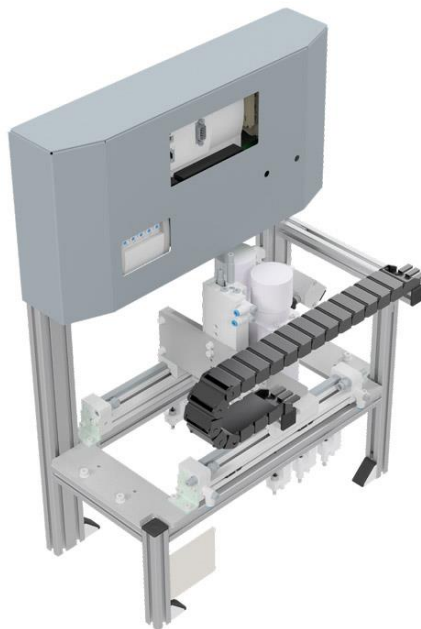


# CP-AM-iDrill CoDeSys Project Quickguide



The program called „Main (PRG)” is the main program of the iDrill project. This program is cyclically called in the Task Configuration and all other programs are called from here.

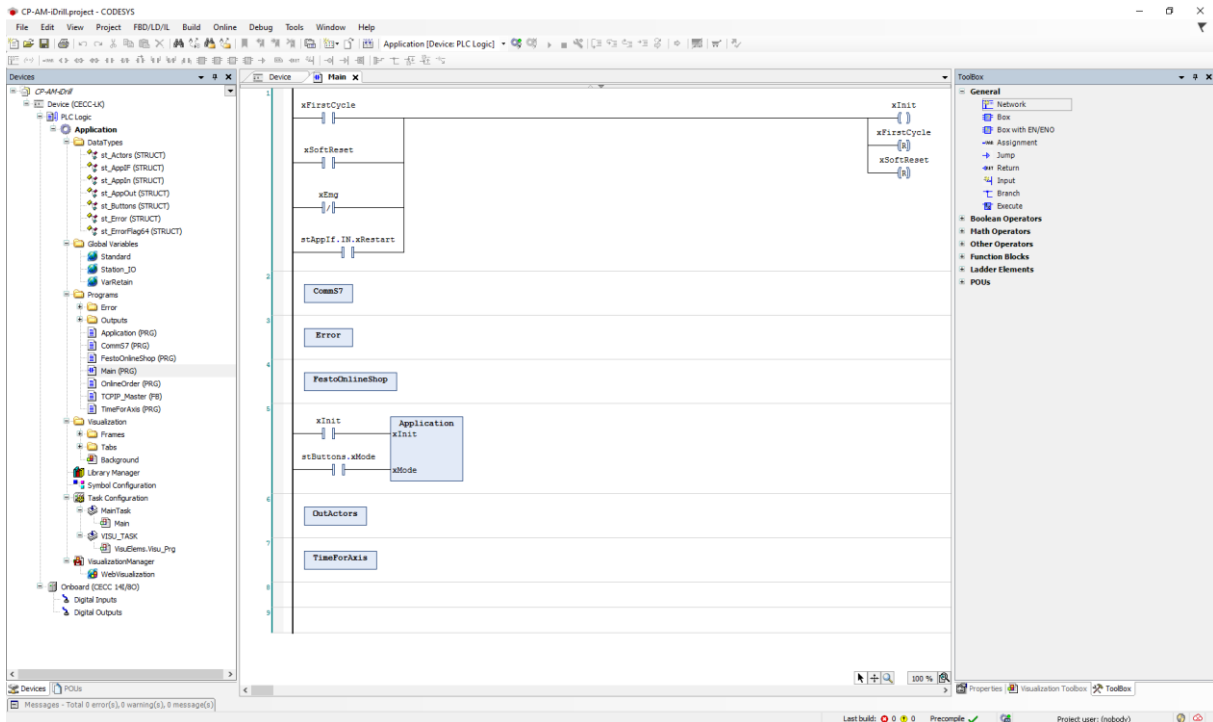


Figure 1 Main (PRG)

In the DataTypes folder there are multiple Structure elements defined. The “st\_AppIF” is the structure what contains the data, exchanged between the iDrill and Stopper controller. The “st\_AppIn” contains the commands from the Stopper PLC, as start, reset, etc and the “st\_AppOut” contains the feedback signals, as ready, busy etc.

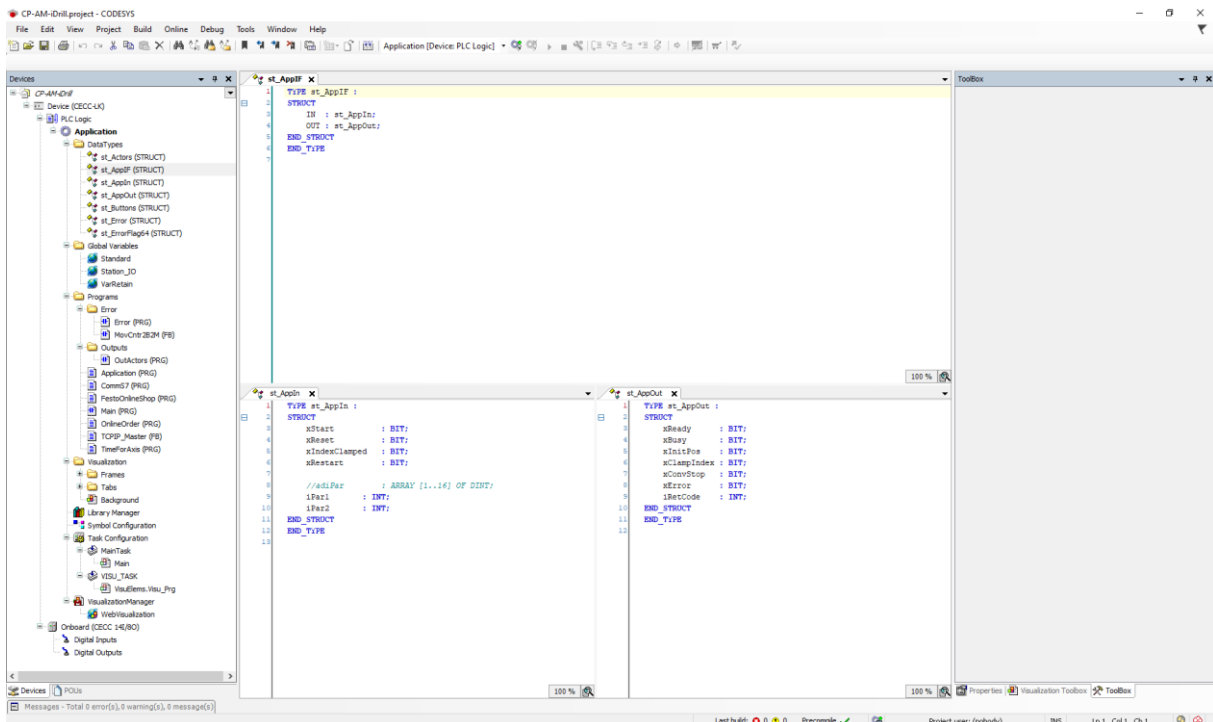


Figure 2 st\_AppIF

The “st\_Actors” is the structure defining the outputs of the module. There are 2 instances defined from this structure: “stAuto” and “stManual”. In automatic mode the “stAuto” is used in order to switch on the real actuators while in manual mode the “stManual”.

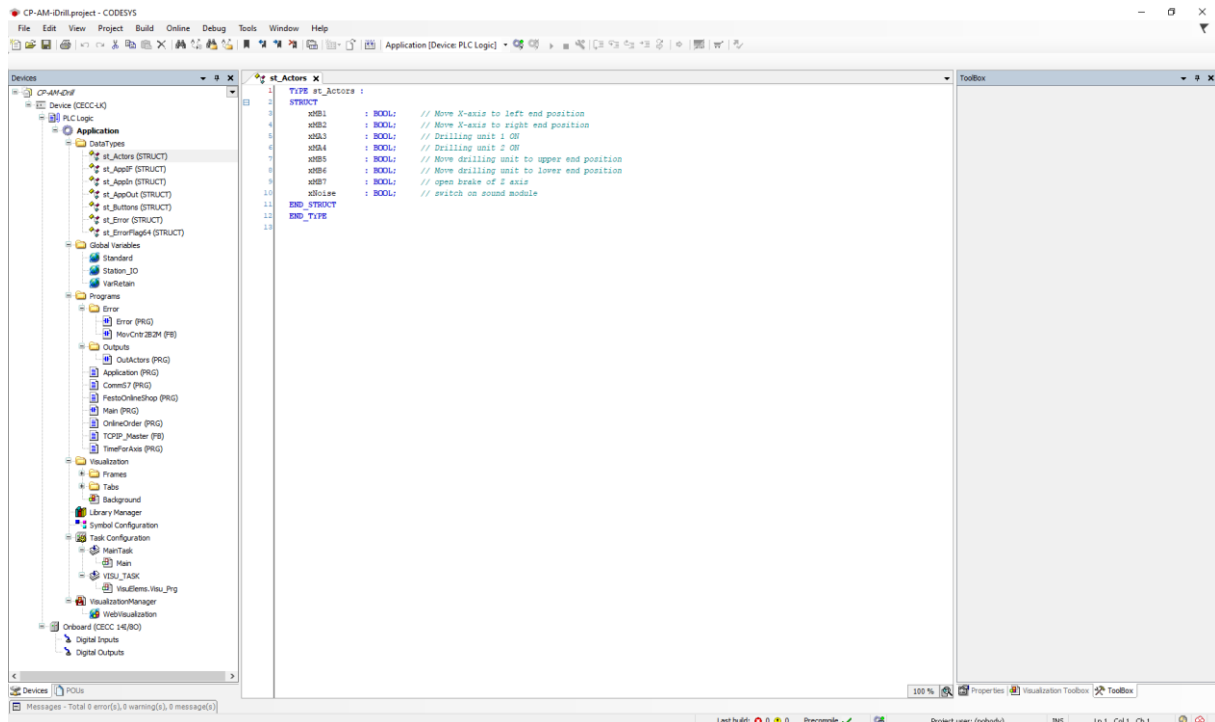


Figure 3 st\_Actors

The most important global variables are defined in the “Standard” Global Variables list.

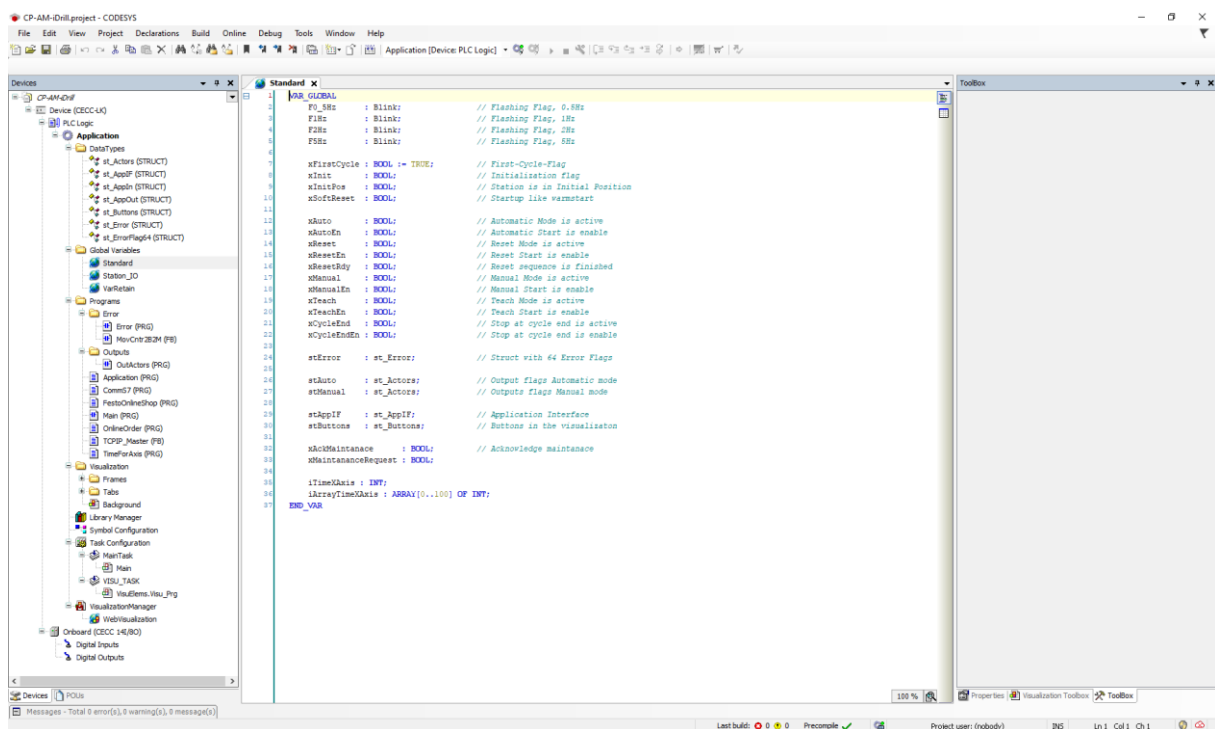


Figure 4 Standard Global Variables

Variables, which should be listed in the OPC-UA server of the PLC should be enabled at the “Symbol Configuration”.

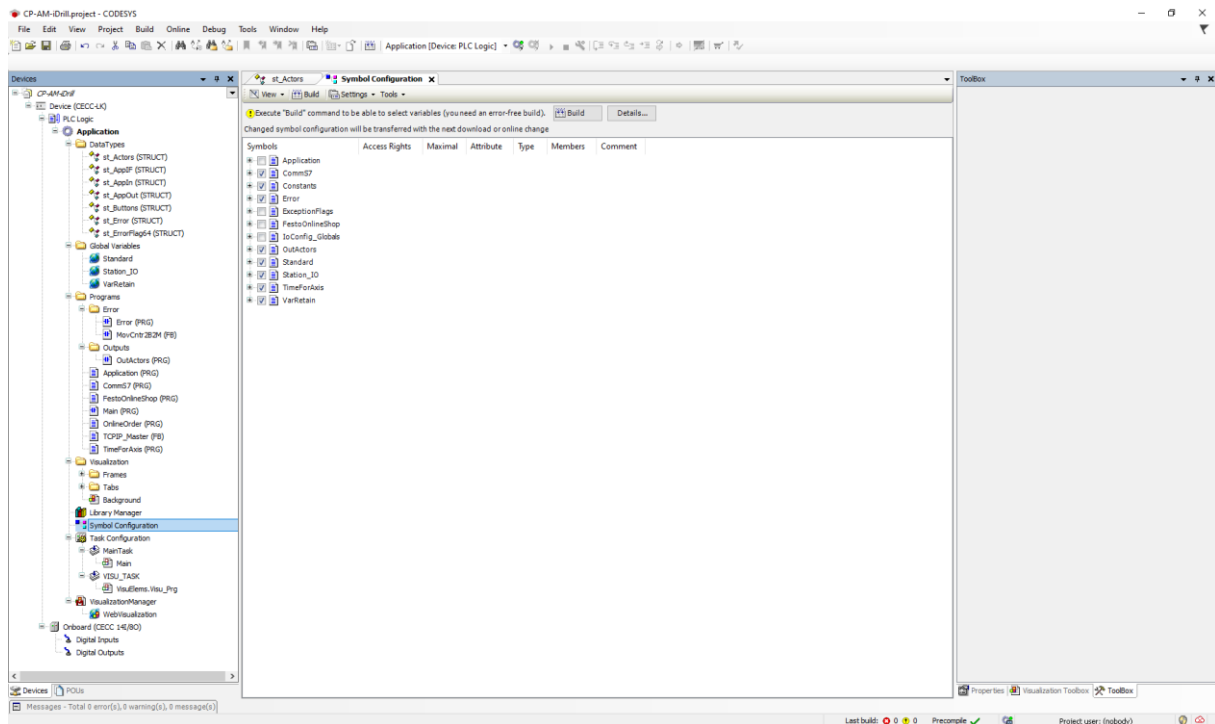


Figure 5 Symbol Configuration

The “OutActors (PRG)” is responsible to distinguish the control of the actuators between automatic and manual mode.

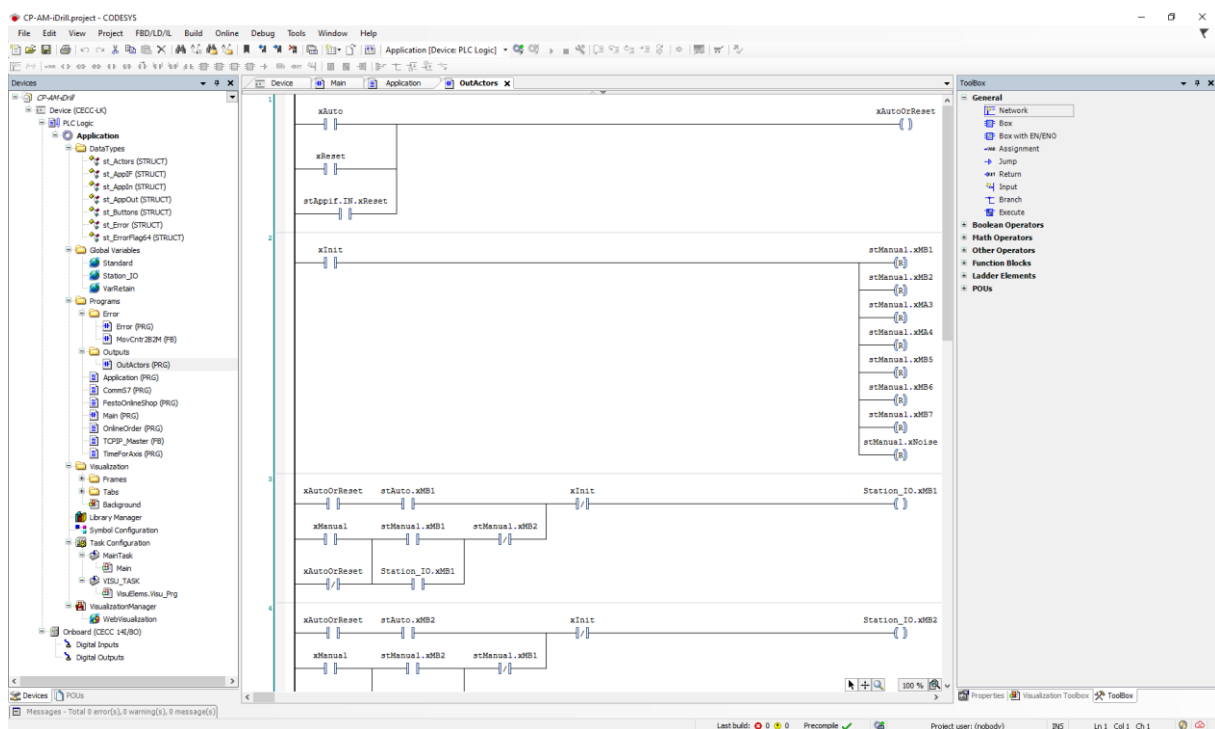


Figure 6 OutActors (PRG)

The state machine of the process in automatic mode is in the “Application (PRG)”.

Value of state machine	Function
1 - 5	Initialization
8	Idle
10	Busy state feedback to Stopper
11	Sensor check
15	Parameter check
20 - 45	Drilling left
60 - 95	Drilling right
100	Finish process
200 – 220	Reset process

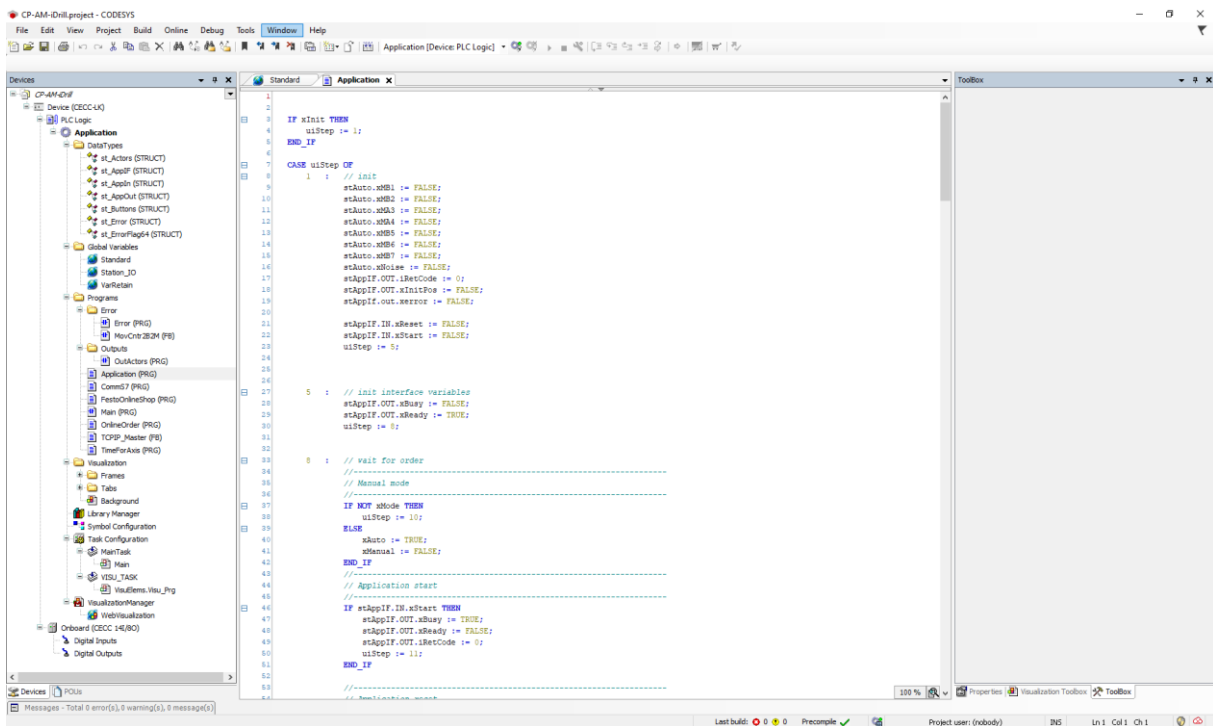


Figure 7 Application (PRG)