# FACTORYTALK OPTIX



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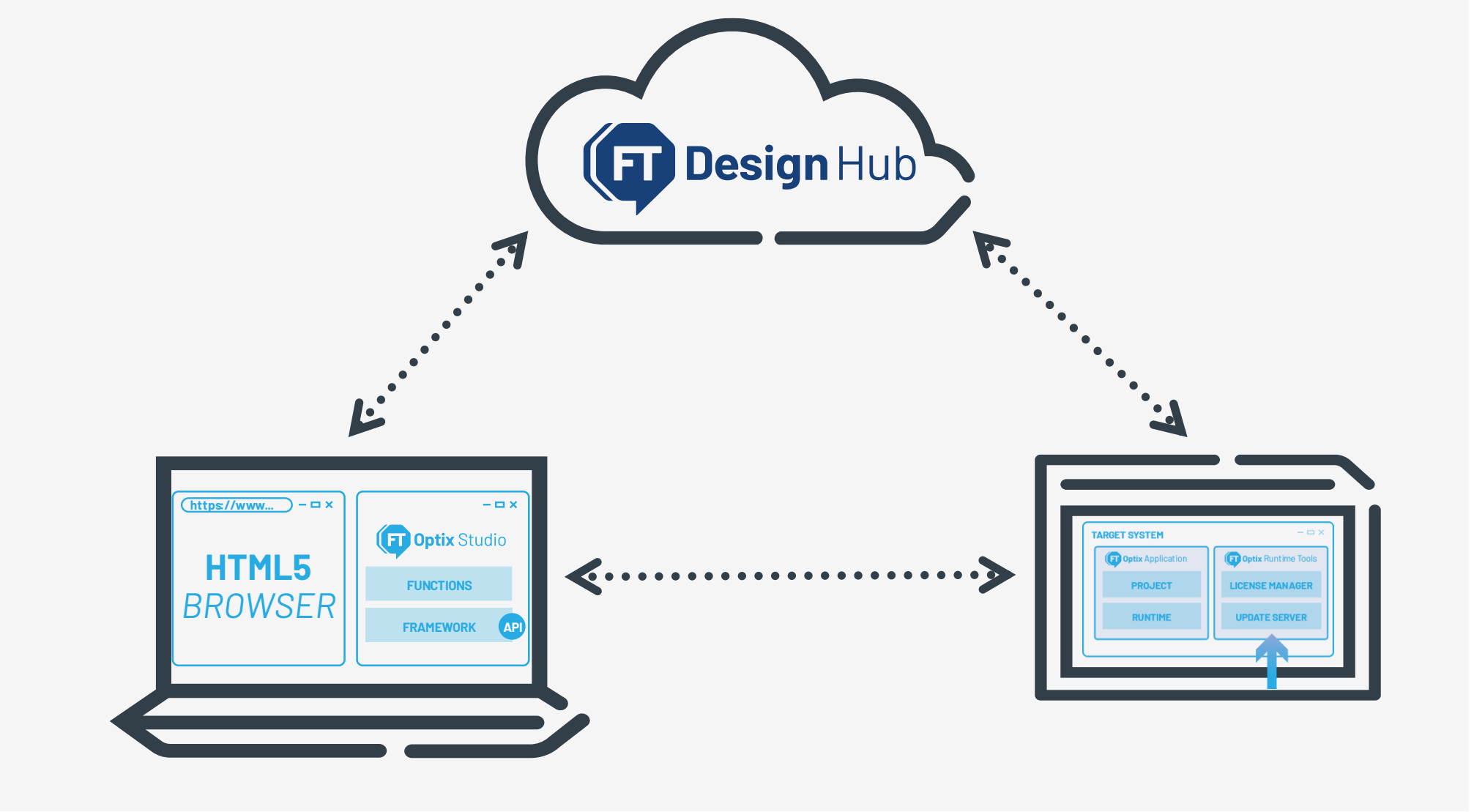
# FT Optix™

## Open, scalable platform

with options

# PLATFORM ARCHITECTURE

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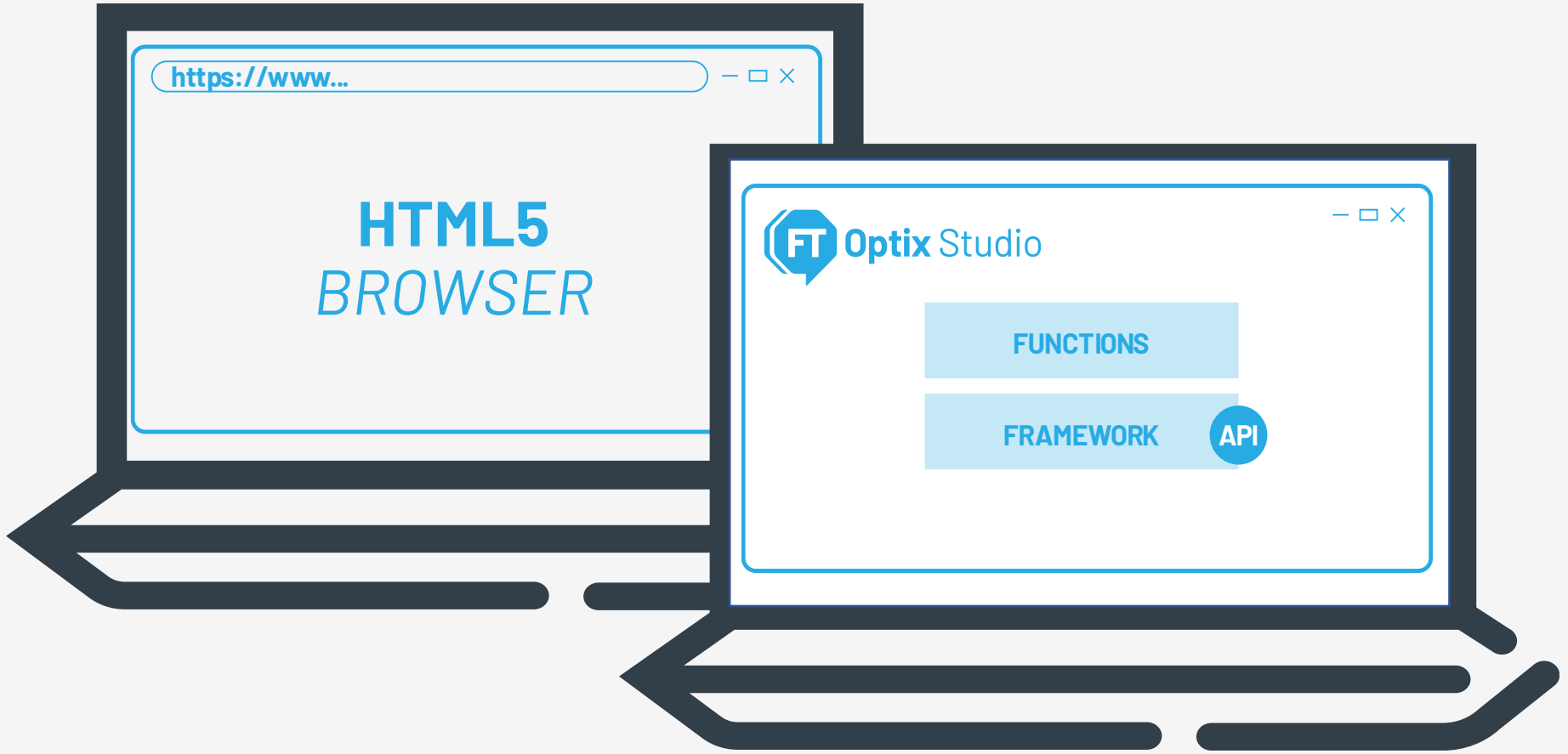


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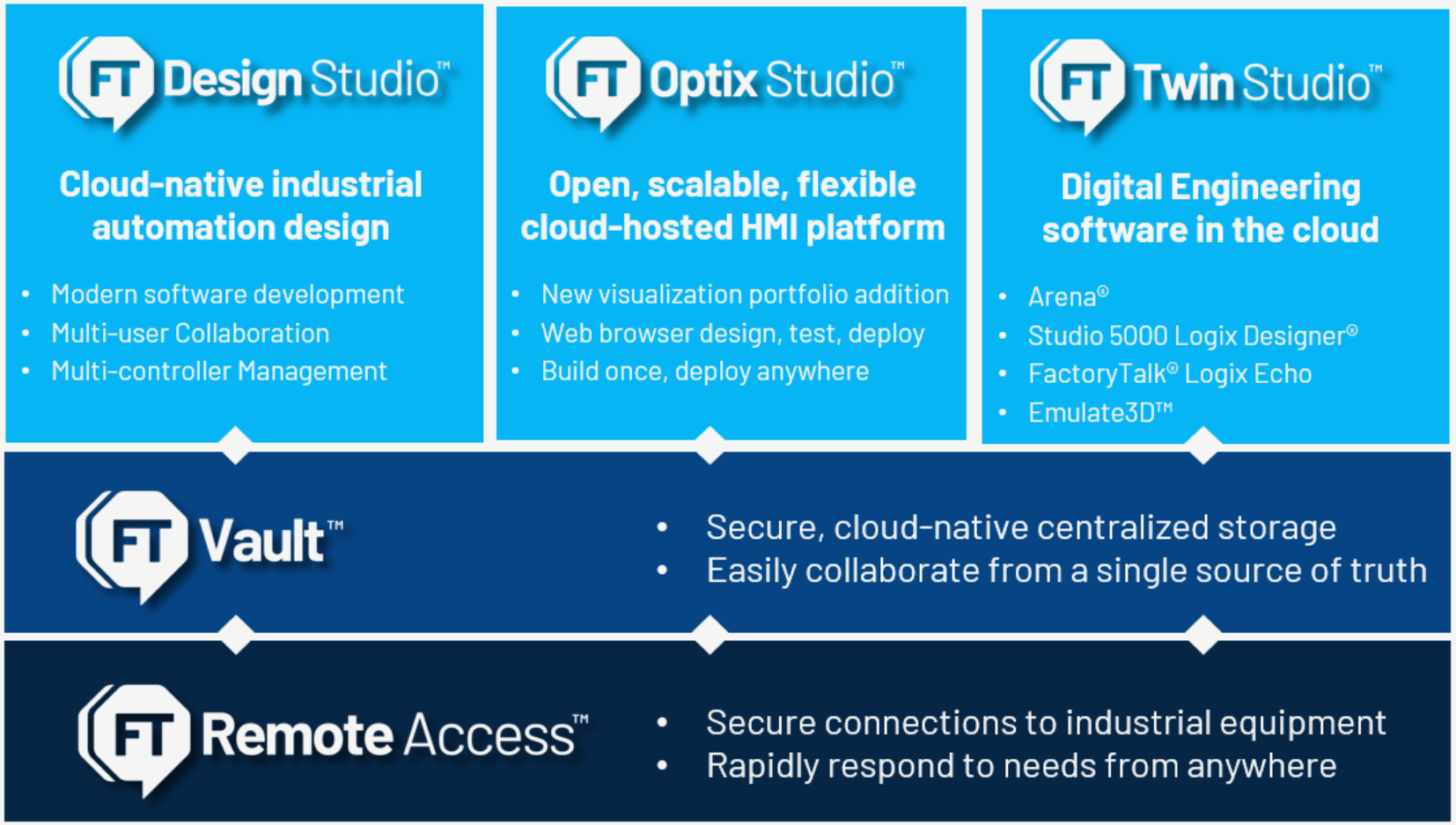
# FT Design Hub

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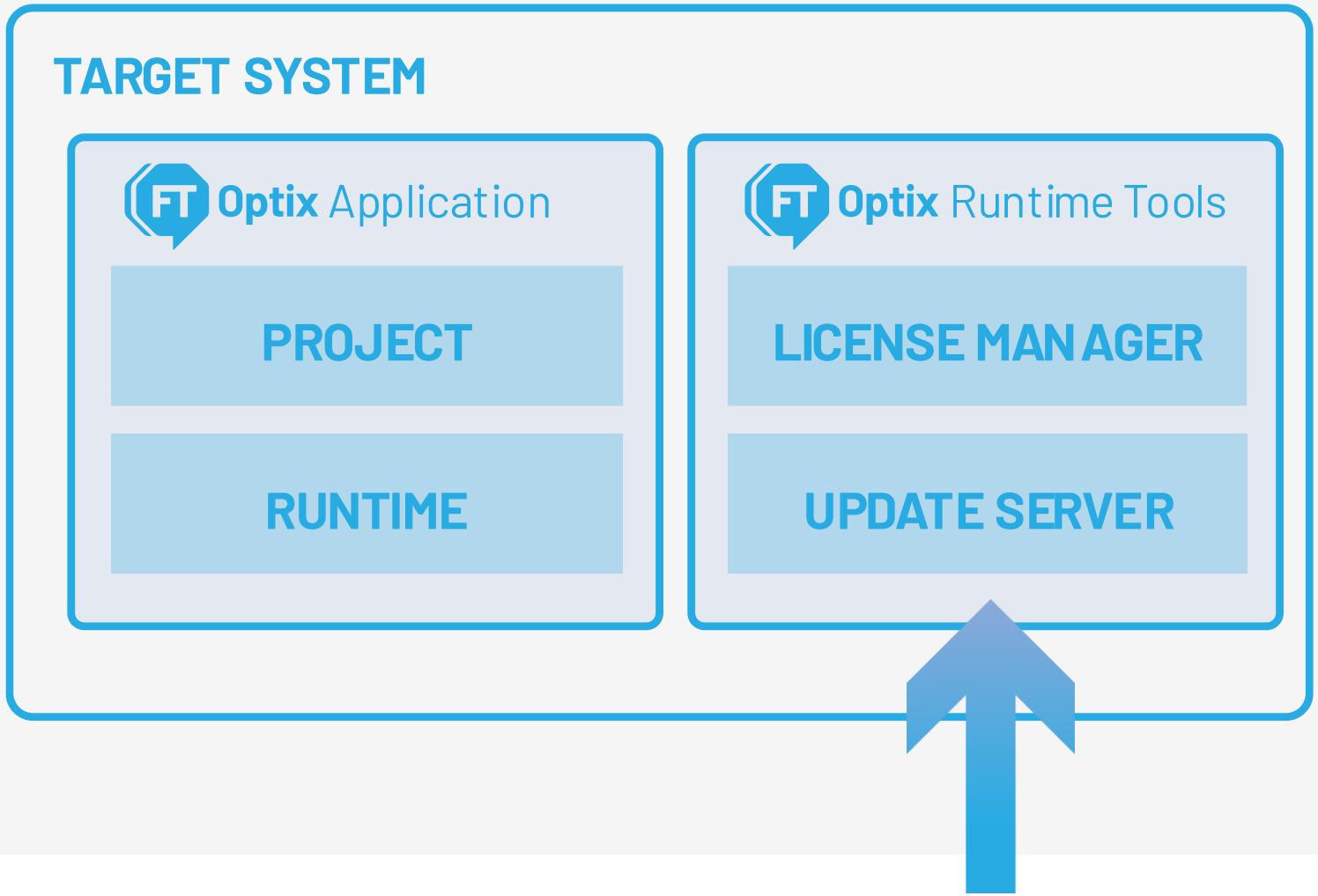

# KEY FEATURES - SUMMARY

**EXTENSIBILITY options**

Natively OPC UA

Libraries

Scripting

**DESIGN options**

Object-oriented

Software As A Service

Version Control

**GRAPHIC & DEPLOYMENT options**

Cross-platform

Universal UI

Audit

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# KEY FEATURES – EXTENSIBILITY OPTIONS

**EXTENSIBILITY options**

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# NATIVELY OPC UA



- **Natively based** on the OPC-UA standard
  - Data Access
  - Alarm and Conditions
  - Historical Access
- All **project's resources** can be exposed as **OPC UA objects** by the OPC UA Server

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# NATIVELY OPC UA


- FT Optix applications as **Client-Server** architectures
- Full support of **Companion Specifications**
  - MTP, PackML, Machinery…

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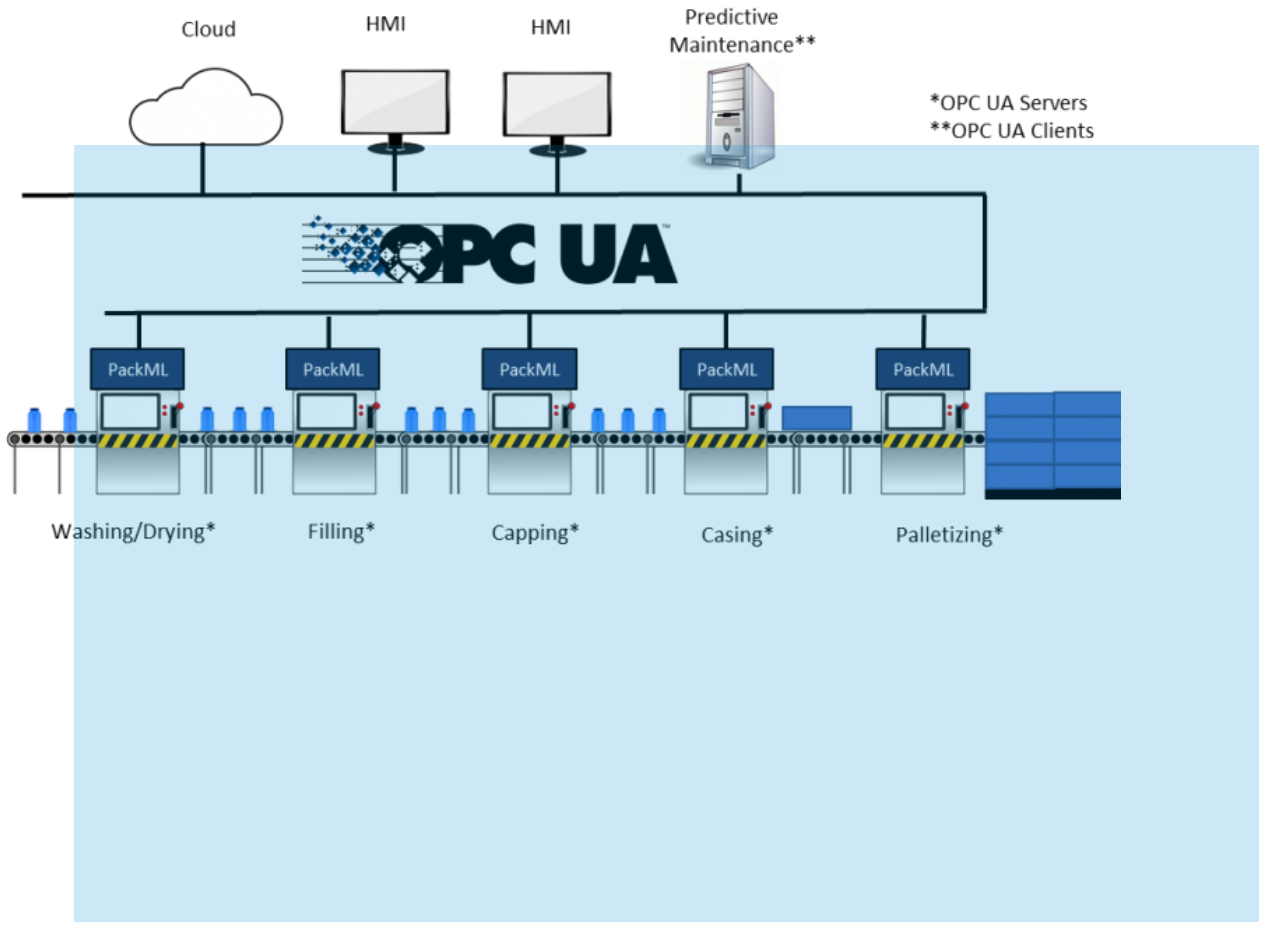
# NATIVELY OPC UA – COMPANION SPECIFICATIONS




- The Companion Specifications are **information models** built by industry groups on the basis of the OPC UA Standard Model.

- They define:
  - Data types
  - Methods
  - State Machines
- for **industry-specific** applications and objects.

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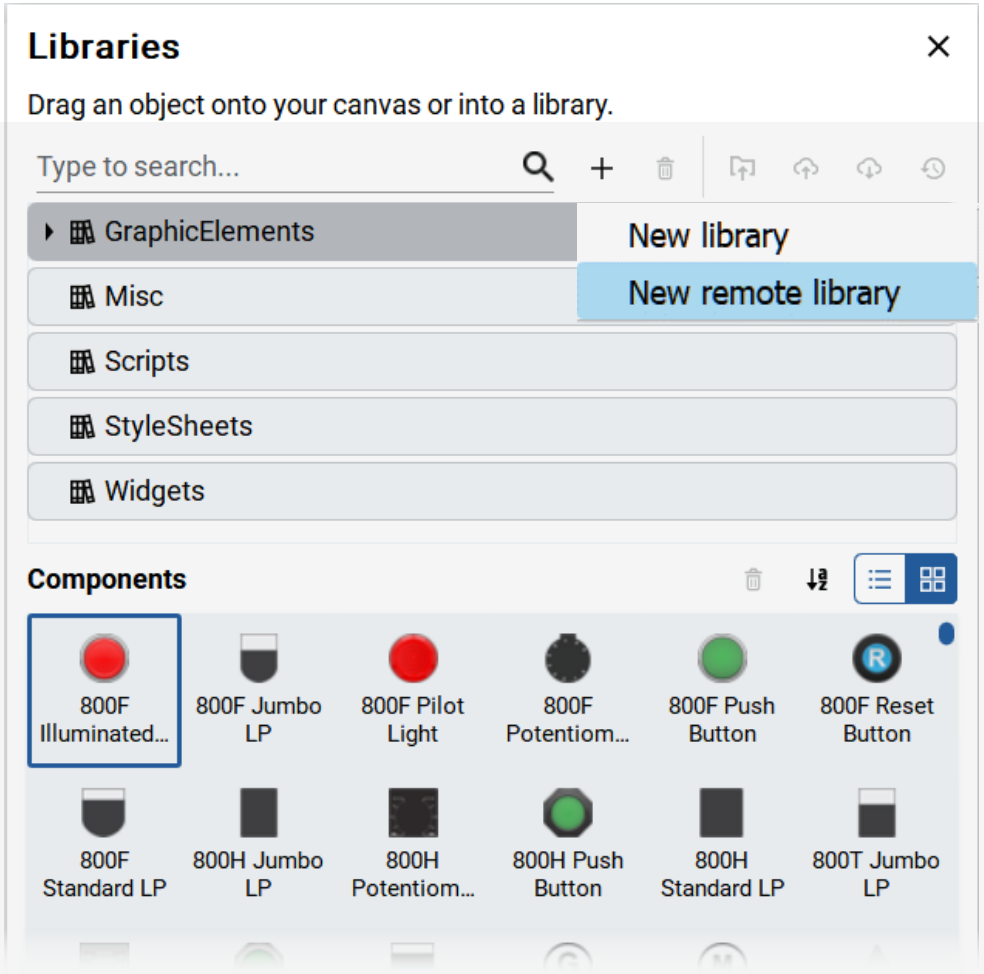
# LIBRARIES

- Widgets, Scripts and **Graphic Elements**
- Search to quickly find and filter objects
- Custom libraries with Multi-user collaboration through Git integration

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# SCRIPTING

## OPEN API

**C#** language

Edit and **debug** via Visual Studio
or Visual Studio Code

## CUSTOMIZATION

Create Runtime logic for
**customized** functionalities

Extend the source code
of native features

## INTEGRATION

Integrate existing libraries
or **3rd party** code

## AUTOMATION

**Automate** tasks by executing
scripts at **Design time**

Generate parts of the project
at **Runtime**

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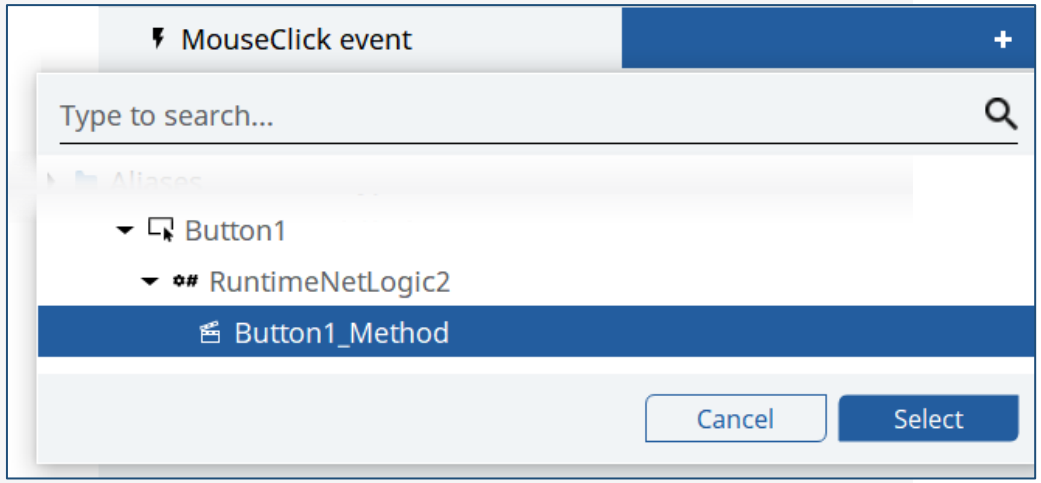
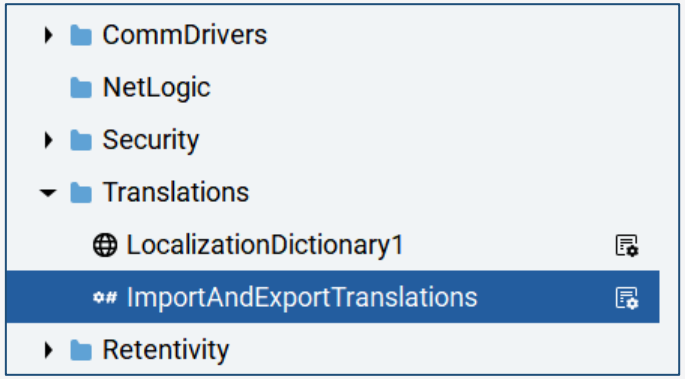
# SCRIPTING – EXAMPLES

```
public class RuntimeNetLogic1 : BaseNetLogic
{
    public override void Start()
    {
        // code executed when the logic is started
    }

    public override void Stop()
    {
        // code executed when the logic is stopped
    }

    [ExportMethod]
    public void Button1_Method()
    {
        // code executed by the method
    }
}
```




Create Runtime logic for
**customized** functionalities

# SCRIPTING – EXAMPLES




ImportAndExportTranslations.cs

NetSolution > ImportAndExportTranslations.cs > ImportAndExportTranslations > ExportTranslations()

```
14
    0 references
15  public class ImportAndExportTranslations : BaseNetLogic {
16      [ExportMethod]
        0 references
17      public void ExportTranslations() {
18          var csvPath = GetCSVFilePath();
19          if (string.IsNullOrEmpty(csvPath)) {
20              Log.Error("ImportAndExportTranslations", "No CSV file, please fill the
21              return;
22          }
23
24          char? characterSeparator = GetCharacterSeparator();
25          if (characterSeparator == null || characterSeparator == '\0')
26              return;
27
```

Ln 42, Col 53  Spaces: 4  UTF-8  CRLF

**Extend** the source code
of native features

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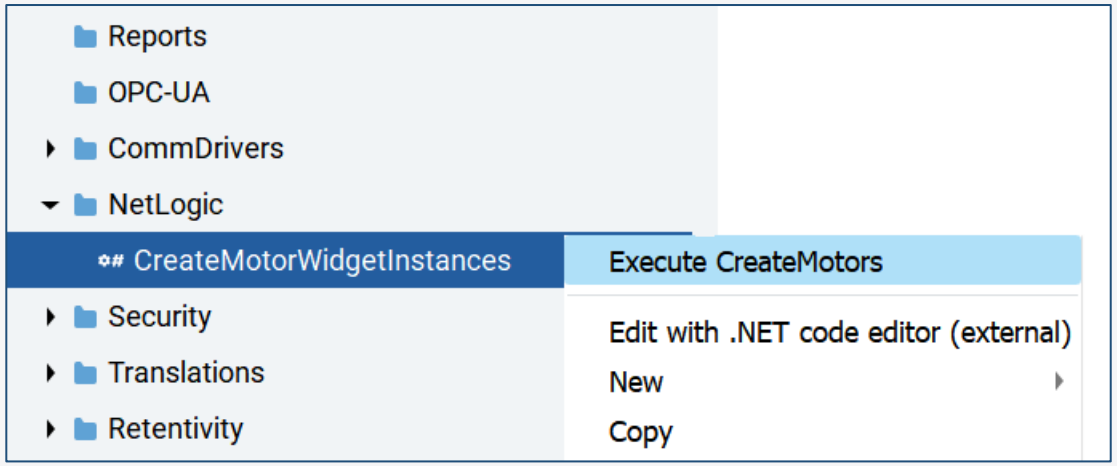
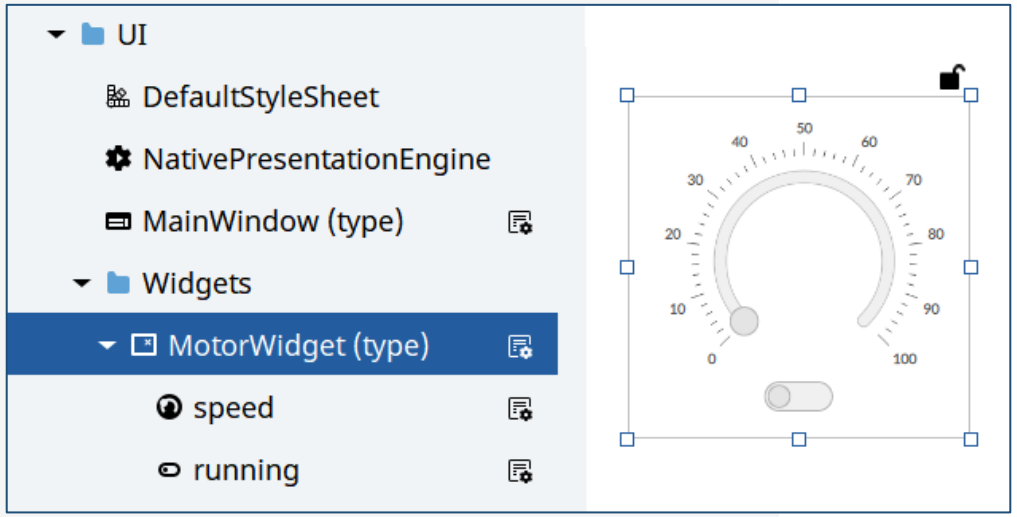
# SCRIPTING - EXAMPLES




**Automate** User Interface developing using script at **Design time**

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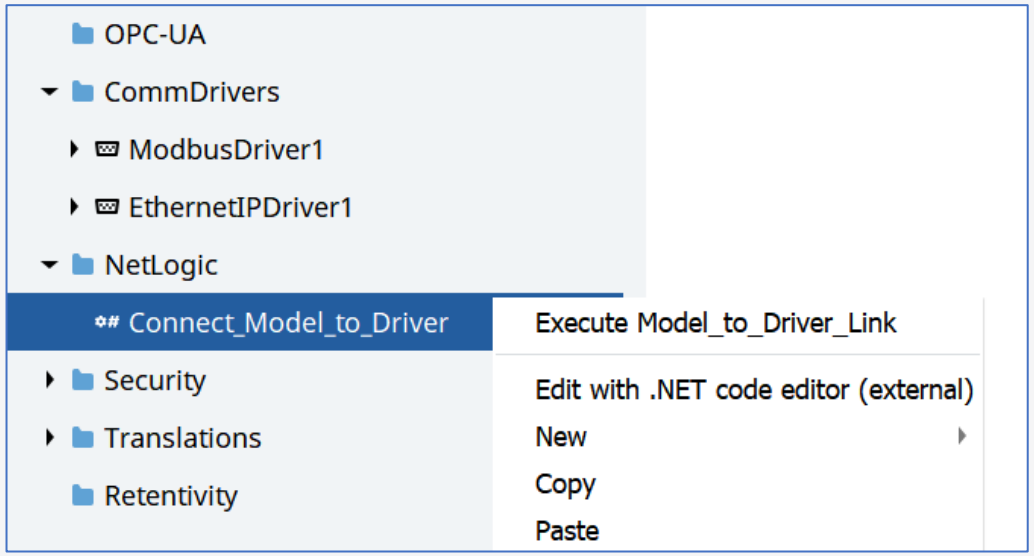
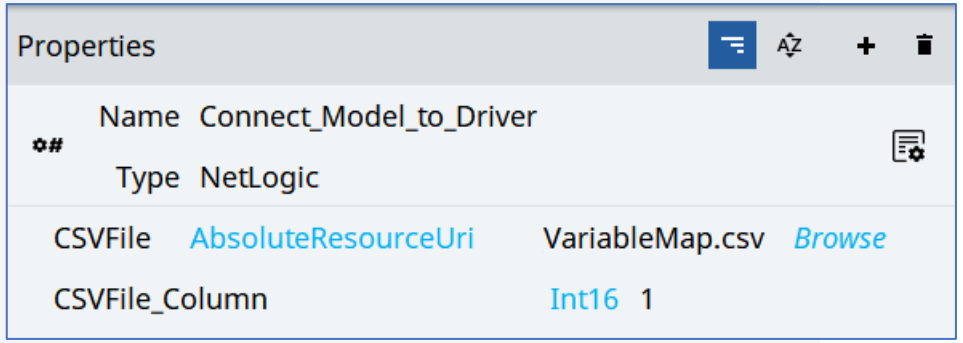
# SCRIPTING – EXAMPLES




**Automate** communication driver switch using script at **Design time**

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# KEY FEATURES – DESIGN OPTIONS

**EXTENSIBILITY options**

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**GRAPHIC & DEPLOYMENT options**

Cross-platform

Universal UI

Audit

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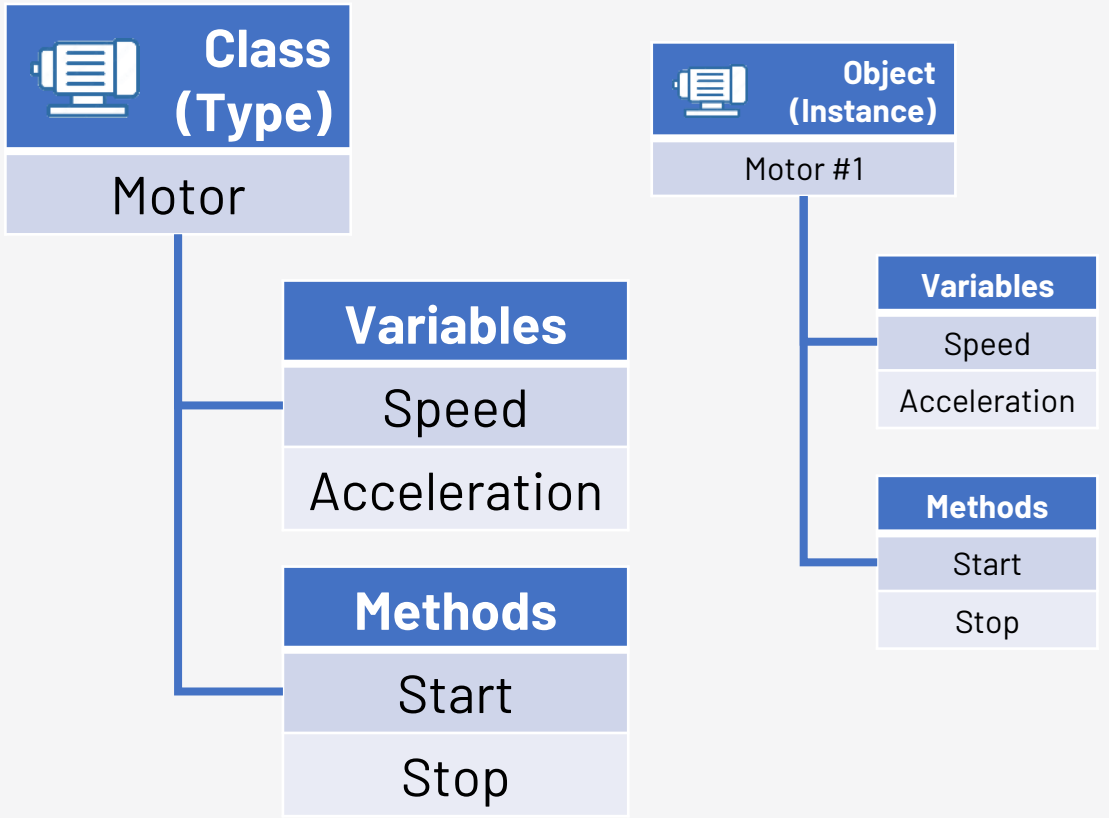
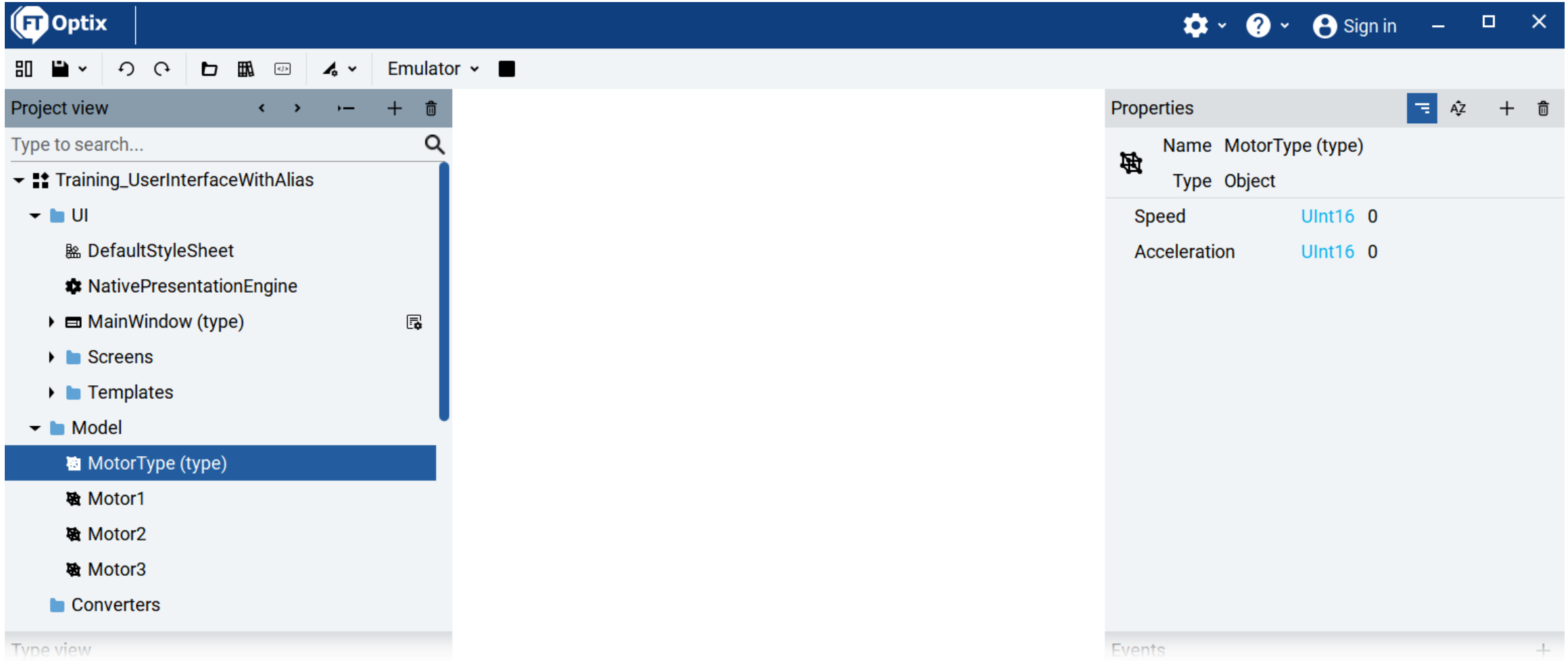
# OBJECT-ORIENTED PROGRAMMING

- Create **modular**, **reusable** components
  - Variables
  - Widget
  - **Core components** (alarms, datalogger...)
- Project development become
  - more **efficient**
  - more **maintainable**



# OBJECT-ORIENTED PROGRAMMING

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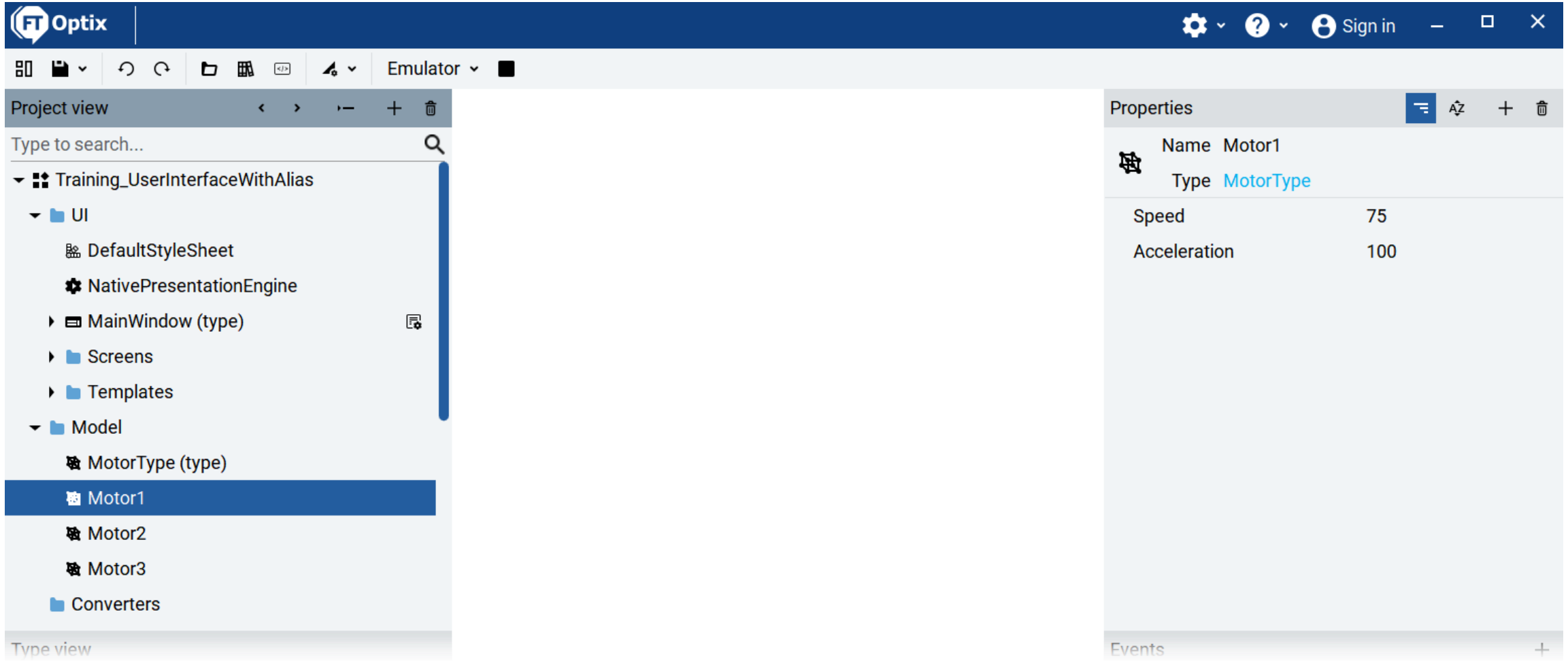


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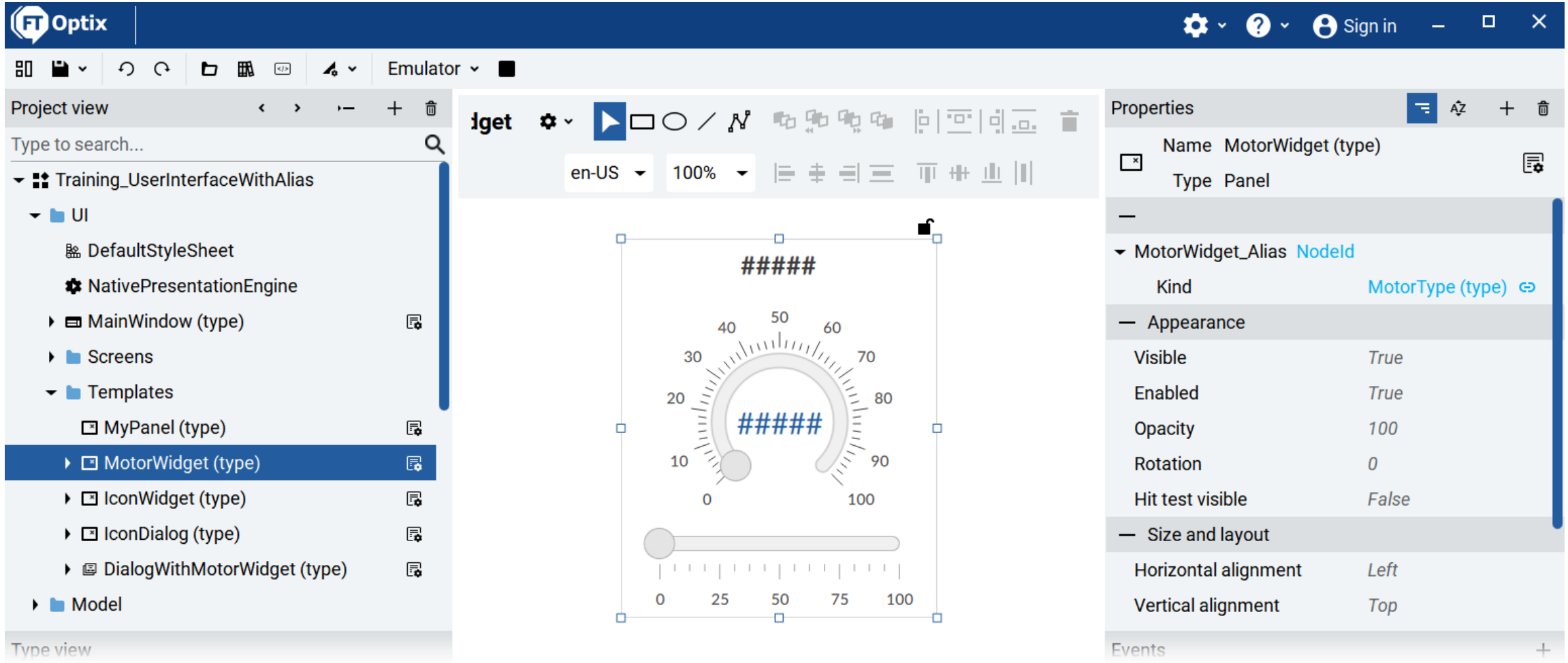


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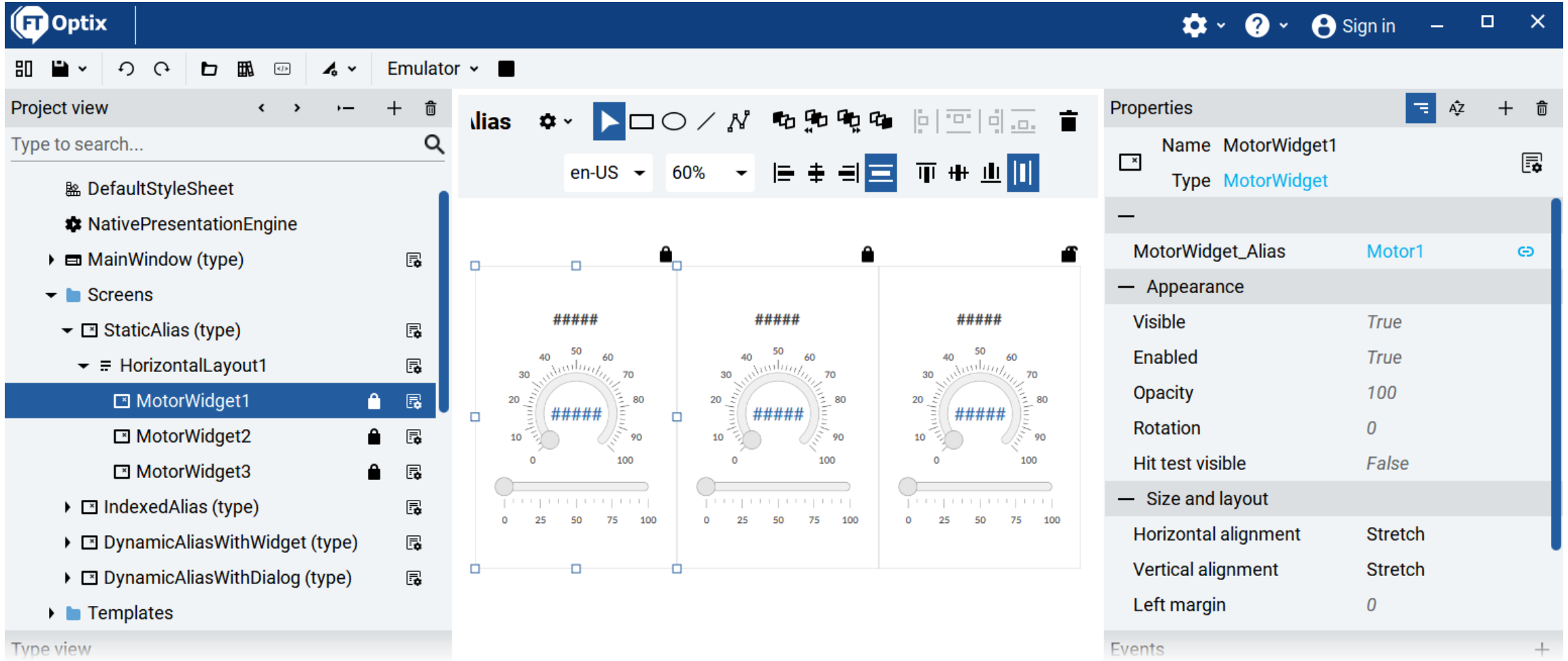
# OBJECT-ORIENTED PROGRAMMING

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# STUDIO WITH SOFTWARE-AS-A-SERVICE MODEL

## COST SAVING

Use without spending time on installation, upgrade, maintenance

## SCALABILITY

Subscription model allows to scale as needed

## WHATEVER VERSION

Access to the latest version and to all previous ones

## ANYWHERE ACCESS

Access from any PC with an internet connection

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# STUDIO WITH SOFTWARE-AS-A-SERVICE MODEL

## Don’t have Studio installed on your PC?

Design, test, and deploy
your HMI projects
directly from a web browser

## No internet connection?

Install or Use
FactoryTalk Optix Studio
locally on your laptop

**SEAMLESSLY TRANSITIONS FROM WEB TO DESKTOP APP**

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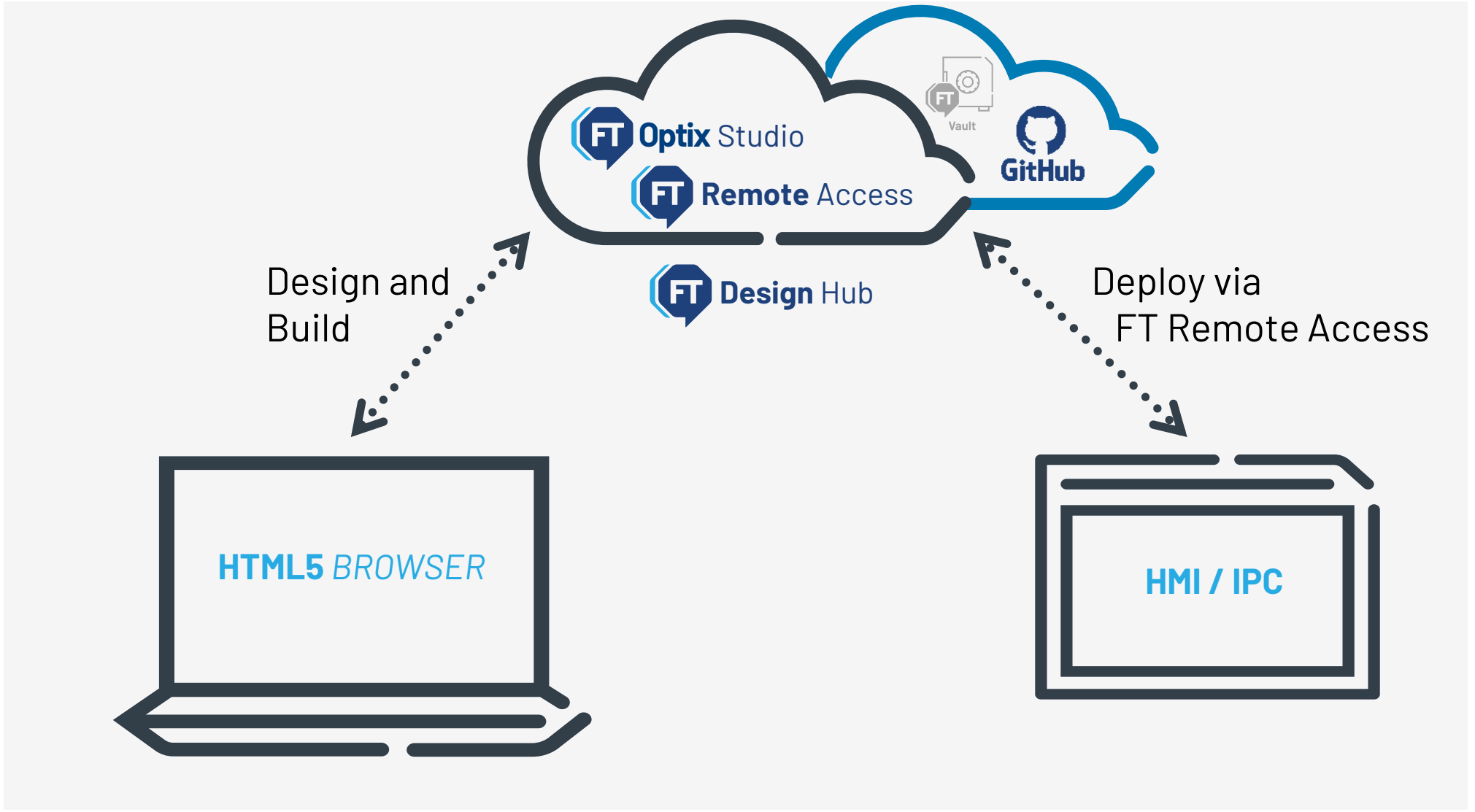
# STUDIO WITH SOFTWARE-AS-A-SERVICE MODEL



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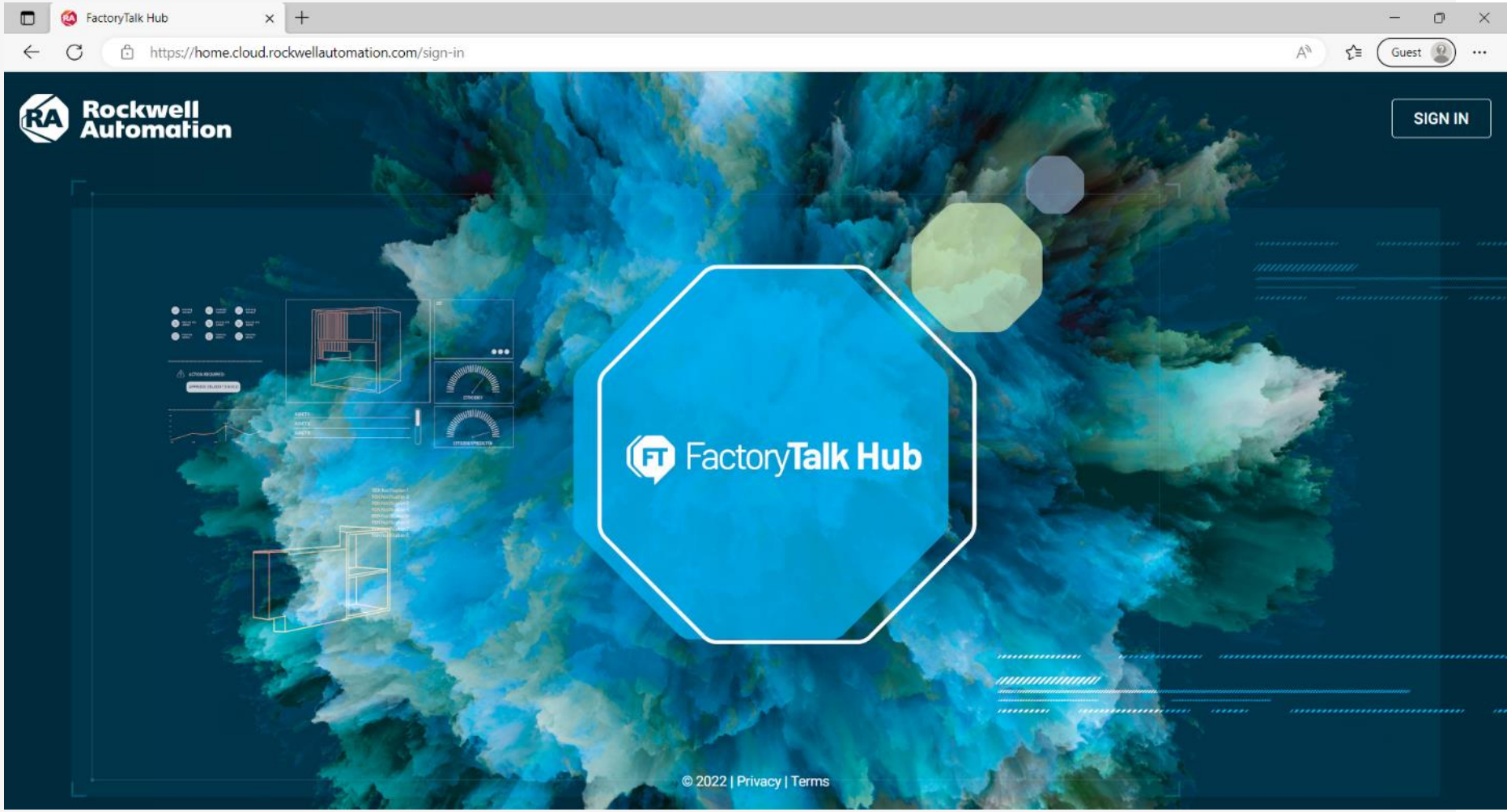


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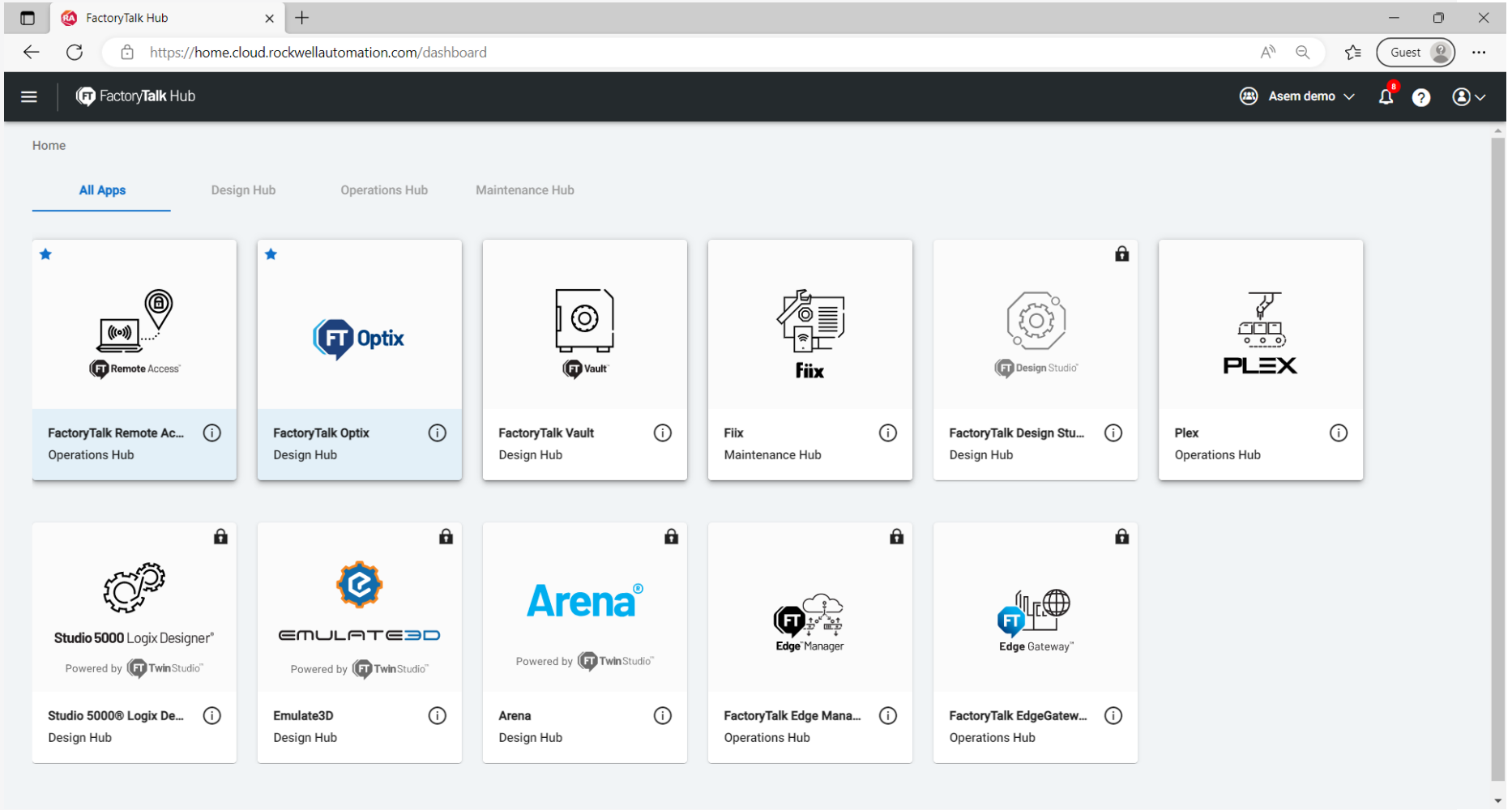


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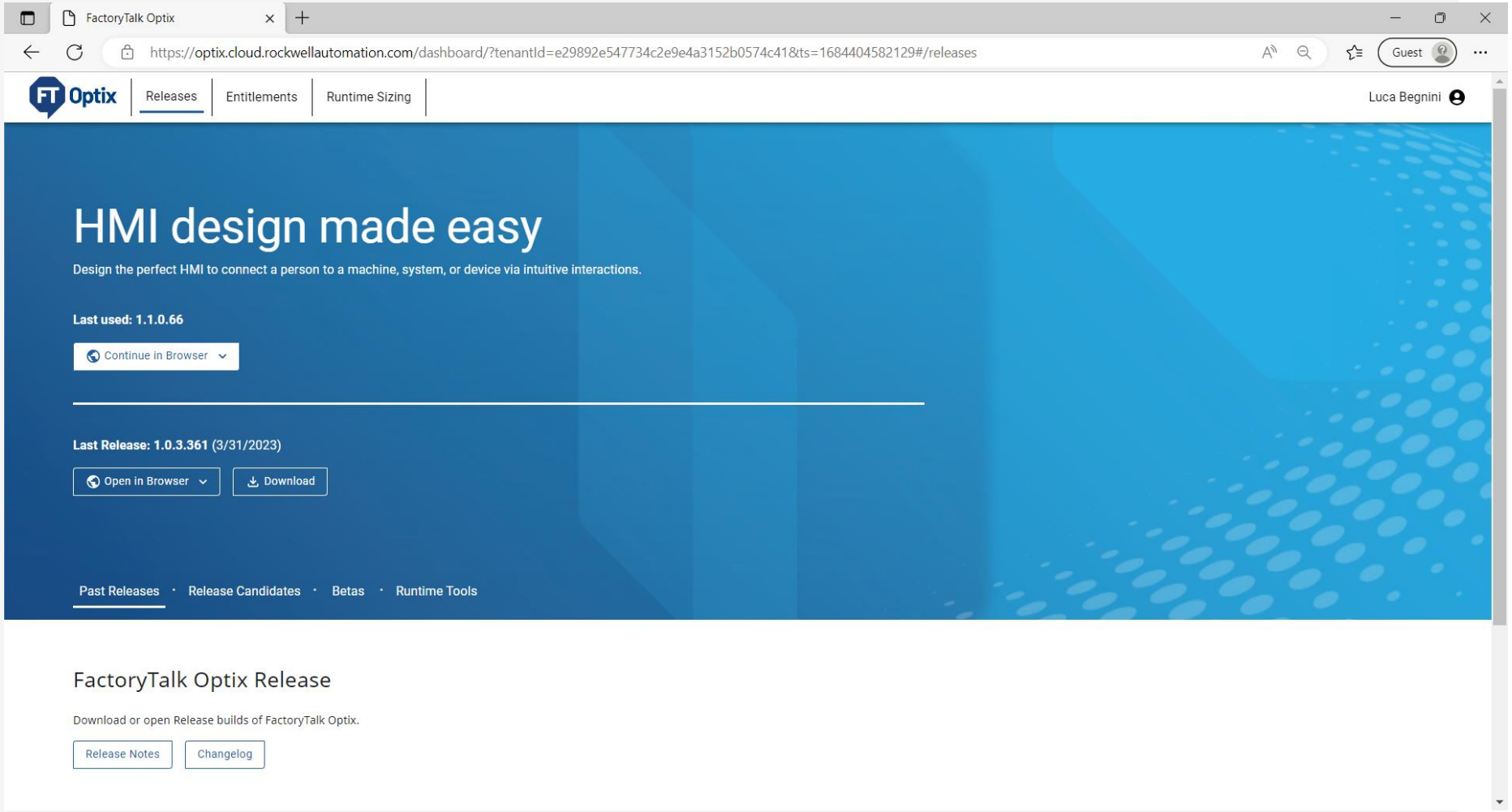


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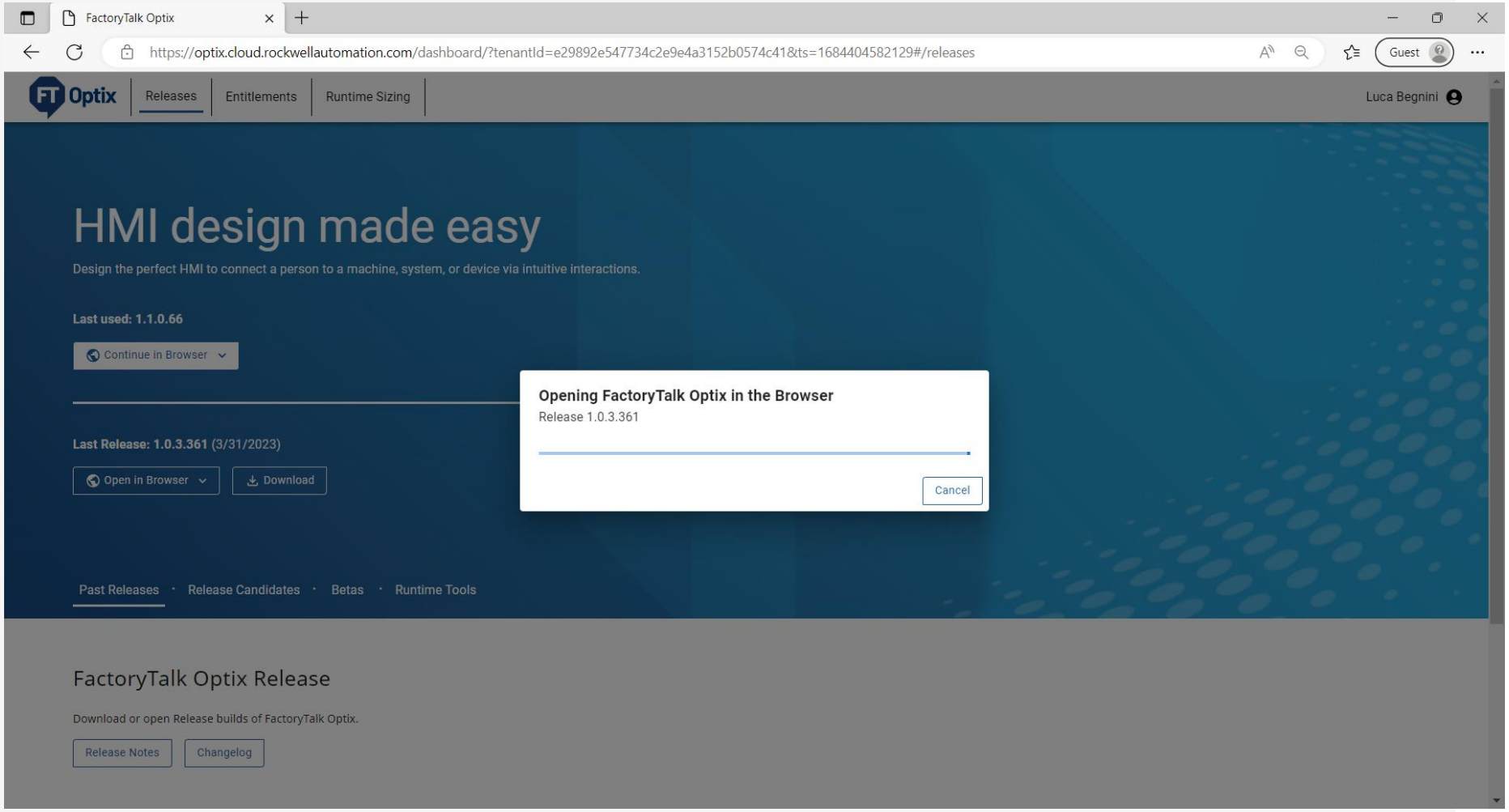


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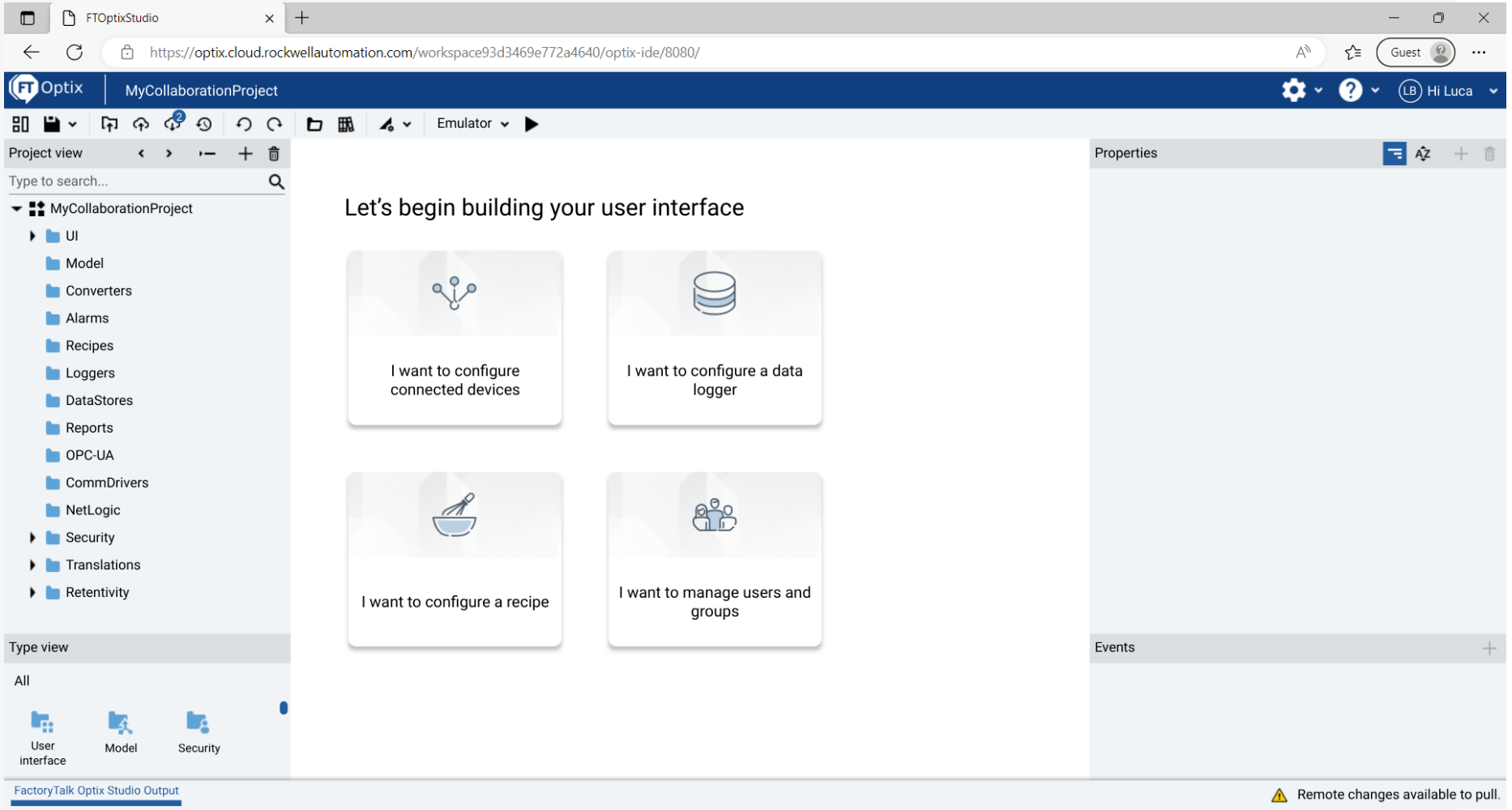


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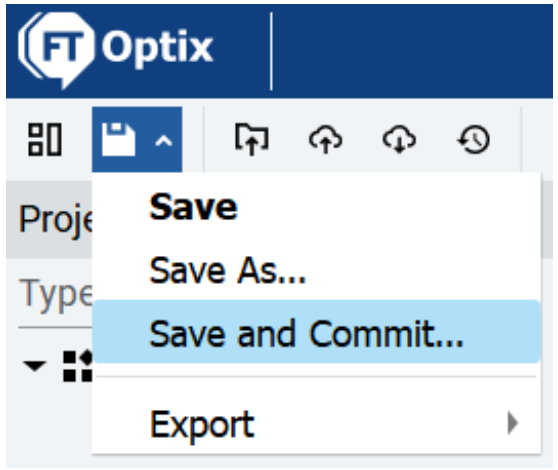
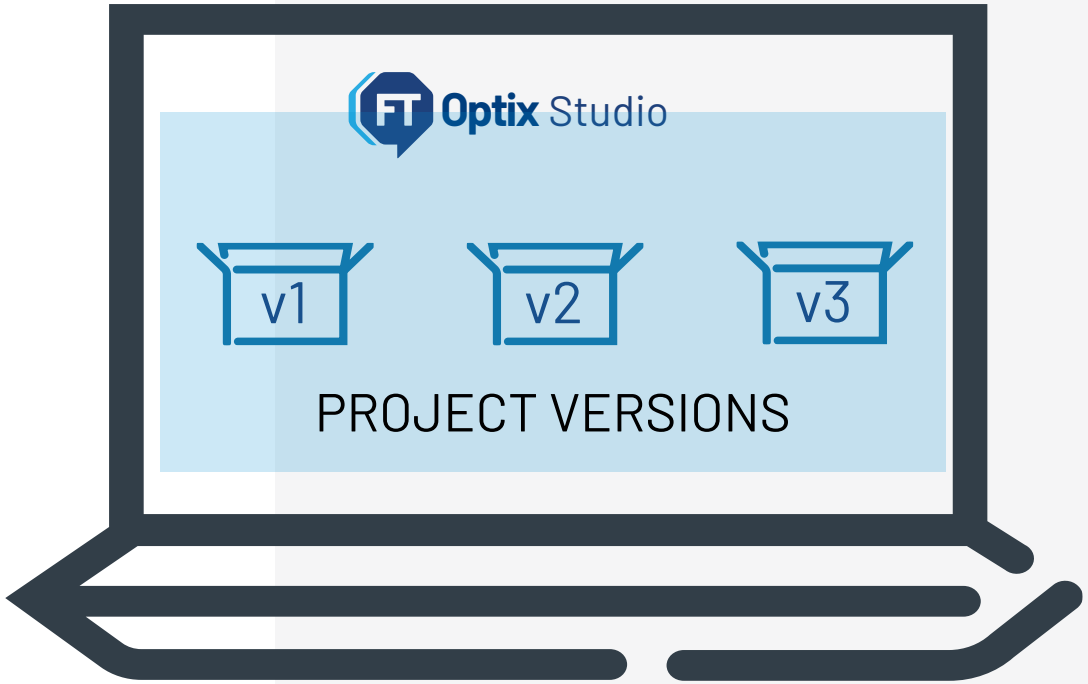
# VERSION CONTROL SYSTEM - LOCAL

- The Optix project contains a local VCS database (Git)
- No more need of «Save as» or «Zip» files

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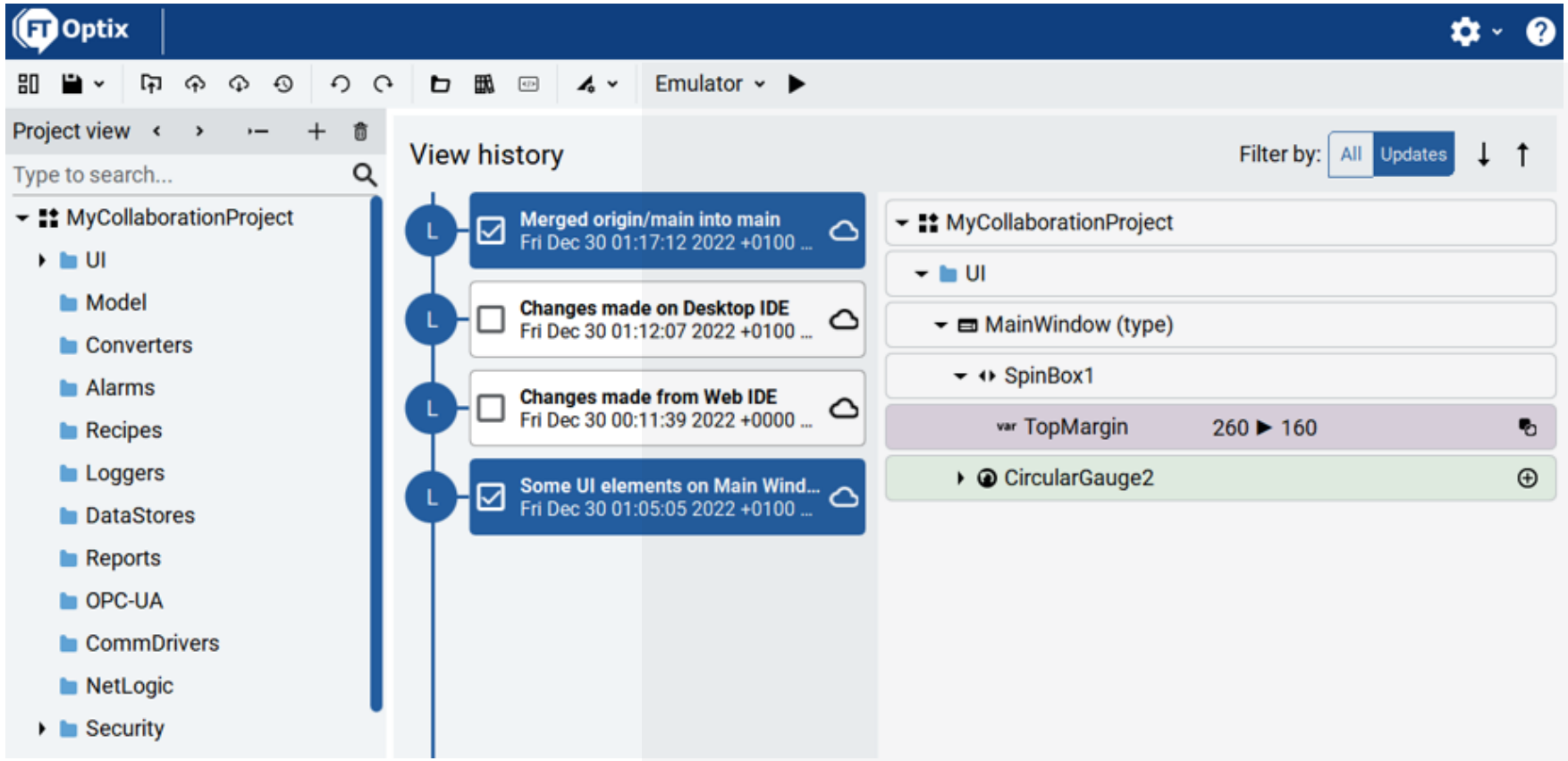
# VERSION CONTROL SYSTEM – EXAMPLE

- Commit History

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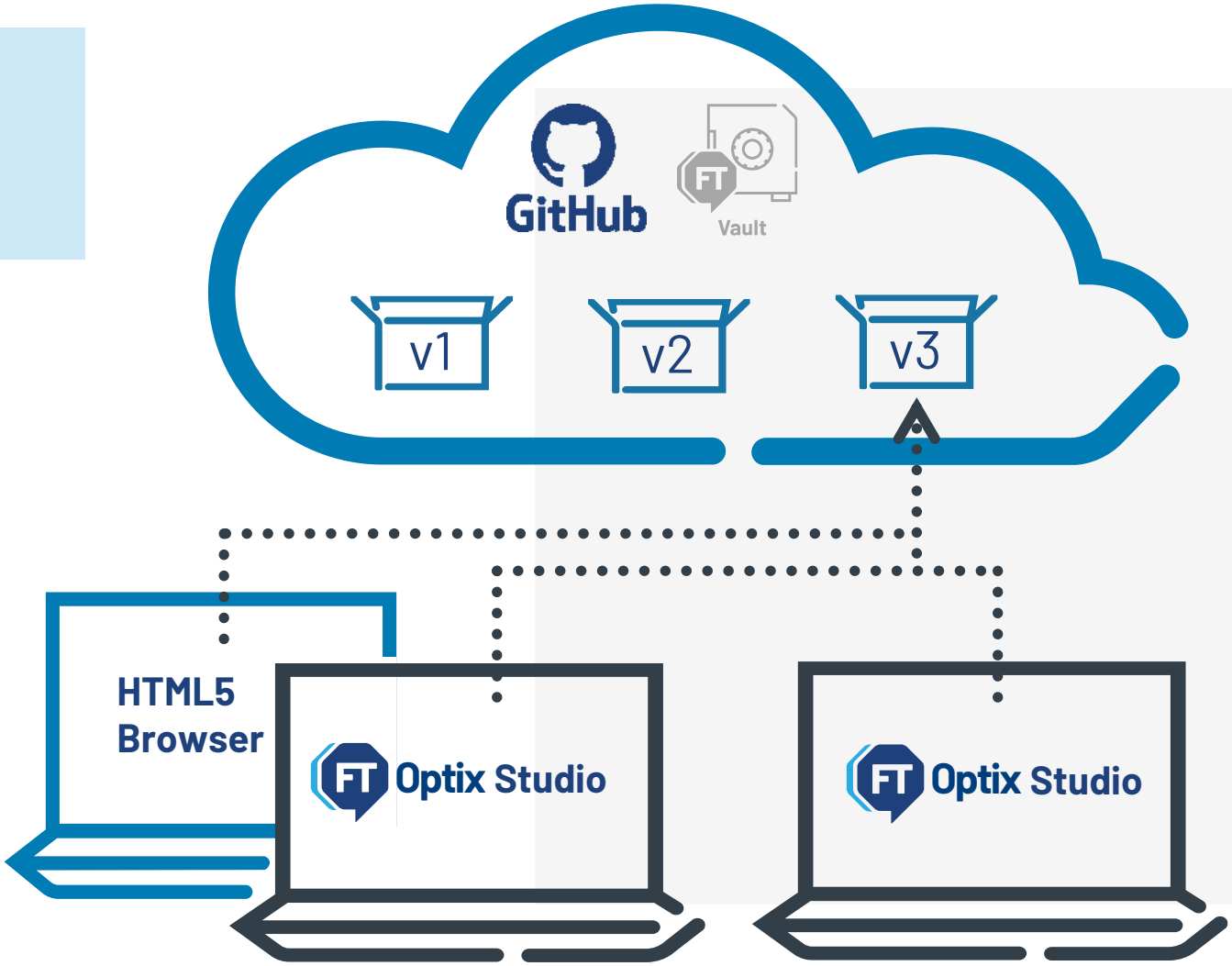
# VERSION CONTROL SYSTEM - REMOTE

- Enable the Multi-user collaboration

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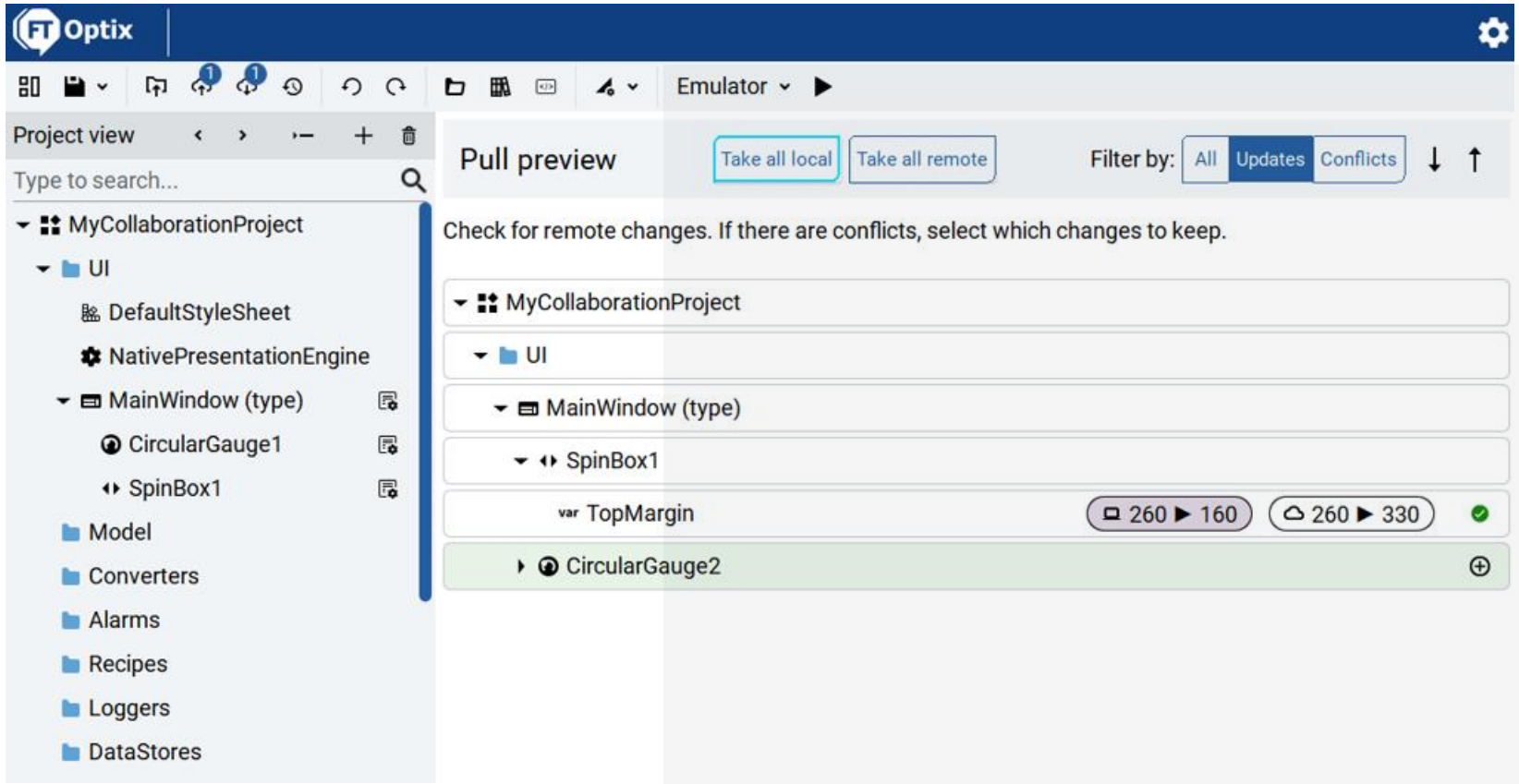
# VERSION CONTROL SYSTEM – EXAMPLE

- Push
- Pull
- Conflict Resolution

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# KEY FEATURES – GRAPHIC & DEVELOPMENT OPTIONS

**EXTENSIBILITY options**

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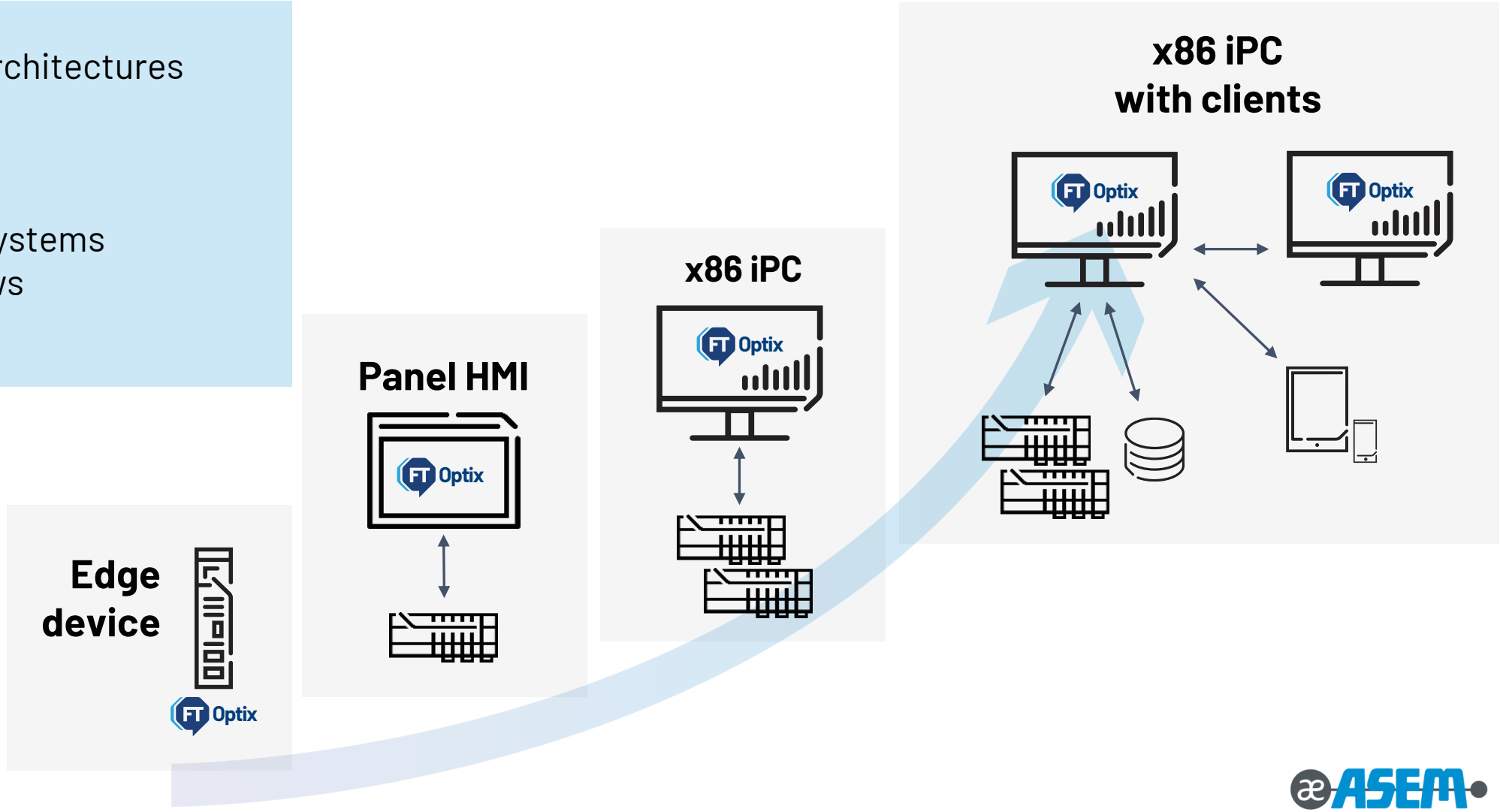
# CROSS-PLATFORM: SCALABLE ARCHITECTURES

- Hardware Architectures
  - ARM
  - x86
- Operating Systems
  - Windows
  - Linux

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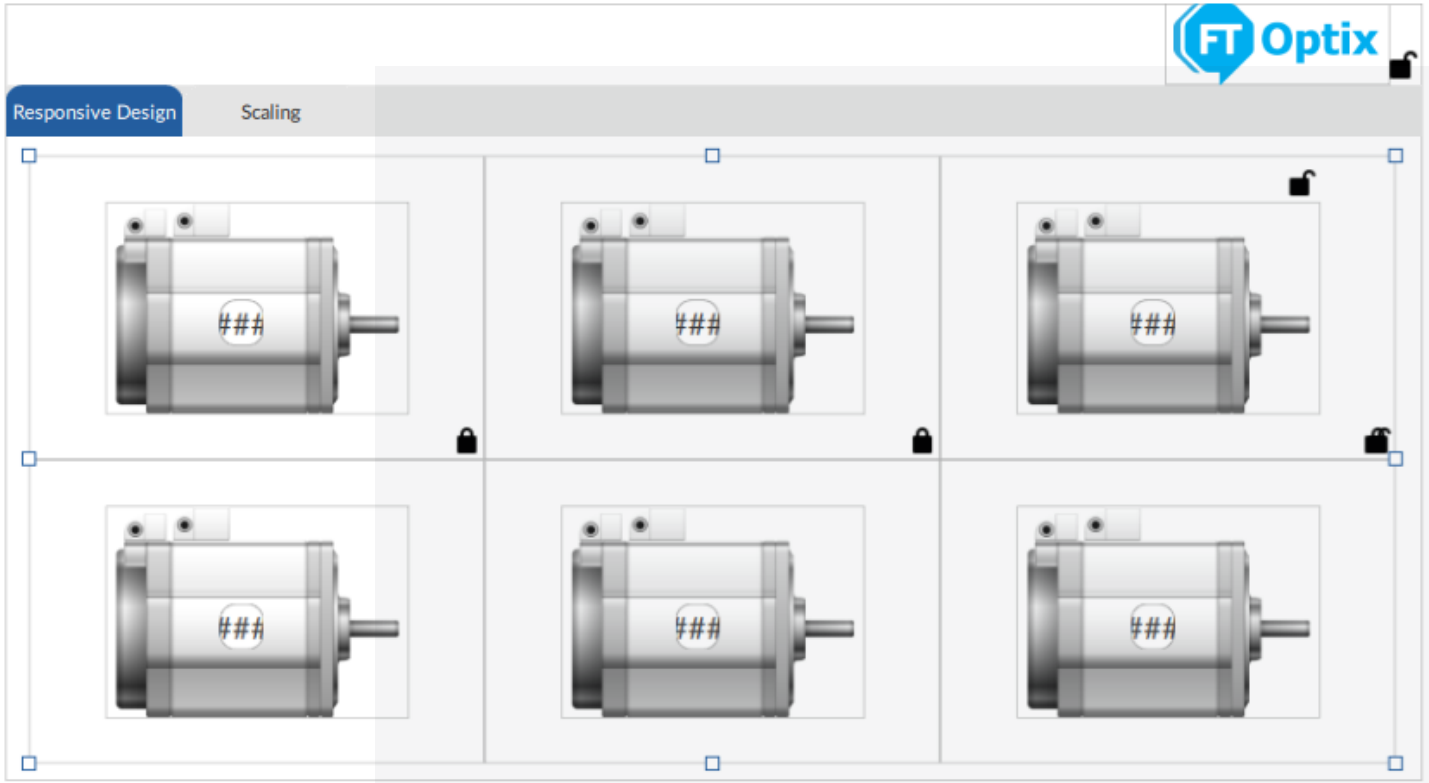
# UNIVERSAL UI

- **Responsive Design** aims to make pages render well on a variety of screen sizes
- 4:3 ←→ 16:9
- Ensure usability

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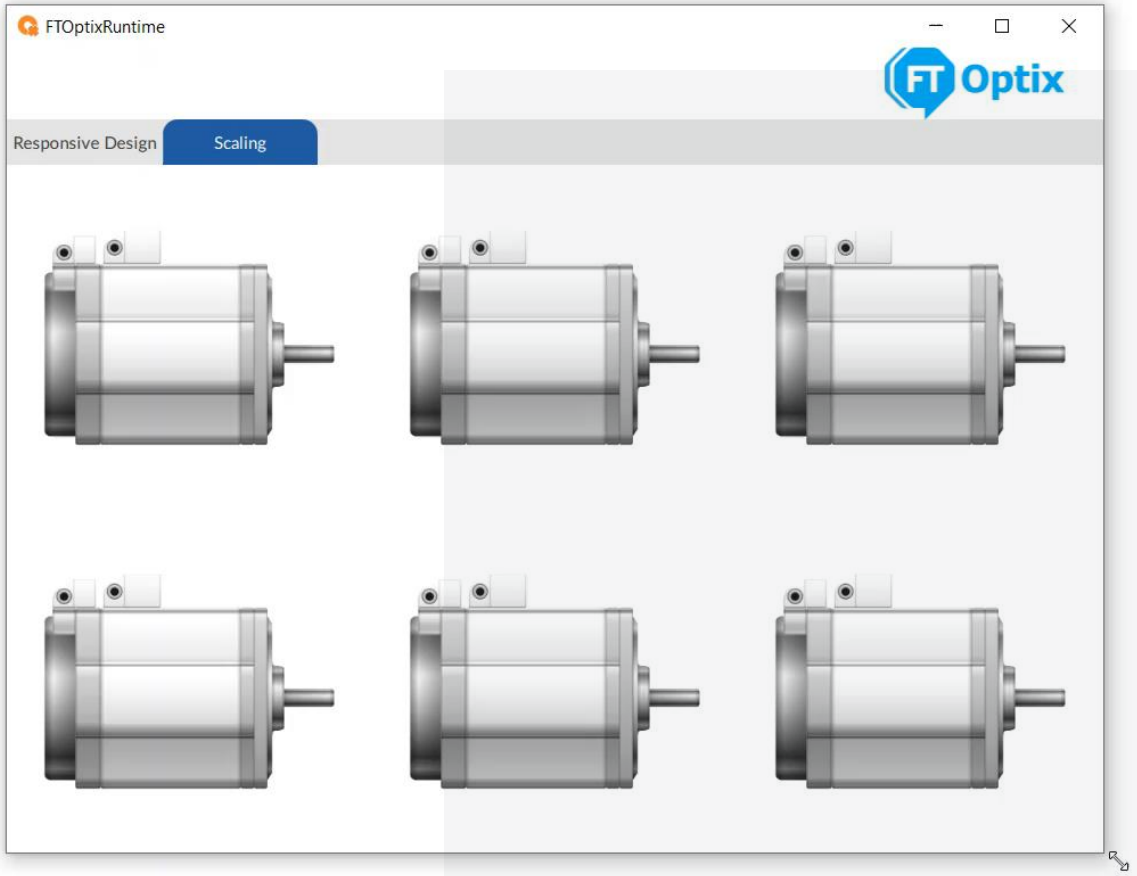
# UNIVERSAL UI

- **Scale Layout**
  enhance the
  Responsive Design

- can be used
  to scale
  the whole page

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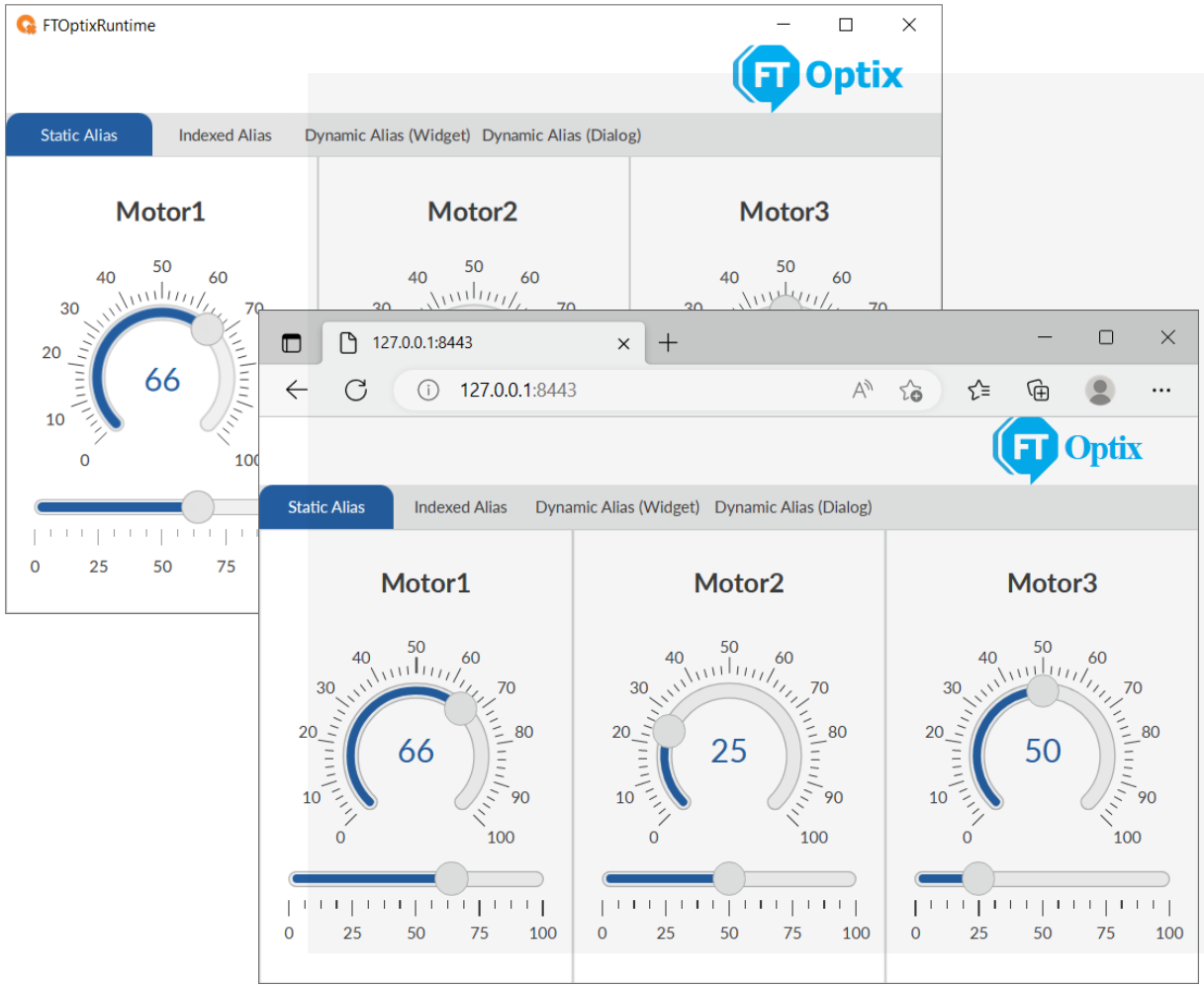
# UNIVERSAL UI

- **Web UI** with the same user experience as Native UI
- Independent sessions
- No conversion tool
- No adjustment
- No compromise

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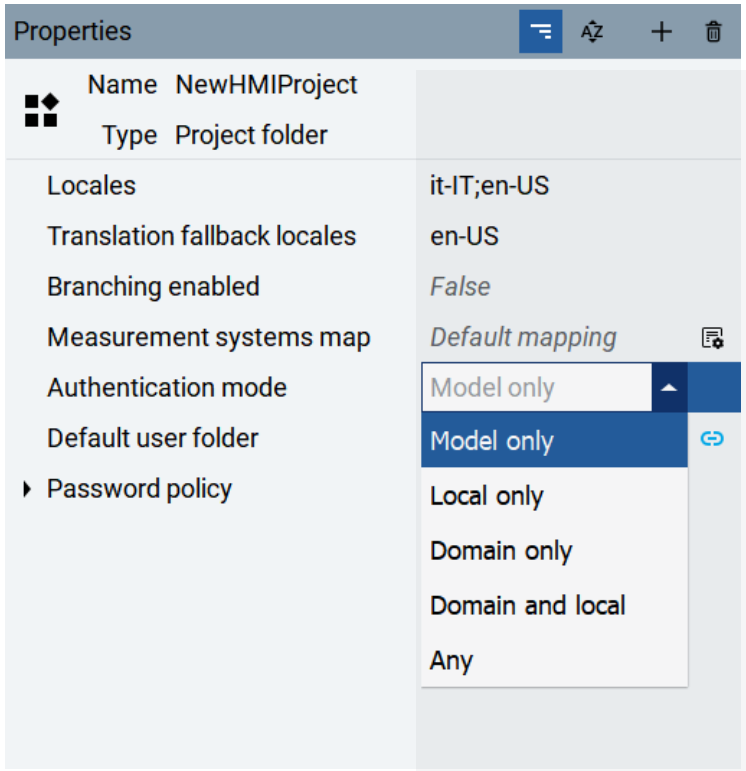
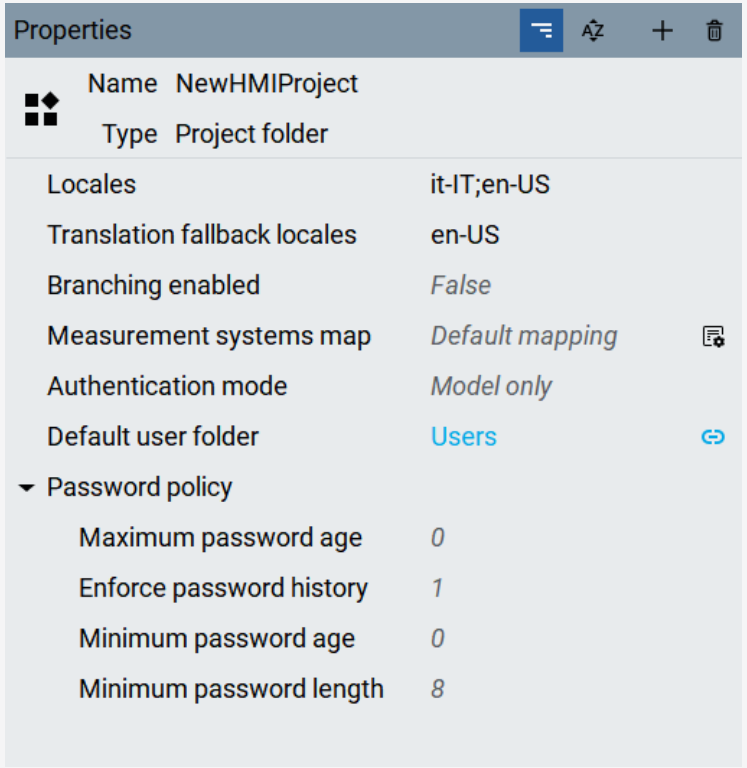
# AUDIT, ELECTRONIC RECORDS & SIGNATURES

- User management
  - authentication mode
  - password policies

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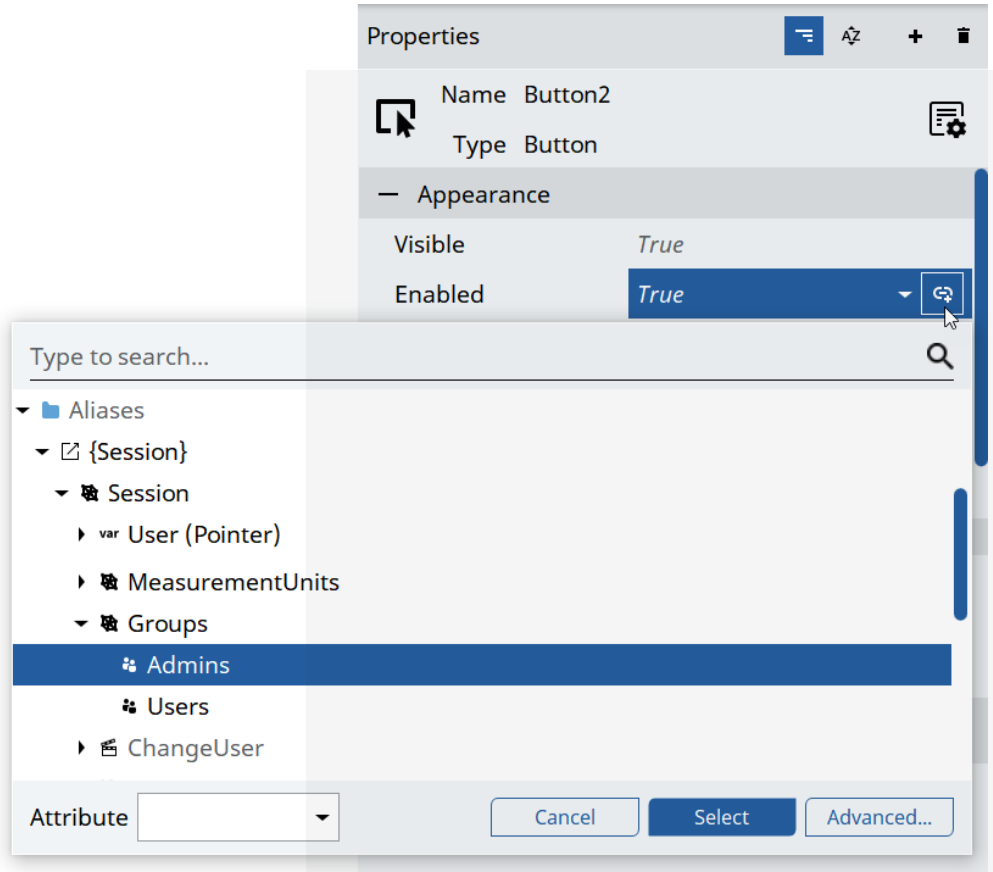
# AUDIT, ELECTRONIC RECORDS & SIGNATURES

- Security policy on UI
  - Visibility
  - Enabling

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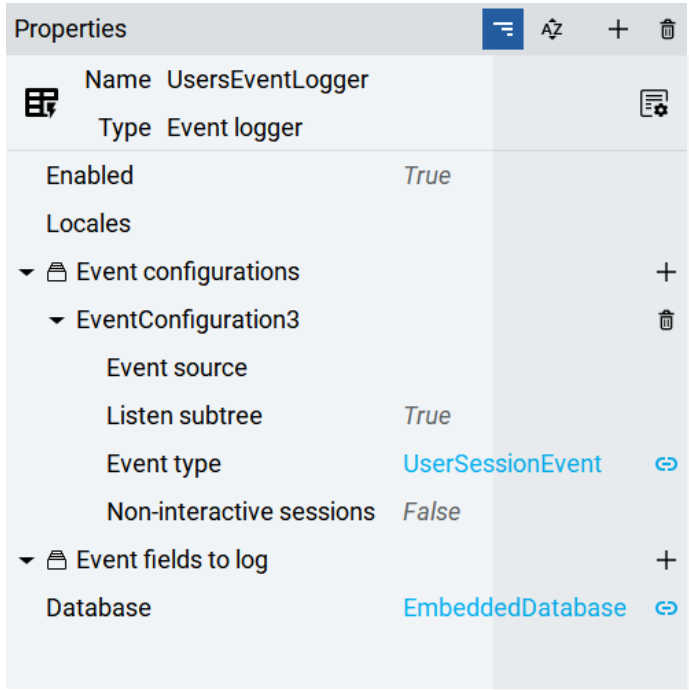
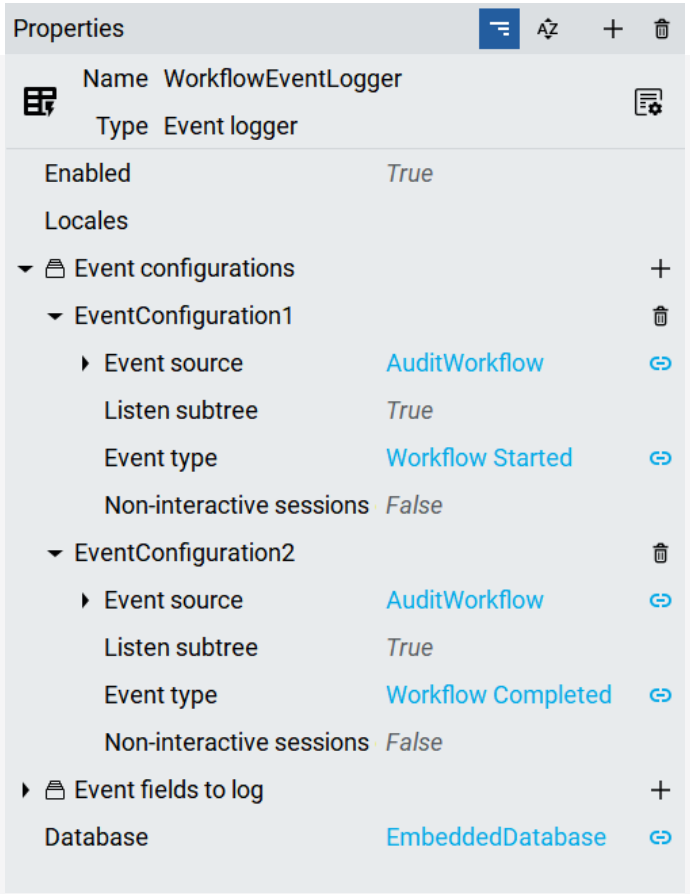
# AUDIT, ELECTRONIC RECORDS & SIGNATURES

- Audit / Event Logger for
  - tags values
  - users login/logout
  - ...other events

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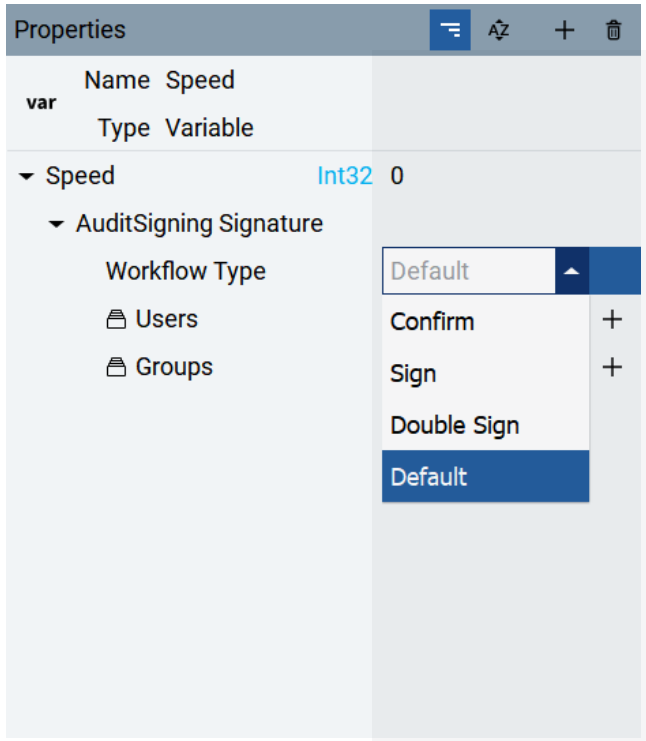
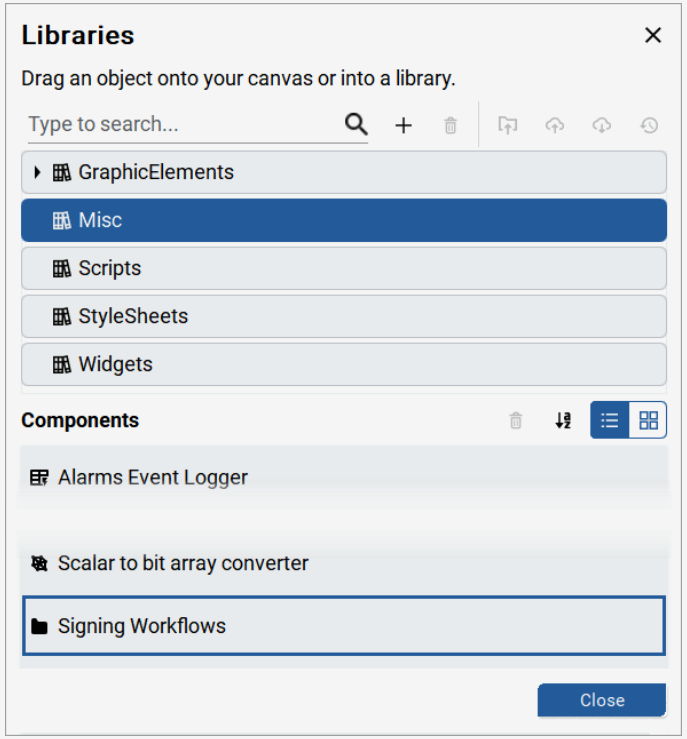
# AUDIT, ELECTRONIC RECORDS & SIGNATURES

- Signing workflow on changing values:
  - Confirm,
  - Sign,
  - Double Sign

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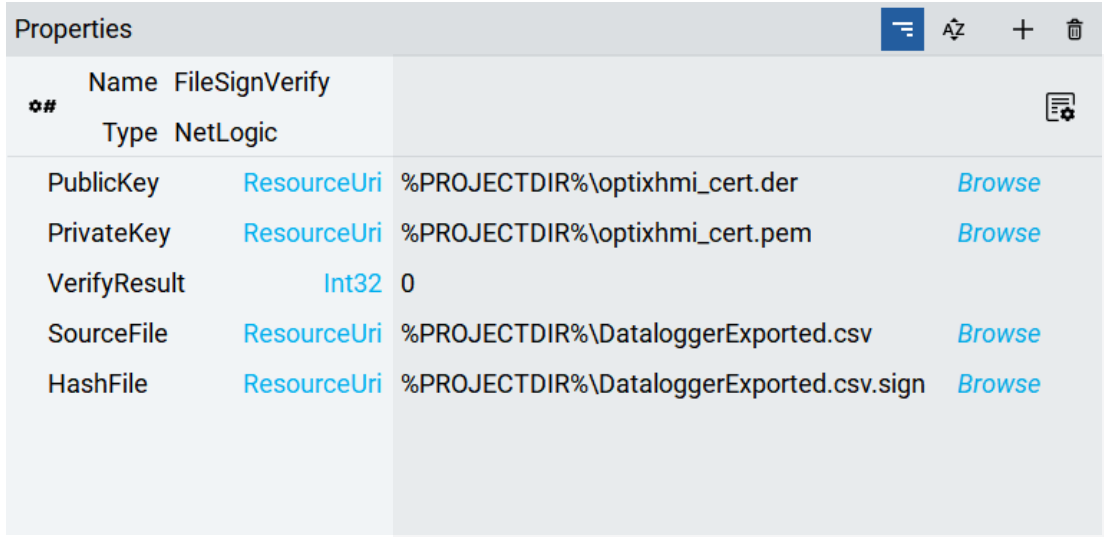
# AUDIT, ELECTRONIC RECORDS & SIGNATURES

- File hashing
  to protect exported data
  - CSV files
  - PDF Reports
- Recipe "status management"
  - develop
  - production
  - obsolete

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# BUSINESS MODEL

# FACTORYTALK OPTIX STUDIO

## STANDARD

- Install on your PC
- Design and Deploy application from your PC

FREE

## PRO

*STANDARD capabilities plus…*

- Design application using **web-based** Studio
- Use the **Version Control** System (Project + Libraries) and multi-user **collaboration**

Annual subscription per User

# FACTORYTALK OPTIX STUDIO - DEMO AND DOWNLOADS

**Optix Studio PRO**
is available as **90 days trial**

Scan the QR Code or follow the link below
to download the **Getting Started Guide**
https://qrco.de/optix

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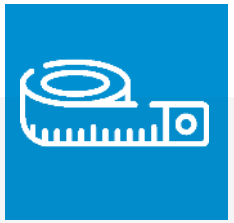
# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS

INNOVATIVE AND FLEXIBLE



TAILORED SIZE

LEVERAGES MODULARITY

NO LIMITATIONS ON EACH FEATURE

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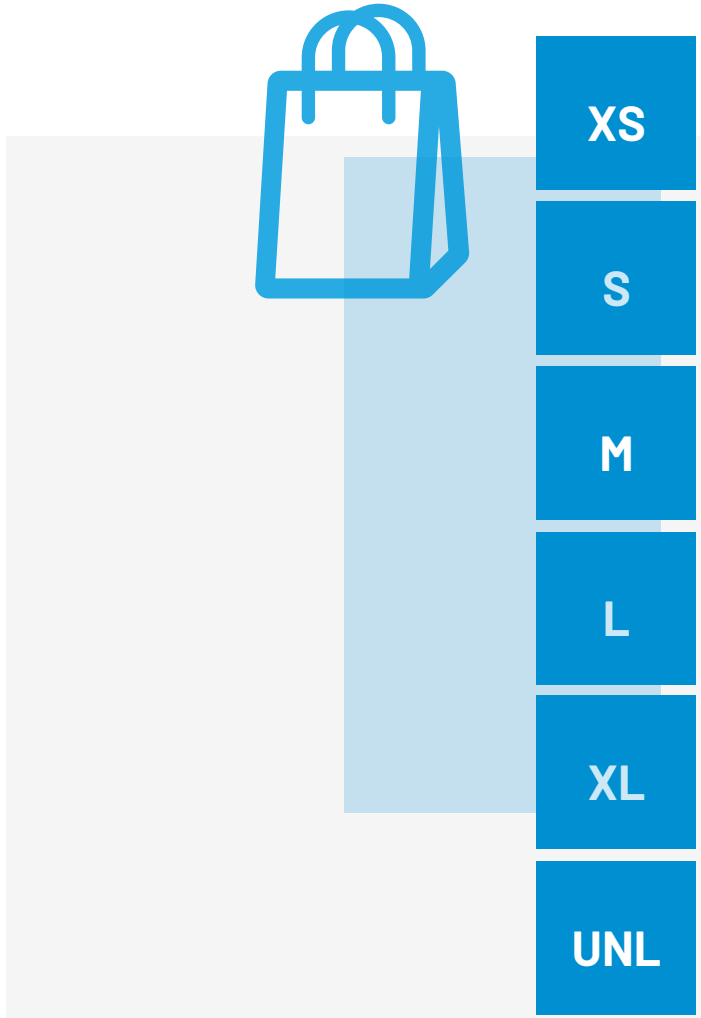
# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS

- Every **feature** used by the Runtime has a cost in **Tokens**
- License **size** defines the number of Tokens available

| SIZE | RUNTIME FOR IPC |
|---|---|
| XS | 5 |
| S | 8 |
| M | 11 |
| L | 15 |
| XL | 21 |
| UNL | Unlimited |

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# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS

FREE

Libraries

FREE

Multimedia contents

FREE

Converters

FREE

Embedded database

FREE

Local users and security

FREE

International settings

FREE

Scripting

# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS

**1**
Native UI

**1 .. 7**
Web UI

| CLIENTS | UP TO 1 | UP TO 3 | UP TO 5 | UP TO 10 | UP TO 20 | ANY |
|---|---|---|---|---|---|---|
| Tokens | 1 | 2 | 3 | 5 | 7 | UNL |

**1**
Alarms
Active & Historical

**1**
Data loggers

**1**
Event loggers

**1**
Recipes

**1**
Reports

**1**
Retentivity

**1**
Audit signature

**1**
Active directory authentication

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# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS

**1..3**

ODBC database

| DATABASES | UP TO 1 | UP TO 3 | UP TO 5 | ANY |
|---|---|---|---|---|
| Tokens | 1 | 2 | 3 | UNL |

**1 .. 7**

OPC UA Server

| CLIENTS | UP TO 1 | UP TO 3 | UP TO 5 | UP TO 10 | UP TO 20 | ANY |
|---|---|---|---|---|---|---|
| Tokens | 1 | 2 | 3 | 5 | 7 | UNL |

**1 .. 2**

OPC UA Client

**1 .. 2**

Every Comm Driver

| STATION | SINGLE | MULTIPLE |
|---|---|---|
| Tokens | 1 | 2 |

For **RA Ethernet/IP** driver the 1st Station is free if Runtime is running on ASEM 6300, ASEM Classic or OptixPanel

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# FACTORYTALK OPTIX RUNTIME – FEATURE TOKENS EXAMPLES

| SMALL HMI | |
|---|---|
| Native UI | 1 |
| Web UI (up to 1 clients) | 1 |
| Alarms + Alarms History | 1 |
| Data logger | 1 |
| Recipes | 1 |
| 1x Comm Driver (multiple stations) | 2 |
| **TOTAL** | **7** |


| MEDIUM HMI | |
|---|---|
| Native UI | 1 |
| Web UI (up to 3 clients) | 2 |
| Alarms + Alarms History | 1 |
| Data logger | 1 |
| Retentivity | 1 |
| Recipes | 1 |
| OPC UA Server (1 client) | 1 |
| 1x Comm Driver (multiple station) | 2 |
| **TOTAL** | **10** |



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# FACTORYTALK OPTIX RUNTIME – DEMO AND DOWNLOADS

Optix Application can be executed:

- by FT Optix Studio Emulator for 2h
- by FT Optix Runtime **for 2h without a license ***

Scan the QR Code or follow the link below
to download the **Getting Started Guide**
https://qrco.de/optix

* 90 days trial licenses (Unlimited tokens) are available upon request

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# FACTORYTALK OPTIX RUNTIME

- Is running on
  - ASEM VK, HT, QT, PB, BM
  - ASEM 6300 iPC
  - 3rd party PCs
  - **OptixPanels** HMI


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# OPTIXPANELS

## COMPACT

**Customer Persona**
Entry-level machine builders,
needing basic HMI functionality

**FT Optix**
default size S (8)
upgradable to M (11)

**FT Remote Access**
BASIC, compatible
with Ubiquity domains

## STANDARD

**Customer Persona**
Mid-level machine builders
needing a full-featured HMI

**FT Optix**
default size M (11)
upgradable to L (15)

**FT Remote Access**
PRO, compatible
with Ubiquity domains

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# OPTIXPANELS

## COMPACT

**Connectivity**
1x Gigabit Ethernet
1x RS232/422/485

**Display**
Wide: 4.3" – 7"

**Bezels & Touchscreen**
Alu /w Resistive
True Flat Alu + Glass /w PCAP

## STANDARD

**Connectivity**
2x Gigabit Ethernet
1x RS232/422/485

**Display**
4/3 : 10.4" ... 15"
Wide: 7" ... 21.5"

**ATEX Bezels & Touchscreen**
Alu /w Resistive
True Flat Alu /w Resistive
True Flat Alu + Glass /w PCAP
True Flat Stainless Steel

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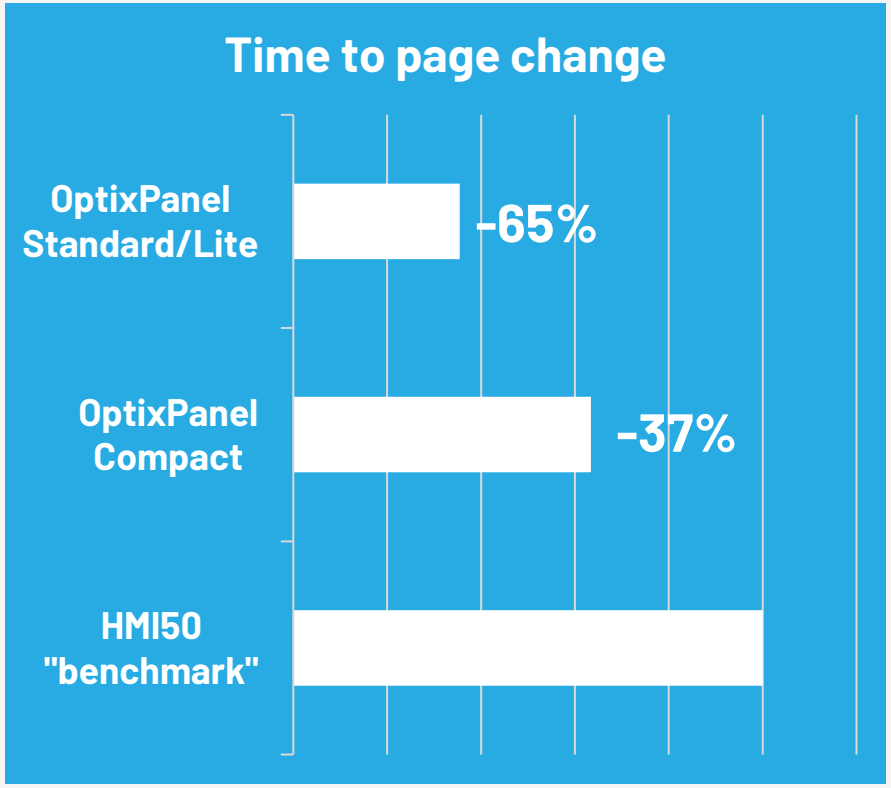
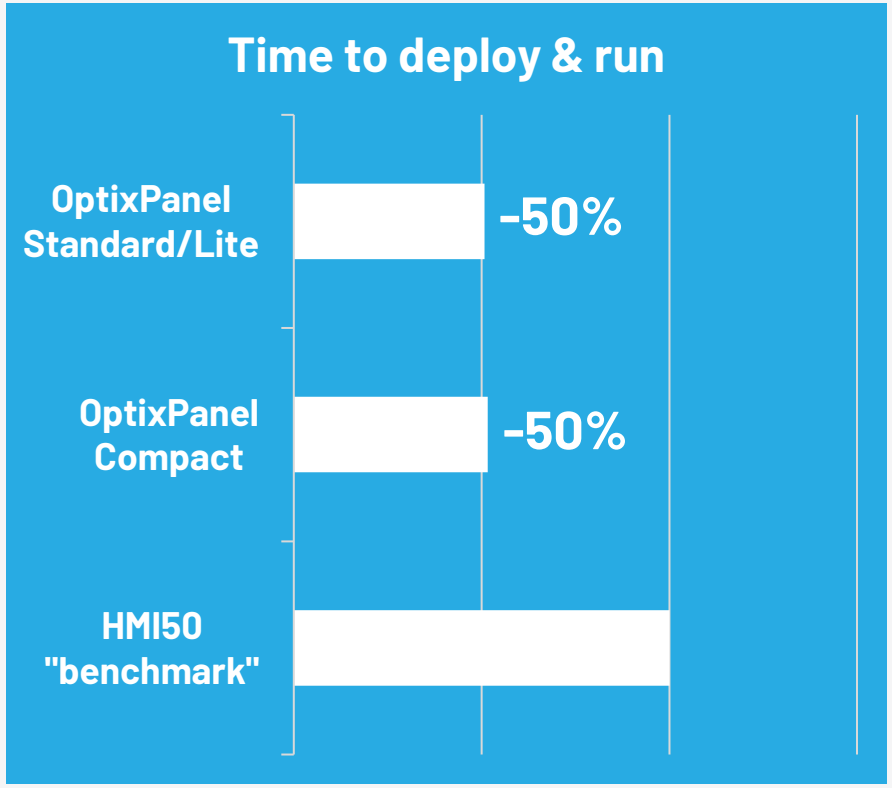
# PERFORMANCE COMPARISON




*Lower results represent better performance*

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