

Rgulateur de vitesse :

Code Esys.net généré automatiquement

```

\\ Module CruiseControlHW
IModule module1 = esysfactory.getEsysInstance().
createModule("CruiseControlHW");
exemple.addAction(module1);
module1.AddCode("public System.Collections.
Queue bus =
System.Collections.Queue.Synchronized(new
System.Collections.Queue()); \n" + "public
System.Collections.Hashtable mem =
System.Collections.Hashtable.Synchronized(new
System.Collections.Hashtable());");

\\Module CruiseControlHW
IModule module =
esysfactory.getEsysInstance().createModule(
"CruiseControlModule");
IInstantiate instance1 =
esysfactory.getEsysInstance().createNewInstance(
module, "module");
module1.addAction(instance1);
instance1.setPrivate(true);

\\Horloge
IClock clock=esysfactory.getEsysInstance().
createClock("clk", 10);
module1.addAction(clock);
clock.setPrivate(true);

```

Code PADL

```

namespace CruiseControl {
public class CruiseControlHW : SystemModel
{
public System.Collections.Queue bus =
System.Collections.Queue.Synchronized(new
System.Collections.Queue());
public System.Collections.Hashtable
mem= System.Collections.Hashtable.Synchronized(new
System.Collections.Hashtable());

private Clock clk = new Clock(10);
private CruiseControlModule module =
new CruiseControlModule();

private DoubleSignal acc = new DoubleSignal();
private DoubleSignal desiredSpeed = new DoubleSignal();
private DoubleSignal distance = new DoubleSignal();
private DoubleSignal speed = new DoubleSignal();
}

```

```
ISignal sig1=esysfactory.getEsysInstance().
createSignal("acc",
"Double");
module1.addAction(sig1);
sig1.setPrivate(true);

ISignal sig2=esysfactory.getEsysInstance().
createSignal("speed",
"Double");
module1.addAction(sig2);
sig2.setPrivate(true);

ISignal sig3=esysfactory.getEsysInstance().
createSignal("distance", "Double");
module1.addAction(sig3);
sig3.setPrivate(true);

ISignal sig4=esysfactory.getEsysInstance().
createSignal("desiredSpeed", "Double");
module1.addAction(sig4);
sig4.setPrivate(true);

ISignal sig5=esysfactory.getEsysInstance().
createSignal("Car_On", "Int");
module1.addAction(sig5);
sig5.setPrivate(true);

private IntSignal Car_Off = new IntSignal();
private IntSignal Car_On = new IntSignal();
private IntSignal Cruise_Off = new IntSignal();
private IntSignal Cruise_On = new IntSignal();
private IntSignal DeactivateControl = new IntSignal();
```

```
ISignal sig6=esysfactory.getEsysInstance().
createSignal("Car_Off","Int");
module1.addAction(sig6);
sig6.setPrivate(true);

ISignal sig7=esysfactory.getEsysInstance().
createSignal("Cruise_On","Int");
module1.addAction(sig7);
sig7.setPrivate(true);

ISignal sig8=esysfactory.getEsysInstance().
createSignal("Cruise_Off","Int");
module1.addAction(sig8);
sig8.setPrivate(true);

ISignal sig9=esysfactory.getEsysInstance().
createSignal("DeactivateControl","Int");
module1.addAction(sig9);
sig9.setPrivate(true);

ISignal sig10=esysfactory.getEsysInstance().
createSignal("acc_Car","Int");
module1.addAction(sig10);
sig10.setPrivate(true);
```

```
private IntSignal acc_Car = new IntSignal();
private IntSignal acc_Cruise = new IntSignal();
private IntSignal dec_Car = new IntSignal();
private IntSignal dec_Cruise = new IntSignal();
```

```
private IntSignal brake = new IntSignal();
private IntSignal decline= new IntSignal();
private IntSignal incline = newIntSignal();
```

```
ISignal sig11=esysfactory.getEsysInstance().
createSignal("dec_Car", "Int");
module1.addAction(sig11);
sig11.setPrivate(true);
```

```
ISignal sig12=esysfactory.getEsysInstance().
createSignal("acc_Cruise", "Int");
module1.addAction(sig12);
sig12.setPrivate(true);
```

```
ISignal sig13=esysfactory.getEsysInstance().
createSignal("dec_Cruise", "Int");
module1.addAction(sig13);
sig13.setPrivate(true);
```

```
ISignal sig14=esysfactory.getEsysInstance().
createSignal("incline", "Int");
module1.addAction(sig14);
sig14.setPrivate(true);
```

```
ISignal sig15=esysfactory.getEsysInstance().
createSignal("decline", "Int");
module1.addAction(sig15);
sig15.setPrivate(true);
```

```
ISignal sig16=esysfactory.getEsysInstance().
createSignal("brake", "Int");
module1.addAction(sig16);
sig16.setPrivate(true);
```

```
bData(\\"Acceleration\\",1));" + " \n bus.Enqueue(new
bData(\\"Deceleration\\",1)); \n bus.Enqueue(new
bData(\\"Deceleration\\",1));" + " \n bus.Enqueue(new
bData(\\"Deceleration\\",1)); \n bus.Enqueue(new
bData(\\"Deceleration\\",1));" + " \n bus.Enqueue(new
bData(\\"Deceleration\\",1)); \n bus.Enqueue(new
bData(\\"Deceleration\\",1));" + " \n bus.Enqueue(new
bData(\\"EngineOFF\\",1));";
```

```
module clk = this.clk;
module acc = this.acc;
module speed = this.speed;
module distance = this.distance;
module desiredSpeed = this.desiredSpeed;
module Car_On = this.Car_On;
module Car_Off = this.Car_Off;
```

```
module Cruise_On = this.Cruise_On;
module Cruise_Off = this.Cruise_Off;
module DeactivateControl = this.DeactivateControl;
module acc_Car = this.acc_Car;
module dec_Car = this.dec_Car;
module acc_Cruise = this.acc_Cruise;
module dec_Cruise =
  this.dec_Cruise;
module incline = this.incline;
module decline =this.decline;
module brake = this.brake;
```

```
IAffecte affecte=esysfactory.getEsysInstance().
createAffection("module",clock,"this.clk");
const1.addEsysActor(affecte);

IAffecte affecte1=esysfactory.getEsysInstance().
createAffection("module",sig1,"this.acc");
const1.addEsysActor(affecte1);

IAffecte affecte2=esysfactory.getEsysInstance().
createAffection("module",sig2,"this.speed");
const1.addEsysActor(affecte2);

IAffecte affecte3=esysfactory.getEsysInstance().
createAffection("module",sig3,"this.distance");
const1.addEsysActor(affecte3);

Affecte affecte4=esysfactory.getEsysInstance().
createAffection("module",sig4,"this.desiredSpeed");
const1.addEsysActor(affecte4);

IAffecte affecte5=esysfactory.getEsysInstance().
createAffection("module",sig5,"this.Car_On");
const1.addEsysActor(affecte5);
```

```
public void setAcc_Car(int i)
{
    this.module.acc_Car.Value = i ;
}
public void setAcc_Cruise(int i)
{
    this.module.acc_Cruise.Value = i ;
}
public void setCruise_Off(int i)
{
    this.module.cruise_Off.Value = i ;
}
```

```
IAffecte affecte6=esysfactory.getEsysInstance().
createAffection("module", sig6, "this.Car_Off");
const1.addEsysActor(affecte6);

IAffecte affecte7=esysfactory.getEsysInstance().
createAffection("module", sig7, "this.Cruise_On");
const1.addEsysActor(affecte7);

IAffecte affecte8=esysfactory.getEsysInstance().
createAffection("module", sig8, "this.Cruise_Off");
const1.addEsysActor(affecte8);

IAffecte affecte9=esysfactory.getEsysInstance().
createAffection("module", sig9, "this.DeactivateControl");
const1.addEsysActor(affecte9);

IAffecte affecte10=esysfactory.getEsysInstance().
createAffection("module", sig10, "this.acc_Car");
const1.addEsysActor(affecte10);
```

```

IOperation oper1 =
    esysfactory.getEsysInstance(). createoperation("setSpeed");
module1.addActor(oper1); IParameter param1 =
    Factory.getInstance().createParameter ("m_speed", "double");
oper1.addActor(param1);
oper1.setComment ("this. module. speed. Value=m_speed;");

IOperation oper2 = esysfactory.getEsysInstance().
    createoperation("setAcc"); module1.addActor(oper2); IParameter
    param2 =Factory.getInstance(). createParameter("setAcc", "double");
oper2.addActor(param2); oper2.setComment("this.module.acc.Value =
    m_acc ;");

IOperation oper3 = esysfactory.getEsysInstance().
    createoperation("setDistance"); module1.addActor(oper3); IParameter
    param3 = Factory.getInstance(). createParameter("m_distance",
    "double"); oper3.addActor(param3);
oper3.setComment ("this. module. distance. Value = m_distance ;");

IOperation oper4 = esysfactory.getEsysInstance().
    createoperation("setDesiredSpeed"); module1.addActor(oper4);
IParameter param4 = Factory.getInstance().
    createParameter("m_desiredSpeed", "double"); oper4.addActor(param4);
oper4.setComment ("this. module. desiredSpeed. Value =
    m_desiredSpeed ;");

IOperation oper5 =
    esysfactory.getEsysInstance().
    createoperation("setDeactiveControl");
module1.addActor(oper5);
IParameter param5 =
    Factory.getInstance().createParameter("i", "int");
oper5.addActor(param5);
oper5.setComment("this.module.
    deactivateControl.Value = i .");

```

```

public void setDeactivateControl(int i)
{
    this.module.deactivateControl.Value = i ;
}

public void setDec_Car (int i)
{
    this.module.dec_Car.Value = i ;
}

```

```

IOperation oper6 =
    esysfactory.getEsysInstance(). createoperation("setCar_On");
module1.addActor(oper6); IParameter param6 = i ;
Factory.getInstance().createParameter("i", "int");
oper6.addActor(param6); oper6.setComment(" this.module.car_On.Value
= i ;");

IOperation oper7 = esysfactory.getEsysInstance().
createoperation("setCar_Off"); module1.addActor(oper7); IParameter
param7 = Factory.getInstance().createParameter("i", "int");
oper7.addActor(param7); oper7.setComment("this.module.car_Off.Value
= i ;");

IOperation oper8 = esysfactory.getEsysInstance().
createoperation("setCruise_On"); module1.addActor(oper8); IParameter
param8 = Factory.getInstance().createParameter("i", "int");
oper8.addActor(param8);
oper8.setComment("this.module.cruise_On.Value = i;");

IOperation oper9 = esysfactory.getEsysInstance().
createoperation("setCruise_Off"); module1.addActor(oper9);
IParameter param9 = Factory.getInstance(). createParameter("i",
"int"); oper9.addActor(param9); oper9.setComment("
this.module.cruise_Off.Value = i ;");

IOperation oper10 =
    esysfactory.getEsysInstance().
    createoperation("setDeactivateControl");
    module1.addActor(oper10);
    IParameter param10 =
    Factory.getInstance().createParameter("i", "int");
    oper10.addActor(param10);
    oper10.setComment(" this.module.
    deactivateControl.Value = i ;");

public void setDeactivateControl(int i)
{
    this.module.deactivateControl.Value = i ;
}

public void setDec_Car(int i)
{
    this.module.dec_Car.Value = i ;
}

```

```

IOperation oper11 = esysfactory.getEsSysInstance().
createoperation("setAcc_Car"); module1.addActor(oper11); IParameter
param11 = Factory.getInstance(). createParameter("i", "int");
oper11.addActor(param11); oper11.setComment("
this.module.acc_Car.Value = i ;");

IOperation oper12 = esysfactory.getEsSysInstance().
createoperation("setDec_Car"); module1.addActor(oper12); IParameter
param12 = Factory.getInstance(). createParameter("i", "int");
oper12.addActor(param12); oper12.setComment("
this.module.dec_Car.Value = i ;");

IOperation oper13 = esysfactory. getEsSysInstance().
createoperation("setAcc_Cruise");
module1.addActor(oper13);
IParameter param13 = Factory.getInstance().
createParameter("i", "int"); oper13.addActor(param13);
oper13.setComment(" this.module. acc_Cruise.Value = i ;");

IOperation oper14 =
esysfactory.getEsSysInstance().
createoperation("setDec_Cruise");
module1.addActor(oper14);
IParameter param14 =
Factory.getInstance().
createParameter("i", "int");
oper14.addActor(param14);
oper14.setComment("this.module.dec_Cruise.Value = i ;");

public void setBrake(int i)
{
    this.module.brake.Value = i ;
}

public void setDec_Cruise(int i)
{
    this.module.dec_Cruise.Value = i ;
}

public void setDecline(int i)
{
    this.module.decline.Value = i ;
}

public void setIncline(int i)
{
    this.module.incline.Value = i ;
}

```

```

IOperation oper15 =
    esysfactory.getEsysInstance().
    createoperation("setIncline");
module1.addActor(oper15);
IParameter param15 =
    Factory.getInstance().
    createParameter("i", "int");
oper15.addActor(param15);
oper15.setComment
(" this.module.incline.Value = i ;");

    IOperation oper16 =
    esysfactory.getEsysInstance().
    createoperation("setDecline");
module1.addActor(oper16);
IParameter param16 =
    Factory.getInstance().createParameter("i", "int");
oper16.addActor(param16);
oper16.setComment(" this.module.decline.Value = i ;");

IOperation oper17 =
    esysfactory.getEsysInstance().
    createoperation("setBrake");
module1.addActor(oper17);
IParameter param17 =
    Factory.getInstance().
    createParameter("i", "int");
oper17.addActor(param17);
oper17.setComment(" this.module.brake.Value = i ;");

public class CruiseControlModule : SystemModel {
public Clock clk = new Clock(0);

public int ACTIVE = 1;

public int CRUISING = 2;

public int INACTIVE = 0 ;
public DoubleSignal acc = new DoubleSignal();

public double alpha = 0;
public DoubleSignal speed = new DoubleSignal();

public int state = 0;

```

```

    IModule module2=esysfactory.getEsSysInstance().
createModule("CruiseControlModule "); Conteneur.addActor(module2);
IField fiel1=Factory.getInstance().createField("INACTIVE = 0
", "int", 2); module2.addActor(fiel1);
IField fiel2=Factory.getInstance().createField("ACTIVE =
1", "int", 2); module2.addActor(fiel2);
IField fiel3=Factory.getInstance().createField("CRUISING =
2", "int", 2); module2.addActor(fiel3);
IField fiel4=Factory.getInstance().createField("state =
0", "int", 2); module2.addActor(fiel4);
IField fiel5=Factory.getInstance().createField("alpha =
0", "double", 2); module2.addActor(fiel5);
IClock clock1=esysfactory.getEsSysInstance(). createClock("clk", 0);
module2.addActor(clock1);
ISignal signal1=esysfactory.getEsSysInstance().
createSignal("acc", "Double"); module2.addActor(signal1);
ISignal signal2=esysfactory.getEsSysInstance().
createSignal("speed", "Double"); module2.addActor(signal2);

public IntSignal car_Off = new IntSignal();
public IntSignal car_On =new IntSignal();
public IntSignal cruise_Off = new IntSignal(); public
IntSignal cruise_On = new IntSignal();
public IntSignal deactivateControl = new IntSignal();
public DoubleSignal desiredSpeed = new DoubleSignal();
public DoubleSignal distance = new DoubleSignal();

```

```

    public IntSignal acc_Car = new IntSignal();
    public IntSignal acc_Cruise = new IntSignal();
    public IntSignal brake = new IntSignal();
    public IntSignal dec_Car = new IntSignal();

    ISignal signal3=esysfactory.getEsysInstance().
    createSignal("distance", "Double"); module2.addAction(signal3);
    ISignal signal4=esysfactory.getEsysInstance().
    createSignal("desiredSpeed", "Double"); module2.addAction(signal4);
    ISignal signal5=esysfactory.getEsysInstance().
    createSignal("car_On", "Int"); module2.addAction(signal5);
    ISignal signal6=esysfactory.getEsysInstance().
    createSignal("car_Off", "Int"); module2.addAction(signal6);
    ISignal signal7=esysfactory.getEsysInstance().
    createSignal("cruise_On", "Int"); module2.addAction(signal7);
    ISignal signal8=esysfactory.getEsysInstance().
    createSignal("cruise_Off", "Int");
    module2.addAction(signal8);
    ISignal signal9=esysfactory.getEsysInstance().
    createSignal("deactivateControl", "Int"); module2.addAction(signal9);
    ISignal signal10=esysfactory.getEsysInstance().
    createSignal("acc_Car", "Int");
    module2.addAction(signal10);

```

```
public IntSignal dec_Cruise = new IntSignal();
public IntSignal decline = new IntSignal();
public IntSignal incline = new IntSignal();
```

```
ISignal signal11=esysfactory.getEsSysInstance().
createSignal("dec_Car", "Int");
module2.addActor(signal11);

ISignal signal12=esysfactory.getEsSysInstance().
createSignal("acc_Cruise", "Int");
module2.addActor(signal12);

ISignal signal13=esysfactory.getEsSysInstance().
createSignal("dec_Cruise", "Int");
module2.addActor(signal13);

ISignal signal14=esysfactory.getEsSysInstance().
createSignal("incline", "Int"); module2.addActor(signal14);

ISignal signal15=esysfactory.getEsSysInstance().
createSignal("decline", "Int"); module2.addActor(signal15);

ISignal signal16=esysfactory.getEsSysInstance().
createSignal("brake", "Int"); module2.addActor(signal16);
```

```

IProcess pro1=esysfactory.getEsysInstance().
createProcess("run_acc",signal1);
pro1.SetMethodProcess(true);
module2.addEsysActor(pro1);
pro1.SignalEvent("transaction");
pro1.setComment("CruiseControlTB.gui.
setAcceleration(this.acc.Value)");

IProcess
pro2=esysfactory.getEsysInstance().
createProcess("run_speed",signal2);
pro2.SetMethodProcess(true);
module2.addEsysActor(pro2);
pro2.SignalEvent("transaction");
pro2.setComment("CruiseControlTB.gui.
setSpeed(this.speed.Value)");

IProcess pro3=esysfactory.getEsysInstance().
createProcess("run_distance",signal3);
pro3.SetMethodProcess(true);
module2.addEsysActor(pro3);
pro3.SignalEvent("transaction");
pro3.setComment("CruiseControlTB.gui.
setDistance(this.distance.Value)");

IProcess pro4=esysfactory.getEsysInstance().
createProcess("run_desiredSpeed",signal4);
pro4.SetMethodProcess(true); module2.addEsysActor(pro4);
pro4.SignalEvent("transaction"); pro4.setComment("
CruiseControlTB.gui. setDesiredSpeed(this.desiredSpeed.Value)");

IProcess pro5=esysfactory.getEsysInstance().
createProcess("run_car_On",signal5); pro5.SetMethodProcess(true);
module2.addEsysActor(pro5); pro5.SignalEvent("transaction");
ICondition condi=esysfactory.getEsysInstance().
createCondition("this.state == INACTIVE"); pro5.addActor(condi);
condi.setComment("this.state == INACTIVE; \n
CruiseControlHAL.EngineOn(\"hw\"); \n
\CruiseControlTB.gui.engineOn(); ");

[MethodProcess] [EventList("transaction", "acc")]
private void run_acc()
{
    CruiseControlTB.gui.setAcceleration(this.acc.Value);
}
[MethodProcess] [EventList("transaction", "speed")]
private void run_speed()
{
    CruiseControlTB.gui.setSpeed(this.speed.Value);
}
[MethodProcess] [EventList("transaction", "distance")]
private void run_distance()
{
    CruiseControlTB.gui.setDistance(this.distance.Value);
}
[MethodProcess] [EventList("transaction", "desiredSpeed")]
private void run_desiredSpeed()
{
    CruiseControlTB.gui.setDesiredSpeed(this.desiredSpeed.Value);
}
[MethodProcess] [EventList("transaction", "car_On")]
private void run_car_On()
{
    if(this.state == INACTIVE)
    {
        this.state = ACTIVE;
        CruiseControlHAL.EngineOn("hw");
        CruiseControlTB.gui.engineOn();
    }
}

```

```

IProcess pro6=esysfactory.getEsysInstance().
createProcess("run_Car_Off",signal6); pro6.SetMethodProcess(true);
module2.addEsysActor(pro6); pro6.SignalEvent("transaction");
ICondition condi1=esysfactory.getEsysInstance().createCondition
("this.state == ACTIVE || this.state == CRUISING");
pro6.addActor(condi1);
condi1.setComment("CruiseControlHAL.EngineOff(\"hw\");\n this.state
= INACTIVE; \n this.desiredSpeed.Value = 0;\n acc.Value = 0;\n
CruiseControlTB.gui.setAcceleration(0);\n
CruiseControlTB.gui.engineOff(0);");

IProcess pro7=esysfactory.getEsysInstance().
createProcess("run_Cruise_On",signal7);
pro7.SetMethodProcess(true);
module2.addEsysActor(pro7);
pro7.SignalEvent("transaction");
ICondition condi2=esysfactory.getEsysInstance().
createCondition("this.state == INACTIVE");
pro7.addActor(condi2);
condi2.setComment("CruiseControlTB.gui.controlOn(0);
\n this.state = CRUISING; \n
this.desiredSpeed.Value = CruiseControlHAL.Load(\"speed\"); \n
CruiseControlHAL.ControlOn(CruiseControlHAL.
Load(\"speed\"), this.acc.Value, \"hw\"); ");
}

[MethodProcess]
[EventList("transaction", "car_Off")]
private void run_Car_Off()
{
    if(this.state == ACTIVE || this.state == CRUISING)
    {
        CruiseControlHAL.EngineOff("hw");
        this.state = INACTIVE;
        this.desiredSpeed.Value = 0;
        acc.Value = 0;
        CruiseControlTB.gui.setAcceleration(0);
        CruiseControlTB.gui.engineOff(0);
    }
}

[MethodProcess] [EventList("transaction", "cruise_On")] private void
run_Cruise_On()
{
    if(this.state == INACTIVE)
    {
        CruiseControlTB.gui.controlOn(0);
        this.state = CRUISING;
        this.desiredSpeed.Value = CruiseControlHAL.Load("speed");
        CruiseControlHAL.ControlOn(CruiseControlHAL.Load("speed"),
        this.acc.Value, "hw");
    }
}

```

```

[MethodProcess] [EventList("transaction", "cruise_off")]
private void run_Cruise_Off ()
{
    if(this.state == INACTIVE)
    {
        this.state = ACTIVE;
        CruiseControlHAL.EngineOn("hw");
        CruiseControlTB.gui.engineOn();
    }
}

[MethodProcess]
[EventList("transaction", "deactivateControl")]
private void run_Cruise_Off ()
{
    if(this.state == CRUISING)
    {
        this.state = ACTIVE;
        CruiseControlHAL.Brake("hw");
        CruiseControlTB.gui.controlOff();
    }
}

```

```

IProcess pro8=esysfactory.getEsysInstance().
createProcess("run_Cruise_Off",signal8);
pro8.SetMethodProcess(true);
module2.addEsysActor(pro8);
pro8.SignalEvent("transaction");
ICondition condi3=esysfactory.getEsysInstance().
createCondition("this.state ==
CRUISING"); pro8.addActor(condi);
condi3.setComment("
CruiseControlTB.gui.controlOff();
\n this.state = ACTIVE; \n
this.desiredSpeed.Value = 0; \n
CruiseControlHAL.ControlOff(\"hw\");");

IProcess pro9=esysfactory.getEsysInstance().
createProcess("run_Cruise_Off",signal9);
pro9.SetMethodProcess(true);
module2.addEsysActor(pro9);
pro9.SignalEvent("transaction");
ICondition condi4=esysfactory.getEsysInstance().
createCondition("this.state == CRUISING");
pro9.addActor(condi4);
condi4.setComment("this.state = ACTIVE;\n
CruiseControlHAL.Brake(\"hw\"); \n
CruiseControlTB.gui.controlOff();");

```

```

IPProcess pro10=esysfactory.getEsysInstance().
createProcess("run_incline",signal14);
pro10.SetMethodProcess(true);
module2.addEsysActor(pro10);
pro10.SignalEvent("transaction");
ICondition condi5=esysfactory.getEsysInstance().
createCondition("this.state == ACTIVE ||
this.state == CRUISING");
pro10.addActor(condi5);
condi5.setComment("if (this.alpha < 0.6) {\n
this.alpha += 0.09; } \n else { \n this.alpha = 0.6; } \n
CruiseControlHAL.Alpha(this.alpha, \"hw\"); \n
CruiseControlTB.gui.setAlpha(this.alpha);");

IPProcess pro11=esysfactory.getEsysInstance().
createProcess("run_decline",signal15);
pro11.SetMethodProcess(true);
module2.addEsysActor(pro11);
pro11.SignalEvent("transaction");
ICondition condi6=esysfactory.getEsysInstance().
createCondition("this.state == ACTIVE ||
this.state == CRUISING");
pro11.addActor(condi6);
condi6.setComment("if (this.alpha > -0.6)<
{\n this.alpha -= 0.09; } \n
else { \n this.alpha = -0.6; } \n
CruiseControlHAL.Alpha(this.alpha, \"hw\"); \n
CruiseControlTB.gui.setAlpha(this.alpha);");

[MethodProcess]
[EventList("transaction", "decline")]
private void run_decline ()
{
    if(this.state == ACTIVE || this.state == CRUISING)
    {
        if (this.alpha > -0.6) {
            this.alpha -= 0.09; }
        else {
            this.alpha = -0.6; }
        CruiseControlHAL.Alpha(this.alpha, "hw");
        CruiseControlTB.gui.setAlpha(this.alpha);
    }
}

[MethodProcess] [EventList("transaction", "acc_Car")]
private void run_acc_car ()
{
    if(this.state == ACTIVE )
    {
        if (this.acc.Value <50) {
            this.acc.Value +=1; }
        CruiseControlHAL.Acceleration(this.acc.Value, "hw");
    }
}

```

```

IProcess pro12=esysfactory.getEsysInstance().
createProcess("run_acc_car",signal10);
pro12.SetMethodProcess(true);
module2.addEsysActor(pro12);
pro12.SignalEvent("transaction");
ICondition condi7=esysfactory.getEsysInstance().
createCondition("this.state == ACTIVE ");
pro12.addActor(condi7);
condi7.setComment("if (this.acc.Value <50)
{\n this.acc.Value +=1;
}\n CruiseControlHAL.
Acceleration(this.acc.Value, \"hw\"); ");

IProcess pro13=esysfactory.getEsysInstance().
createProcess("run_dec_car",signal11);
pro13.SetMethodProcess(true);
module2.addEsysActor(pro12);
pro13.SignalEvent("transaction");
ICondition condi8=esysfactory.getEsysInstance().
createCondition("this.state == ACTIVE ");
pro13.addActor(condi8);
condi8.setComment("if (this.acc.Value > 0)
{\n this.acc.Value -=1; }\n
CruiseControlHAL.Acceleration(this.acc.Value, \"hw\");
\n CruiseControlIB.gui.
setAcceleration(this.acc.Value);");

[MethodProcess]
[EventList("transaction", "acc_Car")]
private void run_acc_car ()
{
    if(this.state == ACTIVE )
    {
        if (this.acc.Value <50) {
            this.acc.Value +=1; }
        CruiseControlHAL.Acceleration(this.acc.Value, "hw");
    }
}

[MethodProcess] [EventList("transaction", "acc_Cruise")]
private void run_acc_cruise()
{
    if(this.state == CRUISING)
    {
        this.desiredSpeed.Value += 1.0;
        CruiseControlHAL.DesiredSpeed(this.desiredSpeed.Value, "hw");
        CruiseControlIB.gui.setDesiredSpeed(this.desiredSpeed.Value);
    }
}

[MethodProcess] [EventList("transaction", "dec_Cruise")]
private void run_dec_cruise()
{
    if(this.state == CRUISING)
    {
        this.desiredSpeed.Value += 1.0;
        CruiseControlHAL.DesiredSpeed(this.desiredSpeed.Value, "hw");
        CruiseControlIB.gui.setDesiredSpeed(this.desiredSpeed.Value);
    }
}

```

```

IProcess pro14=esysfactory.getEsysInstance().
createProcess("run_acc_cruise",signal12);
pro14.SetMethodProcess(true);
module2.addEsysActor(pro14);
pro14.SignalEvent("transaction");
ICondition condi9=esysfactory.getEsysInstance().
createCondition("this.state == CRUISING");
pro14.addActor(condi9);
condi9.setComment("this.desiredSpeed.Value += 1.0;\n
CruiseControlHAL.DesiredSpeed(this.desiredSpeed.Value, \"hw\");
\n CruiseControlTB.gui.
setDesiredSpeed(this.desiredSpeed.Value);");

IProcess pro15=esysfactory.getEsysInstance().
createProcess("run_dec_cruise",signal13);
pro15.SetMethodProcess(true);
module2.addEsysActor(pro15);
pro15.SignalEvent("transaction");
ICondition condi10=esysfactory.getEsysInstance().
createCondition("this.state == CRUISING");
pro15.addActor(condi10);
condi10.setComment("this.desiredSpeed.Value += 1.0;
\n CruiseControlHAL.
DesiredSpeed(this.desiredSpeed.Value, \"hw\");
\n CruiseControlTB.gui.
setDesiredSpeed(this.desiredSpeed.Value);");

```

```

[MethodProcess]
[EventList("transaction", "dec_cruise")]
private void run_dec_cruise()
{
    if(this.state == CRUISING)
    {
        this.desiredSpeed.Value -= 1.0;
        CruiseControlHAL.DesiredSpeed(this.desiredSpeed.Value, "hw");
        CruiseControlTB.gui.setDesiredSpeed(this.desiredSpeed.Value);
    }
}

[MethodProcess] [EventList("transaction", "brake")]
private void run_dec_cruise()
{
    acc.Value = 0;
    CruiseControlHAL.ControlOff("hw");
    CruiseControlHAL.Brake("hw");
    CruiseControlTB.gui.brake();
}
}

```

```
IProcess
  prof17=esysfactory.getEsysInstance().
  createProcess("run_dec_cruise", signal16);
  prof17.SetMethodProcess(true);
  module2.addEsysActor(prof17);
  prof17.SignalEvent("transaction");
  prof17.setComment(" acc.Value =
  0; \n CruiseControlHAL.ControlOff(\"hw\");
  \n CruiseControlHAL.Brake(
  \"hw\"); \n CruiseControlTB.gui.brake();");
```