

Château de Jehay

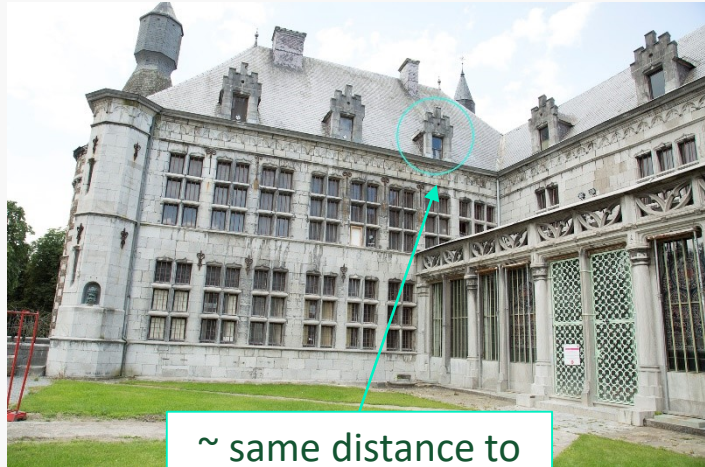
Numérisation 3D par lasergrammétrie et photogrammétrie

But du projet

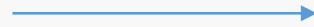
1. Acquisition 3D avant restauration et fermeture de parties du château
2. Extraction de coupes / profils pour restauration (architecture)
3. Développement et réflexion sur de nouveaux outils de comm'
4. Création d'un pilote RV avec lab R&D technologique

1. Acquisition 3D

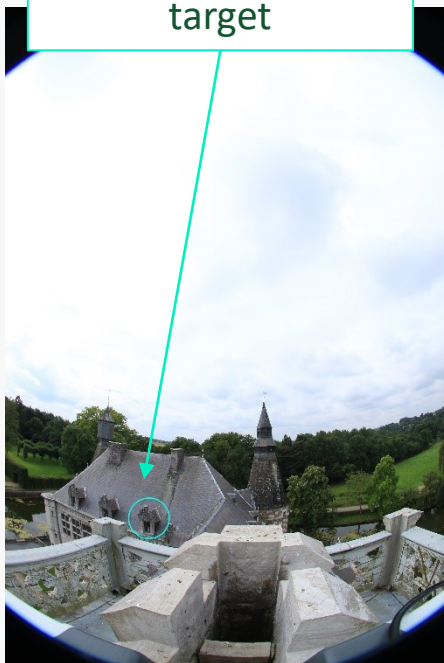
Photos



5760 x 3840



Qualité supérieure



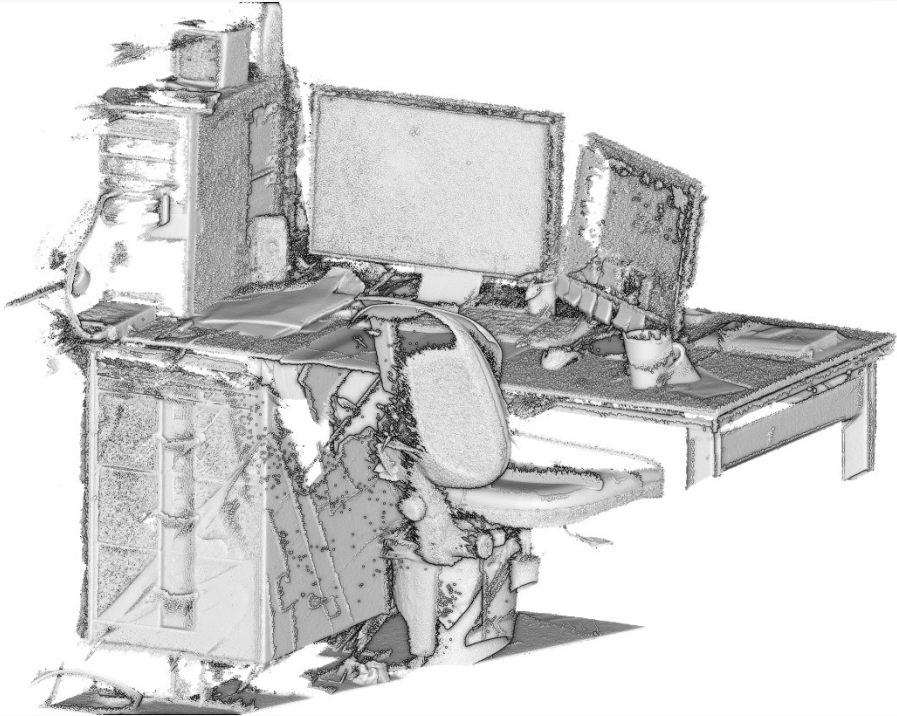
~ same distance to target

3648 x 5472

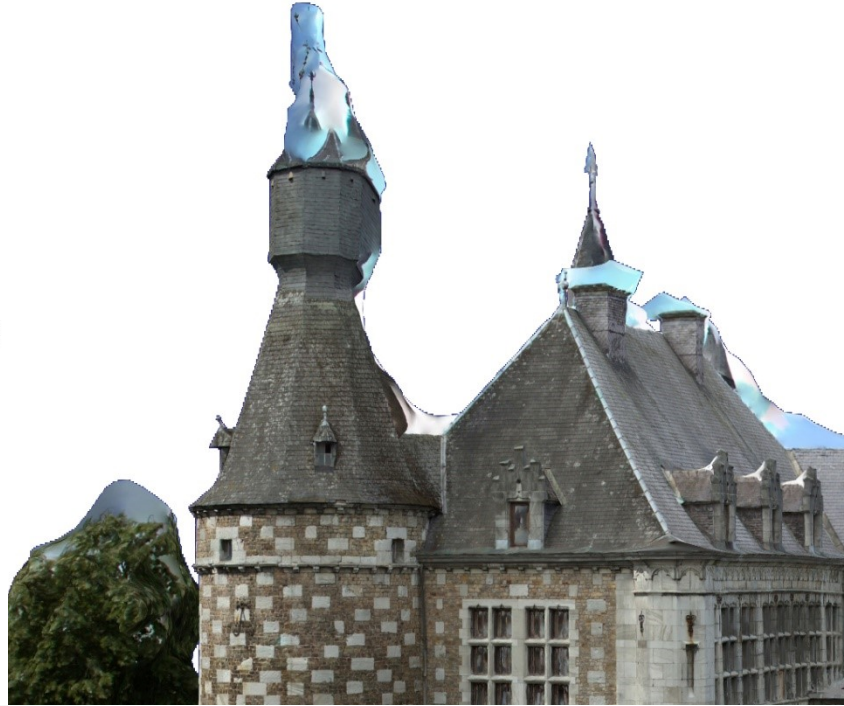


Qualité inférieure

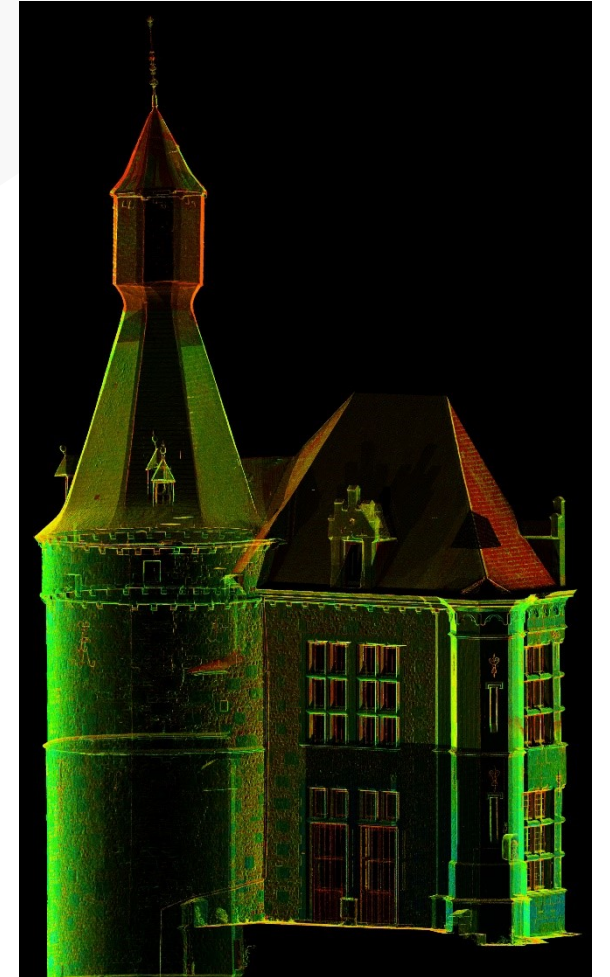
Réflexion sur la représentativité



Lower geometrical
quality

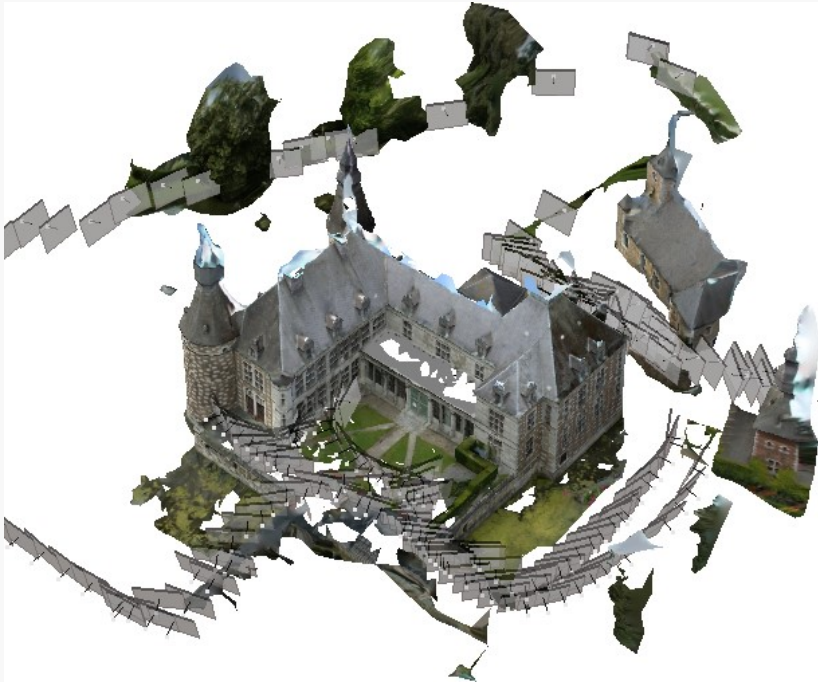


Lower geometrical
quality

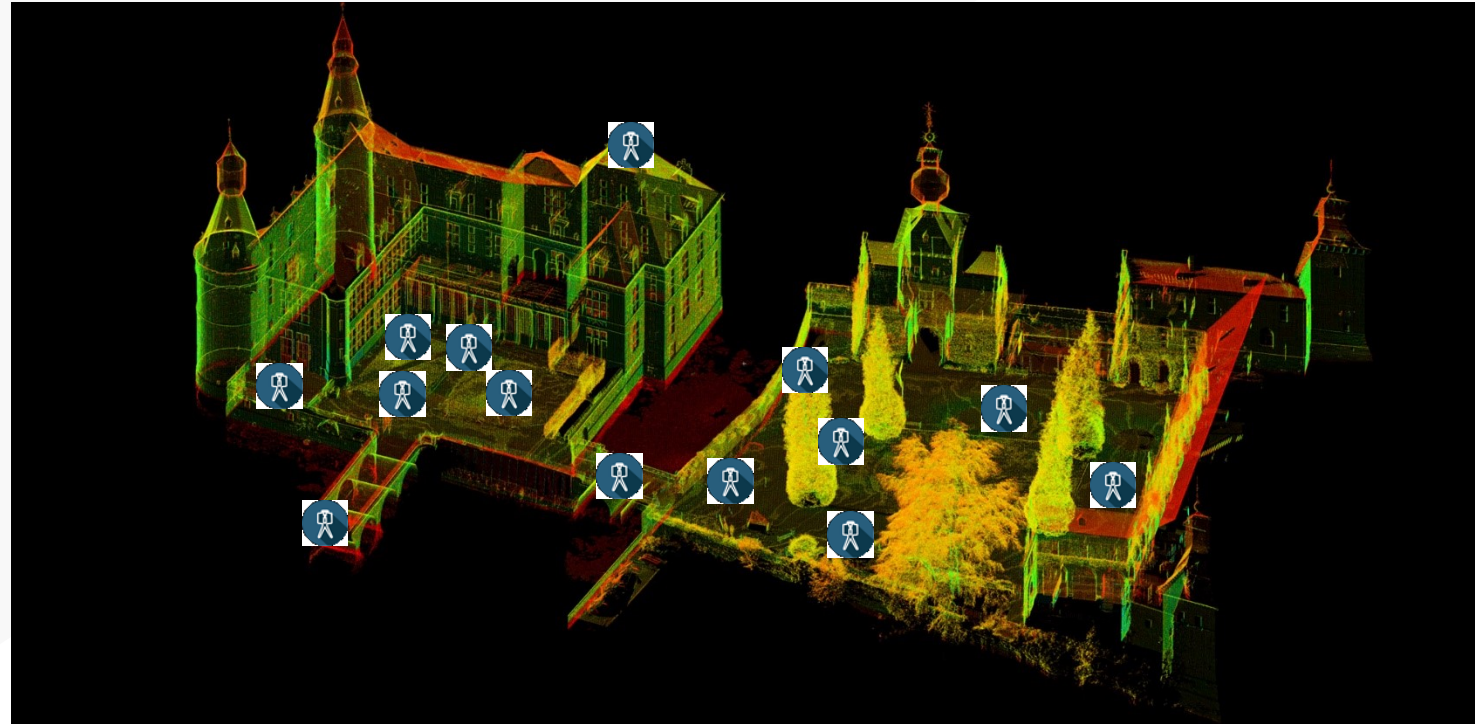


Higher geometrical
quality

Photogrammétrie / TLS



Higher quality visual representation



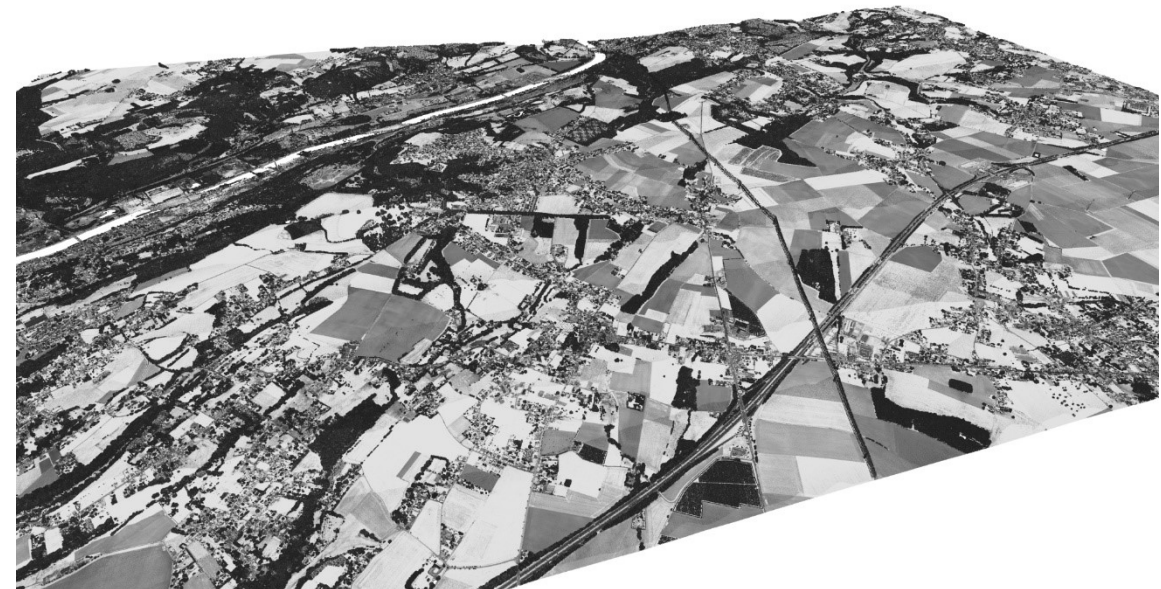
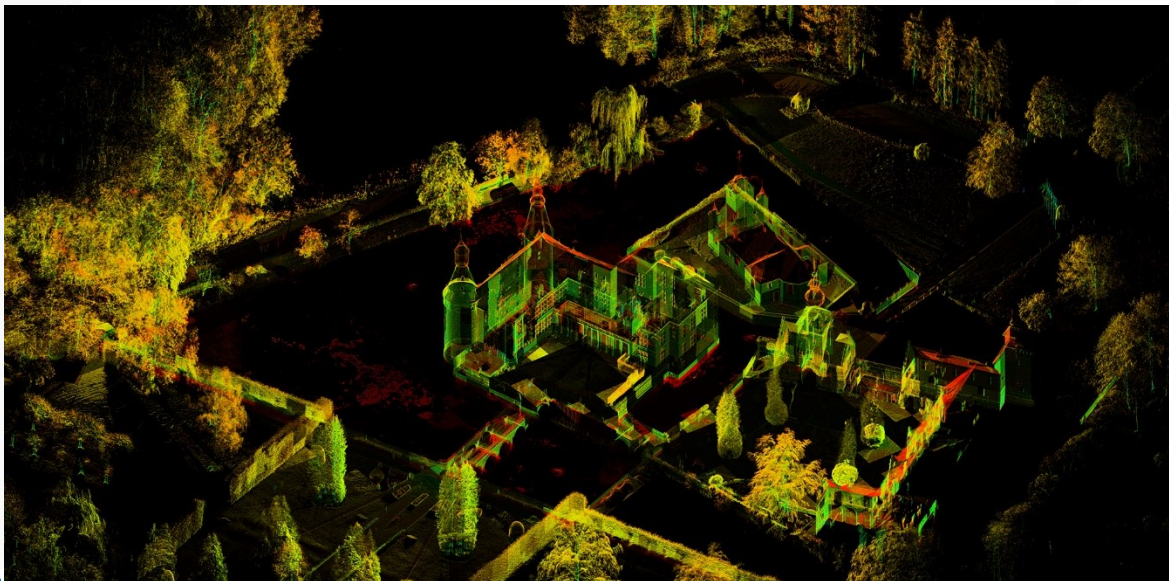
Higher quality geometrical information

It would be beneficial to combine strength of each method and sensor in order to obtain a more representative point cloud.

Contrôle qualité

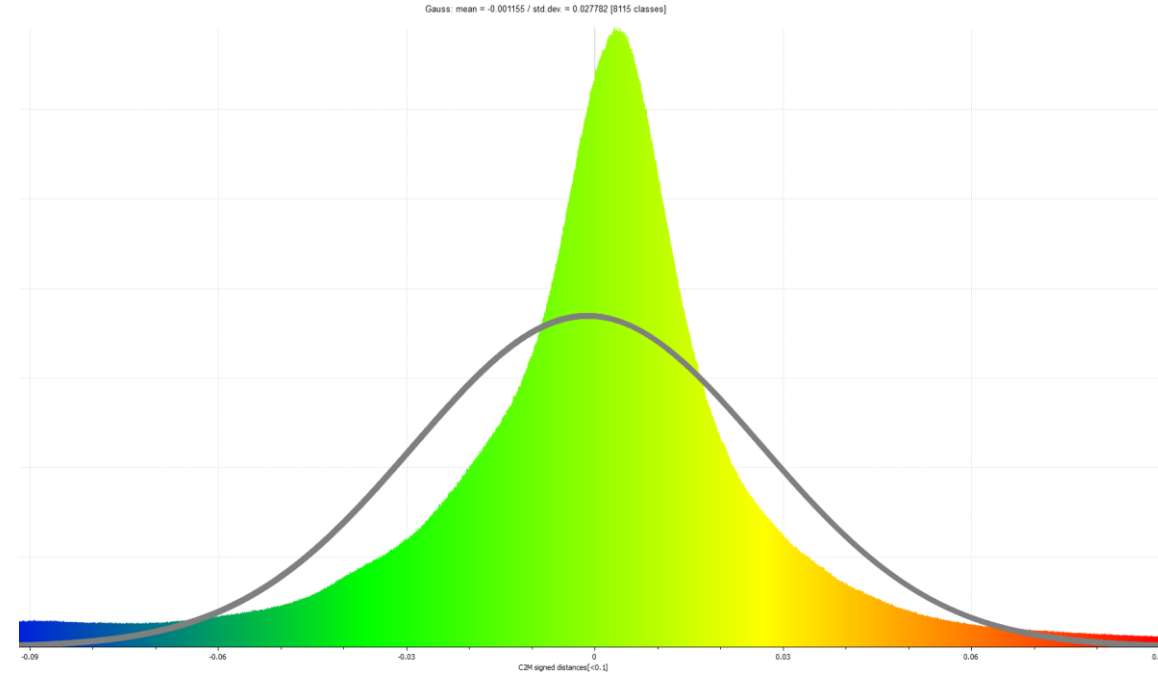
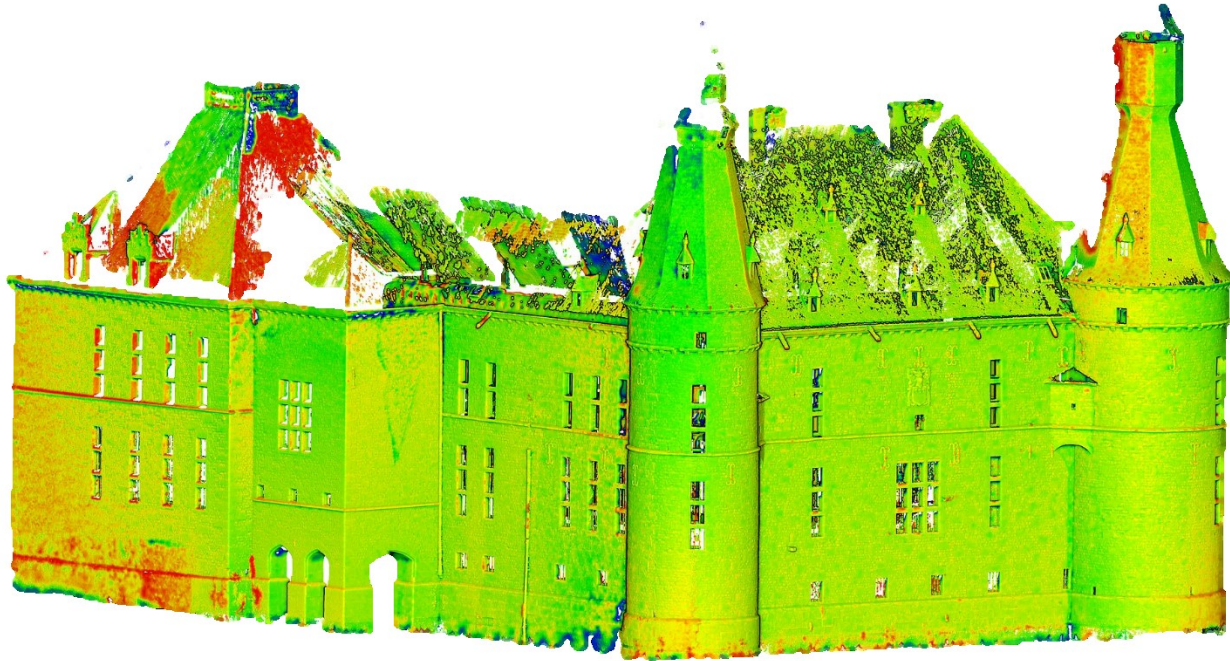


Type	Nb points (millions)	Résolution moy.
PPC	862	2 mm
LPC	437	3 mm
APC	287	1 m



2. Placer l'élément dans son contexte

Photogrammétrie / TLS



Result of eq (1): 65 849 052 LPC points ($T_g = 100$ mm)

Geometry quality indicator : $LPC > PPC$
Color quality indicator : $PPC > LPC$
APC ignored (eq. (2))



Transferring color attributes to LPC
regarding eq (1) ($T_g = 20$ mm)

2. Nos étudiants

Stage de 10 jours sur site



3. Interactivité

Outil avec gestion des niveaux de détails



Rendering based on acquisition methodology and resolution

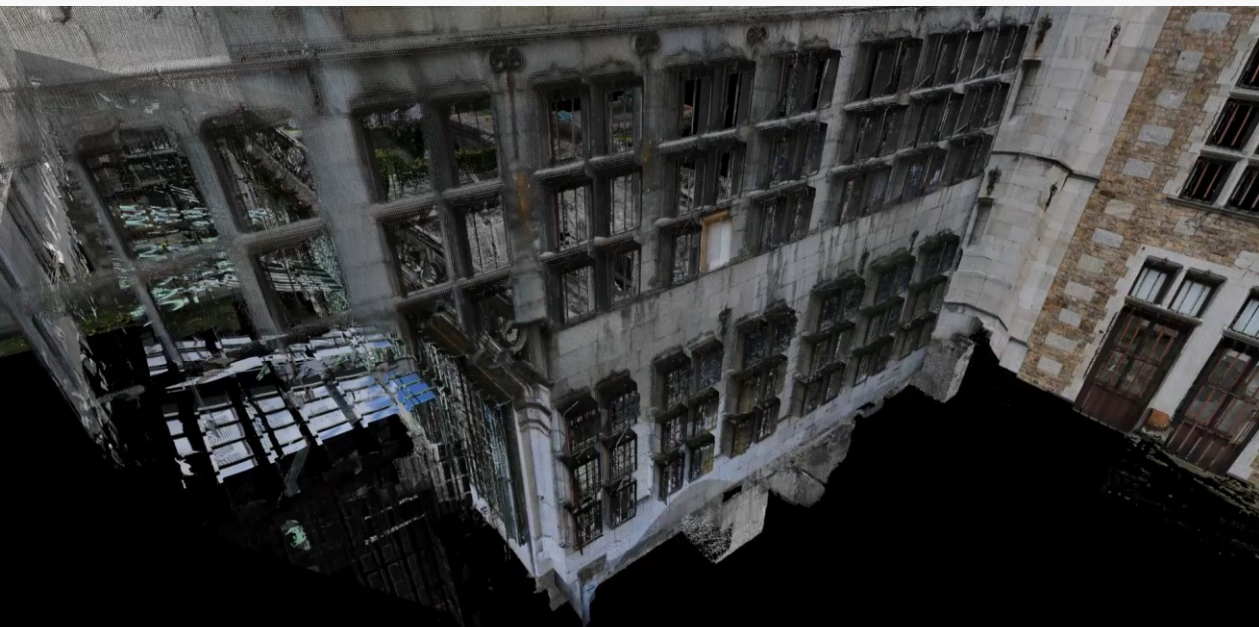


Dataset combination regarding pyramidal spatial-based LoD rendering (octree derived LoD)

4. Rendus 3D



The nightmare roller coaster, by Florent POUX



5. Réalité virtuelle

Phase de tests





6. Démo



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