The industry challenges, Mobility as a business case

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The Context

INDUSTRY 4.0 & EVOLUTION OF MOBILITY: FACTS AND FIGURES
Industry 4.0 - The forth Industrial Revolution

Industry 1.0 – 1812
First Steam Machines

Industry 2.0 – 1870
First electrical conveyors

Industry 3.0 – 1969
Electronic, automatization, informatic

Industry 4.0 – today and tomorrow
Internet of …

People

Objects

Services
Industry 4.0

The complete companies value chain is affected

- Marketing & Sales
- Innovation
- Engineering
- Resources planning, logistic
- Manufacturing
- Asset Management
- Services
- Human Resources, Finance, IS
HOW TO TRANSPORT 10 BILLION PEOPLE IN 2050?

TRANSPORTATION SECTOR GROWTH FROM 2015-2050

In 2015, transport represent 29 % of the final energy consumption. This is 72 % more than in 1990.

Source: «Virginie Raisson-Victor, fondatrice de LEPAC, à propos de l'évolution des transports jusqu'en 2050, au Forum des 100 2018»
ENERGY EFFICIENCY OF DIFFERENT TYPE OF TRANSPORTATION

Source: «Virginie Raisson-Victor, fondatrice de LEPAC, à propos de l'évolution des transports jusqu'en 2050, au Forum des 100 2018»
Innovation ecosystem platform

People & Corporates who make things happen
PROFIT VERSUS NON PROFIT

NON FOR PROFIT FOUNDATION

NON PROFIT

FOR PROFIT

Return = impact

Social impact

Business oriented

Return = $

MISSION ORIENTED

FINANCIAL RETURN
In order to achieve these goals, Innovation bridge offers a **platform of cocreation** to connect the key stakeholders:

- **Startups**
- **UNIGE, EPFL, Apprentices**
- **Investors**
- **International Organisation**
- **SMEs**
- **State of Geneva/switzerland**
- **NGO**
- **Multinationals**

This gives our partners access to open innovation sourcing with world-class talent, technology and facilitators without having the costs or risks associated with setting up the same facility in-house.
INNOVATION BRIDGE

CURRENT 7 HUBS

2 SOCIETAL INNOVATION HUBS

- Innovation bridge FUTURE OF JOBS & EDUCATION
  SDG 4, 8 & 10

- Innovation bridge SOCIAL CONTRACT 4.0
  All 17 SDGs

5 TECHNOLOGICAL INNOVATION HUBS

- Innovation bridge MOBILITY
  launched in January 2018
  SDG 7, 9, 11, 13 & 15

- Innovation bridge SECURITY & PRIVATE LIFE
  SDG 16

- Innovation bridge HEALTH
  SDG 3, 8 & 12

- Innovation bridge FOOD
  SDG 9, 12, 14 & 15

- Innovation bridge ENERGY EFFICIENCY
  SDG 6, 9, 11 & 14
Mobility hub

People & Corporates who make things happen
INNOVATION BRIDGE

PLAYGROUND

ELECTRICAL SOLUTIONS ON EARTH

ELECTRICAL SOLUTIONS ON WATER

ELECTRICAL SOLUTIONS IN THE AIR

TOSA

L’innovation au service de la mobilité

SOLARIMPULSE

AROUND THE WORLD IN A SOLAR AIRPLANE

planet solar
INNOVATION BRIDGE

14 MOBILITY HUB MEMBERS
A VERY GOOD MIX OK KEY PLAYERS
INNOVATION BRIDGE

10+ CO-CREATION PROJECTS

Hydrogen as energy source (2)
Smart parking & charging
Bus to grid
Autonomus vehicles (3)
Smart eboat
e-bus (Tosa)
e-moto
INNOVATION BRIDGE

INSPIRATION - TOSA

Co-Creation process
Public Private Partnership
(Operator, Utility, Industry, State)
100% electric bus with large capacity
20' flash charging every 4 stops
If deployed throughout the entire network of the canton:
25'000 t per year less emissions
10'000'000 l of fuel saved
1.8% increase in electricity consumption
High level of automation - Maintenance using augmented reality
Autonomous buses in 10 years?

Urban transport system having an impact on:
- The environment (emissions, noise)
- Urban planning (infrastructures, costs)
- Traffic density (mass public transport, flexibility)
- The public transport business model (costs, performance, social impact)
Fossil fuels are going to be more and more rare and their price will not stop increasing in the years to come.

There is now a TRUE alternative for industrial vehicles and captive fleets to dispense with fossil energy.

This alternative is the use of hydrogen as an energy storage vector. Moreover this solution offers a TCO close to that of current diesel vehicles.

Water + electricity (solar) $\rightarrow$ electrolysis $\rightarrow$ H2 + O2

H2 + Air $\rightarrow$ Fuel cell $\rightarrow$ electricity + water + heat
We want to develop an innovation ecosystem platform in order to contribute to build a sustainable future for the next generation.
THANKS FOR YOUR ATTENTION

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