

Bring back monorail?

by HispaBrick Magazine®

Images by Masao Hidaka



Masao Hidaka - Japan

Over the last 10 years and more, we have heard thousands of requests for bringing back the monorail. We all know that this is not something LEGO® currently has in its plans, basically because the monorail was not what we could call a success in the early 90s.

Our fellow AFOL Masao Hidaka (from Japan) decided to build a monorail with standard parts and using Power Functions. The tracks are built with bricks and tiles, taking advantage of the small gap between bricks that allows one to make curved shapes.

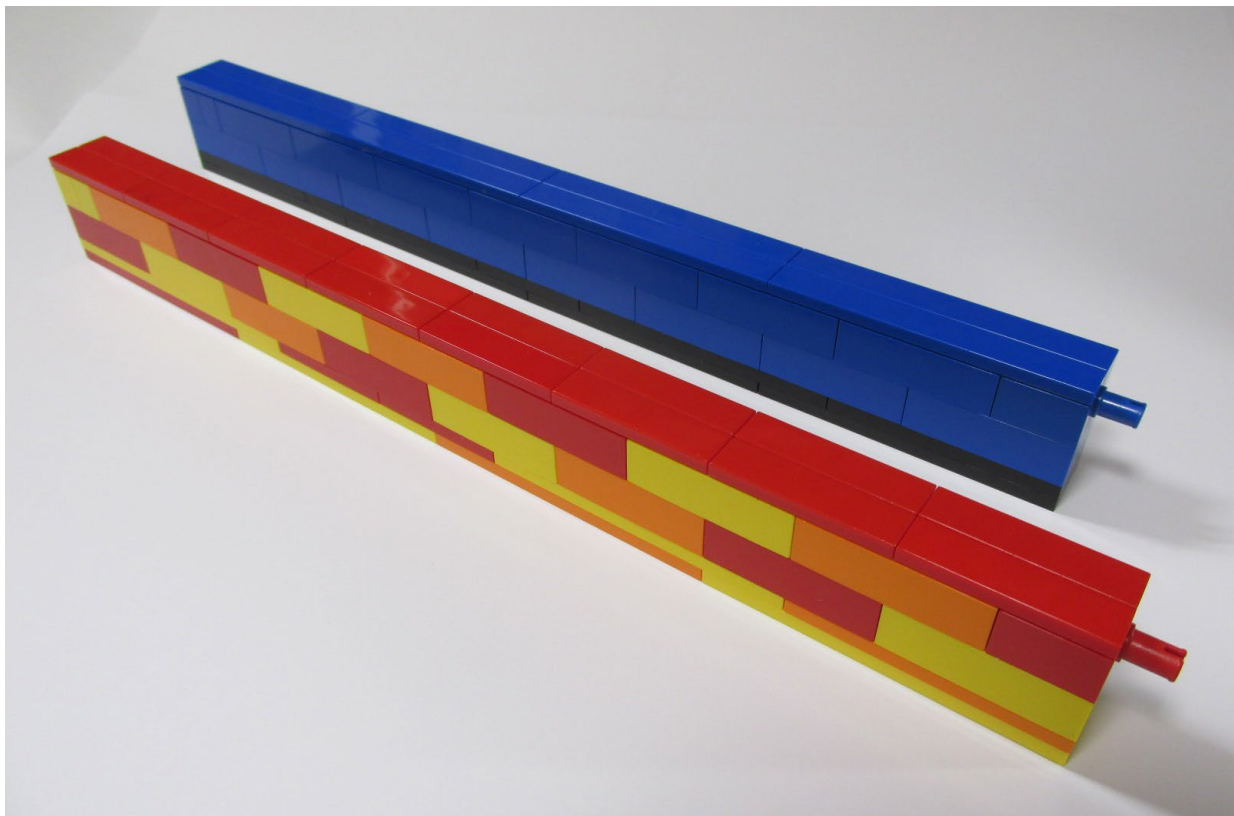
The results are more than acceptable, and several fans from other parts of the world have also used Hidaka-san's system to build monorails. Now it's time to get to know Hidaka-san and his system.

HispaBrick Magazine®: What inspired you to build a monorail?

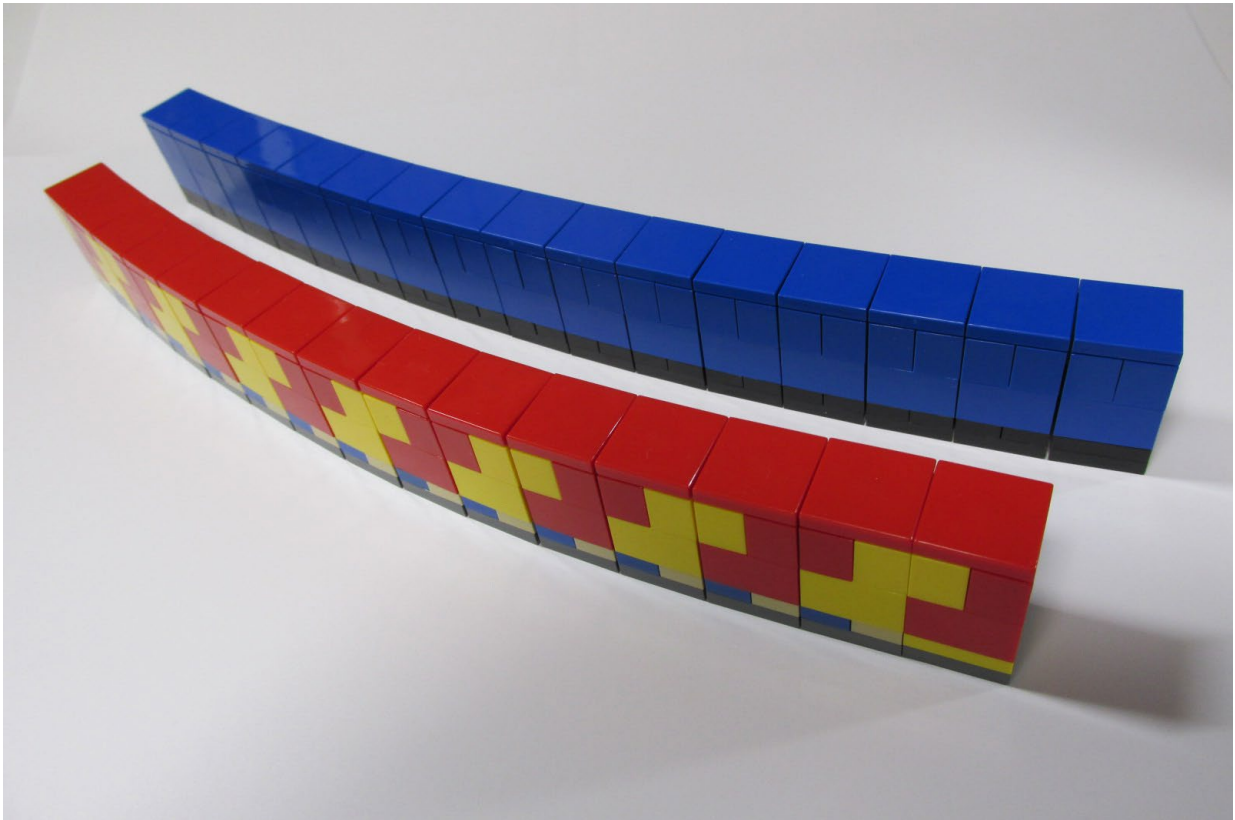
Masao Hidaka: In my childhood, I could not see the real monorail. This was the dream vehicle for me. Since becoming an adult I still remember it, so I have tried to make the monorail with LEGO®.

HBM: How are the tracks built?

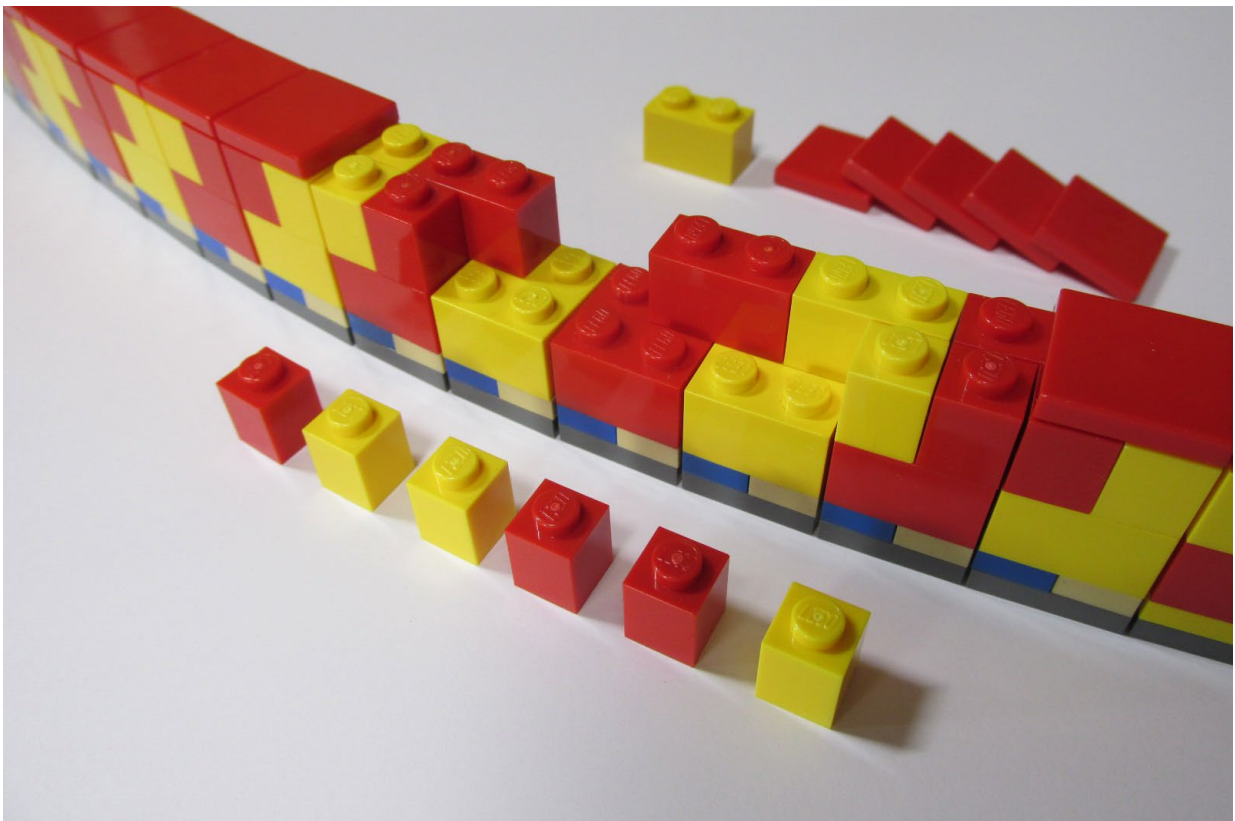
MH: We can build the monorail rails with basic LEGO® bricks, without special parts. The rails are easy to build and there is no limit to the possibilities of the layout. Some people say that the curves we use are "stressing the bricks". I think so, and it is true. But I believe that the way we build the curves is one of the solutions to make them. It is easy to point out the faults in our monorail, but we achieved a very realistic monorail using basic LEGO® bricks. I think the objective of building the rails with "basic LEGO® bricks" is very important.



Straight rails. The coloured one shows how to build the rail.



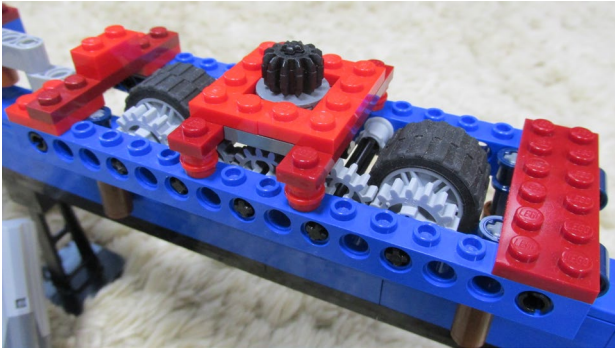
Curved rails. The coloured one shows how to build the rail.



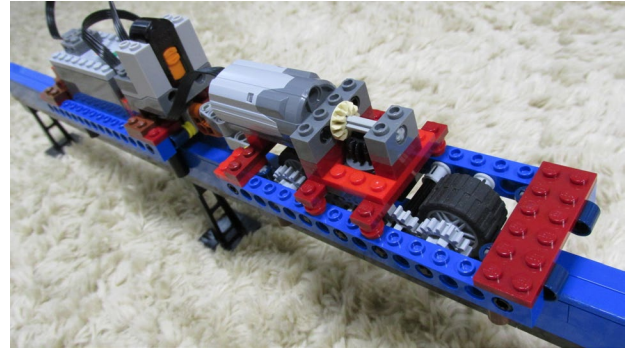
Inside view of a curved rail.

HBM: How does your system work?

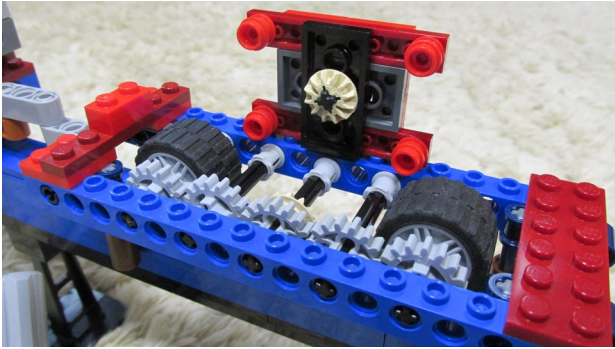
MH: I use the Power Function system, and two motors for the monorail. Both the first car and the third have a motor, while the second car has the battery and receiver unit. The motor drives the racing tires from LEGO® City series. The structure is very simple, clamping the rail with the guide from both sides. And I then use the Power Function system for switching rails. I made them by modeling the real thing.



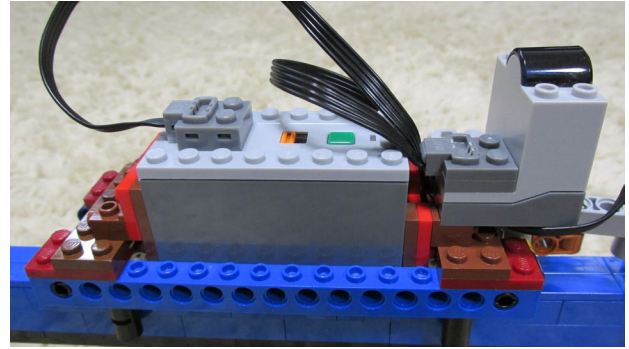
View of the traction car



Traction and battery car assembled



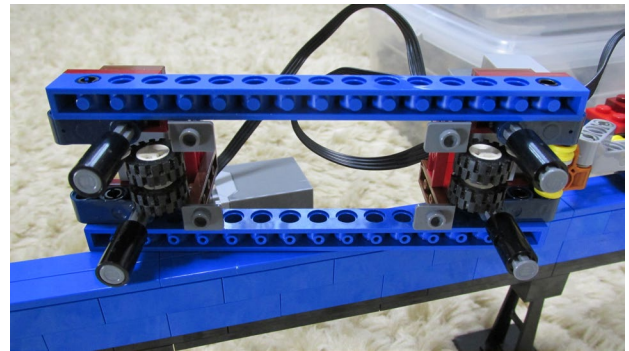
Assembly view of the traction car



Top view of the battery car



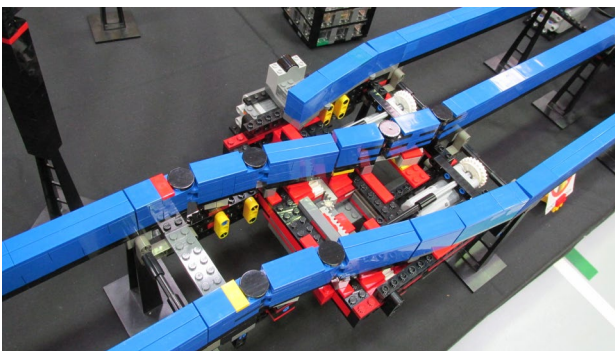
Bottom view of the traction car



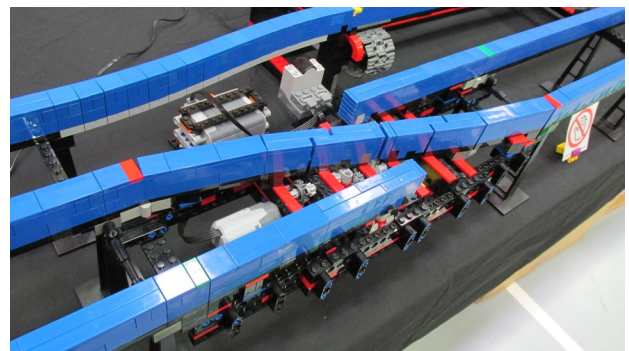
Bottom view of the battery car

HBM: Was it very challenging to develop the motorized switches?

MH: It was difficult to make them. I think they would be easy to make without limits on size, but I wanted to make them compact. I used a repeated trial and error method to design them.



Switch - Position 1



Switch - Position 2

HBM: What do you think of the new Powered Up platform? Is it compatible with your designs?

MH: In the new Powered Up platform, two motors cannot be connected. It is currently difficult to use this for the monorail. But switching rails is OK. In the Power Function system we can use four channels and 8 motors. So I use three channels and 6 motors for switching rails. But this is the limit. In the Powered Up system I can increase them.

HBM: Is there anything you haven't been able to build yet for your monorail system?

MH: I think there are a lot of things to do. I have to improve the structure of the monorail and rail-switching. Also, I have already made Tokyo Monorail, Osaka Monorail and Yui Rail, but there are many other monorails in the world. And then I'd like to make a town with this monorail. Anyway, I look forward to making more monorails in the future.

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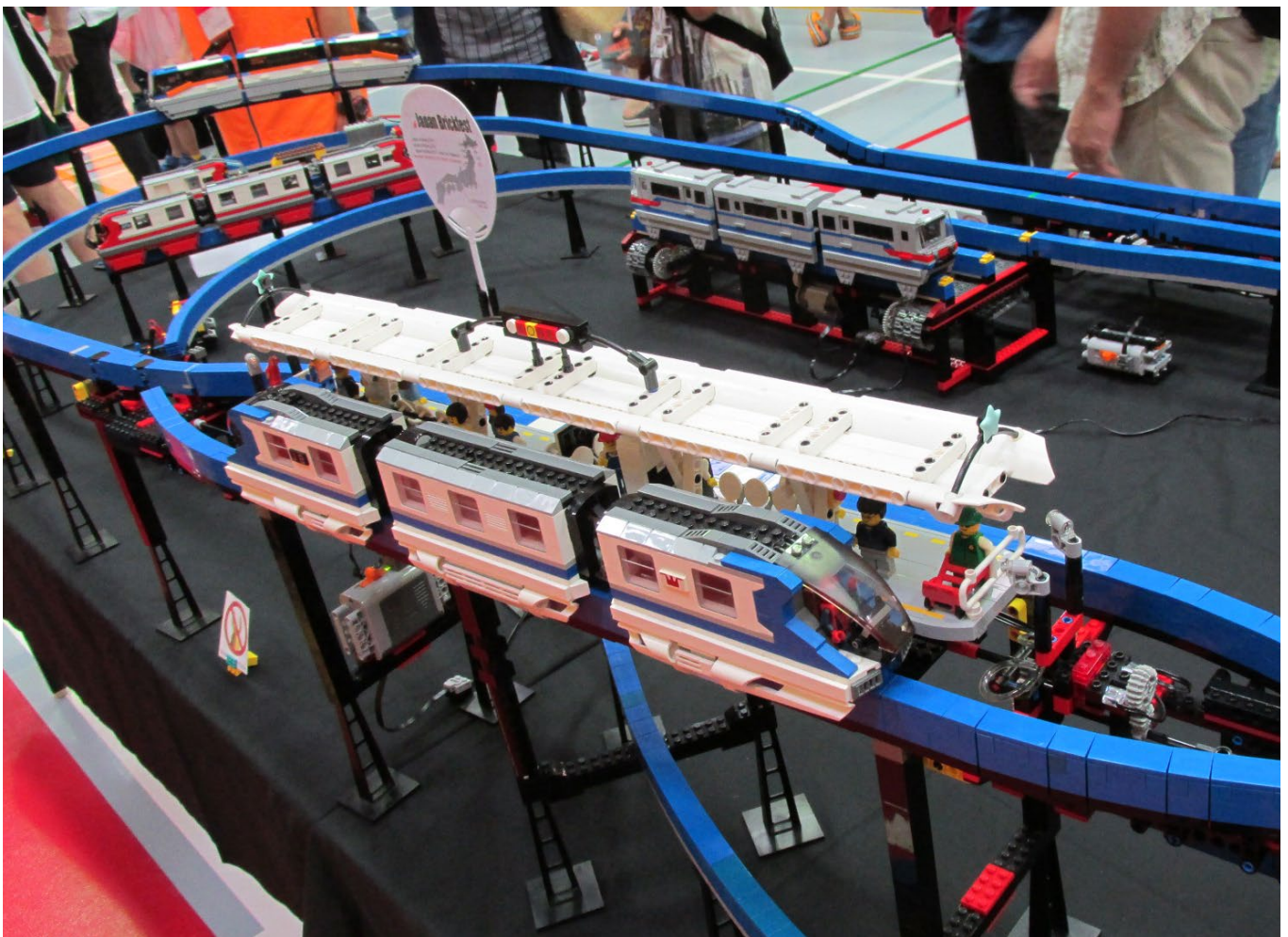
Masao Hidaka's monorail at Japan Brickfest 2018. Note that the system allow to add messages to the rails.



Layout at Japan Brickfest 2018.



Different monorails from different Japanese cities.



Monorail stopped at the station