## **Tools for Task 1**

BIM software

| **Software & version** | **Operating system** | **Tester level of expertise** |
| --- | --- | --- |
| Autodesk Revit 2018 | Windows 10/Home | 1 |
| Autodesk Revit 2018 | Windows 10 Enterprise | 1 |
| Autodesk Revit 2019 | Windows 10/Home | 3 |
| Autodesk Revit 2019.2 | Windows 10 Enterprise |  |
| Autodesk Revit 2020 | Windows 10 Pro |  |
| Graphisoft ArchiCAD 22.0.0 | Windows 10/Home | 1 |
| Graphisoft ArchiCAD 22.0.0 | Windows 10 | 2 |
| Vectorworks Designer 2019 | Windows 10/Home | 1 |
| BimServer 1.5.138 | macOS 10.13.6 | 2 |
| Allplan | Windows 10 Home | 1 |
| Autodesk Civil 3D | Windows 10 Home | 1 |
| ACCA Edificius | Windows 10 Home |  |
| Simplebim | Windows 10 Home | 1 |
| Solibri Office | Windows 10 Home | 1 |
| Tekla Structures | Windows 10 Home | 1 |
| bimspot | Windows 10 Home | 1 |

GIS software

| **Software & version** | **Operating system** | **Tester level of expertise** |
| --- | --- | --- |
| ESRI ArcGIS Pro | Windows 10 | 3 |
| Bentley Map Enterprise | Windows 10 Home | 1 |
| QGIS 3.4 | Windows 10 | 1 |

ETL software

| **Software & version** | **Operating system** | **Tester level of expertise** |
| --- | --- | --- |
| Safe Software FME 2019.2 | Windows 10 | 3 |
| Safe Software FME 2019.1.3.1 | Windows 10 | 3 |

Analysis software

| **Software & version** | **Operating system** | **Tester level of expertise** |
| --- | --- | --- |
| ACCA PriMus-IFC | Windows 10 Home | 1 |

CAD & 3D modelling software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| Autodesk AutoCAD Architecture | Windows 10 Home | 1 |
| Bentley MicroStation + TerraSolid | Windows 10 Home | 3 |
| FreeCAD 0.19 | Windows 10 Education | 2 |
| FreeCAD 0.18 | Windows 10 Enterprise | 1 |
| Trimble SketchUp | macOS Mojave | 1 |

3D Viewers and Other software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| KIT FZK Viewer 5.1 | Windows 10 Pro | 2 |
| KIT FZK Viewer 5.1 | Windows 10 Enterprise | 1 |
| BIM Vision 2.20.3 | Windows 10 Enterprise 64-bit | 1 |
| ACCA usBIM.viewer+ | Windows 10 Home | 1 |
| CSTB eveBIM 2.10.0 | Windows 7 Pro | 4 |
| CSTB eveBIM Viewer 2.4.2.201 | Windows 10 Home | 1 |
| RDF IFC Viewer 1.01 | Windows 10 Home | 1 |
| Autodesk Infraworks 2020 (Infrastructure design) | Windows 10 Home | 1 |

### More considered tools, which could not be tested

|  |  |
| --- | --- |
| Solibri Anywhere | the loading of IFC goes wrong (the model is not shown). |
| Tekla Civil: | no trial to be found, also no clue if it supports IFC |
| Tekla Model Sharing: | trial can theoretically be obtained, but I need to be part of an organization that is registered with Tekla. Also don't know if it supports IFC. |
| Autodesk Fusion | no IFC support |
| BuildingReconstruction: | idn't receive trial after I requested it, will try again |
| OpenDesignAlliance IFC SDK: | Their trial package consists of a few applications. The only one that could open IFC is "ODA Drawings Debug", but in here you just see some strange looking tables when you open an IFC file. |
| Bentley AECOsim: | Can only download "OpenBuildings Designer CONNECT Edition", seems unuseable. No proper trial. |
| ACCA EdiLus | the software didn't work (on several pcs) |
| ACCA Solarius: | the trial version that I could download was not able to import IFC |
| iTown <https://github.com/iTowns/itowns> : | no IFC support. There is some github issue in which it is suggested that it might work with BimServer (without clear instructions), but BimServer is already tested. |
| BIMVIEW | can't open IFC |
| bimvie.ws: | their website with more information is down |
| BM TRIRIGA | it is unclear how to use this. I tried to access their trial version, but in there, the "Locate app" (which is said to have a BIM view) is not to be found. |

## **Tools for Task 2**

### BIM software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| Autodesk Revit 2019 | Windows 7 Enterprise | 1 |
| Autodesk Revit 2020 | Windows 10 Pro | 1 |

### ETL tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| FME Desktop 2018.1 | Windows 10 Enterprise | 3 |
| FME Desktop 2019.2 | Windows 10 | 3 |

### GIS tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| ESRI ArcGIS Pro | Windows 10 Pro | 2 |

### Georeferencing tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| IfcGeoRefChecker | Windows 10 Enterprise | 4 |

### 3D viewers & other software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| CSTB eveBIM 2.8 | Windows 7 Professionnel | 2 |
| FZK Viewer | Windows 10 Pro | 1 |

## **Tools for Task 3**

### GIS software

| **Software & version** | **Operating system** | **Used methods** | **Tester level of expertise** |
| --- | --- | --- | --- |
| ESRI ArcGIS 10.2 | Windows 10/Home & Windows 8.1 | Data interoperability tool | 1 |
| ESRI ArcGIS 10.5 | Windows 7 Pro |  | 2 |
| ESRI ArcGIS Pro 2.4 | Windows 10 Pro |  | 2 |
| QGIS 3.6 | Windows 10/Home 64-bits | Conversion to CityJSON | 1 |
| QGIS 3.4 | Windows 10 64-bits | Conversion to CityJSON | 1 |
| QGIS 3.6.3 | MacOS Mojave | - | 3 |
| QGIS 3.4.8 | Windows 10 Home | GMLAS (GDAL 3.0.2) | 2 |
| Bentley Map Enterprise V8i | Windows 10 Home | - | 1 |

### 3D modelling software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| ESRI CityEngine 2019.1 | Windows 10 Home | 1 |
| Blender 2.81a + CityGML importer plugin | Windows 10 Home | 1 |

### ETL tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| Safe Software FME 2019.0.1 | Windows 10 | 3 |
| Safe Software FME 2019.2 | Windows 10 | 3 |
| 3DCityDB importer-exporter & 3DCityDB Web map client 4.0 | Windows 10 | 3 |

### Analysis software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| Kaemco CitySim Pro (3D analyser) | Windows 10 Home | 1 |

### 3D Viewers and Other software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| KIT FZK Viewer 5.1 | Windows 10 Pro | 1/2 |
| 1Spatial Elyx 3D 2.1 | Windows 10 Pro | 3 |
| Hexagon AB tridicon CityDiscoverer Light 15.10 | Windows 10 Enterprise | 1 |
| Safe Software FME Data Inspector 2018.1 | macOS 10.14.3 & Windows 10 Enterprise | 3 |
| CSTB eveBIM 2.10 | Windows 7 Pro | 4 |
| MOSS Computer Grafik Systeme Gmbh novaFACTORY 8.1.1.1 | Windows 7 Pro | 3 |
| MOSS Computer Grafik Systeme Gmbh WEGA-3D 8.1.1.1 | Windows 7 Pro | 3 |
| Autodesk Infraworks 2020 (infrastructure design software) | Windows 10 Home | 1 |
| Autodesk infrastructure modeller |  |  |

### More considered tools, which could not be tested

|  |  |
| --- | --- |
| Autodesk infrastructure modeller | Is just an addon for Autodesk Infraworks. Doesn't add relevant functionalities |
| Autodesk Landxplorer citygml viewer: | Can only find a 2009 version from a different website... Seems like old software, don't think it's worth it to test it https://www.cadforum.cz/cadforum\_en/download.asp?fileID=1064 |
| Bentley Map: | I couldn't manage to import CityGML  - Bentley Map and Bentley Microstation looked completely the same when opening IFC files. I was therefore wondering if you think it's still worth it to test it. (I couldn't get them to work with CityGML) |
| Sketchup+CityGML plugin <https://forums.sketchup.com/t/citygml-plugins-for-sketchup/24921> | Plugin is outdated (for Sketchup 2015, newest Sketchup version is 2019) |
| Cesium viewer : | Only through conversion to PostGIS or KML/COLLADA/glTF (but then all semantics are lost) |
| Google Earth : | Only through conversion to PostGIS or KML/COLLADA/glTF (but then all semantics are lost) |
| Sidefx Houdini (doesn’t work with IFc but maybe with CityGML?) | - Sidefx Houdini does not work with CityGML |
| iTOWNS <http://www.itowns-project.org> | No cityGML support. Well, through PostGIS maybe: https://github.com/Oslandia/workshop-3d-itowns/blob/master/0\_Data/1\_Buildings.md |
| HALE studio <https://www.wetransform.to/products/halestudio/> | functionality to import CityGML not found in software |

## **Tools for Task 4**

### GIS software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| ESRI ArcGIS (Data interoperability extension) | Windows | 2 |
| ESRI ArcGIS Pro (Data interoperability extension) | Windows | 1 |

### ETL tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| Safe Software FME 2018.1 | Windows Pro 10 | 1 |
| Safe Software FME 2018.1 | Windows 7 Enterprise | 1 |
| Safe Software FME Quick Translator 2019.0.2.0 | Windows Pro 10 | 1 |
| Safe Software FME 2017 | Windows Pro 10 | 1 |

### 3D viewers & other software

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| FZKViewer 5.1 | Windows 10 Home | 1 |

### Conversion tools

| Software & version | Operating system | Tester level of expertise |
| --- | --- | --- |
| IFC2CityGML | Windows 10 Home | 4 |