# Project examples: test automation by a swinger test bed

- The test bed has the following components:

  - Swinger with its control system (Company TIRA).
  - Power supply for charching and discharching (Company ERS).
  - Climate chamber (Company CTS).
  - Electrochemical Energy Storage System (EESS) including the Battery Management System (BMS)
  - Laptop with CANAlyzer Software (Company Vector)
  - PCAN-MIO  (Company Peak)
  - Watchdog (Including Siemens Logo)
  - 2x CAN cards VN1630 (Company Vector)

- Main component is the swinger.

- Using the climate chamber the temperature can be changed during the vibration test.

- Using the ERS the EESS can be charged and discharged during the vibration test.

- The laptop with the CANAlyzer Software is the central control of the test bed.

- The PCAN-MIO is used as a gateway between the Watchdog and the CANAlyzer Software.

- The Watchdog supervises the test bed and drives it in a secure state if any error occures.