



Model based design of a controller for fuel cell systems

SCIENTIFIC ENGINEERING GMBH

Dennewartstr. 25-27 - 52068 Aachen - Germany - Tel +49(0)241 963 2380 - Fax +49(0)241 963 2381 - EMail info@eutech-scientific.de - www.eutech.de

MISSION

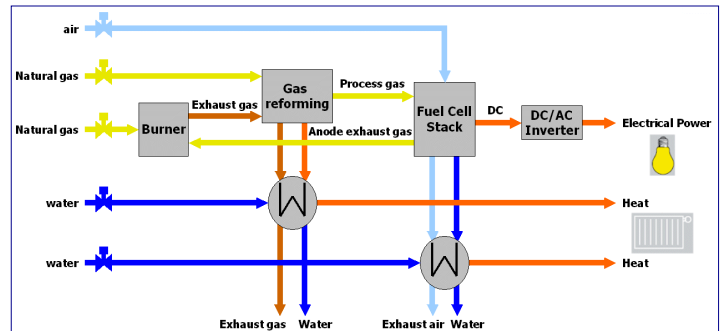
Design, implementation and commissioning of the control, in software and hardware, of PEM based fuel cell household heating systems together with gas generator

PEM FC SYSTEM

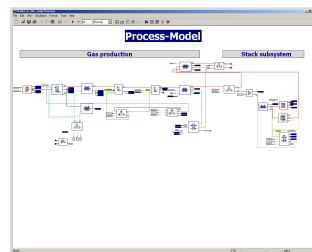
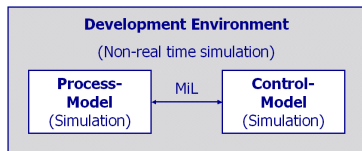
Starting base for future production systems

Highly dynamic and non-linear behaviours

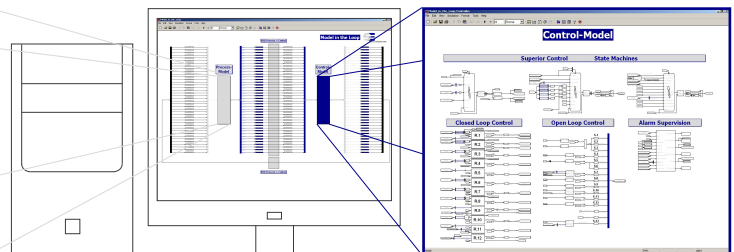
Components must be controlled in narrow limits



RAPID CONTROL PROTOTYPING - MODEL IN THE LOOP

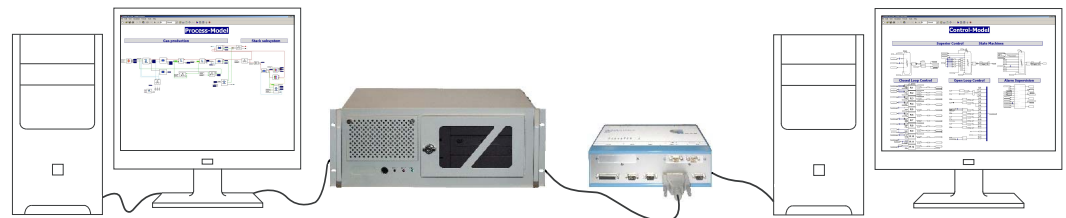
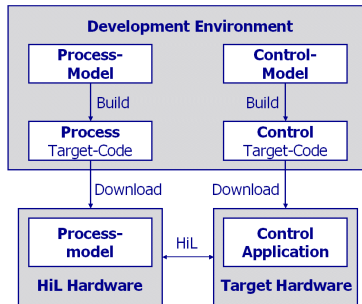


Simulink® based library (FClib) available for all principal components of a fuel cell system

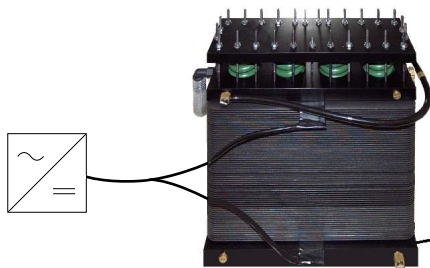


State machines
Closed loop controls
(PI with anti-windup)
Open loop controls
Alarm functionalities

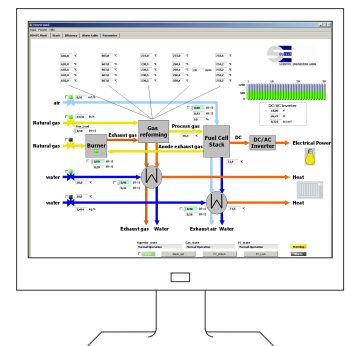
HARDWARE IN THE LOOP



CALIBRATION WITH REAL SYSTEM



On-the-fly accessibility
flash memory



User friendly front-end based on LabVIEW®

Complete development, verification and validation of software and hardware
Reducing development time by 50%