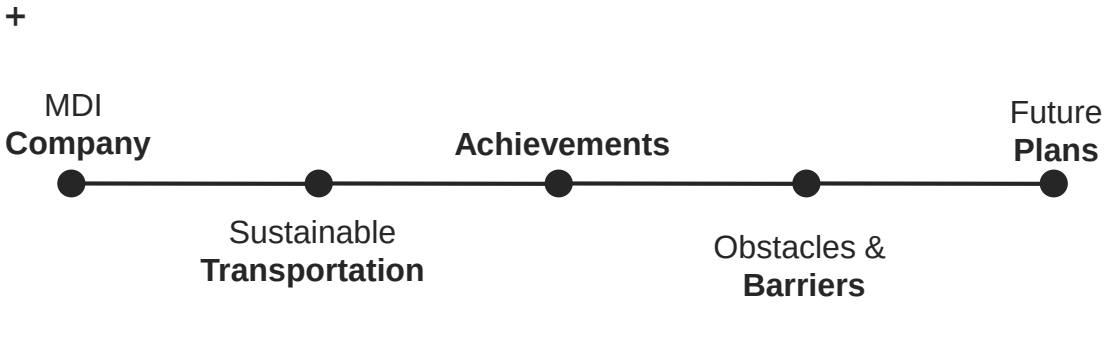

MDI
Motor Development International
UN
powering the future we want

Summary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MDI
Company
Sustainable
Transportation
Achievements
Obstacles &
Barriers
Future
Plans

I.

MDI **Company**

background

Guy **Negre**

Founder & Pioneer in sustainable transportation

1972
UN Stockholm Conference

→

End of the 80s
A new vision

→

1992
UN Rio de Janeiro Earth Summit

Guy **Negre**

Founder & Pioneer in sustainable transportation

“Ecology will only have a real impact
if it is accessible to all ”

– 1991

Motor Development International

Origins & Location

Since 1991

Based in Luxembourg (Europa)

Work **Team**

< 20 people → A small structure with big ideas

II.

Sustainable

Transportation

approach

Sustainable **Transportation**

Problems

non-renewable resources

geopolitical dependance

big, polluting & inhuman production factories

rigid & expensive manufacturing processes

huge energy & water utilisation & soiling

heavy & polluting supply chain

expensive technologies

range constraints

Sustainable **Transportation**

MDI Solutions

universal energy carrier / renewable compression

local supplies / independance

human mini-factories network

flexible process thanks to composite materials

low energy/water consumption

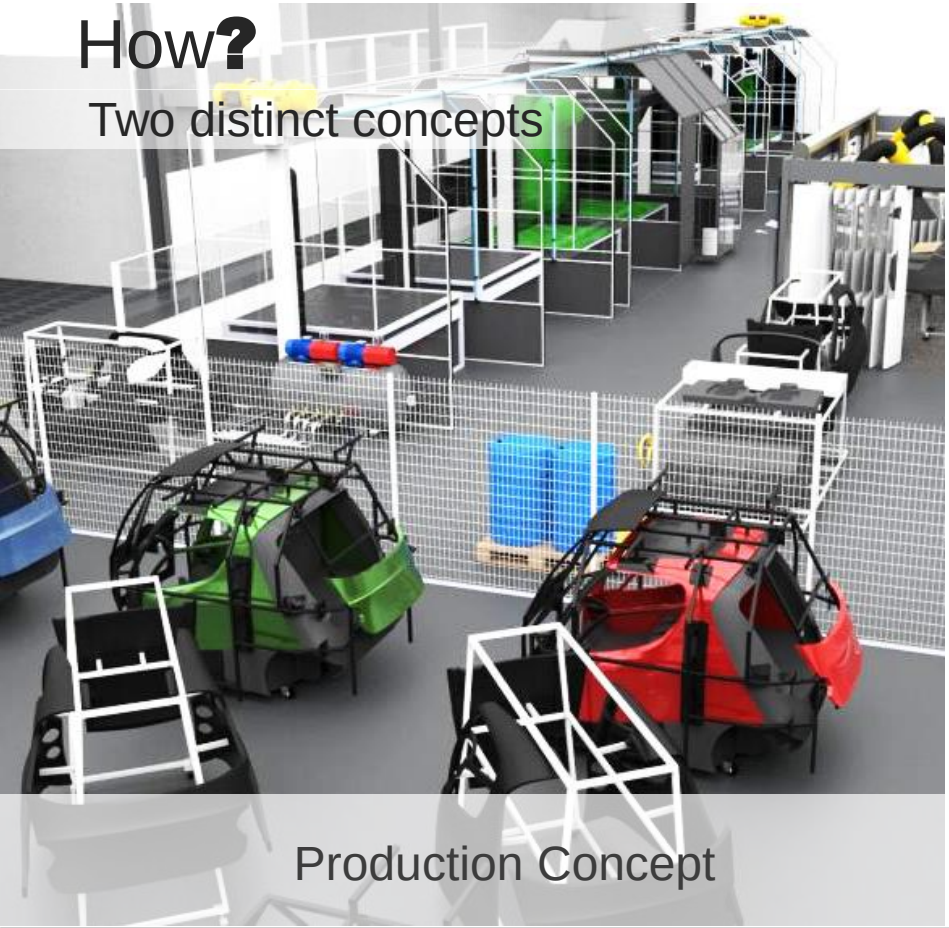
local production & distribution

affordable to all

quick refill

How?

Two distinct concepts



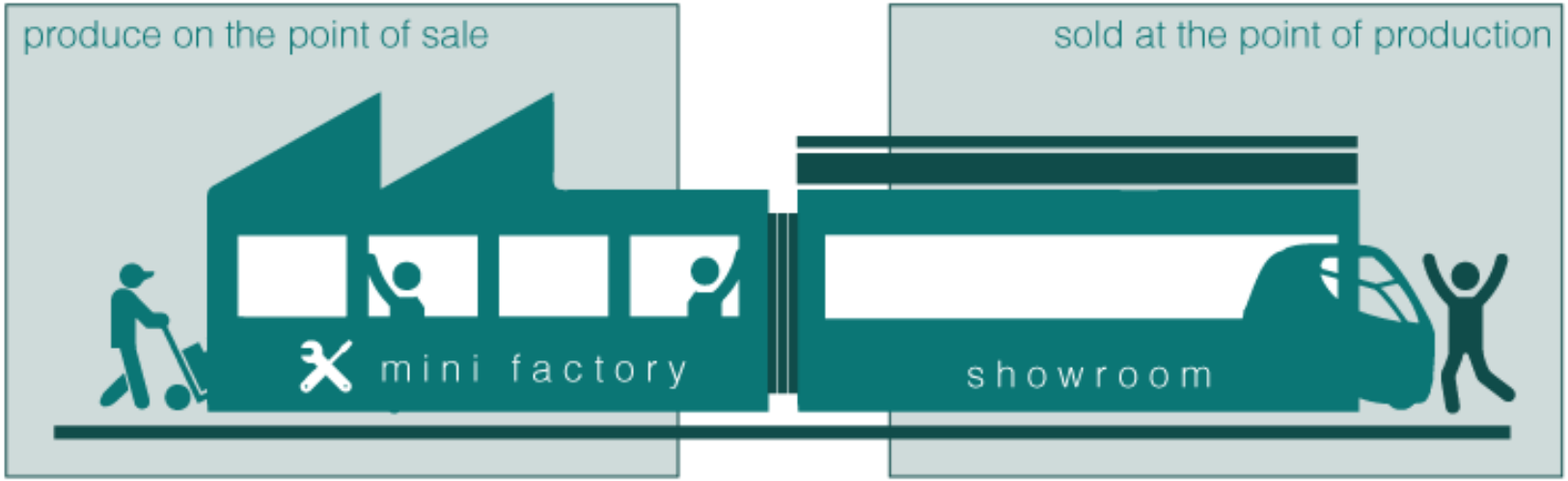
Production Concept

Compressed Air Technology

III.
MDI
Achievements

III.1

MDI Production **Concept**



Mini **Factory**

Production

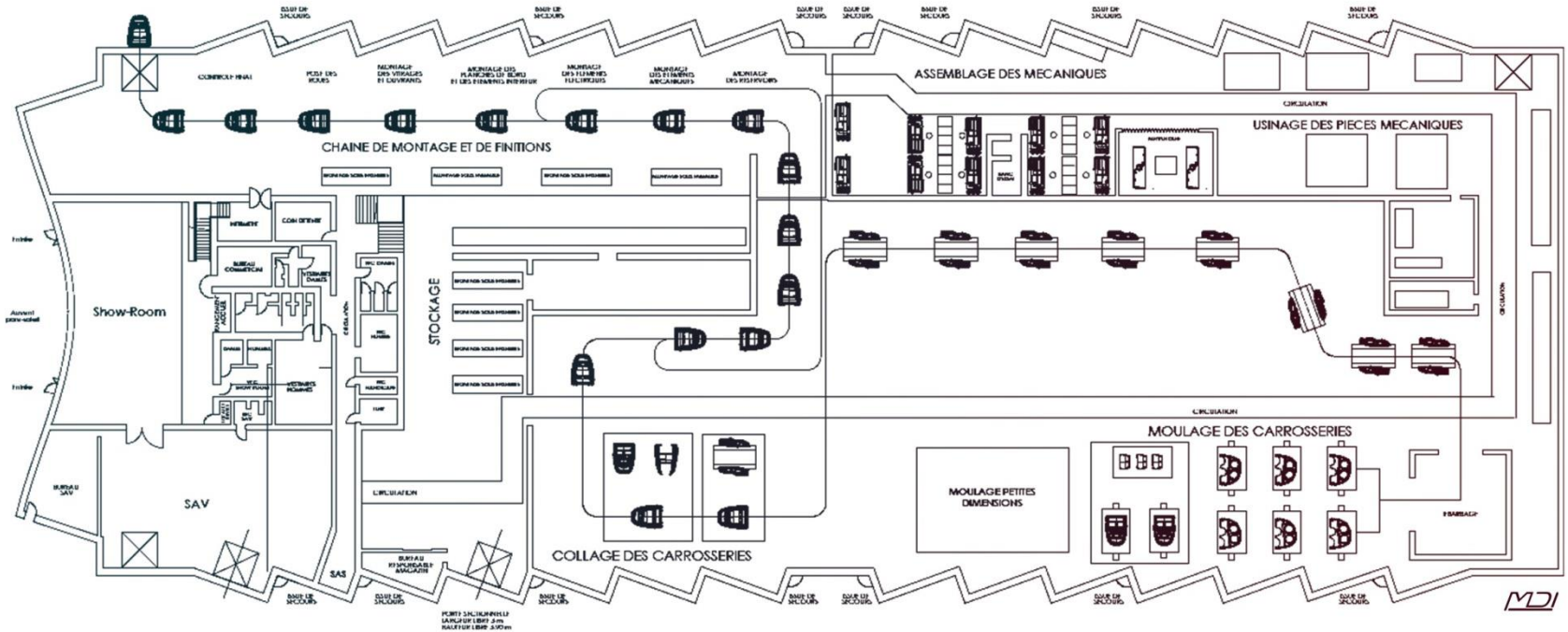
Produced at the point of sale

Showroom

Sales

Sold at the point of production

Factory **Layout**



First MDI **Factory**

Nice, France

All around the **World**

Implantation

MDI Process **Benefits**

Earth-friendly

1/3 ground compared to classic factories

Best energy repartition for production

No pollution due to transport of finished products

Economical & Social

Local employment

30% more workers

Knowledge & expertise sharing

Partnership network

Quality / Technical

Use of techniques not compatible with mass production

Functions integration thanks to composite materials

Increased energy efficiency through technology

Costs & Benefits

Reduction in import taxes

No stock of spare parts

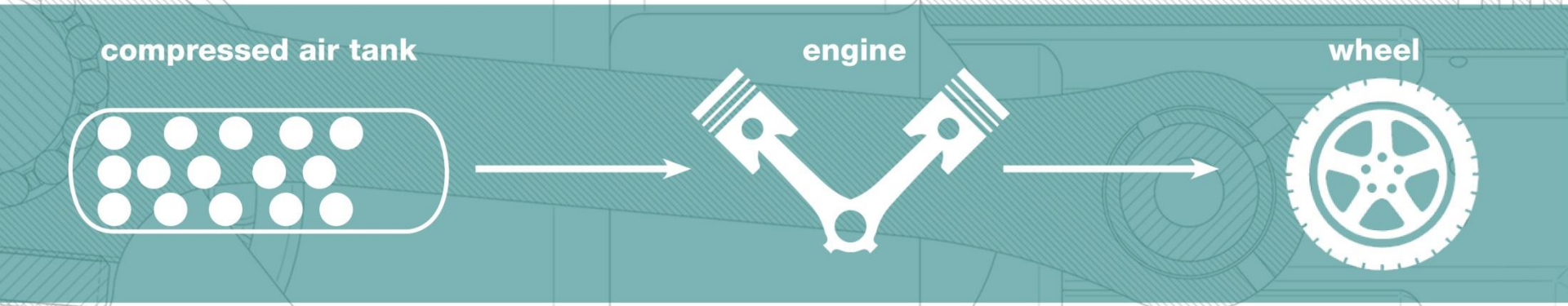
Logistic costs drastically reduced

Decreased costs of production

Affordable products

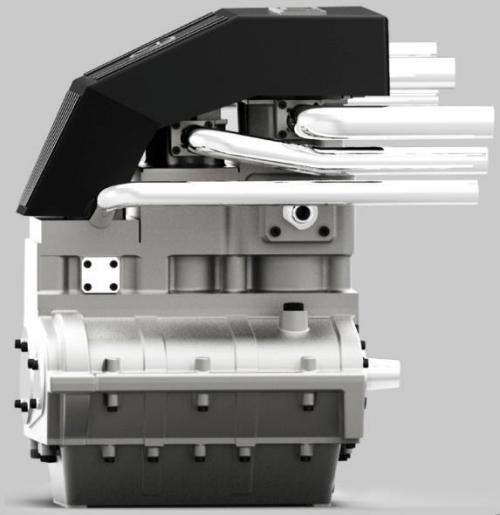
III.2

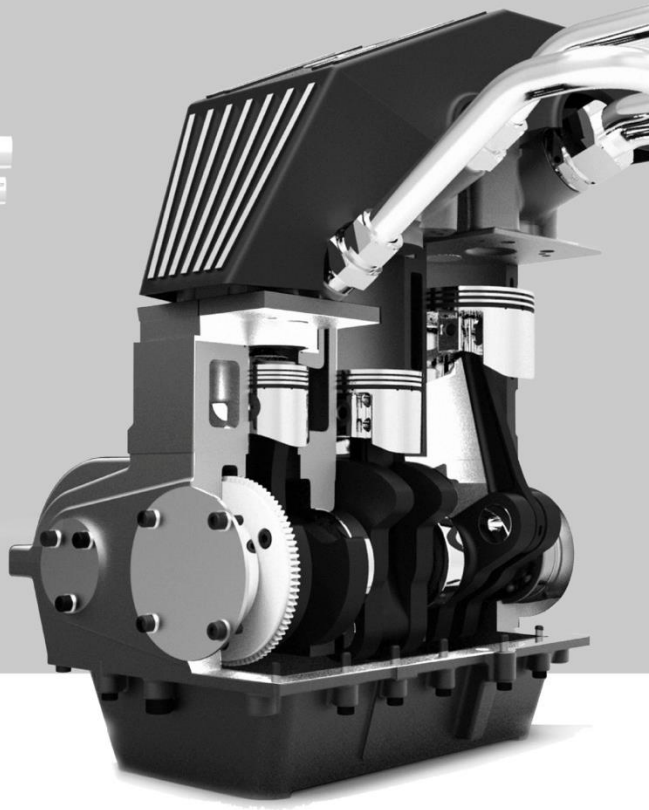
Compressed Air **Technology**



Air Tank & **Engine**

Simple & Efficient





Compressed Air Technology **Benefits**

Energy vector

Universal

Does not involve any reserve replacement

Constant performances

Well-known

Quick refill

Quick charging time

No range constraint

Renewable compression

MDI engine

High efficiency

Simple

Well-known mechanical parts

Reliability

Flexibility

MDI Products

Scalable / multiple applications

Lightweight

Life cycle

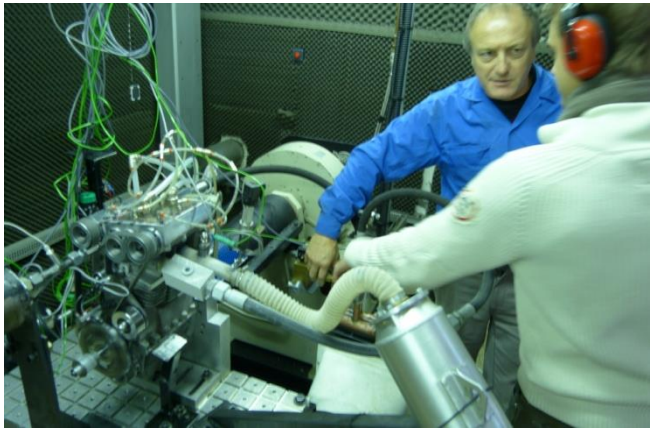
III.3

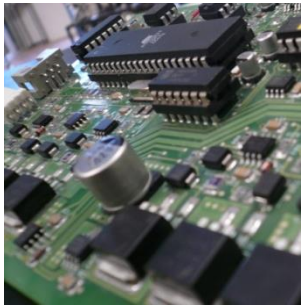
Examples of **Products**

AirPod **1.0**

AirPod 1.0 **Development**

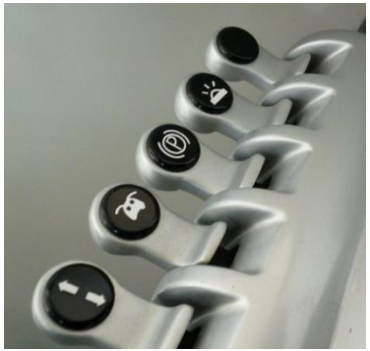
Design Process





AirPod 1.0 **Development**

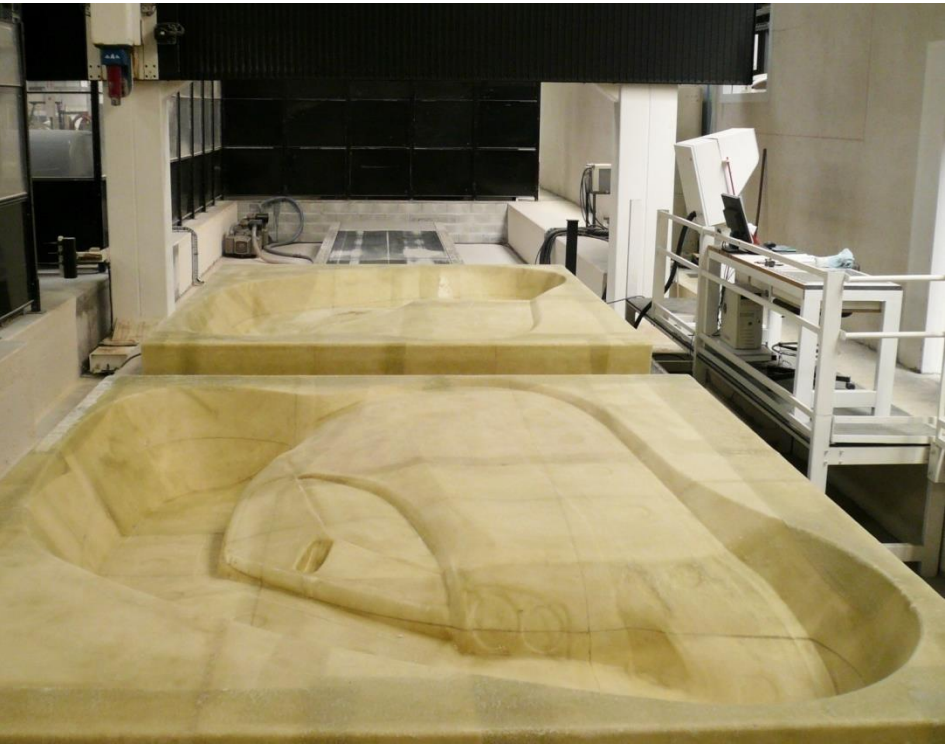
Approval



AirPod **2.0**

AirPod 2.0 **Development**

New model design



AirBOM **Light**

AirBOM **Light**

Development & approval

III.4

MDI **Partnerships**

MDI **Partnerships**

TATA Motors

MDI **Partnerships**

VEOLIA

MDI **Partnerships**

KLM


IV.
Obstacles &
Barriers

Obstacles & **Barriers**

Cultural barriers

Reluctance to change from
- Interlocutors
- Professionals
- Manufacturers
- Institutions

Financial barriers

Need for funding due to
- The size of the company
- The nature of and duration of the project

Monopolistic behavior of manufacturers in the transport market (relayed by the institutions).

Government barriers

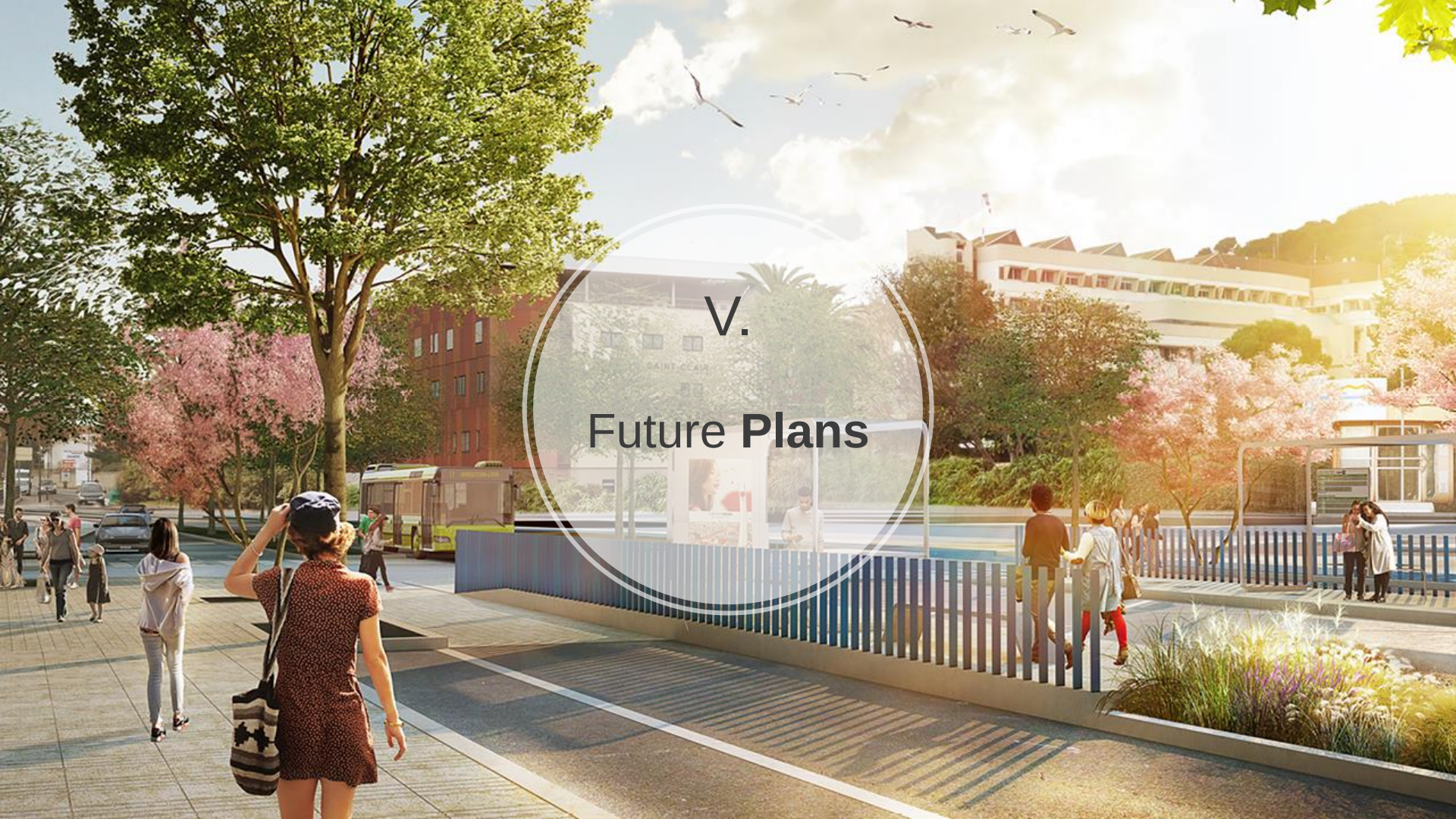
Rigidity and complexity of domestic standards

Technical barriers

Solved:
Increase the engine efficiency to match urban expectations

Very low temperatures

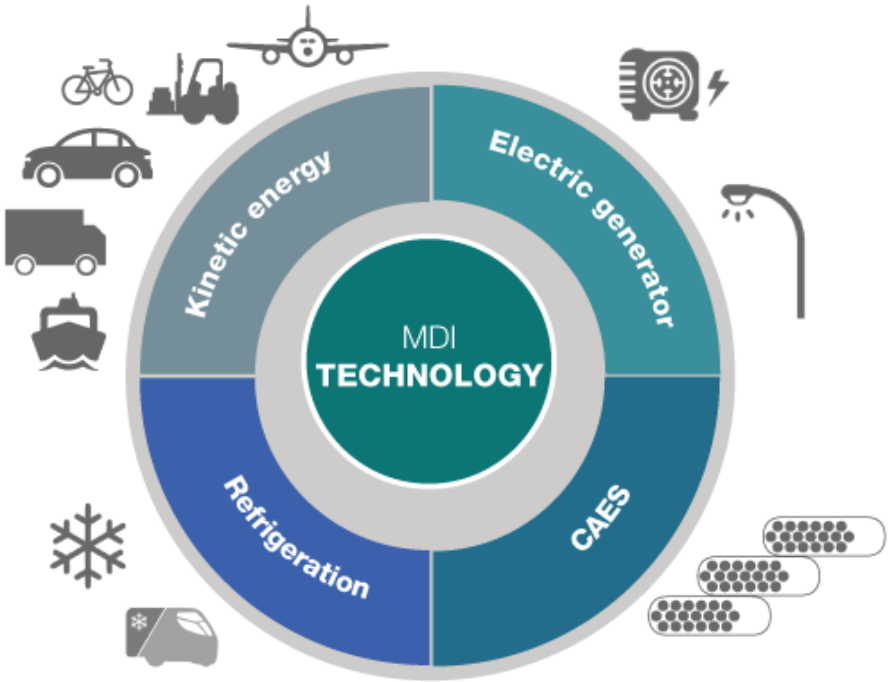
Systems & engine control



V.

Future **Plans**

Scalable **Technology**



Short **Term**

AirPod 2.0 Finalization

Short **Term**

Generating Sets

1h at 2.5kW/h
15' at 10kW/h

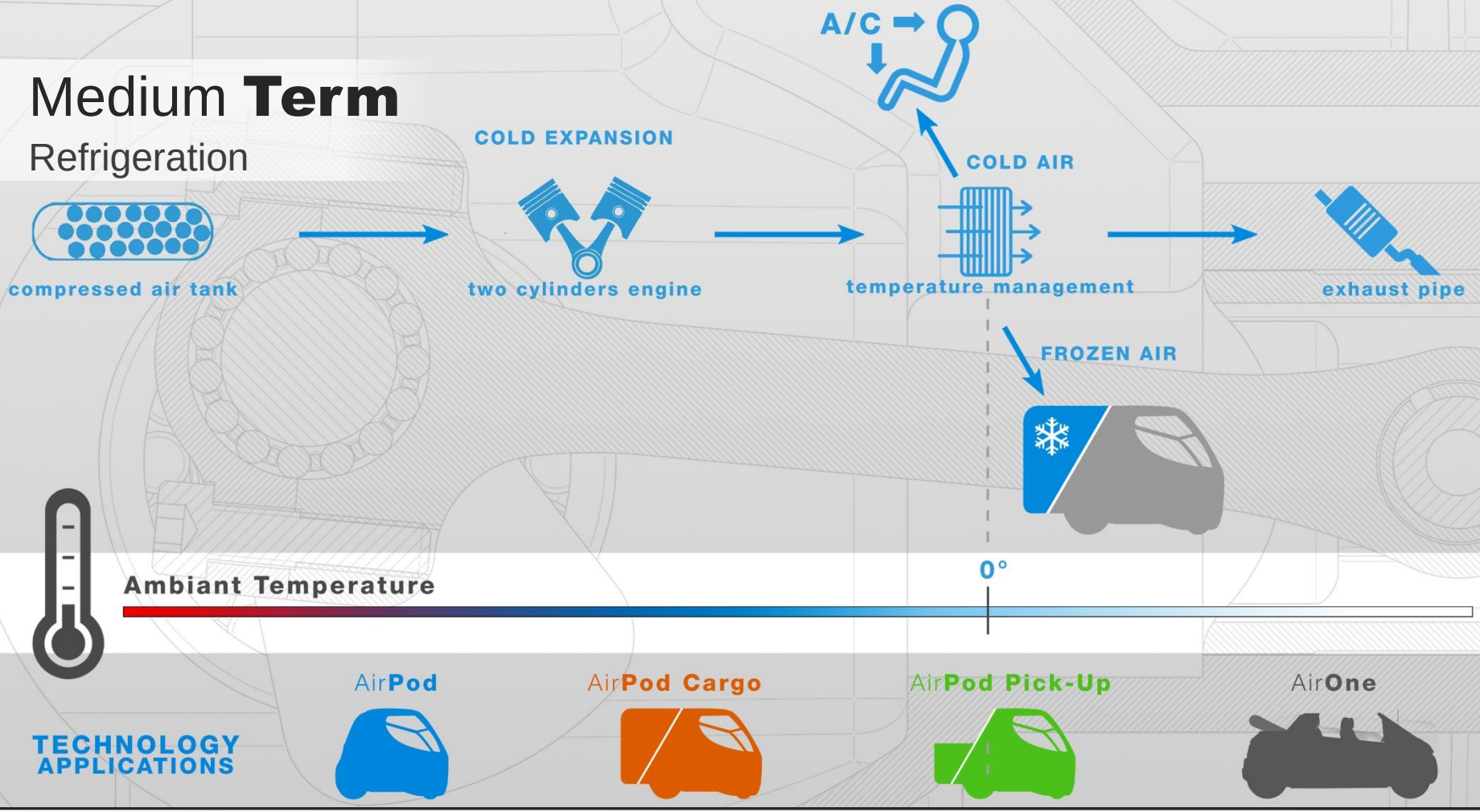
Autonomy x3
with burner

Electricity

22 gal
Capacity

Medium **Term**

Refrigeration

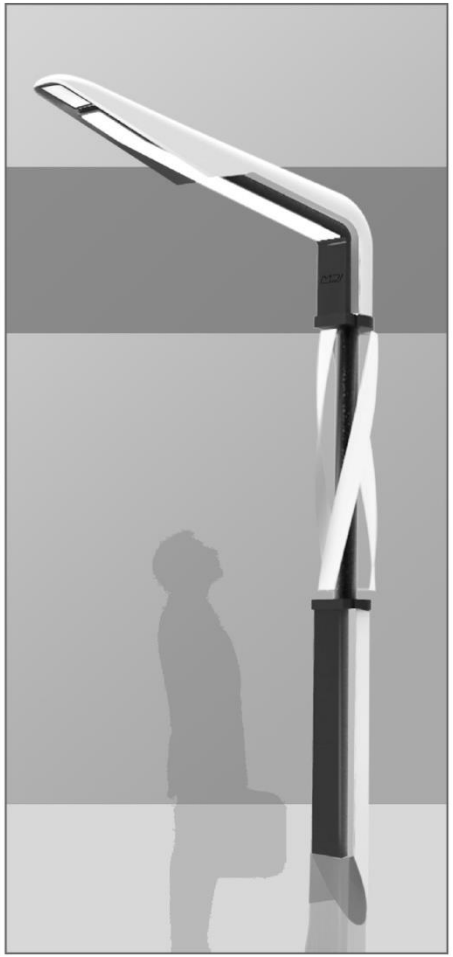


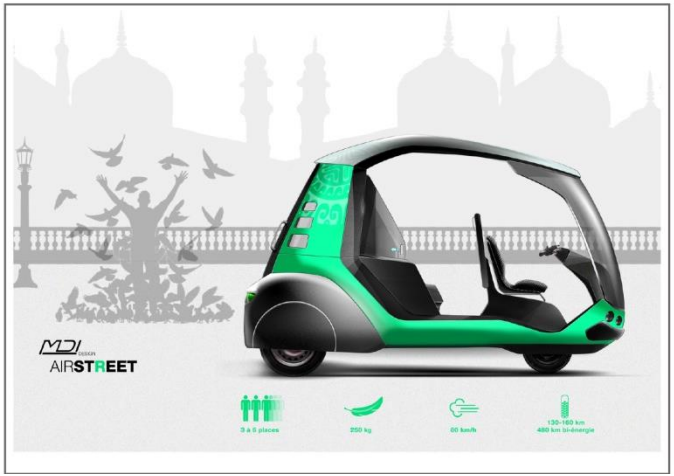
Medium **Term**

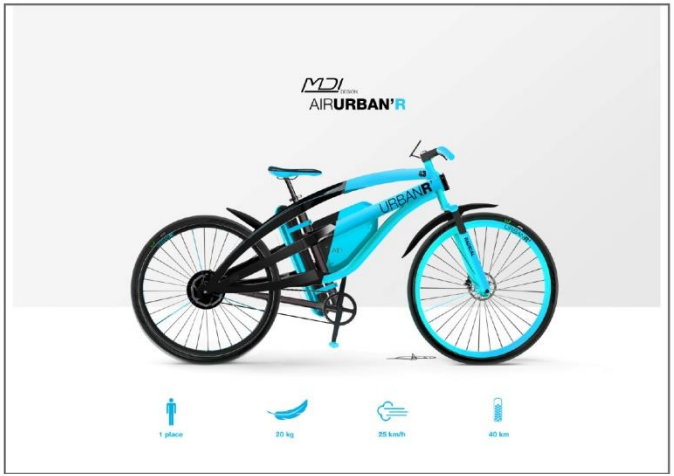
AirPod 2.0 Range

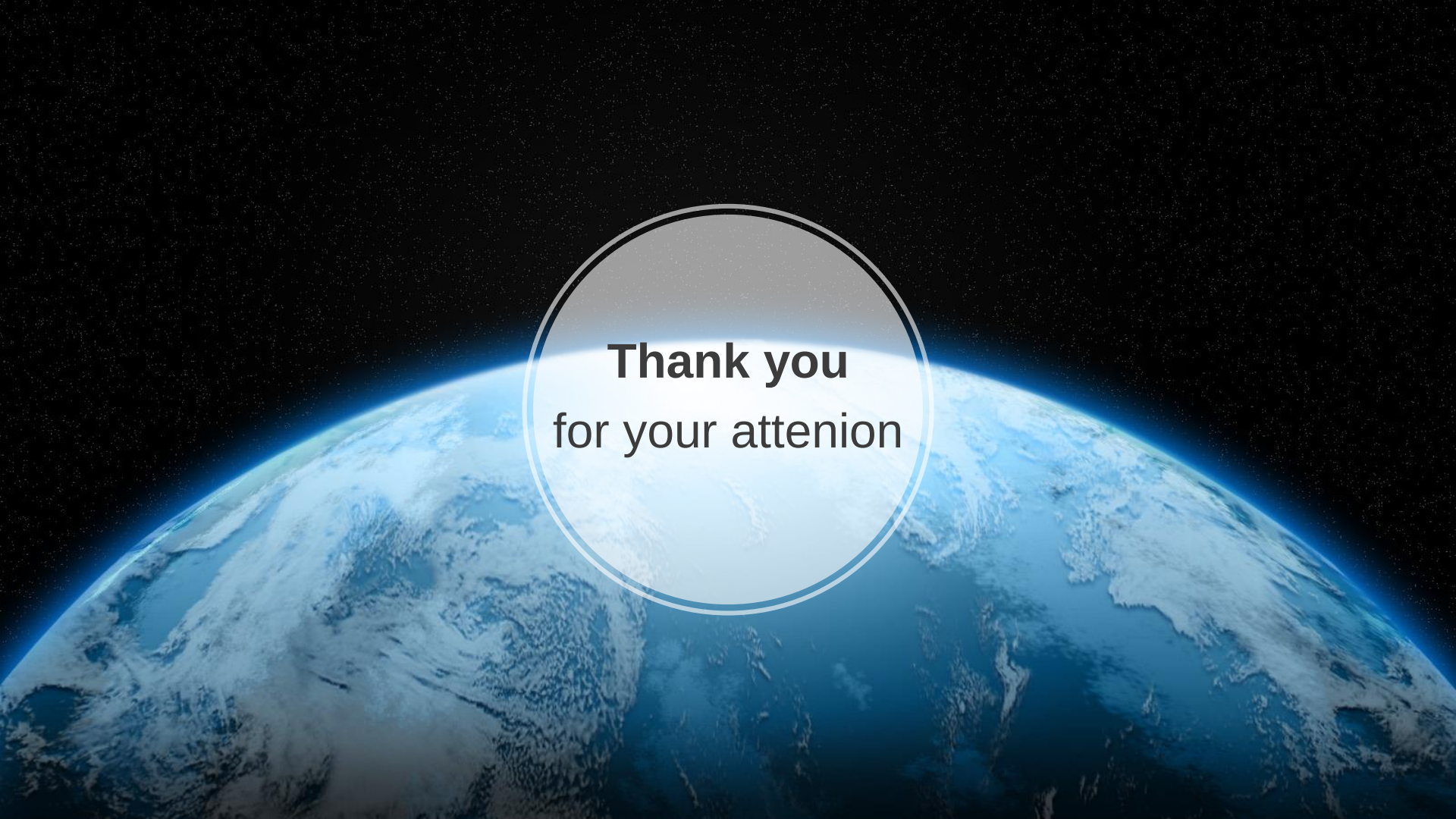
Long **Term**

Other Projects








Thank you
for your attenion