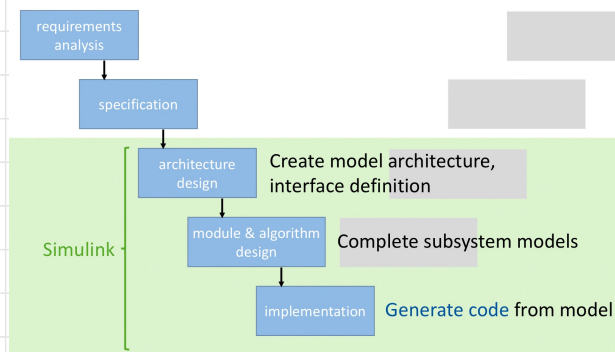


# Chapter 6 - Model-based Development & Simulink

## Model-Based Development Process

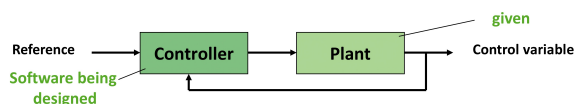


Use code generator to get code from Simulink model

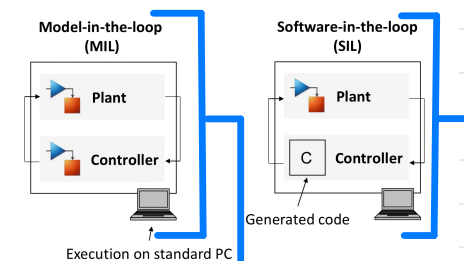
### Rapid Prototyping (Possible with Simulink)

- Encourage rapid prototyping by models that are executable from the beginning and having an easy integration of controllers with plant models
- So that code can be generated at any time to offer early testing possibilities

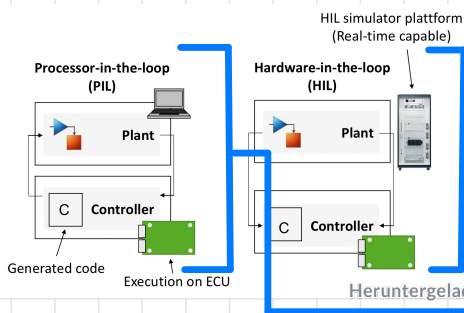
Normally, only the controllers in there as a model, but Simulink also allows to model the plant on a computer.



### Different Possibilities of In-the-loop Testing



Plant model still in Simulink but controllers implemented in C which can be run on actual PLC or microcontrollers.



Everything inside Simulink

Code executed on actual hardware but plant in Simulink executed on real-time capable computers

Plant model still in Simulink but controller code executed on actual hardware



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