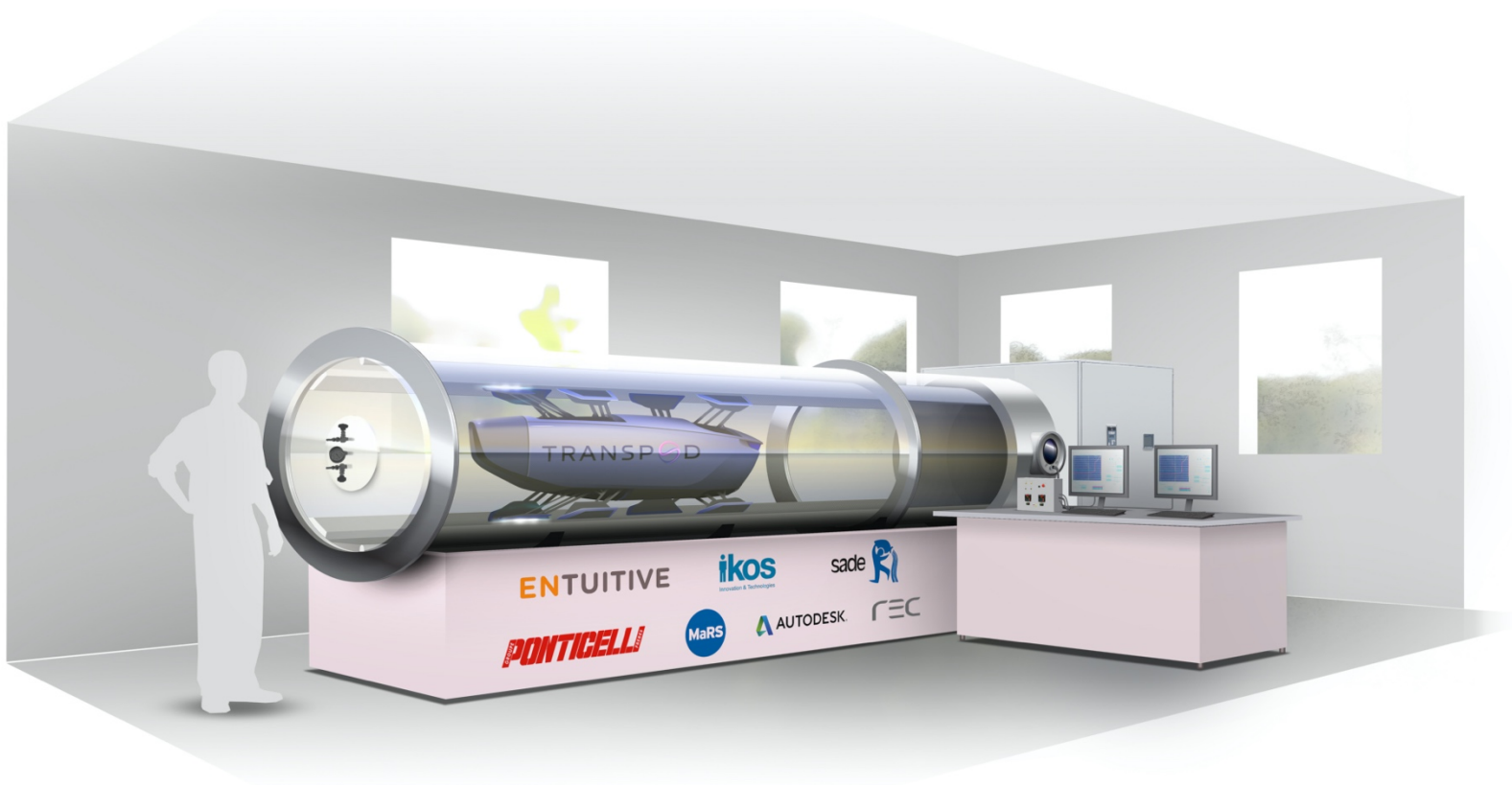




# TRANSPoD TECHNOLOGY DEMONSTRATOR



*Prepared by TransPod Inc.*

*January 2020*

# Building a demonstrator

TransPod is developing a new tube transportation technology and is positioning itself beyond the "hyperloop" concept as introduced by SpaceX, as well as competing designs currently under development. In fact, TransPod's patented innovations greatly improve the efficiency of the system while considerably reducing the cost of building a line.

As infrastructure costs account for 90% of the overall budget for the construction of a line, it is vital to keep them as low as possible to ensure the profitability of future projects.

Therefore, TransPod's intellectual property enables ultra-high-speed propulsion without installing expensive electromagnets on the track, stability control during levitation phases, and contactless power transmission ensuring continuous power supply without the need for heavy on-board batteries.



### Ultra-high-speed contactless power transmission (Quantum Power™)

This system uses plasma to transfer power from two power rails located on the infrastructure to the vehicle. This power transmission is an innovation allowing to transfer power at very high speeds and goes beyond traditional pantograph, MAGLEV, and 3rd rail shoe systems. The low pressure inside the tube enables high-efficiency power transmission.

*This system is patented internationally: WO/2018/045471.*



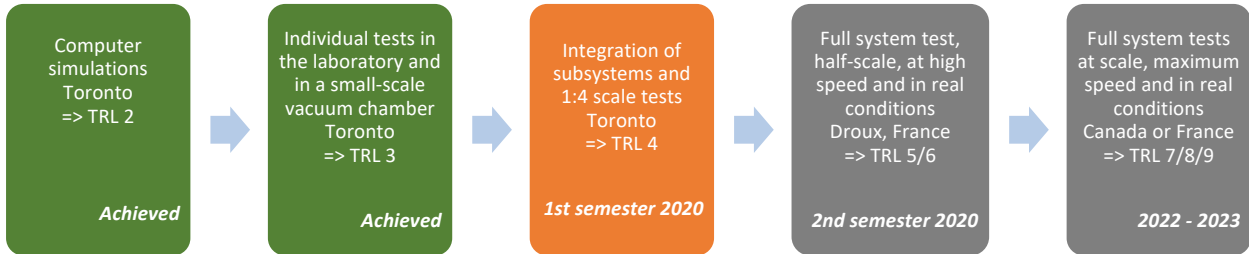
### Levitation, thrust and braking (Jet Glide™)

TransPod uses active levitation achieved through magnetic motors located on the vehicle. These linear magnetic motors generate thrust, braking, and maintain the vehicle centred along the guideway. The pod is equipped with a self-canting mechanism allowing it to easily rotate in tight curves along the guideway without jolting passengers or cargo to the side.

*This system is patented internationally: WO/2018/045470.*

After having tested the sub-systems through computer-aided simulations and laboratory prototypes, the TransPod teams are now ready to begin a series of physical tests on the entire integrated system.

The 1:4 scale demonstrator is directly aligned with TransPod's industrial development program:



# Objectives, benefits

This project has a two-fold objective: the experimentation of the entire integrated system, and the demonstration of the advantages of a TransPod line for ultra-high-speed travel.

## Scientific and technical objectives

- Validate patented concepts through medium-scale experimentation.
- Support experimentation, research and development with a modular test bench.
- Determine precisely the specifications of the 1:2 scale test site (Droux, France).

## Marketing and business development objectives

- Demonstrate and validate the strengths and profitability of the business model.
- Support fundraising efforts through tangible demonstrations.
- Explain how tube transportation technology works.

We have designed this project to benefit not only TransPod, but also its partners, through broad media exposure, collaboration opportunities, and participation in reducing the risk for future partnerships and investments.

## Promotional benefits

- Being mentioned in the communications related to this demonstrator both in Canada and France (press release, publications, logo visible as part of the demonstration).
- Visibility of the brand and the company during the visits of the facility by schools, universities, technical and commercial partners, politicians, press.
- Media exposure during the presentation of the demonstrator at the various trade shows planned for 2020 - 2021: OCE Discovery (Toronto), Collision (Toronto), Innotrans (Berlin), World Expo (Dubai), Movin'On (Montreal), Salon du Bourget (Paris).

## Strategic Benefits

- Reducing the risk of a potential future investment or partnership by participating in the construction of the small-scale fully integrated proof of concept.

## Technical benefits

- Possibility of technical collaboration for the design and realization of the demonstrator.
- Possibility of assembling a model or replica in the partner's offices or showroom.

TransPod wishes to join forces with partners for the financing of the project. The choice of the scale and length of the tube makes it possible to build this demonstrator with a reasonable budget, while providing proof of concept of the global and integrated intellectual property.

# Subsystems to be made and tested

The subsystems that will be assembled and tested in this demonstrator have already been designed, and some have been built and are operating as individual prototypes. This reduces the risks of this project.

Subsystem	Status	To Do
Tube	Design realized	To be sourced
Propulsion and Levitation	Design realized	Material to be sourced, to assemble
Power Transfer	Prototype already realized and functional	Material to be sourced, to assemble
Power Supply	Prototype already realized and functional	Material to be sourced, to assemble
Control System	Partial prototype already realized and functional	Material to be sourced, coding
Data Acquisition and Data Analysis	Design realized	Material to be sourced, coding
Vacuum System	Off-the-Shelf Component	To be sourced

## Budget

### Construction: CAD \$180,000

The budget for the construction of this demonstrator has been established based on previous studies and updated quotes from our partners.

### Operations and improvements: CAD \$22,500

Since the demonstrator also serves as a test bench, we would like to set aside part of the budget for improvements to be made as the project progresses.

### Exhibition and demonstrations: CAD \$22,500

Finally, the last part of the provisional budget concerns transport and installation, and then the organisation of a public demonstration in Droux, France.

## Time line



# TRANSPOD



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