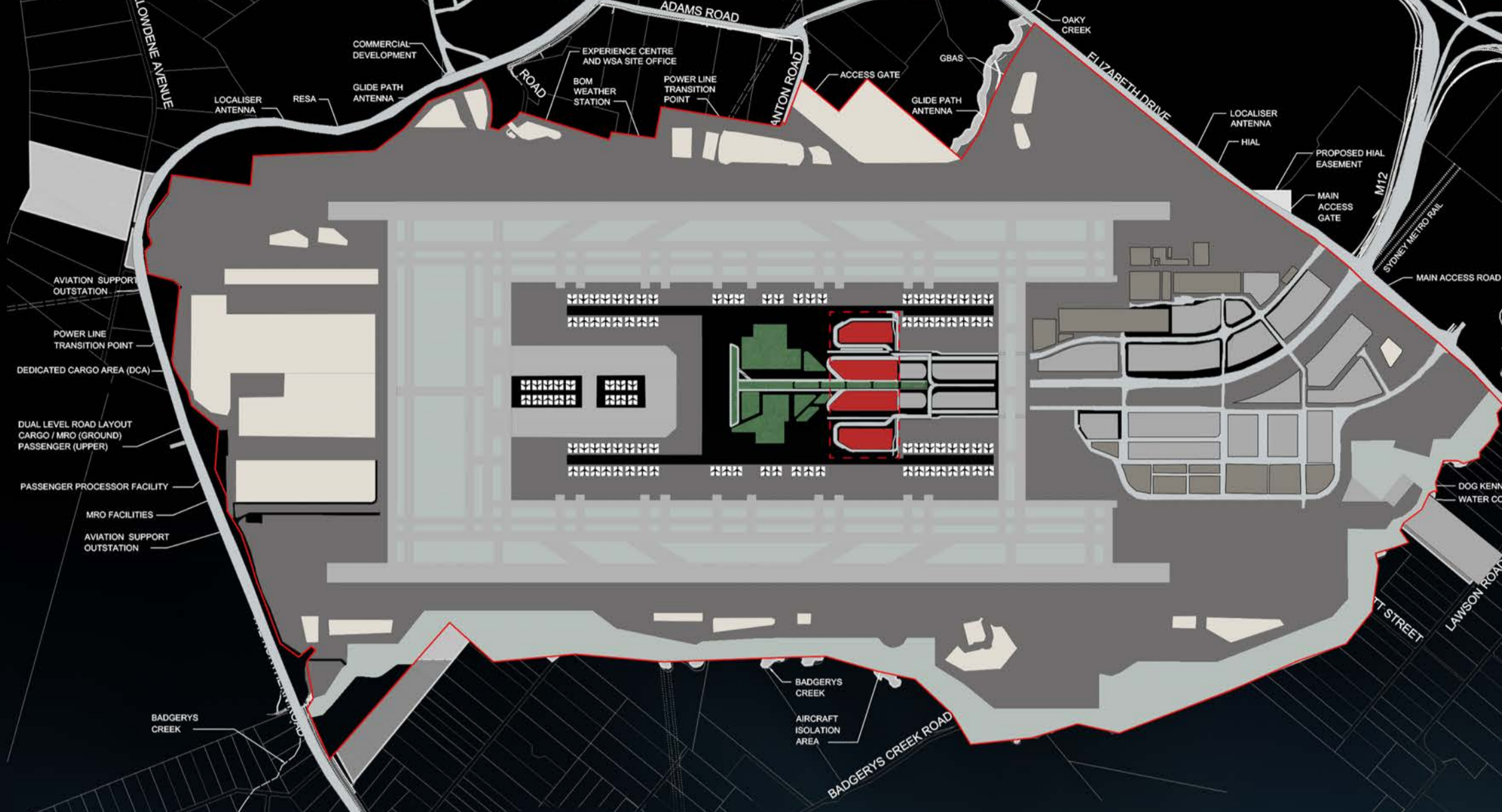


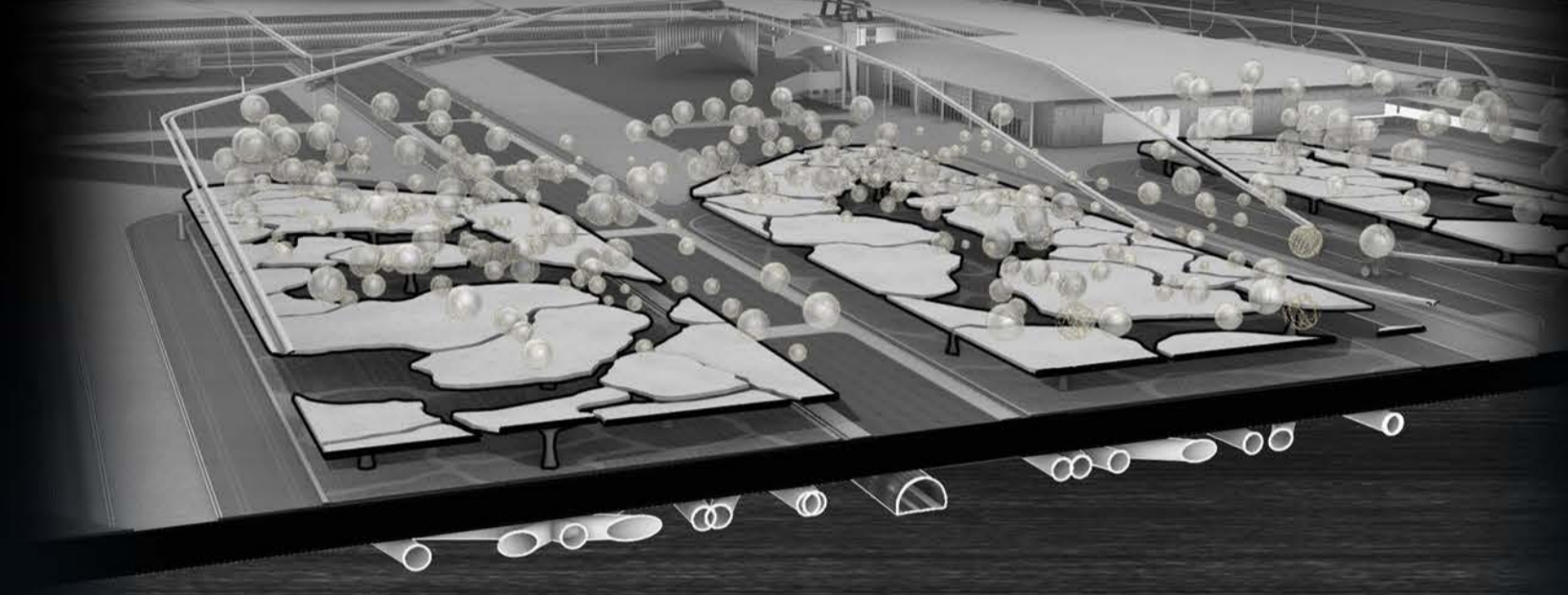
STRING



DESIGN CONCEPT

This project is to design an intelligent transportation system at Western Sydney Airport that provides a more distinct solution to travel than the traditional functions of terminal buildings have. The main point of the concept is that passengers can position their own requirements via smartphone, and our systems TBA and PBA (Transportation Behavior Analysis and Pedestrian Behavior Analysis) will analyze and predict the travel conditions, providing passengers with a variety of travel options. Combined with our design of the magnetic levitation low-speed automatic transportation sphere "Pearl-S" and the high-speed transportation system "String" covering the entire Western Sydney Airport, it makes customs inspection, security inspection, waiting and boarding more in line with the actual needs of each passenger. At the same time, travelers can move around the airport and surrounding business areas using mobility devices of varying speeds. These mobility devices are powered by wireless charging pads that can be available to passengers 24 hours a day. In the commercial area, we have designed an intelligent tree-shaped multi-functional farm using renewable energy to provide travelers with environmentally friendly agricultural products, as well as flexible multi-functional spaces to accommodate a variety of space needs such as food, rest, office, and entertainment before travel.

INTELLIGENT TRANSPORTATION SYSTEM TBA AND PBA (TRANSPORTATION BEHAVIOR ANALYSIS AND PEDESTRIAN BEHAVIOR ANALYSIS)

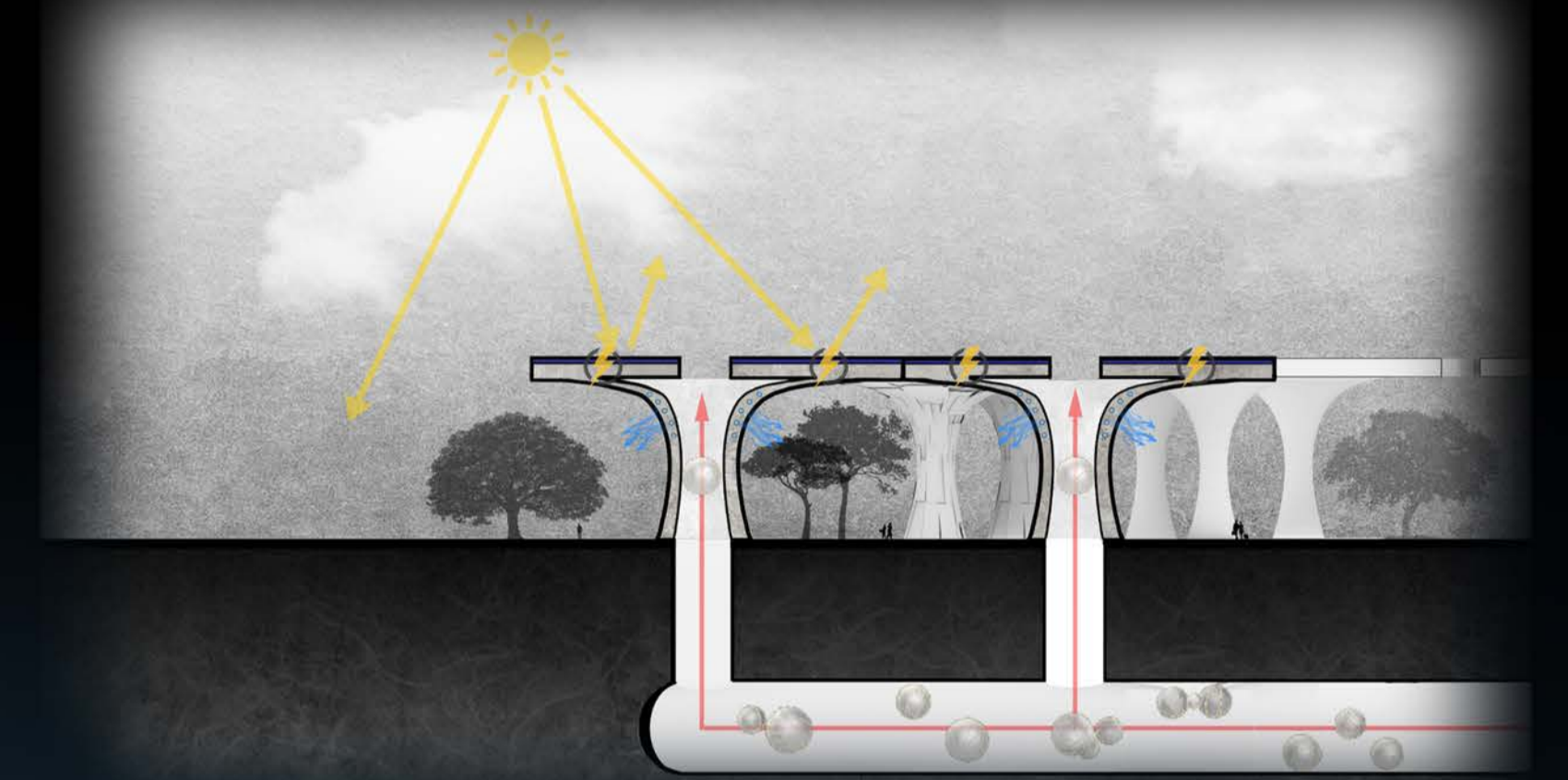


"PEARL-S" AND "STRING" TRANSPORTATION

Our intelligent traffic system consists of two parts: the analysis of traffic conditions and the analysis of pedestrians. The traveler first needs to enter the flight information into the mobile app. After that, the system will analyze the existing traffic and pedestrian distribution through the real-time monitoring of the airport obtained by the drone, and then apply our designed path prediction algorithm to fit the real-time path obtained from the monitoring with each other, finally arriving at the most reasonable travel path.

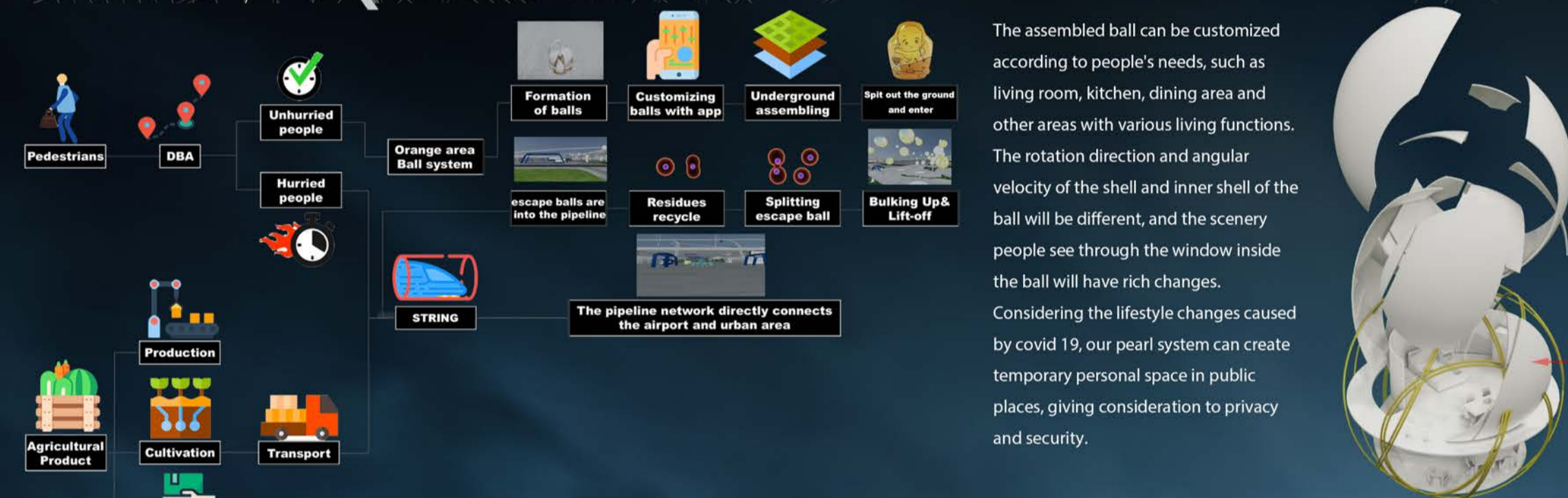
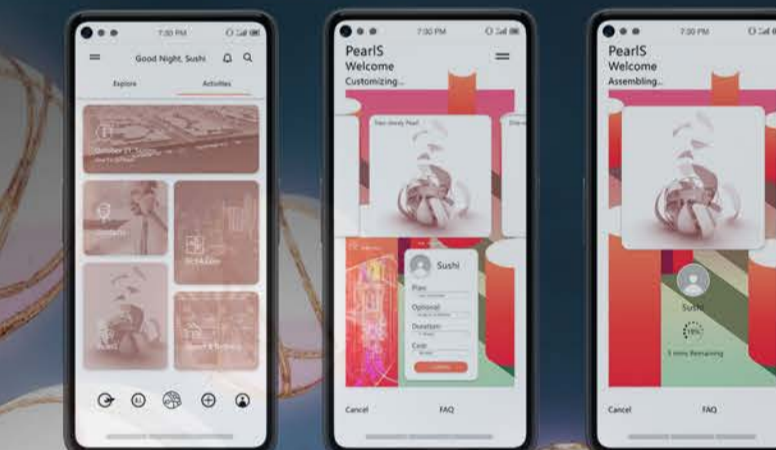
After passengers set up their needs through the app, the Pearl-S spheres are assembled under the tree-shaped multi-functional farm, transported and thrown out of the ground through the magnetic levitation pipeline. Pearl-S integrates traditional airport lobby functions into one, providing passengers with core functions such as customs inspection, security inspection, food, rest, office, and entertainment to achieve customized all-in-one service to make every passenger's travel safer, faster, and more comfortable. After the passengers enter the spheres, they are transported to the "String" high-speed rail system. According to the established travel route generated by the intelligent traffic system, the passengers are sent to the destination directly.

TREE-SHAPED MULTI-FUNCTIONAL FARM



The tree-shaped multi-functional farm building uses sustainable energy to produce Australian specialties, allowing passengers to experience a walk with nature before boarding and to purchase environmentally friendly produce from the farm. In addition, the system utilizes renewable energy sources such as solar and bioenergy and provides rainwater harvesting.

APP UI DESIGN



The assembled ball can be customized according to people's needs, such as living room, kitchen, dining area and other areas with various living functions. The rotation direction and angular velocity of the shell and inner shell of the ball will be different, and the scenery people see through the window inside the ball will have rich changes. Considering the lifestyle changes caused by covid 19, our pearl system can create temporary personal space in public places, giving consideration to privacy and security.

