



Project ID: 2023-1-HU01-KA210-VET-000156243

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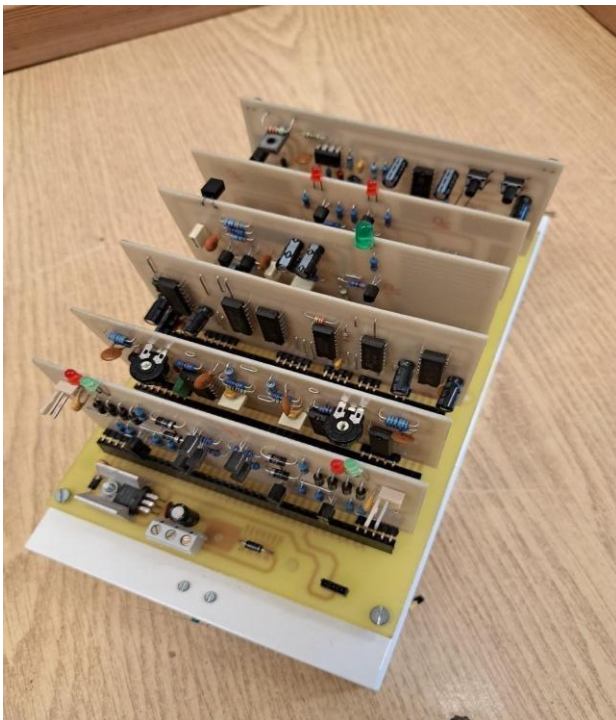
Robika Line Follower – First Session

Project Details and Disclaimer:

The project is titled **Discover the Green Life with Robots**. Its ID is 2023-1-HU01-KA210-VET-000156243.

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ROBIKA 1



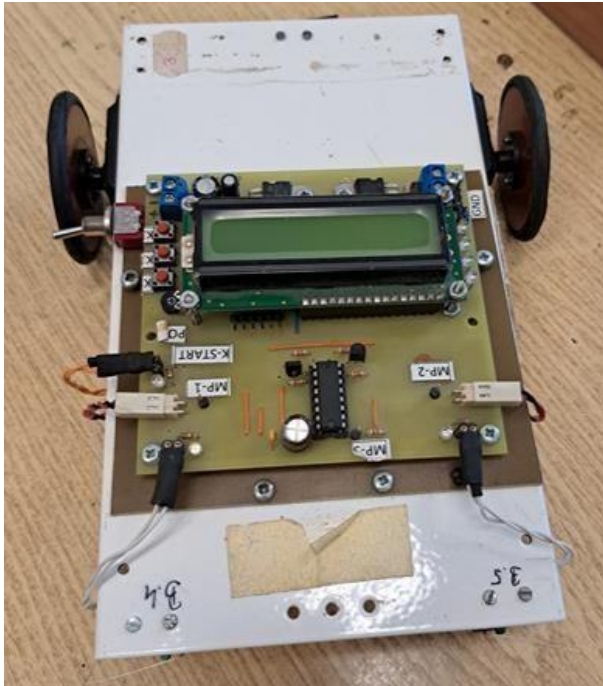
- It was built using a **motherboard + modules**.
- Its circuits were composed of **CMOS integrated circuits**.
- It had **wired control**.
-



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ROBIKA PIC 🧠 (Microcontroller Controlled)



```
File Edit View Project Debugger Programmer Tools Configure Window Help
Release Checksum: 0xc6e3
Output
Build Version Control Find in Files PICKit 3
Release build of project 'C:\Proba\kissauto.mcp' started.
Language tool versions: MPASMWIN.exe v5.40, mplink.exe v4.46, mplt
Mon Dec 18 22:02:10 2023

Clean: Deleting intermediary end output files.
Clean: Deleted file "C:\Proba\kissauto_3.o".
Clean: Deleted file "C:\Proba\kissauto_3.err".
Clean: Deleted file "C:\Proba\kissauto_3.hex".
Clean: Deleted file "C:\Proba\kissauto_3.lst".
Clean: Deleted file "C:\Proba\kissauto_3.cof".
Clean: Deleted file "C:\Proba\kissauto.mcs".
Clean: Done.
Executing: "C:\Program Files (x86)\Microchip\MPASM Suite\MPASMA
Executing: "C:\Program Files (x86)\Microchip\MPASM Suite\mplink.exe
MPLINK 4.46, Linker
Device Database Version 1.11
Copyright (c) 1998-2011 Microchip Technology Inc.
Errors : 0
Loaded C:\Proba\kissauto_3.cof.

Release build of project 'C:\Proba\kissauto.mcp' succeeded.
Language tool versions: MPASMWIN.exe v5.40, mplink.exe v4.46, mplt
Mon Dec 18 22:02:14 2023

BUILD SUCCEEDED

kissauto_3.asm
;Időpont: 2021.12.14.
;Verziószám: v1.0
;Motorok előre ha PORTD,0 és
;Motorok hátra ha PORTD,0 és
;Motorok engedélyezve ha TRIS
;Motorok tiltva ha TRISC,1 és

LIST P=16F877A
#include "P16F877A.INC"
__CONFIG _HS_OSC&_CP_
ERRORLEVEL -302
CBLOCK 0x20
T1 ;változók fel
T2
T3
ENDC

ORG 0x00
GOTO INIT

;***** Makró definíciók *****
;***** port definíciók *****
INIT:
BSF STATUS,RP
MOVLW 0XFF
MOVWF TRISB
BCF OPTION_REG,
```

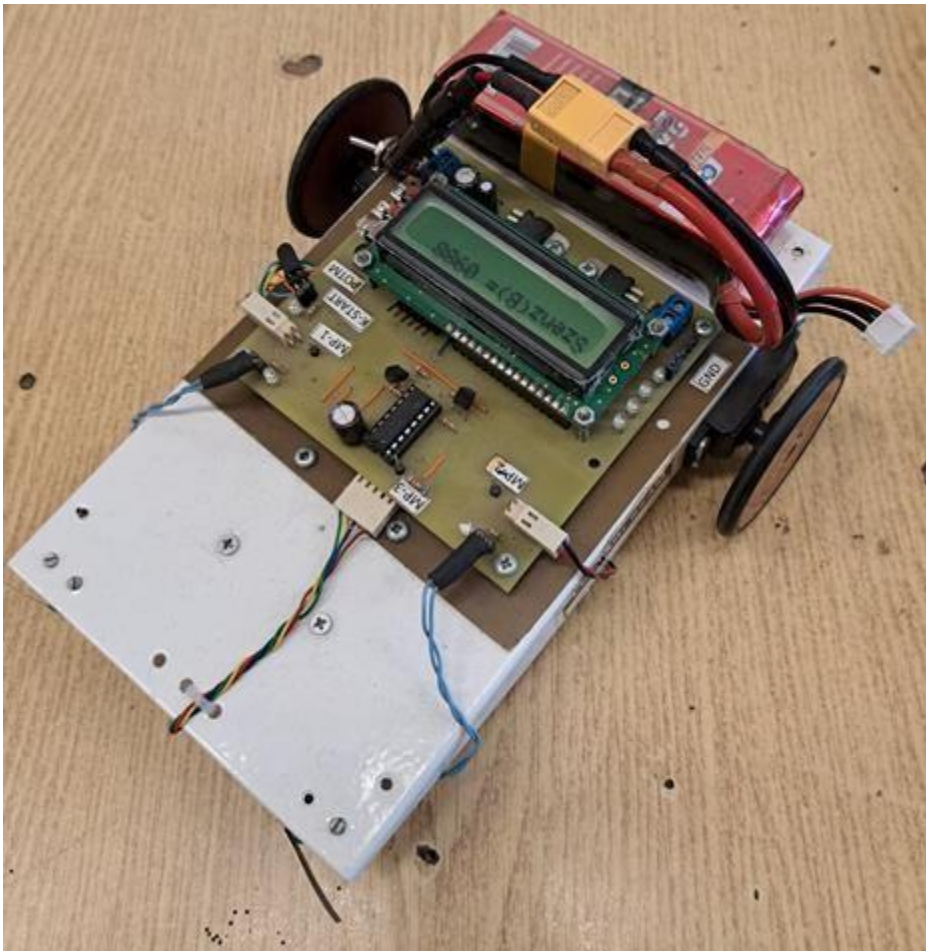
- It is operated by a mid-range **PIC microcontroller**.
- Its program code was created using the **Assembly language**.



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- It is a **line-following robot** controlled by a microcontroller.



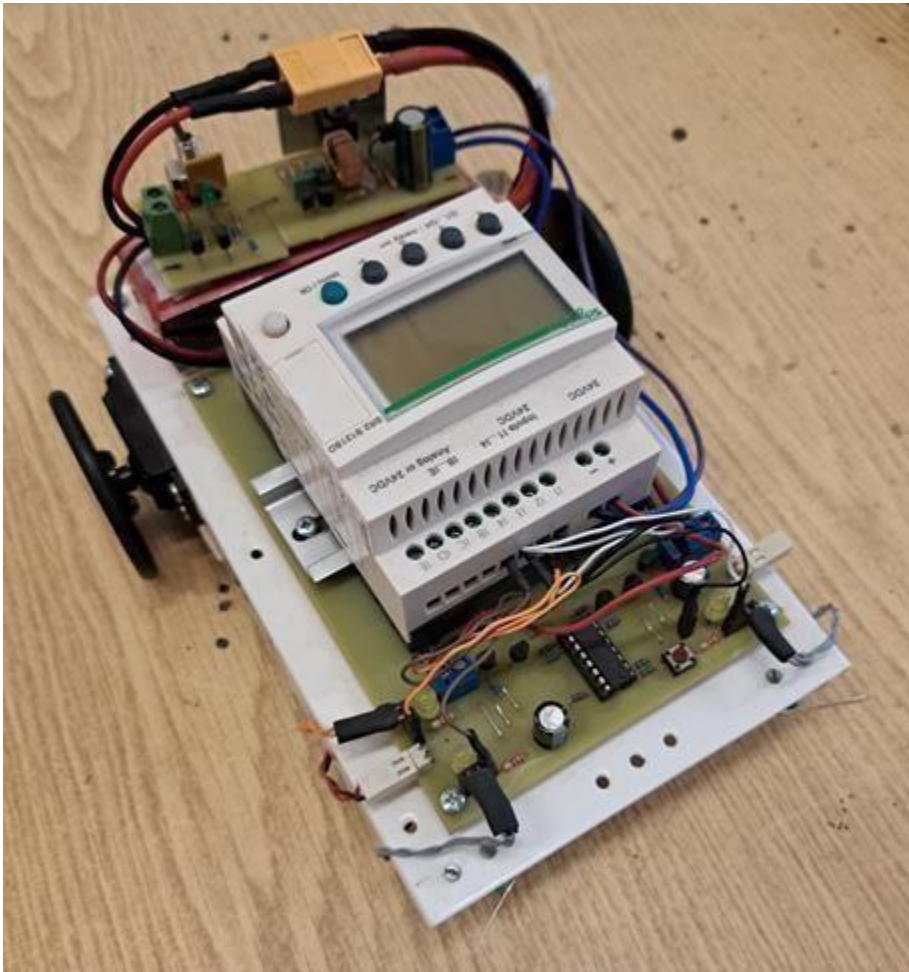
- It continuously monitors its sensors while running.
- Based on this monitoring, it controls its motors in the following way: In case of a collision, it moves backward, then turns, and moves forward.
- It is capable of moving forward following a line.
- It stops upon encountering an obstacle.



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It controls the performance of the motors using a **PWM signal**. This results in smoother and more effective movement.



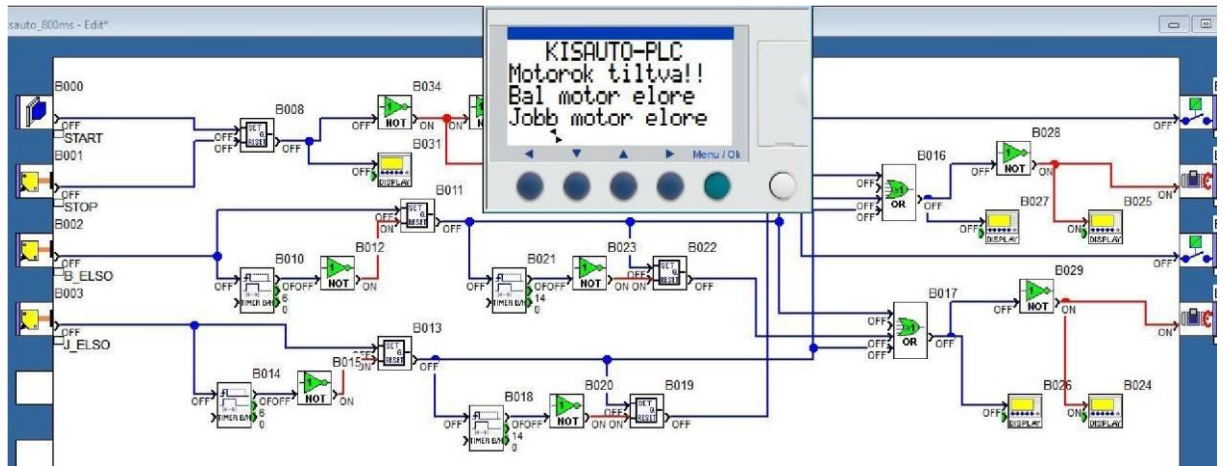


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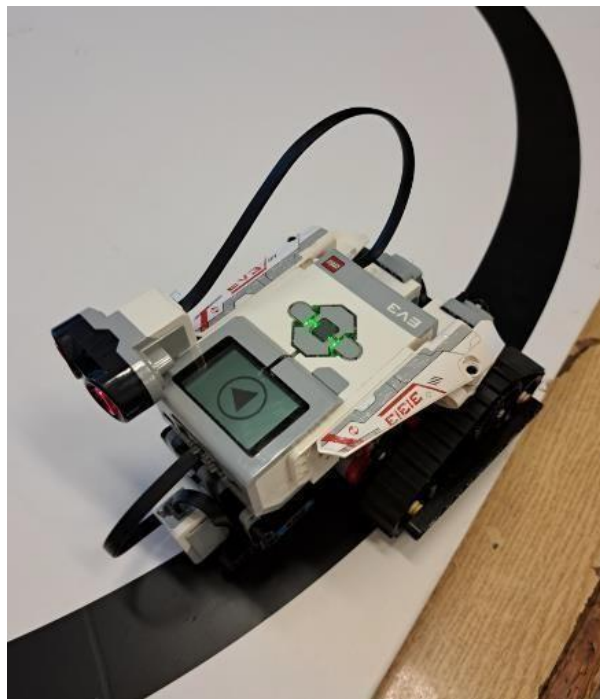
ROBIKA PLC (Programmable Logic Controller)

- The control is performed by a **Zelio PLC**.



- Its program was developed using the **FBD programming language**.
- The backward movement and turning were solved using **timers**.

LEGO ROBOT EW3





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- Details of the strip-following program are available.
- Details of the program that emits a sound signal are available.