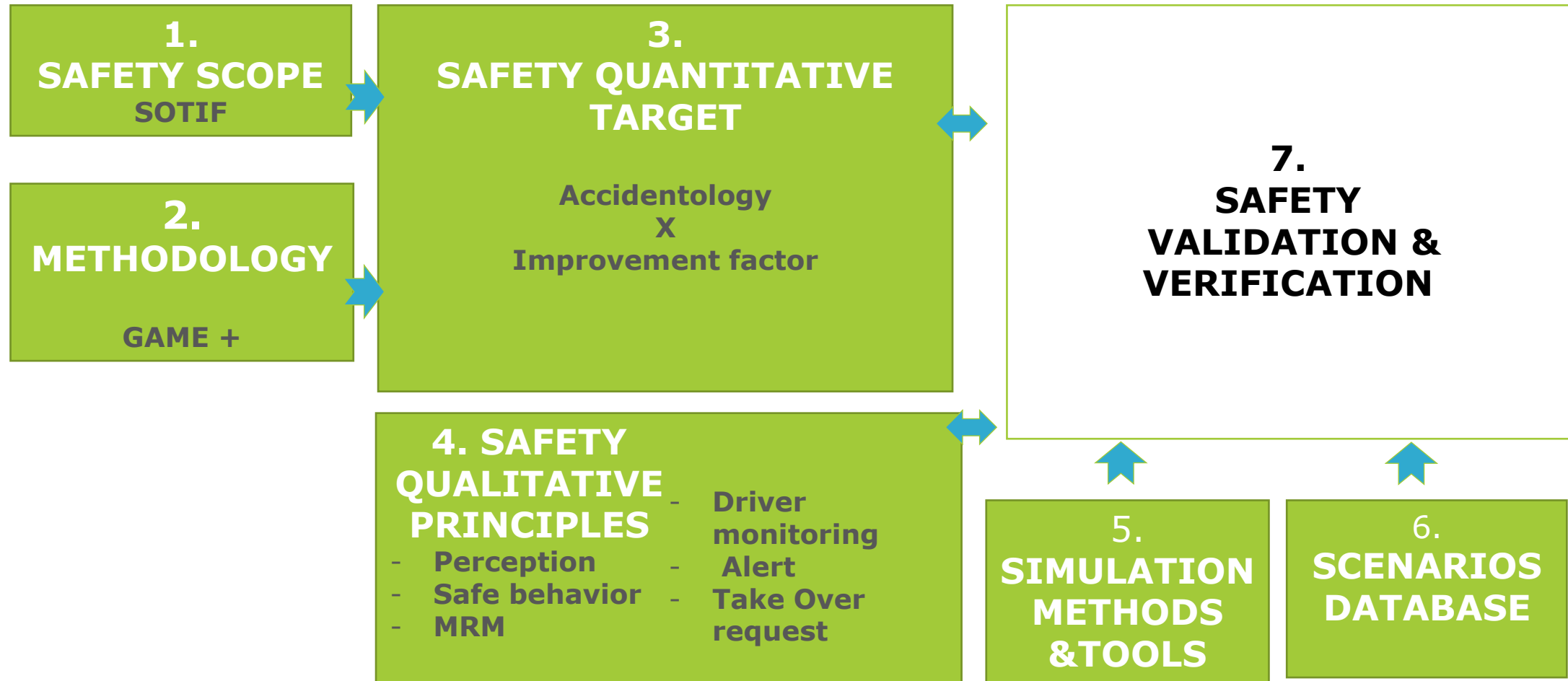
Service order

Automated driving

Remote Control Center

Service optimization





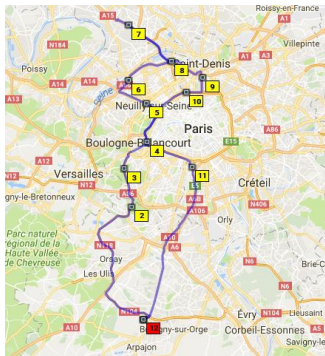


# MOOVE PROJECT: COLLECTION & SCENARIO DATA BASE

1. Real world driving safety critical scenarios (SCS)
2. SCS occurrence statistics
3. New SCS



**0. Use case Definition & Targeted scenarios**



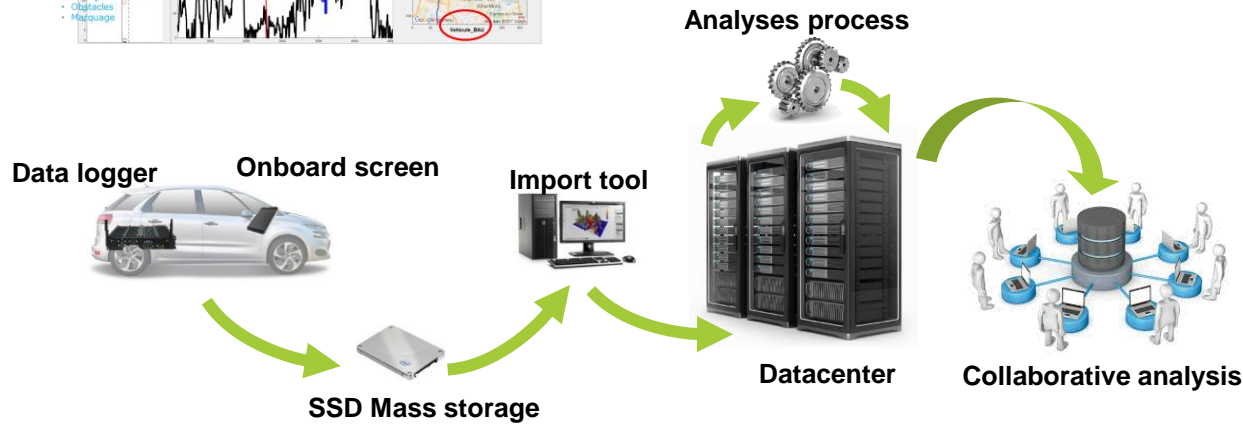
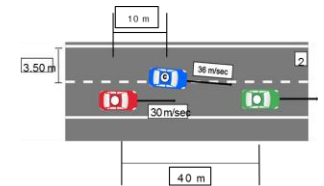
**1. Data collect**



**2. Data transformation at common format**

**3. Calculation of high level parameter (Sensors independant)**

**4. Scenario searching and clustering**



- More than 700.000 km and 15.000 h recorded
- 2Tb of raw data collected each day
- Several interesting sequences extracted like accidents, hazardous driving situations, etc.

# AT A GLANCE

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- **The game is changing: from car business to mobility solutions**
  - **The vehicle of future will be zero emission, connected and autonomous**
  - **Partnerships in this new eco-system are key for this mutation**
- => VEDECOM : a centre of excellence for this mutation**



**Thank you for your attention**

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**Together to accelerate the mobility of tomorrow!**

