

# 3D City Modelling Made Easy in uSMART

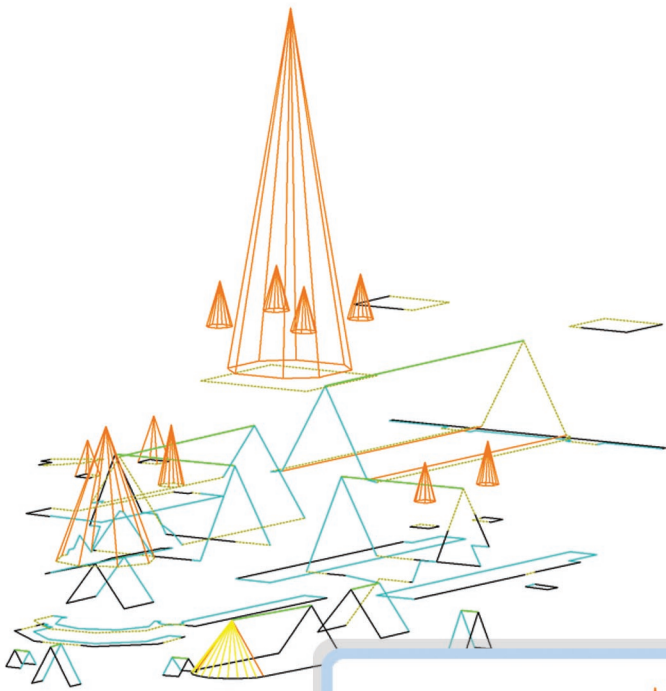


**Technology you can rely on**

# 6 Easy Steps to Create 3D City Models in uSMART

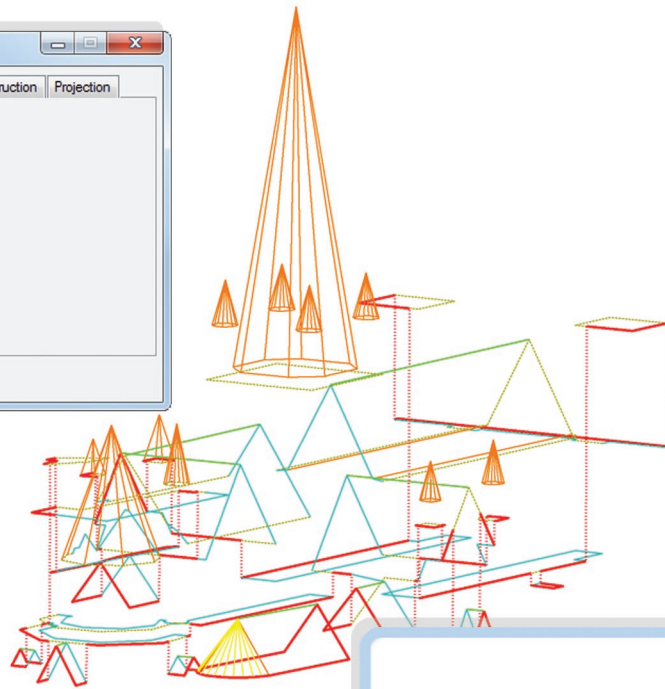
## Step 1: Map Roof Detail

Start with simple vector lines representing roof changes of slopes such as Roof Ridges, Dormer Windows, Valleys, etc. These can come from virtually any source e.g. uSMART mapped data, imported from external files, etc. This source data will get cleaned in Step 3 so mapping errors such as overshoots, undershoots, insufficient nodes, gaps and other inconsistencies are all taken care of.



## Step 2: Make uSMART Structures

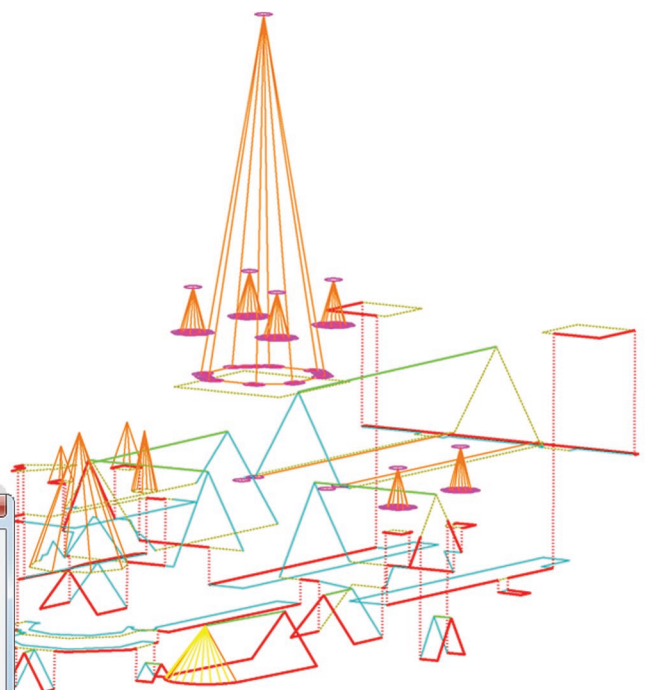
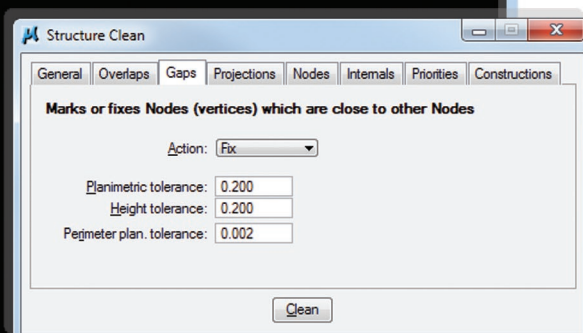
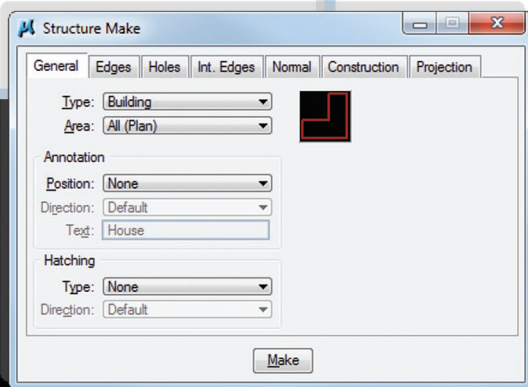
Automatically create uSMART "Structures" (buildings) using the vector data in Step 1.

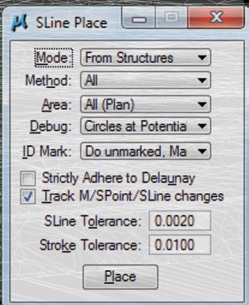


Roof Edges, Holes, Internal Edges, Normal Breaks, Construction Breaks and Roof Projections are specified by Level to various Priorities.

## Step 3: Clean The Data

Automatically "Clean" the data using the uSMART Structure Clean routines. Various clean up options are available as well as automatic creation of Break Lines, Projections, etc.





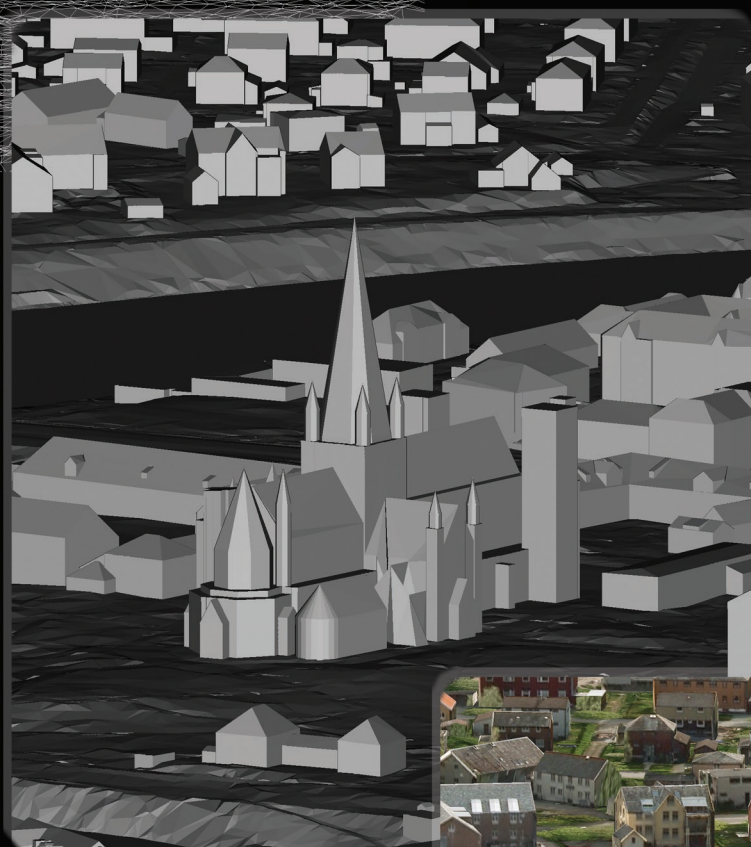
## Step 4: Create Break Lines

Automatically Create and Project Break Lines onto a Surface TIN using the uSMART SLine Place From Structures routine. A wire frame TIN is automatically created of each Structure. Any possible mapping errors still existing are identified by location circles and a helper text file.

## Step 5: Create Permanent Topology

Automatically create Permanent TIN topology which can for example,

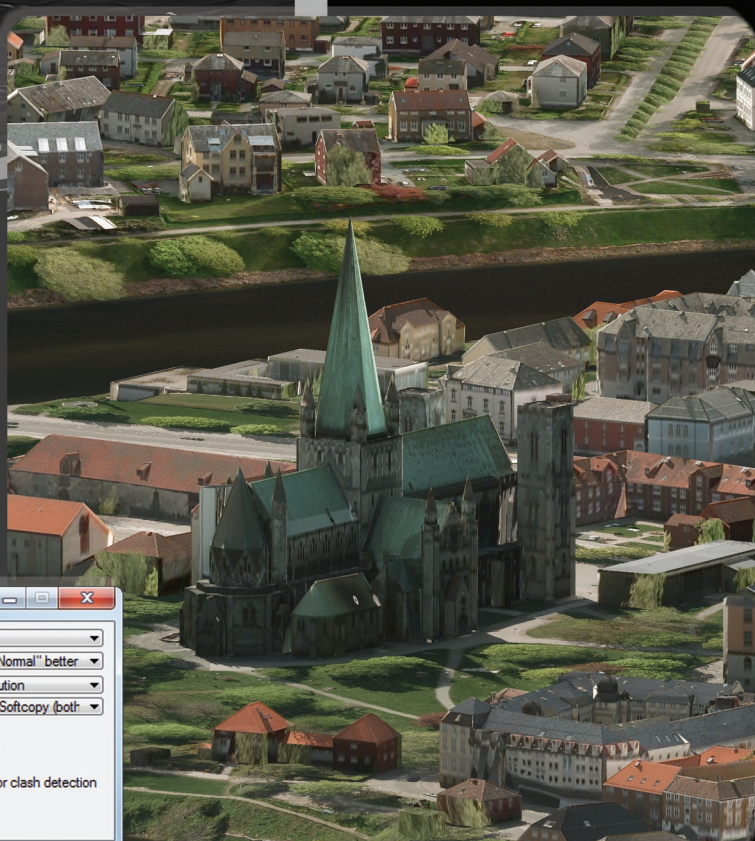
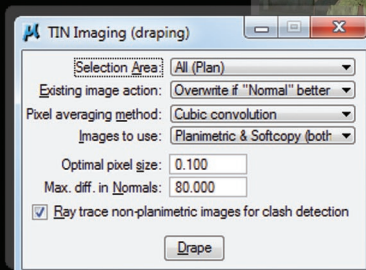
be dynamically Contoured or Thematically Rendered. Not only is this data visually appealing for e.g. Fly-throughs, but it is accurate Survey data fully snappable for precise measurements, clash detection, etc.



By using the power of uSMART MDM, whole cities or even countries can be accurately modelled.

## Step 6: Drape Images

Automatically Drape Images onto the TIN using the uSMART TIN Imaging routine. Orthophotos or raw Aerial Images can be used for Draping. True 3D data and images are now available for use in applications such as Navigation Systems and Movie Creation, yet data is to high Survey standards for Planning, Building Validation, etc.





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