|--|

## Main [OB1]

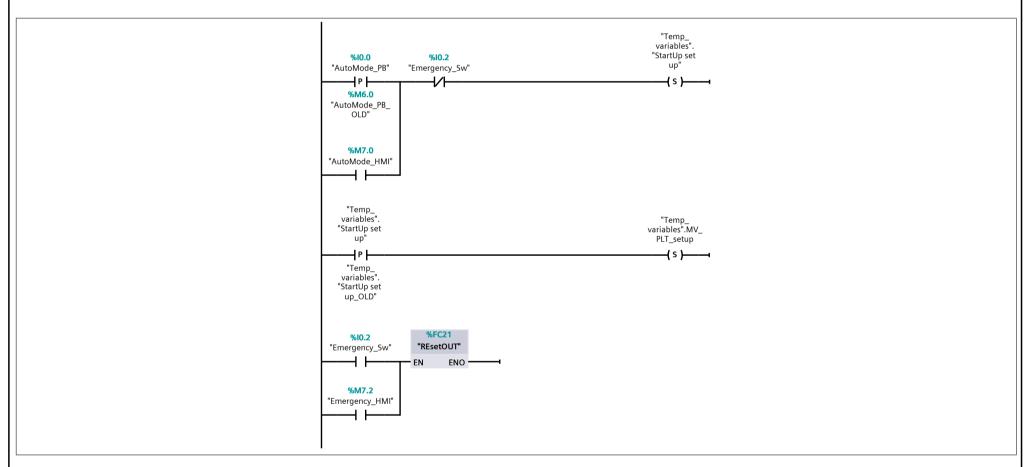
Main Properties									
General									
Name	Name Main Number 1 Type OB Language LAD								
Numbering									
Information									
Title	"Main Program Sweep (Cy-cle)"	Author		Comment		Family			
Version	0.1	User-defined ID							

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Remanence	Bool	
<b>▼</b> Temp		
Calculating ID	Int	
car status	Bool	
Constant		

#### **Network 1: Functions initiallization**

```
"Saving Sensing values to arrays"
                                         "CarTimers"
- EN
                             ENO -
                                       - EN
```

#### Network 2: Sart and stop the system



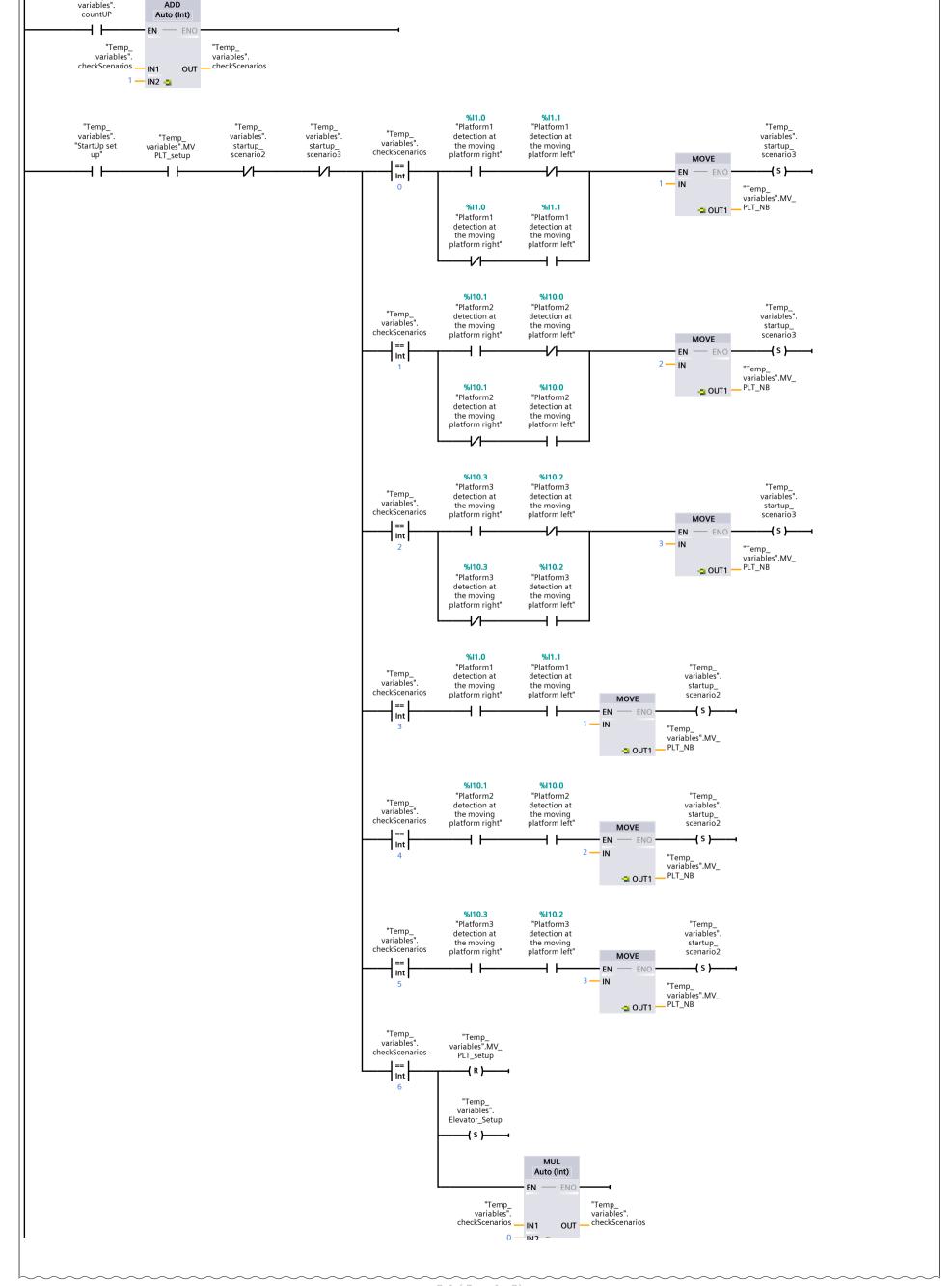
### Network 3: Start up set up (Moving platform)

we want first to make sure that everything in the system is in the right position .

the aim of this function is to check the different scenario that the moving platform can be , this check will be applied for all the moving platform , but the operation will be sequential (only one will move per time )

scenario 2 the moving platform already contains a platform scenario 3 the car platform is not fully attached at the moving platform

Totally Integrated **Automation Portal** Network 3: Start up set up (Moving platform) (1.1 / 2.1) "Temp\_ variables". ADD Auto (Int) countUP - ENO "Temp\_ variables". "Temp\_ variables". checkScenarios. \_ checkScenarios IN1 OUT 1 — IN2 📲 %I1.0 "Platform1 %I1.1 "Platform1 "Temp\_ variables". "Temp\_ variables". "Temp\_ variables". "Temp\_ variables". "Temp\_ variables". "Temp\_ variables".MV\_ detection at detection at startup\_ scenario2 startup\_ scenario3 the moving platform right" the moving platform left" startup\_ scenario3 "StartUp set checkScenarios up" PLT\_setup MOVE EN Int IN "Temp\_ variables".MV\_ **%I1.0 %I1.1** \_\_\_ PLT\_NB OUT1 "Platform1 "Platform1 detection at the moving detection at the moving platform left" platform right" %I10.1 **%I10.0** "Platform2 detection at "Platform2 detection at "Temp\_ variables". "Temp\_ variables" the moving platform right' the moving platform left" startup\_ scenario3 checkScenarios MOVE <del>-</del>1/1-EN Int IN "Temp\_ variables".MV\_ %I10.1 %110.0 \_ PLT\_NB OUT1 "Platform2 "Platform2 detection at the moving platform right" detection at the moving platform left" **%I10.3** "Platform3 **%I10.2** "Platform3 "Temp\_ variables". startup\_ "Temp\_ variables". detection at the moving detection at the moving platform left" checkScenarios scenario3 platform right' MOVE EN **-(** s **)**-Int 3 — IN "Temp\_ variables".MV\_ \_\_ PLT\_NB %I10.3 %I10.2 OUT1 "Platform3 detection at "Platform3 detection at the moving platform right" the moving platform left" **%I1.1 %I1.0** "Temp\_ variables". "Platform1 "Platform1 "Temp\_ variables". detection at detection at the moving platform right" the moving platform left" startup\_ scenario2 checkScenarios MOVE **-(** s **)**-EN



Totally Integrated **Automation Portal** Network 3: Start up set up (Moving platform) (2.1 / 2.1) 1.1 ( Page1 - 2) "Temp\_ variables". "StartUp set up" "Temp\_ variables". startup\_ scenario2 "Temp\_ variables". startup\_ scenario3 "Temp\_ variables". checkScenarios "Temp\_ variables".MV\_ PLT\_setup "Temp\_ variables". countUP "Temp\_ variables". checkScenarios |== |nt| "Temp\_ variables". checkScenarios |== |nt| "Temp\_ variables". checkScenarios == Int "Temp\_ variables". checkScenarios == Int "Temp\_ variables". checkScenarios 

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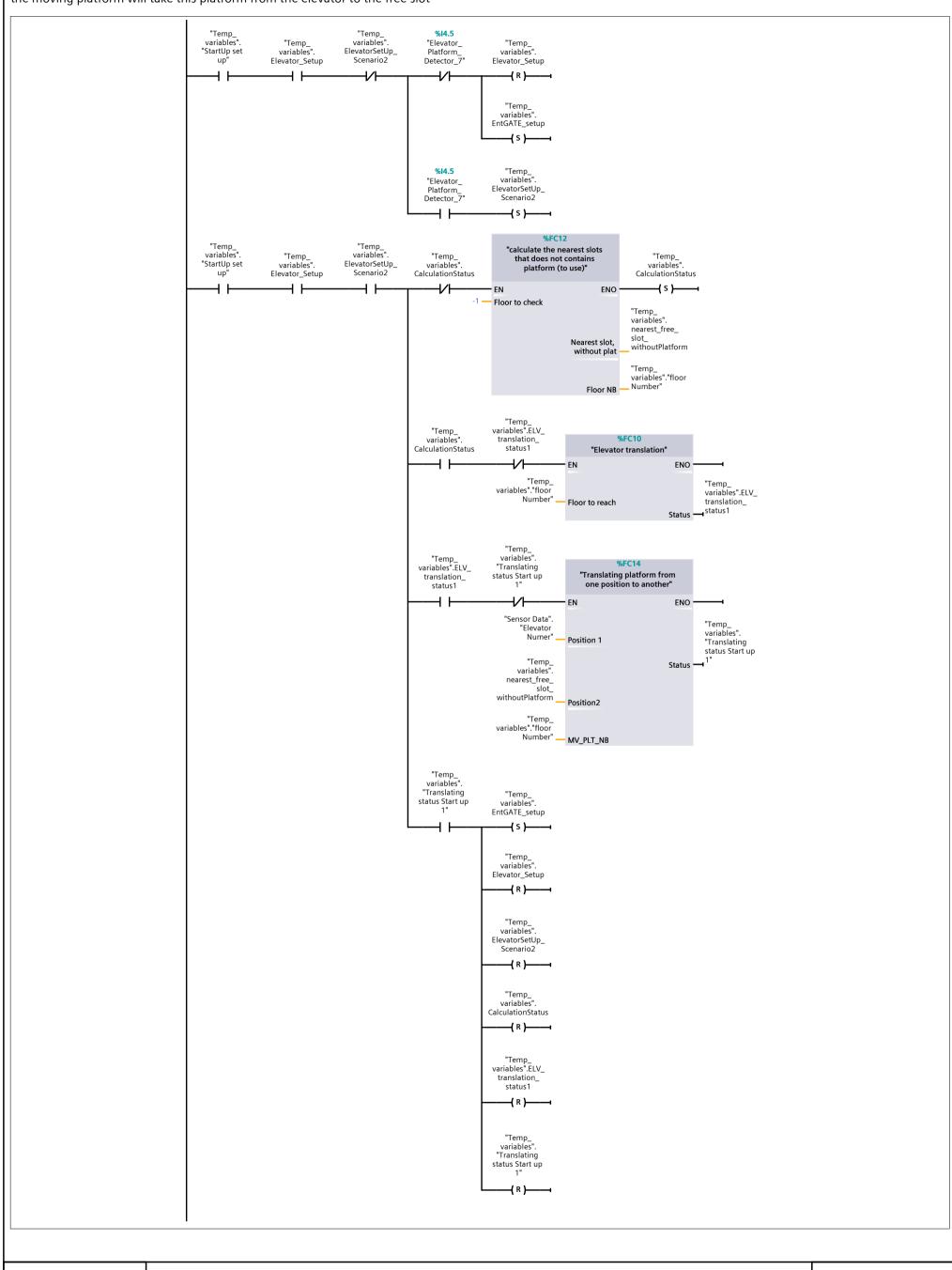
### Network 4: Start up set up (Elevator)

check if there is a platform in the elevator,

if there is one the system will search for the nearest slot that does not cointains a platform

the elevator will go to that floor

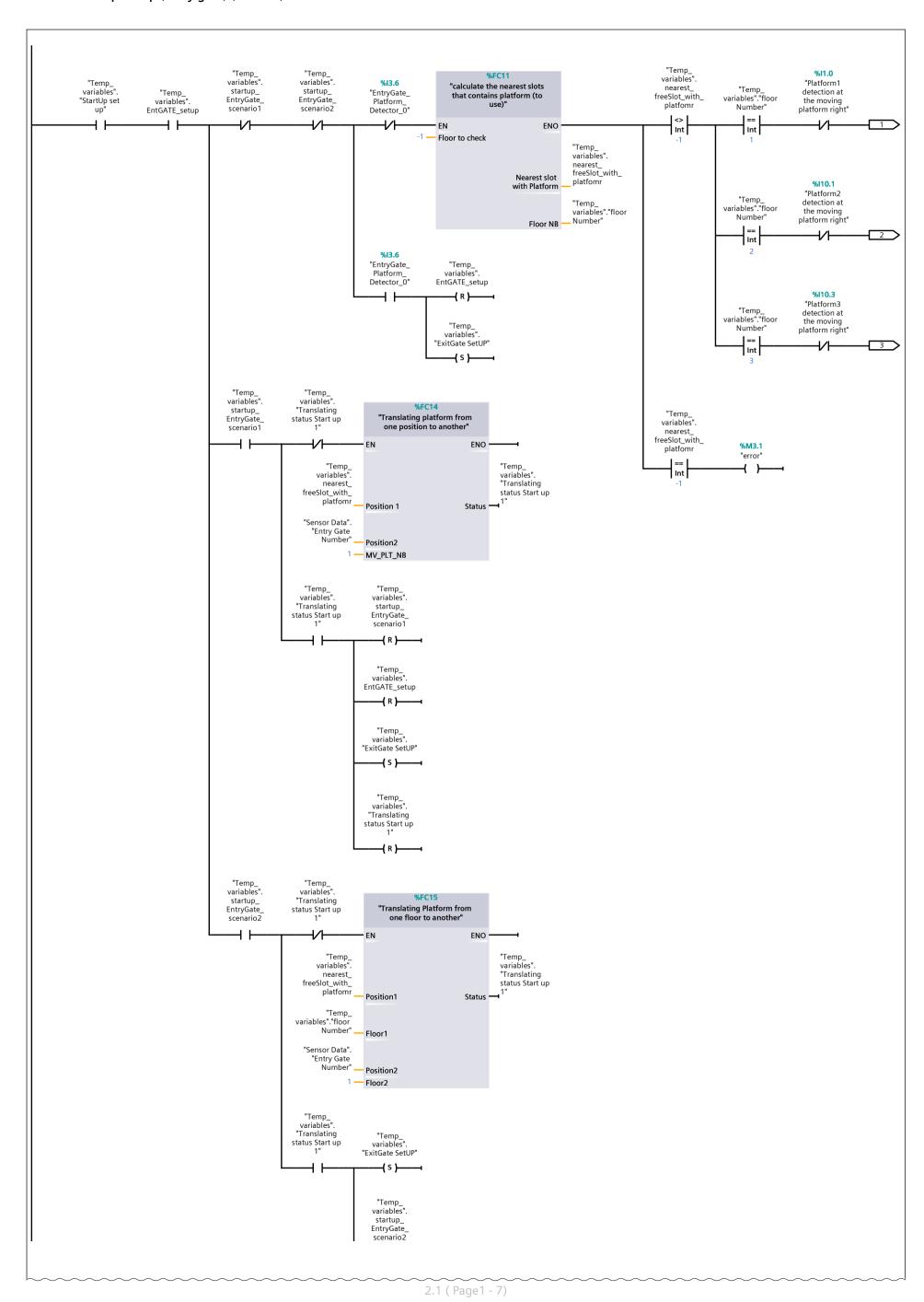
the moving platform will take this platform from the elevator to the free slot



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Network 5: Start up s	set up (Entry gate)							
we want the car platform to be Available at the entry gate , to do so we are going to make sure that the moving platform don't have a car platform we are going to check first the nearest free spot that contains a car platform , if we didn't find any we will get a error								
After finishing from this step we want to make sure that there is no platfomr at the exit gate and if there is one we are going to let it back to it's position								
I								

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#### Network 5: Start up set up (Entry gate) (1.1 / 2.1)



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Network 6: Start up s	set up ( Exit gate)	
the system will check if t if no : start normal opera if yes : check the scenari Scenario 1 : the free slot	here is a platform at the exit gate :	

Totally Integrated **Automation Portal** Network 6: Start up set up (Exit gate) (1.1 / 2.1) "Temp\_ variables". %l1.0 "Platform1 detection at the moving platform right" "Temp\_ variables". "Temp\_ variables". %FC12 "Temp\_ variables". "StartUp set %14.6 "calculate the nearest slots nearest\_free\_ slot\_ "Temp\_ variables"."floor Number" "Temp\_ variables". startup\_ ExitGate\_ startup\_ ExitGate\_ "ExitGate\_ that does not contains platform (to use)" Platform\_ Detector\_8" withoutPlatform scenario1 scenario2 "ExitGate SetUP" == Int ENO \_\_\_\_ EN Int -1 — Floor to check "Temp\_ variables". nearest\_free\_ slot\_ withoutPlatform Nearest slot, %I10.1 "Platform2 detection at without plat "Temp\_ variables"."floor Number" "Temp\_ variables"."floor the moving platform right" Number" Floor NB Int "Temp\_ variables". "Normal **%I4.6** "ExitGate\_ Platform\_ Detector\_8" operation" %I10.3
"Platform3
detection at
the moving
platform right" "Temp\_ variables"."floor Number" "Temp\_ variables". "ExitGate SetUP" **-**3 Int "Temp\_ variables". "StartUp set up" "Temp\_ variables". nearest\_free\_ slot %M3.1 withoutPlatform "error" "Temp\_ variables". startup\_ "Temp\_ variables". "Translating **()** Int %FC14 "Translating platform from one position to another" status Start up 1" ExitGate scenario1 ΕN ENO "Sensor Data". "Exit Gate "Temp\_ variables". "Translating Position 1 status Start up "Temp\_ variables". nearest\_free\_ Status slot\_ withoutPlatform Position2 1 — MV\_PLT\_NB "Temp\_ variables". "Translating status Start up "Temp\_ variables". "Normal operation" "Temp\_ variables". startup\_ ExitGate\_ scenario1 -( R )-"Temp\_ variables" "ExitGate SetUP" -( R )-"Temp\_ variables". "StartUp set -(R)-

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Network 7: Start up s	scenario 2	
1-2- there is no car at th (nearest to the entry gat 3-if the nearest slot is in	eady have a car platform and it's fully attached , we might have three scenarios : e plataform 2- there is a car at this platform but the moving platform will take the same action in the two scenarios , it will te) slot tht does not contain a platform and release the platform inside it. differnet floor (-1) the scenario 2 will be activated : I put the platform in the elevator the required floor this floor will take the platform and put it in the free spot	search for the nearest

Totally Integrated **Automation Portal** Network 7: Start up scenario 2 (1.1 / 3.1) "Temp\_ variables". "calculate the nearest slots that does not contains platform (to use)" startup\_ scenario2 +P+ΕN ENO "Temp\_ variables". "Temp\_ variables".MV\_ PLT\_NB "Temp\_ variables". nearest\_free\_ startup\_ scenario2\_OLD Floor to check Nearest slot, without plat withoutPlatform "Temp\_ variables"."floor \_ Number" Floor NB "Temp\_ variables". "Temp\_ variables". "startup\_ scenario2.1" nearest\_free\_ slot\_ withoutPlatform **-(** s **)**-Int "Temp\_ variables". "startup\_ scenario2.2" -( R )-"Temp\_ variables". nearest\_free\_ "Temp\_ variables". nearest\_free\_ %FC12 "Temp\_ variables". "calculate the nearest slots that does not contains platform (to use)" slot slot "startup\_ scenario2.2" withoutPlatform withoutPlatform <> Int -( s )-Int ENO EN -1 — Floor to check "Temp\_ variables". nearest\_free\_ "Temp\_ variables". "startup\_ scenario2.1" slot\_ Nearest slot, without plat withoutPlatform -( R )-"Temp\_ variables"."floor \_Number" "Temp\_ variables". "Temp\_ variables". "Translating status Start up nearest\_free\_ slot\_ withoutPlatform "Temp\_ variables". "Temp\_ variables". %M3.1 "Translating the platform into the required position" startup\_ scenario2 "startup\_ scenario2.1" "error" Int ΕN ENO · "Temp\_ variables".MV\_ PLT\_NB \_ "Temp\_ variables". Moving platform nb "Translating status Start up Reached Goal "Temp\_ variables". Status nearest\_free\_ slot\_ withoutPlatform

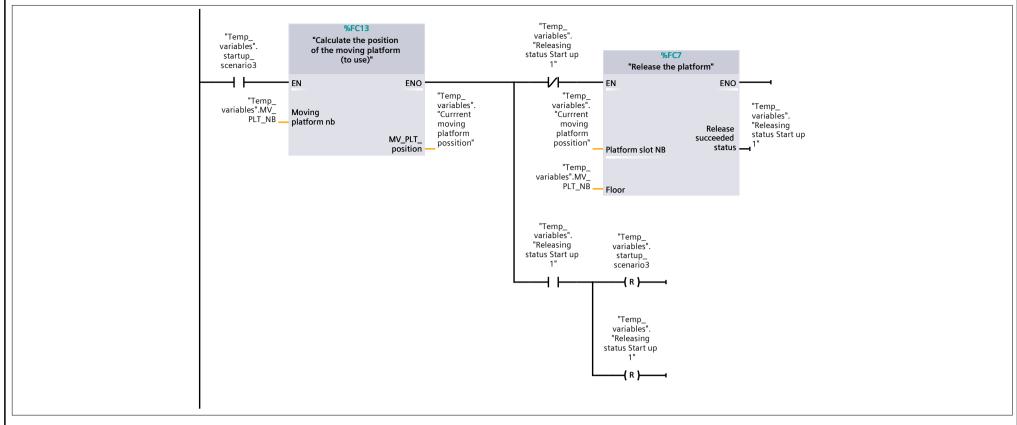
Totally Integrated **Automation Portal** Network 7: Start up scenario 2 (2.1 / 3.1) 1.1 ( Page1 - 12) startup\_ scenario2.2" translation\_ "Elevator translation" status1 ENO "Temp\_ variables".MV\_ PLT\_NB — Floor to reach "Temp\_ variables".ELV\_ translation\_ **⊸**status1 "Temp\_ variables". "Translating status Start up "Temp\_ variables".ELV\_ %FC3 "Translating the platform into the required position" translation\_ ENO "Temp\_ variables".MV\_ "Temp\_ variables". "Translating status Start up Moving platform nb PLT\_NB "Sensor Data". "Elevator Reached Goal Status — 1 Numer" Goal Position "Temp\_ variables". "Translating "Temp\_ variables". "Releasing %FC7 status Start up status Start up "Release the platform" EN. ENO "Sensor Data". "Temp\_ variables". "Releasing "Elevator Platform slot NB "Temp\_ variables".MV\_ PLT\_NB — Floor status Start up succeeded "Temp\_ variables". "Releasing "Temp\_ variables".ELV\_ translation\_ status2 status Start up "Elevator translation" "Temp\_ variables"."floor Number" \_ "Temp\_ variables".ELV\_ translation\_ -\*atus2 Floor to reach status2 Status "Temp\_ variables". "Translating "Temp\_ variables".ELV\_ %FC14 "Translating platform from one position to another" translation\_ status2 status Start up ENO ΕN "Sensor Data". "Elevator "Temp\_ variables". "Translating Numer" Position 1 status Start up "Temp\_ variables". nearest\_free\_ Status slot\_ withoutPlatform Position2 "Temp\_ variables"."floor Number" \_ MV\_PLT\_NB "Temp\_ variables". "Translating "Temp\_ variables". startup\_ scenario2 status Start up -( R )-"Temp\_ variables".ELV\_ translation\_ status1 -( R )-"Temp\_ variables". "Translating -( R )------"Temp\_ variables". "Releasing status Start up 1" **-(** R **)**--"Temp\_ variables".ELV\_ translation\_ status2 **-(** R **)**-"Temp\_ variables". "Translating 3.1 ( Page1 - 14)

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Network 7: Start up scenario 2 (3.1 / 3.1)	2.1 / Deccet 12\	
	2.1 ( Page1 - 13)  status Start up 2"	
	( R )	

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#### Network 8: Start up scenario 3

the moving platform already have a car platform and it's not fully attached: the moving platform will simply release this platform and reset the scenario 3 but not the start up.



### Network 9: entering to the parking phase 1: Request a Ticket and opening the gate

this phase represent when the user want to enter to the parking so

first the system will check if the user pushed the requrest button and there is a car detected at the entry gate

second it will search for the nearest free park that does not contains a platform and give a ID based on this spot.

The ID will be formed of 2 digits the first represents the floor number and the secons represents the car slot (eg: 14: floor 1 slot 4)

third we will open the gate and the gate will close after 10 second after he put his car in the right position Note: when this operation start the next user shall wait until this process and the translating process finish. A LED will be turned on to tell the user when he can push the ticked dispenser button.

Totally Integrated **Automation Portal** Network 9: entering to the parking phase 1: Request a Ticket and opening the gate "Temp\_ %FC12 variables". "Temp\_ variables". "Normal "Temp\_ variables". "EntryGate %10.4 **%I3.6** "calculate the nearest slots that does not contains nearest\_free\_ slot\_ "Temp\_ variables"."exit operation" %10.3 "EntryGate\_ "EntryGate\_ **%I2.5** "EntryGate\_Car\_ Detector\_0" "TicketRequest\_ PB" Platform\_ Detector\_0" carAvailable\_ platform (to use)" withoutPlatform operation" Operation" EN ENO Int %M6.1 Floor to check "TicketRequest\_ PB\_OLD" "Temp\_ variables". nearest\_free\_ slot\_ Nearest slot, withoutPlatform without plat %M8.0 "TicketRequestHM "Temp\_ variables" "floor Floor NB %Q1.2 "entry\_LED"  $\leftarrow$ "Temp\_ "Temp\_ variables". "EntryGate variables" %Q0.2 nearest\_free\_ "Ticket\_ Dispenser' %Q0.0 slot Operation" "EntryGate" withoutPlatform **-(** s **)**-== Int %M6.2 "Ticket\_ Dispenser\_OLD" "Temp\_ variables". "waiting the car to enter" %DB3 "Temp\_ variables". "waiting the "IEC\_Timer\_0\_DB" **%I2.5** "EntryGate\_Car\_ Detector\_0" TON %Q0.0 car to enter" Time "EntryGate" -(R)-Q T#10S — PT ET — T#0ms "Temp\_ variables". "waiting the car to enter **-(** R **)**-"Temp\_ variables". "Translating operation' **-(** s **}**-%Q0.2 CALCULATE "Ticket\_ Int Dispenser'  $\sum 1$ ENC OUT := IN1\*IN3 + IN2"Temp\_ variables". %MW64 "Temp\_ variables"."floor - "Car\_ID" "EntryGate OUT Operation' Number" IN1 **-(** s **)**-"Temp\_ variables". nearest\_free\_ slot\_ withoutPlatform 10 — IN3 🚚 %M3.1 "error Network 10: entering to the parking phase 2: translating operation plus bringing the platform at the entry gate 1- moving platform will go to the entry gate 2- attach the platform 3-translate it to the free slot that does not conains a plafrom (ID) 4- Release the platform 5- the start up set up will be set again to let the moving platform go and bring a platform and attach it to the entry gate 5.1- while doing this the normal operation will be stoped (even if another user is requesting to get a ID he won't get anything if this process is working)

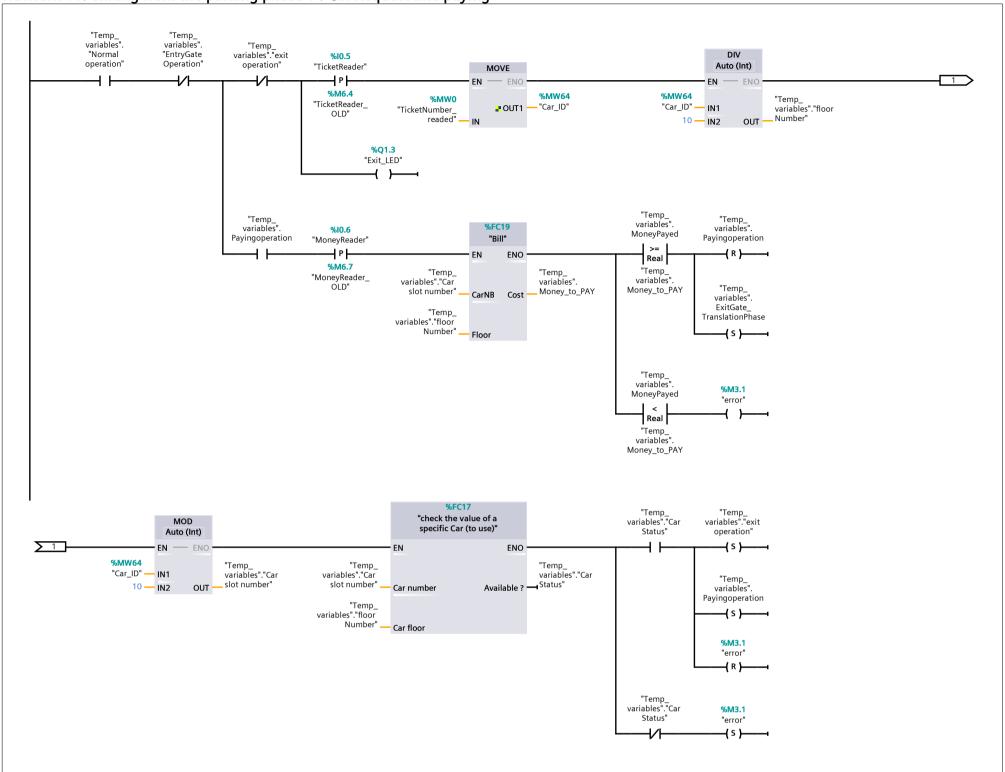
Totally Integrated **Automation Portal** Network 10: entering to the parking phase 2: translating operation plus bringing the platform at the entry gate (1.1 / 2.1) "Temp\_ variables". "Translating "Temp\_ variables". "EntryGate Operation" "Temp\_ variables". "Translating operation" "Temp\_ variables". "Normal "Temp\_ variables"."floor Number" %FC14 "Translating platform from one position to another" status Start up 1" operation" ENO Int "Sensor Data". "Entry Gate Number" \_ "Temp\_ variables". "Translating Position 1 status Start up "Temp\_ variables". nearest\_free\_ Status slot\_ withoutPlatform Position2 "Temp\_ variables"."floor Number" MV\_PLT\_NB "Temp\_ variables". "Translating "Temp\_ variables". status Start up 1" "StartUp set up' "Temp\_ variables". "Translating operation" "Temp\_ variables". "EntryGate Operation" "Temp\_ variables". "Normal operation" "Temp\_ variables". "Translating status Start up 1" "Temp\_ variables". "Translating "Temp\_ variables"."floor Number" "Translating Platform from one floor to another" status Start up 1" <> Int ΕN ENO "Sensor Data". "Entry Gate Number" . Position1

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Network 10: entering t	o the parking phase 2 : translating operation plus bringing the platform at the entry gate (2.1 / 2.1)	
	1.1 ( Page1 - 17)  Statius Stati up  1"	~~~~~
	L( R )	

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#### Network 11: exiting from the parking phase 1: Car Request and paying

Network 11: exiting from the parking phase 1: Car Request and paying



Network 12: exiting from the parking phase 2 : Car Translation and Opening the exit gate

Totally Integrated **Automation Portal** Network 12: exiting from the parking phase 2 : Car Translation and Opening the exit gate (1.1 / 2.1) "Temp\_ variables". "Translating "Temp\_ variables". ExitGate\_ TranslationPhase "Temp\_ variables". "Normal "Temp\_ variables"."floor %FC14 "Temp\_ variables"."exit "Translating platform from one position to another" status Start up 1" Number' operation" operation" ENO Int "Temp\_ variables"."Car "Temp\_ variables". "Translating slot number" Position 1 status Start up "Sensor Data". Status "Exit Gate Number" Position2 "Temp\_ variables"."floor Number" \_\_ MV\_PLT\_NB "Temp\_ variables". "Translating status Start up "Temp\_ variables". "Opening Exit gate" "Temp\_ variables". ExitGate\_ TranslationPhase -(R)-"Temp\_ variables". "Translating status Start up "Temp\_ variables". "Translating "Temp\_ variables"."floor %FC15 "Translating Platform from one floor to another" status Start up 1" Number' <> Int ENO "Temp\_ variables"."Car slot number" "Temp\_ variables". "Translating Position1 status Start up "Temp\_ variables"."floor Status Number" Floor1 "Sensor Data". "Exit Gate Number" \_ Position2 Floor2 "Temp\_ variables". "Translating status Start up "Temp\_ variables". "Opening Exit gate"

> "Temp\_ variables". ExitGate\_

TranslationPhase

"Temp\_ variables". "Translating

status Start up 1"

%DB4 "IEC\_Timer\_0\_ DB\_1"

TON

Time

2.1 ( Page1 - 21)

ET — T#0ms

%Q0.1

"ExitGate"

"Temp\_ variables". "waiting the car to exit"

—( R )—

"Temp\_ variables". "Opening Exit gate"

"Temp\_ variables"."exit operation"

"Temp\_ variables"

"Opening Exit gate" "Temp\_ variables"

"Opening Exit gate"

"Temp\_ variables". "Opening Exit gate OLD"

"Temp\_ variables". "waiting the

car to exit"

%Q0.1

"ExitGate"

"Temp\_ variables".

"waiting the car to exit"

**%I3.5**"ExitGate\_Car\_
Detector\_8"

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Network 12: exiting from	 om the parking phase 2 : Car Translation and Opening the exit gate (2.1 / 2.1)	
	m the parking phase 2 : Car Translation and Opening the exit gate (2.1/2.1)  1.1. Page 120)  (1.1. Page 120)  (1.1. Page 120)  (1.1. Page 120)	

## Sensor Data [DB1]

Sensor Data Properties								
General								
Name	Name Sensor Data Number 1 Type DB Language DB							
Numbering	Automatic							
Information								
Title		Author		Comment		Family		
Version	0.1	User-defined ID						

Name	Data type	Start value	Retain
<b>▼</b> Static			
ParkingSlot_Car_Detector 1	Array[08] of Bool		False
ParkingSlot_Car_Detector 2	Array[08] of Bool		False
ParkingSlot_Car_Detector 3	Array[08] of Bool		False
ParkingSlot_Car_Detector_OLD1	Array[08] of Bool		False
ParkingSlot_Car_Detector_OLD2	Array[08] of Bool		False
ParkingSlot_Car_Detector_OLD3	Array[08] of Bool		False
ParkingSlop_Platform_Detector 1	Array[08] of Bool		False
ParkingSlop_Platform_Detector 2	Array[08] of Bool		False
ParkingSlop_Platform_Detector 3	Array[08] of Bool		False
Platform 1 LevelSensor	Array[08] of Bool		False
Platform 2 LevelSensor	Array[08] of Bool		False
Platform 3 LevelSensor	Array[08] of Bool		False
Entry Gate Number	Int	0	False
Elevator Numer	Int	7	False
Exit Gate Number	Int	8	False

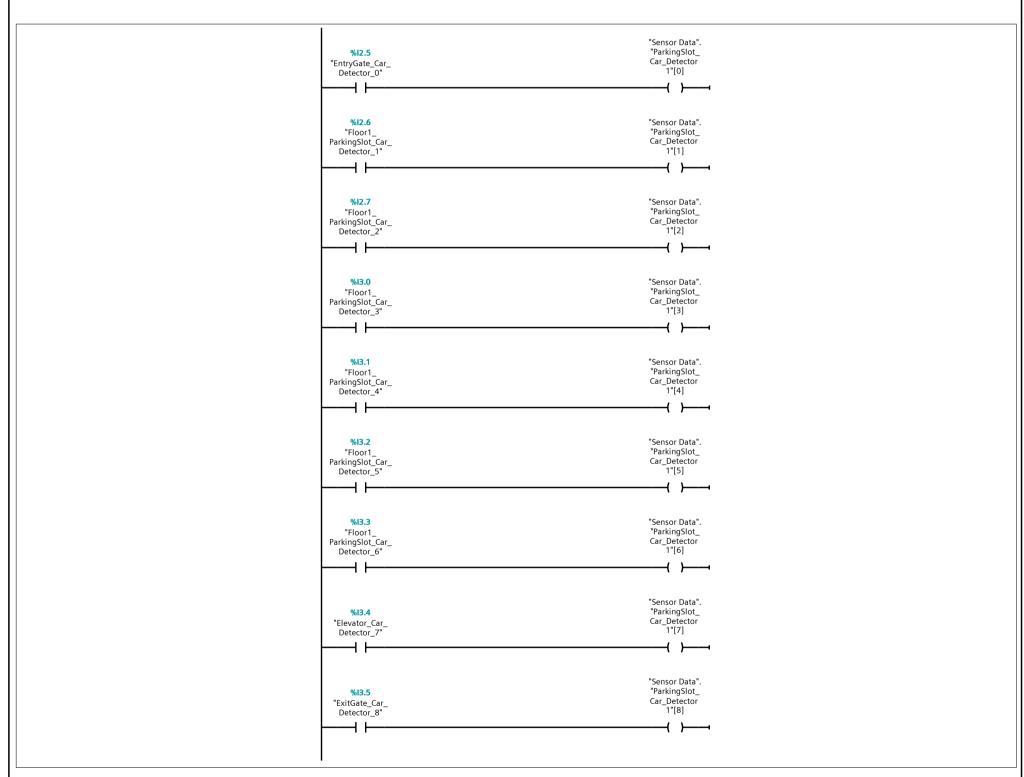
|--|

### Saving Sensing values to arrays [FC1]

une to arrave Proportios						
ues to arrays Properties						
ving Sensing values to ar-	Number	1	Type	FC	Language	LAD
ys						
ıtomatic						
	Author		Comment		Family	
1	User-defined ID					
ys it	somatic		omatic Author	comatic Author Comment	comatic  Author  Comment	comatic  Author  Comment Family

Name	Data type	Default value	
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Saving Sensing values to arrays	Void		

Network 1: Saving values from the Car detection sensors floor1 into arrays



Network 2: Saving values from the Car detection sensors floor1 into arrays

Totally Integrated **Automation Portal** "Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[1] %15.4 "Floor2\_ ParkingSlot\_Car\_ Detector\_1" **-( )**-"Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[2] %15.5 "Floor2\_ ParkingSlot\_Car\_ Detector\_2" **-( )**-"Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[3] **%I5.6** "Floor2\_ ParkingSlot\_Car\_ Detector\_3" "Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[4] %15.7 "Floor2\_ ParkingSlot\_Car\_ Detector\_4" "Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[5] %16.0 "Floor2\_ ParkingSlot\_Car\_ Detector\_5" **⊣** ⊢ "Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[6] **%I6.1** "Floor2\_ ParkingSlot\_Car\_ Detector\_6" **⊣** ⊢ "Sensor Data".
"ParkingSlot\_
Car\_Detector
2"[7] **%I3.4** "Elevator\_Car\_ Detector\_7" 

Network 3: Saving values from the Car detection sensors floor1 into arrays

```
"Sensor Data".
"ParkingSlot_
Car_Detector
3"[1]
           %I7.0
"Floor3_
ParkingSlot_Car_
Detector_1"
                                                                                                                                                                                             %I7.1
"Floor3_
ParkingSlot_Car_
Detector_2"
                                                                                                                                                                                   "Sensor Data".
"ParkingSlot_
Car_Detector
3"[2]
                                                                                                                                                                                             %I7.2
"Floor3_
ParkingSlot_Car_
Detector_3"
                                                                                                                                                                                   "Sensor Data".
"ParkingSlot_
Car_Detector
3"[3]
                                                                                                                                                                                             "Sensor Data".
"ParkingSlot_
Car_Detector
3"[4]
           %17.3
"Floor3_
ParkingSlot_Car_
Detector_4"
                                                                                                                                                                                             %17.4
"Floor3_
ParkingSlot_Car_
Detector_5"
                                                                                                                                                                                   "Sensor Data".
"ParkingSlot_
Car_Detector
3"[5]
                                                                                                                                                                                             %I7.5
"Floor3_
ParkingSlot_Car_
Detector_6"
                                                                                                                                                                                    "Sensor Data".
                                                                                                                                                                                   "ParkingSlot_
Car_Detector
3"[6]
  %I3.4
"Elevator_Car_
Detector_7"
                                                                                                                                                                                    "ParkingSlot_
Car_Detector
3"[7]
```

Network 4: Saving values from the Platform detection sensors floor 1 into arrays

Network 5: Saving values from the Platform detection sensors floor 2 into arrays

```
"Sensor Data".
"ParkingSlop_
Platform_
Detector 2"[1]
           %16.2
"Floor2_
ParkingPlatform_
Detector_1"
                                                                                                                                                                   ⊣ ⊢
%l6.3
"Floor2_
ParkingPlatform_
Detector_2"
                                                                                                                                                          "Sensor Data".
"ParkingSlop_
Platform_
Detector 2"[2]
                                                                                                                                                                    ⊣ }
%16.4
"Floor2_
ParkingPlatform_
Detector_3"
                                                                                                                                                          "Sensor Data".
"ParkingSlop_
Platform_
Detector 2"[3]
                                                                                                                                                                   \prec \succ
           %I6.5
                                                                                                                                                            "Sensor Data".
                                                                                                                                                           "ParkingSlop_
Platform_
Detector 2"[4]
"Floor2_
ParkingPlatform_
                                                                                                                                                                   →
%l6.6
"Floor2_
ParkingPlatform_
Detector_5"
                                                                                                                                                           "Sensor Data".
                                                                                                                                                          "ParkingSlop_
Platform_
Detector 2"[5]
                                                                                                                                                                   %I6.7
"Floor2_
ParkingPlatform_
                                                                                                                                                           "Sensor Data".
                                                                                                                                                           "ParkingSlop_
Platform_
Detector 2"[6]
   Detector_6"
           \dashv \vdash
                                                                                                                                                                   "Sensor Data".
"ParkingSlop_
Platform_
Detector 2"[7]
          %I4.5
    "Elevator_
Platform_
Detector_7"
            -| |-
```

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#### Network 6: Saving values from the Platform detection sensors floor 3 into arrays

```
"Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[1]
           %I7.6
"Floor3_
ParkingPlatform_
Detector_1"
                                                                                                                                                                                 "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[2]
           %I7.7
"Floor3_
ParkingPlatform_
Detector_2"
                                                                                                                                                                                  →
                                                                                                                                                                         "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[3]
          %I10.4
"Floor3_
ParkingPlatform_
Detector_3"
                                                                                                                                                                                 <del>-( )----</del>
                                                                                                                                                                         "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[4]
          %I10.5
"Floor3_
ParkingPlatform_
Detector_4"
                                                                                                                                                                                  →
%I10.6
"Floor3_
ParkingPlatform_
Detector_5"
                                                                                                                                                                         "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[5]
                                                                                                                                                                                  "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[6]
          %I10.7
"Floor3_
ParkingPlatform_
Detector_6"
                                                                                                                                                                                  ⊣ ⊢
    %I4.5
"Elevator_
Platform_
Detector_7"
                                                                                                                                                                         "Sensor Data".
"ParkingSlop_
Platform_
Detector 3"[7]
```

Network 7: Saving values from the Platform level sensors in floor 1 into arrays

Totally Integrated **Automation Portal** %I1.2 "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_0\_ Entrygate" "Sensor Data". "Platform 1 LevelSensor"[0] %I1.3 "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_1" "Sensor Data". "Platform 1 LevelSensor"[1] %I1.4 "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_2" "Sensor Data". "Platform 1 LevelSensor"[2] %I1.5 "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_3" "Sensor Data". "Platform 1 LevelSensor"[3]  $\prec$   $\succ$ **%I2.0** "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_4" "Sensor Data". "Platform 1 LevelSensor"[4] **%I2.1**"Floor1\_
Platform\_
LevelSensor\_
ParkingSlot\_5" "Sensor Data". "Platform 1 LevelSensor"[5] %I2.2 "Floor1\_ Platform\_ LevelSensor\_ ParkingSlot\_6" "Sensor Data". "Platform 1 LevelSensor"[6]  $\leftarrow$ %I2.3

"Floor1\_
Platform\_
LevelSensor\_
ParkingSlot\_7\_
elevator" "Sensor Data". "Platform 1 LevelSensor"[7] %I2.4

"Floor1\_
Platform\_
LevelSensor\_
ParkingSlot\_8\_
exitGate" "Sensor Data". "Platform 1 LevelSensor"[8] Network 8: Saving values from the Platform level sensors in floor 2 into arrays

Totally Integrated **Automation Portal %l8.0**"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_1" "Sensor Data". "Platform 2 LevelSensor"[1] **%I8.1**"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_2" "Sensor Data". "Platform 2 LevelSensor"[2]  $\leftarrow$ %18.2 "Floor2\_ Platform\_ LevelSensor\_ ParkingSlot\_3" "Sensor Data". "Platform 2 LevelSensor"[3] **%l8.3**"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_4" "Sensor Data". "Platform 2 LevelSensor"[4] **%I8.4**"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_5" "Sensor Data". "Platform 2 LevelSensor"[5] **%18.5**"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_6" "Sensor Data". "Platform 2 LevelSensor"[6] %I8.6

"Floor2\_
Platform\_
LevelSensor\_
ParkingSlot\_7\_
elevator" "Sensor Data". "Platform 2 LevelSensor"[7] Network 9: Saving values from the Platform level sensors in floor 3 into arrays

Totally Integrated **Automation Portal %l9.0**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_1" "Sensor Data". "Platform 3 LevelSensor"[1] **%I9.1**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_2" "Sensor Data". "Platform 3 LevelSensor"[2]  $\leftarrow$ **%l9.2**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_3" "Sensor Data". "Platform 3 LevelSensor"[3] **%l9.3**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_4" "Sensor Data". "Platform 3 LevelSensor"[4] **%19.4**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_5" "Sensor Data". "Platform 3 LevelSensor"[5] **%19.5**"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_6" "Sensor Data". "Platform 3 LevelSensor"[6] %I9.6

"Floor3\_
Platform\_
LevelSensor\_
ParkingSlot\_7\_
elevator" "Sensor Data". "Platform 3 LevelSensor"[7] 

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#### calculate the nearest slots that contains platform [FC2]

calculate the ne	earest slots that contains pla	tform Properties					
General							
Name	calculate the nearest slots that contains platform	Number	2	Туре	FC	Language	SCL
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	
▼ Input	-		
Search_Specific_Floor	Int		
parking_car_detector floor1	Array[08] of Bool		
ParkingSlop_Platform_Detector floor1	Array[08] of Bool		
parking_car_detector floor2	Array[08] of Bool		
ParkingSlop_Platform_Detector floor2	Array[08] of Bool		
parking_car_detector floor3	Array[08] of Bool		
ParkingSlop_Platform_Detector floor3	Array[08] of Bool		
▼ Output			
nearest free slot with platform	Int		
Floor NB	Int		
InOut			
▼ Temp			
col	Int		
found	Bool		
Constant			
▼ Return			
calculate the nearest slots that contains platform	Void		

```
0001 // Initialize counters
0002 #"nearest free slot with platform" := -1;
0003 #"Floor NB" := -1;
0004
0005 // Flag to prevent overwriting
0006 #found := FALSE;
0007
0008 CASE #"Search_Specific_Floor" OF
0009
      1:
0010
         FOR #col := 1 TO 6 DO
0011
           IF #"parking_car_detector floor1"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor1"[#col] = TRUE THEN
0012
             #"nearest free slot with platform" := #col;
0013
             #"Floor NB" := 1;
0014
             #found := TRUE; // Mark that we found a slot
0015
             EXIT;
0016
           END IF;
         END_FOR;
0017
0018
0019
0020
         FOR #col := 1 TO 6 DO
0021
           IF #"parking_car_detector floor2"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor2"[#col] = TRUE THEN
0022
             #"nearest free slot with platform" := #col;
0023
             #"Floor NB" := 2;
0024
             #found := TRUE;
0025
             EXIT;
0026
           END_IF;
0027
         END_FOR;
0028
0029
0030
        FOR #col := 1 TO 6 DO
0031
           IF #"parking_car_detector floor3"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor3"[#col] = TRUE THEN
0032
             #"nearest free slot with platform" := #col;
0033
             #"Floor NB" := 3;
0034
             #found := TRUE;
0035
             EXIT;
0036
           END IF;
0037
         END FOR;
0038
0039
      ELSE
0040
        FOR #col := 1 TO 6 DO
0041
          IF #"parking_car_detector floor1"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor1"[#col] = TRUE THEN
0042
             #"nearest free slot with platform" := #col;
0043
             #"Floor NB" := 1;
0044
             #found := TRUE; // Mark that we found a slot
0045
          END IF;
0046
0047
         END FOR;
0048
0049
         // Loop through Floor 2 (Only if no slot was found before)
0050
         IF NOT #found THEN
0051
           FOR #col := 1 TO 6 DO
```

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```
0052
             IF #"parking_car_detector floor2"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor2"[#col] = TRUE THEN
0053
               #"nearest free slot with platform" := #col;
0054
               #"Floor NB" := 2;
0055
               #found := TRUE;
0056
              EXIT;
0057
            END_IF;
0058
         END_FOR;
0059
        END_IF;
0060
0061
        // Loop through Floor 3 (Only if no slot was found before)
0062
        IF NOT #found THEN
0063
          FOR #col := 1 TO 6 DO
            IF #"parking_car_detector floor3"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor3"[#col] = TRUE THEN
0064
0065
               #"nearest free slot with platform" := #col;
0066
               #"Floor NB" := 3;
              #found := TRUE;
0067
0068
              EXIT;
0069
            END IF;
0070
          END FOR;
        END_IF;
0071
0072
0073 END CASE;
0074
0075
```

|--|

## Translating the platform into the required position [FC3]

Translating the	e platform into the required po	osition Properties					
General							
Name	Translating the platform into the required position	Number	3	Туре	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

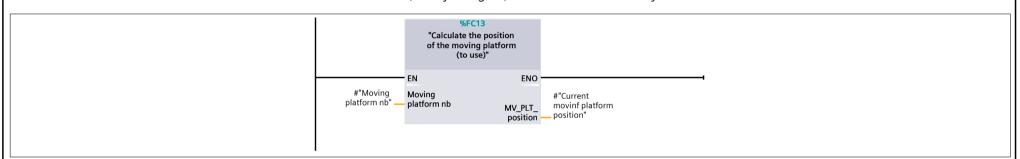
Name	Data type	Default value	
▼ Input			
Moving platform nb	Int		
Goal Position	Int		
▼ Output			
Reached Goal Status	Bool		
InOut			
<b>▼</b> Temp			
Current movinf platform position	Int		
Up or Down Direction	Int		
Constant			
▼ Return			
Translating the platform into the required position	Void		

#### Network 1: Set which moving platform we want to use

Note: the floor 2 and 3 contain only 7 (1-7) position sensors

but the floor 1 contains 9 (0-8)

But the same function will be used for both. the level sensor nb 0-8 (entery exit gate)in the floor 1-2 will always be 0



#### Network 2: Checking the moving platform position

if we can't read the position of the moving platform and the platform is not moving we are going simply to make the moving platform go forword until one of the Level sensors detect the platform.

```
%Q0.4
   #"Current
                             %Q0.3
movinf platform position"
                                                                         #"Moving
platform nb'
                                                   Motor_
Backword"
                                                                                               "Platform1_
Motor_forword"
                          "Platform1_
                       Motor_forword"
                                                                             ==
Int
     ==
Int
                                                                                                     %Q2.0
                                                                         #"Moving
platform nb'
                                                                                                 "Platform2_
                                                                                               Motor_forword"
                                                                              Int
                                                                                                     %Q3.0
                                                                          #"Moving
platform nb'
                                                                                                 "Platform3_
                                                                                               Motor_forword"
                                                                                                     -( s )-
                                                                              Int
```

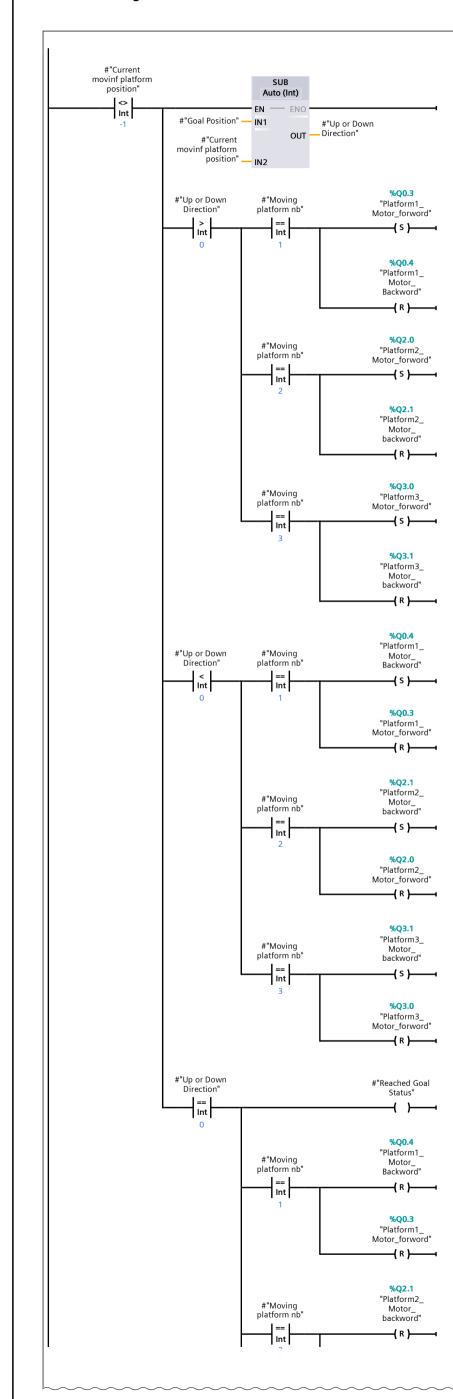
### **Network 3: Moving Platform direction detection**

we will substract the goal position from the current position if the value is + that's mean i shall move upword and if - downword.

if the #"Current movinf platform position" equal to -1 this netwoek won't run to avoid erros.

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Network 3: Moving Platform direction detection (1.1 / 2.1)



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	tform direction detection (2.1 / 2.1)	
Automation Portal	form direction detection (2.1/2.1)  1.1 ( Pages - 2)  1.2 ( Pages - 2)  1.3 ( Pages - 2)  1.4 ( Pages - 2)  1.5 ( Pages - 2)  1.6 ( Pages - 2)  1.7 ( Pages - 2)  1.8 ( Pages - 2)  1.9 ( Pages - 2)  1.1 ( Pages - 2)  1.2 ( Pages - 2)  1.3 ( Pages - 2)  1.3 ( Pages - 2)  1.4 ( Pages - 2)  1.5 ( Pages - 2)  1.6 ( Pages - 2)  1.7 ( Pages - 2)  1.8 ( Pages - 2)  1.9 ( Pages - 2)  1.1 ( Pages - 2)  1.2 ( Pages - 2)  1.3 ( Pages - 2)  1.3 ( Pages - 2)  1.4 ( Pages - 2)  1.5 ( Pages - 2)  1.5 ( Pages - 2)  1.6 ( Pages - 2)  1.7 ( Pages - 2)  1.7 ( Pages - 2)  1.8 ( Pages	

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## Calculate the position of the Moving platform [FC5]

Calculate the position of the Moving platform Properties							
General							
Name	Calculate the position of the Moving platform	Number	5	Туре	FC	Language	SCL
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	
▼ Input			
Platform level	Array[08] of Bool		
▼ Output			
Current_Position	Int		
InOut			
<b>▼</b> Temp			
col	Int		
Constant			
▼ Return			
Calculate the position of the Moving platform	Void		

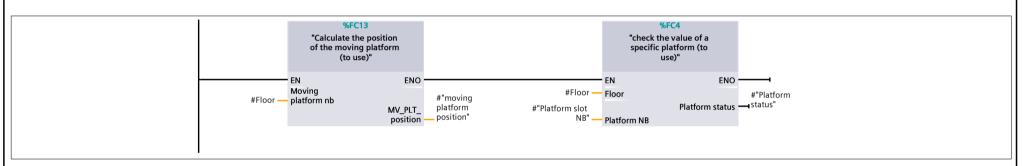
|--|

## Attach the platform [FC6]

Attach the platform Properties							
General							
Name	Attach the platform	Number	6	Туре	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	
▼ Input			
Platform slot NB	Int		
Floor	Int		
▼ Output			
Attach succeeded status	Bool		
InOut			
<b>▼</b> Temp			
moving platform position	Int		
Start Attaching	Bool		
Attach succeeded	Bool		
Platform status	Bool		
Constant			
▼ Return			
Attach the platform	Void		

#### Network 1: check the position of the moving platform and the status of the platform



### Network 2: Moving platform is in the right position

Making sure thathe moving platform is in the right position

```
#"moving
platform
position"

== | #"Start Attaching"

| Int | #"Platform slot
NB"
```

## **Network 3: Stop Attach proces**

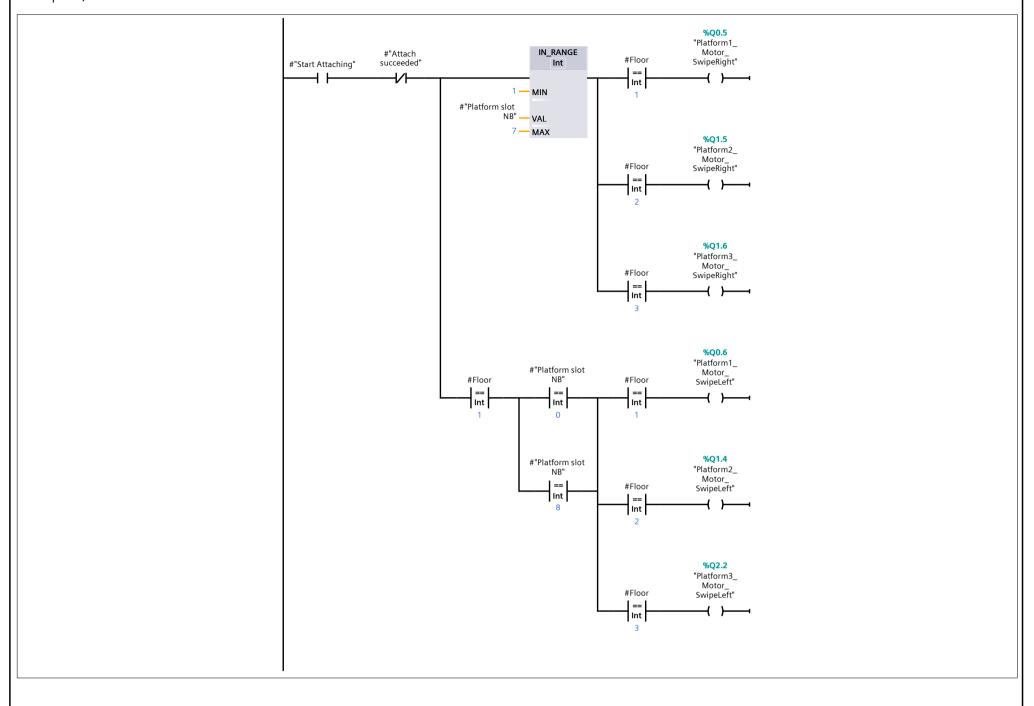
if the two sensors at the moving platform are high (the fix platform is available at the movable platform) and the Platform status is low we will stop the attaching process and give a result the the process has finished

```
"Platform1
detection at
                                                                                        "Platform1
detection at
                                                                                       the moving
platform left"
                                                        the moving platform right"
                                #Floor
                                                                                                                       succeeded'
status"
                                ==
Int
                                                                                                                         #"Attach
                                                                                                                        succeeded
                                                                                                                           status"
                                                              %I10.1
                                                                                            %I10.0
                                                                                                                             ~ }
                                                         "Platform2
detection at
                                                                                        "Platform2
detection at
                                                        the moving
platform right"
                                                                                       the moving
platform left"
                                #Floor
                                 ==
Int
                                                         %I10.3
"Platform3
detection at
                                                                                         "Platform3
detection at
                                                        the moving platform right"
                                                                                       the moving platform left"
                                #Floor
                                 Int
```

#### Network 4: choosing the direction of swiping

The sweeping direction is based on the geometry of the parking area and changes when moving from the right side to the left side. On the right side, sweeping is done using the right motor (slots 1–3). On the left side, the same motor sweeps in the opposite direction (slots 4–7).

Slot 0 represents the entry gate, and slot 8 is the exit gate. These two slots operate in the opposite direction compared to slots 1–7, so we use the other motor, called "sweep left," for them.



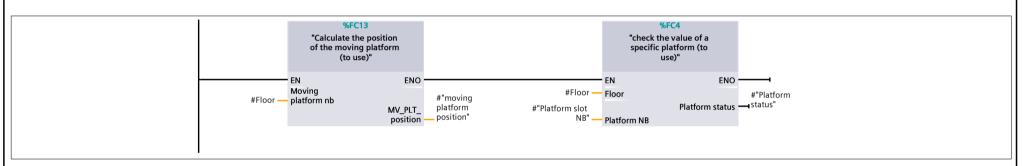
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### Release the platform [FC7]

Release the platform Properties								
General								
Name	Release the platform	Number	7	Type	FC	Language	LAD	
Numbering	Automatic							
Information								
Title		Author		Comment		Family		
Version	0.1	User-defined ID						

lame	Data type	Default value
<b>▼</b> Input		
Platform slot NB	Int	
Floor	Int	
▼ Output		
Release succeeded status	Bool	
InOut		
<b>▼</b> Temp		
moving platform position	Int	
Start Releasing	Bool	
Releasing succeeded	Bool	
Platform status	Bool	
Constant		
▼ Return		
Release the platform	Void	

#### Network 1: check the position of the moving platform and the status of the platform



### Network 2: Moving platform is in the right position

Making sure thathe moving platform is in the right position

```
#"moving
platform
position"

==
Int
#"Start
Releasing"

#"Platform slot
NB"
```

### Network 3: Stop releasing process

if the two sensors at the moving platform are Low (the fix platform is not available at the movable platform) and the Platform status is higj we will stop the releasing process and give a result the the process has finished

```
"Platform1
detection at
                                                                                        "Platform1
detection at
                                                        the moving
platform right"
                                                                                       the moving platform left"
                               #Floor
                                                                                                                       succeeded'
status"
                                ==
Int
                                                                                                                        #"Release
                                                                                                                        succeeded
                                                                                                                           status"
                                                              %I10.1
                                                                                            %I10.0
                                                                                                                             ~ }
                                                         "Platform2
detection at
                                                                                        "Platform2
detection at
                                                        the moving platform right"
                                                                                       the moving
platform left"
                               #Floor
                                 ==
Int
                                                         %I10.3
"Platform3
detection at
                                                                                        "Platform3
detection at
                                                        the moving platform right"
                                                                                       the moving platform left"
                               #Floor
                                 Int
```

### Network 4: choosing the direction of swiping

The releasing algorithium is the same as the attach but the only differnt that we have cahnged the motor swipe right ---> motor swipe left and vise versa

```
%Q0.6
"Platform1_
Motor_
SwipeLeft"
                                                                                      IN_RANGE
Int
#"Start
Releasing"
                           #"Releasing
succeeded"
                                                                                                                      #Floor
                                                                                                                       ==
Int
                                                                             1 — MIN
                                                         #"Platform slot
NB" —
                                                                                    VAL
                                                                             7 — MAX
                                                                                                                                                %Q1.4
"Platform2_
Motor_
SwipeLeft"
                                                                                                                      #Floor
                                                                                                                       ==
Int
                                                                                                                                                     ⊣ ⊢
                                                                                                                                                %Q2.2
"Platform3_
Motor_
SwipeLeft"
                                                                                                                      #Floor
                                                                                                                      | == |
Int |
                                                                                                                                                    %Q0.5
"Platform1_
Motor_
SwipeRight"
                                                                                    #"Platform slot
NB"
                                                             #Floor
                                                                                                                       #Floor
                                                                                           ==
Int
                                                              ==
Int
                                                                                                                       ==
Int
                                                                                                                                               %Q1.5
"Platform2_
Motor_
SwipeRight"
                                                                                    #"Platform slot
NB"
                                                                                         | == |
|Int |
                                                                                                                      #Floor
                                                                                                                       ==
Int
                                                                                                                                                    %Q1.6
"Platform3_
Motor_
SwipeRight"
                                                                                                                      #Floor
                                                                                                                      == |
Int |
```

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# Temp\_variables [DB2]

		General								
p_variables	Number	2	Туре	DB	Language	DB				
omatic										
A	Author		Comment		Family					
U	Jser-defined ID									
÷	matic A		matic Author	Matic Author Comment	Matic Comment	Matic Comment Family				

rsion	0.1	User-defined ID		
me		Data type	Start value	Retain
Static		,,		
nearest	t_freeSlot_with_platfomr	Int	-1	False
	t_free_slot_withoutPlatform	Int	-1	False
	nt moving platform possition	Int	-1	False
floor N		Int	0	False
MV_PL	T NB	Int	0	False
	t number	Int	0	False
Money	_to_PAY	Real	0.0	False
Moneyl		Real	0.0	False
Car Sta	-	Bool	false	False
StartUp	set up	Bool	false	False
	set up_OLD	Bool	false	False
Normal	l operation	Bool	false	False
exit ope	eration	Bool	false	False
startup	_EntryGate_scenario1	Bool	false	False
	_scenario2	Bool	false	False
	scenario2_OLD	Bool	false	False
	_scenario3	Bool	false	False
	g the car to enter	Bool	false	False
	g the car to enter OD	Bool	false	False
	ating operation	Bool	false	False
	ng Exit gate	Bool	false	False
	g the car to exit	Bool	false	False
	ng Exit gate OLD	Bool	false	False
EntryGa	ate Operation	Bool	false	False
ExitGat	te SetUP	Bool	false	False
startup	_ExitGate_scenario1	Bool	false	False
checkS	cenarios	Int	0	False
countU	JP	Bool	false	False
RESETC	count	Bool	false	False
MV_PL	T_setup	Bool	false	False
Elevato	or_Setup	Bool	false	False
EntGAT	ΓE_setup	Bool	false	False
startup	_scenario2.1	Bool	false	False
startup	_scenario2.2	Bool	false	False
StartUp	SetValues	Bool	false	False
Calcula	tionStatus	Bool	false	False
startup	_EntryGate_scenario2	Bool	false	False
startup	_ExitGate_scenario2	Bool	false	False
countU	JPOLD	Bool	false	False
Startup	oValues2	Bool	false	False
Elevato	orSetUp_Scenario2	Bool	false	False
Payingo	operation	Bool	false	False
ExitGat	te_TranslationPhase	Bool	false	False
Transla	iting status Start up 1	Bool	false	False
	ing status Start up 1	Bool	false	False
	iting status Start up 2	Bool	false	False
	ng status Start up 1	Bool	false	False
	anslation_status1	Bool	false	False
	anslation_status2	Bool	false	False
TR_1		Bool	false	False
TR_2		Bool	false	False
TR_3		Bool	false	False
RL_1		Bool	false	False
RL_2		Bool	false	False
AT_1		Bool	false	False
AT_2		Bool	false	False
ELVTR_		Bool	false	False
ELVTR_	_2	Bool	false	False
TRR1		Bool	false	False
TRR2		Bool	false	False
ELVTRR		Bool	false	False
ELVTRR	R2	Bool	false	False

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### calculate the nearest slots that does not contains platform [FC8]

calculate the nearest slots that does not contains platform Properties									
General									
Name	calculate the nearest slots that does not contains plat- form	Number	8	Туре	FC	Language	SCL		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID				-			
Nama			Data tur	_	Defaultivalue				

Name	Data type	Default value
▼ Input		
Search_Specific_Floor	Int	
parking_car_detector floor1	Array[08] of Bool	
ParkingSlop_Platform_Detector floor1	Array[08] of Bool	
parking_car_detector floor2	Array[08] of Bool	
ParkingSlop_Platform_Detector floor2	Array[08] of Bool	
parking_car_detector floor3	Array[08] of Bool	
ParkingSlop_Platform_Detector floor3	Array[08] of Bool	
▼ Output		
nearest free slot with platform	Int	
Floor NB	Int	
InOut		
<b>▼</b> Temp		
col	Int	
found	Bool	
Constant		
▼ Return		
calculate the nearest slots that does not contains platform	Void	

```
0001 // Initialize counters
0002 #"nearest free slot with platform" := -1;
0003 #"Floor NB" := -1;
0004
0005 // Flag to prevent overwriting
0006 #found := FALSE;
0007
0008 CASE #"Search_Specific_Floor" OF
0009
0010
        FOR #col := 1 TO 6 DO
0011
           IF #"parking_car_detector floor1"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor1"[#col] = FALSE THEN
0012
             #"nearest free slot with platform" := #col;
0013
             #"Floor NB" := 1;
0014
            #found := TRUE; // Mark that we found a slot
0015
             EXIT;
          END IF;
0016
0017
        END_FOR;
0018
0019
      2:
0020
       FOR #col := 1 TO 6 DO
          IF #"parking_car_detector floor2"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor2"[#col] = FALSE THEN
0021
0022
             #"nearest free slot with platform" := #col;
0023
             #"Floor NB" := 2;
            #found := TRUE;
0024
0025
             EXIT;
0026
          END IF;
0027
         END_FOR;
0028
0029
       3:
0030
        FOR #col := 1 TO 6 DO
0031
          IF #"parking_car_detector floor3"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor3"[#col] = FALSE THEN
             #"nearest free slot with platform" := #col;
0032
0033
             #"Floor NB" := 3;
0034
             #found := TRUE;
0035
             EXIT;
0036
          END IF;
0037
        END FOR;
0038
      ELSE
0039
0040
        FOR #col := 1 TO 6 DO
           IF #"parking_car_detector floor1"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor1"[#col] = FALSE THEN
0041
0042
             #"nearest free slot with platform" := #col;
0043
             #"Floor NB" := 1;
0044
             #found := TRUE; // Mark that we found a slot
0045
             EXIT;
0046
           END_IF;
0047
         END_FOR;
0048
0049
         // Loop through Floor 2 (Only if no slot was found before)
0050
         IF NOT #found THEN
```

```
0051
           FOR #col := 1 TO 6 DO
0052
             IF #"parking_car_detector floor2"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor2"[#col] = FALSE THEN
0053
               #"nearest free slot with platform" := #col;
0054
               #"Floor NB" := 2;
0055
               #found := TRUE;
0056
              EXIT;
0057
            END_IF;
0058
          END_FOR;
0059
        END_IF;
0060
0061
         // Loop through Floor 3 (Only if no slot was found before)
0062
        IF NOT #found THEN
0063
         FOR #col := 1 TO 6 DO
             IF #"parking_car_detector floor3"[#col] = FALSE AND #"ParkingSlop_Platform_Detector floor3"[#col] = FALSE THEN
0064
0065
               #"nearest free slot with platform" := #col;
0066
               #"Floor NB" := 3;
              #found := TRUE;
0067
0068
              EXIT;
0069
            END IF;
0070
          END FOR;
        END_IF;
0071
0072
0073 END_CASE;
0074
0075
```

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## check the value of a specific platform [FC9]

check the value of a specific platform Properties										
General										
Name	check the value of a specific platform	Number	9	Туре	FC	Language	SCL			
Numbering	Automatic									
Information										
Title		Author		Comment		Family				
Version	0.1	User-defined ID								

Name	Data type	Default value	
▼ Input			
ParkingSlop_Platform_Detector	Array[08] of Bool		
Platform_number_to_check	Int		
▼ Output			
Platform status	Bool		
InOut			
Temp			
Constant			
▼ Return			
check the value of a specific platform	Void		

```
0001 // Initialize counters
0002 #"Platform status" := FALSE;
0003
0004 IF #ParkingSlop_Platform_Detector[#Platform_number_to_check] = TRUE THEN
0005 #"Platform status" := TRUE; // Store the first free slot (column index)
0006 END_IF;
0007
0008
0009
```

Totally Integrated	
<b>Automation Portal</b>	

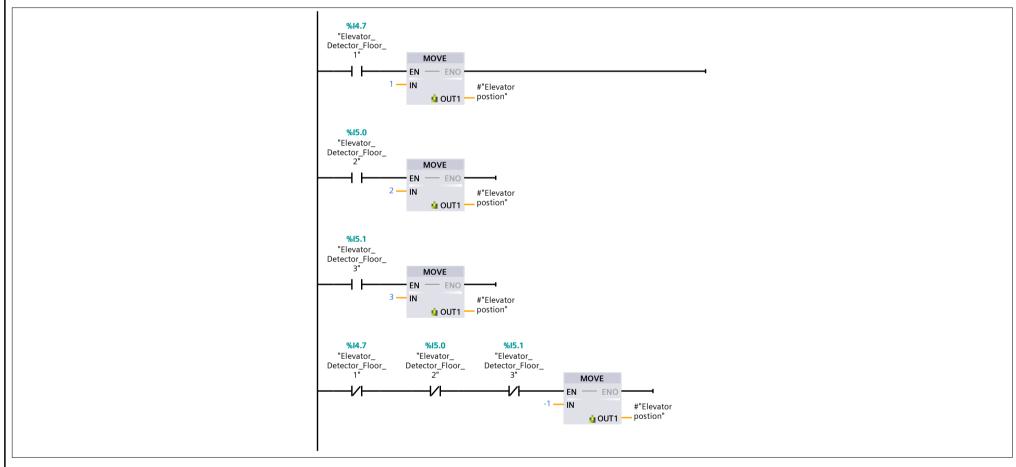
### **Elevator translation [FC10]**

Elevator translation Properties									
General									
Name	Elevator translation	Number	10	Туре	FC	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

Name	Data type	Default value	
<b>▼</b> Input			
Floor to reach	Int		
▼ Output			
Status	Bool		
InOut			
<b>▼</b> Temp			
Elevator postion	Int		
Up/Down direction	Int		
Constant			
▼ Return			
Elevator translation	Void		

#### **Network 1: elevator position**

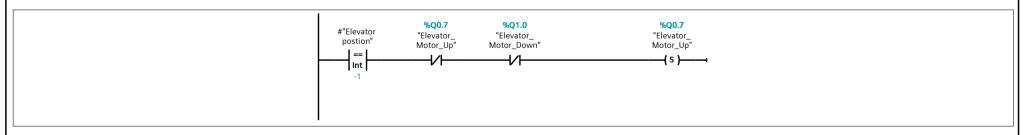
Set up the position of the elevator



### Network 2: Elevator set up

we will check first in which floor the elevator is .

If we can't read the position of the elevator and it's not working we will let the elevator go up automatically



### Network 3: movinf to the required floor

we are going to folow the same algorithim of the moving platform,

we are going to substract the elevator position from the floor to reach :

if the value is + --> go up

if the value is - --> go down
if the value = 0 --> position has reached

Totally Integrated **Automation Portal** #"Elevator postion" SUB Auto (Int) | <> | Int - EN — #"Elevator postion" — IN1 #"Up/Down direction" OUT -#"Floor to reach" — IN2 **%Q0.7**"Elevator\_
Motor\_Up" #"Up/Down direction" **-(** s **)**-%Q1.0 "Elevator\_ Motor\_Down" **–(** R **)**– **%Q0.7**"Elevator\_
Motor\_Up" #"Up/Down direction" -( R )-**%Q1.0**"Elevator\_
Motor\_Down" **-(** s **)**-#"Up/Down direction" #Status == | Int | 0 **⊣** ⊢ **%Q0.7**"Elevator\_
Motor\_Up" –( R )– **%Q1.0**"Elevator\_
Motor\_Down" —( R )—

calculate the nearest slots that contains platform (to use) [FC11]										
calculate the nearest slots that contains platform (to use) Properties General										
пе		the nearest slots ins platform (to	Number	11		Туре	FC		Language	LAD
nbering rmation	Automatio									
<b>;</b>			Author			Comment			Family	
sion	0.1		User-defined	ID						
ne nput					Data typ	pe		Default value		
Floor to	heck				Int					
Output	LITECK				IIIC					
	lot with Plat	form			Int					
Floor NB nOut					Int					
Гетр										
Constant										
Return	the nearest	slots that contains	platform (to us	e)	Void					
work 1:										
WOIR I.										
				"Sensor Data". "ParkingSlot_ detector floor1 "Sensor Data". "ParkingSlop_ Platform_ Detector 1" Detector floor1 "Sensor Data". "ParkingSlot_ Car_Detector 2" parking_car_detector floor2 "Sensor Data". "ParkingSlop_ Platform_ Detector 2" Detector 2" Detector floor2 "Sensor Data". "ParkingSlot_ Detector 2" parking_car_detector 2" parking_car_detector 2" parking_car_detector 2" parkingSlop_ Platform_ Detector 2" parkingSlop_ Platform_ Detector 2" parking_car_detector 2" parking_car_det	-	platform — with Platforn Floor NB — #"Floor NB"				
				Car_Detector detector floor3  "Sensor Data". ParkingSlop_Platform_Detector 3" — floor3  ParkingSlop_Platform_Detector 3" — floor3						

Totally Integr Automation I	rated Portal										
Program			does not c	ontains pl	atform (	(to use)	) [FC12]				
calculate the nearest slots that does not contains platform (to use) [FC12]											
General Name	calculate	the nearest slots not contains plat-	Number	12		Туре		FC		Language	LAD
Numbering nformation	Automati										
itle			Author			Comn	nent			Family	
ersion	0.1		User-defined ID	1	-						
lame ▼ Input					Data	type			Default value		
Floor to cl	neck				Int						
▼ Output	ot, without	· nlat			Int						
Floor NB	ot, without	. piat			Int						
InOut Temp											
Constant											
▼ Return	the naarast	slots that does not	contains platface	a (to usa)	Void						
letwork 1:	ine nearest	. Siots that does not	contains platforn	i (to use)	void						
etwork 1:											
					%FC8 calculate the nea that does not co	arest slots ontains					
				EN Secret	·	ENO -					
				or to check" — Searc	n_ fic_Floor	•	#"Nearest slo — without plat"				
			"	ar Detector dotor	ng_car_ ctor	Floor NB	— #"Floor NB"				
				1" — floor	1						
			"F	ensor Data". Parkingslop_ Platform_ Detector 1" — Platfo	ctor						
			"	ensor Data". ParkingSlot_ parking_ ar_Detector detector_ 2" — floor.	ng_car_ ctor 2						
			"F	ensor Data". Parki arkingSlop_ Platfor Platform_ Detector 2" floor.	rtor						
			"1	ensor Data". ParkingSlot_ parkinar_Detector detector floor:							
			"p		ngSlop_						
											<u> </u>

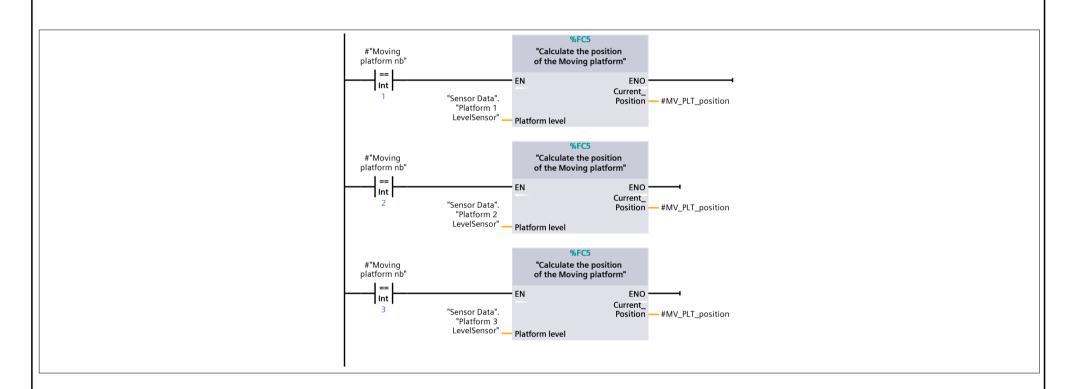
grated	
on Portal	

## Calculate the position of the moving platform (to use) [FC13]

Calculate the position of the moving platform (to use) Properties									
General Control of the Control of th									
Name	Calculate the position of the moving platform (to use)	Number	13	Туре	FC	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

Name	Data type	Default value
▼ Input		
Moving platform nb	Int	
▼ Output		
MV_PLT_position	Int	
InOut		
Тетр		
Constant		
▼ Return		
Calculate the position of the moving platform (to use)	Void	

#### Network 1:



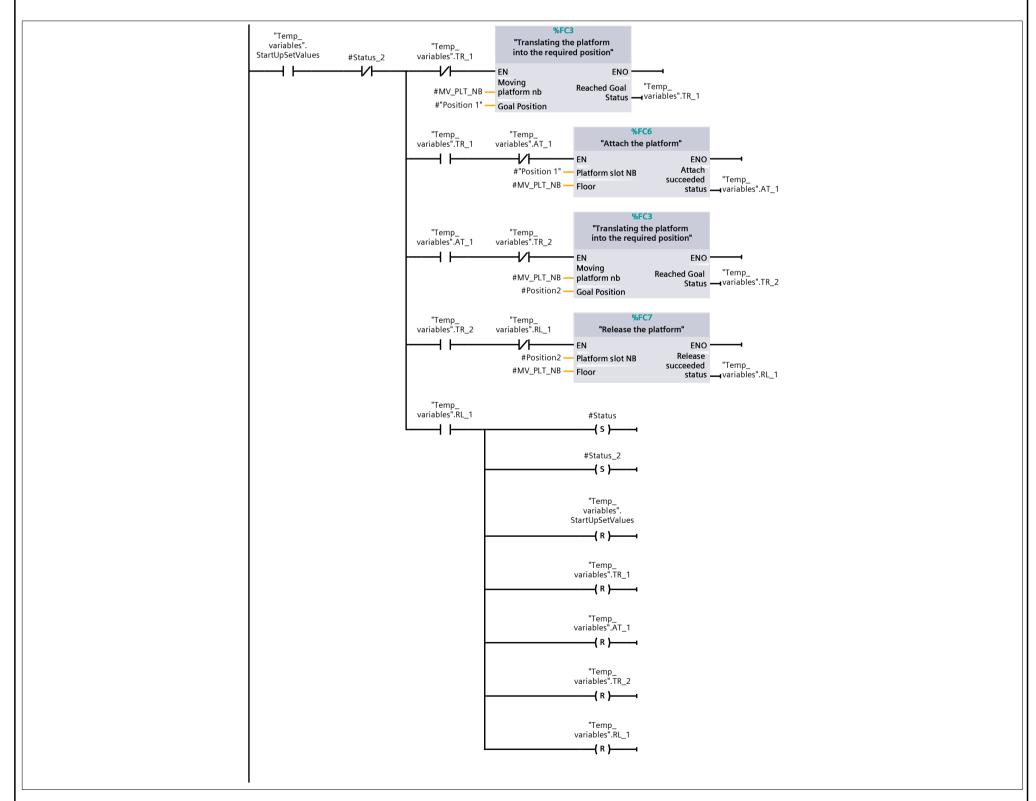
|--|

## Translating platform from one position to another [FC14]

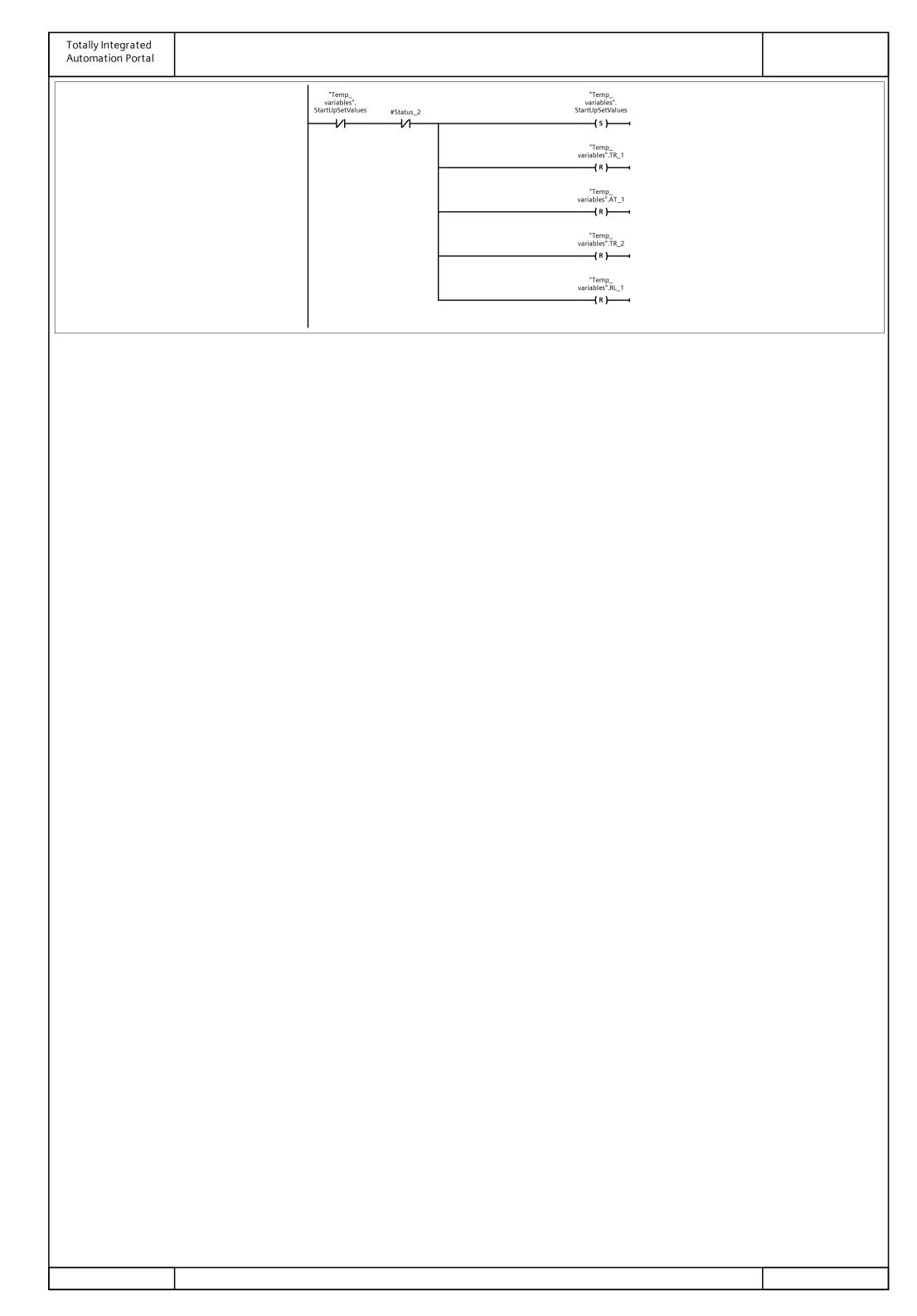
Translating platform from one position to another Properties									
General									
Name	Translating platform from one position to another	Number	14	Туре	FC	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

Name	Data type	Default value	
▼ Input			
Position 1	Int		
Position2	Int		
MV_PLT_NB	Int		
▼ Output			
Status	Bool		
InOut			
<b>▼</b> Temp			
Status_2	Bool		
Constant			
▼ Return			
Translating platform from one position to another	Void		

#### Network 1:



Network 2: startup



Translating Platform from one floor to another [FC15]  Translating Platform from one floor to another Properties										
neral ne	Translating Platform from	Number	15		Туре	FC		Language	LAD	
mbering	Translating Platform from one floor to another Automatic				, , , , , , , , , , , , , , , , , , ,			3 3		
rmation	Automatic									
e sion	0.1	Author User-defined	D		Comment			Family		
ie	0.11	oser deimed		Data ty	no		Default value			
nput				Data ty	pe		Delault value			
Position1				Int						
Floor1				Int						
Position2 Floor2				Int Int						
output										
Status				Bool						
nOut emp										
emp Status_2				Bool						
onstant				2001						
eturn										
Translati	ng Platform from one floor to a	nother		Void						

"Temp\_ variables". ELVTRR2

"Temp\_ variables".TRR2

> "Sensor Data". "Elevator Numer" \_

"Temp\_ variables".TRR1

> "Temp\_ variables". ELVTRR2

"Temp\_ variables".TRR2 #Floor1 — MV\_PLT\_NB

EN

Position 1

#Status

#Status\_2

"Temp\_ variables". StartupValues2

> "Temp\_ variables". ELVTRR1

"Temp\_ variables".TRR1 ———**(** R **)**———

> "Temp\_ variables". ELVTRR2

"Temp\_ variables".TRR2

#Position2 — Position2
#Floor2 — MV\_PLT\_NB

#Floor2 — Floor to reach

%FC10

"Elevator translation"

%FC14

"Translating platform from one position to another"

ENO ·

"Temp\_ variables". Status — ELVTRR2

"Temp\_ Status —variables".TRR2

### Network 2: startup

Totally Integrated
<b>Automation Portal</b>

## check the value of a specific Car [FC16]

check the value of a specific Car Properties								
General								
Name	check the value of a specific	Number	16	Type	FC	Language	SCL	
	Car							
Numbering	Automatic							
Information								
Title		Author		Comment		Family		
Version	0.1	User-defined ID						

Name	Data type	Default value	
▼ Input			
Car_number_to_check	Int		
Floor	Int		
ParkingSlot_Car_Detector_1	Array[08] of Bool		
ParkingSlot_Car_Detector_2	Array[08] of Bool		
ParkingSlot_Car_Detector_3	Array[08] of Bool		
▼ Output			
Car Status	Bool		
InOut			
Temp			
Constant			
▼ Return			
check the value of a specific Car	Void		

```
0001 // Initialize counters
0002 #"Car Status" := FALSE;
0003
0004 CASE #"Floor" OF
0005 1: // Statement section case 1
       IF #ParkingSlot_Car_Detector_1[#Car_number_to_check] = TRUE THEN
0006
0007
          #"Car Status" := TRUE; // Store the first free slot (column index)
8000
        END IF;
0009
      2: // Statement section case 2
0010
       IF #ParkingSlot_Car_Detector_2[#Car_number_to_check] = TRUE THEN
0011
          #"Car Status" := TRUE; // Store the first free slot (column index)
0012
0013
        END_IF;
0014
        ;
0015
      3:
0016
       IF #ParkingSlot_Car_Detector_3[#Car_number_to_check] = TRUE THEN
0017
          #"Car Status" := TRUE; // Store the first free slot (column index)
0018
        END_IF;
0019
0020
      ELSE // Statement section ELSE
0021
0022 END_CASE;
```

e value	e of a specific Car (to use) Pro	perties							
	check the value of a specific Car (to use)	Number	17		Туре	FC		Language	LAD
ng	Automatic								
ion		Author			Comment			Family	
	0.1	User-defined ID							
				Data typ	e		Default value		
r numb				Int					
floor It				Int					
ailable	?			Bool					
ant									
1									
	e value of a specific Car (to use	)		Void					
k 1:									
		1		N = 0.					
				%FC16 value of a speci					
			EN Car_number  ar number" — to_check	– Ca	r Status —#"Available	?"			
			#"Car floor" — Floor						
		",	ensor Data". ParkingSlot_ ar_Detector 1" 1	r_					
		"5	ensor Data"						
		l "(	ParkingSlot_ er_Detector 2" 2	r_					
		"5	ensor Data"						
		"I	ParkingSlot_ er_Detector 3" 3	r_					
		I							

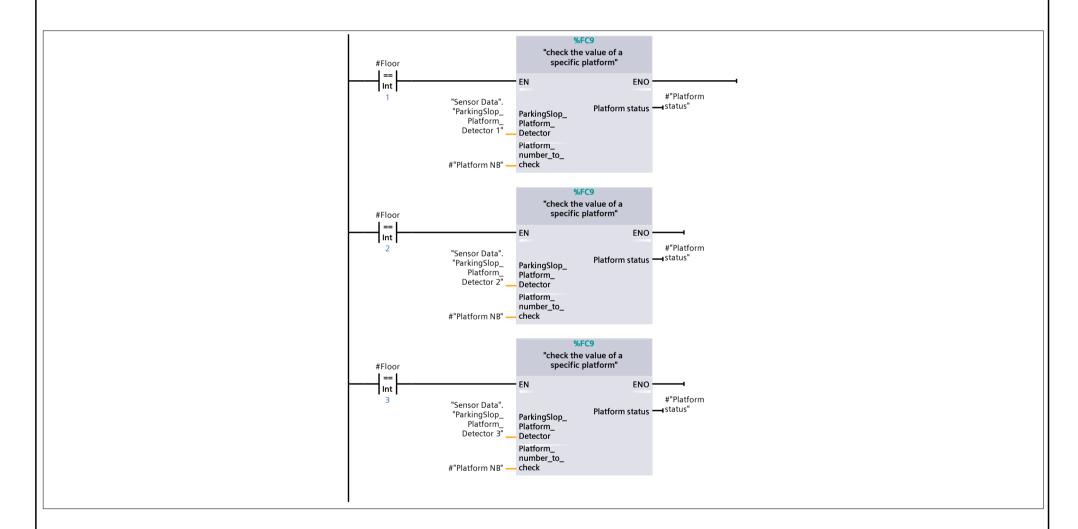
|--|

## check the value of a specific platform (to use) [FC4]

check the value of a specific platform (to use) Properties								
General	, , ,							
Name	check the value of a specific platform (to use)	Number	4	Туре	FC	Language	LAD	
Numbering	Automatic							
Information								
Title		Author		Comment		Family		
Version	0.1	User-defined ID						

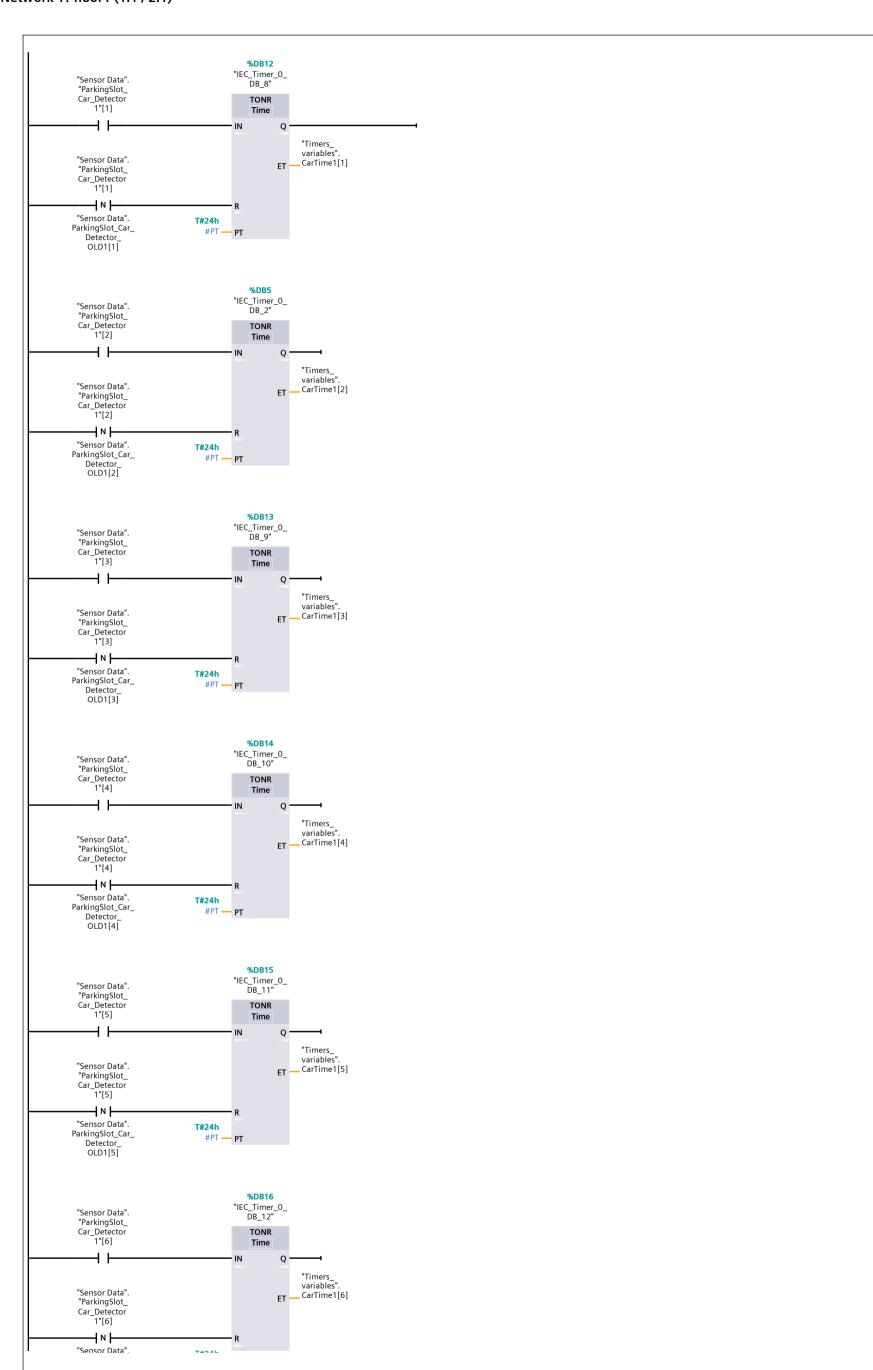
Neme	Data tura	Defeultivalina
Name	Data type	Default value
▼ Input		
Floor	Int	
Platform NB	Int	
▼ Output		
Platform status	Bool	
InOut		
Temp		
Constant		
▼ Return		
check the value of a specific platform (to use)	Void	

#### Network 1:



CarTimers   Number   18	Automatio	n Portal I							
rimers [FC18]    Personal Continuers   Properties   Prope		in ortal							
Author No. 1									
CarTimers   Number   18									
Automatic  Nation  Author User-defined ID  Data type Default value  Out User-defined ID  Data type Time T#24h  CarTimers Void	Timers Pro neral								
Author   User-defined ID	me Imbering		Number 18		Туре	FC		Language	LAD
Data type Default value out tput Out mp instant PT Time T#24h CarTimers Void	ormation le				Comment			Family	
but     ————————————————————————————————————	rsion me	0.1	User-defined ID	Data ty	vne		Default value		
Out mp	Input Output				pe		Default value		
nstant PT Time T#24h turn CarTimers Void Fig. 1. Time T#24h Time Time T#24h Time Time Time Time Time Time Time Time	InOut Temp								
turn CarTimers Void	Constant			Time			T#24b		
	Return						1#2411		
OR 1: TOOT1				Void					
	work 1:	TIOOTT							
l l									

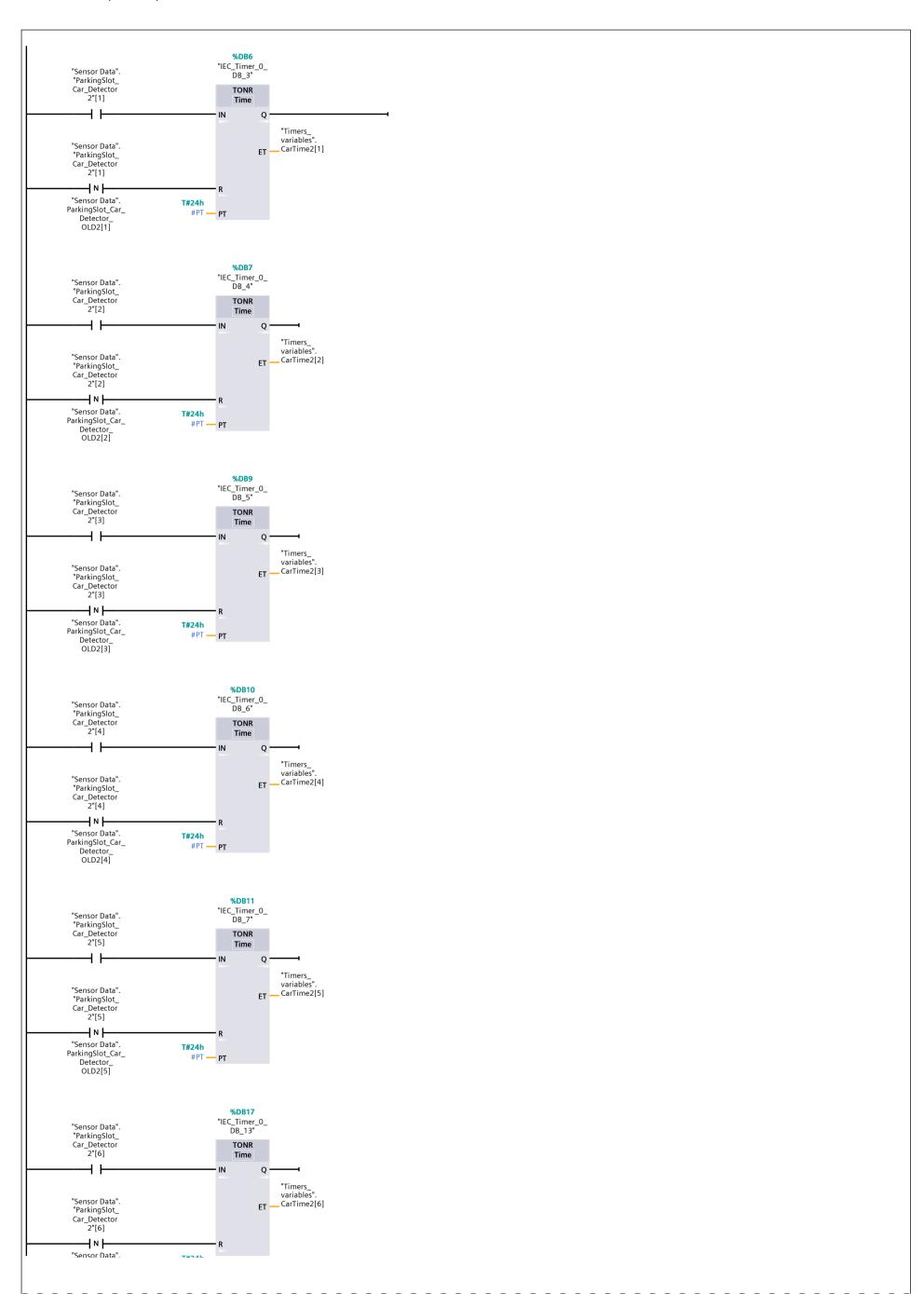
#### Network 1: floor1 (1.1 / 2.1)



Totally Integrated Automation Portal		
Network 1: floor1 (2.1	Z 2.1)	
Network 1: floor1 (2.1 and parkingslot_Car_Detector_OLD1[6]	2.1) 11 (Papel 1-2)	

Totally Integrated Automation Portal	
Network 2: floor2	

#### Network 2: floor2 (1.1 / 2.1)

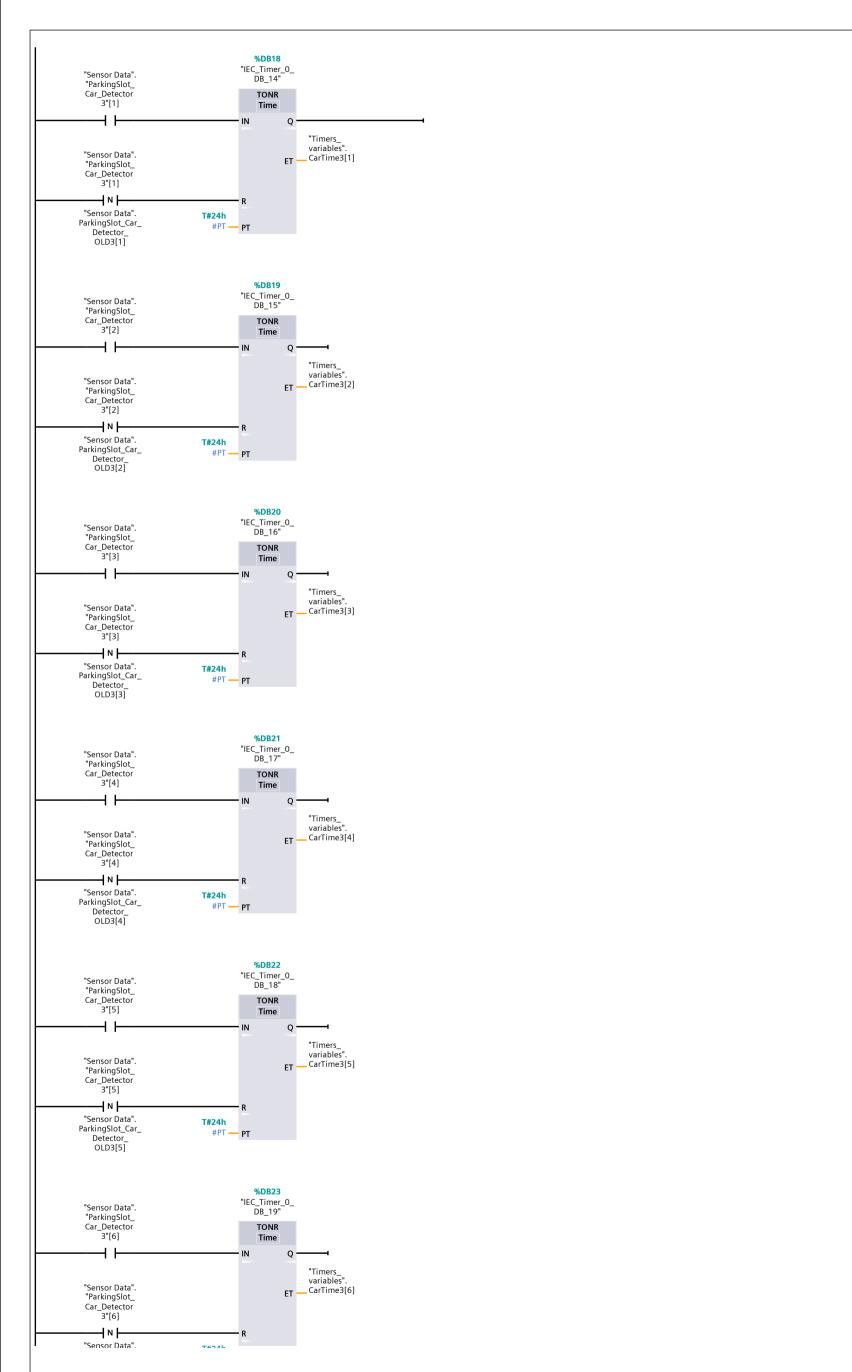


2.1 ( Page21 - 6)

Totally Integrated Automation Portal		
Network 2: floor2 (2.1	   2.1)	
Network 2: floor2 (2.1  ParkingSlot_Car_ Detector_ OLD2[6]	1.1 (Fage21.5)  1.1 (Fage21.5)	

Totally Integrated Automation Portal		
Network 3: floor3	•	

#### Network 3: floor3 (1.1 / 2.1)



Totally Integrated Automation Portal		
Network 3: floor3 (2.1	/ 2.1)	
Automation Portal  Network 3: floor3 (2.1  Setisor Justa . ParkingStot, Car. Detector . OLD3[6]	1.1 (Fage21-8)	

s_variables Properties  al  Timers_variables   Number   8   Type   DB   Language   DB    ering   Automatic   Author   Comment   Family    on   0.1   User-defined ID    CarTime1   Array[16] of Time   False	ogram blocks ners_variables [DB8]						
Timers_variables							
Author   Comment   Family	eral						
Author   Comment   Family	Timers_variables	Number	8	Туре	DB	Language	DB
Author   Comment   Family	rmation						
Data type     Start value     Retain       atic     Array[16] of Time     False       CarTime1     Array[16] of Time     False	•			Comment		Family	
CarTime1 Array[16] of Time False CarTime2 Array[16] of Time False	o.1	User-defined ID					
CarTime1 Array[16] of Time False CarTime2 Array[16] of Time False	ne		Data type	9	Start value		Retain
CarTime2 Array[16] of Time False	tatic		,				
CarTime2 Array[16] of Time False	CarTime1		Array[16] of Tir	ne			False
	CarTime2		Array[16] of Tir	ne			False
	CarTime3		Array[16] of Tir	ne			False

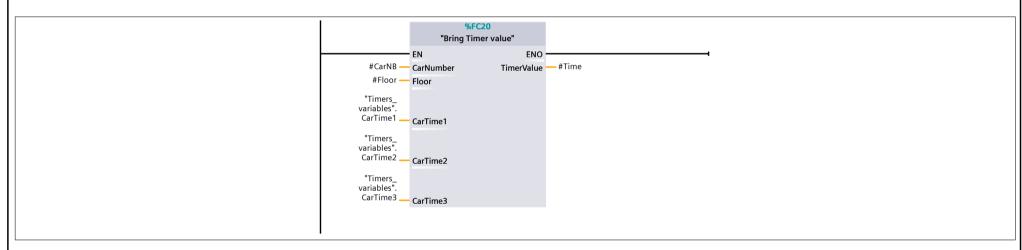
|--|

## Bill [FC19]

Bill Properties							
General							
Name	Bill	Number	19	Туре	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value
▼ Input		
CarNB	Int	
Floor	Int	
▼ Output		
Cost	Real	
InOut		
▼ Temp		
Converted Time	Real	
Time	Time	
▼ Constant		
reference	Time	T#1S
▼ Return		
Bill	Void	

#### **Network 1: Bring the timer**



#### **Network 2: cost calculation**

The 1h cost 5\$ we will apply a linear calculation based on this information

because of the integer value that we are going to get from division we are going to use the following formula :

1s --->0.00139

xS ----> ?

we will divide the time with 1s to have a REAL number of seconds



Totally Integrated
<b>Automation Portal</b>

## Bring Timer value [FC20]

Bring Timer value Properties								
General								
Name	Bring Timer value	Number	20	Туре	FC	Language	SCL	
Numbering	Automatic							
Information								
Title		Author		Comment		Family		
Version	0.1	User-defined ID						

Name	Data type	Default value
▼ Input		
CarNumber	Int	
Floor	Int	
CarTime1	Array[16] of Time	
CarTime2	Array[16] of Time	
CarTime3	Array[16] of Time	
▼ Output		
TimerValue	Time	
InOut		
Temp		
Constant		
▼ Return		
Bring Timer value	Void	

```
0001 #TimerValue := T#0S;
0002 CASE #"Floor" OF
0003 1: // Statement section case 1
0004
     #TimerValue := #CarTime1[#CarNumber]
0005
0006
     2: // Statement section case 2
     #TimerValue := #CarTime2[#CarNumber]
0007
8000
0009
     3:
     #TimerValue := #CarTime3[#CarNumber]
0010
0011
0012 END_CASE;
```

RESECTION Number 21 Type FC Language LAD dering Automatic  Mathor On 0.1 User-defined ID  Data type Default value  Put Unput U		blocks									
RESECTOR Number 21 Type FC Language LAD being Automatic    Value   Val	setOUT	[FC21]									
RESERTOUT Number 21 Type FC Language LAD bering Automatic  mation  On 0.1 Ser-defined ID Ser-def	etOUT Pro neral	perties									
Author User-defined ID  Data type Default value  put utput Out emp onstant eturn REsetOUT  Void	me		Number	21		Туре	FC		Language	LAD	
on 0.1 User-defined ID  Data type Default value  put utput Out emp onstant eturn REsetOUT  Void	ormation	Automatic	Audhor			C			T-mile		
put utput	e rsion	0.1		d ID		Comment			Family		
utput Out Out emp onstant eturn REsetOUT  Void	me				Data ty	pe		Default value			
emp onstant eturn  REsetOUT  Void	Input Output										
onstant eturn Void Void	nOut Temp										
REsetOUT Void	Constant										
		UT			Void						
								1			
· · · · · · · · · · · · · · · · · · ·											

%Q0.0 "EntryGate"	
%Q0.1 "ExitGate"	
(R)	
%Q0.2 "Ticket_ Dispenser"	
%Q0.3 "Platform1_ Motor_forword" ————————————————————————————————————	
%Q0.4  "Platform1_ Motor_ Backword"  (R)	
%Q0.5 "Platform1_ Motor_ SwipeRight"	
%Q0.6 "Platform1_ Motor_ SwipeLeft"	
%Q0.7 "Elevator_ Motor_Up"  ———————————————————————————————————	
%Q1.0  "Elevator_ Motor_Down"  {R}	
%Q1.2 "entry_LED" ——(R)——	
%Q1.3 "Exit_LED"  (R)  %Q2.0	
"Platform2_ Motor_forword"  (R)  *Q2.1  "Platform2	
%Q2.1 "Platform2_ Motor_ backword"  ———————————————————————————————————	
%Q1.5 "Platform2_ Motor_ SwipeRight" ————————————————————————————————————	
%Q1.4 "Platform2_ Motor_ SwipeLeft" ————————————————————————————————————	
%Q3.1 "Platform3_ Motor_ backword"  ———————————————————————————————————	
%Q3.0 "Platform3_ Motor_forword"  (R)	
%Q2.2 "Platform3_ Motor_ SwipeLeft"  ———————————————————————————————————	
%Q1.6 "Platform3_ Motor_ SwipeRight" ————————————————————————————————————	

set [FC set Propert neral me mbering ormation								
neral me mbering	ios							
me mbering	.163							
ormation	REset Automatic	Number 22		Туре	FC		Language	LAD
	Automatic							
e sion	0.1	Author User-defined ID		Comment			Family	
ne	·		Data ty	/pe		Default value		
nput Dutput								
าOut								
emp Constant								
eturn								
REset			Void					
vork 1:	Output to reset							

otally Integrated utomation Portal		
	%Q0.0 "EntryGa" ————————————————————————————————————	te"
	%Q0.1 "ExitGat	e"
	%Q0.2 "Ticket Dispense	
	(R)	<b></b>
	%Q0.3 "Platform Motor_forv	1_ vord"
	%Q0.4 "Platform Motor_ Backwor	d"
	%Q0.5 "Platform Motor_ SwipeRig	1_ ĥt"
	%Q0.6 "Platform Motor_ SwipeLet	1_ ft"
	%Q0.7 "Elevato Motor_U  { R }	
	%Q1.0 "Elevato Motor_Do (R)	r_ wn"
	%Q1.2 "entry_LE	D"
	%Q1.3 "Exit_LEI ————————————————————————————————————	
	%Q2.0 "Platform Motor_forw	2_ ord"
	%Q2.1 "Platform Motor_ backwor	2_ d"
	%Q1.5 "Platform Motor_ SwipeRig	2_ - ht"
	%Q1.4 "Platform Motor_ SwipeLet	2_ ft'
	%Q3.1 "Platform Motor_ backwor	3_ ď"
	%Q3.0 "Platform Motor_forw	3_ ord"
	%Q2.2 "Platform Motor_ SwipeLet	3_ ft"
	%Q1.6 "Platform Motor_ SwipeRig	3_ ht"
		•

Network 2: TemperoryTags (1.1 / 3.1)  Temp_ valiables**Cor solutions  (R)  Temp_ variables variables variables*  "Temp_ variables* "Startup set up"  (R)  Temp_ variables* "Startup set up_outb" (R)  Temp_ variables* "Startup set up_outb" (R)	
Temp_ variables*.  "StartUp set up*  {R}   "Temp_ variables*.  "StartUp set up_OLD"  {R}  "Temp_ variables*.  "StartUp set up_OLD"  (R)  "Temp_ variables*.  "Normal operation"	
Temp_ variables*.  "StartUp set up*  {R}   "Temp_ variables*.  "StartUp set up_OLD"  {R}  "Temp_ variables*.  "StartUp set up_OLD"  (R)  "Temp_ variables*.  "Normal operation"	
"Temp_ variables".  "StartUp set up_OLD"  (R)  "Temp_ variables".  "Normal operation"	
"Temp_ variables". "Normal operation"	
"Temp_ variables". "Normal operation"	
operation -	
"Temp_ variables"."exit operation"	
"Temp_ variables".	
startup_ EntryGate_ scenario1	
"Temp_ variables". startup_ scenario2	
(R)	
"Temp_ variables". startup_ scenario2_OLD  { R }	
"Temp_ variables". startup_ scenario3	
(R)	
"Temp_ variables". "waiting the car to enter"   R }	
"Temp_ variables". "waiting the car to enter OD"	
car to enter OD"  (R)	
"Temp_ variables". "Translating operation"	
"Temp_ variables". "Opening Exit gate"	
"Opening Exit gate"  (R)	
"Temp_ variables". "waiting the carr of	
"Temp_ variables". "Opening Exit gate OLD"	
(R)	
"Temp_ variables". "EntryGate Operation"	
"Temp_ variable"	
2.1 ( Page 26 - 4)	

To Au	tally Integrated tomation Portal			
Netv	vork 2: Temperory	Гаgs (2.1 / 3.1)	1.1 ( Paris 26 - 2)	
		variables". "ExitGate SetUP"	1.1 ( Page26 - 3)	~~~~~
		"EXITGATE SETUP"  ( R )		
		_		
		"Temp_ variables". startup_		
		startup_ ExitGate_ scenario1		
		"Temp_ variables". countUP		
		countUP (R)		
		"Temp variables". RESETcount		
		( R }		
		"Temp_ variables".MV_ PLT_setup		
		PLT_setup		
		"Temp_ variables". Elevator_Setup		
		(R)		
		"Temp_ variables".		
		EntGATE_setup		
		( R }		
		"Temp_ variables".		
		"startup_ scenario2.1"		
		"Temp_ variables".		
		"startup_ scenario2.2"		
		( R )		
		"Temp_ variables". StartUpSetValues		
		StartUpSetValues  (R)		
		"Temp_ variables". CalculationStatus		
		( R }		
		"Temp_ variables".		
		variables". startup_ EntryGate_		
		scenario2		
		"Temp_ variables".		
		startup_ ExitGate_ scenario2		
		( R )		
		"Temp_		
		"Temp_ variables". countUPOLD 		
		"Temp_ variables". StartupValues2		
		"Temp_		
		"Temp_ variables". ElevatorSetUp_ Scenario2		
		(R)		
		"Temp_		
		"Temp_ variables". Payingoperation		
		(R)		
		"Temp_ variables".		
		"Temp_ variables". ExitGate_ TranslationPhase		
	•			
	~~~~~		······································	
			3.1 ( Page26 - 5)	

T	otally Integrated automation Portal			
Net	work 2: Temperory	Tags (3.1 / 3.1)	2.1 ( Page26 - 4)	
		"Temp_ variables". "Translating status Start u 1"		
		(R)	<b>-</b>	
		"Temp_ variables". "Attaching status Start u 1"		
		(R) "Temp_ variables". "Translating		
		"Translating status Start u 2" ( R )		
		"Temp_ variables". "Releasing status Start u 1"		
		(R)		
		"Temp_ variables".ELV translation_ status1 		
		"Temp_ variables".ELV translation_ status2 { R }		
		"Temp_ variables".TR_ ————————————————————————————————————		
		"Temp_ variables".TR_ ————————————————————————————————————	2 —•	
		"Temp_ variables".TR_ { R }	<b>-</b>	
		"Temp_ variables".RL_ ————————————————————————————————————	<b>-</b>	
		"Temp_ variables".RL_ <b>{ R }</b>	<b>-</b>	
		"Temp_ variables".AT	<b>-</b>	
		"Temp_ variables".AT_ <b>{</b> R }	<b>-</b>	
		"Temp_ variables". ELVTR_1 	<b>-</b>	
		"Temp_ variables". ELVTR_2 ————————————————————————————————————		
		"Temp_ variables".TRf <b>(</b> R <b>)</b>		
		"Temp_ variables".TRF		
		"Temp_ variables". ELVTR1		
		"Temp_ variables". ELVTRR2 ———————————————————————————————————		

EC_Timer_0_ General	DB Properties						
lame	IEC_Timer_O_DB	Number	3	Туре	DB	Language	DB
lumbering nformation	Automatic						
itle		Author	Simatic	Comment		Family	IEC
ersion	1.0		ID IEC_TMR	23	I		
ıme			Dat	a type	Start value		Retain
Static				-,-			
PT			Tim	e	T#0ms		False
ET			Tim	e	T#0ms		False
							False
IN			Вос		false		raise
IN Q			Вос		false		False

Totally Inte Automation								
Program	blocks / System	blocks / Prog	gram	resources				
EC_Time	r_0_DB_1 [DB4]							
IEC_Timer_0_I	DB_1 Properties							
General								
Name	IEC_Timer_0_DB_1	Number	4		Туре	DB	Language	DB
Numbering	Automatic							
Information								
Title		Author	Simatic		Comment		Family	IEC
Version	1.0	User-defined ID	IEC_TMF	₹				
Name				Data type	9	Start value		Retain
<b>▼</b> Static								
PT				Time	-	Γ#0ms		False
ET				Time		Γ#0ms		False
				Bool		alse		False
IN				Bool		alse		False

Totally Into							
	n blocks / System r_0_DB_8 [DB12]	blocks / Pr	rogram re	sources			
	DB_8 Properties						
General	,55_6 1 10pc1 tie5						
Name	IEC_Timer_0_DB_8	Number	12	Туре	DB	Language	DB
Numbering	Automatic			71-			
Information							
Title		Author	Simatic	Commei	nt	Family	IEC
Version	1.0	User-defined	ID IEC_TMR				
Name			Da	ta type	Start value		Retain
<b>▼</b> Static							
PT			Tir	ne	T#0ms		False
ET			Tir	ne	T#0ms		False
			Вс	ol	false		False
IN							

Totally Inte									
IEC_Timer	blocks / System _0_DB_2 [DB5]	blocks / Pro	gram	resources					
	DB_2 Properties								
General Name	IEC_Timer_0_DB_2	Number	5		Туре	DB	Language	DB	
Numbering	Automatic	Itamber			.,,,,,		Language		
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value			Retain
<b>▼</b> Static									
PT				Time		T#0ms			False
ET				Time		T#0ms			False

Bool

Bool

false

false

False

False

IN

Totally Inte Automation									
IEC_Timer	blocks / System _0_DB_9 [DB13]  DB_9 Properties	blocks / Pr	rogram	resources					
General	IEC Timer O DD O	Niconshau	13		Turne	DD	Language	DD	
Name Numboring	IEC_Timer_0_DB_9 Automatic	Number	13		Туре	DB	Language	DB	
Numbering Information	Automatic								
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined					, <i>y</i>	1.20	
Name				Data type		Start value		Retain	
<b>▼</b> Static									
PT				Time		T#0ms		False	

T#0ms

false

false

False

False

False

Time

Bool

Bool

ΕT

IN

Totally Inte Automation									
IEC_Timer	blocks / System &0_DB_10 [DB14]	olocks / Prog	gram	resources					
General Name	IEC_Timer_0_DB_10	Number	14		Туре	DB	Language	DB	
Numbering	Automatic	Number			Туре	ВВ	Language		
Information	riatomatic								
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value		Retain	
<b>▼</b> Static									
PT				Time		T#0ms		False	

T#0ms

false

false

False

False

False

Time

Bool

Bool

ET

IN

Totally Integ Automation									
IEC_Timer	blocks / System k _0_DB_11 [DB15]	olocks / Prog	gram	resources					
Name	IEC_Timer_0_DB_11	Number	15		Туре	DB	Language	DB	
Numbering	Automatic		-		71	<u> </u>			
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR	1		·	- 1 1	,	
Name				Data type		Start value		Retain	
<b>▼</b> Static									

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Totally Integ									
	blocks / System _0_DB_12 [DB16]	blocks / Pro	gram	resources					
IEC_Timer_0_0	DB_12 Properties								
General									
Name	IEC_Timer_0_DB_12	Number	16		Type	DB	Language	DB	
Numbering	Automatic								
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value		Retain	
<b>▼</b> Static									
PT				Time		T#0ms		False	
ET				Time		T#0ms		False	
IN				Bool		false		False	

Bool

Q

False

Totally Inte Automation									
IEC_Timer	blocks / System _0_DB_3 [DB6]	n blocks / Pro	gram	resources					
EC_IIMer_0_L General	DB_3 Properties								
Name	IEC_Timer_0_DB_3	Number	6		Туре	DB	Language	DB	
Numbering	Automatic					<u> </u>		-	
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value			Retain
<b>▼</b> Static									
PT				Time		T#0ms			False
ET				Time		T#0ms			False

false

False

False

Bool

Bool

IN

Totally Integ									
IEC_Timer_0_D	blocks / System _0_DB_4 [DB7]  DB_4 Properties	blocks / Prog	gram	resources					
General Name	IEC_Timer_0_DB_4	Number	7		Туре	DB	Language	DB	
Numbering	Automatic	Number	/		туре	ОВ	Language	ОВ	
Information	, tatomatic								
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value		Retain	
<b>▼</b> Static									
PT				Time		T#0ms		False	

Time

Bool

Bool

ET

IN

Q

T#0ms

false

false

False

False

False

Totally Inte Automatio								
•	n blocks / System r_0_DB_5 [DB9]	blocks / Prog	gram ı	resources				
IEC_Timer_0_	_DB_5 Properties							
General								
Name	IEC_Timer_0_DB_5	Number	9		Туре	DB	Language	DB
Numbering	Automatic		'			'		'
Information								
Title		Author	Simatic		Comment		Family	IEC
\/	1.0	User-defined ID	IEC_TMR					
version				Data type	S	tart value		Retain
Version Name				Data type				
Name				Data type				
Name ▼ Static				Time		#0ms		False
Name				• •	Т	#0ms #0ms		False False
Name ▼ Static  PT				Time	T			

Totally Integ Automation									
IEC_Timer	blocks / SystemO_DB_6 [DB10]  DB_6 Properties	blocks / Prog	gram	resources					
Name	IEC_Timer_0_DB_6	Number	10		Туре	DB	Language	DB	
	Automatic								
Numbering	ratoriatic								
	ratomatic								
Information	Automatic	Author	Simatic		Comment		Family	IEC	
Numbering Information Title Version	1.0	Author User-defined ID			Comment		Family	IEC	

version	User-defined ID   IEC_TMR			
Name		Data type	Start value	Retain
<b>▼</b> Static				
PT		Time	T#0ms	False
ET		Time	T#0ms	False
IN		Bool	false	False
Q		Bool	false	False

Totally Inte	grated								
Automation	n Portal								
	•							•	
Program	blocks / System	blocks / Prog	gram i	resources					
IEC Timo	r_0_DB_7 [DB11]								
icc_iiiie	נוופטן /_טט_ון								
IEC_Timer_0_	DB_7 Properties								
General									
Name	IEC_Timer_0_DB_7	Number	11		Type	DB	Language	DB	
Numbering	Automatic								
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value		Retair	1
<b>▼</b> Static									
PT				Time		T#0ms		False	
					T#Oms				
ET				Time		T#Ums		False	

Bool

Q

False

Totally Integ Automation								
	blocks / System I _0_DB_13 [DB17]	olocks / Pro	gram	resources				
IEC_Timer_0_D	DB_13 Properties							
General								
Name	IEC_Timer_0_DB_13	Number	17		Type	DB	Language	DB
Numbering	Automatic							
Information								
Title		Author	Simatic		Comment		Family	IEC
Version	1.0	User-defined II	D IEC_TMR					
Name				Data type		Start value		Retain
<b>▼</b> Static								
PT				Time		T#0ms		False
ET				Time		T#0ms		False
				111110		1 # 01113		1 0136

False

Bool

Totally Inte									
IEC_Timer	blocks / System _0_DB_14 [DB18]	blocks / Pro	gram	resources					
EC_11mer_0_L General	DB_14 Properties								
Name	IEC_Timer_0_DB_14	Number	18		Туре	DB	Language	DB	
Numbering	Automatic							-	
Information									
Title		Author	Simatic		Comment		Family	IEC	
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value			Retain
<b>▼</b> Static									
PT				Time		T#0ms			False
ET				Time		T#0ms			False

Bool

Bool

false

false

False

False

IN

Totally Integ Automation									
	blocks / System _0_DB_15 [DB19]	blocks / Prog	gram	resources					
IEC_Timer_0_D	B_15 Properties								
General									
Name	IEC_Timer_0_DB_15	Number	19		Type	DB	Languag	<b>e</b> D	В
Numbering	Automatic								
Information									
Title		Author	Simatic		Comment		Family	16	EC
Version	1.0	User-defined ID	IEC_TMR						
Name				Data type		Start value			Retain
<b>▼</b> Static									
PT				Time		T#0ms			False
ET				Time		T#0ms			False
IN				Bool		false			False

False

Bool

IN Q

Totally Inte								
Program	blocks / System	blocks / Prog	gram	resources				
IEC_Time	r_0_DB_16 [DB20]							
IEC_Timer_0_	DB_16 Properties							
General								
Name	IEC_Timer_0_DB_16	Number	20		Туре	DB	Language	DB
Numbering	Automatic							
Information								
Title		Author	Simatic		Comment		Family	IEC
Version	1.0	User-defined ID	IEC_TMR					
Name				Data type		Start value		Retain
<b>▼</b> Static								
PT				Time		T#0ms		False
ET				Time		T#0ms		False
IN				Bool		false		False
				Bool		false		False

Name         IEC_Timer_O_DB_17         Number         21         Type         DB         Language         DB           Numbering         Automatic         Information           Title         Author         Simatic   IEC_TMR         Comment         Family         IEC           Version         1.0         User-defined ID         IEC_TMR         Start value         Retain           Name         PT         Time         T#Oms         False           ET         Time         T#Oms         False           IN         Bool         false         False           Q         Bool         false         False	C_Timer_0_ eneral	DB_17 Properties							
Information  Title			Number	21	Ту	/pe	DB	Language	DB
Fittle         Author         Simatic         Comment         Family         IEC           Version         1.0         User-defined ID         IEC_TMR           Name         Start value         Retain           PT         Time         T#0ms         False           ET         Time         T#0ms         False           IN         Bool         false         False		Automatic							
Version 1.0 User-defined ID IEC_TMR  Name  ✓ Static  PT  Time  T#0ms  False  ET  IN  Bool  False  False			Author	Simatic		ommort		Eamily	IEC
ameData typeStart valueRetain✓ StaticTimeT#0msFalseETTimeT#0msFalseINBoolfalseFalse		1.0				omment		ramily	IEC
PT Time T#0ms False ET Time T#0ms False IN Bool false False		11.0	oser defined ib	<u>'</u>					
PT Time T#0ms False ET Time T#0ms False IN Bool false False					Data type	Sta	art value		Retain
ETTimeT#0msFalseINBoolfalseFalse	Static								
IN Bool false False	PT			-	Time	T#	0ms		False
	ET			-	Time	T#	0ms		False
Q Bool false False	IN				Bool	fal	se		False
	Q				Bool	fal	se		False

Totally Inte Automation							
Program	blocks / System	blocks / Pro	gram resource	es			
IEC_Time	_0_DB_18 [DB22]						
IEC Timer 0 I	DB_18 Properties						
General							
Name	IEC_Timer_0_DB_18	Number	22	Type	DB	Language	DB
Numbering	Automatic			, , , , , ,	<u> </u>		
Information							
Title		Author	Simatic	Comment		Family	IEC
Version	1.0	User-defined ID	IEC_TMR				
Name			Data type		Start value		Retain
<b>▼</b> Static							
PT			Time		T#0ms		False
ET			Time		T#0ms		False
_ L1			Bool		false		False
IN			Bool		false		False

Totally Inte Automation								
	blocks / System _0_DB_19 [DB23]	blocks / Pro	gram r	esources				
IEC_Timer_0_I	DB_19 Properties							
General								
Name	IEC_Timer_0_DB_19	Number	23		Type	DB	Language	DB
Numbering	Automatic							
Information								
Title		Author	Simatic		Comment		Family	IEC
Version	1.0	User-defined ID	IEC_TMR					
Name				Data type		Start value		Retain
<b>▼</b> Static				,				
PT			Т	ime		T#0ms		False
ET			Т	ime		T#0ms		False
			Е	Bool		false		False
IN			F	Bool		false		False