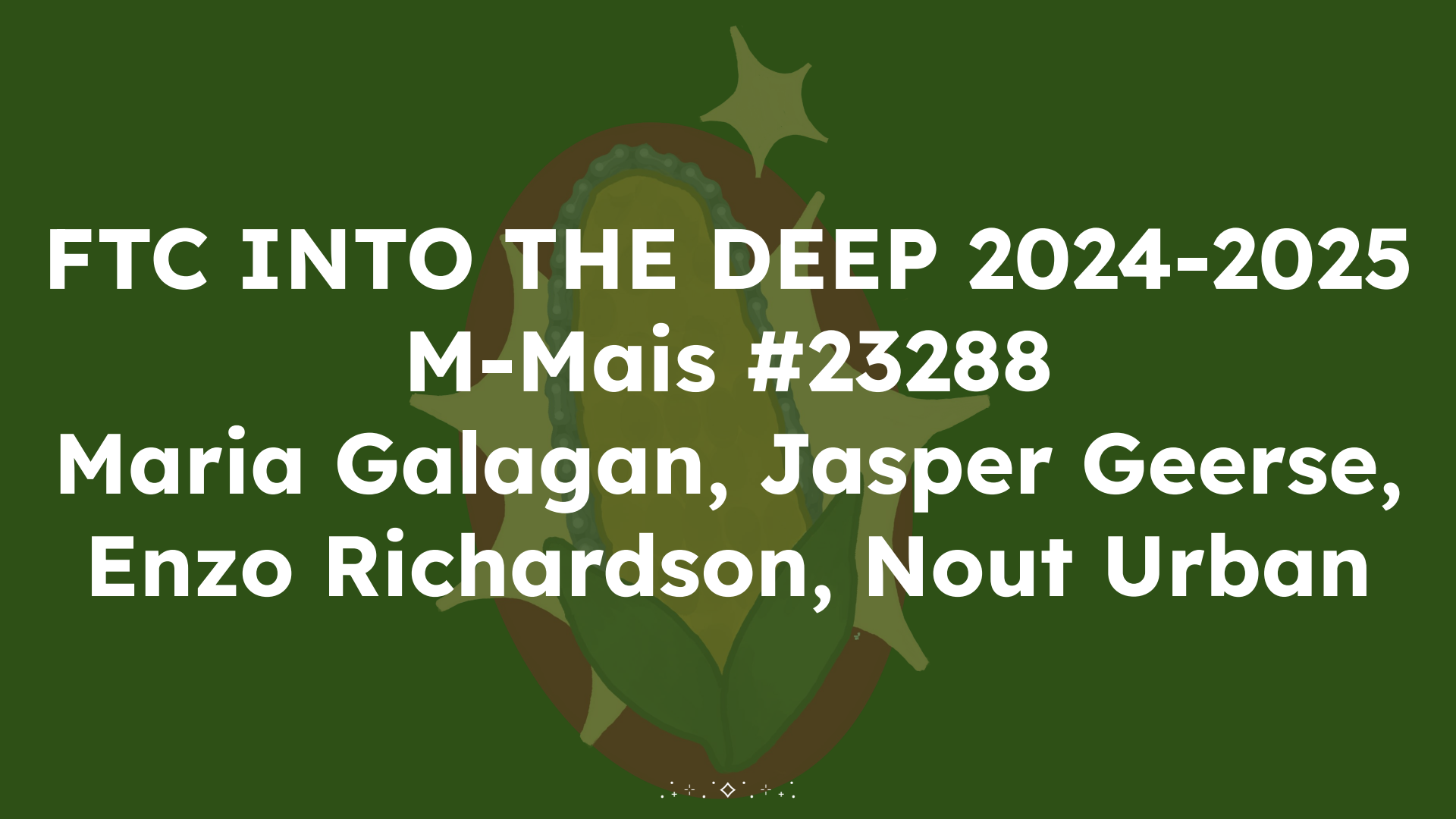






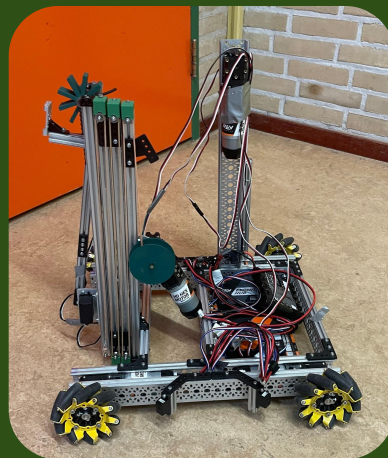
**FTC INTO THE DEEP 2024-2025**

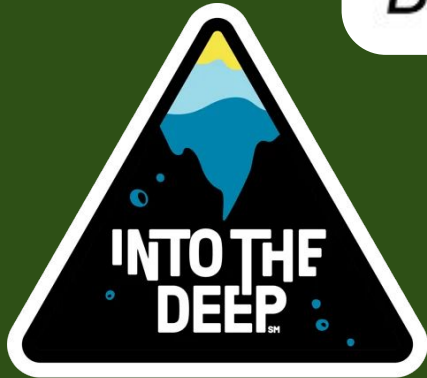
**M-Mais #23288**

**Maria Galagan, Jasper Geerse,  
Enzo Richardson, Nout Urban**

# Inhoudsopgave

- Wat is FTC?
- Maak kennis met het team
- Team plan
- Tijdlijn
- Design proces
- Hardware
- Software
- Outreach
- Robot demo
- Promo
- Vragen



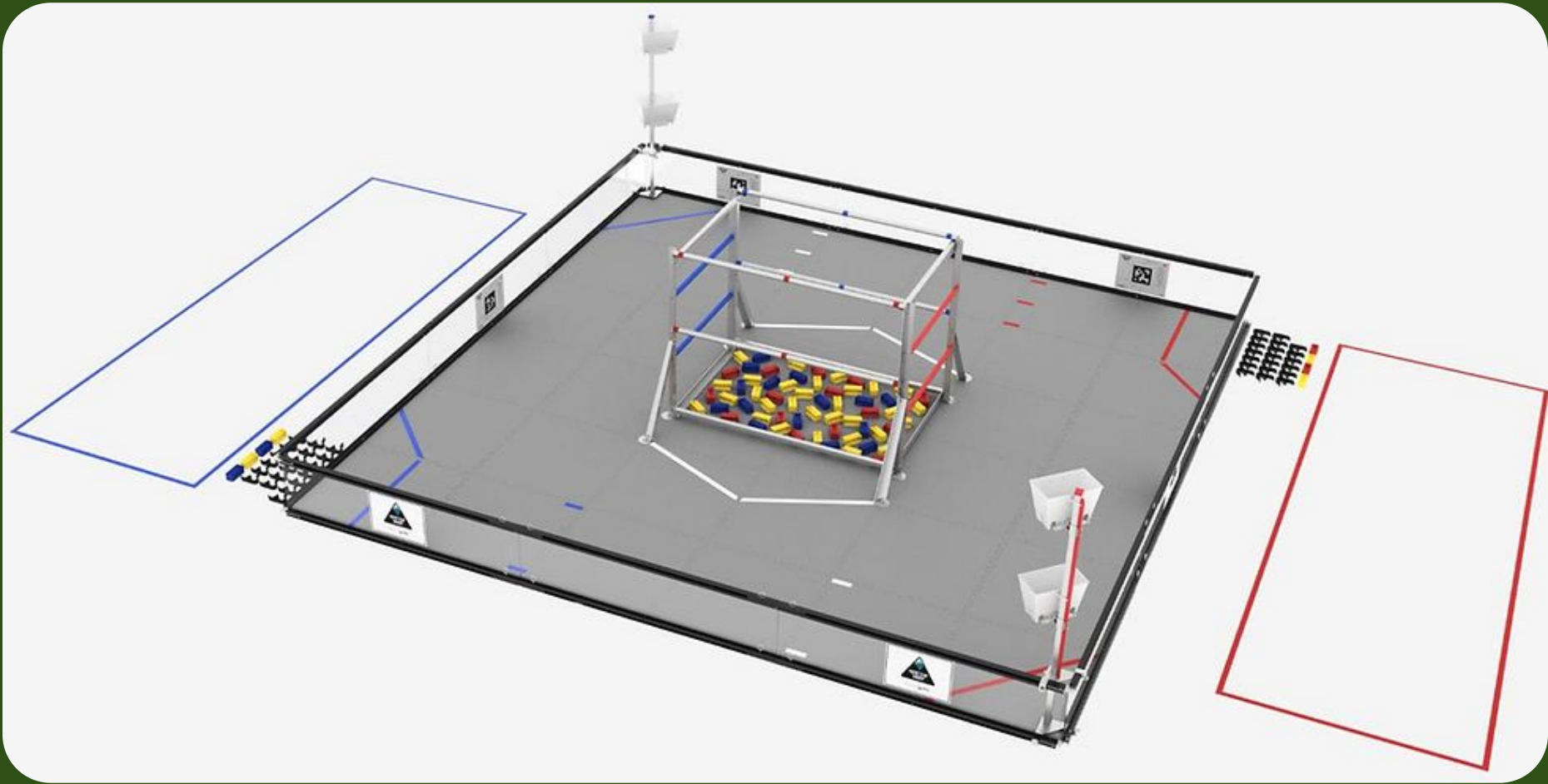


PRESENTED BY  RTX

## *Wat is FTC?*

- FIRST Tech Challenge
- Internationale robotica competitie
- Evenementen
- Wedstrijden
- Beoordeeld
- Gracious Professionalism
- Awards
- INTO THE DEEP





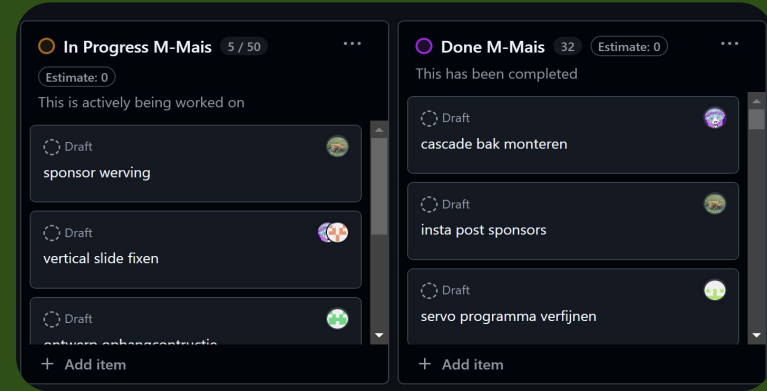
# *Maak kennis met het team*



# Team plan en doelen

- Elke dinsdag EMC
- Kanban bord
- Duidelijke communicatie
- Tijdmanagement
- Financiële en outreach doelen
- FIRST aan zoveel mogelijk mensen laten zien

- Autodesk Fusion 360
- Risicobeheer
- Roadrunner

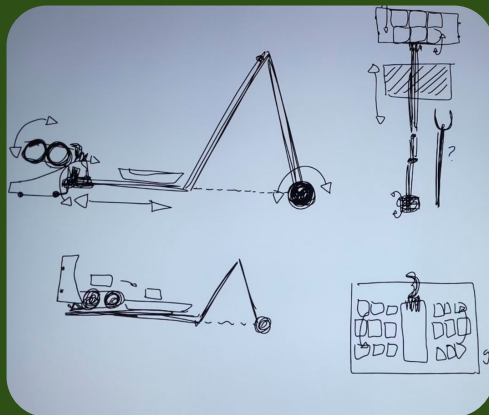




# Tijdslijn

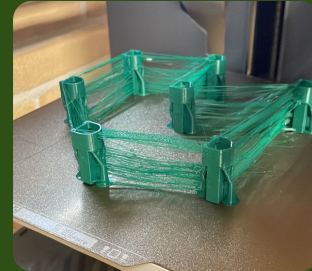
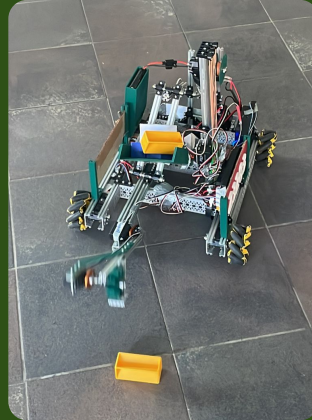
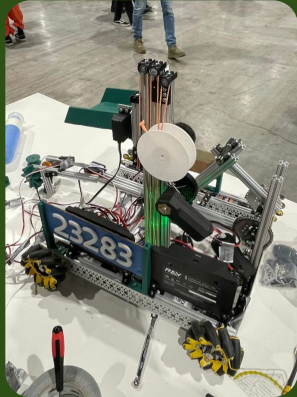
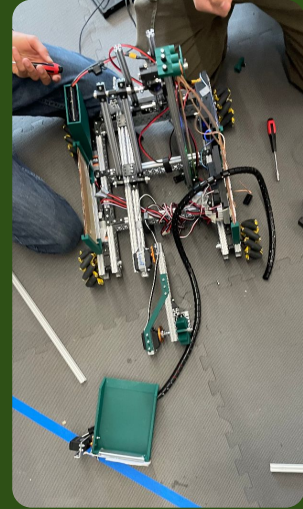


9 September,  
Kickoff



9 November,  
Scrimmage

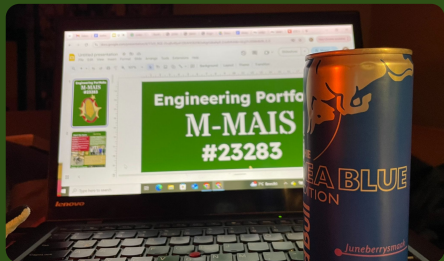








8 December,  
Qualifier

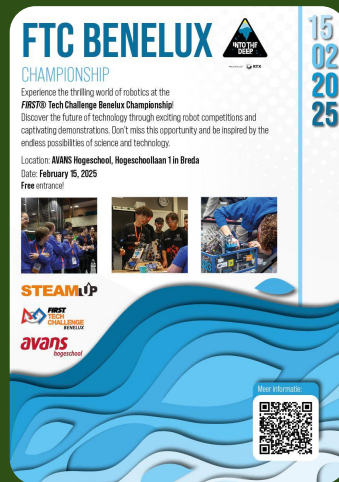
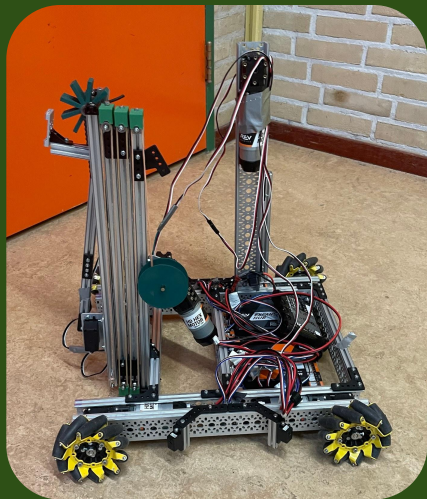




21 Januari, PWS  
presentatie

15 Februari, Benelux  
Championship

21 Februari, DoDEA -  
Europe

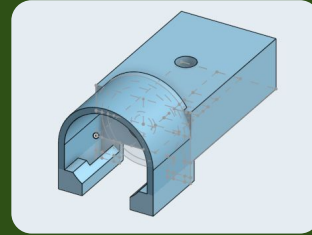
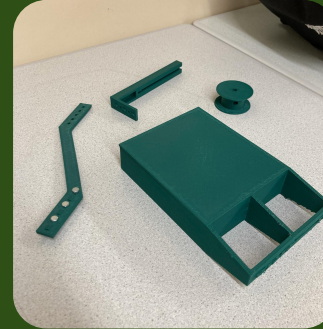
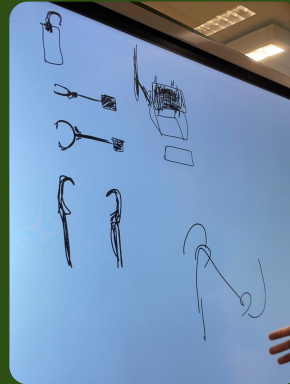


# Design proces

- Schetsen
- Prototypes
- 3D-printen
- 3D-modelleren

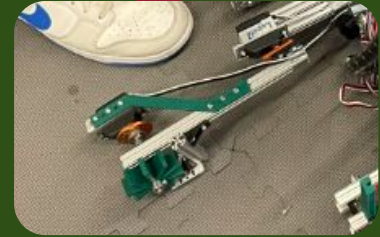
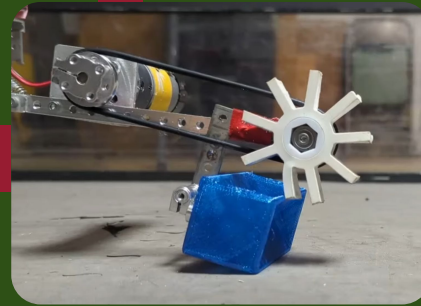
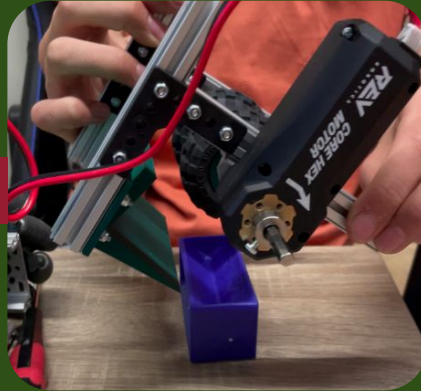
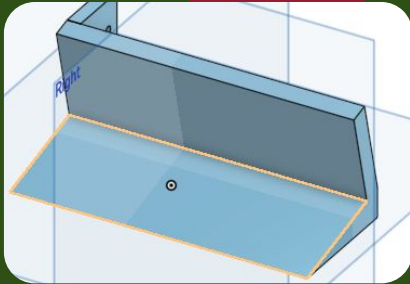
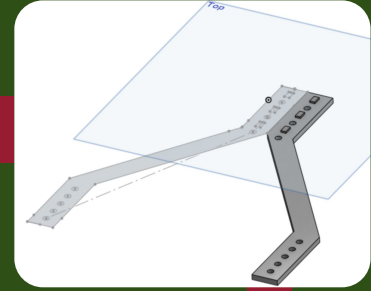
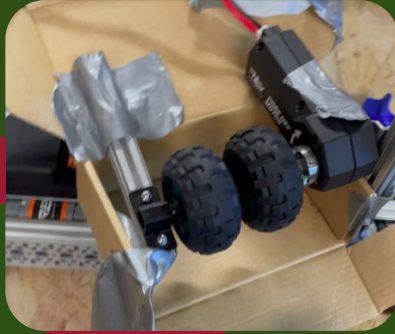
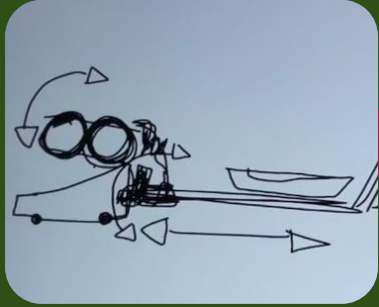
- Prioriteiten
- Afwegingen
- Realistisch blijven

1. Het verzamelen van *samples*
2. Verplaats *samples* naar het liftbakje
3. Score de *samples* in de *baskets*

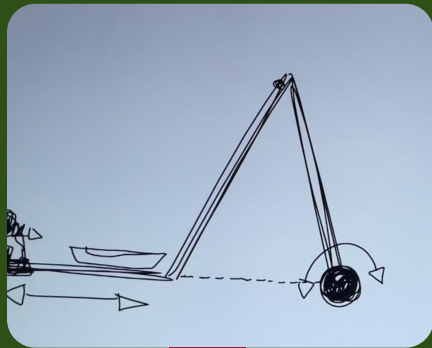
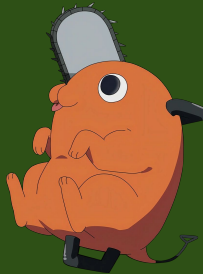




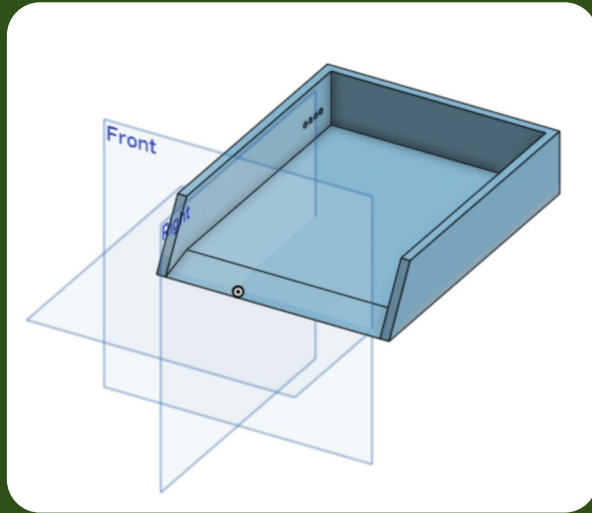
# 1. Het verzamelen van samples -> active intake



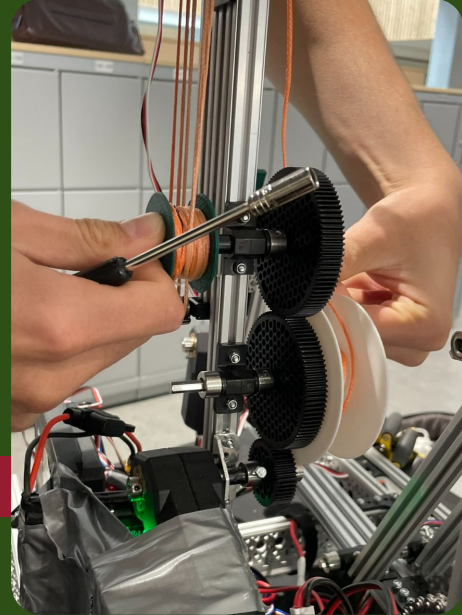
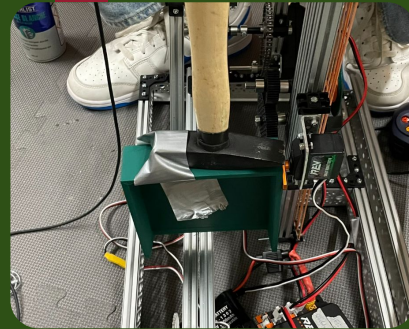
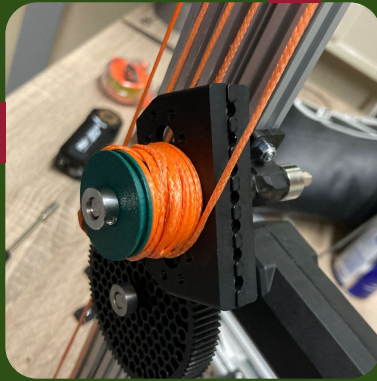
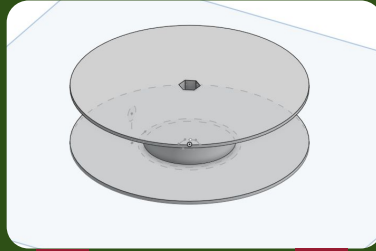
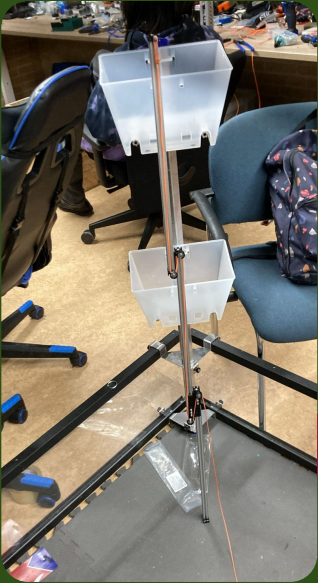
-> horizontal sliders



## 2. Verplaats samples naar het liftbakje -> outtake

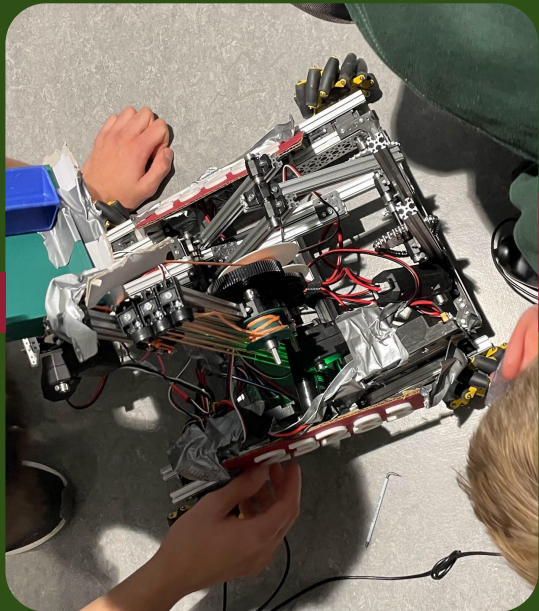
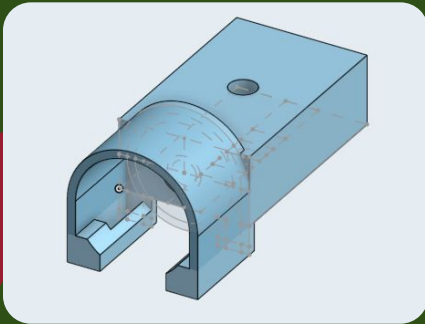


### 3. Score de samples in de baskets -> liftsteem





++ ♦ ++

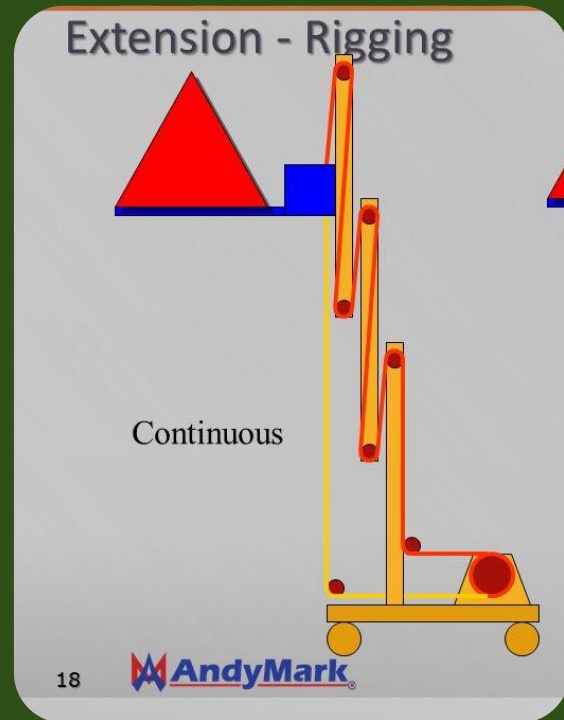
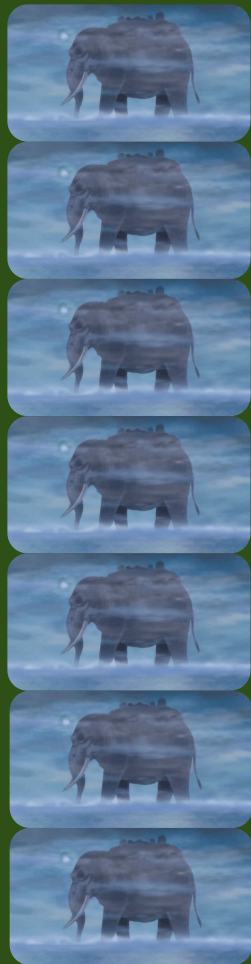


# Hardware

- Control Hub en Expansion Hub
- Rev Robotics
- Drivetrain
- Motoren
- Ductape!







# Software



- Java
- Draadloos verbonden via WiFi
- TeleOp
- Controller
- Autonoom
- Roadrunner
- Sensoren en IMU



```
if (gamepad1.y) {
    CascadeLift.setTargetPosition(-7300); // Set the target position for lift
    //2500 is closest, 2000 is used for debugging
    CascadeLift.setMode(DcMotor.RunMode.RUN_TO_POSITION); // Move to target position
    CascadeLift.setPower(1); // Set motor power to move towards target
}

// Control CascadeLift with the A button (move to home position)
if (gamepad1.a) {
    CascadeLift.setTargetPosition(0); // Home position
    CascadeLift.setMode(DcMotor.RunMode.RUN_TO_POSITION); // Move to target position
    CascadeLift.setPower(1); // Set motor power to move towards target
}

// Stop CascadeLift when it reaches the target position
if (!CascadeLift.isBusy()) {
    CascadeLift.setPower(0); // Stop motor once target position is reached
}
```

```
if (gamepad2.left_trigger > 0 && gamepad2.right_trigger == 0) {  
    pols.setPosition(0.6);  
}  
  
if (gamepad2.left_bumper && !gamepad2.right_bumper) {  
    slurp.setPower(-0.9);  
}  
  
if (gamepad2.right_trigger > 0 && !gamepad2.right_bumper && gamepad2.left_trigger == 0) {  
    pols.setPosition(0.86);  
    slurp.setPower(0.9);  
}  
  
if (gamepad2.right_trigger == 0 && gamepad2.right_bumper) {  
    slurp.setPower(0.9);  
}  
  
if (gamepad2.right_trigger == 0 && !gamepad2.right_bumper && !gamepad2.left_bumper) {  
    slurp.setPower(0);  
}  
  
if(gamepad2.x) {  
    pols.setPosition(0.78);  
}
```

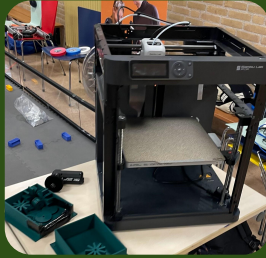
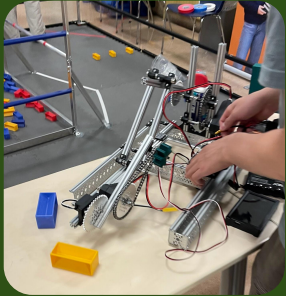
# *Robot demo*





# Outreach















# Promo

ftc@emmauscollege.nl  
mmais\_ftc

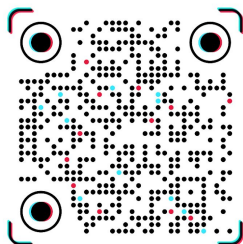


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M-Mais 🌟

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TikTok



## FTC BENELUX



### CHAMPIONSHIP

Experience the thrilling world of robotics at the **FIRST® Tech Challenge Benelux Championship!** Discover the future of technology through exciting robot competitions and captivating demonstrations. Don't miss this opportunity and be inspired by the endless possibilities of science and technology.

Location: **AVANS Hogeschool, Hogeschoollaan 1 in Breda**

Date: **February 15, 2025**

**Free** entrance!



STEAMUP



avans  
hogeschool

Meer informatie:



15  
02  
20  
25



# *Vragen*

