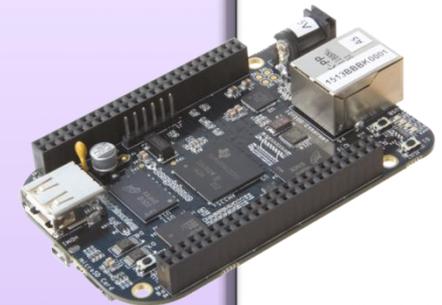


# EICASLAB™ DEMO



*The Professional Software Suite  
for Automatic Control Design and Forecasting*

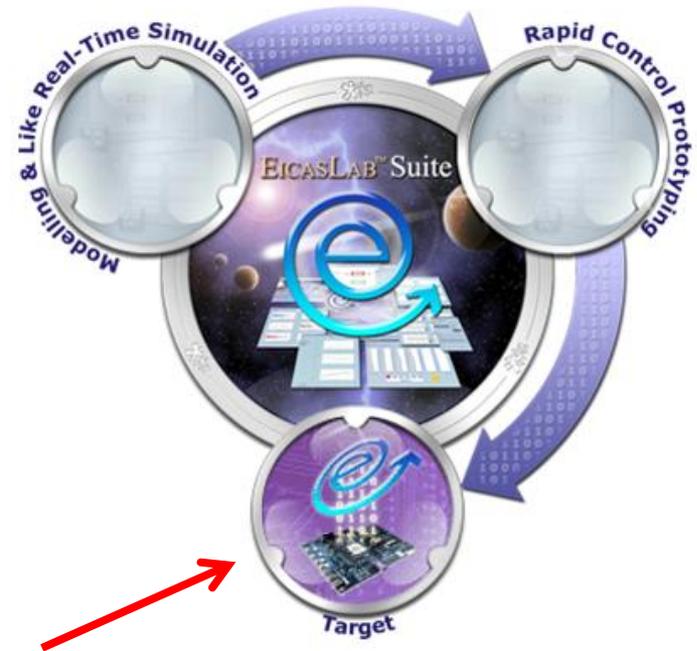
**EICASLAB Demo RT-emb**  
***Beagle Bone at work!***



***Part 5: TARGET***  
***Hardware-in-the-loop***

## Target

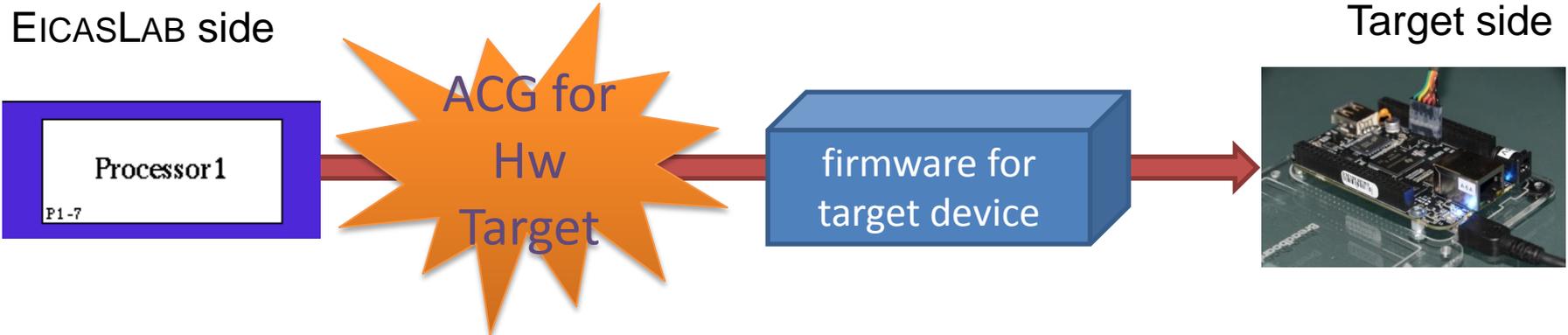
The **Target operative mode** allows to export the control algorithm to the **final hardware target** that will execute it to control first the simulated plant in **Hardware-in-the-loop** and then the real plant in **Final Validation Test** sub-modes.



## Target

EICASLAB provides the routines to generate the *Basic Software*, not only for the EICASLAB RCP Platform itself, but also for a family of devices or for a specific hardware architecture.

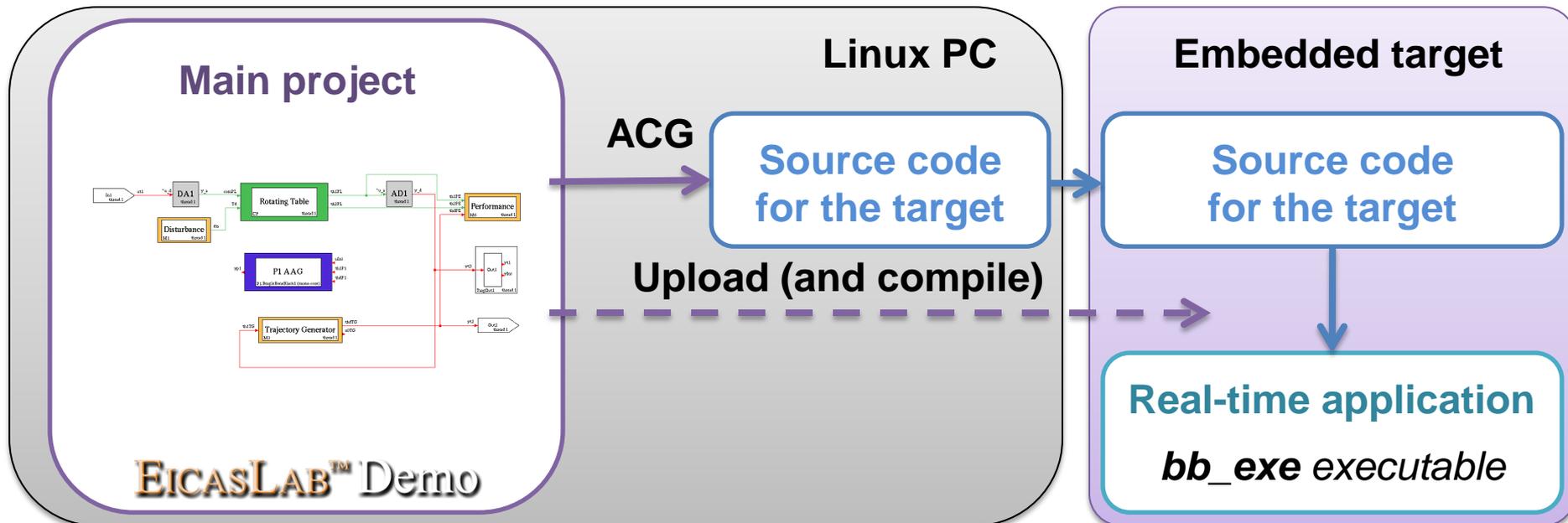
**ACG means *Automatic Code Generation***



## Target

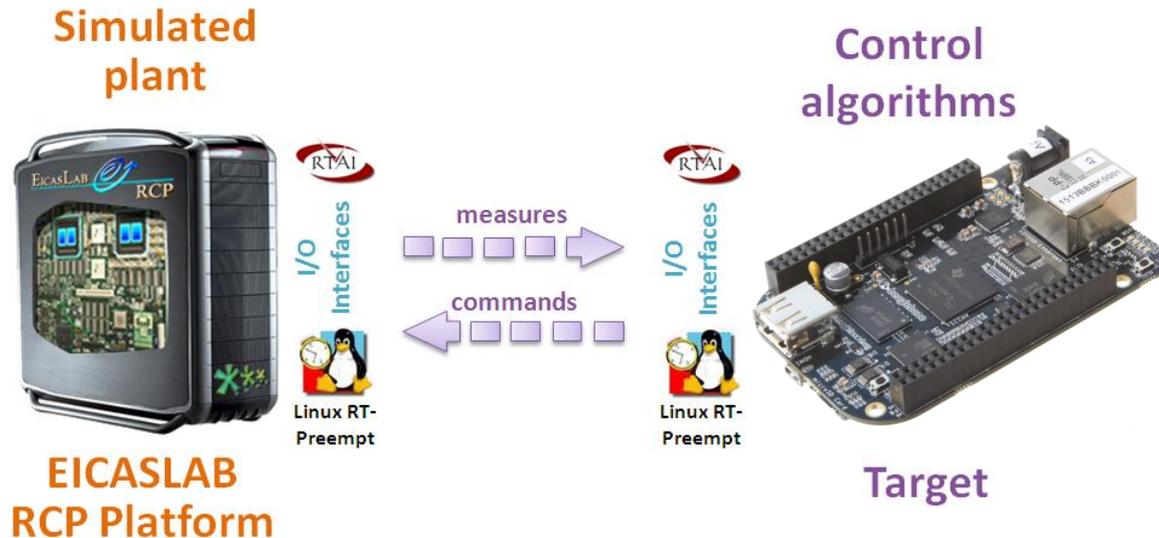
The EICASLAB Target Module for Beagle Bone enables

- The code generation for the Beagle Bone target
- The upload and compiling process



## Hardware-in-the-loop

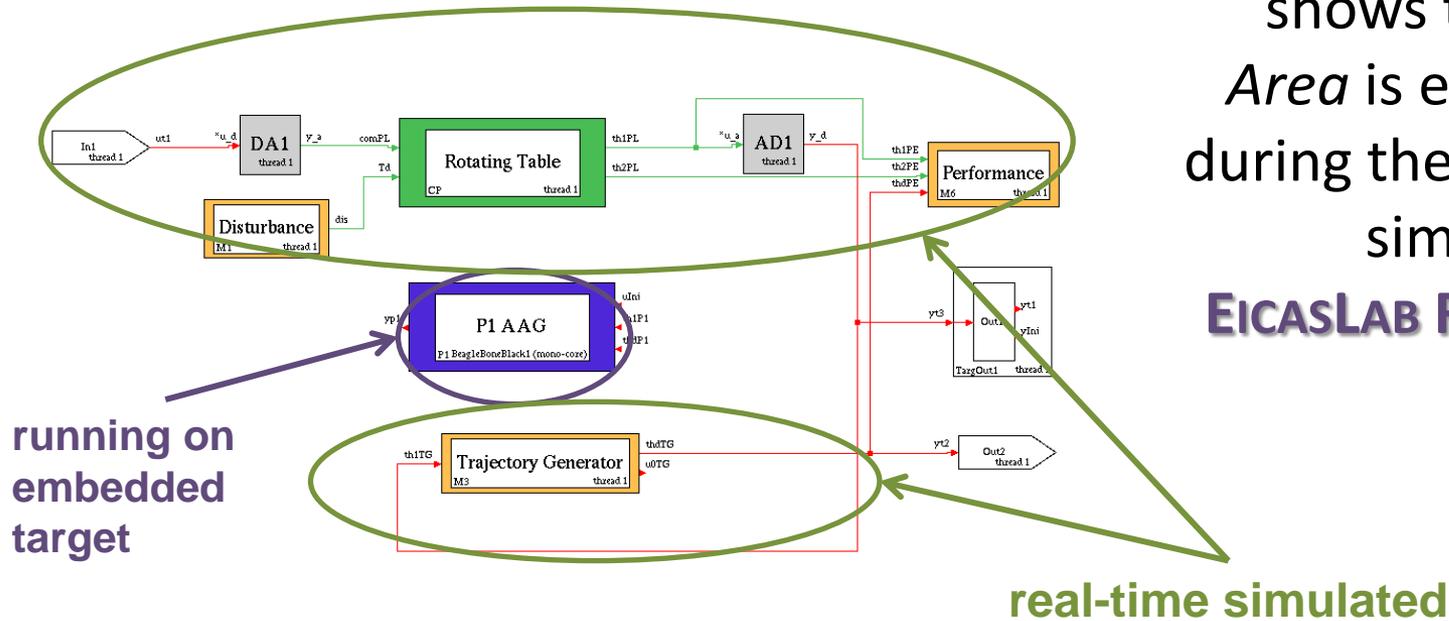
The **Hardware-in-the-loop operative sub-mode** allows to test the control algorithms running on the final hardware target suitably connected with the EICASLAB RCP Platform, in which the simulated plant is executed.



## Hardware-in-the-loop

The **system layout** in HIL sub-mode:

The system layout shows that the *Plant Area* is enabled again: during the HIL trials it is simulated by the **EICASLAB RCP Platform**.



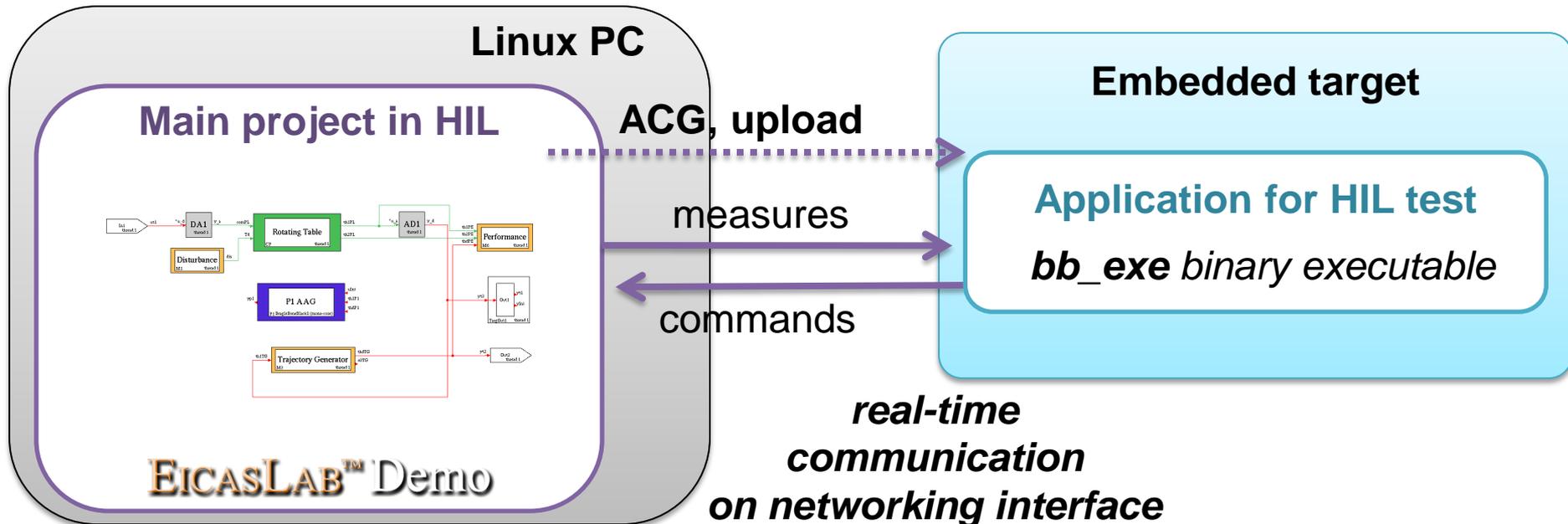
## Hardware-in-the-loop

**Who does what** in Hardware-in-the-loop operative sub-mode in RT-emb demo:

<b>HW</b>	<b>EICASLAB RCP Platform</b>	<b>Embedded board target</b>	<b>Rotating Table emulator</b>
<b>SW</b>	<b>simulates plant</b>	<b>runs control logic</b>	<b>unused</b>

## Hardware-in-the-loop

When the demo is in HIL operative sub-mode the "**ACG for HIL**" advanced feature generates the BS + AS for performing the Hardware-in-the-loop





## Hardware-in-the-loop

