AnyLogic 8:
Newest Features and Roadmap

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AnyLogic 8 Product Manager

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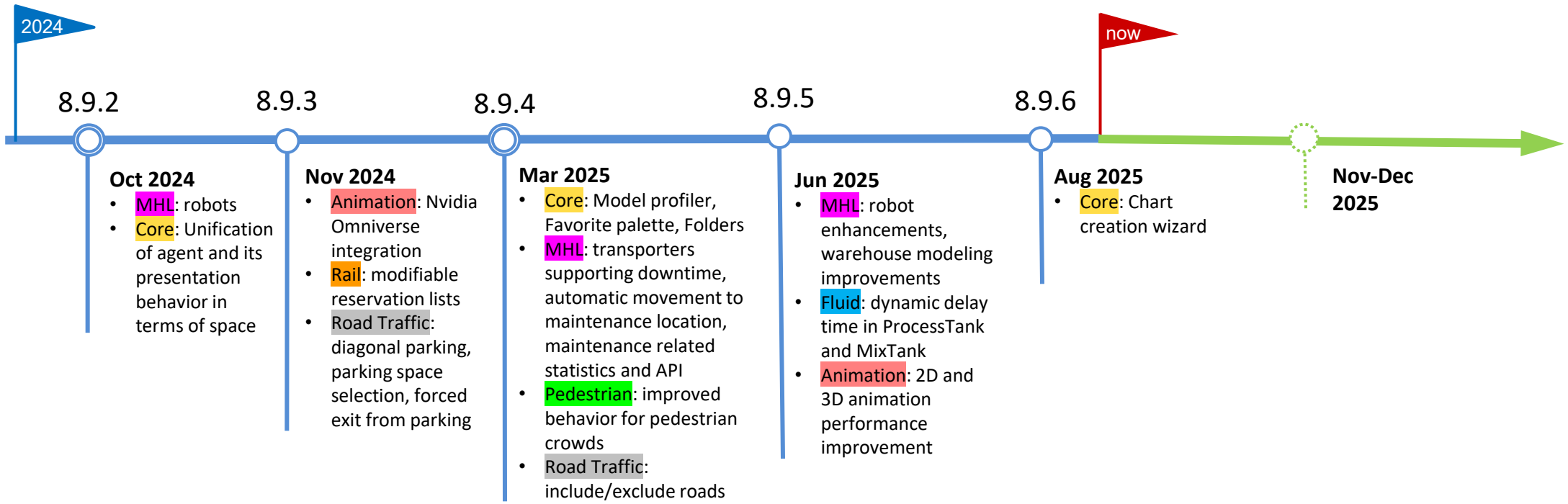
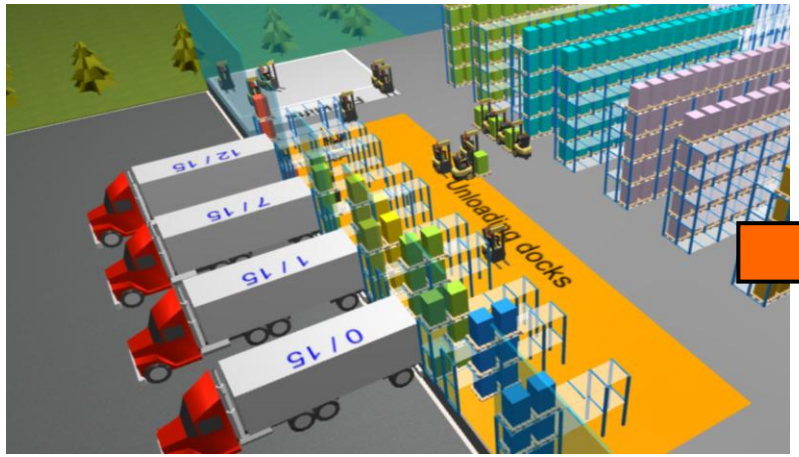
THE AnyLogic COMPANY

AnyLogic Roadmap (2024-2025 timeline)

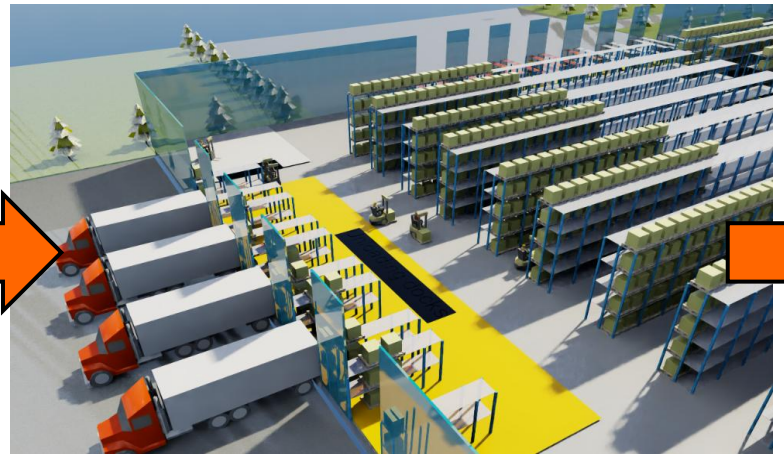


[released] Core improvements

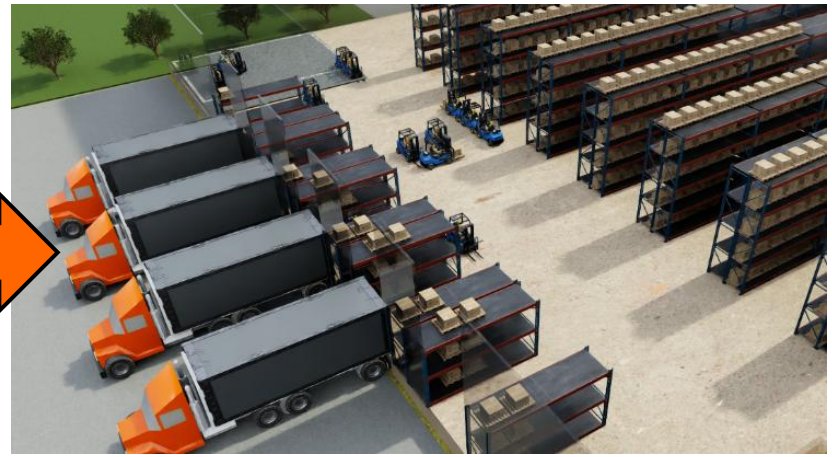
- Nvidia Omniverse connector
  - AnyLogic model being the heart of photorealistic Omniverse animation
  - Quick creation of 3D USD scene based on markups, shapes, 3D objects



3D Scene in AnyLogic



Rendered USD scene
in NVidia Omniverse



Rendered USD scene
with customized 3D elements
in NVidia Omniverse

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- Nvidia Omniverse connector
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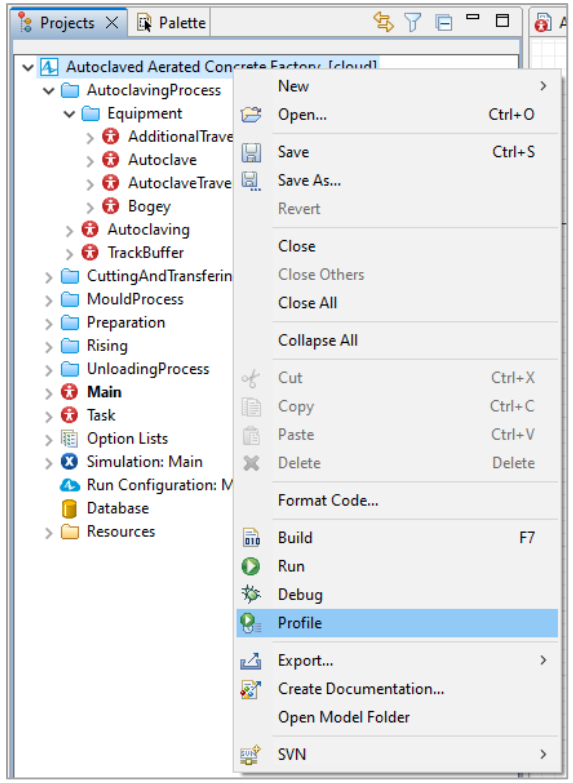
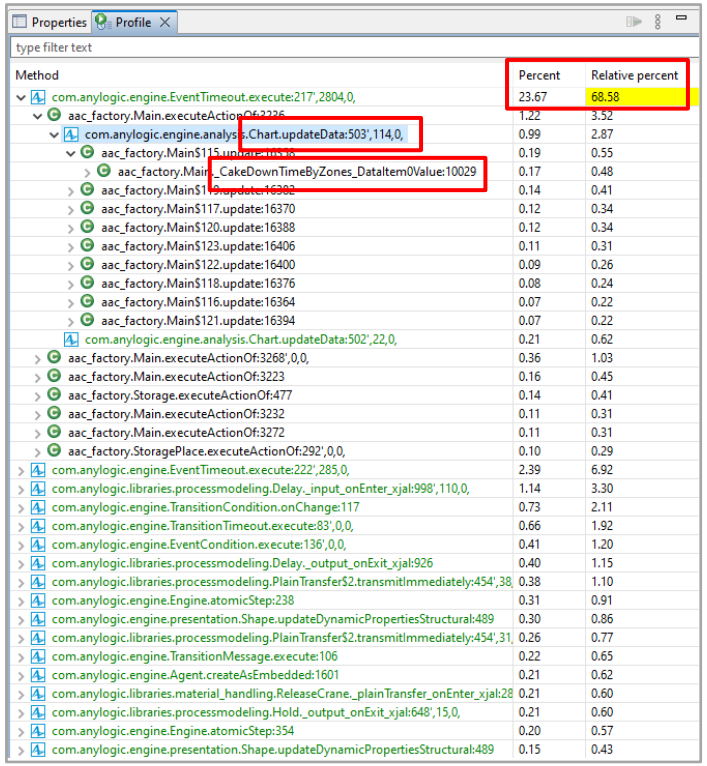
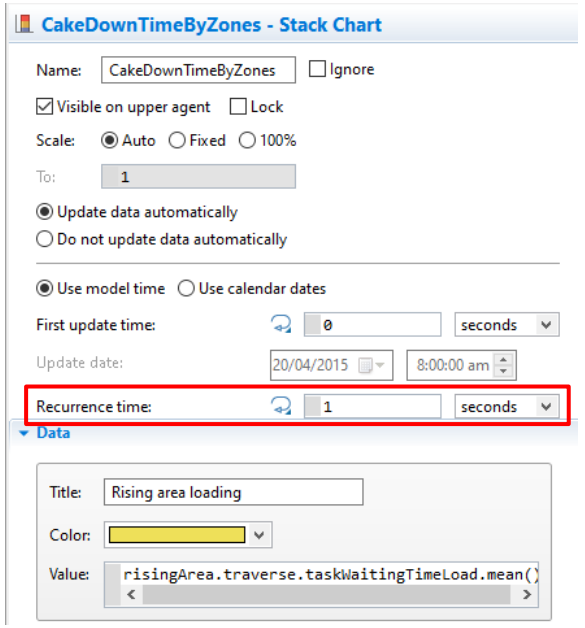
  - Quick creation of 3D USD scene based on markups, shapes, 3D objects
- Model profiler
  - Helps to find excessive function calls and non-optimal code







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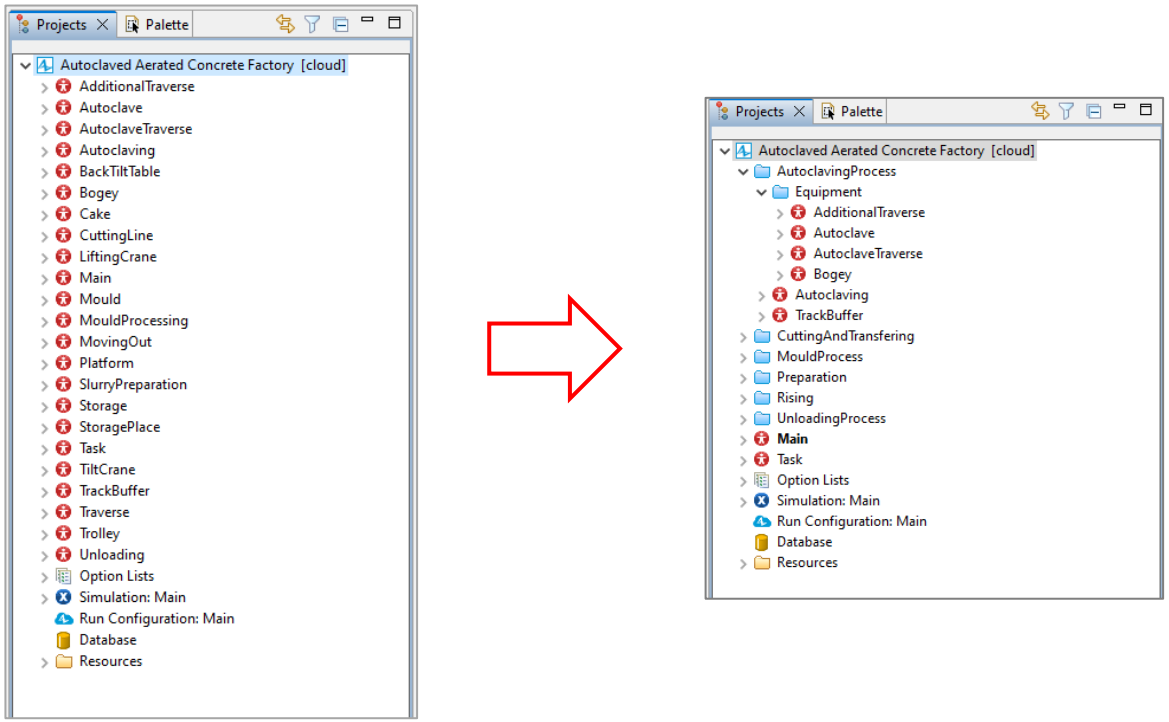
- Folders
  - Organize dozens of model elements into comprehensive structure



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- Model profiler
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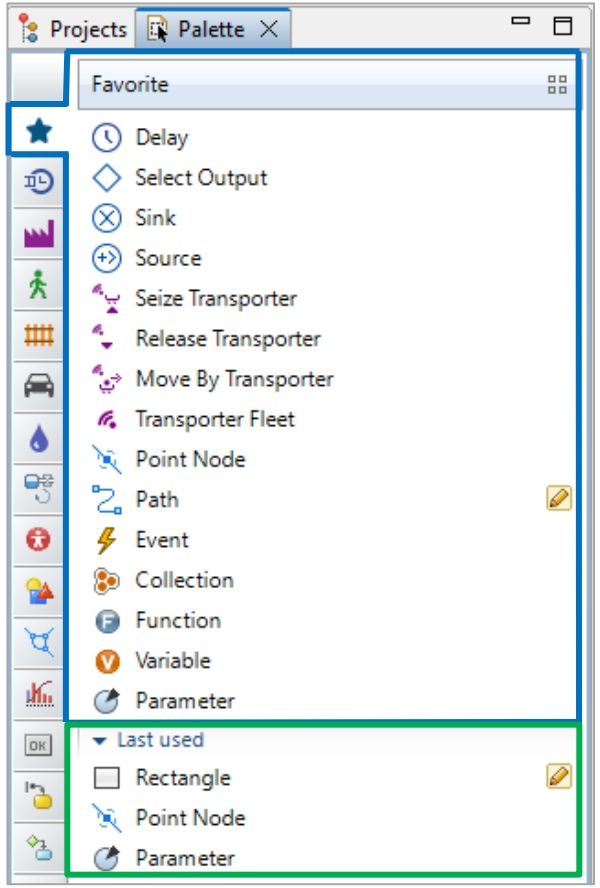
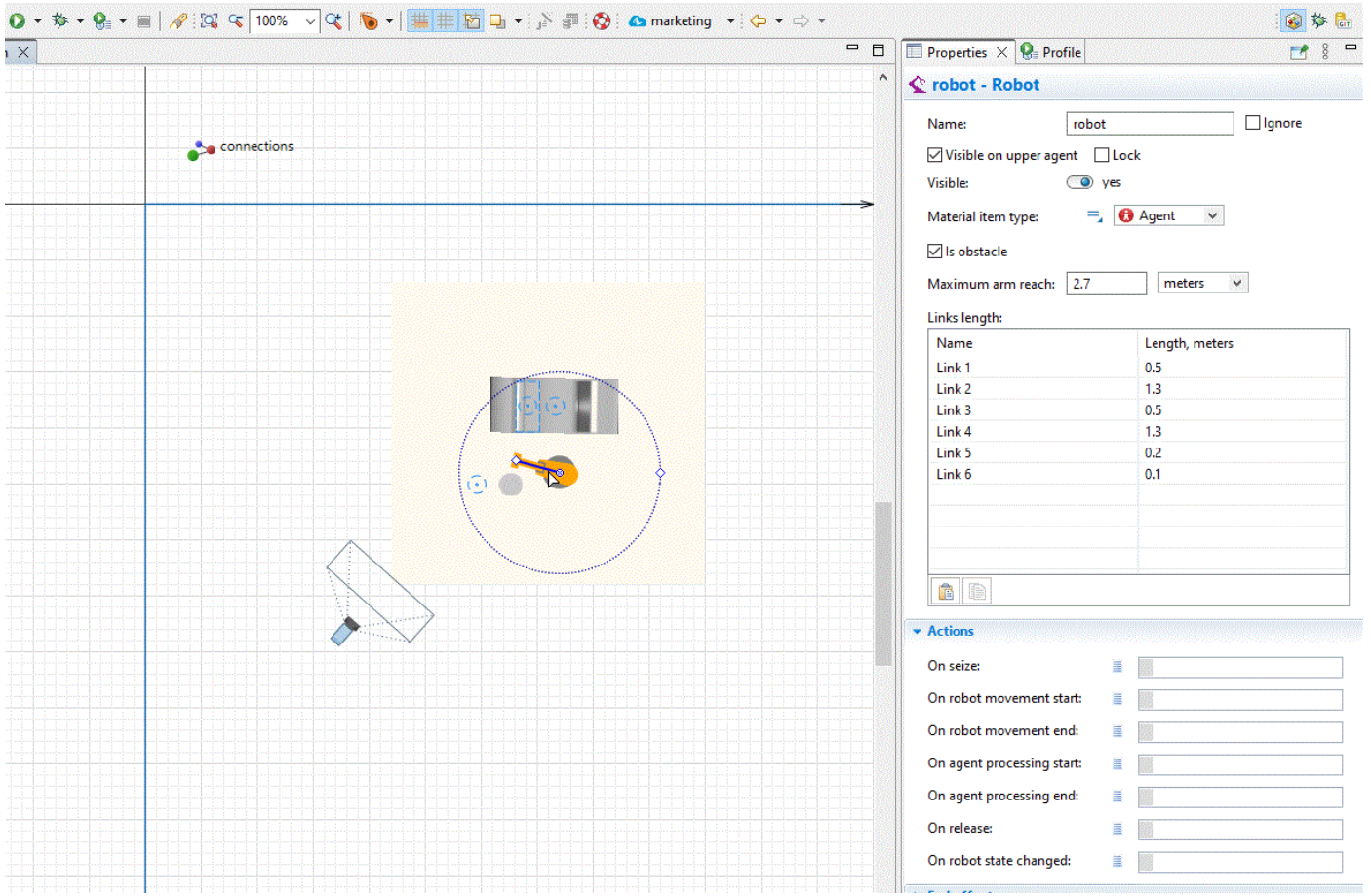
- Folders
  - Organize dozens of model elements into comprehensive structure
- Favorite palette
  - Collect the most frequently used blocks and markups
  - Quickly find the latest used element in recent elements section



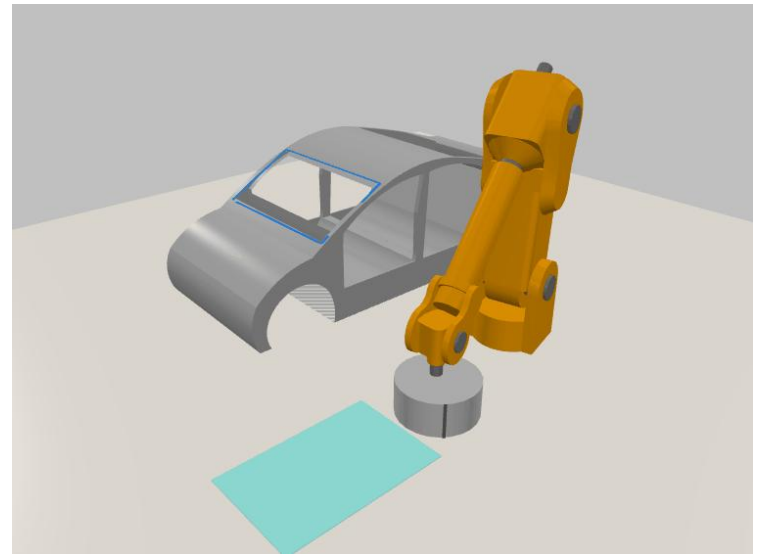
[released] Chart creation wizard

- Collects the most common element statistics
- Builds popular charts in a couple of clicks
- Available for Process Modeling and Material handling libraries' elements



[released] Material handling library improvements - Robots

- Robot markup
  - Realistic simultaneous movement of the set of links
  - Switchable end-effectors, including grippers and welding gun
  - Working area restrictions
    - *Arm reach distance and blocked area*
  - Manual control using API

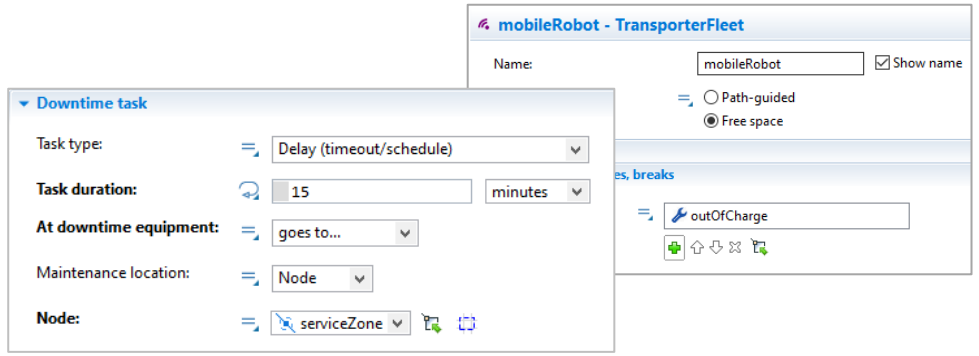


- ProcessByRobot flowchart block
  - Robot work set by Process time
    - *includes movement to agent and servicing the agent*
  - Transportation and processing of the agent
  - Movement set with
    - *Starting and end point*
    - *Path*

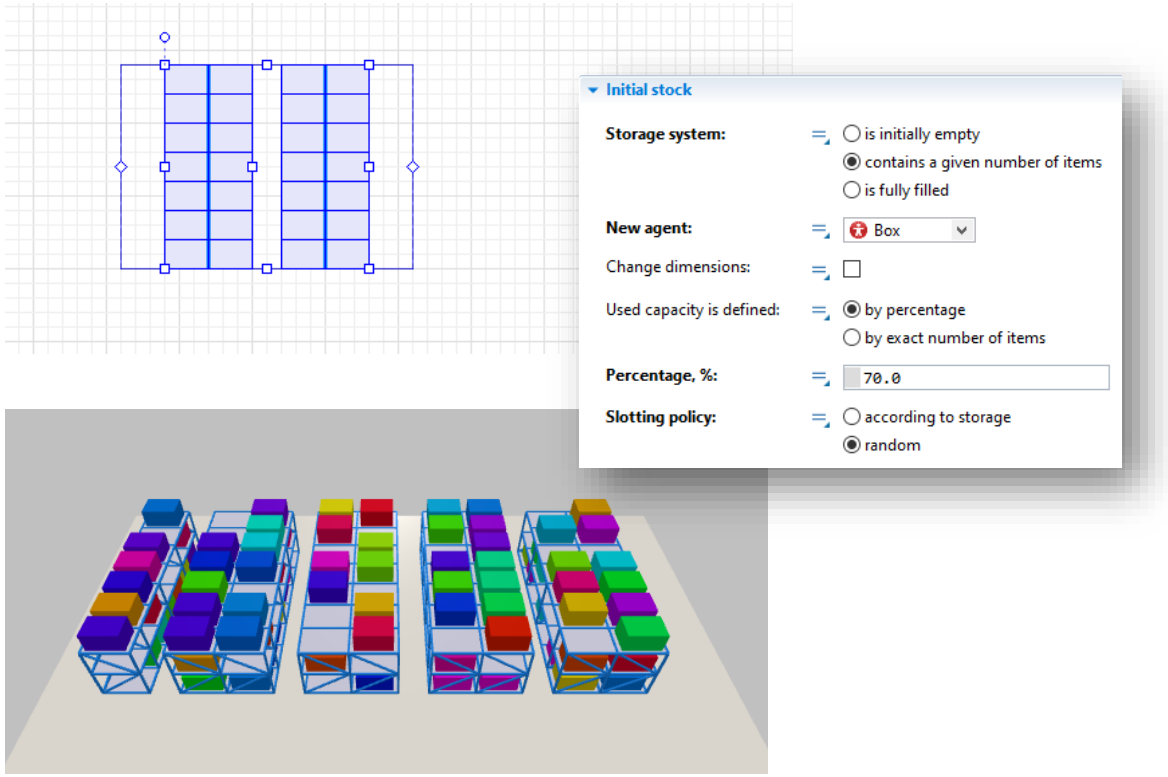
- SeizeRobot and ReleaseRobot blocks
  - Flexible control of robot's seize in complex consequent operations

[released] Material handling library improvements

- Maintenance support
  - Downtime block in TransporterFleet
  - Automatic movement to maintenance location

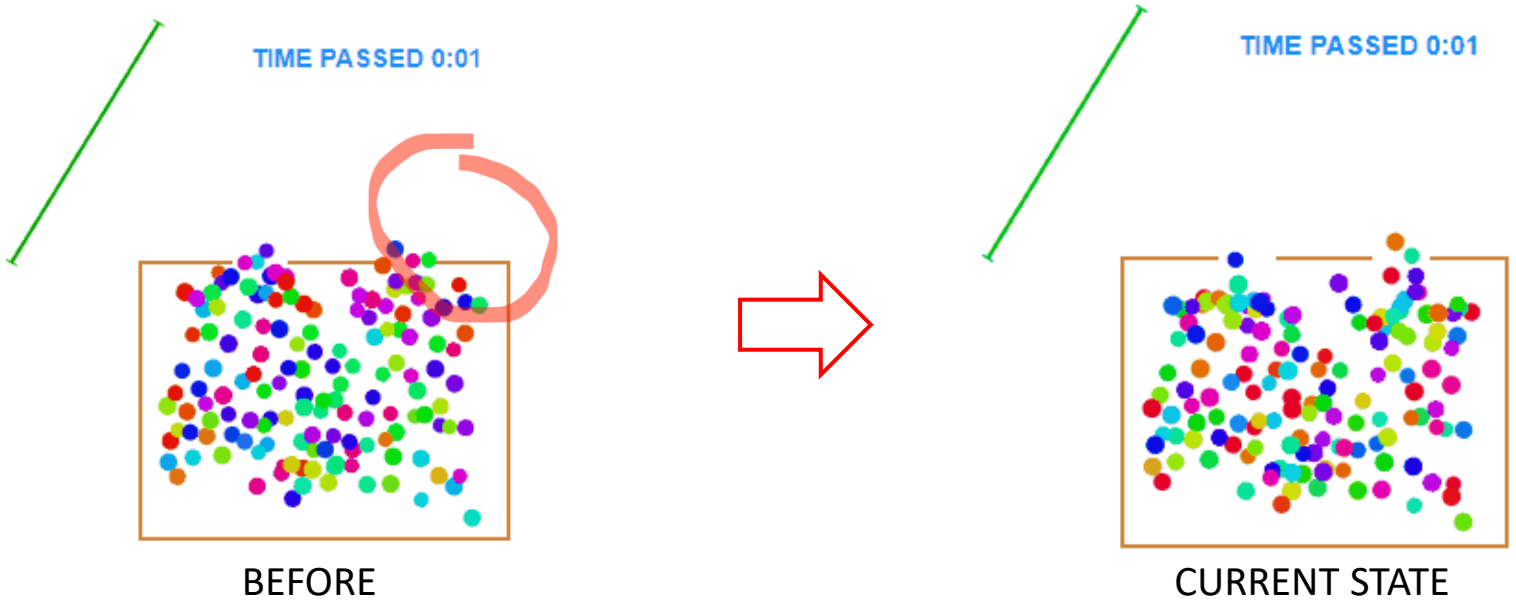


- Warehouse modeling
  - Mixed storage configuration
  - Initial storage filling
  - Usage of seized resources in storing process
  - New StorageSystem and Storage API
  - Simplified retrieval from deep positions



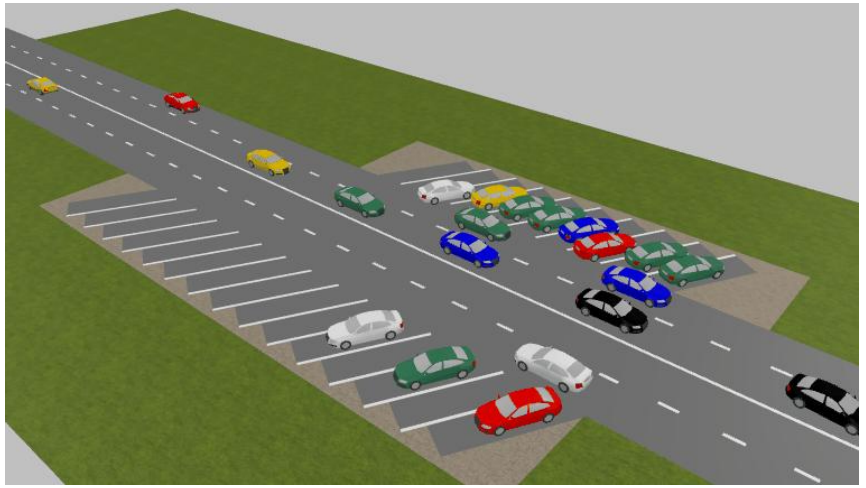
[released] Various libraries improvements

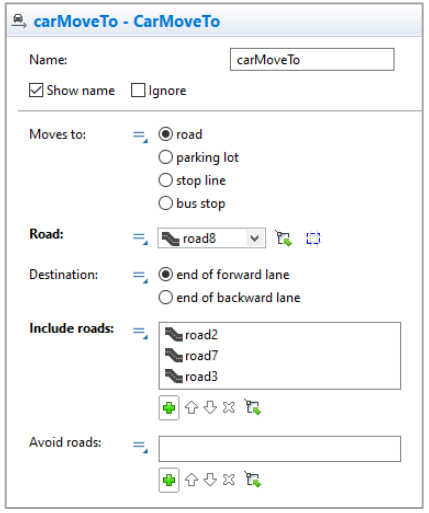
- Pedestrian library
  - Improved behavior of pedestrian crowds
  - More realistic route finding for individual pedestrians

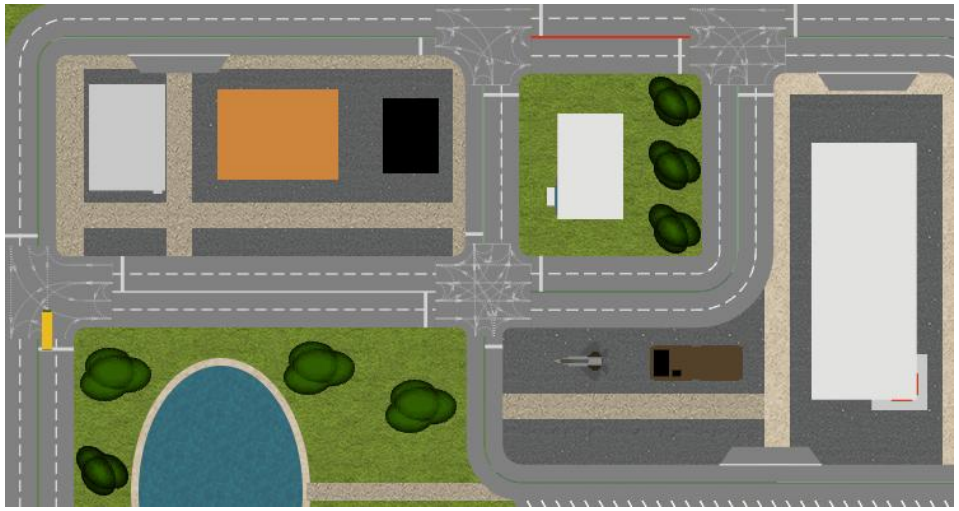


[released] Various libraries improvements

- Road traffic library
  - Improved parking modeling
    - *Diagonal parking*
    - *Parking place selection*
    - *Priority for exiting parking*
  - Route control by excluding/including roads





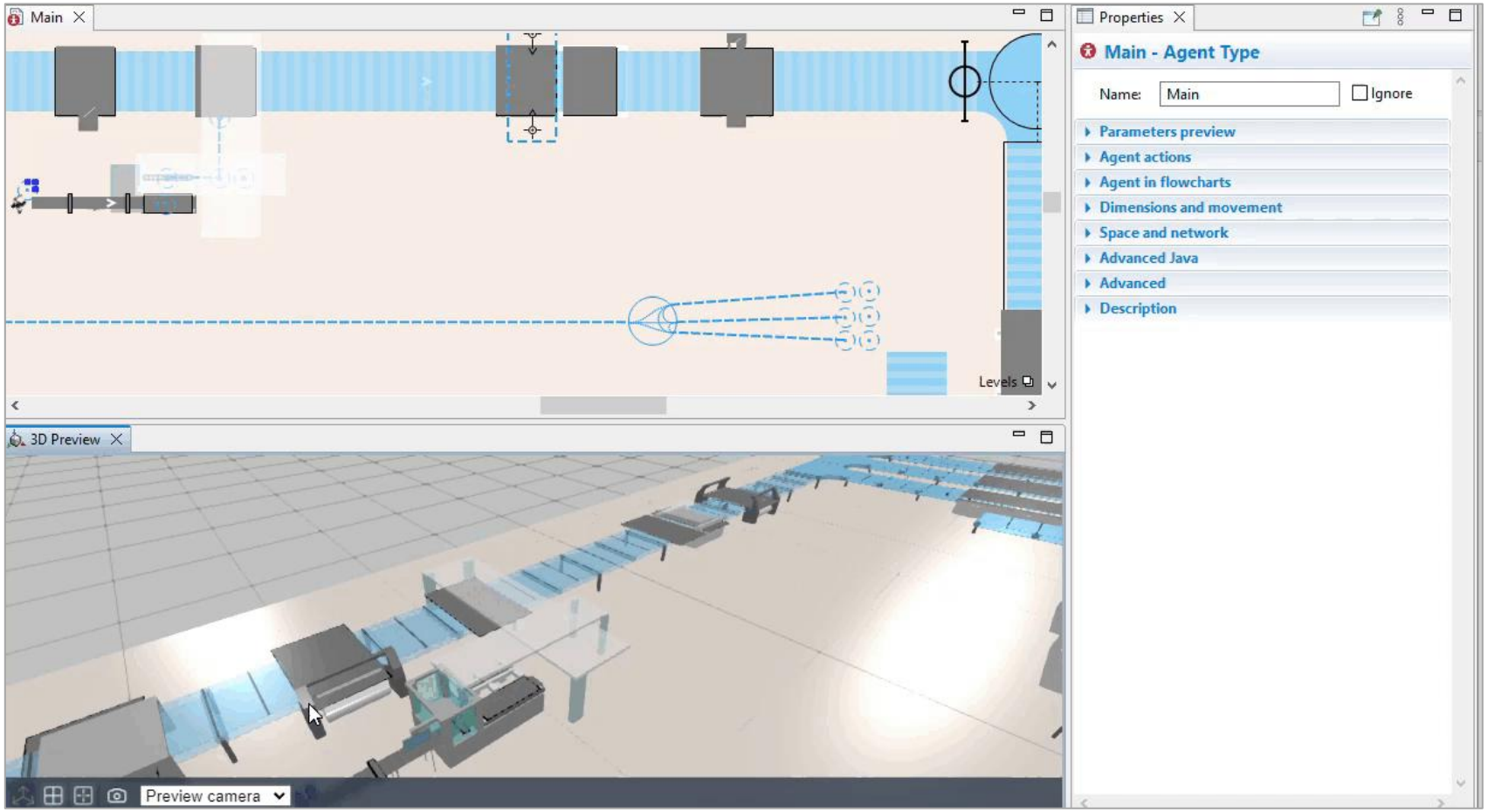


DEMO

FUTURE RELEASES

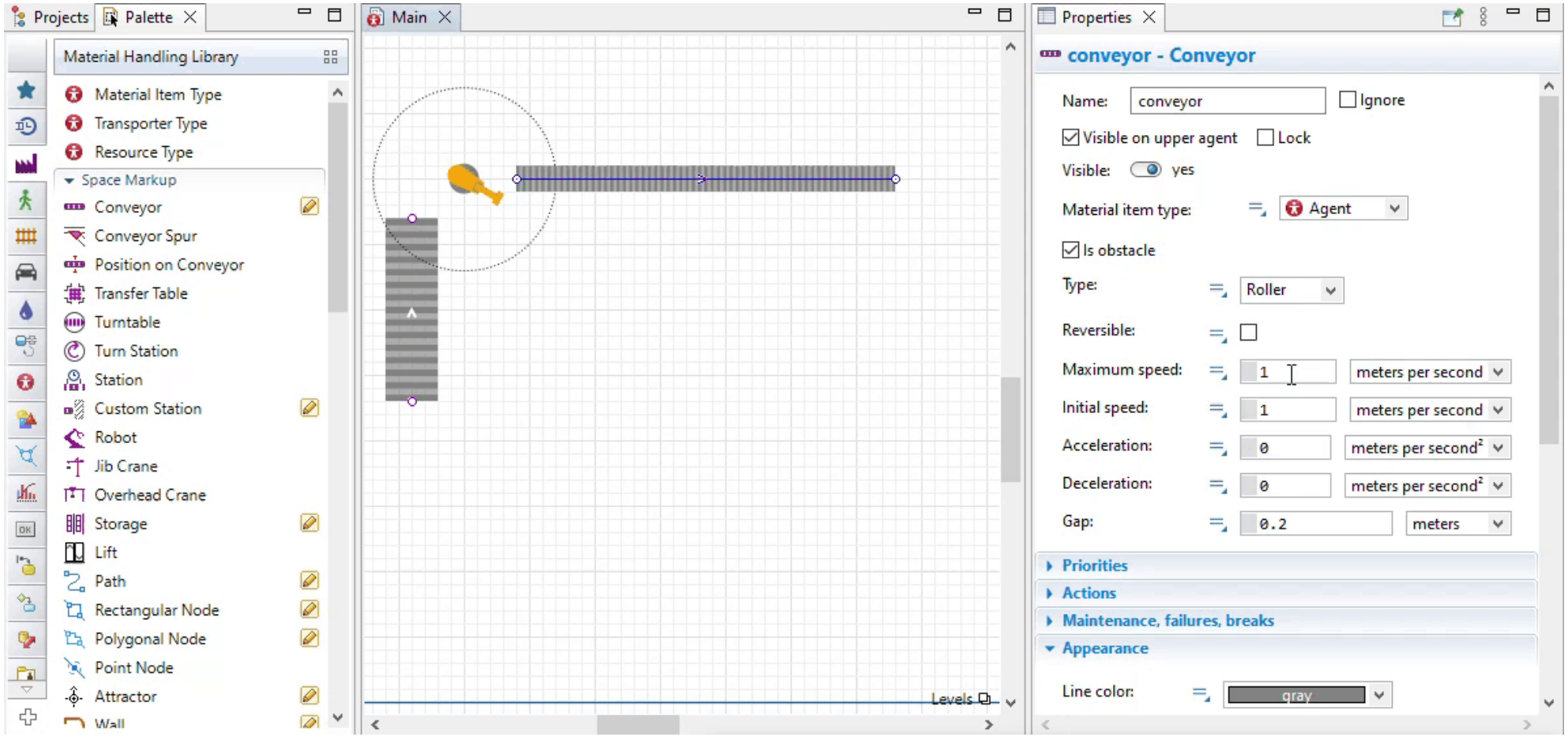
[coming soon] 3D preview in design time

- Radically simplifies creation of 3D scenes
- Verifies location of shapes and markup elements without starting the model



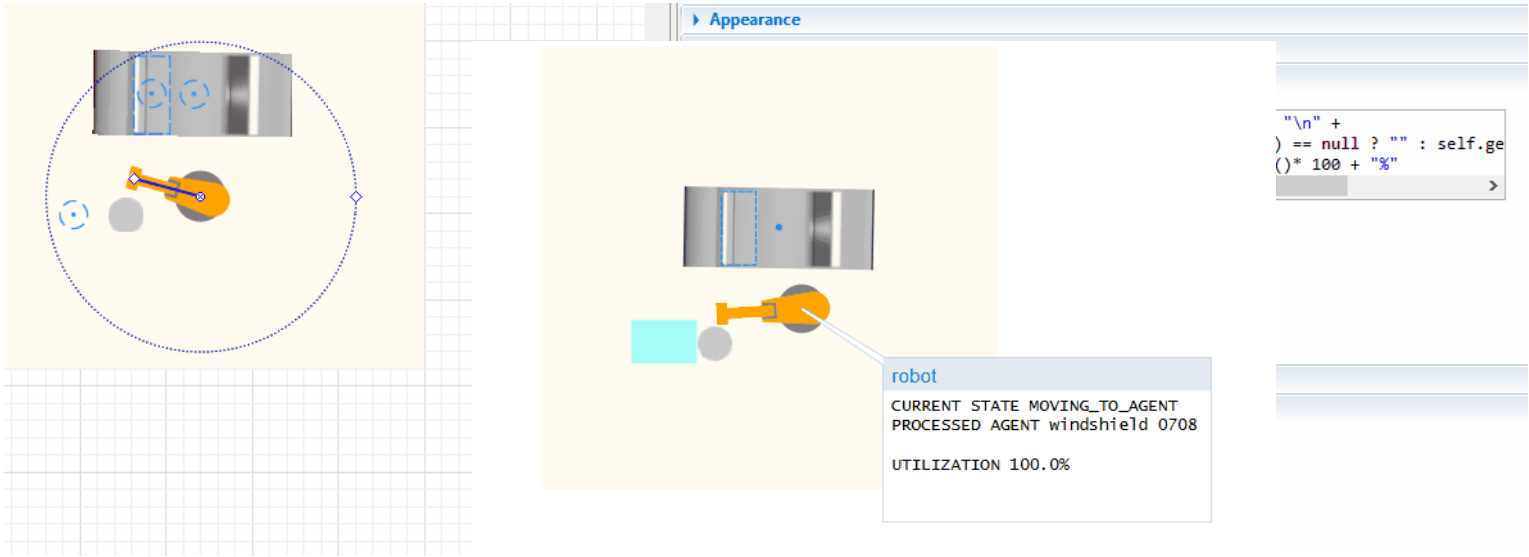
[coming soon] Parameter set templates

- Speeds up the model creation by reusing sets of parameter values across palette elements



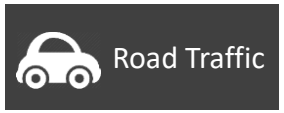
[in development] Inspect window customization

- Defines the fixed location of inspection window
- Specifies the text displayed in the window
- Color scheme



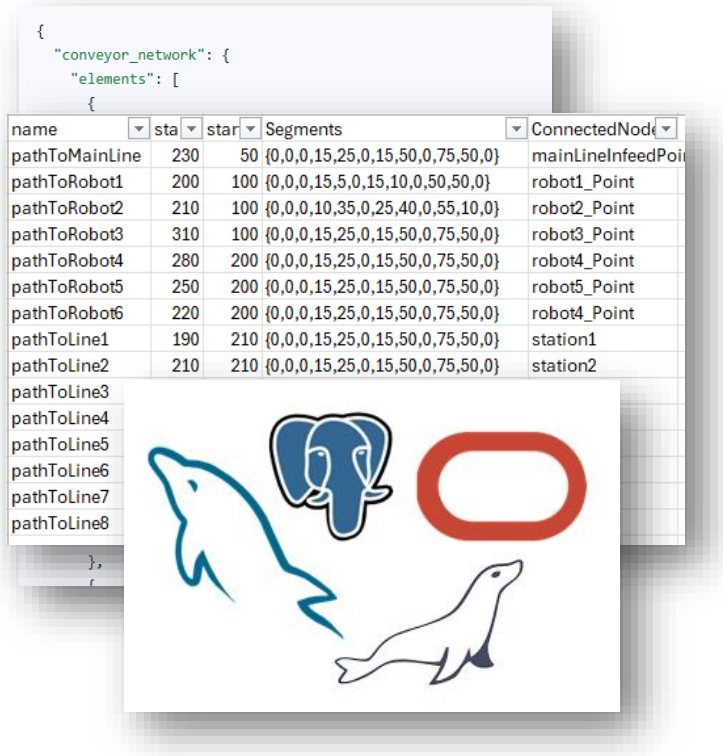
[coming soon] Major core improvements

- Design-time 3D preview
  - Radically simplifies creation of 3D scenes
  - Verifies location of shapes and markup elements without starting the model
- Parameter set templates
  - Speeds up the model creation by reusing sets of parameter values across palette elements
- Inspect window customization
- New 3D formats support
  - glTF\glb, obj, fbx
  - Collada stays with us :)
- Simplified chart creation
  - for Pedestrian, Road Traffic and Rail libraries



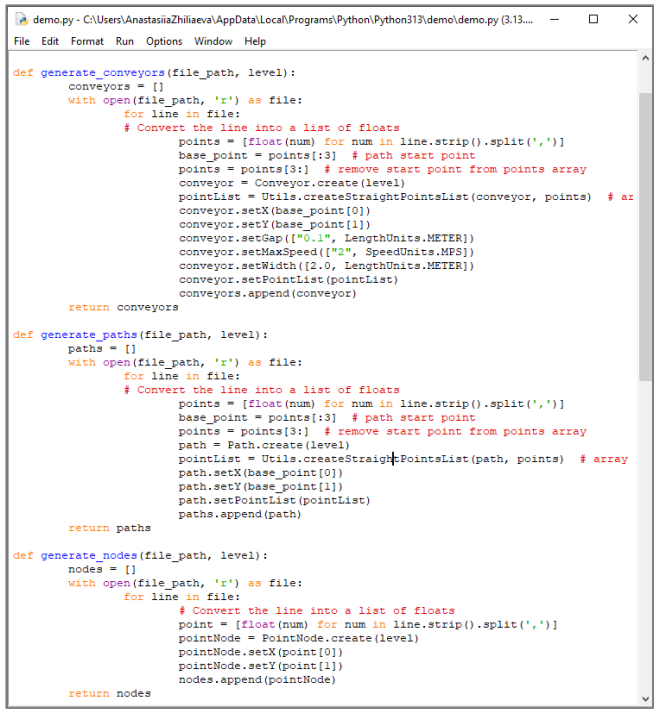
[coming soon] Markup creation using scripting

- Simplifies creation of large layouts
- Created networks and markup elements are changeable in design time



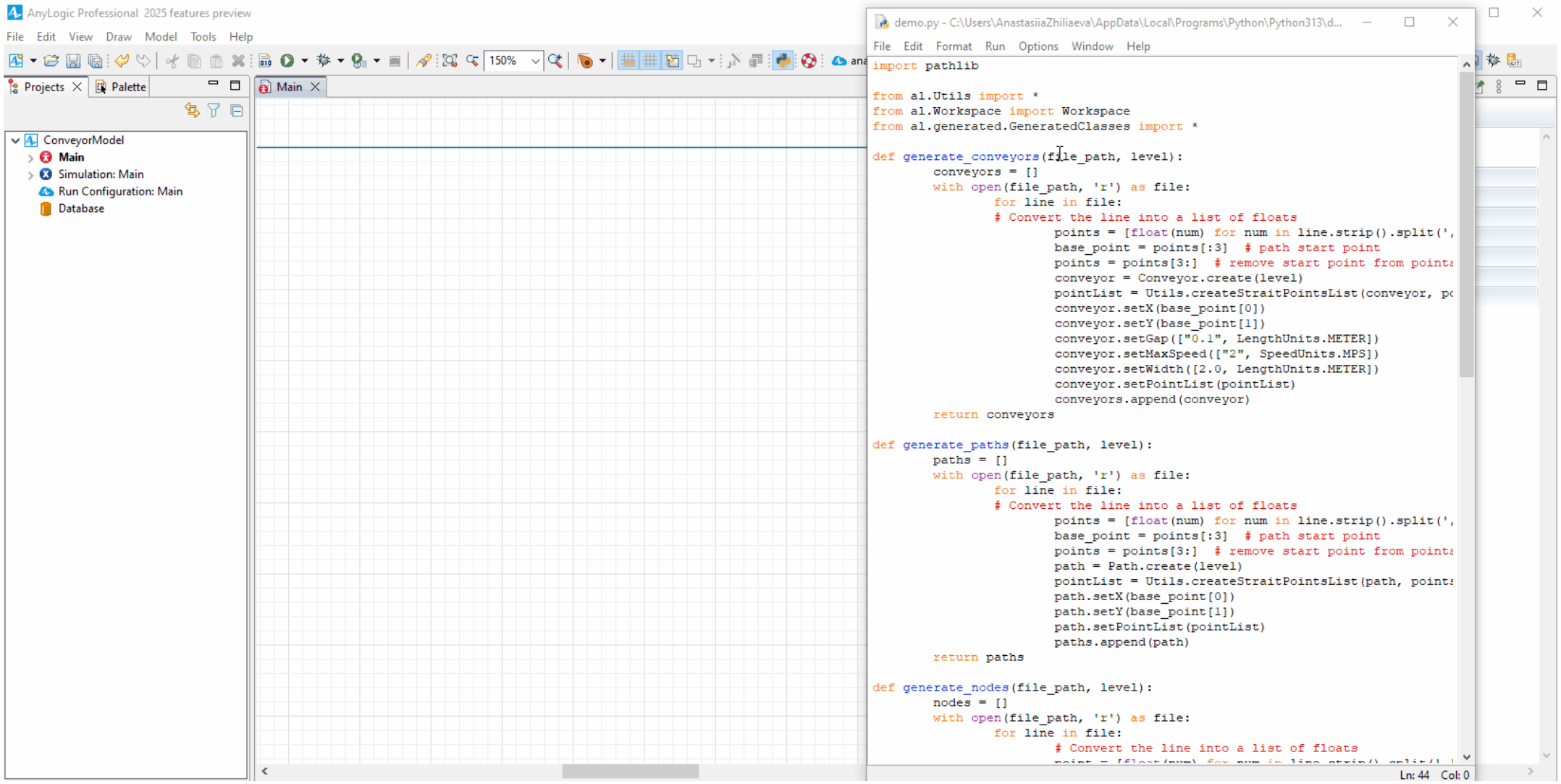
Source with markup data

Python API for markup creation
and connection to AnyLogic and model



Python script created by user
and running outside AnyLogic

[coming soon] Markup creation using scripting



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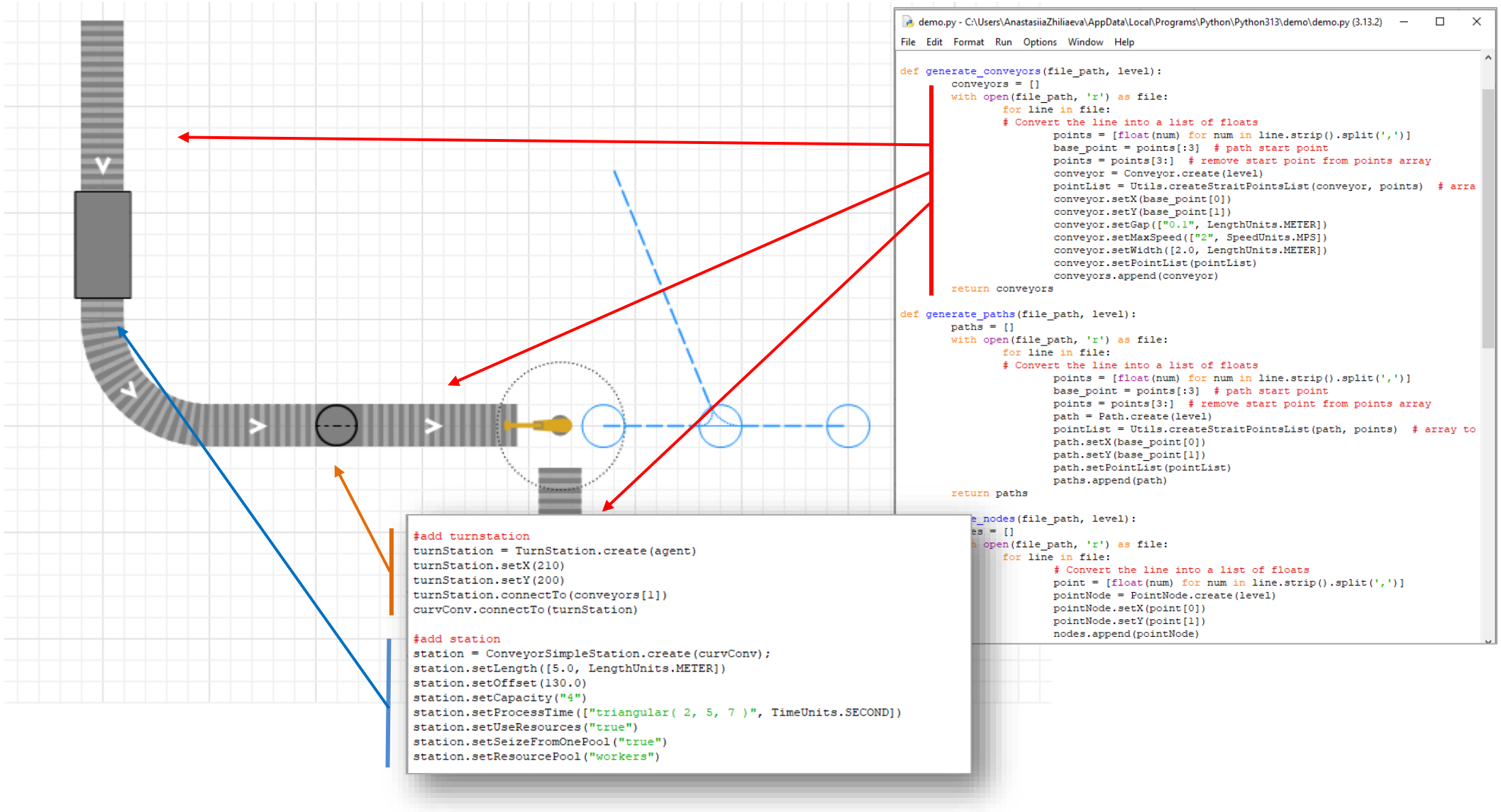

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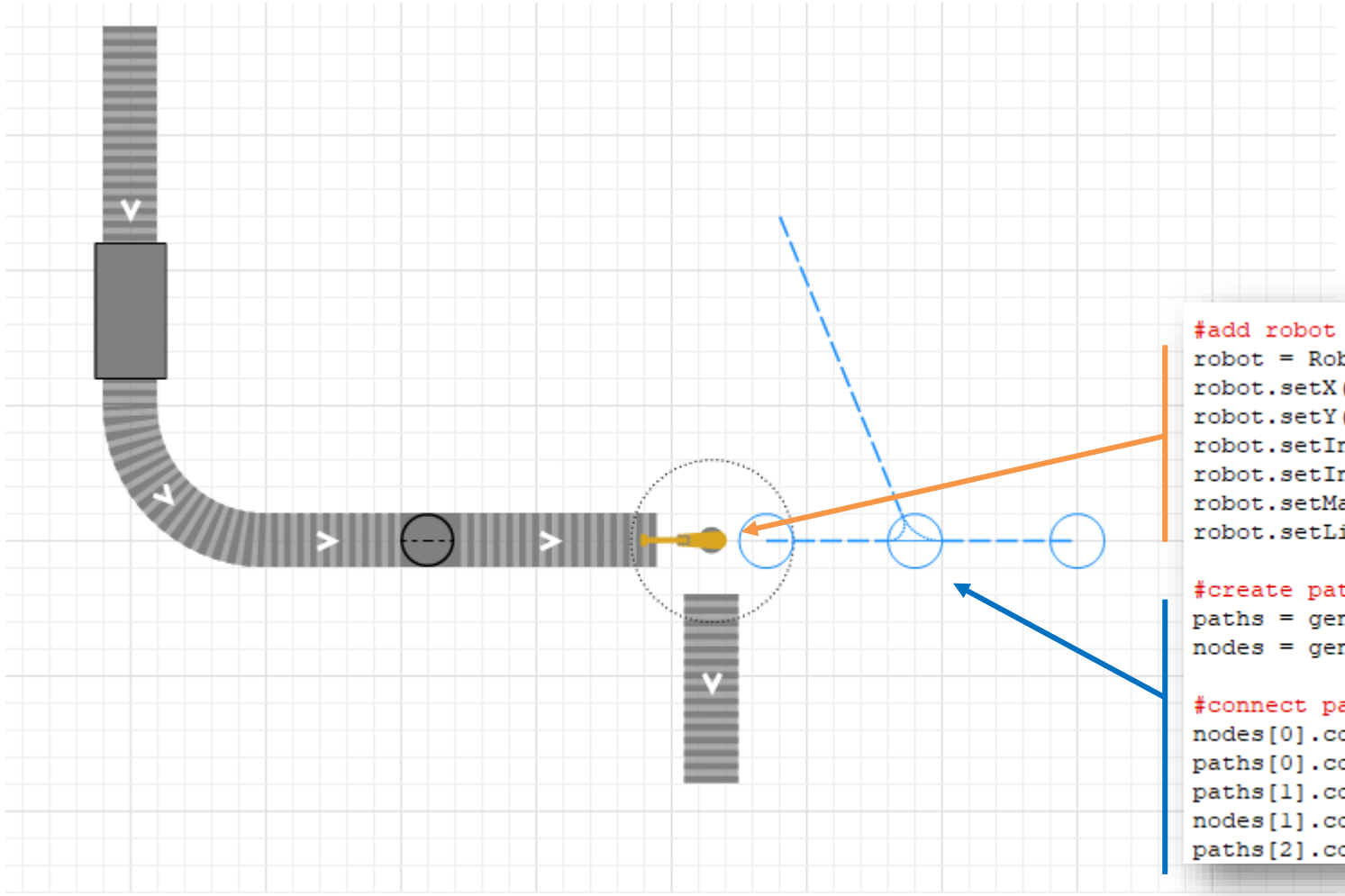


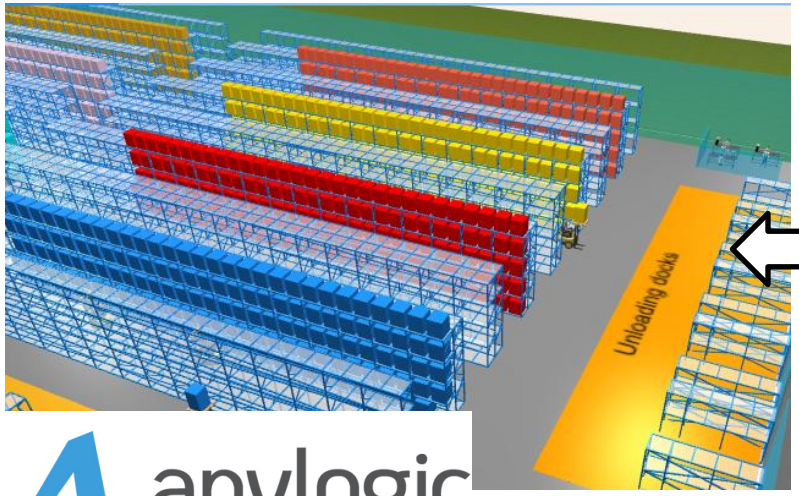
```
#add robot
robot = Robot.create(agent);
robot.setX(315.0);
robot.setY(200.0);
robot.setInitialEndEffectorX(295);
robot.setInitialEndEffectorY(200);
robot.setMaximumArmReach([3.0, LengthUnits.METER]);
robot.setLinksColor(Utils.getIntFromRGB(218, 165, 32));

#create paths and nodes
paths = generate_paths('paths.txt', level);
nodes = generate_nodes('nodes.txt', level);

#connect paths and nodes paths
nodes[0].connectTo(paths[0])
paths[0].connectTo(nodes[1])
paths[1].connectTo(nodes[1])
nodes[1].connectTo(paths[2])
paths[2].connectTo(nodes[2])
```

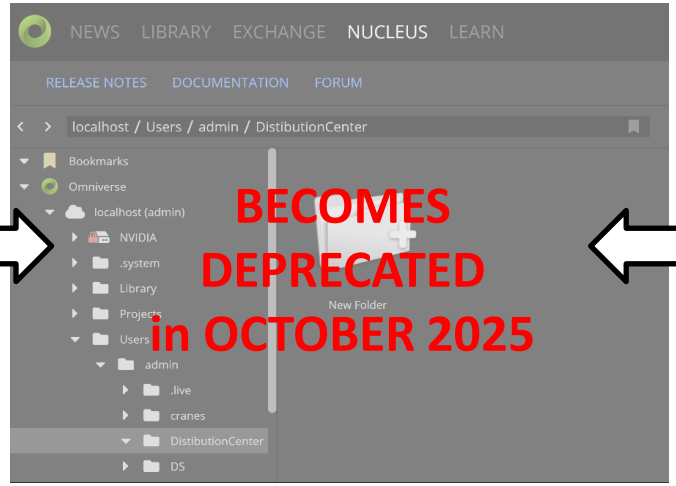
[coming soon] NVidia Omniverse connector updates

Model and Omniverse connector



anylogic

Nucleus Workspace for live sessions



BECOMES DEPRECATED in OCTOBER 2025

Omniverse Composer

NVIDIA Omniverse™

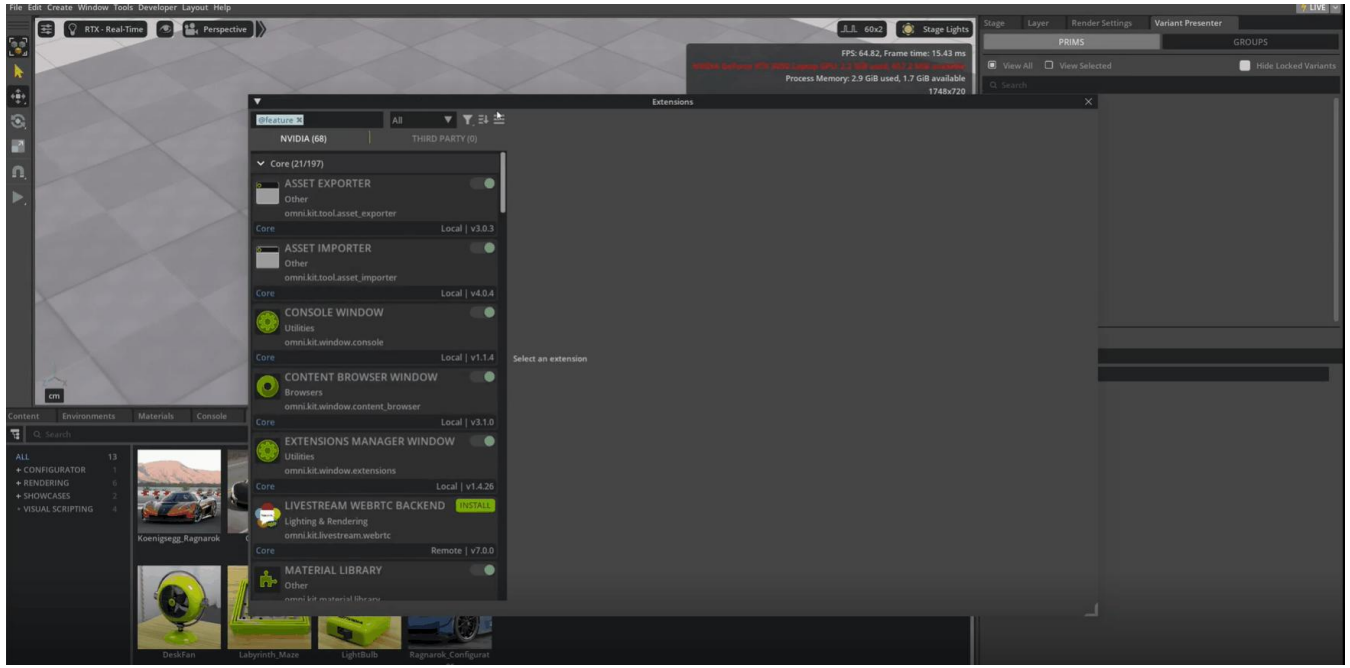
① Nucleus server remains

- keeps the original workflow
- only Linux Enterprise version
- only for users with Omniverse subscription and account

② Omniverse Composer Extension

[coming soon] Omniverse connector – Composer Extension

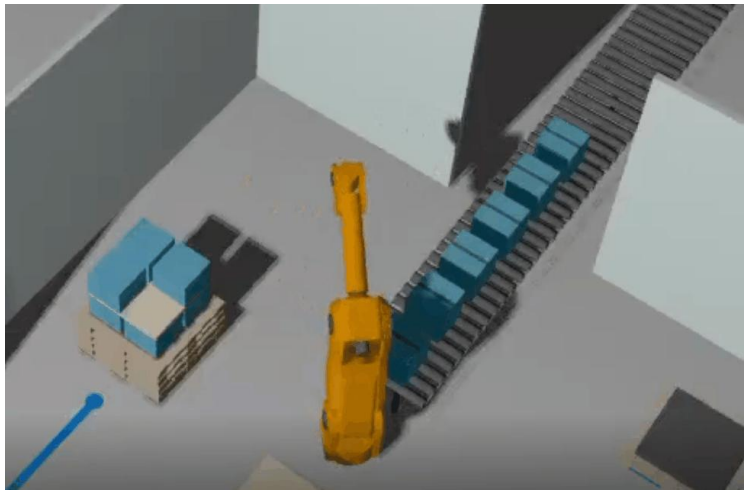
- Installation
  - Simply add extension file provided with AnyLogic installation pack
  - Switch on imported extension
  - Add Omniverse Connector window to Composer menu
  - …and you are ready to connect the scene to your model



- Key functionality
  - Connects to model running in AnyLogic
  - Runs standalone model in special mode

[in development] Various animation improvements

- Realistic shadows in 3D view

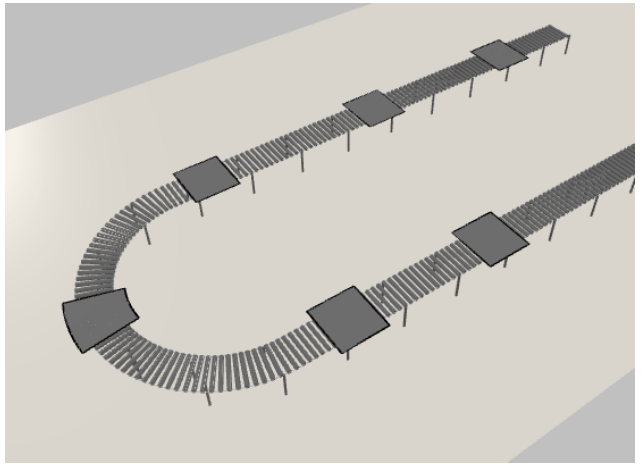


- 3D figures upgrade
  - Improved view of existing figures
  - New figures

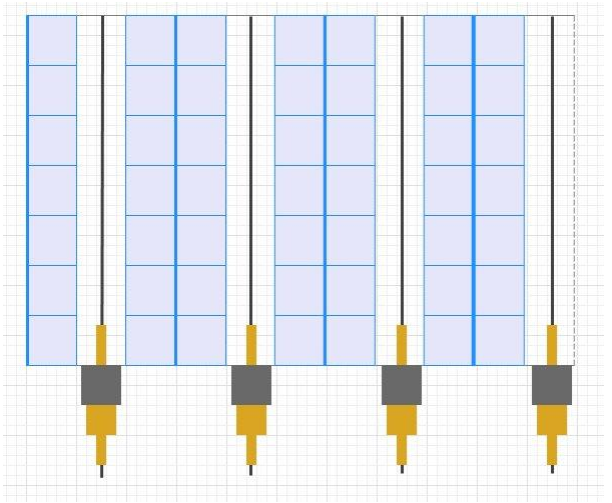
- 2D animation order controls
  - Based on z-coordinate
  - Customized by API

[in development] Material Handling Library improvements

- Tugger train transporters
  - Train-alike movement
  - Ability to perform multiple picking/delivering tasks
  - Fixed and flexible number of trailers
  - Ability to wait for loads within specified time



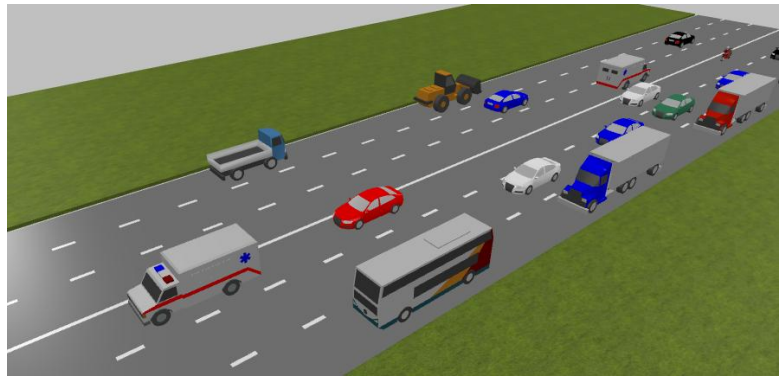
- Stacker crane
  - Fully integrated with storage markup, Store and Retrieve blocks



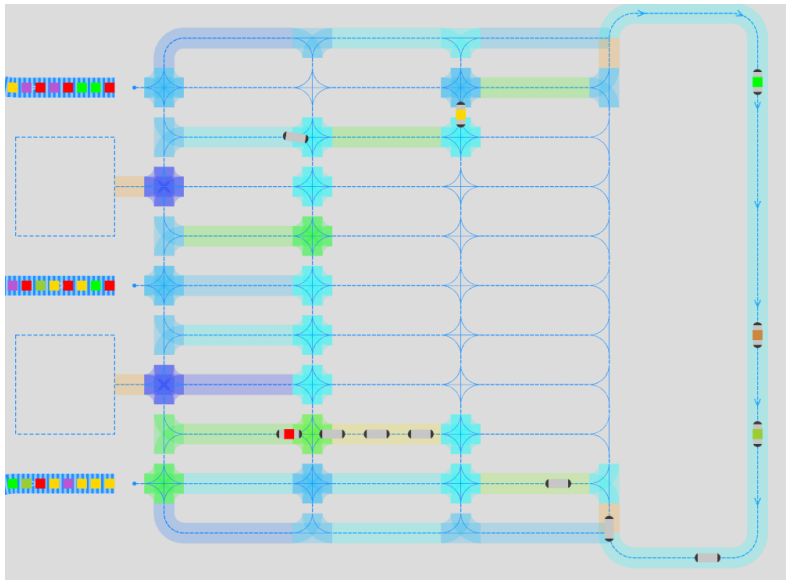
- Storages improvements
  - Simplified modeling of moving agent from one rack to another
  - Ability to set behavior of an agent in case there are no cells in storage
  - ABC zoning support

[in development] Various libraries improvements

- Road traffic
  - Lane control
    - *Forced change of lane by API*
    - *Movement along preferred lane*

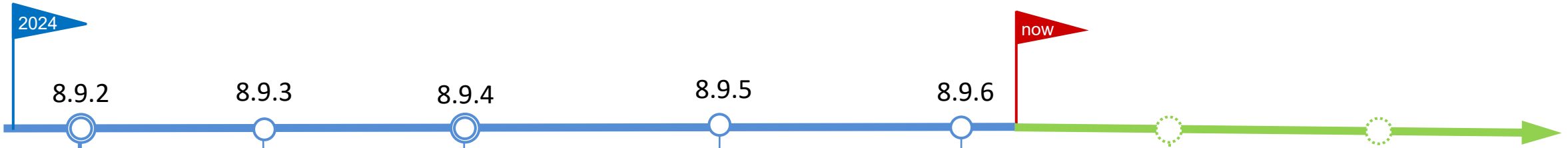


- Material handling, Rail, Process modelling
  - Heat map for path-based movement



- Material Handling, Process modelling
  - Ability to set default size of the intersection in network
  - PositionOnPath markup element

AnyLogic Roadmap (2024-2026 timeline)



Oct 2024
- MHL: robots
- Unification of agent and its presentation behavior in terms of space

Nov 2024
- Nvidia Omniverse integration
- Rail: modifiable reservation lists
- Road Traffic: diagonal parking, parking space selection, forced exit from parking

Mar 2025
- Model profiler
- Favorite palette
- Folders
- MHL: transporters supporting downtime, automatic movement to maintenance location, maintenance related statistics and API
- Pedestrian: improved behavior for pedestrian crowds
- Road: include/exclude roads

Jun 2025
- MHL: robot enhancements, warehouse modeling improvements
- Fluid: dynamic delay time in ProcessTank and MixTank
- 2D and 3D animation performance improvement

Aug 2025
- Chart creation wizard
- Customizable inspection windows

Nov-Dec 2025
- Design time 3D preview
- New 3D formats
- Creation of networks using scripting
- Templates
- Customizable inspect windows
- Nvidia Omniverse connector updates

2026H1
- Tuggers trains
- Stacker cranes
- Heat map for agents moving on the paths
- PositionOnPath
- Control of 2D animation order
- …

Thank you!
Your questions?