

Publishable material

Project website:
<http://www.hypstair.eu/>

Project logotype:



Figure 1: HYPSTAIR powertrain during testing



Figure 2: HYPSTAIR partners at final project meeting (Ajdovščina, 20.7.2016)

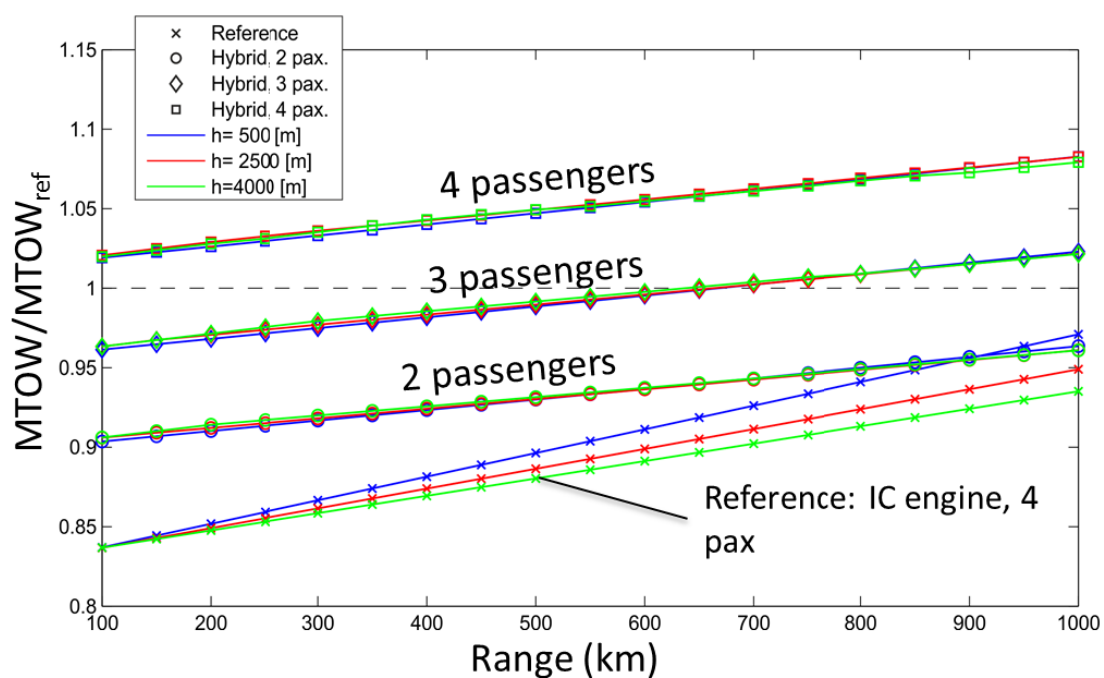


Figure 3: Flexibility chart of hybrid and conventional general aviation aircraft by University of Pisa

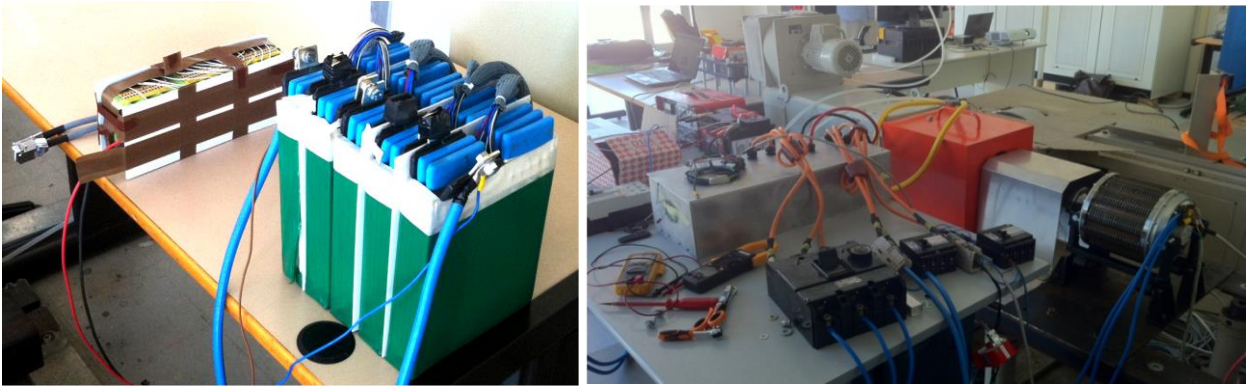


Figure 4: Li-Po Batteries and hybrid power train testing platform at University of Pisa (DESTEC)

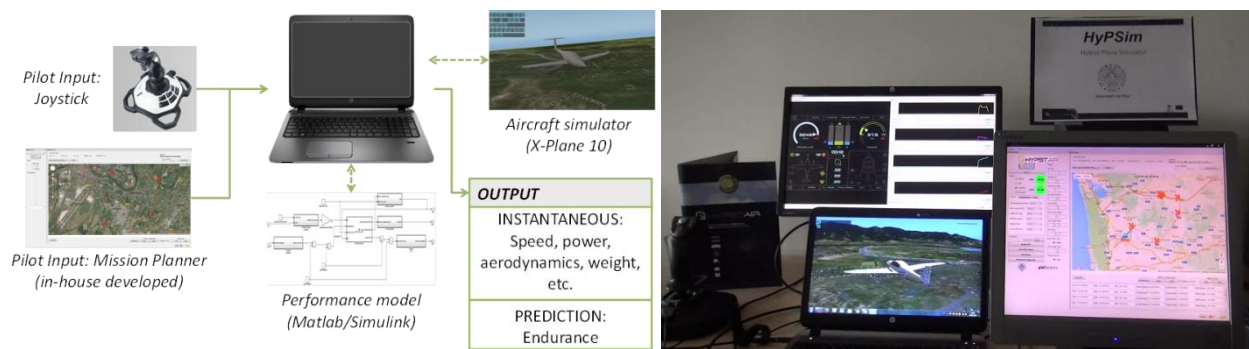


Figure 5: Conceptual scheme (left) and final setup (right) of the Hybrid Plane Simulator «HyPSim» by University of Pisa

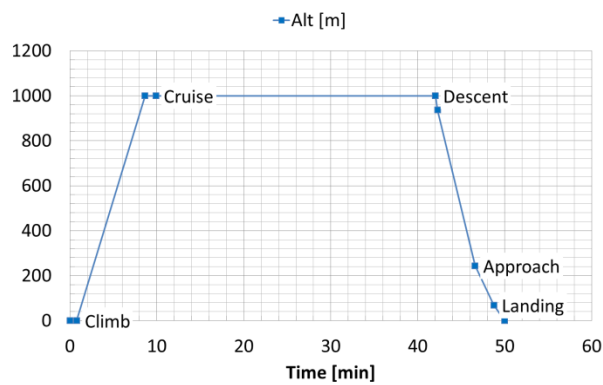


Figure 6: Altitude profile of the mission (left) used in the tests on the hybrid power train prototype (right) by University of Pisa

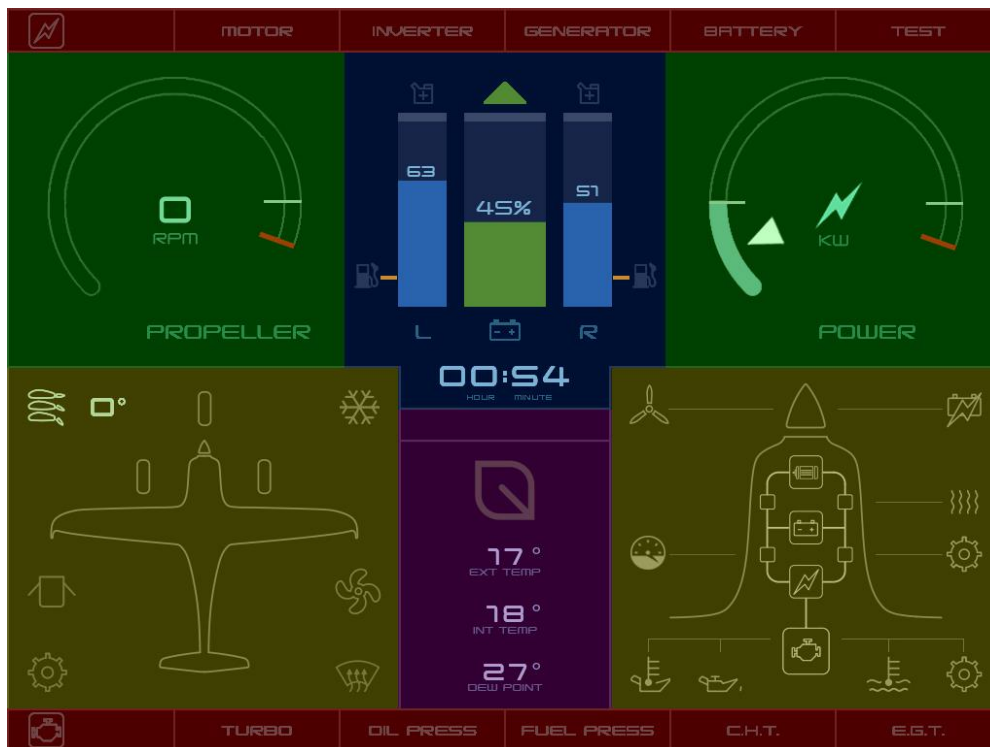


Figure 7: HYPSTAIR's HMI
by MBVision

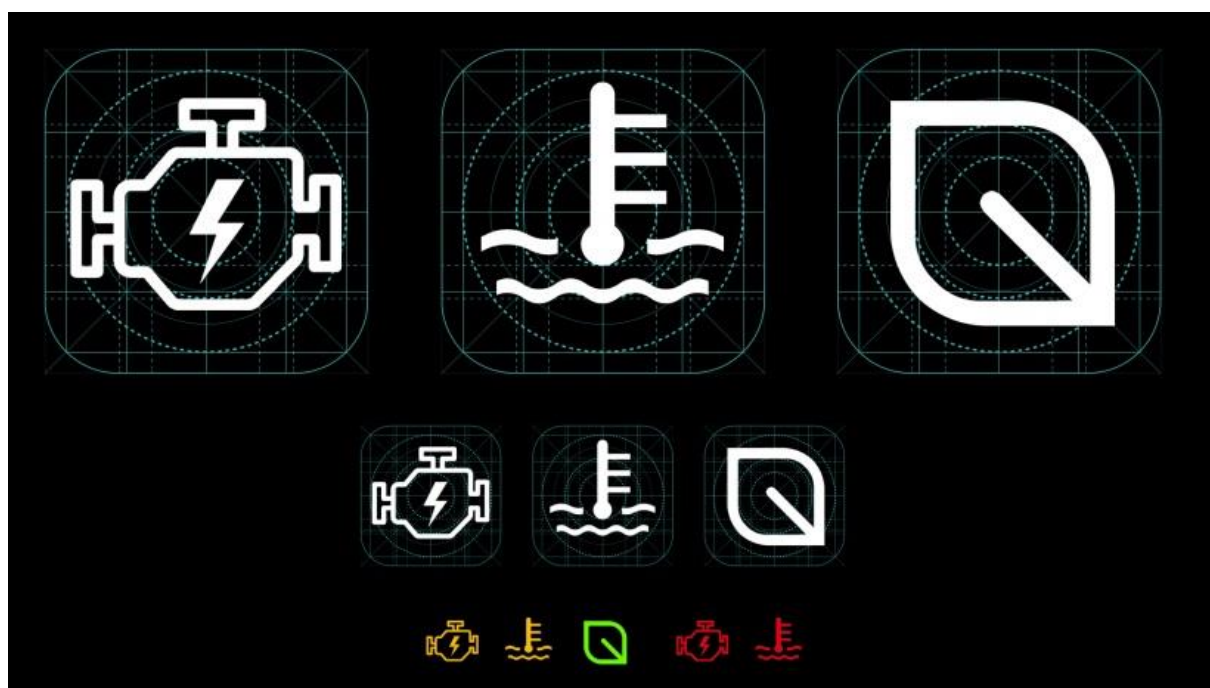


Figure 8: HMI icons by MBVision

	126	189	0	7ebd00
	236	0	0	ec0000
	73	147	221	4993dd
	255	153	0	ff9900
	51	102	102	336666
	51	51	51	333333
	153	204	204	99cccc
	255	255	255	ffffff

Figure 9: HMI background by MBVision



Figure 10: HYPSTAIR experimental prototype of the haptic power lever by University of Maribor

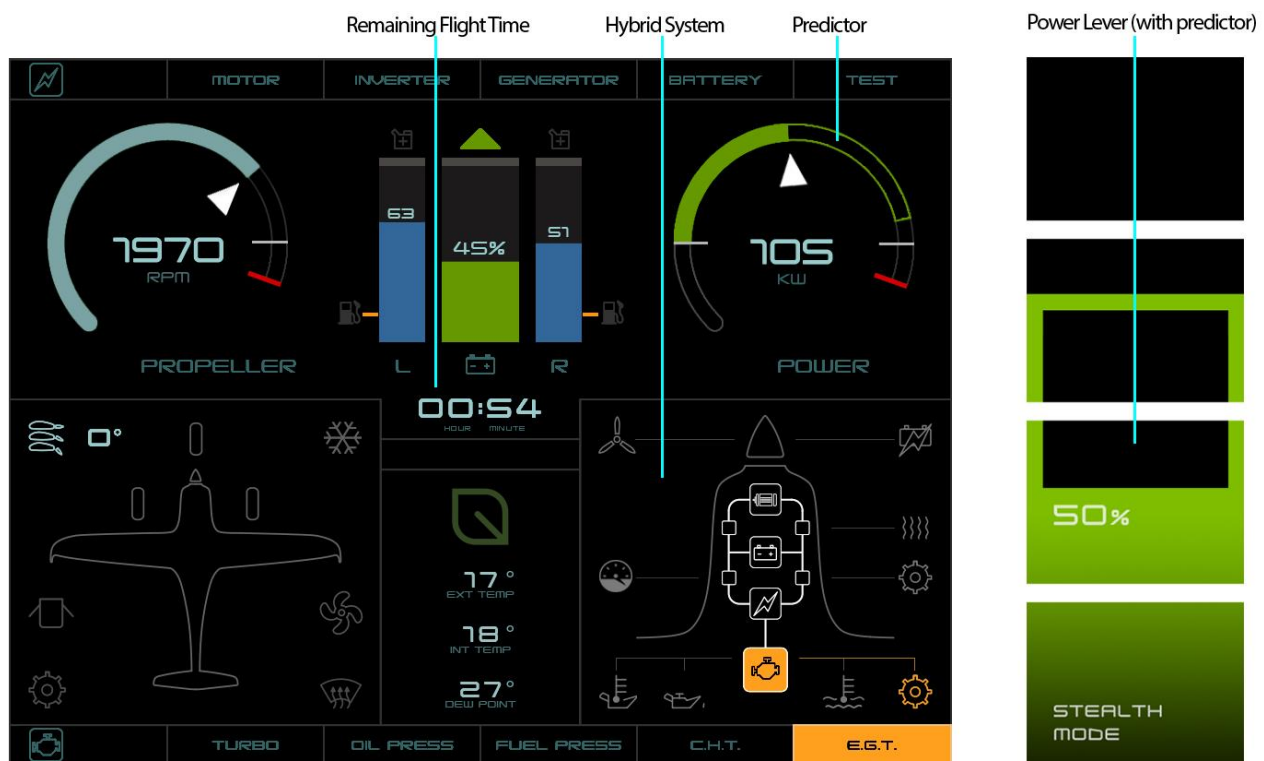


Figure 11: HMI design and power lever by MBVision

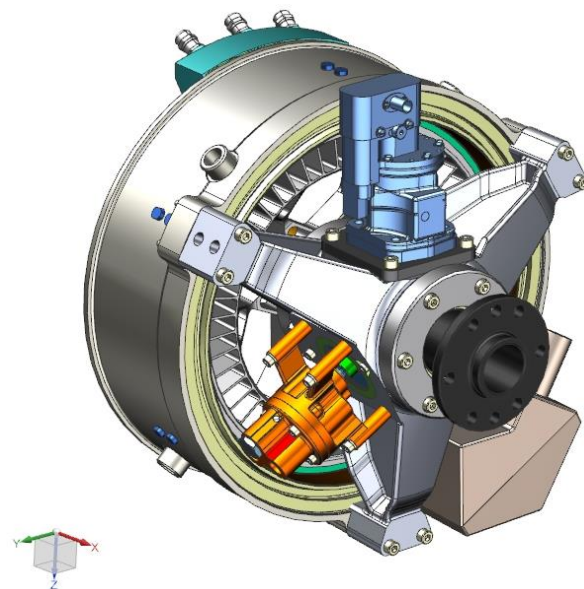
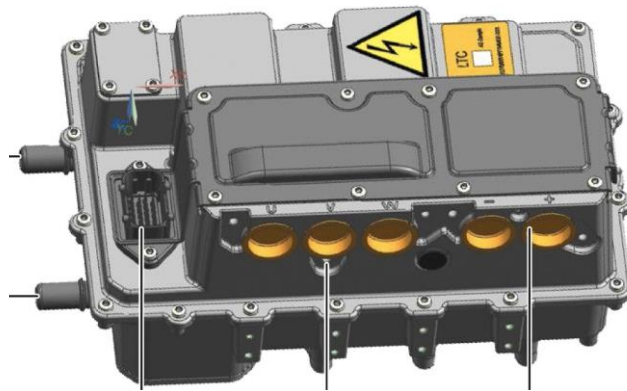


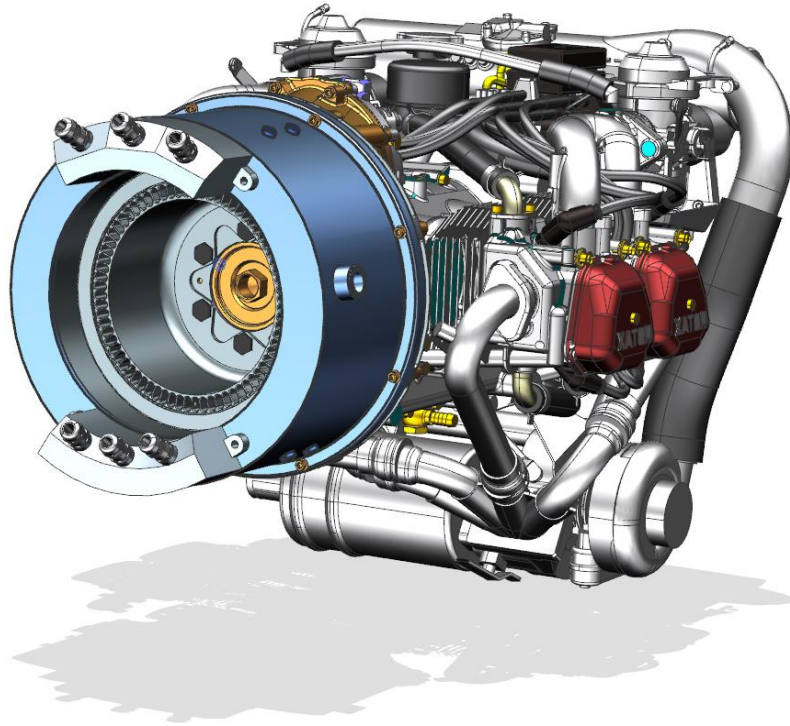
Figure 12: CAD-image of the HYPSTAIR electric motor by Siemens



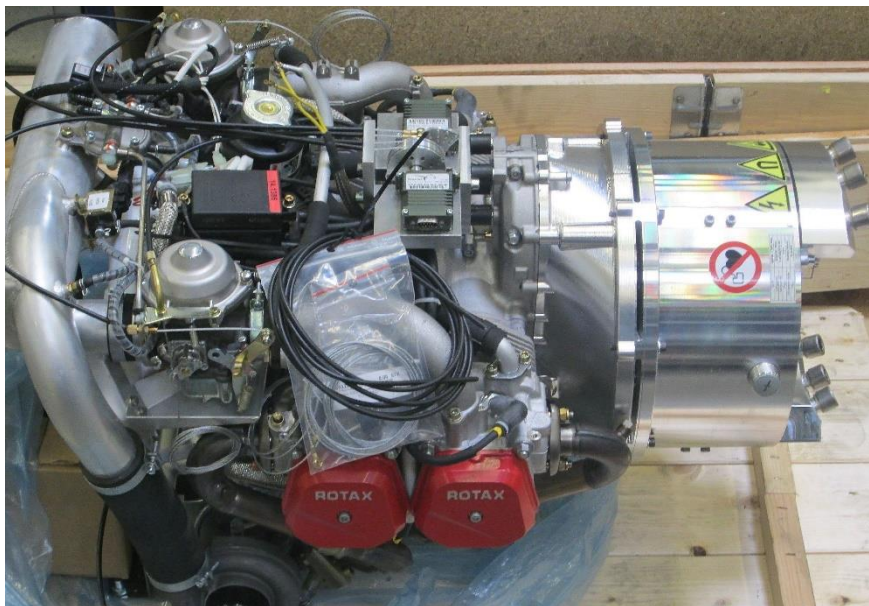
**Figure 13: E-Motor including the integrated bearing unit
by Siemens**



**Figure 14: HYPSTAIR's eCar-Inverter developed by Siemens
by Siemens**



**Figure 15: HYPSTAIR's e- Generator SG100 developed by Siemens
by Siemens**



**Figure 16: Side View of Generator Set
by Siemens**



Figure 17 The HYPSTAIR propulsion battery developed by Pipistrel

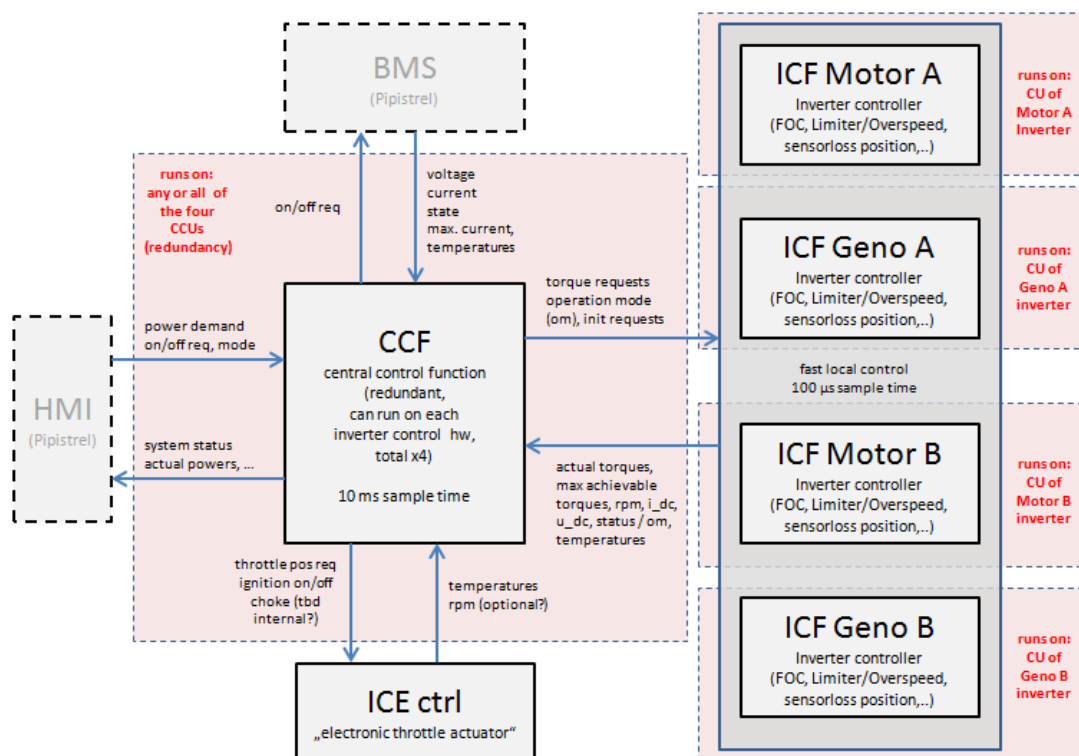


Figure 18: Functional control system architecture by Siemens

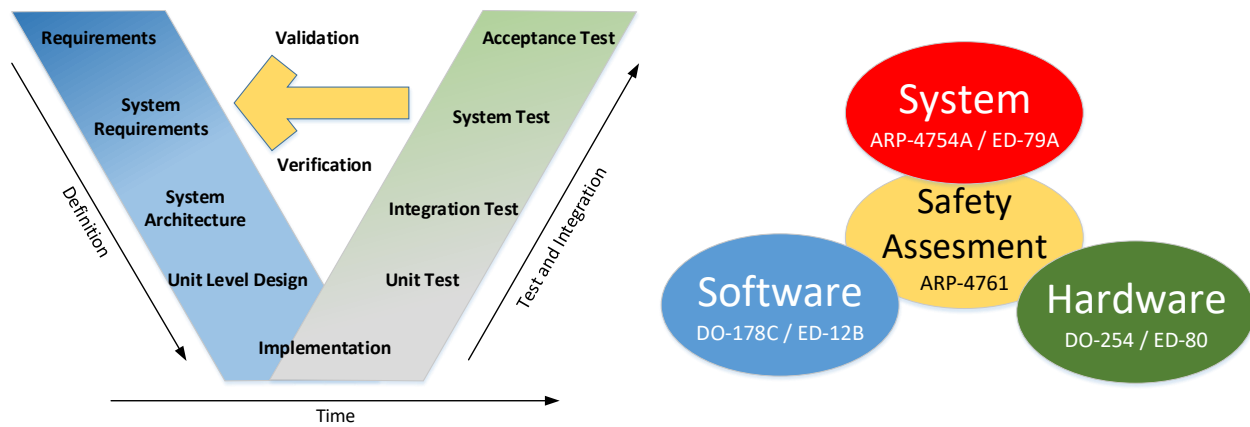


Figure 19: V-model (left) and functional safety document in aerospace (right) by University of Maribor

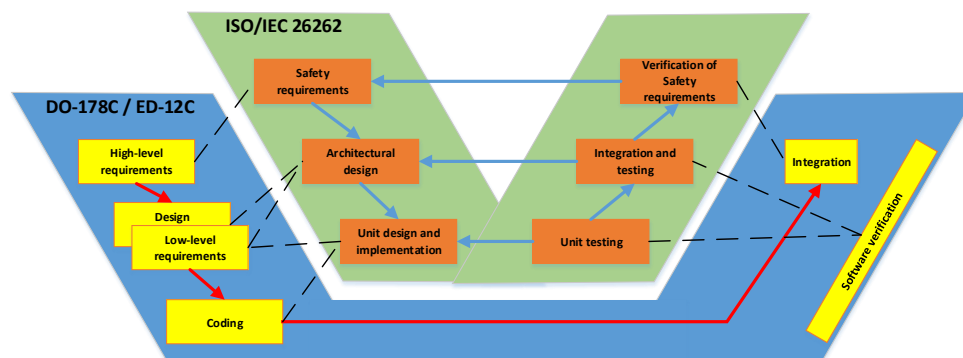


Figure 20: Software development phases in ISO 26262 and DO-178C, dashed lines map the phases by University of Maribor

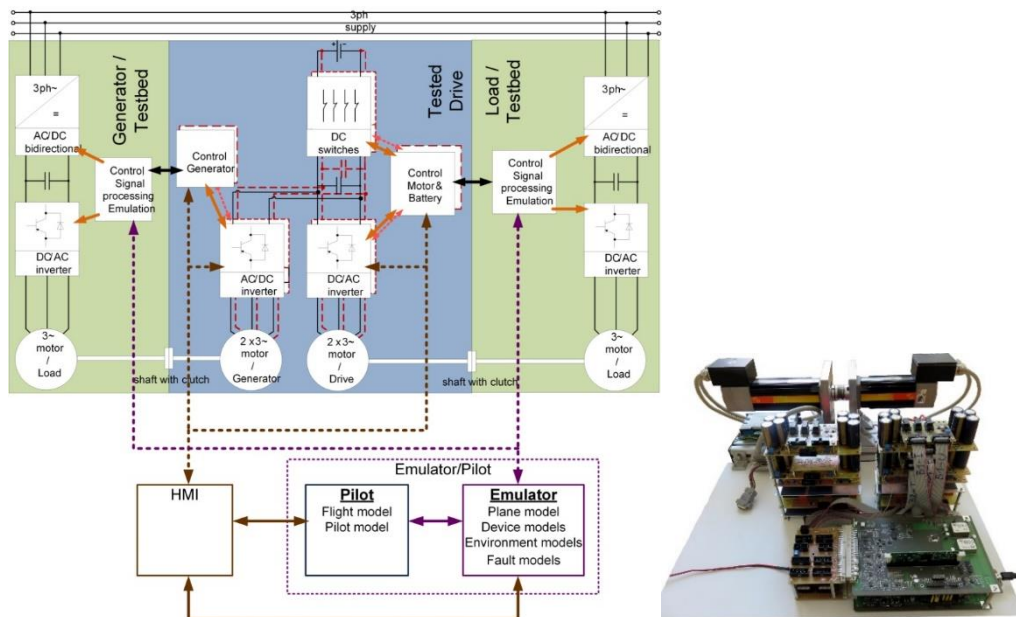


Figure 21: Testing hardware – for evaluation of algorithms by University of Maribor

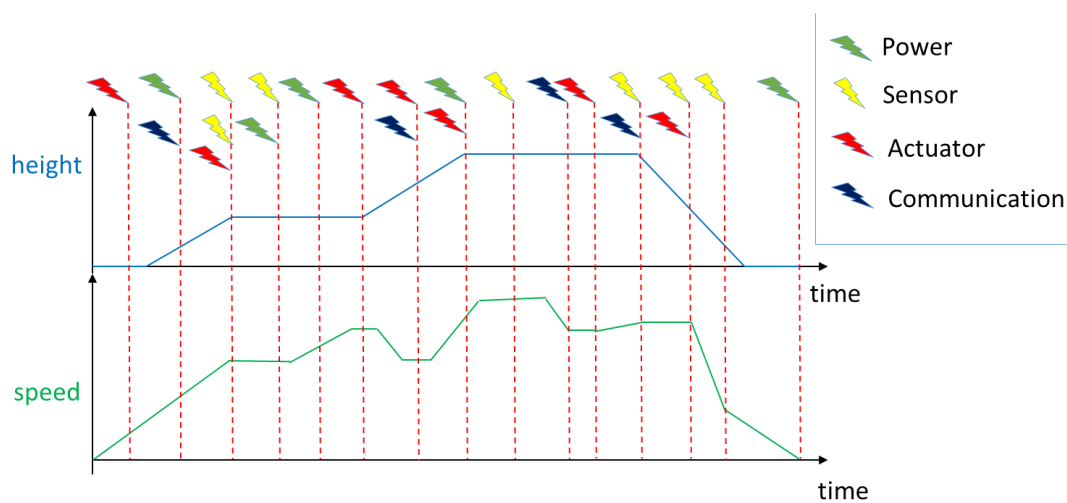


Figure 22: Testing profile – an example of profile with events from operation by University of Maribor

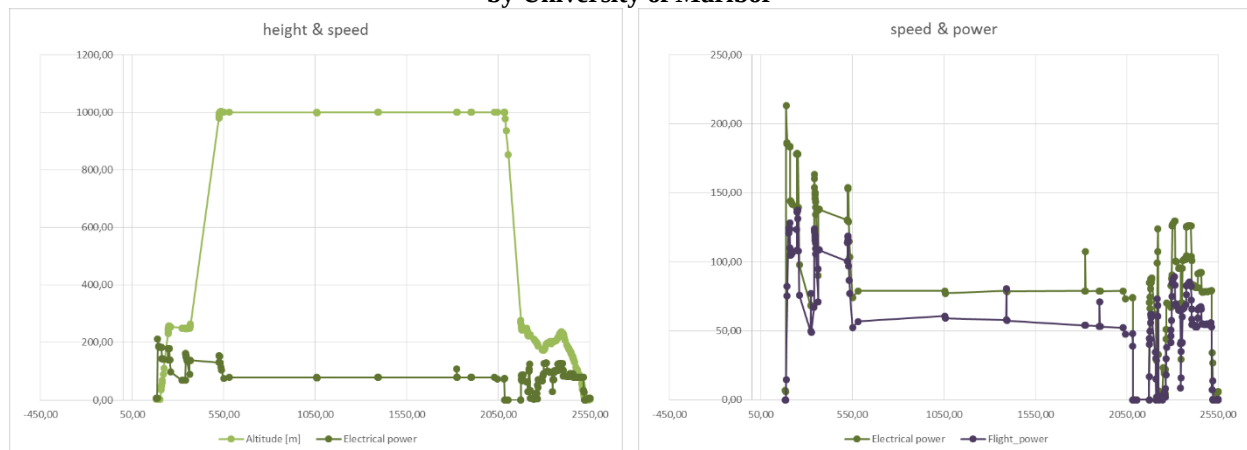


Figure 23: Testing profile – an example covering complete operational range of the drivetrain by University of Maribor

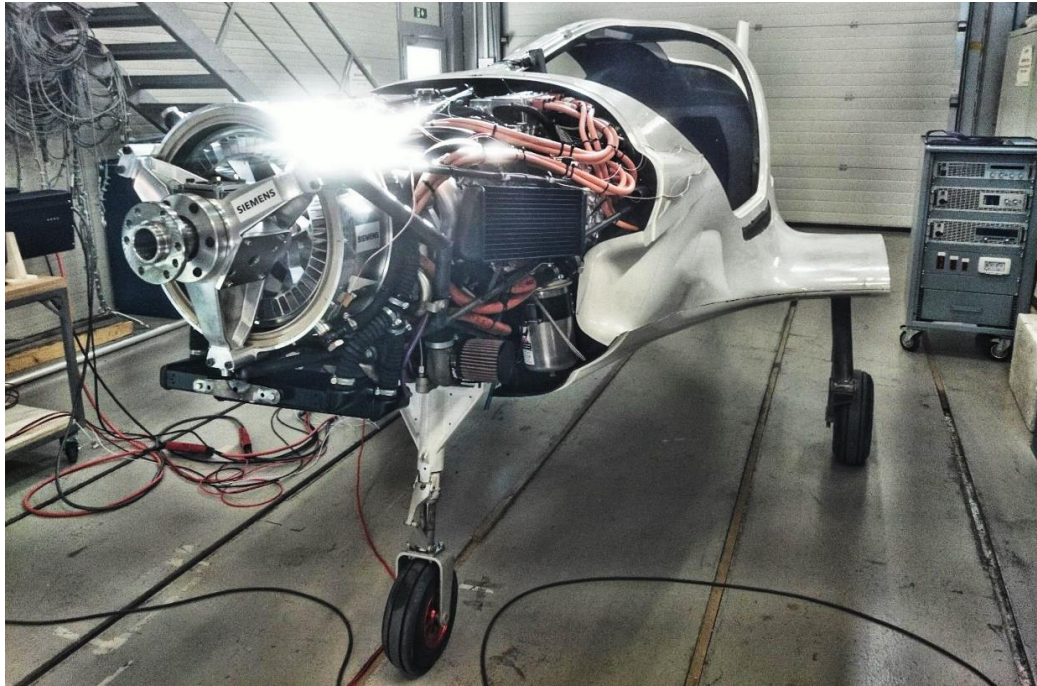


Figure 24 The powertrain components integrated and ready for testing



Figure 25 HYPSTAIR during testing with cowling installed