

WELCOME TO

VEX IQ[®]
ROBOTICS

MASTERS

Levels of Robotics



Level 1 – Building from instructions

Level 2 – Modeling others

Level 3 – Building & inventing based on experience

Flex

Stretch

Allie

Linq

Level 1 building & design

- Pick a design from the list

Bot for the 2018-19 VEX IQ challenge game, Level.

- Build

Hero Bot for the 2017-18 VEX IQ challenge game, Ringmaster.

Fun robotic alligator and code her to walk with motorized legs.

Robotic forklift that can be coded to scoop, lift, and carry objects.

[Build instructions >](#)

[Build instructions >](#)

[Build instructions >](#)

[Build instructions >](#)

- Modify & improve

Slick

Ike

Armbot IQ

V-Rex



Pick a robot, any robot...

Linq



Robotic forklift that can be coded to scoop, lift, and carry objects.

[Build instructions >](#)

Stretch



Hero Bot for the 2017-18 VEX IQ challenge game, Ringmaster.

[Build instructions >](#)

Byte



Hero Bot for the 2023-24 VEX IQ Robotics Competition, Full Volume.

[PDF Build Instructions >](#)

Clawbot



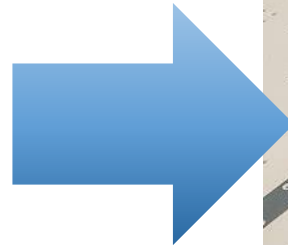
An addition to the BaseBot build that includes a robotic arm and claw attachment.

[Build instructions >](#)

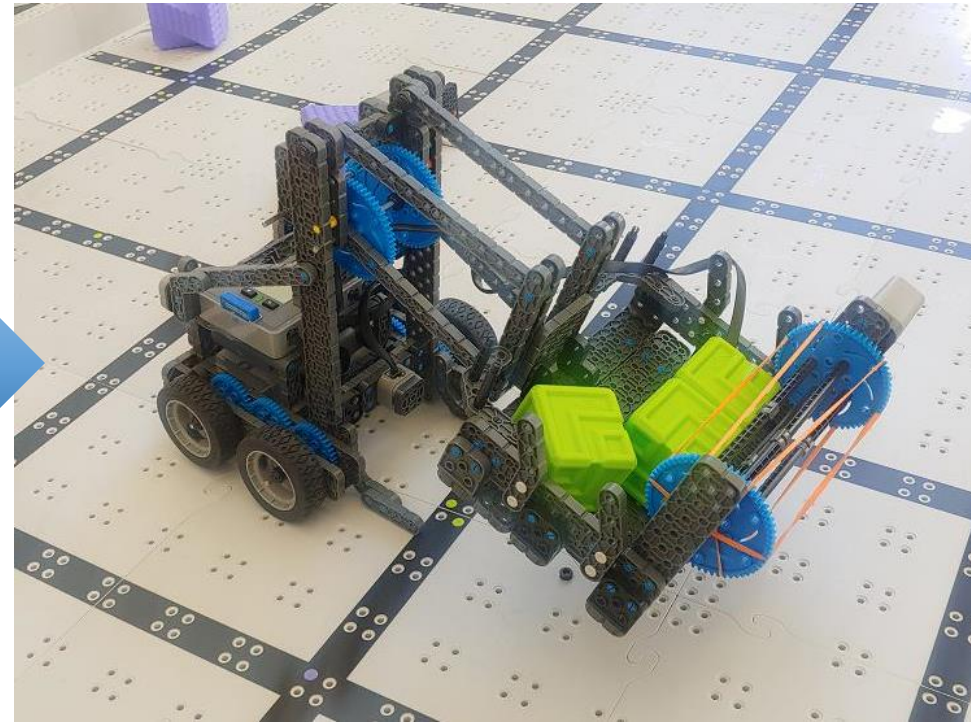
VIEW MORE

Samples of robots

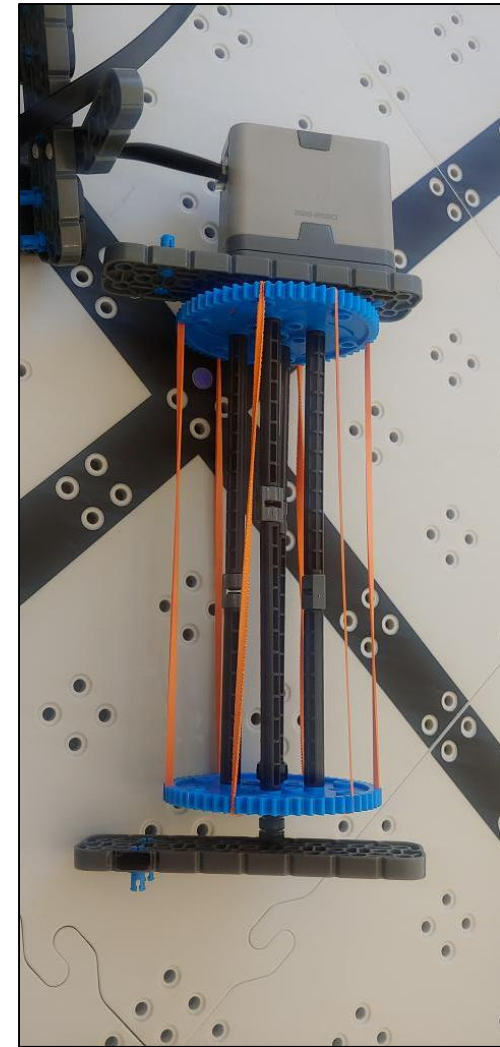
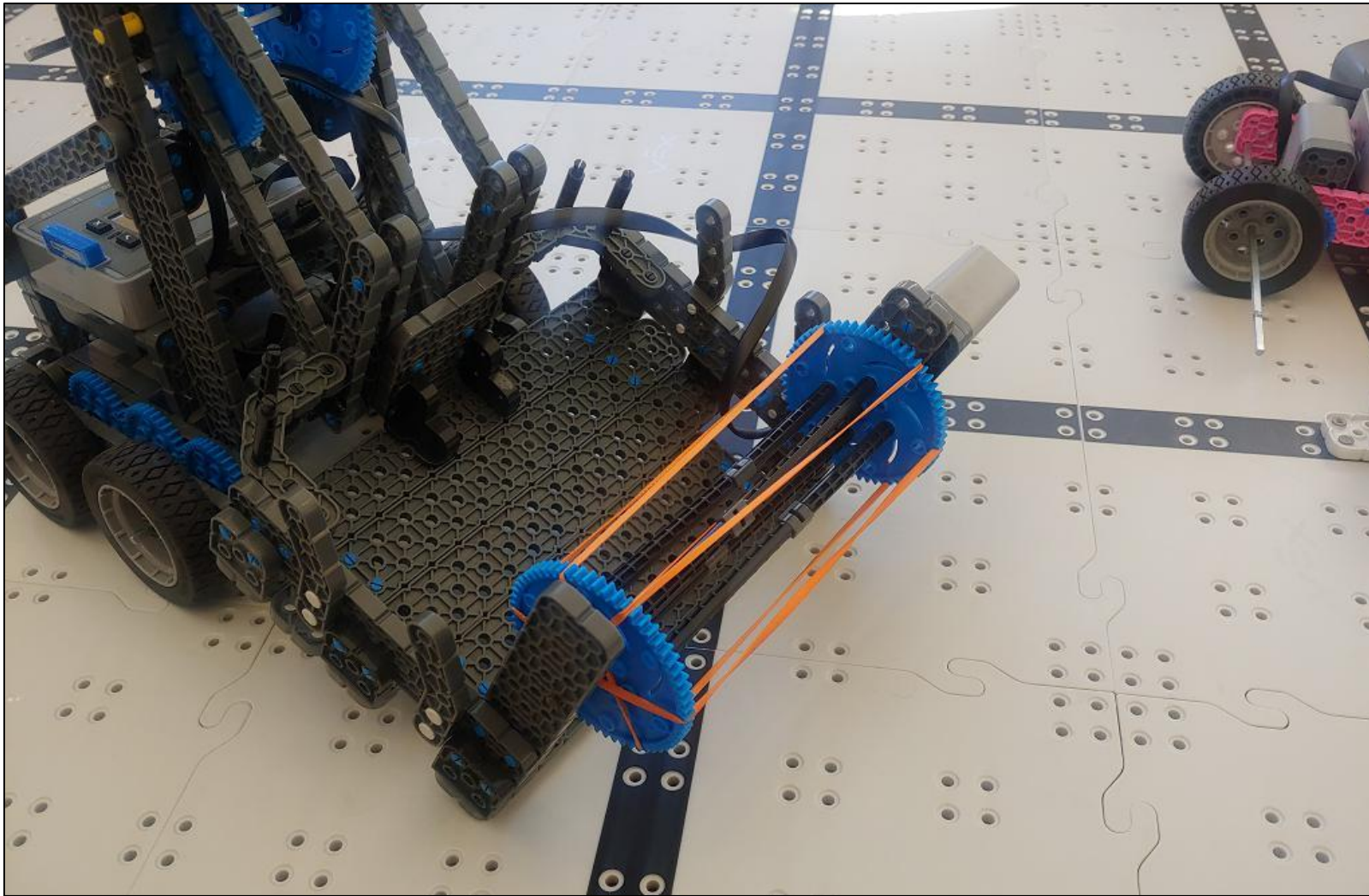
Build from instructions



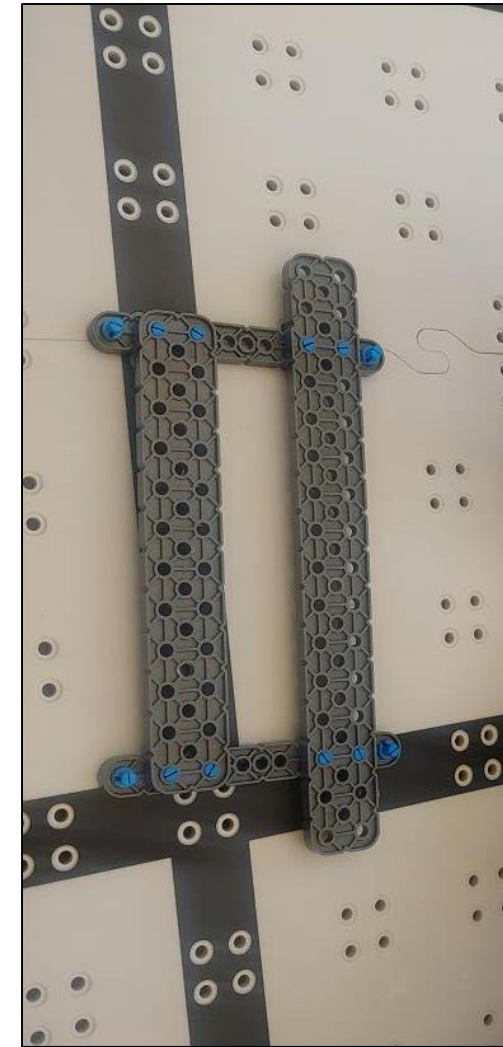
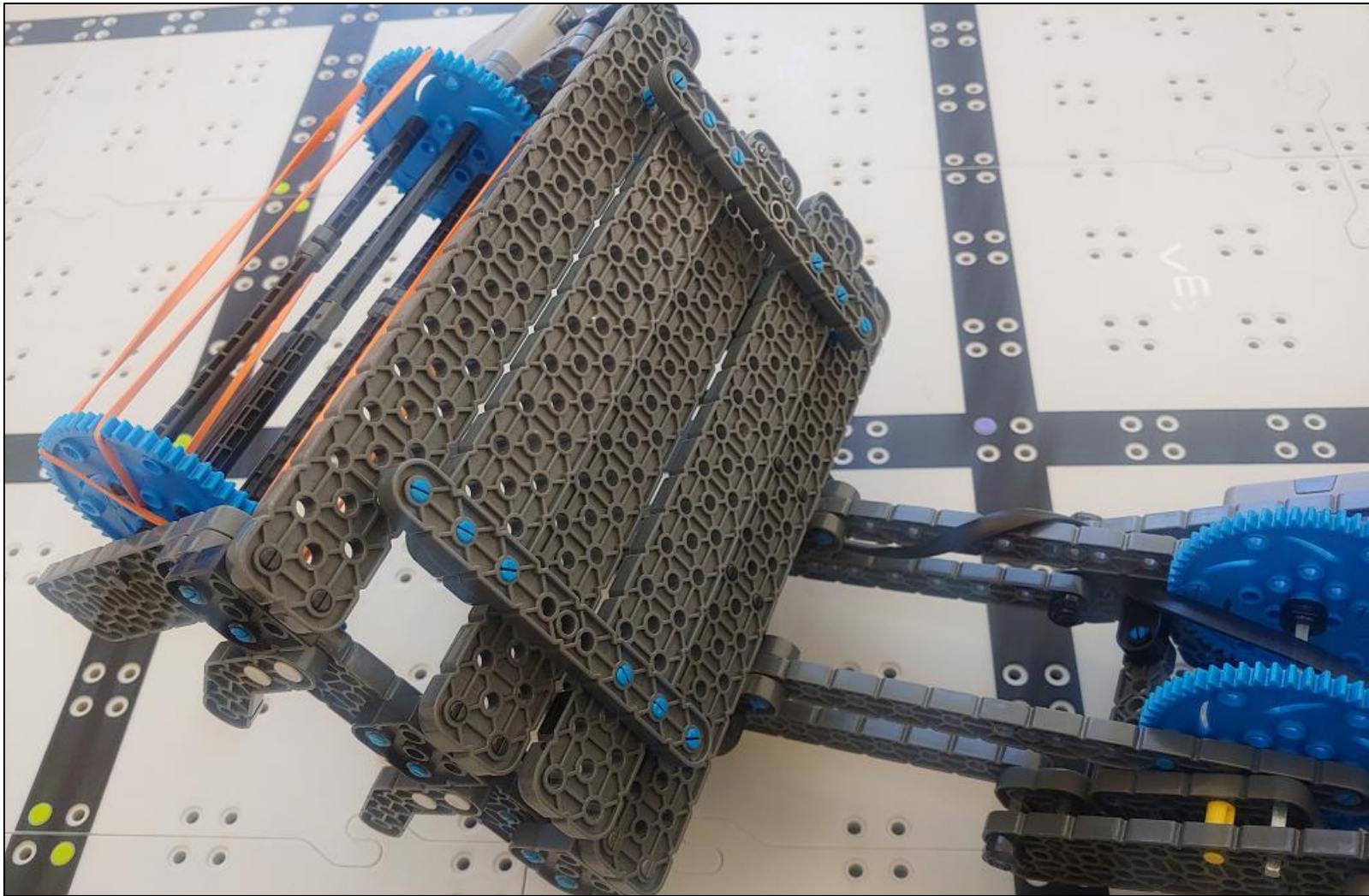
Make it even better!



Breaking it down...



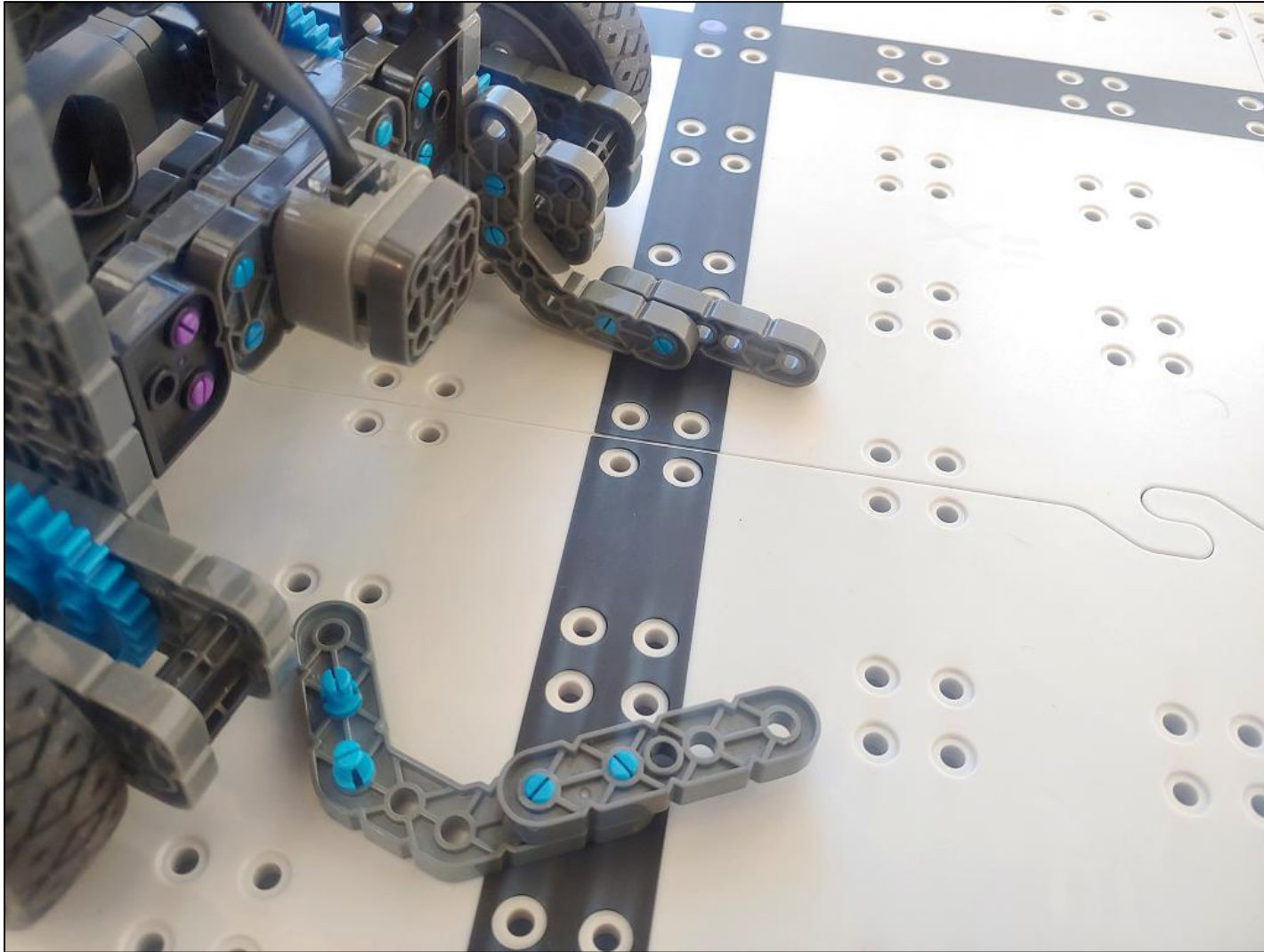
Breaking it down...



Breaking it down...



Breaking it down... (if you fall on your face)

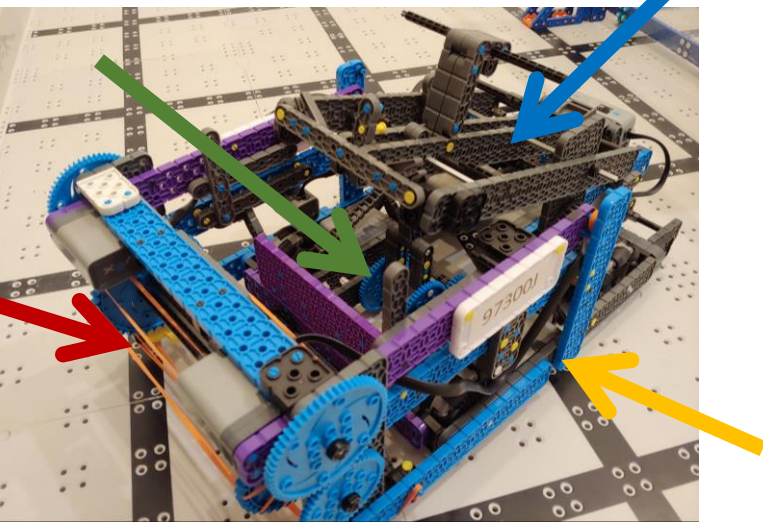
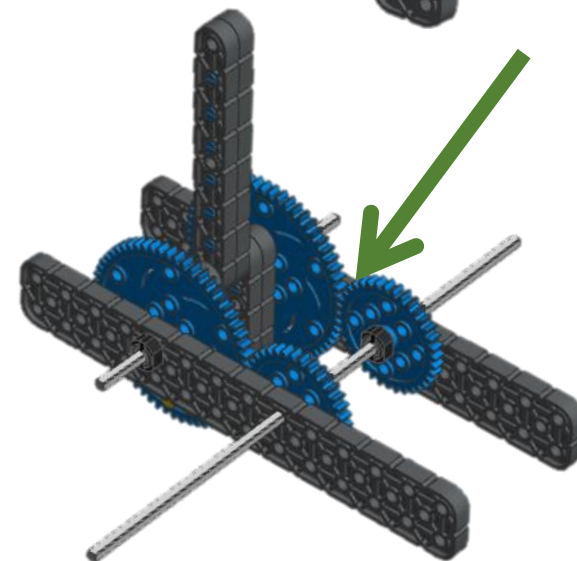
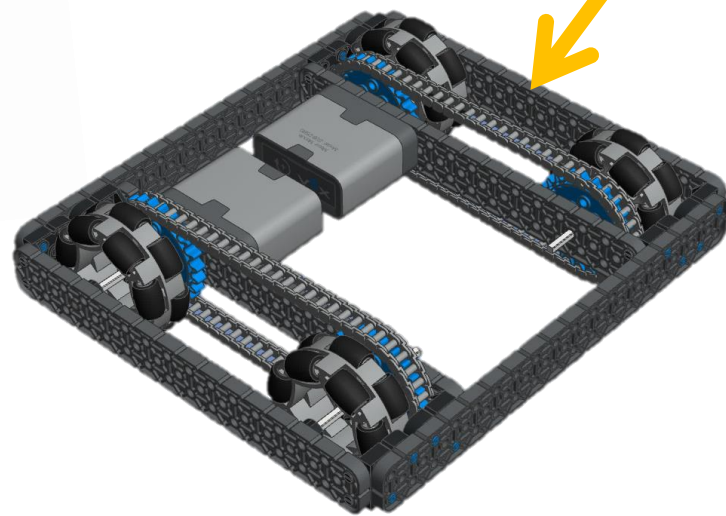
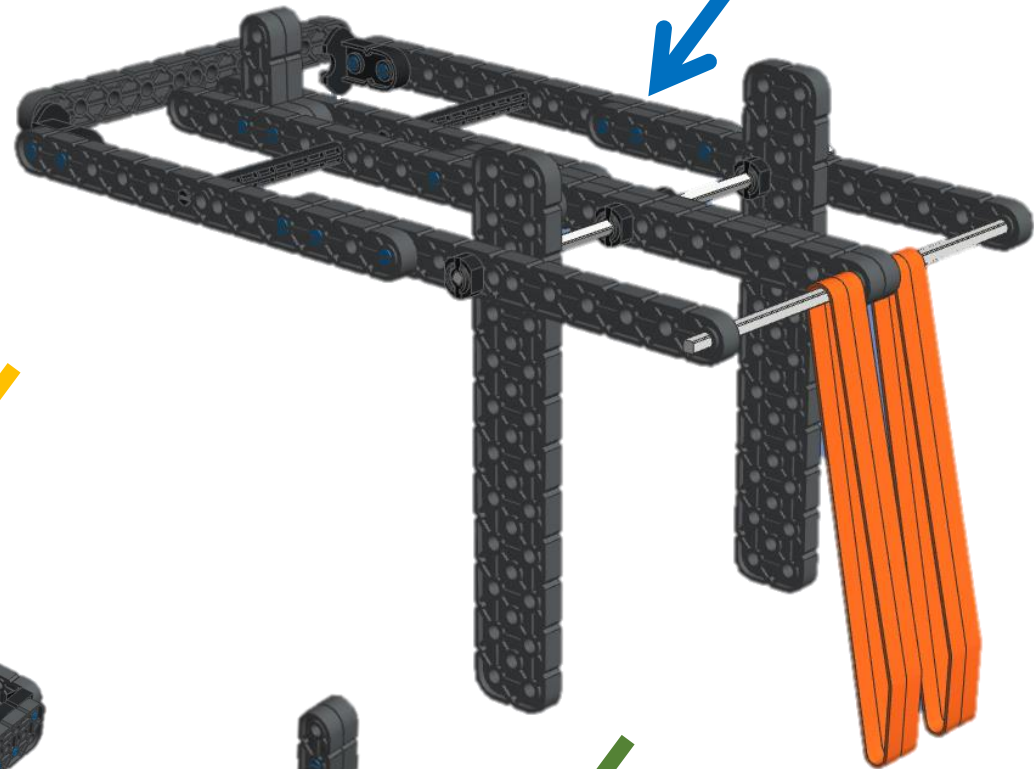
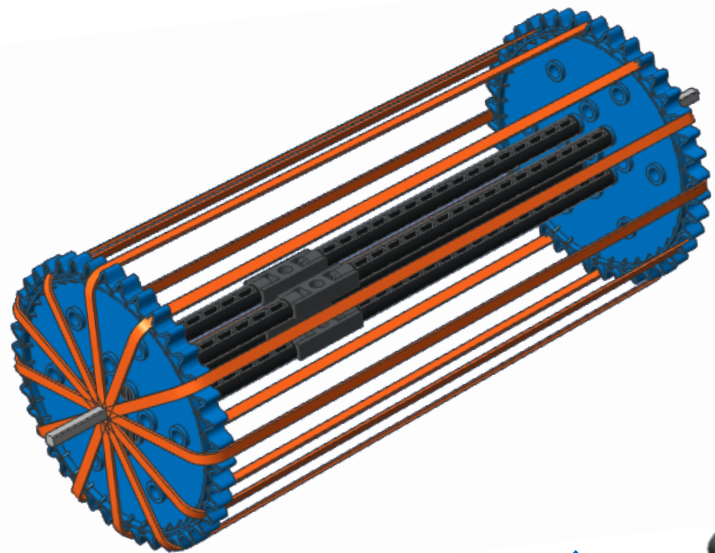


A person is shown from a high angle, focused on building a LEGO Technic robot on a grey table. The robot is partially assembled, featuring a grey motor, black wheels, and various blue and grey Technic components. The person is wearing a grey t-shirt with a graphic that includes the word 'GENIUS'. In the background, there are more LEGO parts and a white storage bin. The entire scene is overlaid with a semi-transparent grey filter.

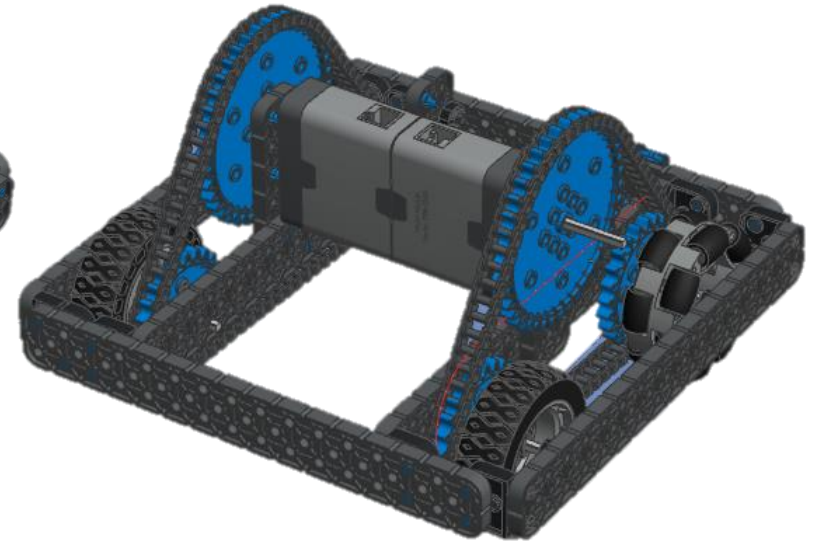
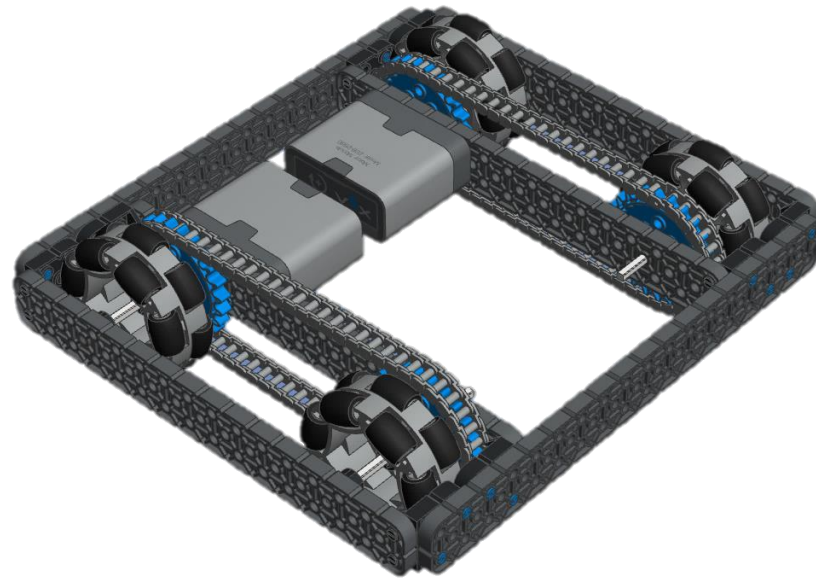
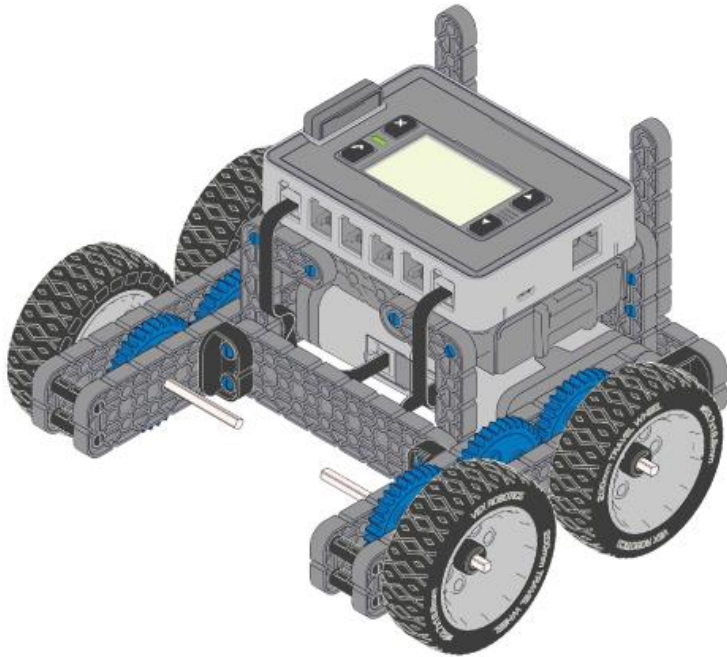
Building at Level 2

Using basic mechanisms
Putting it together yourself

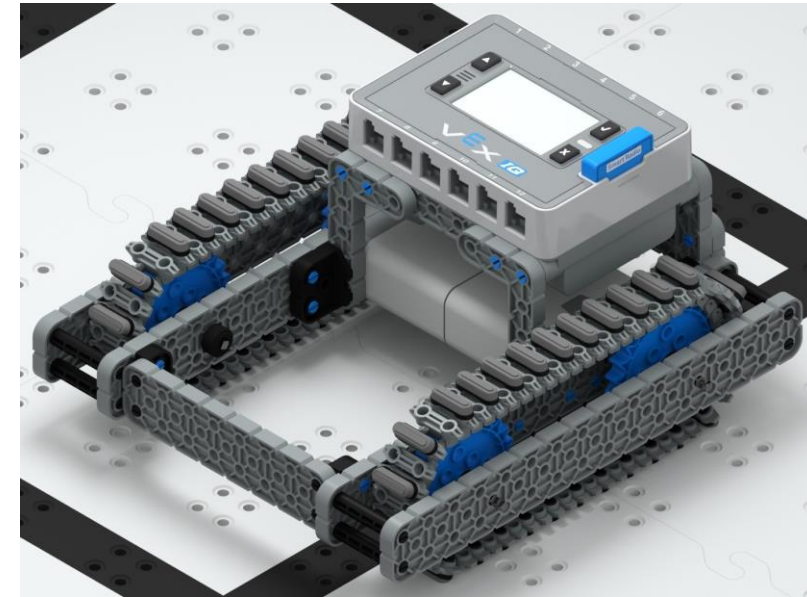
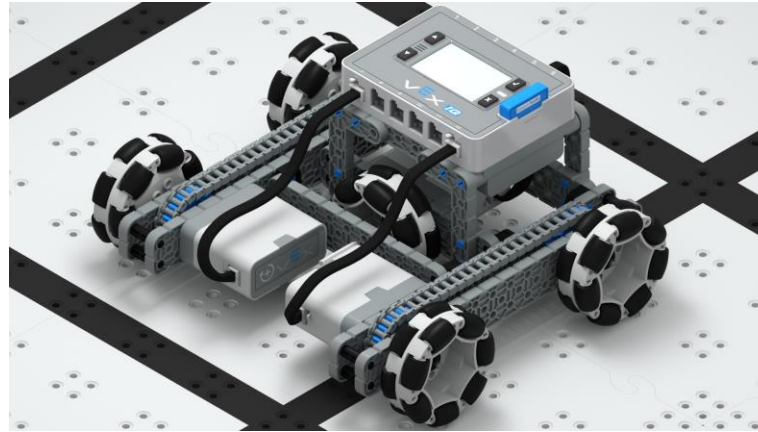
Build this robot – Chunking



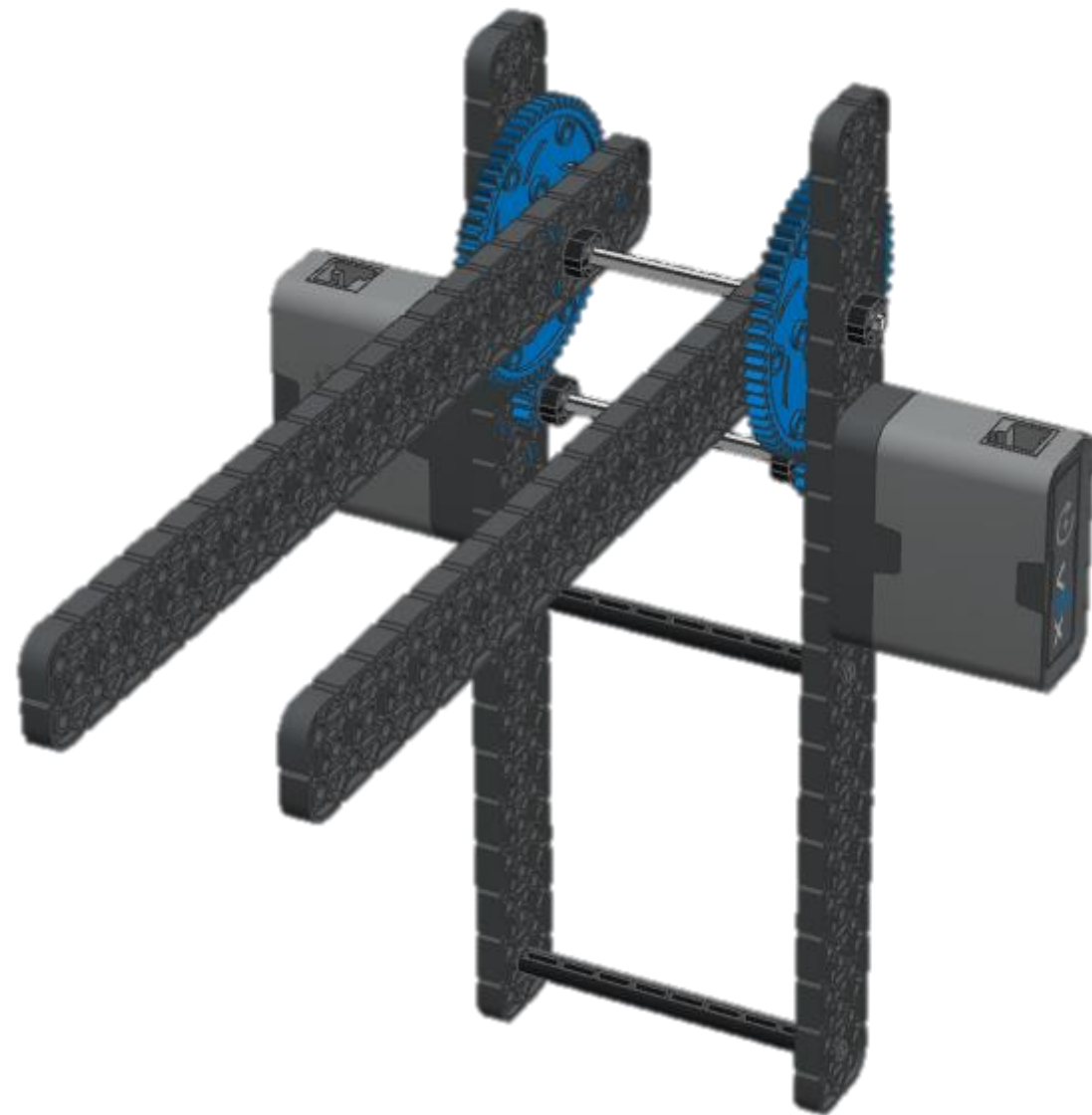
Different robot models



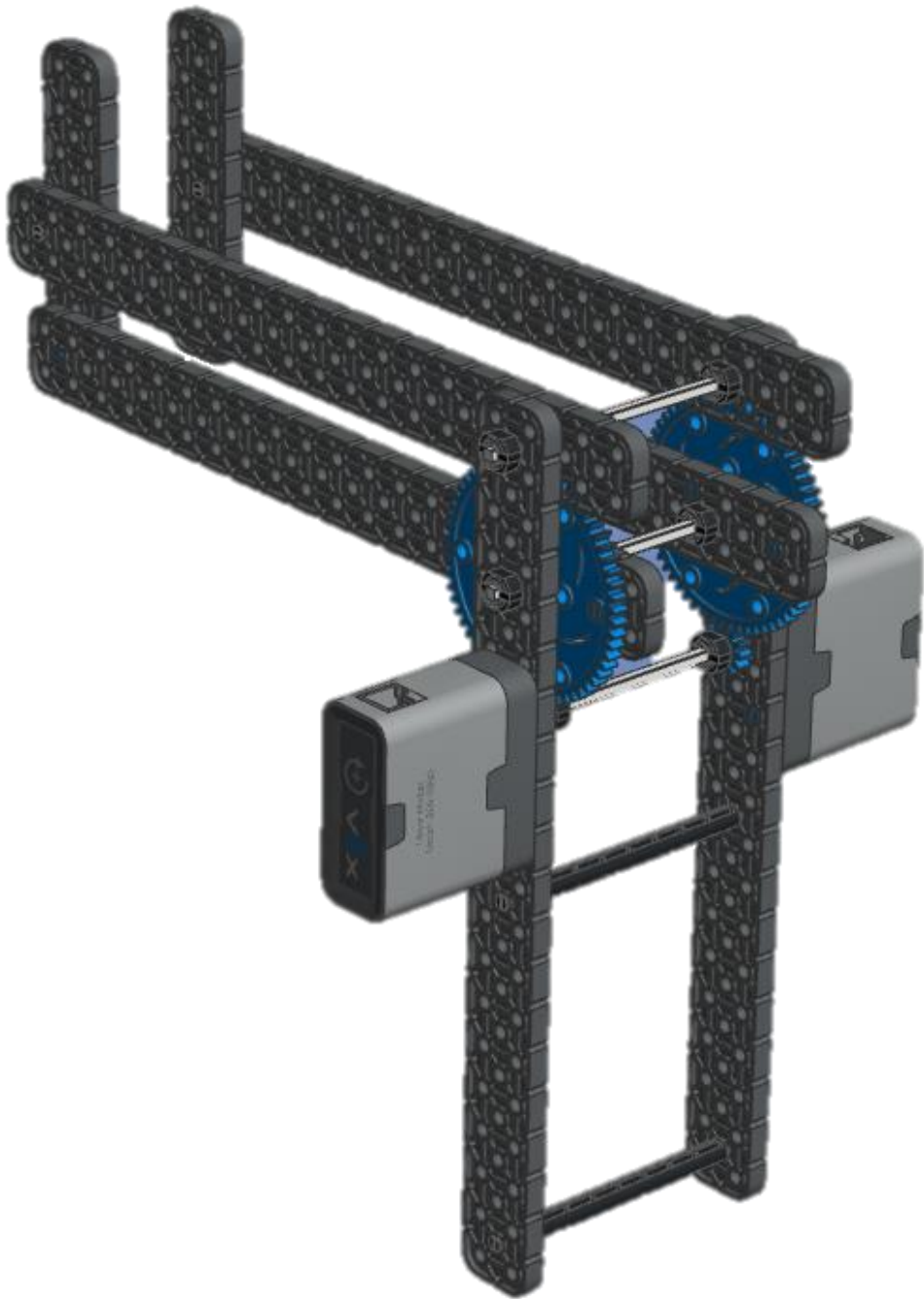
Different base models – BE CAREFUL!



Single-jointed arm - Geared

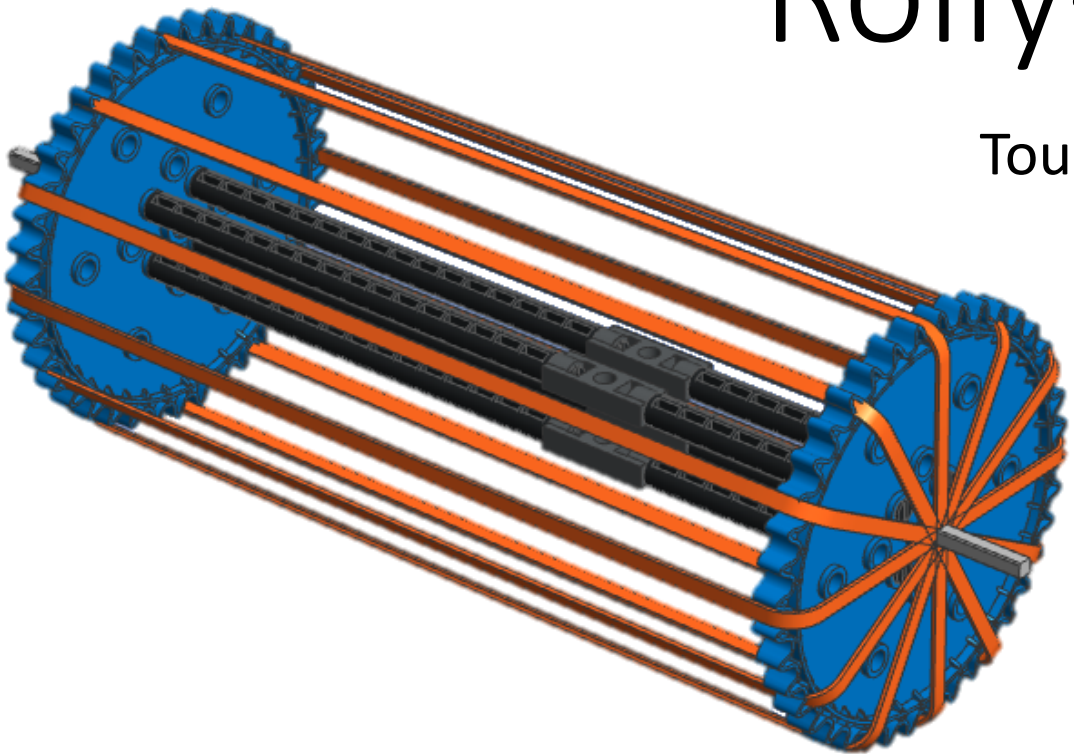


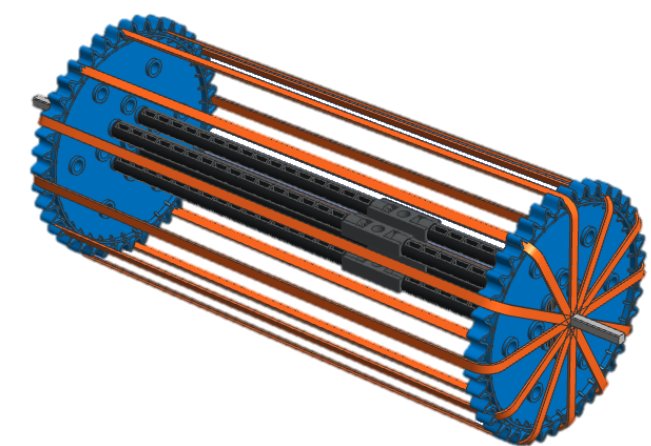
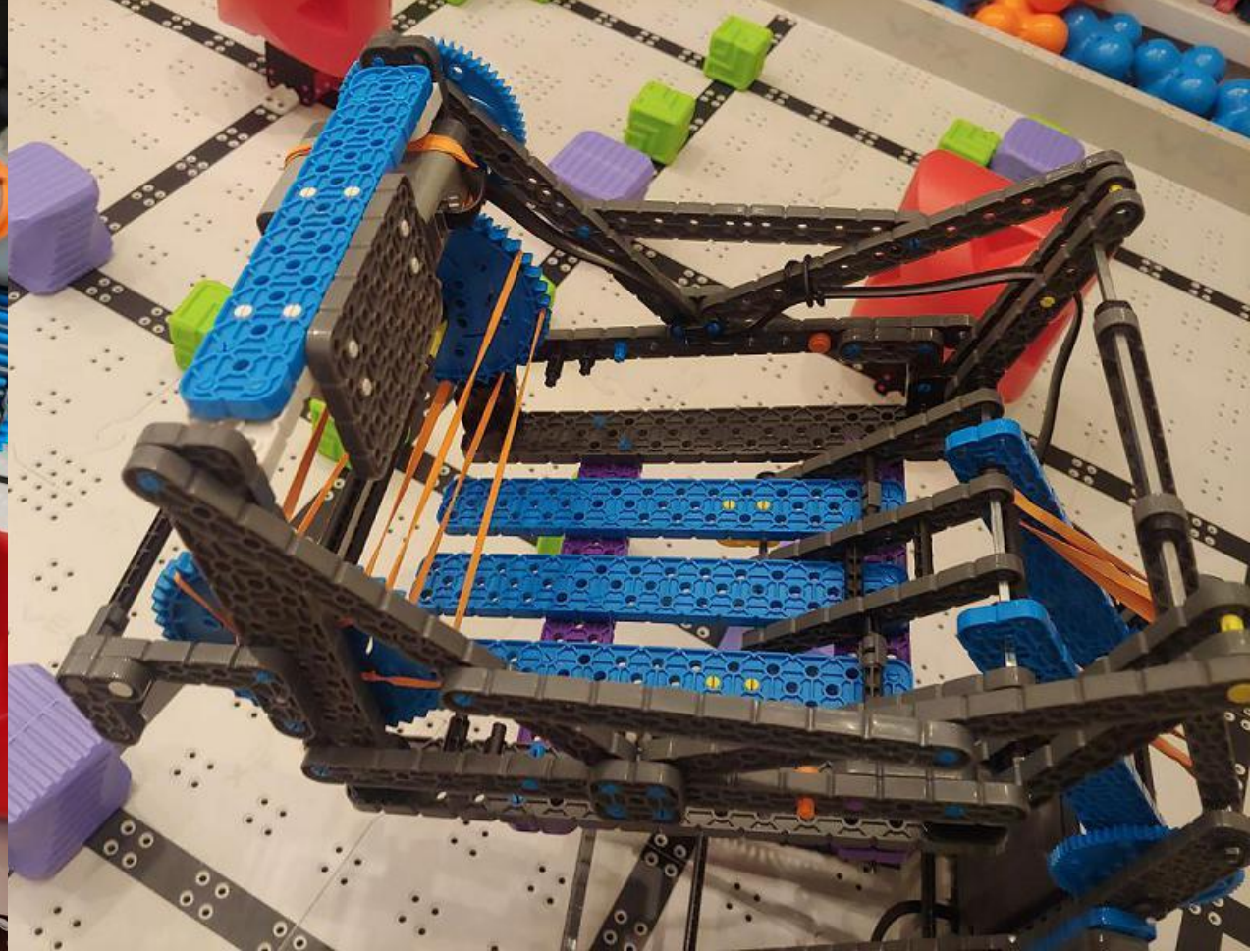
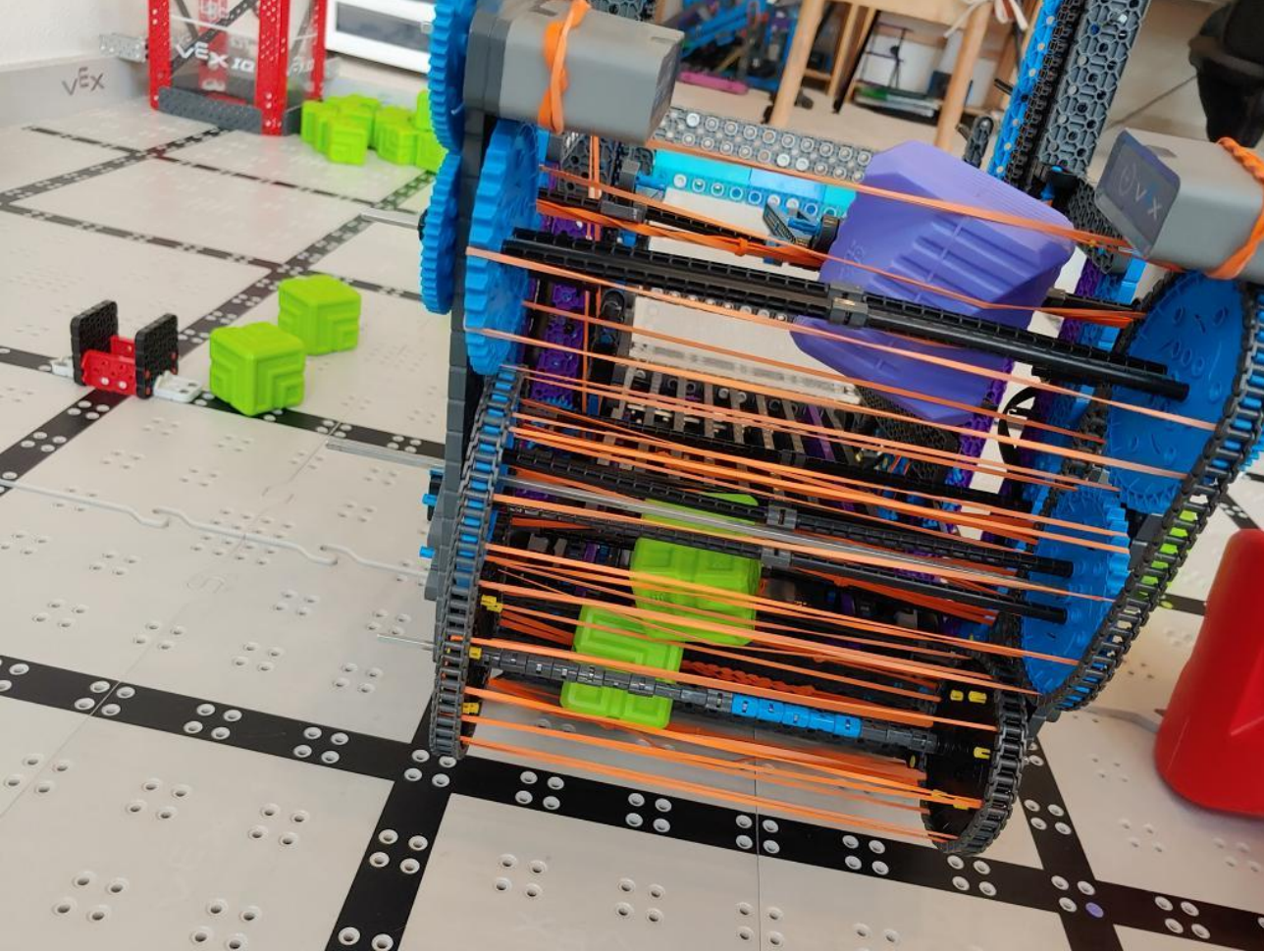
4-bar arm



Rolly-Grabbers

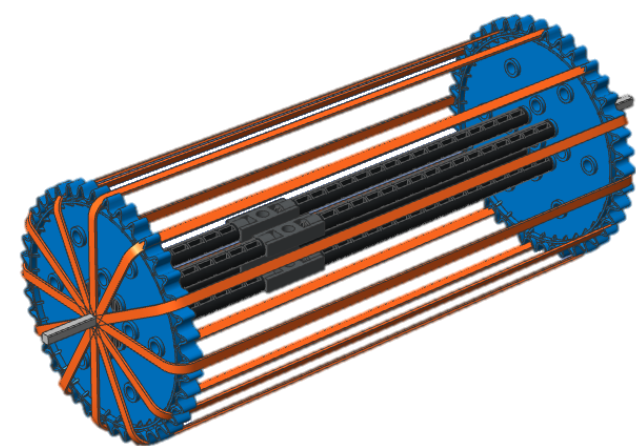
Touch It and Own It



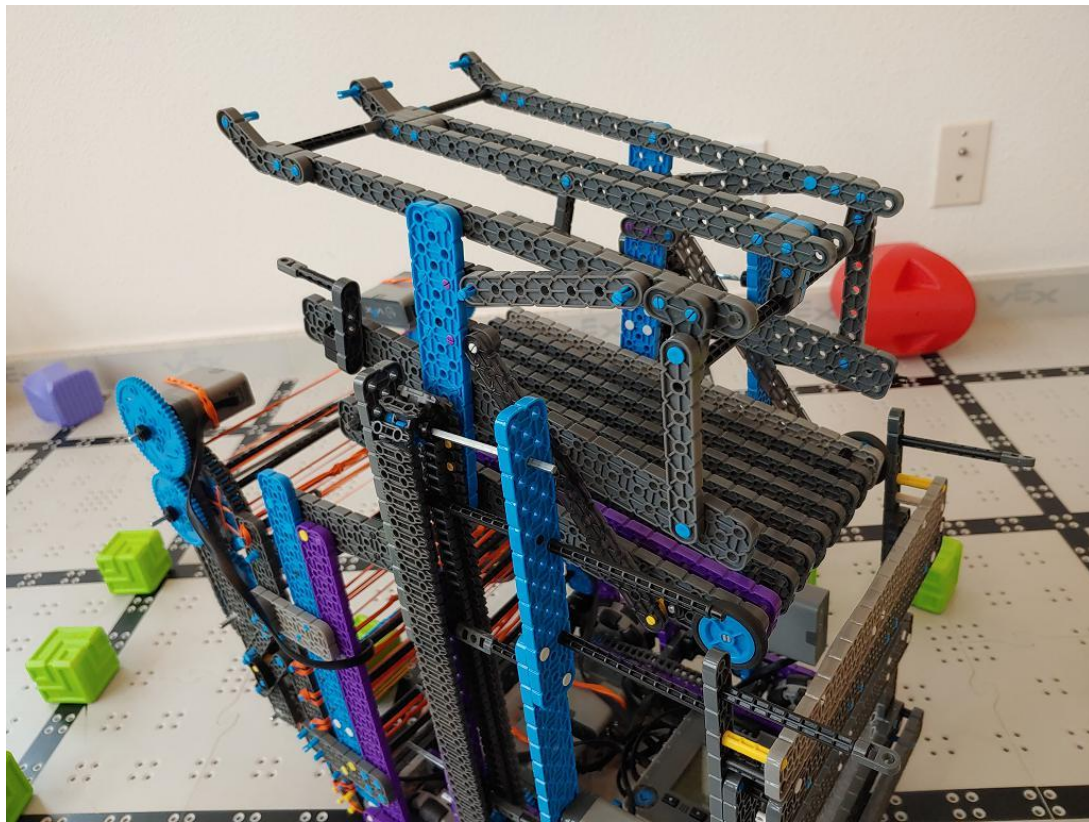


Rolly-Grabbers

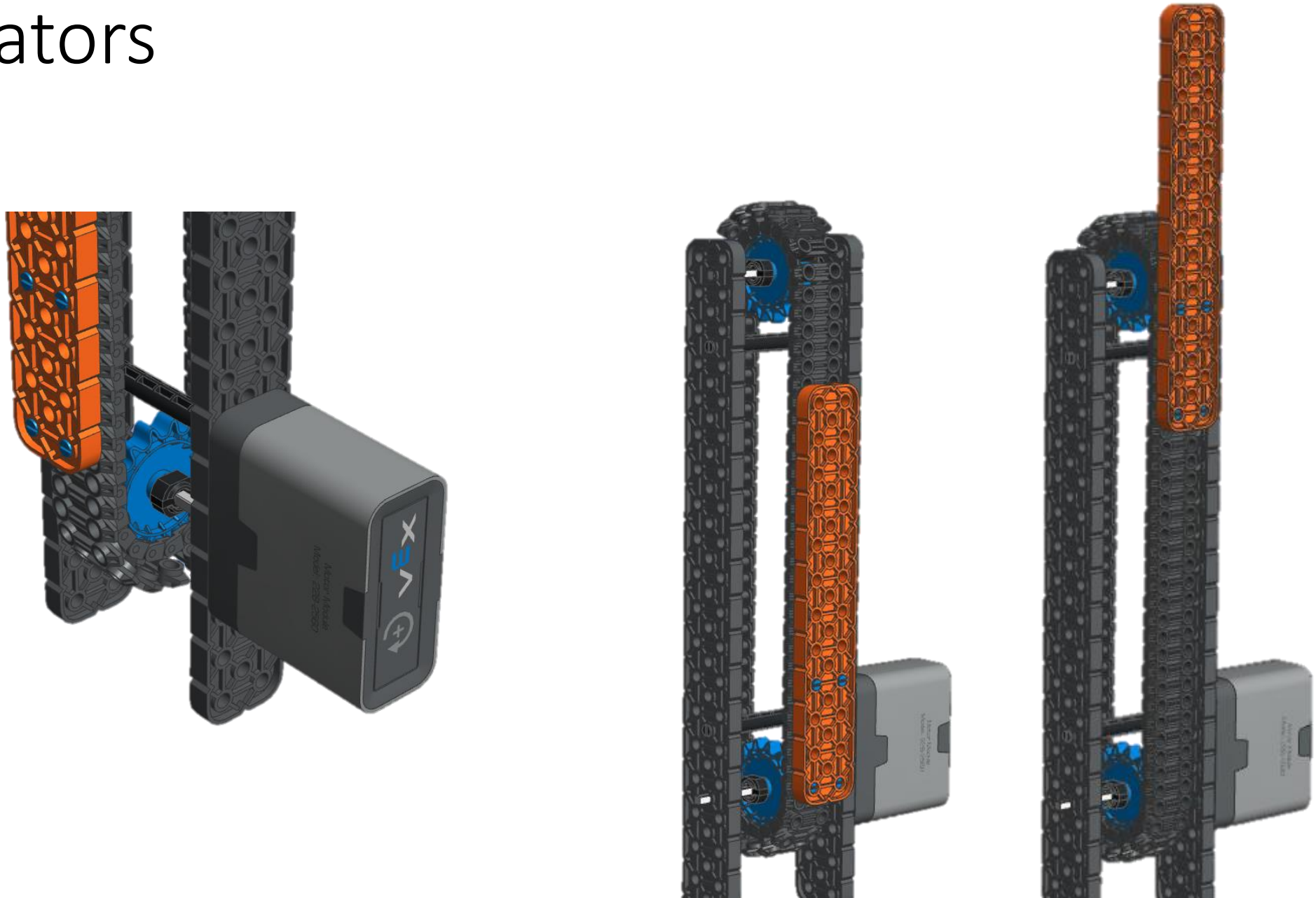
Bigger is better



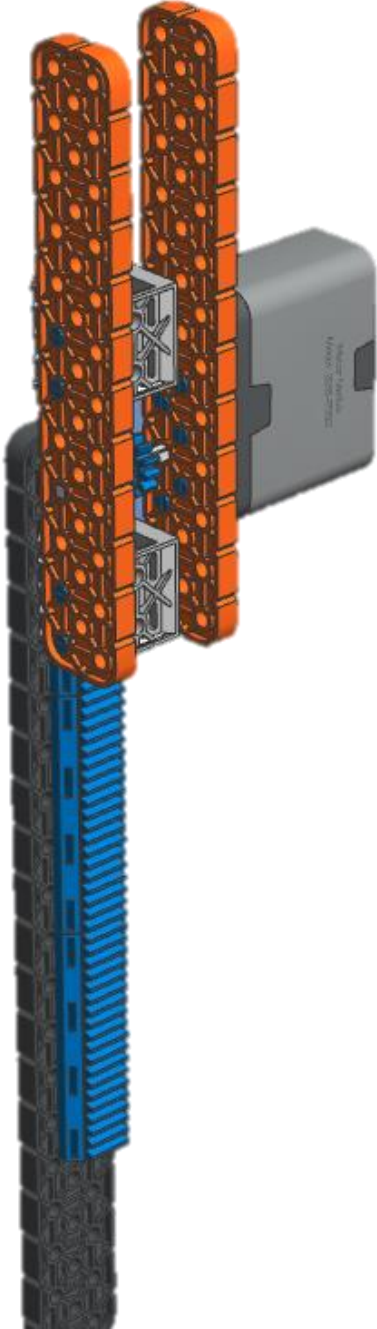
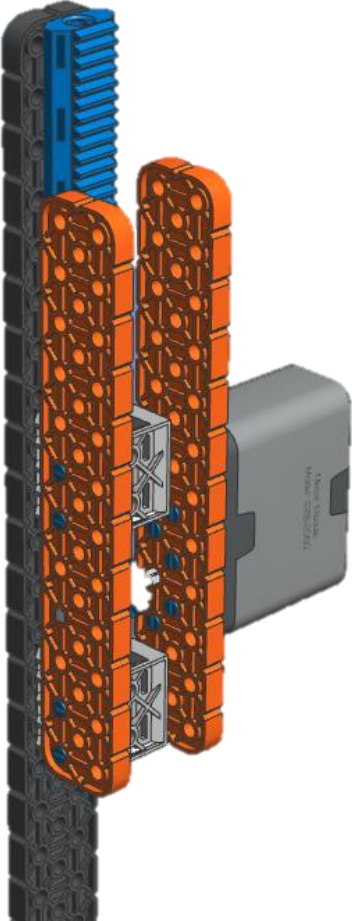
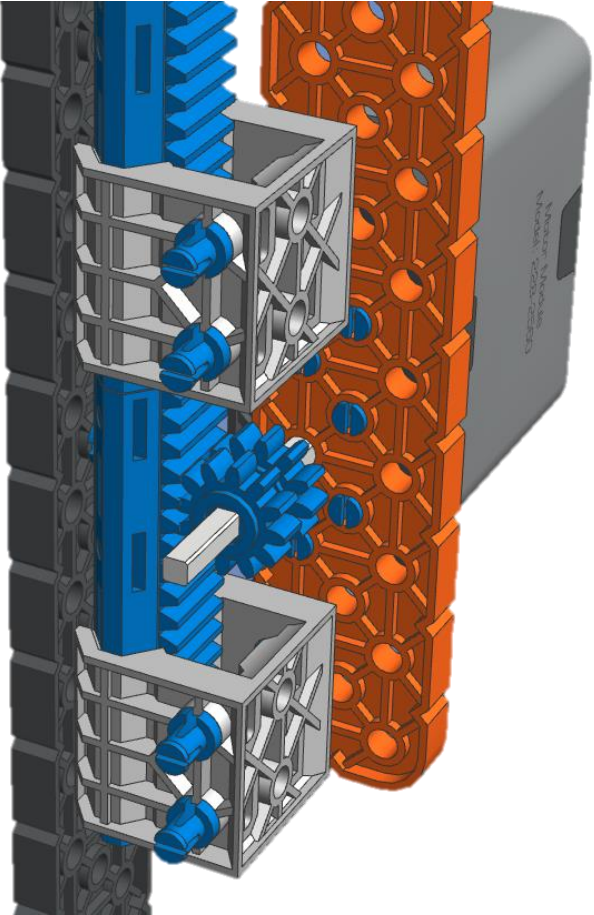
Elevators



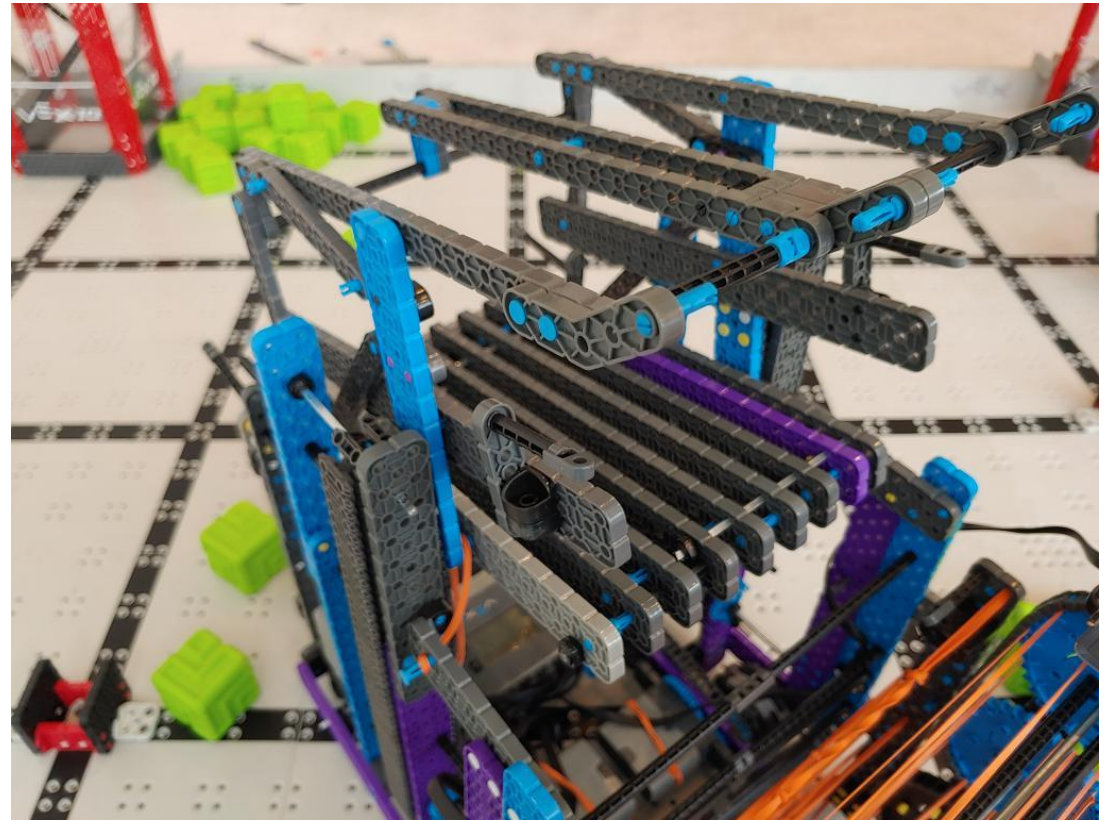
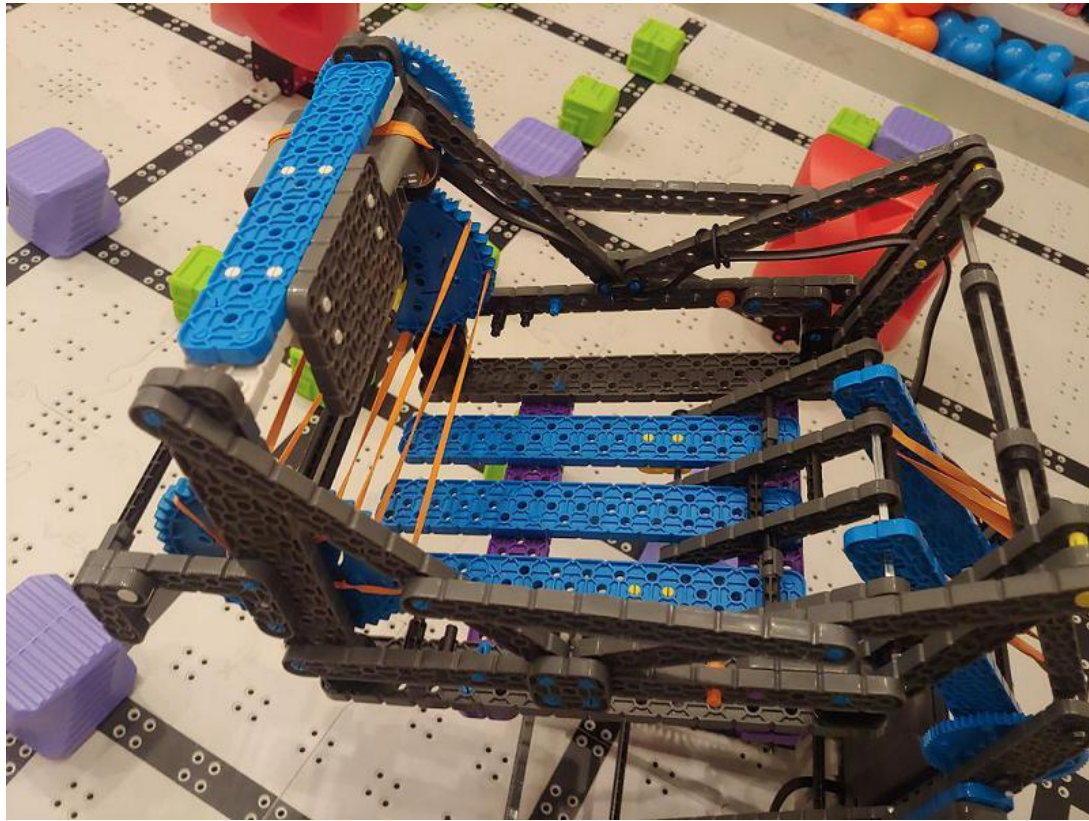
Elevators



Elevators



Ramps & Trays - be smooth!



Coding Programming Skills

Using VEXcode

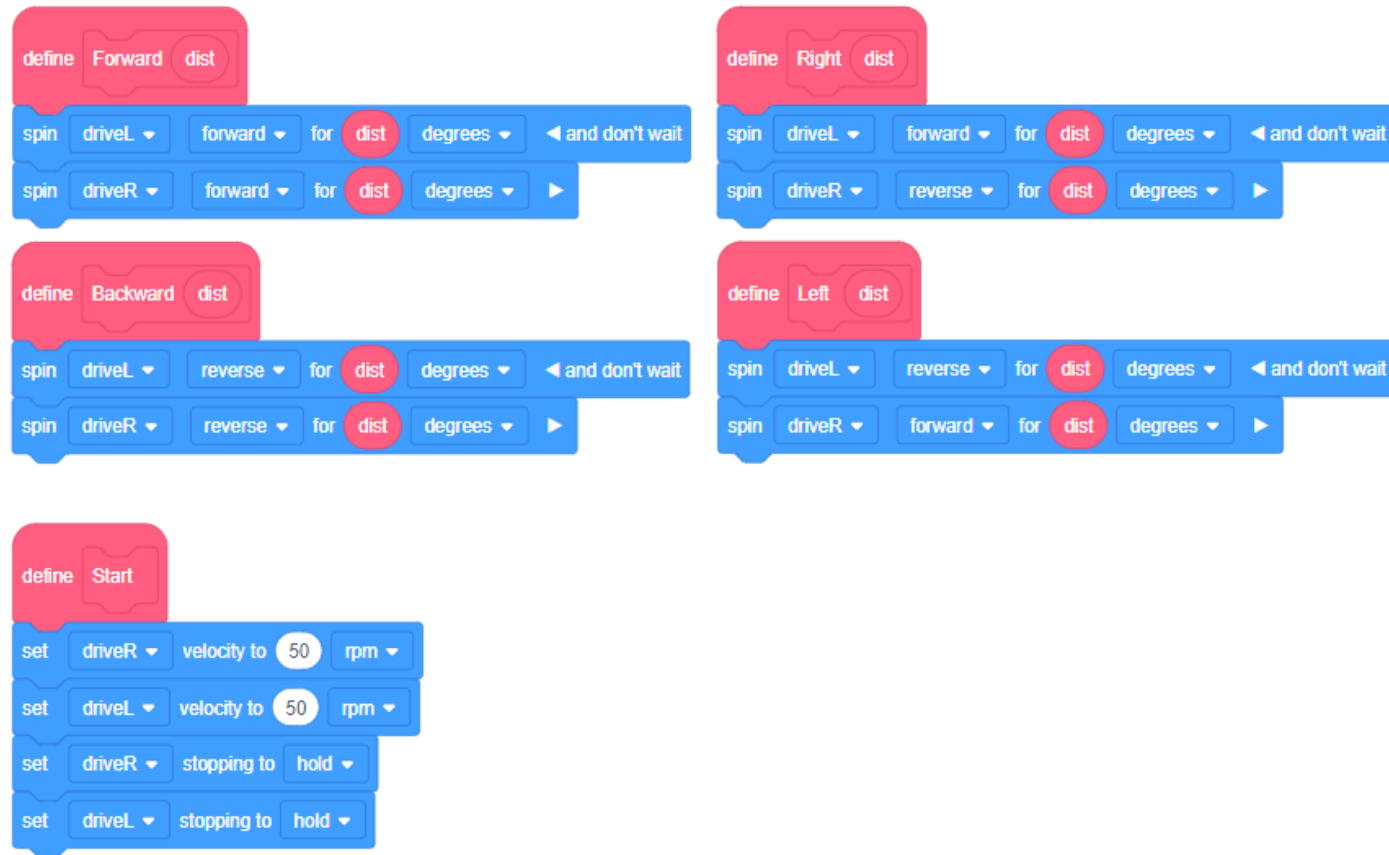
The image shows several VEXcode blocks. On the left, there are three yellow blocks for button presses: 'L Up pressed', 'L Down pressed', and 'L Down released'. Each has a corresponding blue block for motor actions: 'forward', 'reverse', and 'spin'. In the center, a 'when started' block is followed by four 'set' blocks for 'arm' and 'intake' velocity (set to 100%) and stopping (set to 'hold'). At the bottom, a 'when Controller axis D is changed' block is followed by a 'set' block for 'arm' velocity to 'Controller D position' and a 'spin' block for 'arm forward'.



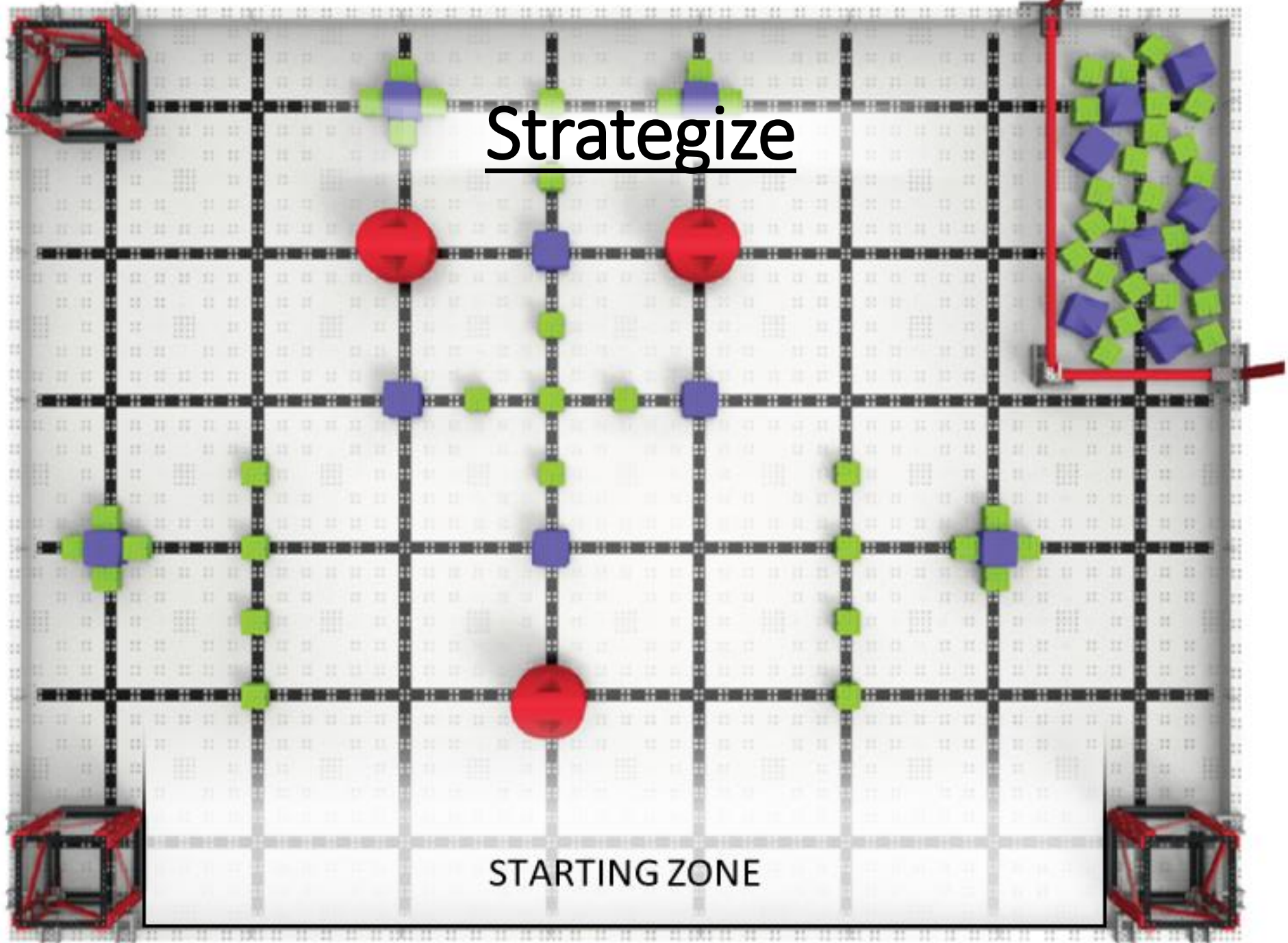
Coding: the power of functions



Coding: the power of functions



Strategize



STARTING ZONE

VEX IQ[®]
ROBOTICS

MASTERS