

**61669P**

**PTH**

**《Vishon AGV-GOGOROBOT》**

**WU,SHANG-YI    MA,YU-LUN  
KUO,CHE-YUAN   LIN,PO-HSUN  
KUNG , LI-CHUN**

**Chinese Taipei**

# Vision AGV-GOGOROBOT

61669P

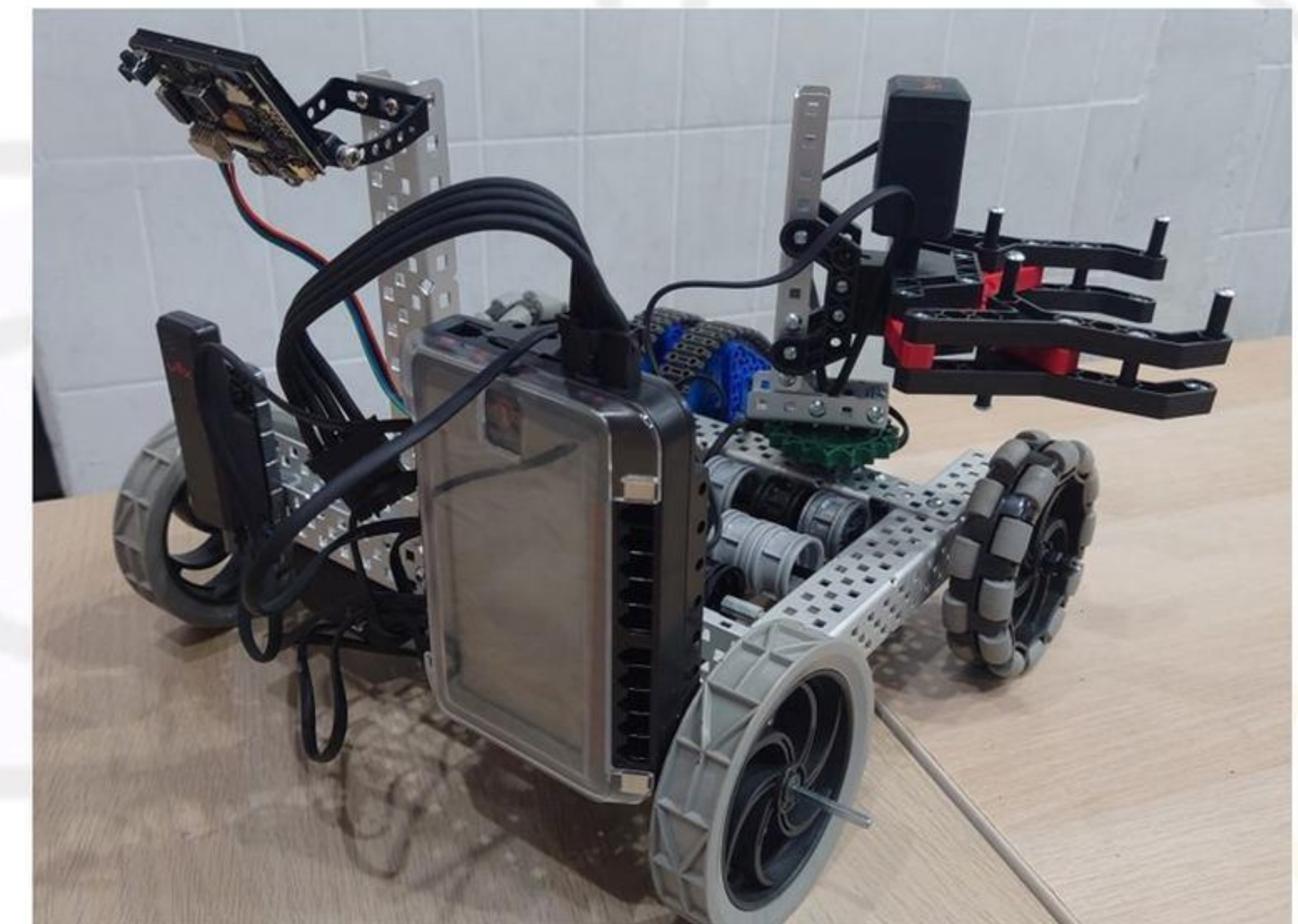
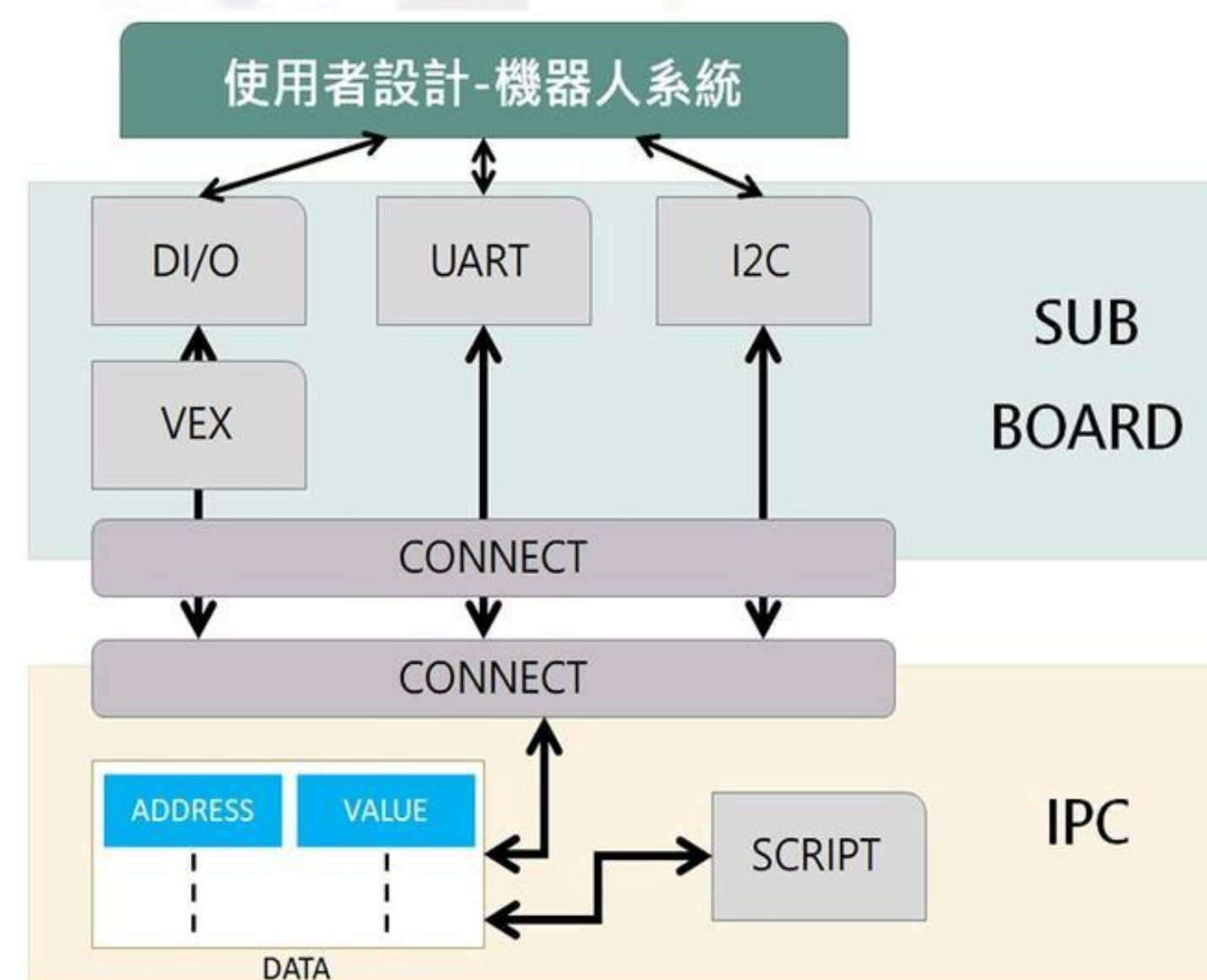
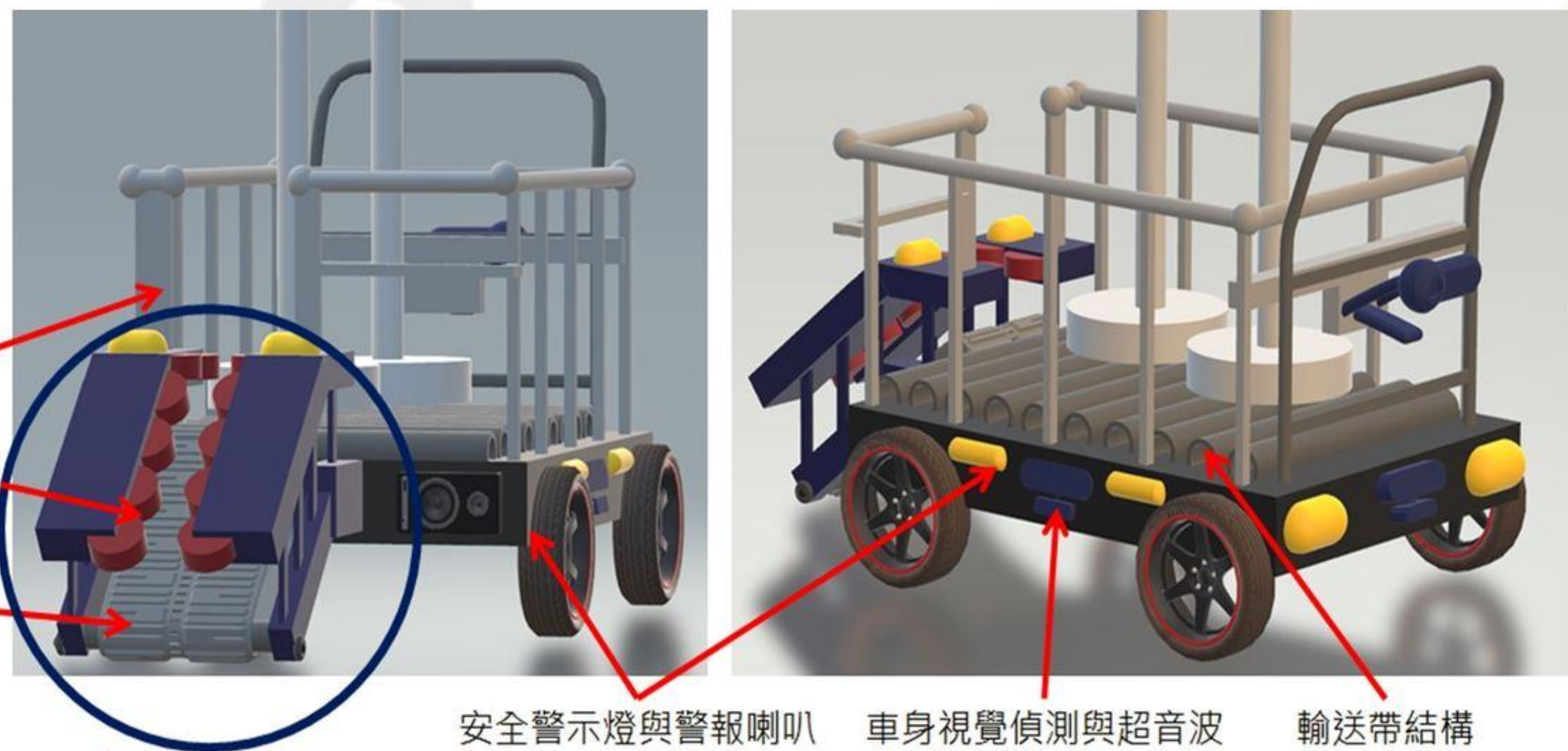
PTH



## System purpose:

We connected to Arduino, vex brain and other mainstream controllers through visual detection + color sensor, through UART / I2C interface to achieve seamless hardware docking, and then combined with a detachable and adjustable metal skeleton, with different types of robotic arm, to make a visual unmanned transport vehicle.

**Description of the purchase:** robot truck has a plural vision sensor, ultrasonic distance measurement, servo motor and metal structure, and then add slow acceleration and deceleration (to maintain the safety and stability of driving), motor synchronization control technology (to enhance the accuracy of movement) and the team designed a limited state machine mode



## Robotic arm and metal

**frame:** Using metal adjustable structure with replacement robotic arm to complete the modular machine self-propelled vehicle. The self-propelled vehicle can also be turned on in manual remote control mode for more intuitive use.

Increased load capacity with metal structure

Add different RPM motors and adjust according to the condition

Replacement robot arm, modified according to the different objects to be carried

High-freedom and modularized self-propelled vehicle

Use lens recognition color or Barcode code

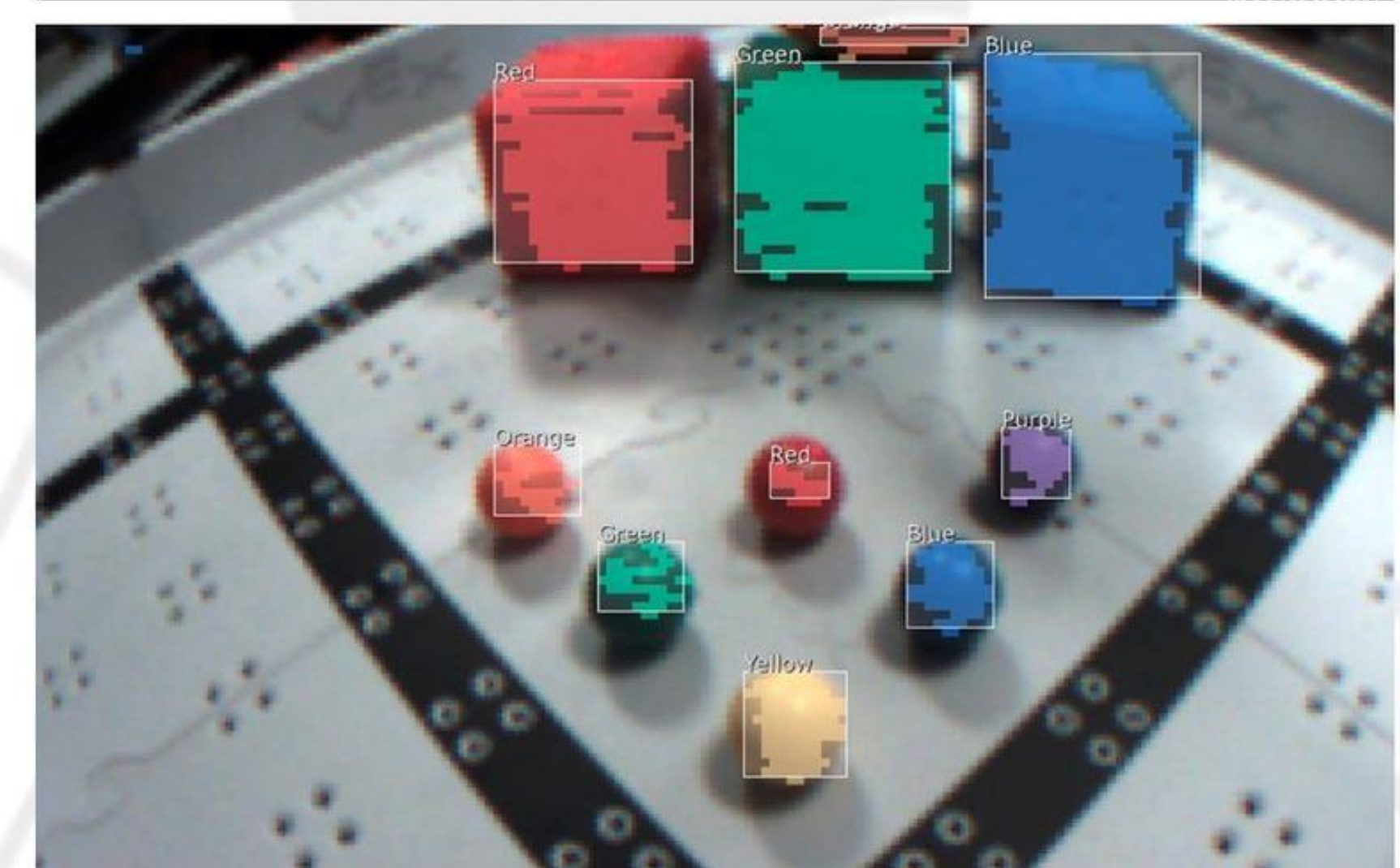
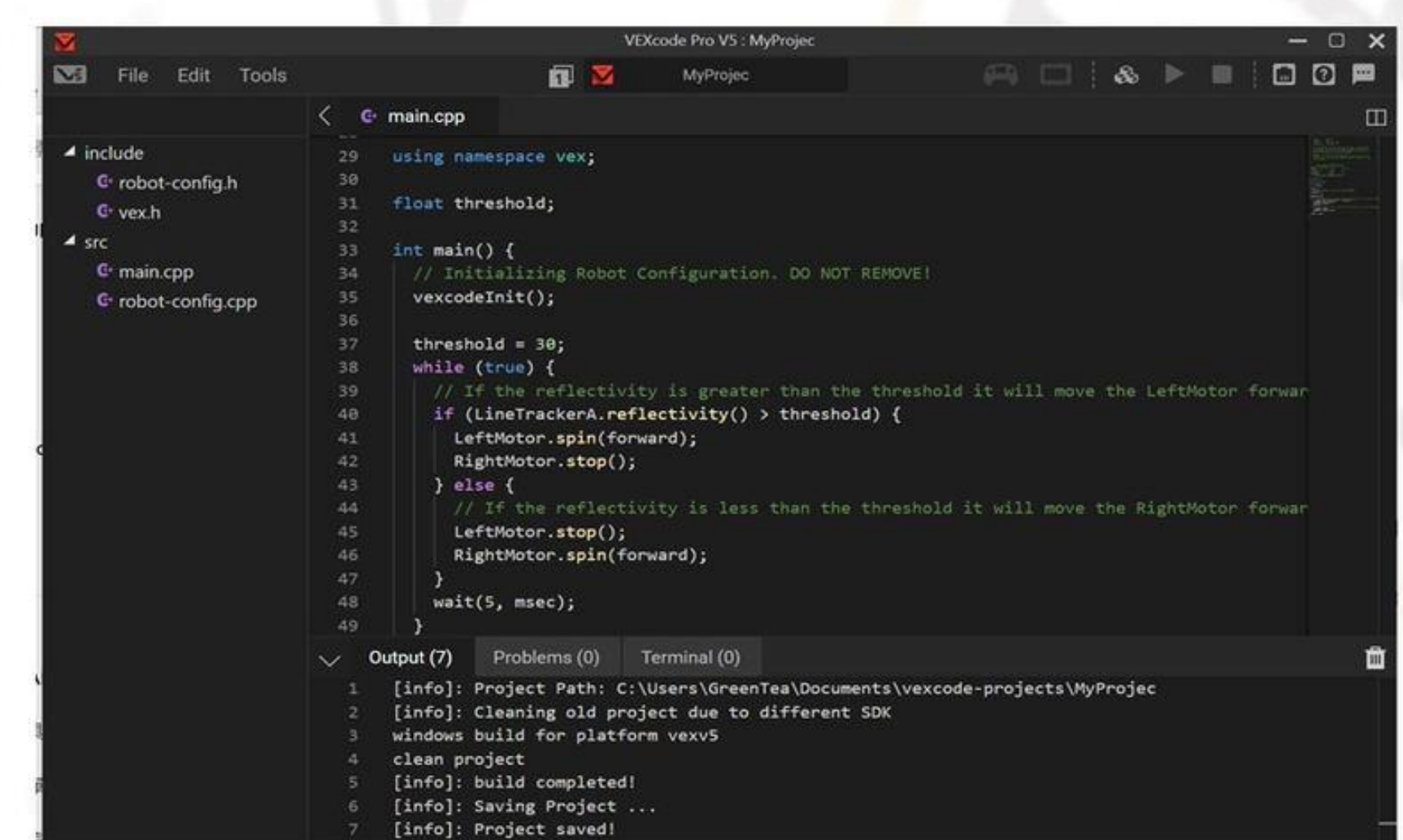
Lens detection bridges data via I2C, UART, DI/O and control via VEX host

Using C++ in VEX trip style

More devices can be connected through the ROS system

## Visual recognition:

The camera with color recognition+barcode recognition allows the self-propelled vehicle to move more smoothly and accurately through two judgment modes.



方便使用的人機介面

應用性  
便利性



## System composition and future applications:

The modular design and open source control system, and the addition of the graphical control interface allows more people to quickly get started, the mechanical structure of the use of easy to disassemble the building block structure, can be modified at will robot, to achieve the goal of customization + freedom.

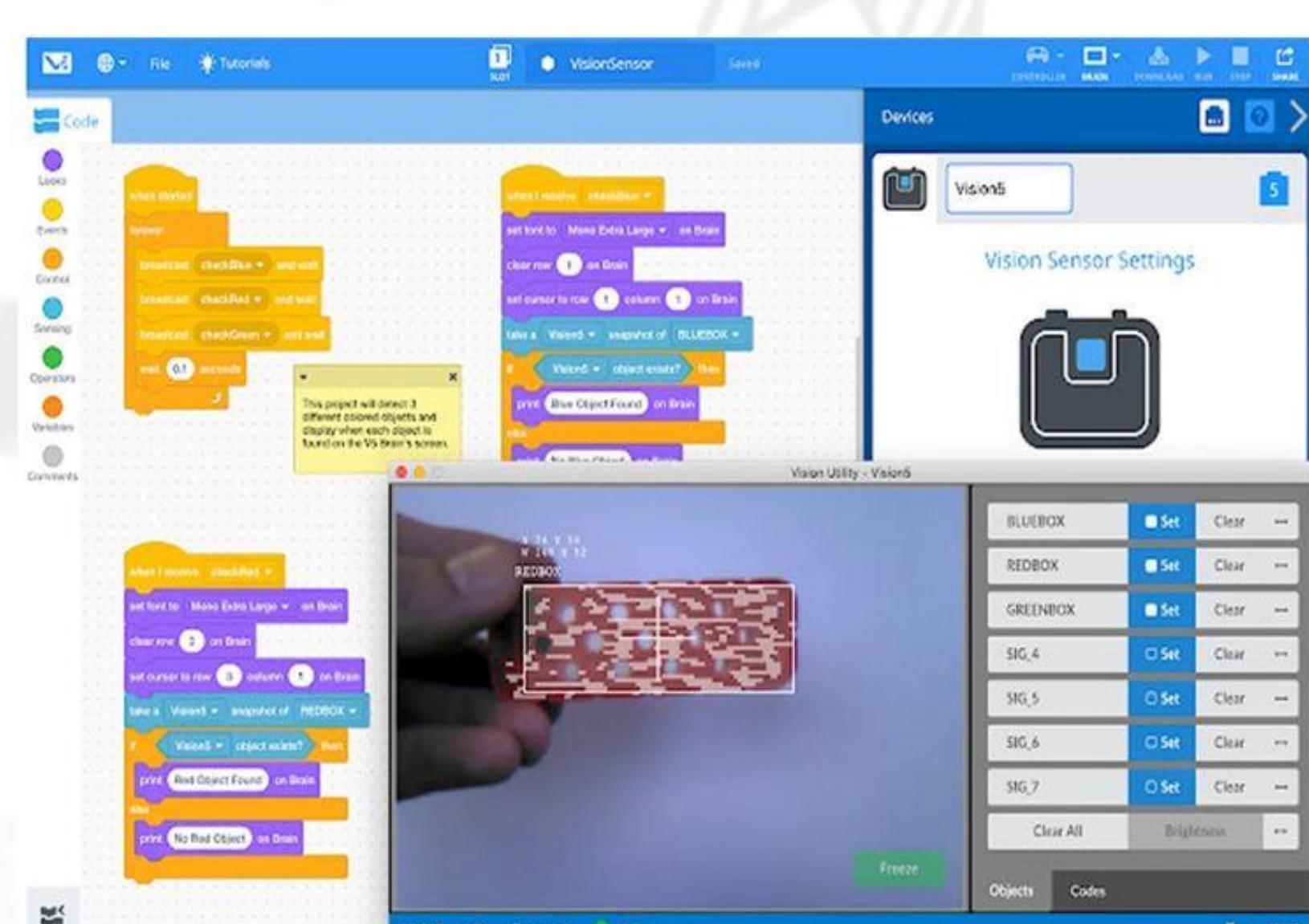
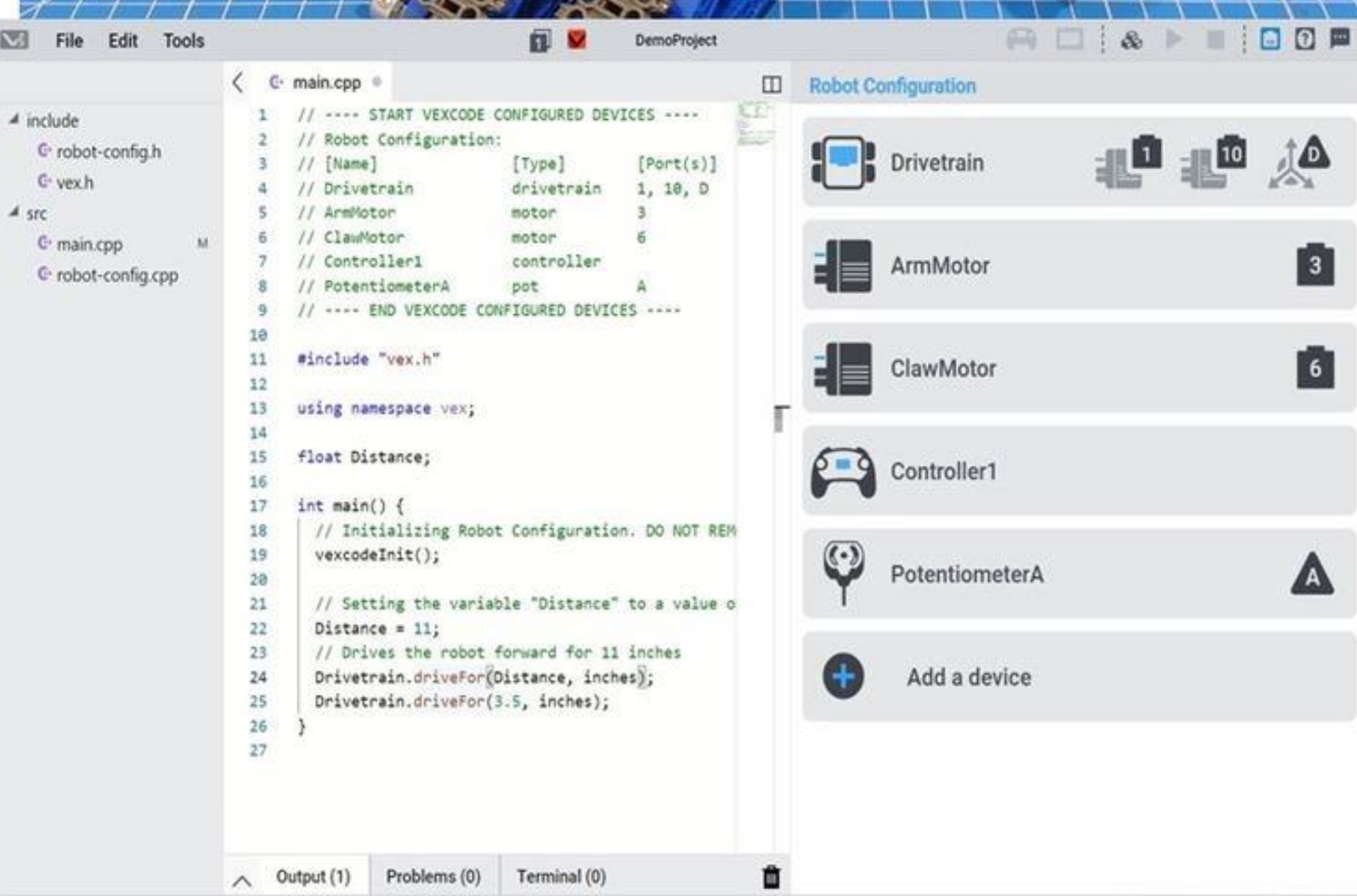
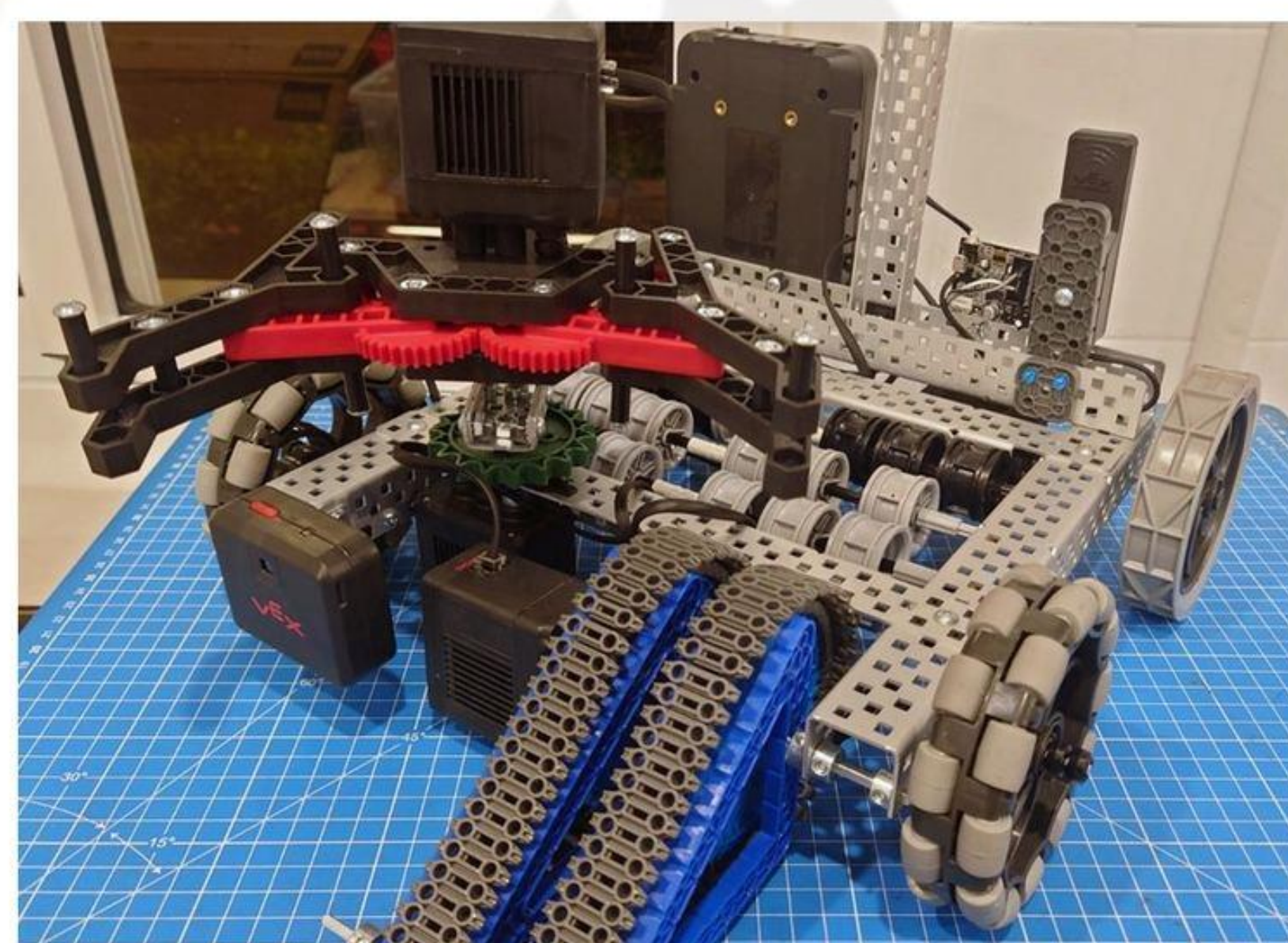
視覺無人搬運  
自走車

控制核心  
與感測元件

機器人套件結合

驅動系統  
模組設計

可拆裝金屬結構



# System Description

**Vehicle structure :** The truck is equipped with vision sensor, ultrasonic distance measurement, servo motor and metal structure, plus slow acceleration and deceleration and motor synchronization control technology to maintain driving safety and stability and accuracy.

**System purpose :** Through the visual detection and color sensor, connected to Arduino, vex brain and other controllers, through the UART / I2C interface, combined with detachable and adjustable metal skeleton and robotic arm, to make a visual unmanned moving vehicle.

**Robotic arm and metal frame :** Using metal structure with replacement robotic arm to complete the modular machine self-propelled vehicle. The self-propelled vehicle can also open the manual remote control mode, more convenient to use.

# Design Purpose

**Production Motivation :** This is a visual unmanned transport vehicle, the purpose is to make a fully automatic transport system through the sensor, in response to the lack of manpower, through the vehicle to help transport.

**System composition and future applications :** modular design, adding a graphical control interface so that more people can quickly get started, the mechanical structure of the use of easy to disassemble the building block structure, the robot can be modified at will to achieve the goal of customization + freedom.

