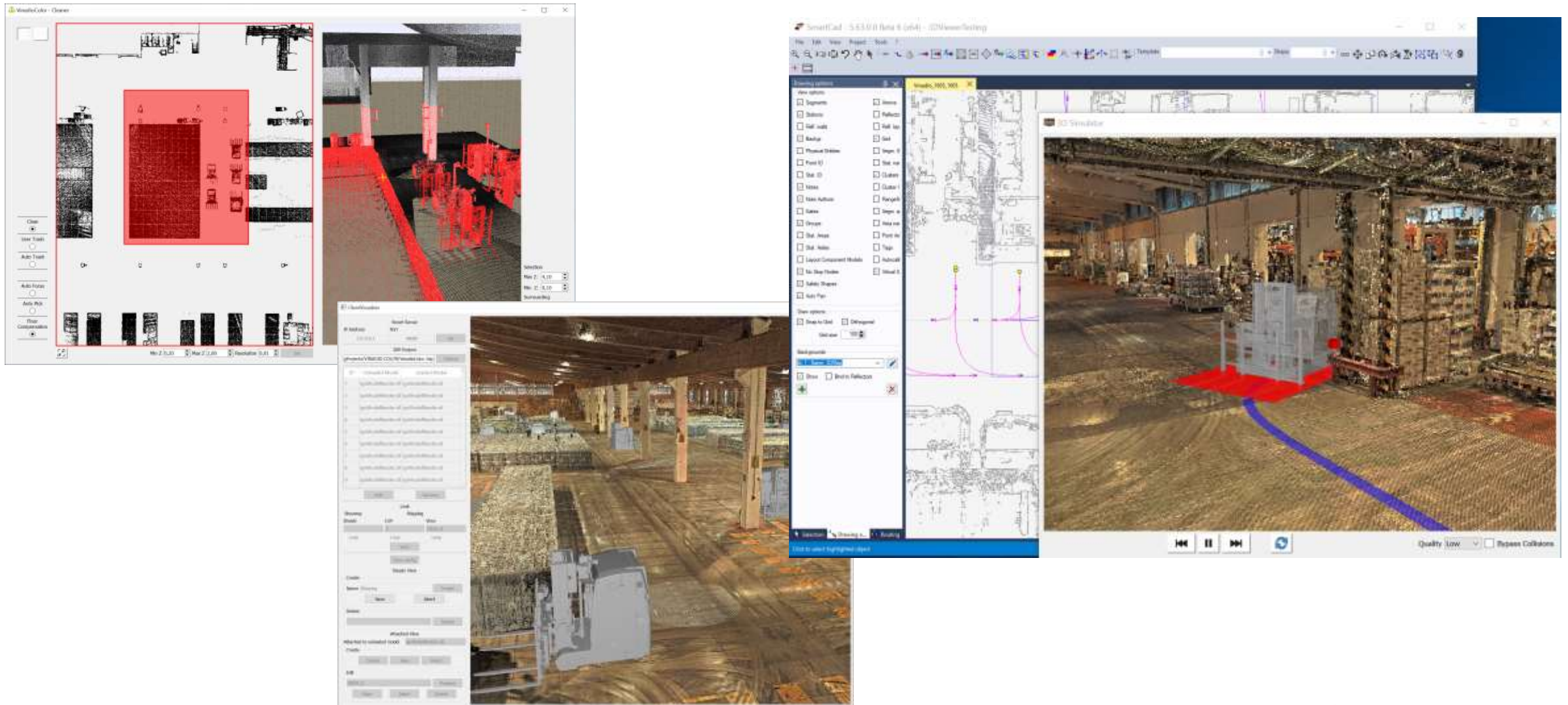# Framework per applicazioni 3D basate su Qt
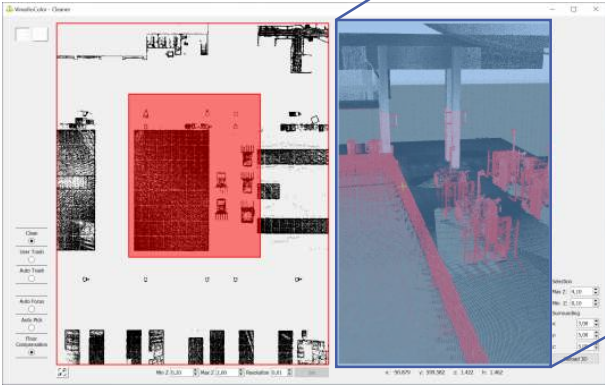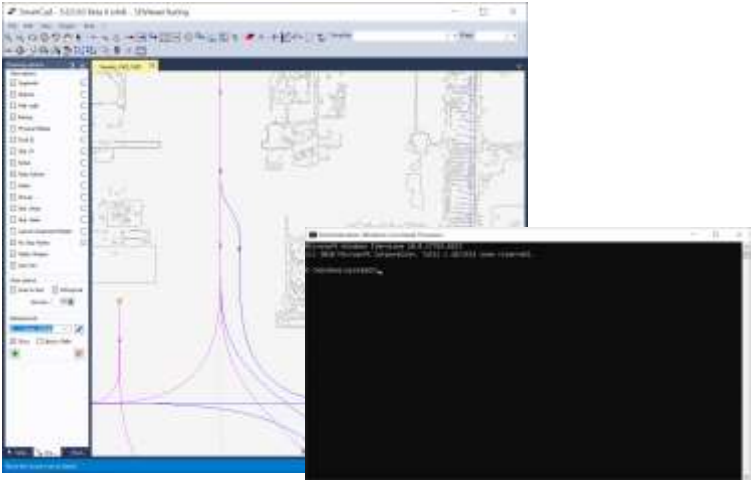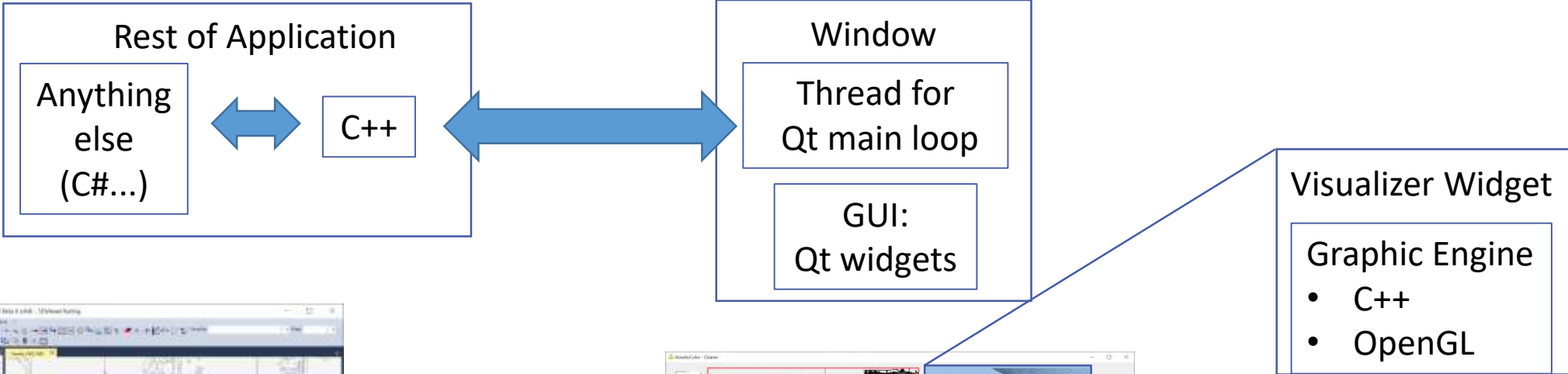
# Preface

- Framework developped from scratch

- Software architecture

- Faced problems & solutions

- Feel free to: Ask any questions & propose improvements

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# Goal

# App decomposition

**Rest of Application**
- Anything else (C#...)
- C++

**Window**
- Thread for Qt main loop
- GUI: Qt widgets

**Visualizer Widget**
- Graphic Engine
  - C++
  - OpenGL

# Graphic Engine

- Manage user 3D experience

- Manage scene graph

- Update & render Actors (everything can exist into the scene)

- Standard user 3D inputs (Forward, look around...)

- Virtual Reality (VR) Support (e.g. Oculus Rift)



Graphic Engine

Device
- Point of view (Camera)
- Rendering

Scene
- Actors management
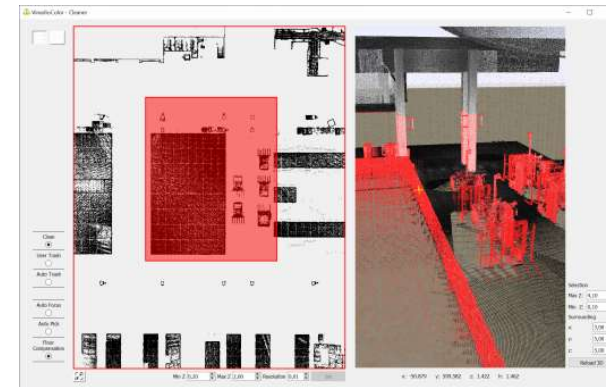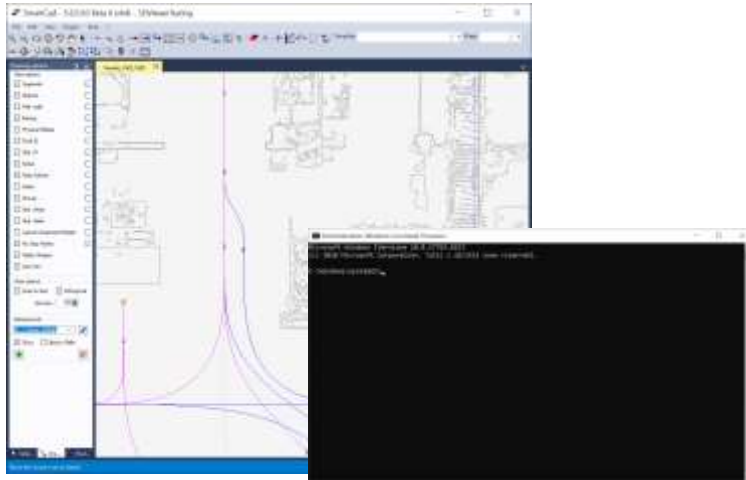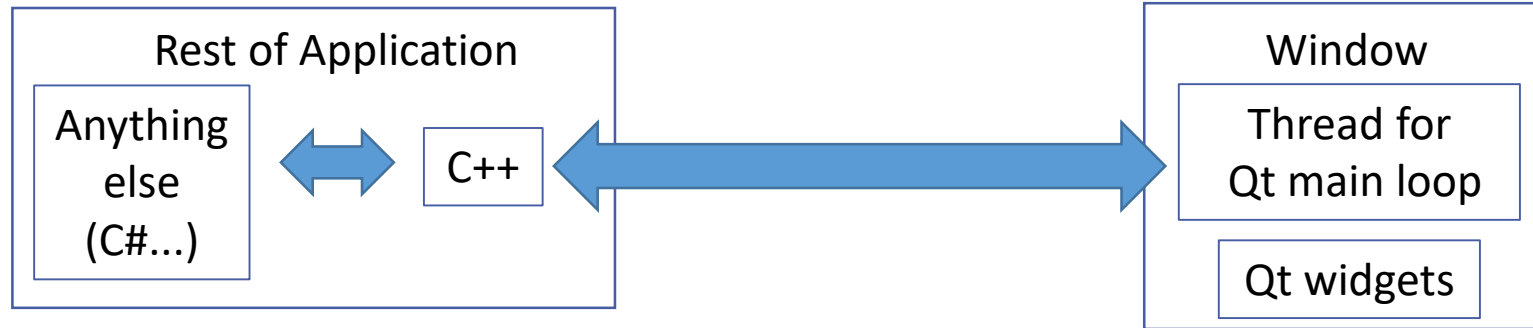- Skybox
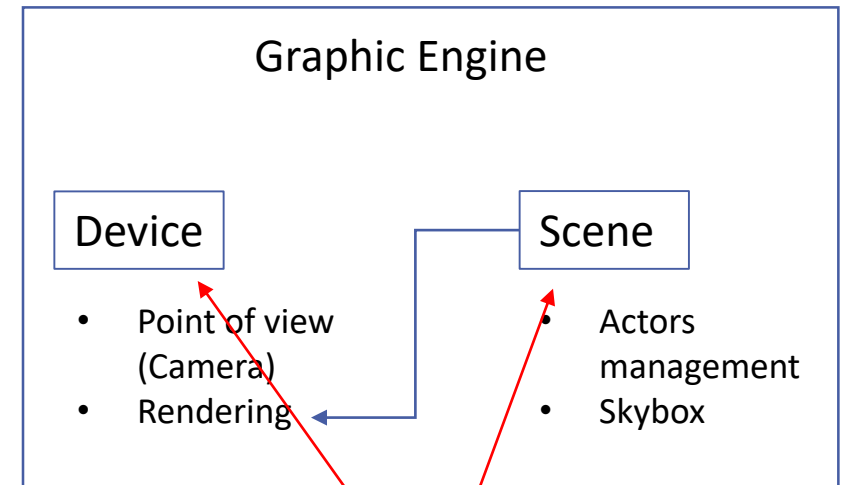
Lets look inside !

# Visualizer Widget

- User interaction (mouse & keyboard input)

- Create and initialize OpenGL context and shaders

- Triggers scene Update and Refresh

- Provide high level API for Graphic Engine to support application logics
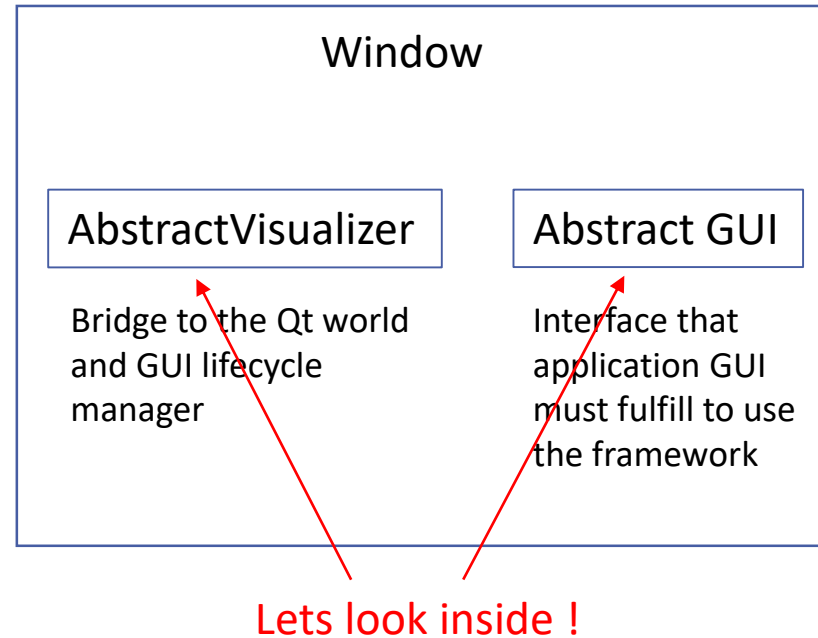
Lets look inside !



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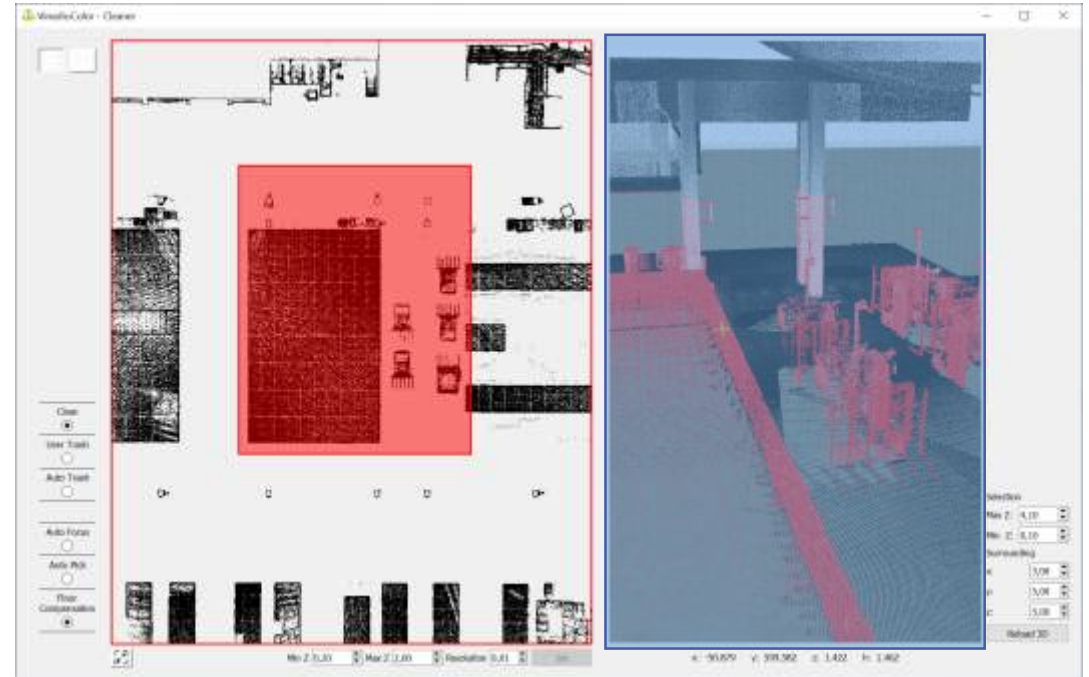
# Recap

# Window

- User frontend

- Manage Qt main loop (creation, run, etc...)

- Provide methods to interact with GUI to not-Qt applications

Window

AbstractVisualizer

Abstract GUI

Bridge to the Qt world and GUI lifecycle manager

Interface that application GUI must fulfill to use the framework

Lets look inside !

# Thank you for watching!!!