

SIEMENS

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Sitraffic Tools Aimsun Export

User documentation

Introduction

This user documentation describes how to export planning configuration data out of Office by using the Sitraffic Aimsun Export tool. The output format of this converter tool contains files for one intersection version, which can be imported into AIMSUN Next.

In Aimsun the in Office configured data can be used to test the planned traffic actuation with specialized test editors and to start micro simulations with given planning data from Sitraffic Office.

In general, the setup of the Sitraffic Aimsun Export makes available two major parts:

- The static configuration information to Aimsun
- The dynamic communication interface between Aimsun and the traffic actuation

How to

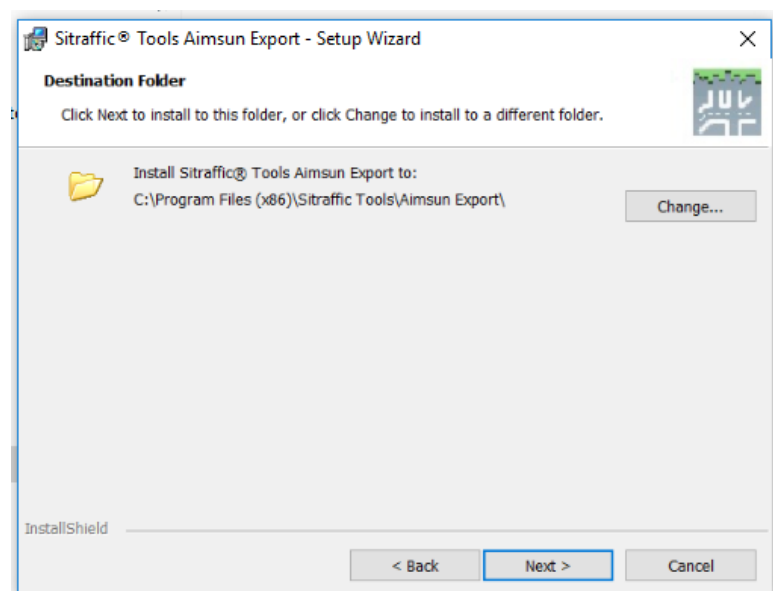
Setup

Install via double click on Setup .exe file:

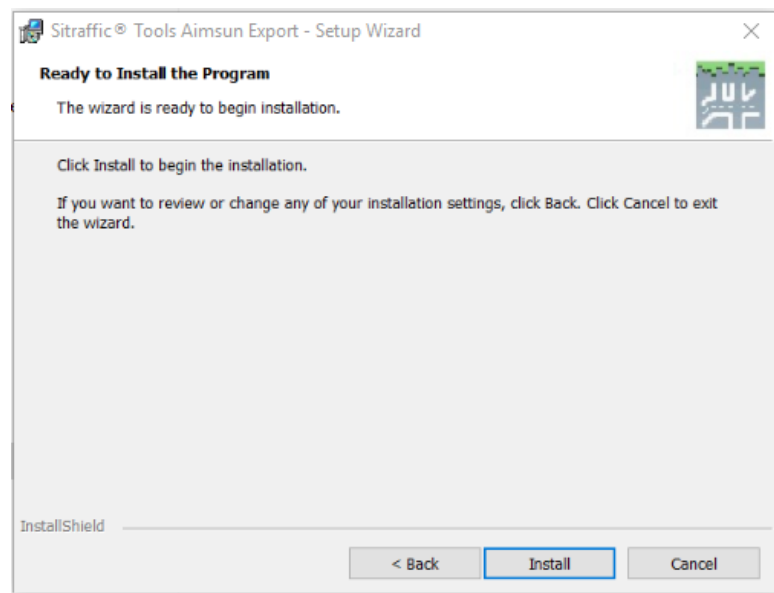
- click Next



- Select the installation path, default is recommended
- click next to start the installation



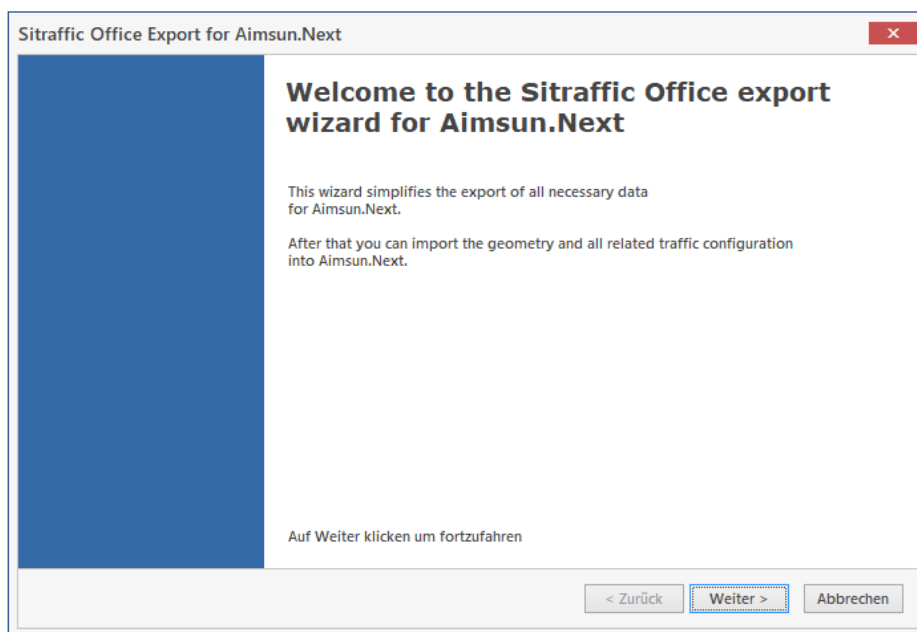
- and accept the prompt for Administrative Rights, if necessary
- click next



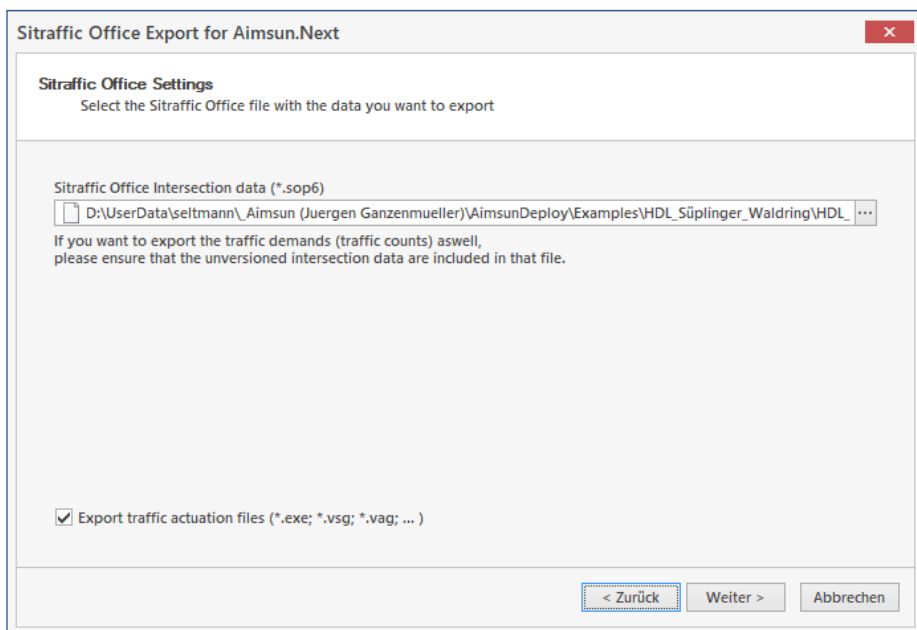
Usage of Sitraffic Aimsun Converter

From the Programs Menu, start the *Sitraffic Tools Aimsun Export* → "Run Aimsun Export":

- A wizard will open up



- select the input sop6 file



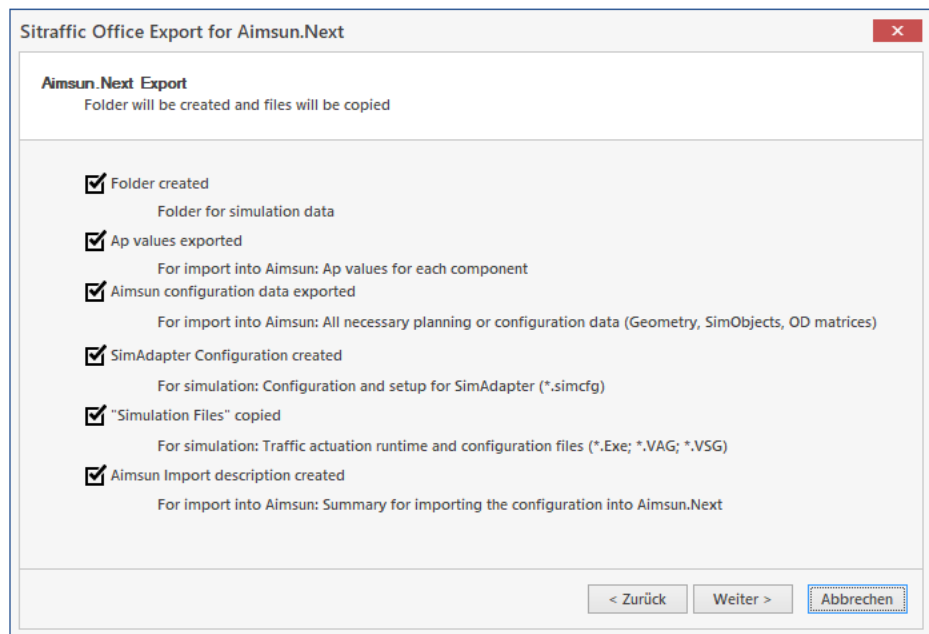
- select ta.exe, vag, vsg , wtt files

The screenshot shows the 'Sitraffic Office Export for Aimsun.Next' dialog box with the 'Traffic Actuation Configuration' tab selected. The subtitle is 'Which data / program should be used for simulation?'. There are four input fields with browse buttons (three dots): 'Simulation Executable (*.exe)', 'Base configuration (*.VSG)' (containing 'FNr50079.VSG'), 'TA configuration (*.VAG)' (containing 'FNr50079.VAG'), and 'AP Values in Wtt Files (*.wtt)' (containing '"D:\SITRAFFIC\WTT\sle30200.wtt";"D:\SITRAFFIC\WTT\vke30200.wtt"'). At the bottom are three buttons: '< Zurück', 'Weiter >' (highlighted with a blue dashed border), and 'Abbrechen'.

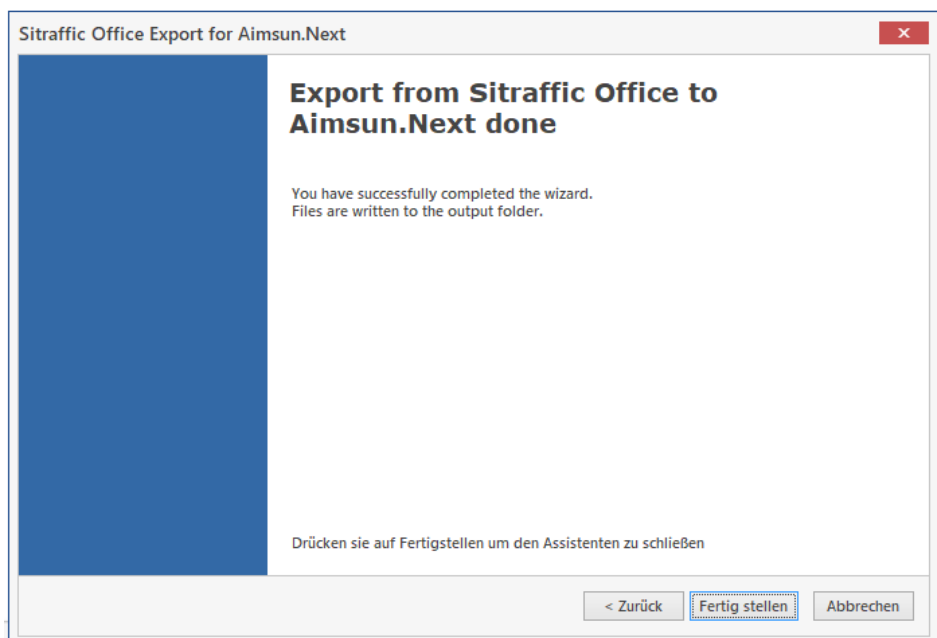
- configure output folder (by default, this should be the folder, where the input sop6 was selected)

The screenshot shows the 'Sitraffic Office Export for Aimsun.Next' dialog box with the 'Export Settings' tab selected. The subtitle is 'Untertitel: Dieser sollte dem Benutzer helfen die Aufgabe abzuschließen'. There is one input field with a browse button (three dots) labeled 'Output folder'. Below it is a checkbox labeled 'Open Folder in Explorer after export.' which is checked. At the bottom are three buttons: '< Zurück', 'Weiter >' (highlighted with a blue dashed border), and 'Abbrechen'.

- Press Next and check Step results



- Finish Wizard

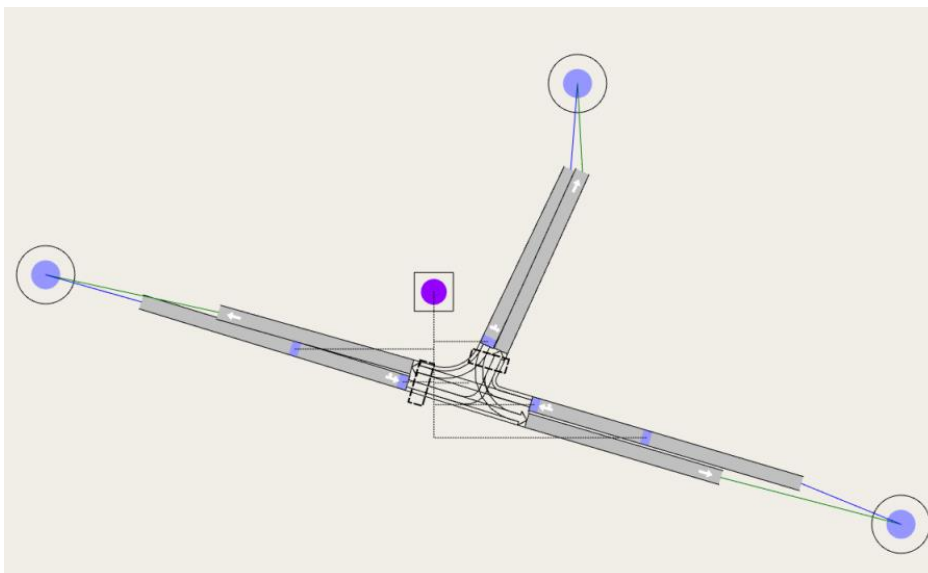


- the output folder will be opened, containing all files needed for the Simulation with Aimsun

91.exe	15.01.2018 16:05	Anwendung	636 KB
Aimsun.PNG	31.08.2018 12:35	PNG-Datei	10 KB
ApValues.json	31.08.2018 12:31	JSON-Datei	10 KB
Bi91_Geometriedaten.png	31.08.2018 10:13	PNG-Datei	18 KB
FNr91.VAG	14.03.2018 08:48	VAG-Datei	89 KB
FNr91.VSG	14.03.2018 08:48	VSG-Datei	395 KB
Geometry.geojson	31.08.2018 12:31	GEOJSON-Datei	11 KB
IntersectionConfig.sac	31.08.2018 12:31	SAC-Datei	1 KB
LayoutplanBitmap.json	31.08.2018 12:31	JSON-Datei	1.046 KB
Office.PNG	31.08.2018 12:37	PNG-Datei	147 KB
SimObjects.json	31.08.2018 15:32	JSON-Datei	7 KB
SimSetup.simcfg	31.08.2018 12:31	SIMCFG-Datei	1 KB
simulation_adapter_objects.json	31.08.2018 12:31	JSON-Datei	2 KB

Quick introduction for import and usage in Aimsun.Next

- Select File → Import → "Sittraffic Office files"
- go to previous output folder
- select **IntersectionConfig.sac** file and commit
 - The geometry should be imported and all existing data applied, eg.
 - gemeotry such as lanes, turns etc
 - OdMatrices, Centroids,
 - controller including signalgroups detectors etc



Aimsun basic settings:

- switch on layer view: Window→ Windows→ Layers
 - untick "HD Map" and "Sidewalks"
- "View settings": Data Analysis→ New View Style Wizard

Create a New Style

Apply to

Objects of Type: Detector

Based On

☒ The Value of the Attribute Name as Continuous

☐ All Objects

Action

☒ Change Colour

☐ Change Pen Width

☐ Show the Attribute Value

☐ Show a Mark Over Objects

☐ Hide Objects

Altitude

- Next → Next → Finish
- View style can be found in project tree Project → Data Analysis → View Styles
- 2. Step: Data Analysis → New View Mode Wizard

View Mode Wizard

New Mode Name and Styles

Mode Name: Give_a_name

Style in Mode

☒ Use Existing Styles

☐ Create a New Style

☐ Adapt an Existing Style (a New One Will Be Created)

Name of New Style:

- Next → Select created View Style → finish
- Activate the created View Mode:



Comments:

- Detector / calling point (de-registration PT) cannot be located inside of the intersection

Necessary project elements in Aimsun

- Lane-to-Lane connections
 - Double click on intersection
 - Main-Tab
 - If necessary, change lane-connections, so that it's equal to the topology in Sittraffic Office
- Signalgroups
 - Double click on intersection
 - Signal-Groups-Tab

- If necessary, change Signal-Groups with the correct lane-connections and name as in Sittraffic Office configured
- Control Plan
 - Right click on intersection
 - Edit Control Plan

The screenshot shows the 'Timing' configuration window for a signal. At the top, there are fields for 'Type' (External), 'Offset' (0,00), 'Yellow Time' (0,00 sec), 'Cycle' (90 secs), 'Rings' (1), 'Critical' (unchecked), and 'Red Percentage' (50). Below these are tabs for 'Timing' and 'Preemption'. The 'View as' dropdown is set to 'Phases', and there are zoom in/out buttons. The main area displays a phase diagram with a timeline from 0 to 80 seconds. 11 phases are shown as green blocks: phases 1-6 are 10s each, phases 7-10 are 5s each, and phase 11 is 5s. Below the diagram are tabs for 'Basics', 'Actuated', and 'Detectors'. The 'Basics' sub-tab is active, showing 'Interphase' (unchecked), 'Yellow Time' (Node Yellow Time), and 'Minimum Duration' (0,00 sec).

- Master-Control Plan
 - View Project → Control
- Traffic Demand
 - View Project → Demand → Centroid Configuration
 - Centroids for simulation of vehicles
 - centroid should be existing, wherever cars are entering or leaving the simulation
 - lanes should be connected to the centroid
 - Centroid Configuration → OD Matrices → Matrix for Simulation. Necessary: Duration and filled Cells with Vehicle data
 - Demand Data → Traffic Demands → OdMatrices must be assigned
- Simulation scenario:
 - Scenarios
 - Double click on Dynamic Scenario
 - Traffic Demand & Master Control Plan must be assigned
 - Micro Experiment must exist
 - Replication must exist

Running the Simulation

- Check, that the elements mentioned in the previous chapter are existing
- Check, that Od Matrices are existing, filled with trip data and assigned to a traffic demand
- Check, that Master Control Plan and Traffic Demand are assigned in the simulation scenario
- Start the simulation with „Run Animated Simulation“ (NOT Autorun)
- Open up the graphical view by double clicking on controller object
- Run the Simulation

Testing the logic

- Check, that the elements mentioned in the previous chapter are existing
- Check, that Master Control Plan and empty Traffic Demand are assigned
- Create a detection pattern template with one row per vehicle type, you want to test
- Create a new detection pattern for testing
- Open template and concrete pattern
- Start the simulation with „Run Animated Simulation“ (NOT Autorun)
- Open up the graphical view by double clicking on controller object
- Run the Simulation
- Focus the row in the detection pattern template
- For single call:
 - Click on the detector or calling point to trigger the detector
 - Detector presence should be visible in graphical view
- For permanent demand:
 - close detection pattern template and click detector once for activating and twice for deactivating.
 - Save the detection pattern and check, that it is assigned in scenario. Rerun the simulation to see the permanent demand in graphical view
- No extra mode for demand with gap yet

Example:

