

# The beginning steps of VISSIM COM programming with MATLAB script

Tamas Tettamanti,

Budapest University of Technology, Dept. of Vehicle and Transportation Control

H-1111 Stoczek Jozsef u. 2. [www.traffic.bme.hu/index.php/en](http://www.traffic.bme.hu/index.php/en)

Note that some parts of the VISSIM COM interface are not available through MATLAB. In this case, you should use e.g. VISUAL BASIC or VISUAL C++ for COM programming. Nevertheless, for simple problems, MATLAB can be sufficient.

1. Open a new script file (\*.m) in MATLAB. Create a new a COM (ActiveX) Automation server:

```
vissim_com=actxserver('VISSIM.vissim.540');
```

For more information use the help option of MATLAB in the Command Window:

```
>> help actxserver
```

2. MATLAB COM methods can be shown by

```
>> help com
```

However, only the following methods can be called via VISSIM COM:

delete	- Delete a COM object.
events	- Return list of events the COM object can trigger.
get	- Get COM object properties.
interfaces	- List custom interfaces supported by a COM server.
invoke	- Invoke method on object or interface, or display methods.
move	- Move and/or resize an ActiveX control in its parent window.
release	- Release a COM interface.
set	- Set a property value on a COM object.

For more information about a VISSIM COM method, type in the MATLAB Command Window:

```
>> vissim_com.[COM method name]
```

3. A simple COM program in MATLAB script is given below.

```
clear all;
clc;
format compact;
vissim_com=actxserver('VISSIM.vissim.540');

vissim_com.LoadNet('E:\Kutatas\Vissim_Com_Matlab\vissim_files\matlab_test.inp');
vissim_com.LoadLayout('E:\Kutatas\Vissim_Com_Matlab\vissim_files\vissim.ini');

sim=vissim_com.simulation;
timestep=1;
sim.Resolution=timestep;
vnet=vissim_com.net;
scs=vnet.signalcontrollers;
sc=scs.GetSignalControllerByNumber(1);
sgs=sc.signalgroups;
sg_1=sgs.GetSignalGroupByNumber(1);
```

```

sg_2=sgs.GetSignalGroupByNumber(2);
links=vnet.links;
link_1=links.GetLinkByNumber(1);
link_2=links.GetLinkByNumber(2);

for i=0:1800
    sim.RunSingleStep;
    pause(.05)
    if rem(i,10)==0
        density=link_1.GetSegmentResult('Density', 0, 0.0,1,0)
        if density>40
            sg_1.set('State',3); %Green=3
            sg_2.set('State',1);
        else
            sg_1.set('State',1); %Red=1
            sg_2.set('State',3);
        end
        disp(['Simulation Time: ' num2str(i)]);
    end
end
end

```

4. Start simulation from **Debug/Run \*.m** or by using button F5.
5. Further help on VISSIM COM programming can be found in the official VISSIM help documentation in your local file directory: C:\Program Files\PTV\_Vision\VISSIM5.40\Doc.

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