**Challenges of the Hyperloop (research/design)**

During the process of designing a scalable model of the Hyperloop, we encounter a few challenges. In this document we try to define the challenge, the possible solution and the eventual solution.

Application of the Hyperloop:Interactive space or Space exploration (27/2 – Nimish)

**Designing and making a Model**

To make a design for the Hyperloop and also make/design a model to test feasibility of the bigger product.

**Digital scalable model**

The calculation should be easily adaptable to different scales.

**Influence of scaling**

How does a bigger scale influence the whole system?

**Physical model**

Does the physical model meets the requirements? Iterative improvement

**Designing the Joint**

Designing a (scalable) model of the joint that meets the requirements.

Requirements:

* Degrees of freedom
* Scalable model
* Light vs Strong
* Motor
* Gearbox
* Strong vs 1 rotational tube (bearing)
* Waterproof
* Movable and adhesion (wheel)
* Space for extra’s (sensors

**The loop challenge (Roderick & David)** (Not achievable, 27/2/15 – Cor)

Take into account the challenge that occur when it’s a loop i.o. a moving arm.

* The forces the loop creates due to its own movements
	+ Restraints to the maximum movement**?**
	+ Sensors to warn when not to move further**?**