



### The Engineering Aspect:

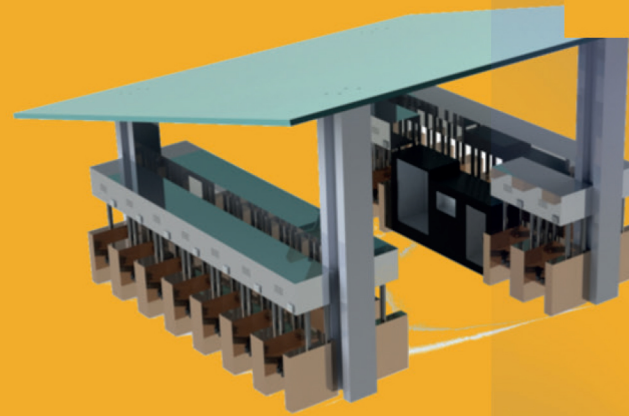
There are two arms that you can move up and down depending on your bike height. Once you are ready to lock your bike the two arms will close on to (hug) your frame with the help of two electrically driven actuators. Once they are in the locked position the arms will be held in place with the help of locking pins within the mechanism. This is an easy and secure locking method for the bike. Unlocking of your bike and storage until will be done by a unique code that is obtained from the main terminal machine at the station.

### Funding:

In terms of raw materials this station will cost ~250,000Euro according to SolidWorks, this is for the fully loaded option of a 25 dock station. Including total cost of manufacturing and any other miscellaneous it will cost ~320,000Euro.

Funding can be obtained from the government and council through business grants, (Venture Capital funding). These docks can also be built on private property where the purchasing business pays for the expenses, of course with our modular design we can accommodate any size necessary. College/ education funding can also be used for stations located on campuses.

*In 2016 according to the Census a total of 69.4% journeys were made by private cars the day of the survey. We believe that having safe and secure bike parking where you don't need a lock can greatly decrease these numbers especially people who are travelling to work or college.*



### The Idea:

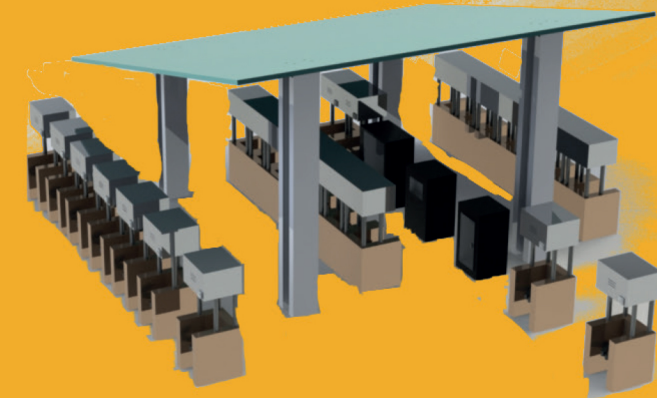
We focused in on cycling for this project. We came up with different solutions for current problems associated with cycling and combined them into one original idea we like to call the Bike Dock Station. It is where you can leave your bike unattended with great confidence with our purposely designed secure locking mechanism, dry yourself off and protect yourself from the elements with an eco friendly biodegradable raincoat as well a dryer that can have your coat or jumper dried within minutes so you don't have to sit at work or at a lecture with wet clothing and also a place where you can leave your cumbersome cycling gear in a small storage unit.

### Possible Locations:

We believe that the Bike Dock Station can be implemented in a wide array of places such as colleges and work spaces. In DCU and UCD there are multiple spaces to construct such a station. We also had a look at the newly developed (ing) Capital Dock area where brand new offices are being built. Office workers will greatly benefit from this idea as a secure 9-5 parking space for their bike and cycling equipment.

### Pricing:

We decided on free parking for stations in colleges. For other areas such as the city centre a full day to park is 2Euro and if you're parked for under 1hr 30min it is free. The cost for a raincoat is 2Euro and 2.50Euro for the dryer. We see this idea as a long term project which will greatly benefit Dublin, not as a profit hungry business.



### The Design:

The modular design helps with the building of the bike docks. If space is tight there can be less parking docks but if expansion is needed extra parking docks can be added with minimum effort as the parking docks lock onto a main beam. This modular design is used to our advantage as extra mods can be installed such as our biodegradable raincoat vending machine and the clothing dryer.

### Extras:

Will include tamper (pressure) sensors  
24/7 CCTV  
Alarms

Tired of carrying your bike lock and cycling equipment around the whole day?

Then this is the solution,

# Bike Dock Station

**SMARTER TRAVEL**  
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**FINALIST**