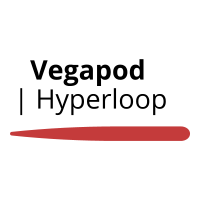
A close up of a sign

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**BRAKING SYSTEM FOR HYPERLOOP**

A REPORT PRESENTED BY

Team Vegapod,

**Dream. Innovate. Build**

**Overview:**

Hyperloop Technology has been conceptualised as a High speed mode of transportation, travelling long distances at high speeds. Such Systems would require braking systems that can keep the inertia and Lateral forces under control – both safely and economically. As the Speed of the Pod increases, the concern for safety rises. Brake technologies play an important role on the safety of the vehicle’s operation. To avoid accident, the shorter of braking distance is better. Traditional brake systems don’t have enough capacity to ensure quick, accurate and synchronized braking requirements. Thus, development of new braking system with high reliability and light weight is a key requirement.

The braking methods used in Hyperloop can be classified into two types: Contact type braking and non-contact type braking. In Contact type braking, the created force is limited by the maximum force between the Guide Rails and the Brake Pads; however, this limitation does not exist in non-contact type braking. In non-contact type Braking, the maximum braking force is a function of the Instant velocity of the Pod.

With such high speeds, the risk factor increases drastically. In order to account for that, the braking is divided into Primary and Emergency-type Braking. The Primary Braking is applied in cases of Usual acceleration and braking commands execution. However, in events of emergency such as sudden depressurisation, Failure of Battery/power Supply, faults in on-board Electronic functioning, the emergency brakes will bring the pod to an instant halt.

This Report summarises the use of High Pressure Pneumatic Braking System in Hyperloop. Using Pneumatic Braking system, lies in the very own characteristics. It is a Fail to Safe system, both in Primary and Emergency Braking Conditions. Ease of control and command execution are some of its advantages over Hydraulic/ Electro-Hydraulic Braking Systems.

**Introduction:**

The report covers