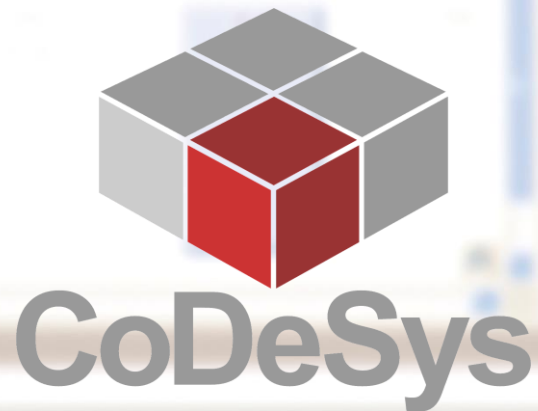


CoDeSys Sampling Trace



We software Automation.



CoDeSys Sampling Trace

The Trace is a mighty weapon in your fight against errors occurring during operation.

- What is Trace?
- How does Trace work?
- What is the Trace Functionality (standard)?
- What else can Trace do for me?

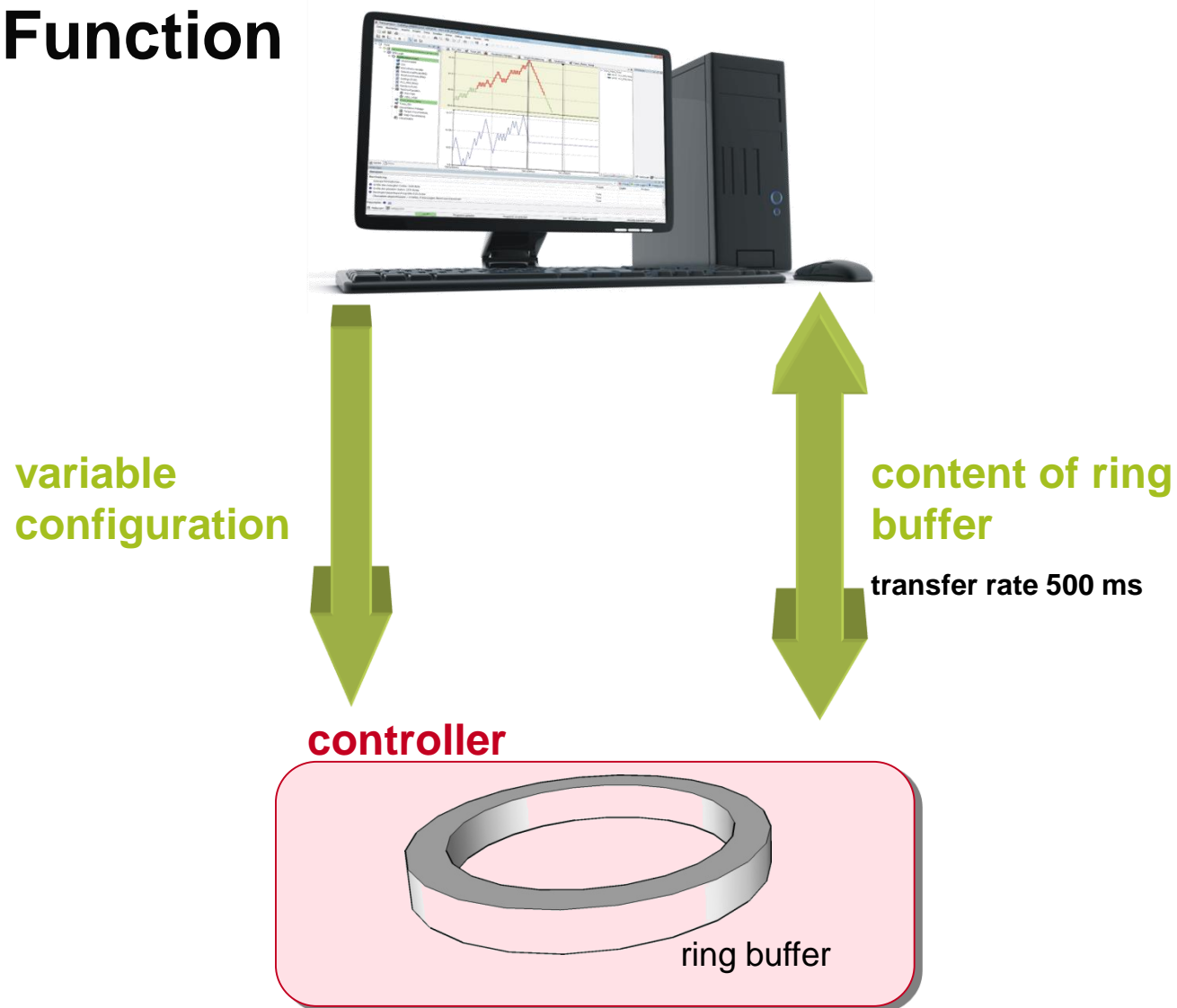


Information in the online help:

Trace allows you to record the behavior of variable values from the controller during a certain period of time.

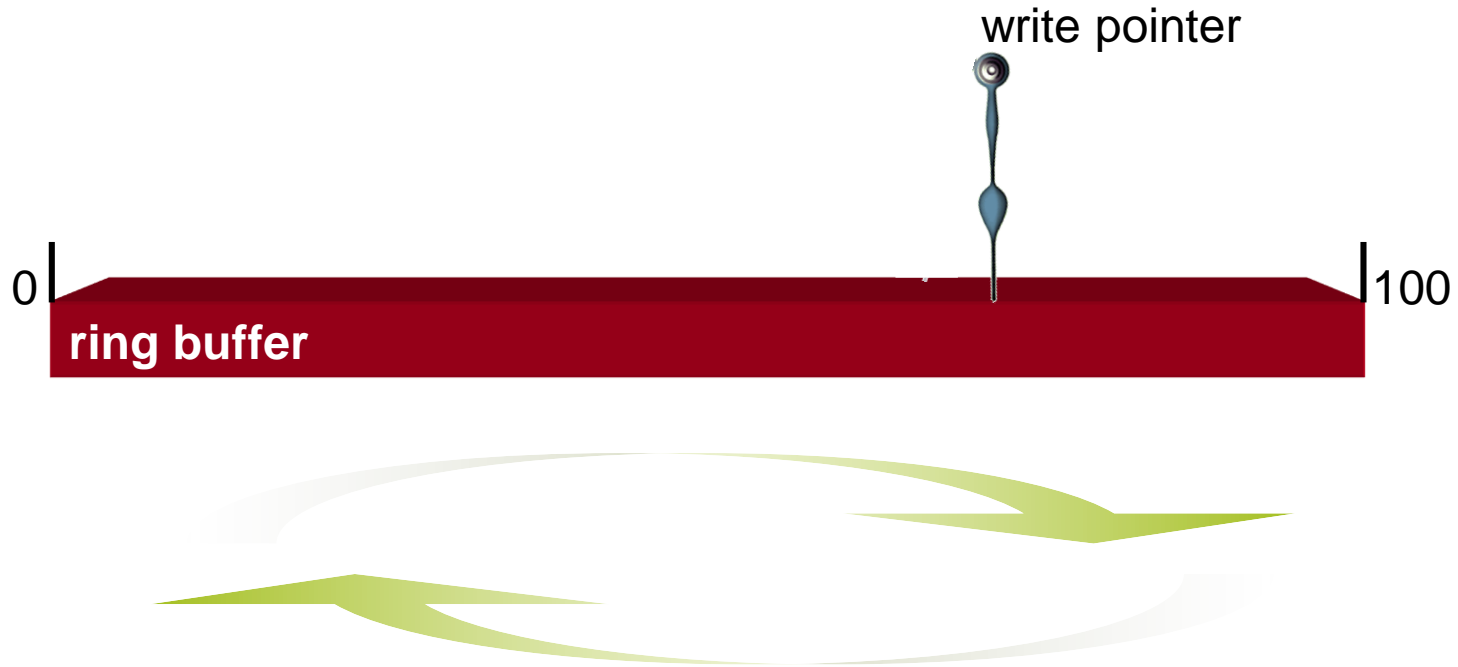


Trace Function

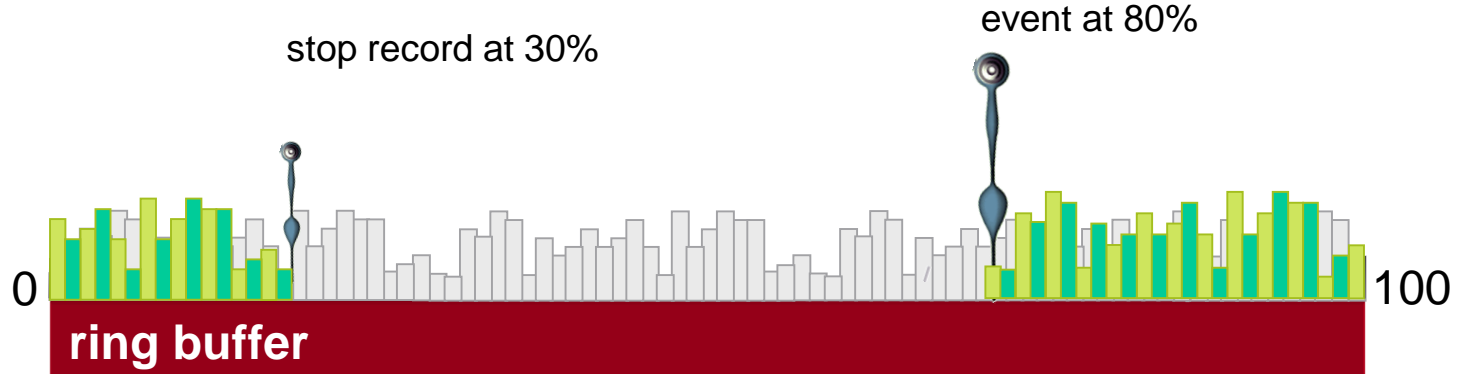


How does Trace work?

Ring Buffer: Functional Principle



Ring Buffer: Trigger Event



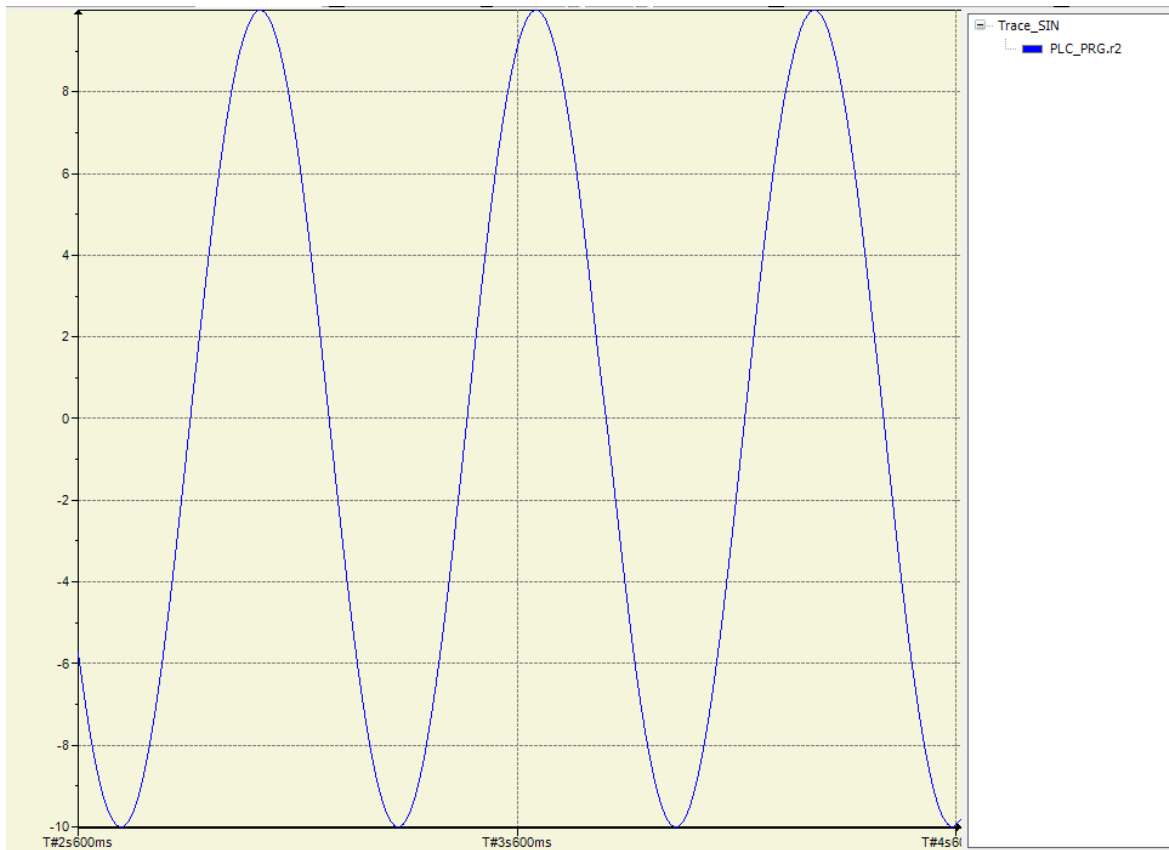
What is the Trace functionality?

- You can define which variables you would like to trace in the CoDeSys configuration.
- This definition is then loaded onto the PLC in form of an automatically generated application (load trace).
- The trace automatically starts to write into a ring buffer.
- After the trace is stopped, tracing will continue for a defined period of time.
- The buffer content can be loaded in CoDeSys and displayed there at any time.



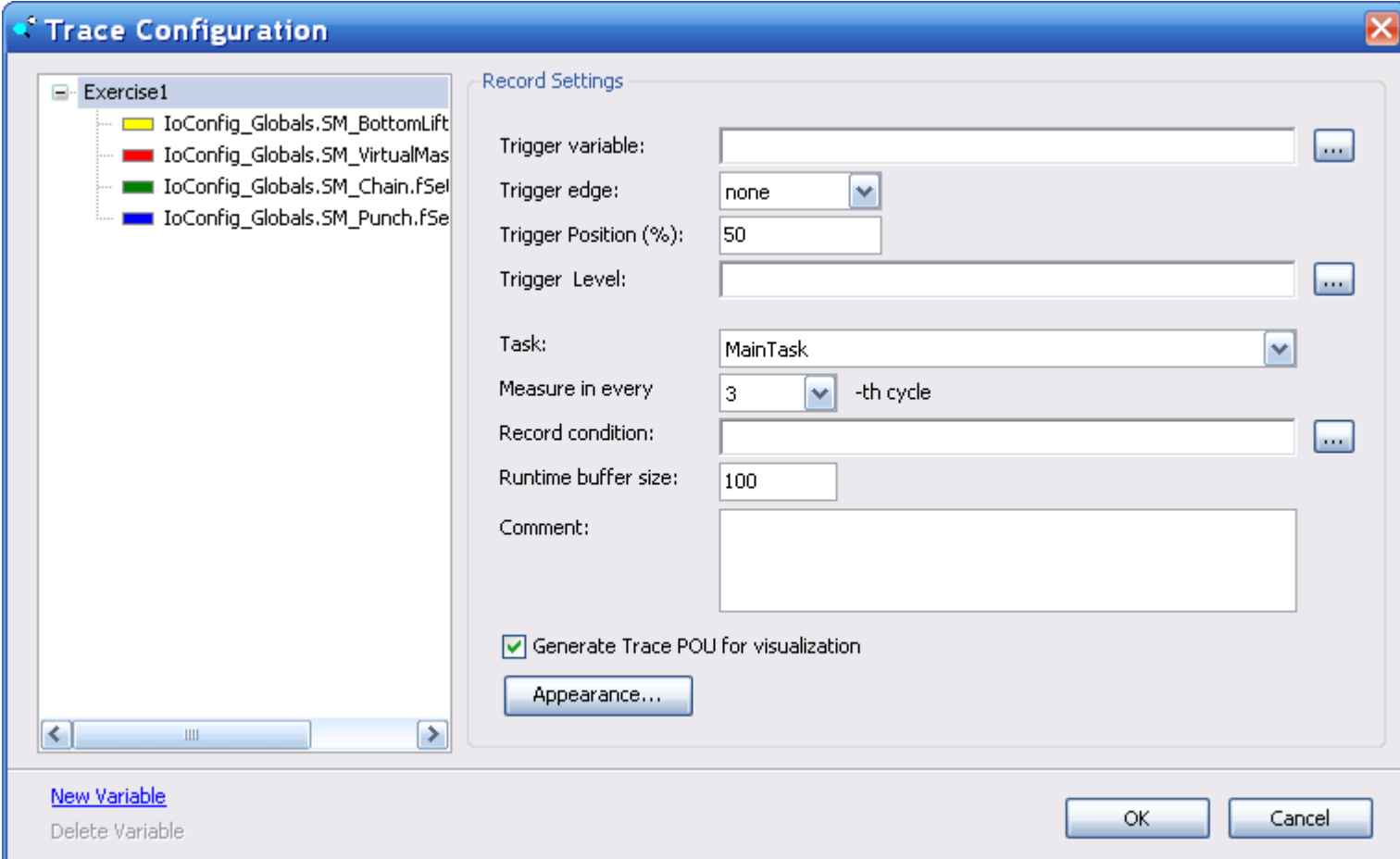
What is the Trace functionality?

Trace configuration



What is the Trace functionality?

Configuration of the Trace frame



The image shows the 'Trace Configuration' dialog box in CoDeSys. It is divided into two main sections: a variable list on the left and 'Record Settings' on the right.

Left Panel (Variable List):

- Exercise1
 - IoConfig_Globals.SM_BottomLift
 - IoConfig_Globals.SM_VirtualMas
 - IoConfig_Globals.SM_Chain.fSel
 - IoConfig_Globals.SM_Punch.fSe

Right Panel (Record Settings):

- Trigger variable: [Empty text box]
- Trigger edge: none (dropdown menu)
- Trigger Position (%): 50 (text box)
- Trigger Level: [Empty text box]
- Task: MainTask (dropdown menu)
- Measure in every: 3 (dropdown menu) -th cycle
- Record condition: [Empty text box]
- Runtime buffer size: 100 (text box)
- Comment: [Empty text box]
- ☒ Generate Trace POU for visualization
- Appearance... (button)

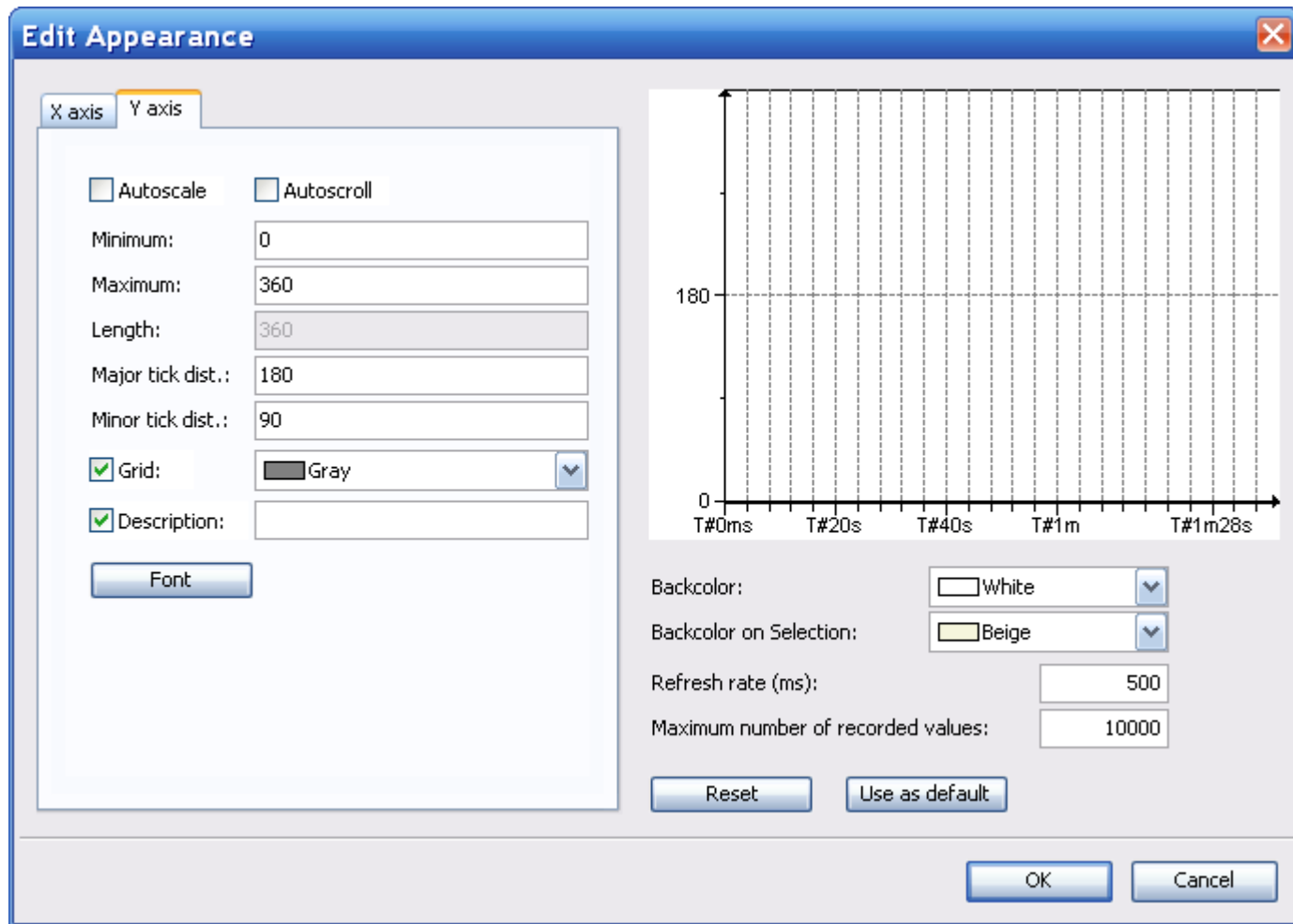
Bottom Panel:

- New Variable (link)
- Delete Variable (link)
- OK (button)
- Cancel (button)



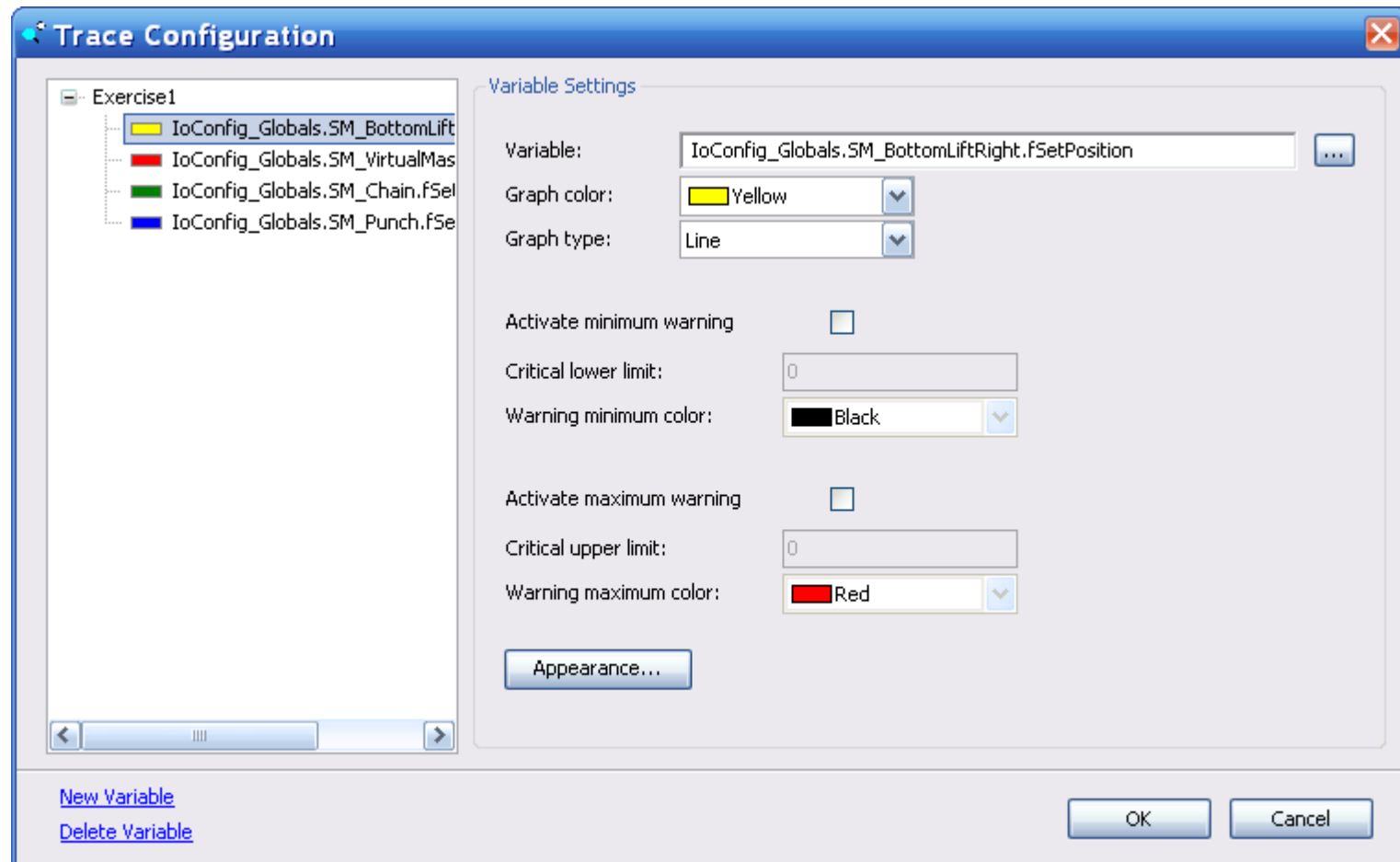
What is the Trace functionality?

Configuration of the variable display in Trace



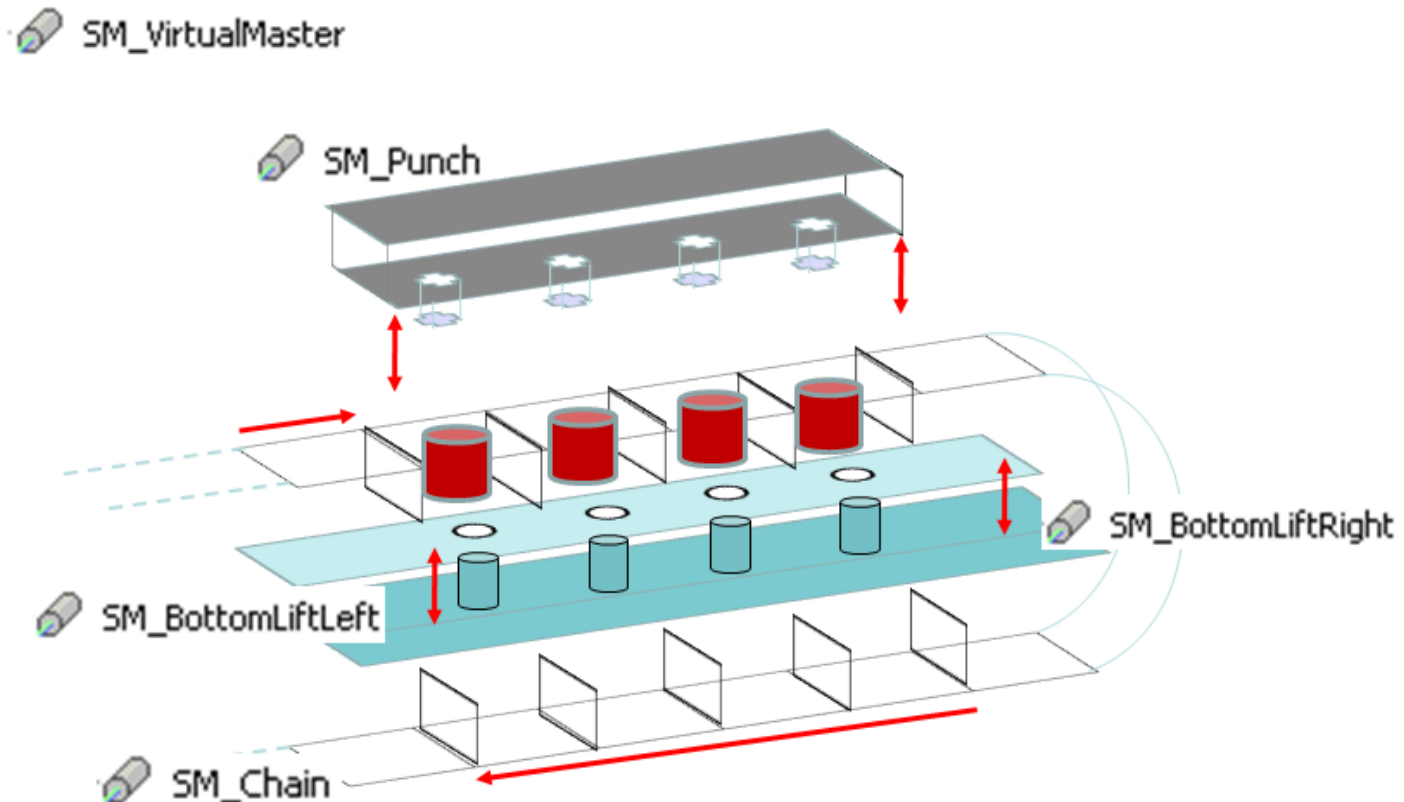
What is the Trace functionality?

Trace menu



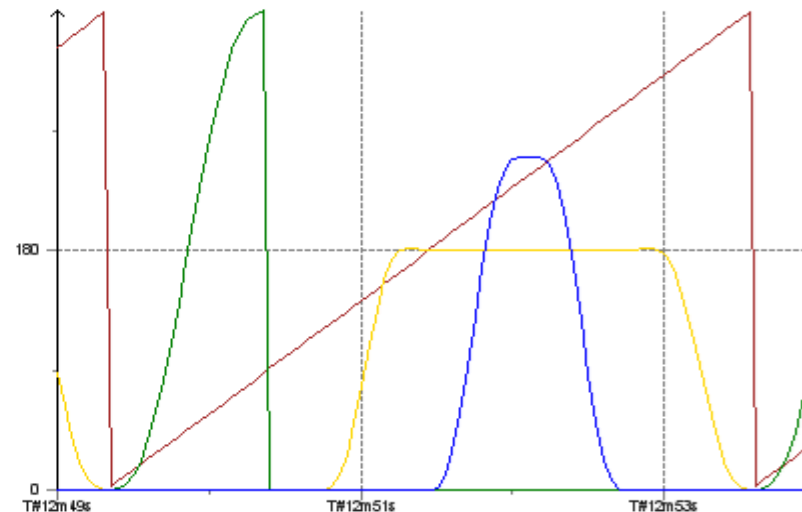
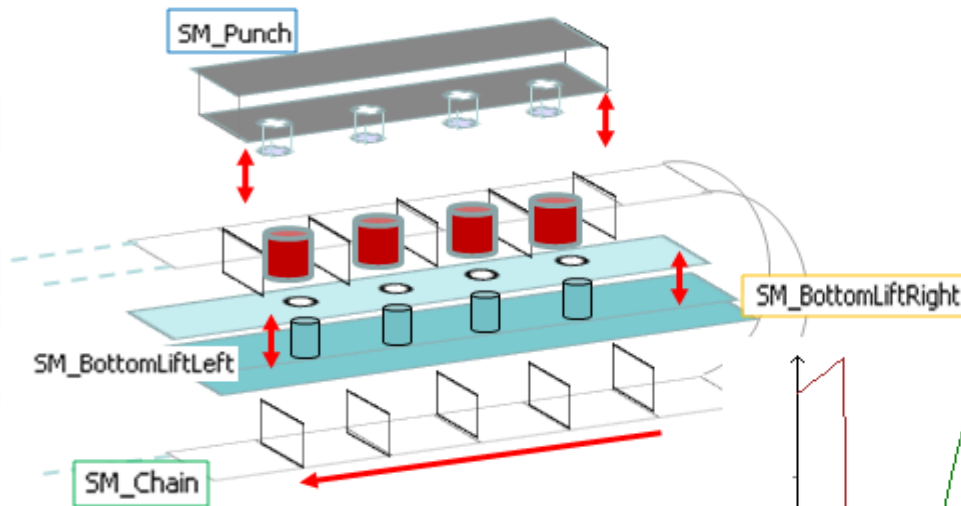
How does the machine work?

- Machine setup (Use TRACE_START.projectarchive)



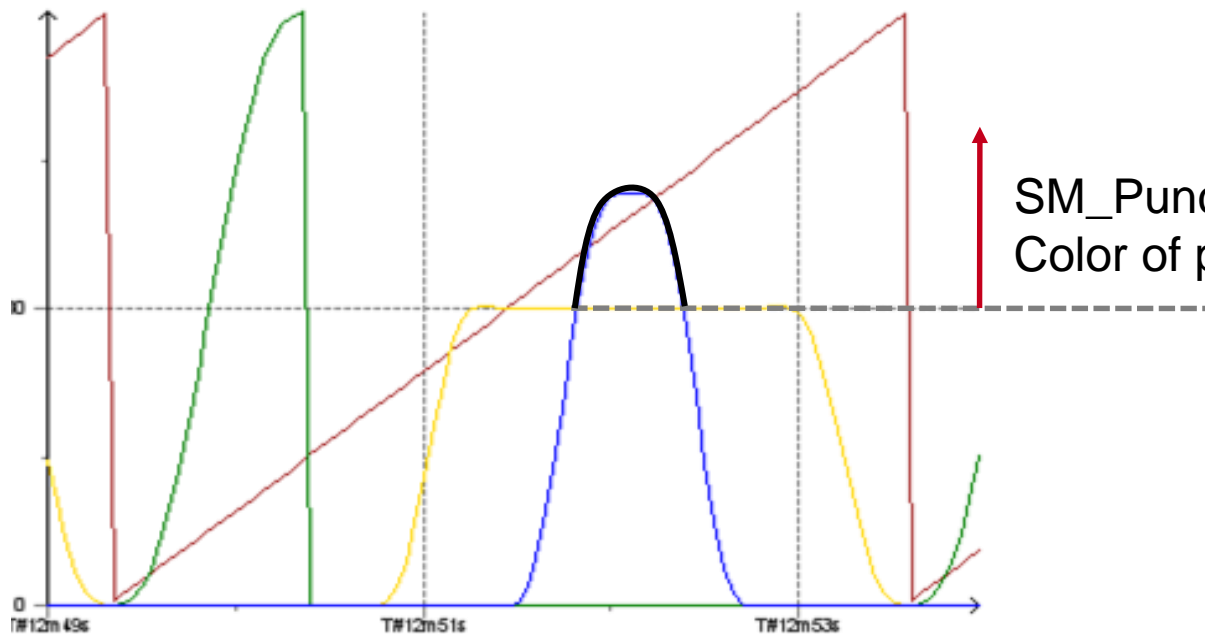
Please create a trace and record fSetPosition of the marked drives

SM_VirtualMaster



Exercise II

Please make a second trace and use the limit settings

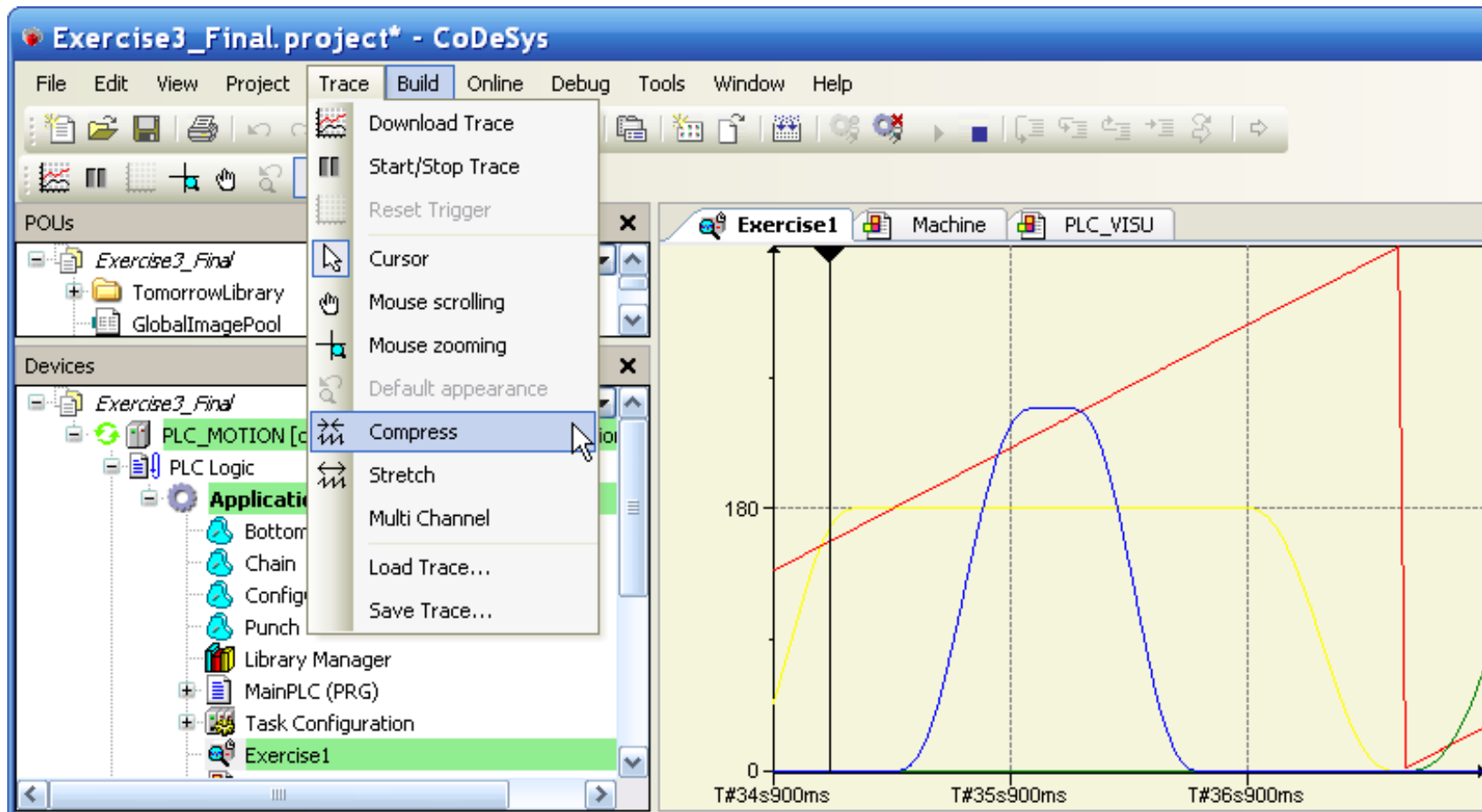


SM_Punch.fSetPosition > 180 =>
Color of punch graph is black



What is the Trace functionality?

Trace menu



What else can Trace do for me?

Can I let the Trace run over a long period of time?



- load Trace
- log out
- log in
- Do NOT load Trace again!!!!
- open Trace (will automatically go online)



What else can Trace do for me?

Can I display the content of the trace buffer in the CoDeSys Visualization?



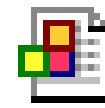
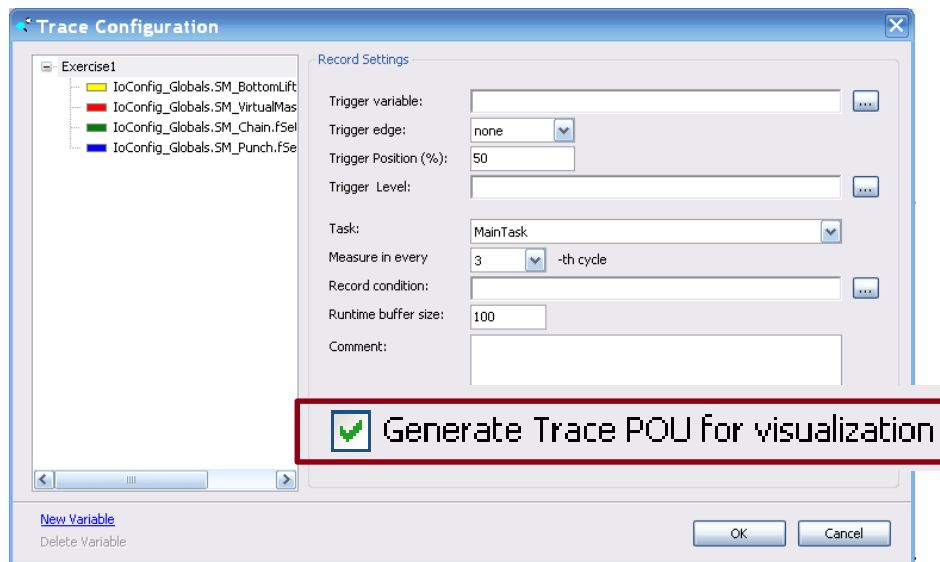
- select “Generate POU for Visualization”
- insert trace element in the visualization
- connect to Trace



Display trace in visualization

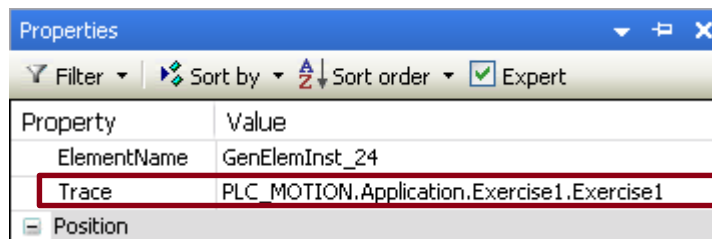
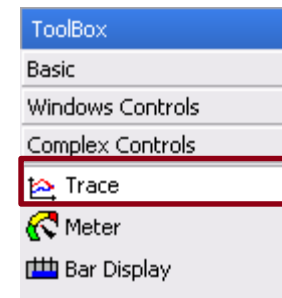
We need 3 steps

Trace Configuration



Visualization

add

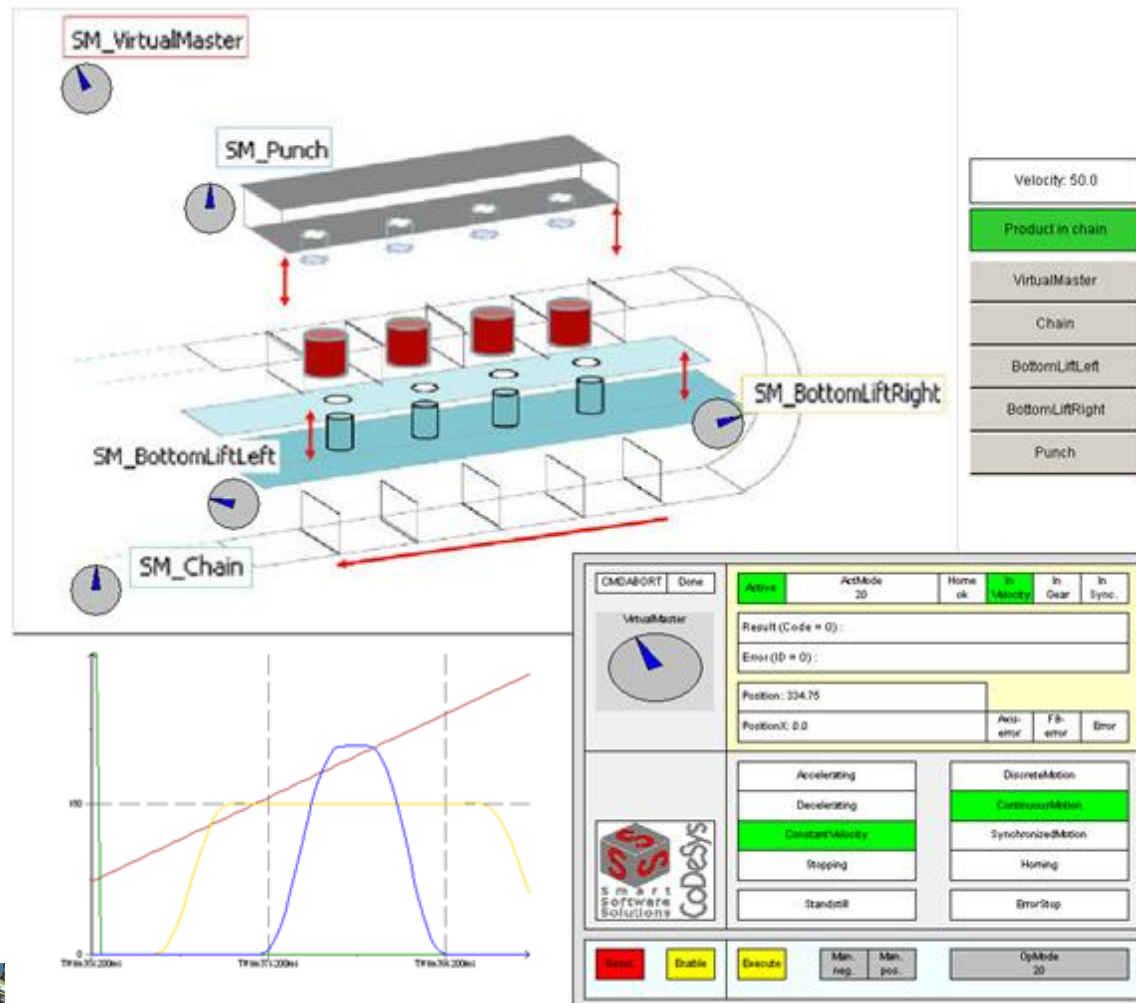


Assign trace



Exercise III

Please display the first trace we did in the main visualization



What else can Trace do for me?

Going too fast?



Online help



Download sample projects:

www.3s-software.com

