Electric Go-Kart

Background
A go-kart is often driven by a combustion engine, which is noisy and pollutes. If one is doing a race inside, it is also important to ventilate in order to remove the deadly carbon monoxide (CO). However, by replacing the combustion engine with an electric drive system one can obtain a clean and quiet go-kart.

Purpose
The purpose is to control and implement an electric drive system in a go-kart. The drive system will consist of an 3ph AC Permanent Magnet motor driven by a inverter connected to a battery pack.

Scope of the Project
The project will include

- Modelling and simulation of the elements of the electrical drivetrain of the go-kart
  - Electrical machine
  - Inverter
  - Battery pack
- Design, modeling, construction of the hardware (inverter) for the experimental tests
- Development and implementation of control strategy in a DSP/microcontroller

Resources

- Go-kart platform (see picture above)
- Power electronic components for inverter construction

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