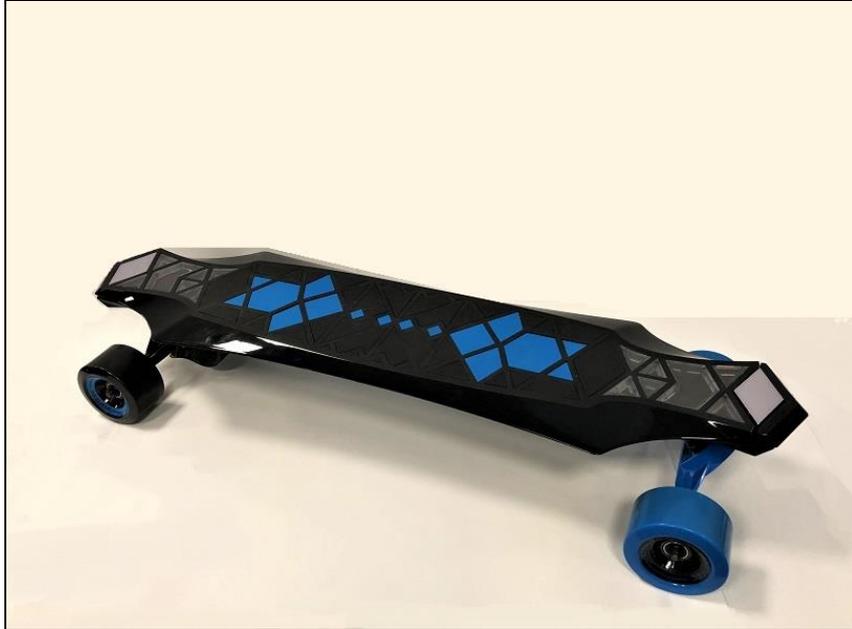


**2018 6<sup>th</sup> Singapore  
International 3D Printing  
Competitions  
Winners**

**THEME: MAKE SINGAPORE CAR-LITE  
BY DESIGNING PERSONAL MOBILITY  
VEHICLES**



## Society Axis (SAS)

*By Patrick Christoux, France*

The Scandinavian-inspired design disguises the word “AXIS” subtly, while two large blue arrows add dynamism and indicate where you should place your feet. Two diamond shapes at the ends reflect light around the skater. The openings at the ends give you the option to add inlaid brake lights that can also illuminate the top of the board through the transparent elements.

***Technique: Stereolithography, Multi Jet Fusion & Vacuum Casting***



## **Truss 3D**

*By Lam Tian Xiang, Temasek Polytechnic*

The design provides functional aesthetics and structural rigidity. It can be structurally integrated from smaller pieces to form a complete unit using common parts with a minimum number of fixed joints and use of adhesives. The chassis can be mounted onto both manual and electrically operated mobility devices, and modified according to the taste and usage profile of the user.

***Technique: Fused Deposition Modelling***



## Wind and Fire

*By Li Bozhao, Raffles Institution*

This design was inspired by the Taoist God, Nezha, who according to legend, could fly at tremendous speed using a pair of magical rings that contained the energy of wind and fire. A hidden set of ball bearings are embedded inside, which are challenging to manufacture using traditional methods. The user may use the device by wearing one ring under each foot.

***Technique: Fused Deposition Modelling***

**2018 6<sup>th</sup> Singapore  
International 3D Printing  
Competitions  
Winners**

**THEME: MOBILITY DEVICES – A  
TRANSPORT SOLUTION FOR THE  
ELDERLY**

**\*There is no open category winner for this theme.**



## ErGoWalker

*By Jordan Lee Ji Tao, Ye Jiajie, Jona Lim Rui Yin, Kannan Raghav, Muhd Ashiddiq Bin Muhaimen, Temasek Polytechnic*

This design features a seat for resting and also a conformal handle curvature to ease swivel movement for the elderly. The frame and caster forks feature internal lattice structures and topologically optimised designs respectively. The optimised designs provide lightweight yet high strength performance. The frame is 3D-printed in nylon, while the caster forks are printed with aluminium.

***Technique: Selective laser sintering & selective laser melting***



## The Pathcraft

*By students from Pathlight School*

This wheelchair has a hoverboard that helps an elderly user to manoeuvre it more easily. Two compartments provide ample space for the user to store his/her belongings. The shelter, inspired by an armadillo shell, protects the user from both sunlight and rain. The armrests are also designed with small storage components for users to put their keys, loose change and other small objects.

***Technique: Fused Deposition Modelling***



## Zaia

*By Lee Kern and William Zhang, Hwa Chong Institution*

This human-centric design harmonises routine mobility support and long-term physiotherapeutic care. The lower insole architecture is minimised to accommodate the wide distribution of weight over the foot of an elderly user with pronated feet. The insole and spring joint designs are adapted for maximum efficiency in material usage while the side supports help the user maintain balance.

***Technique: Selective Laser Sintering***