

## Readme about CDC Benchmark Simulator (20231204 version)

### Updated version information:

1. Two new ".fmu" files are provided for challenging:
  - 1) (*CDC2023\_Vehicles\_Exports\_AccelerationEX.fmu*)
  - 2) (*CDC2023\_Vehicles\_Exports\_DoubleLaneChangeEX.fmu*)

### Steps to run new simulator:

1. Please open the simulator by MATLAB 2022b or later version.
2. After unzipping the updated simulator file, please open the corresponding Simulink file firstly. As mentioned in the technical paper, you may need to specify the FMU file in Simulink.
3. Before running the simulator, please run the "start\_Task1(2).m" firstly; then run the corresponding Simulink file.

It is strongly recommended that you copy your designed controller in previous version simulator to current version simulator.

If you plan to use the new FMU file in previous version simulator directly, there may be some errors.

In this case, please follow the instructions to replace the FMU:

- 1) Delete the FMU block in Simulink file of version 20231002.
- 2) Add new FMU block from the Laboratory.
- 3) Import the new FMU file (*AccelerationEX/DoubleLaneChangeEX*) to the FMU block.
- 4) Connect the inputs and the outputs for the new FMU block.

### Should be done:

1. Please run the new simulators using your own PC during the benchmark session of Dec. 13th.
2. The scores, including "out.Jv1\_end", "out.Je\_end" and "out.constraints\_end" in Task 1, and "out.Jv2\_end", "out.Je\_end" and "out.constraints\_end" in Task 2, will be collected in the session time of Dec. 13th.
3. The results are important to the final Award.

If you have any technical questions, please feel free to contact us:

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