



# CODESYS VISUALIZATION

CODESYS Feature Briefing, October 2024  
Stefan Ambros, Product Owner Visualization

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**Responsive design**

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**Client-specific localization**

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**Alarm management**

4

**XY chart / trend**

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**Scripting step 1**

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**Scripting step 1**

# Positioning of elements depending on the client size

- Use of Container.Size and Visu.Size

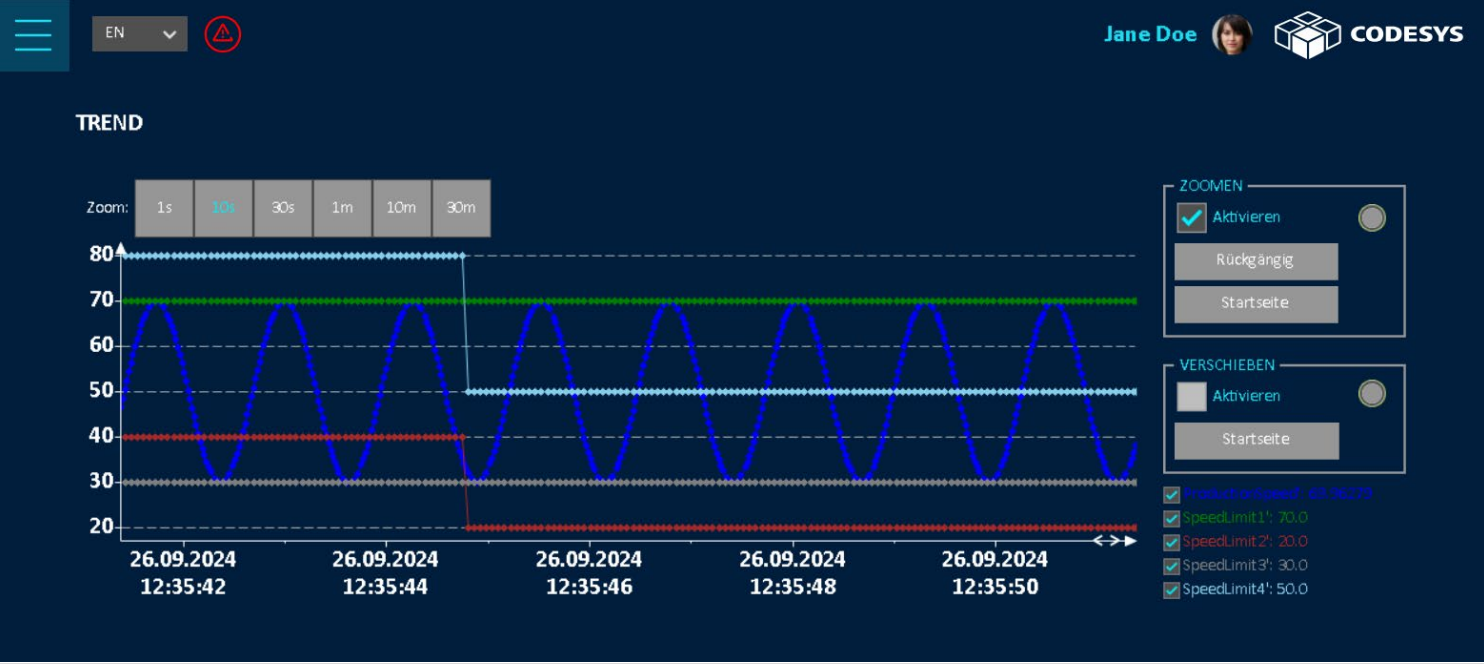
Absolute movement	
Movement	
X	Container.Width-Visu.Width
Y	

- Container.Size is the client size on each main page.

- Possibilities

- Alignment
- Filling of areas

Relative movement	
+ Movement top-left	
- Movement bottom-right	
X	Container.Width-Visu.Width
Y	Container.Height-Visu.Height



# Positioning of elements depending on the client size

- Wrap content

The screenshot displays a dark-themed control panel for CODESYS. At the top right, it shows the user 'Jane Doe' and the CODESYS logo. The main content is organized into four sections, each with a distinct icon and title:

- INFEED** (Icon: box with arrow):
  - Velocity: 5 sec
  - Quantity: 1586 pieces
  - Direction: Radio buttons for 'Left' (selected) and 'Right'
- GRADING & SENSORS** (Icon: sensor with arrows):
  - Sensor type: Camera (dropdown)
  - Intensity: 1586 %
  - Position: X: 627, Y: 411
- SPEED** (Icon: speedometer):
  - Velocity: 5 sec
  - Quantity: 1586 pieces
  - Pieces per second: 3 pieces
- PACKING** (Icon: box):
  - Paper type: Cardboard (dropdown)
  - Paper thickness: 1586 g/m<sup>2</sup>
  - Tape: Universal (dropdown)
  - Packet height: 60 cm
  - Packet width: 45 cm
  - Packet depth: 21 cm
  - Quantity per box: 54 Pieces
  - Quantity per layer: 12 Pieces

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- **Each visualization client can have its own language.**
- **Client starts with browser language (de, en, ...).**
  - Browser language codes de, en, ... must exist in the textlists.
  - Otherwise, the standard language is used.
- **Language switching only takes place in the current client.**

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## New features

- **Alarm management: Allow online change in most common use cases**
  - Add/remove/modify alarms in alarm group
  - Add/remove/modify alarm instances in alarm configuration
- **Possibility to define Alarm Group Templates for types that come from another library**
- **Possibility to call alarm events from the instance of a function block**

Alarmmanager.AlarmGlobals.g\_AlarmHandler.RaiseEventAlarmInstance(THIS, Alm\_AGT\_MyFB\_Alarm\_IDs.ID\_0)

The screenshot displays the 'Alarm Configuration' window for the 'AGT\_MyFB' alarm group. The 'Text list' is set to 'AGT\_MyFB' and the 'Type for alarm definition' is 'inst'. Below this, a table shows the configuration for alarm instances.

ID	Observation Type	Details	Deactivation
0	Event		

Variable	Alarm Group Template	Alarm Group	Create
PLC_PRG.inst1	AGT_MyFB	AlarmGroupInstance	<input checked="" type="checkbox"/>
PLC_PRG.inst2	AGT_MyFB	AlarmGroupInstance	<input checked="" type="checkbox"/>

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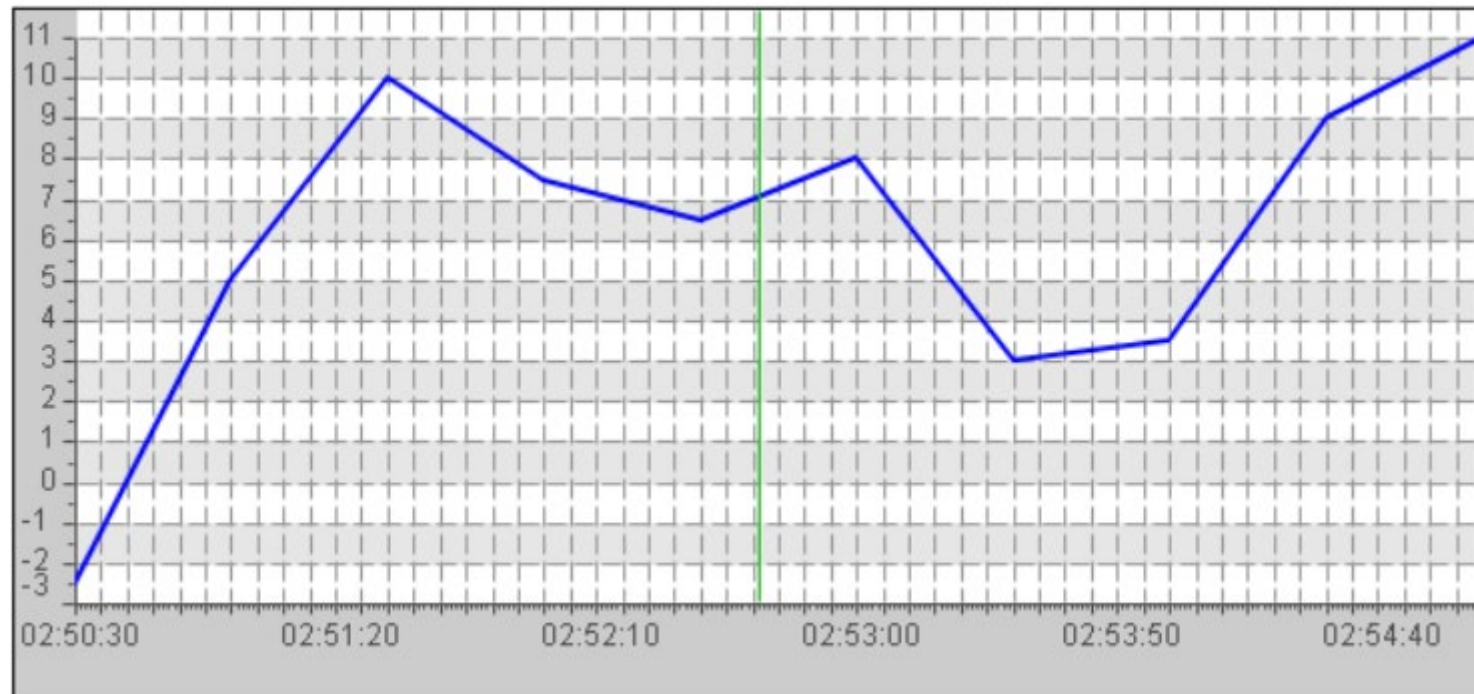
**Scripting step 1**

## Support of time data types

- Time-dependent data can now be displayed in the XY Chart.
- Arrays of the following types can now be used:
  - TIME / LTIME
  - DATE / LDATE
  - TOD / LTOD
  - DT / LDT
- Format strings can be specified.

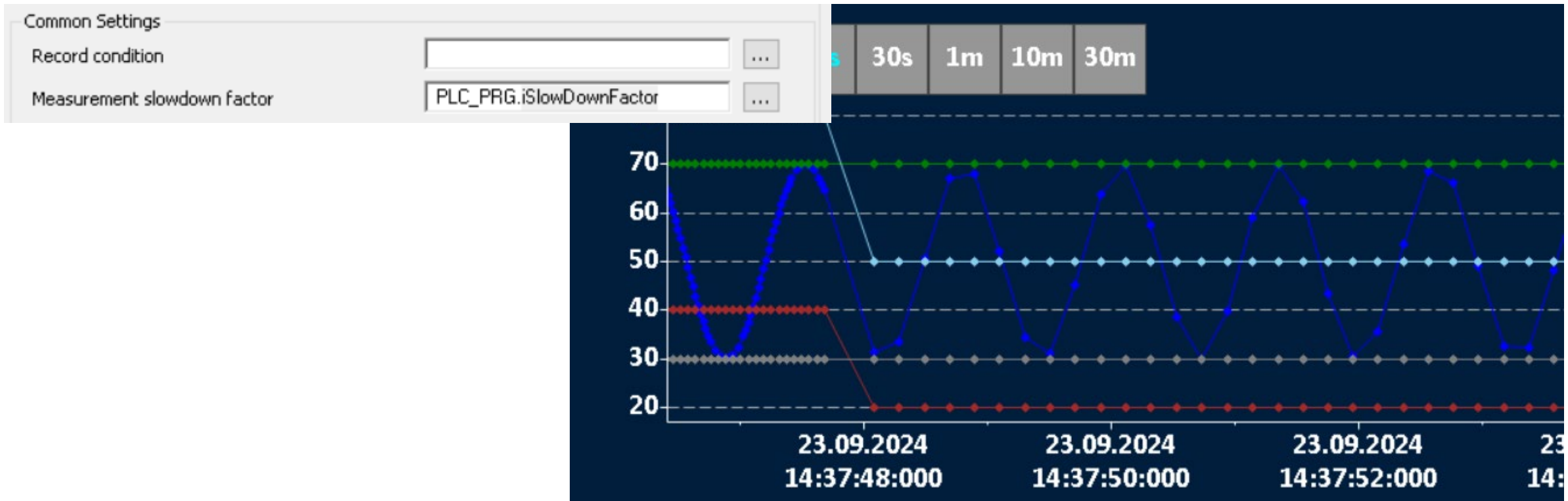
Format string      dd:MM:yyyy HH:mm:ss

Format string      HH:mm:ss



## Dynamic recording interval

- Use case: You wish to adjust the speed of trend recording at runtime.
- New configuration option in the trend: "Measurement Slowdown Factor"
- This can slow down the recording by a factor.



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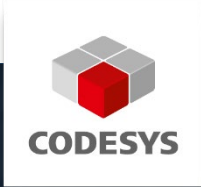
**Scripting step 1**

## Creating or modifying visualizations via CODESYS python scripting

- Visualizations can be created.
- Elements can be added, removed, or modified.
- Properties can be set.
- Example code:

```
proj = projects.primary
app = findApplication(proj)
visuDemo = app.create_visualobject("VisuDemo");
elementList = visuDemo.visual_element_list;
newElem = elementList.add_element(VisualElementType.Rectangle)
newElem.set_property("Position.X", 10);
newElem.set_property("Position.Y", 20);
```





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