

# Manufacturing a 3D printed unique marble machine

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## ABOUT

### Domestic Data Streamers

Domestic Data Streamers (DDS) is a design firm that enables organizations to communicate through data storytelling by bringing emotions to data, simplifying complex information and generating knowledge. Founded in 2013 with the goal of creating new ways of communicating through data storytelling, DDS believes that any important interchange of information between people should always carry emotions and experiences.

#### COMPANY

Domestic Data Streamers  
<http://domesticstreamers.com/>

#### INDUSTRY

Engineering, Electronics, Product Design.

#### APPLICATION

Functional Parts: End-use parts and functional validation.





# CHALLENGE

What if you could predict what song you will be listening in the future? Moreover, what if you could save into a marble until that future?

That is what Domestic Data Streamers partnered with Spotify in order to simplify complex information and bring it into reality during the Sonar Music Festival in Barcelona.



# SOLUTION

That's why they came out with the idea of the Timekeeper. The Timekeeper is a machine that, based on user's Spotify preferences, chooses a song curated specifically for them and sends into a future date of their choice. The participant's listening habits are blended with their behavioral habits and the resulting song is then inserted "metaphorically" in a glass marble which is kept inside the Timekeeper until the chosen special moment arrives. The marble is finally released on that date.

Data acquired by the Timekeeper during the Sonar Music Festival 2016 showed that, although the 87% of participants looked for new experiences in life, the vast majority (59%) were conservative in the way they listened to music, feeling more comfortable with popular trends rather than experimenting new tendencies. In order to develop the marble machine, Domestic Data Streamers decided to rely on 3D printing technology in order to reduce costs and time. Furthermore, it allowed them to quickly manufacture end-use parts.

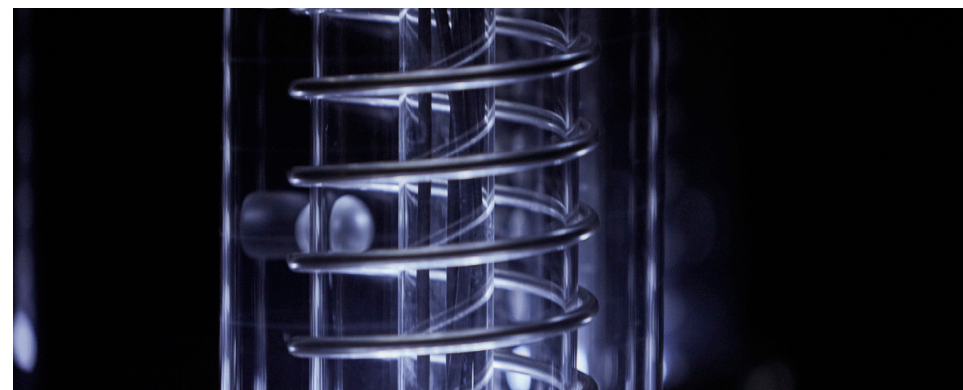
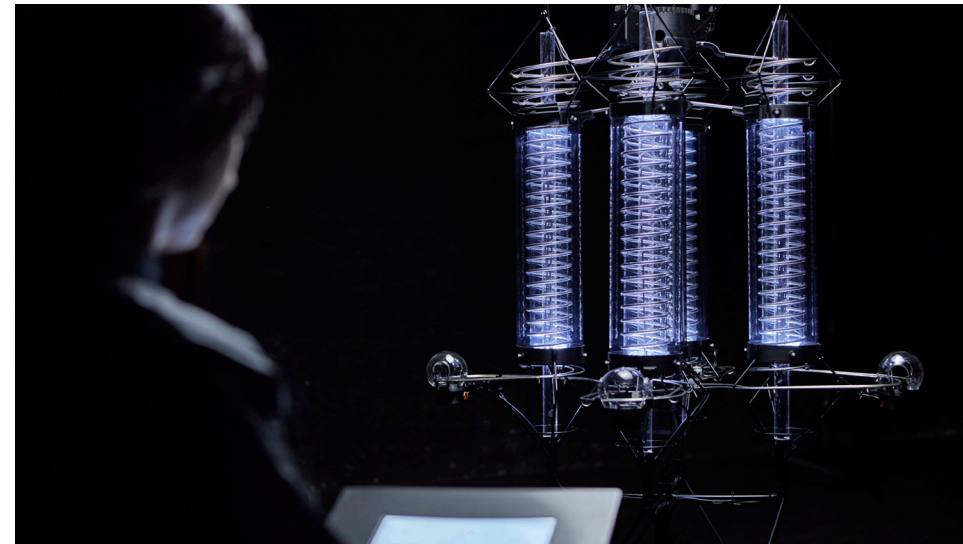
# RESULT

The Timekeeper is a groundbreaking machine able to work with 1500 marbles at the same time, with 200 of them moving inside it. A part of glass and metal and of course the marbles, it has more than 150 3D printed parts.

This unique machine contains a vast exhibition of mechanisms: from gears to automated doors that give access to the marbles when needed. It is a great example of the power of 3D printing when building a functional prototype with a limited budget and no invest in tooling.

3D Printing permitted to iterate the design easily, especially when trying to fit parts into glass structures made by hand. All the parts were printed with BCN3D Printers, using more than 30 kg of PLA, ABS and flexible materials (TPU). It also contains examples of bi-material parts, combining rigid and flexible materials to fit the parts into glass softly and safely.

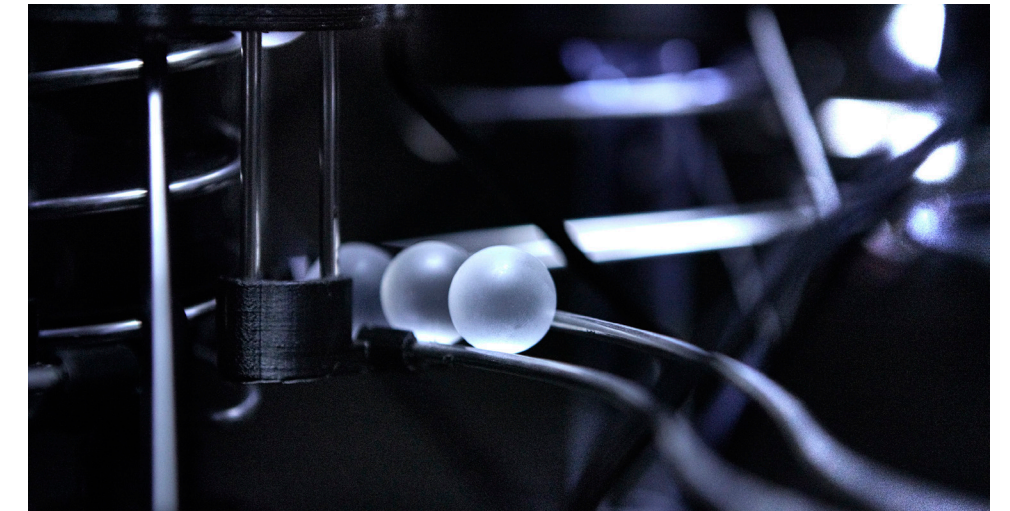
Check out the video of the project: [Link](#)



# COSTS

Because the machine should be assembled in less than a month, Domestic Data Streamers decided to use in-house 3D printing mainly due the turnaround time. Using external suppliers implies that receiving some parts can take several weeks instead of days and the cost per part is higher.

	EXTERNAL SUPPLIER	BCN3D PRINTERS
PARTS TO PRINT	150	150
TURNAROUND TIME	3 months	3 weeks
COST 3D PRINTED PARTS	6300€	550€



### About BCN3D technologies

BCN3D Technologies is one of the leading manufacturers of desktop FFF 3D printers worldwide. Based in Barcelona, the activity of BCN3D began in 2012 and its aim is to help innovators and creatives to change the world, by offering them the best possible experience to materialize their unique ideas.

<https://www.bcn3dtechnologies.com>

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