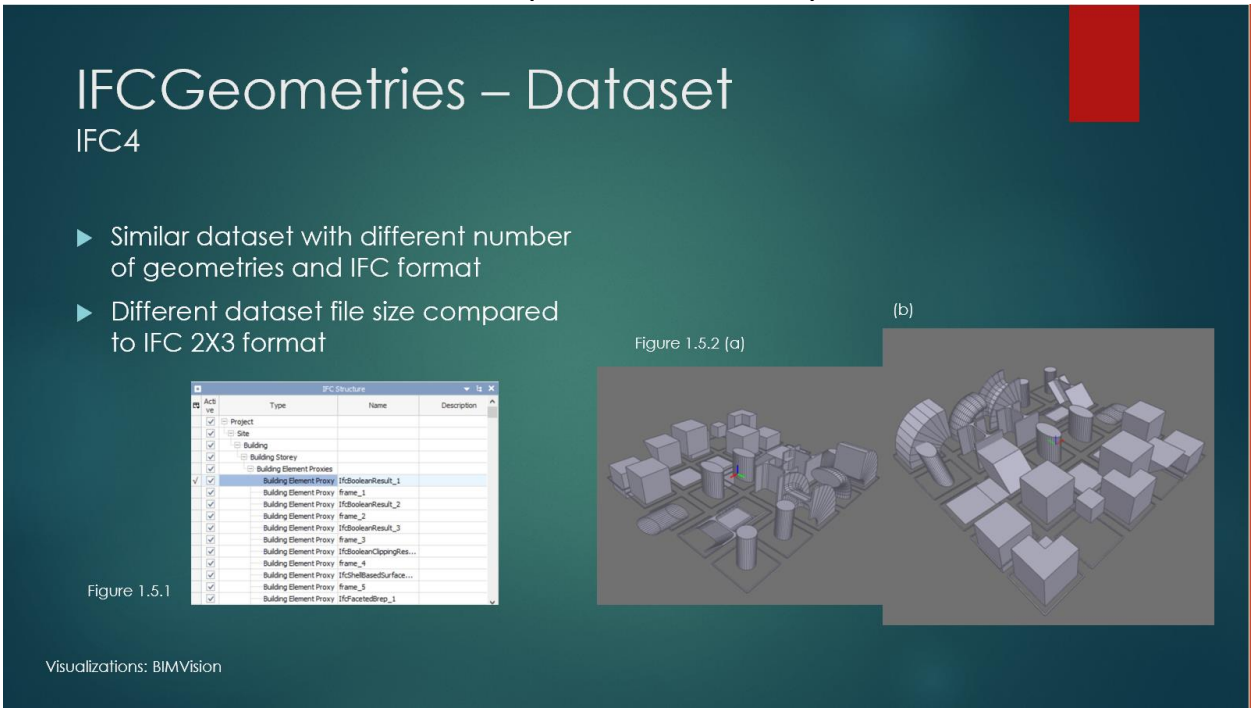
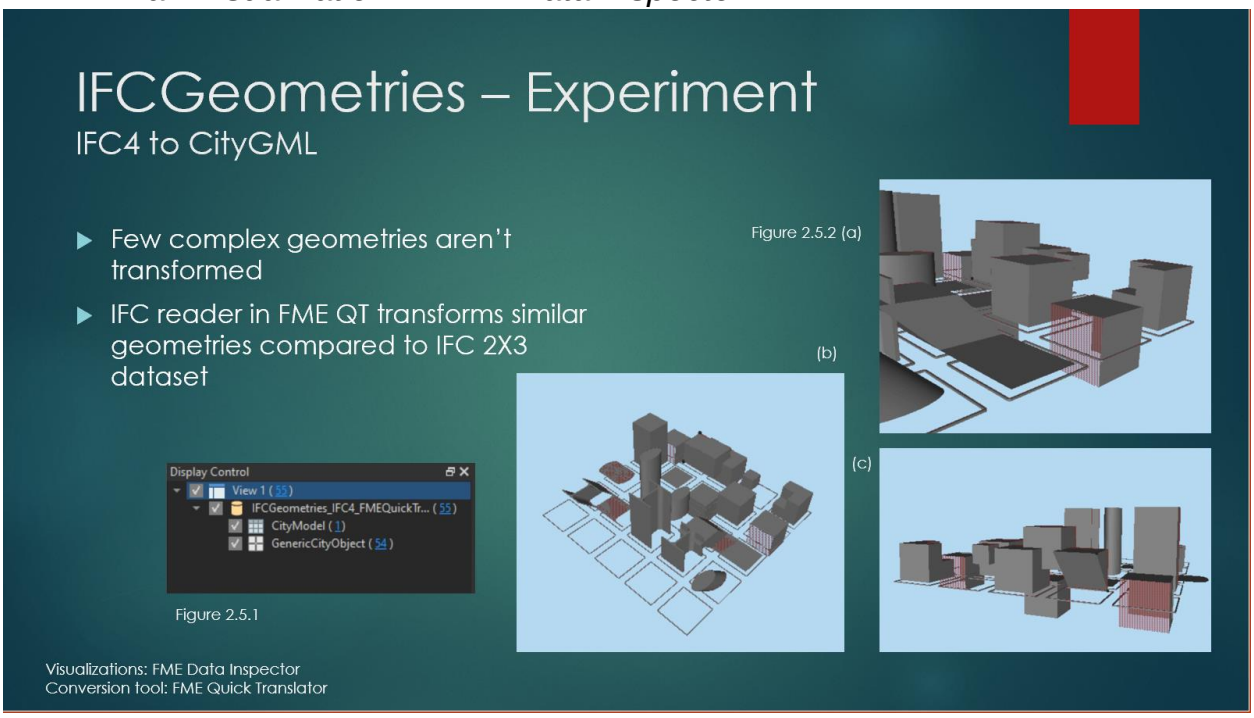
6) Attach other screenshots or files that you consider useful

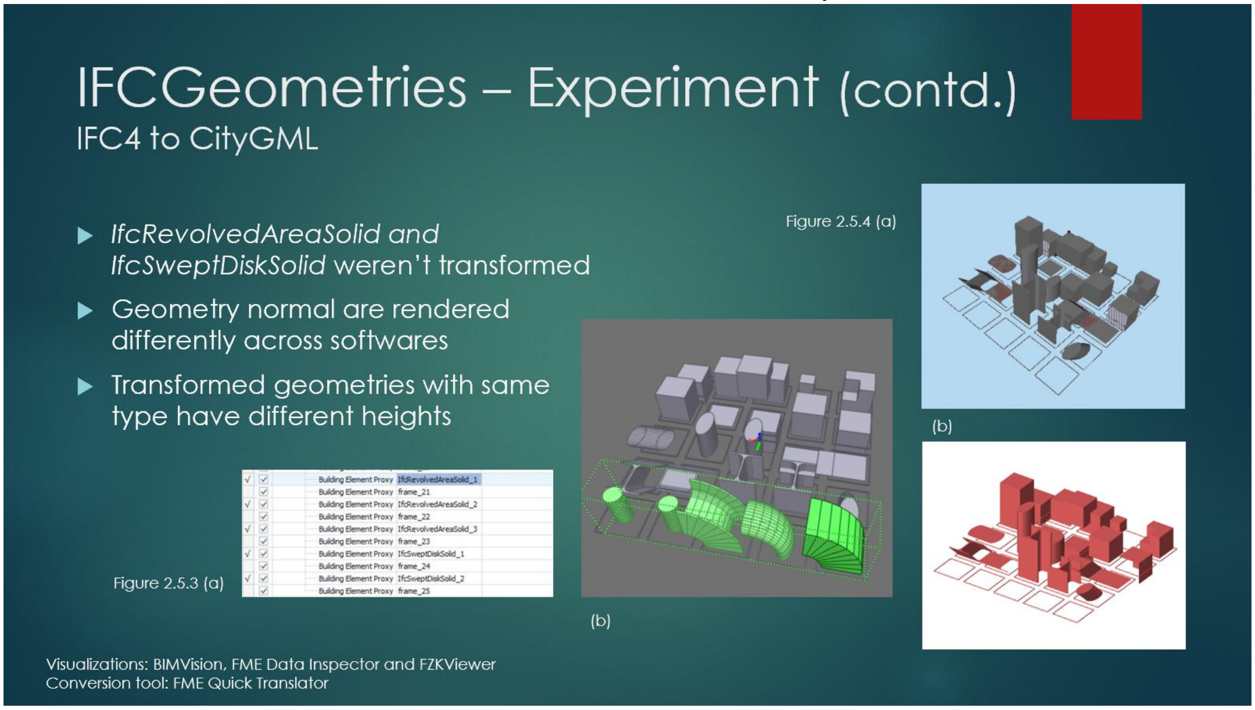
1. Visualizations in BIMVision (before conversion)

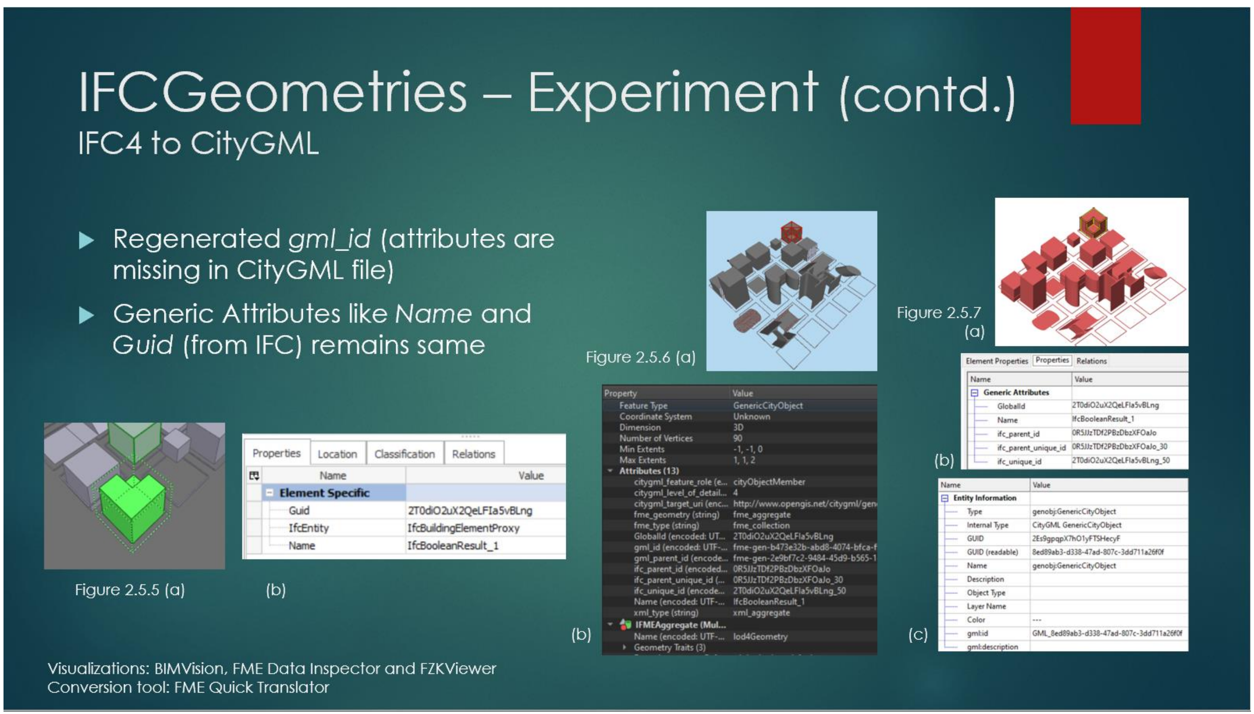


2. Conversion through FME Quick Translator
    a. *Visualization in FME Data Inspector*



b. Visualization in BIMVision, FME Data Inspector and FZK Viewer





c. Translation Errors (logs from FME Quick Translator)

```
Predefined coordinate system `NonEarth_Meter' () matches dataset coordinate system
The IFC reader does not support the following type: 'IfcRevolvedAreaSolid'. All instances of this type will be skipped
The IFC reader does not support the following type: 'IfcSweptDiskSolid'. All instances of this type will be skipped
IFC: 54 objects read
FME Configuration: Source coordinate system for reader IFC[IFC] set to `NonEarth_Meter' as read from input data
Coordinate System `NonEarth_Meter' parameters: CS_NAME=`NonEarth_Meter' PROJ=`NERTH' QUAD=`1' UNIT=`METER'
FME Configuration: Destination coordinate system set to input coordinate system `NonEarth_Meter'
Emptying factory pipeline
CityGML Writer: Unable to convert the coordinate system `NonEarth_Meter' to an EPSG code. No coordinate system will be set on this feature's geometry.
Error encountered while copying traits to generated solids. Some solid components may be missing traits, appearances, measures or attributes
<CityGMLWriter> -  registered 46 messages of type:  CityGML Writer: Unable to convert the coordinate system `NonEarth_Meter' to an EPSG code. No coordinate system will be set on this feature's geometry.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
                            Features Read Summary
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

d. Discussion

IFC reader in FME Quick Translator doesn't support all geometries. Even same geometry, like IfcRevolvedAreaSolid, IfcSweptDiskSolid or IfcExtrudedAreaSolid type, with different complex geometric representation would either not be transformed or transformed with incorrect measurements, selected in Figure 2.5.3 and highlighted in Figure 2.4.6 (a) respectively. This show that geometrical interpretation of software still have room for improvement in reading as well as converting complex geometries.

In Figure 2.5.4 (a) and (b), difference of geometry rendering across software is observed similar to IFC 2x3 data set, FME Data Inspector and FZK Viewer, respectively. Also, some converted geometries has different dimension compared with original as highlighted in Figure 2.4.4. Thus during the conversion process the actual dimension of the geometry were not transformed in their correct measurements. Some generated solid components maybe missing traits, appearance, measure or attributes.

In order to assess semantics of transformation process, attributes of single element were taken in consideration shown in Figure 2.5.5. During transformation, *gml_id* was not added as attribute to converted file which results in auto-regeneration of *gml_id* upon data import by software. However, *Guid* or *ifc_unique_id* was kept along with *ifc_parent_id* and *Name* attribute was translated.