

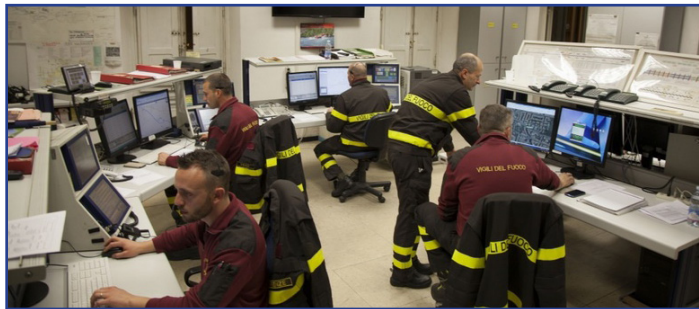


DEMOLITION OF SANOFI/SOLVAY BUILDING

Lyon, France, 2017

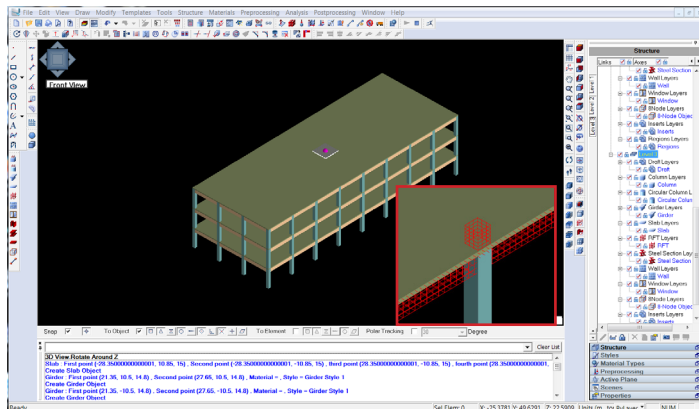
Structural Analysis of Urban Search and Rescue

On May 29, 2017, ASI Europe successfully modeled the demolition of Sanfor/Solvay Building - Batiment 102 in Lyon, France. The demolition was implemented on the same day by demolition contractor Cardem. This work was part of Pilot 2 of the INACHUS project.



Urban Search and Rescue (USaR) Operations

INACHUS aims to achieve significant time reduction for Urban Search and Rescue (USaR) operations. This is enabled by simulation tools for predicting structural failures as part of a comprehensive decision support mechanism.



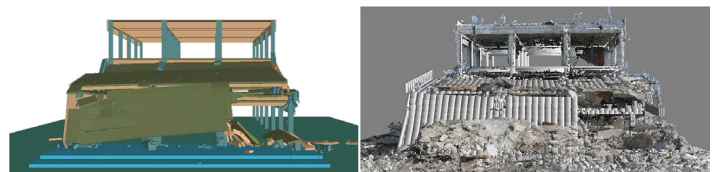
ASI's Extreme Loading® for Structures (ELS) Software

ASI's Extreme Loading® for Structures (ELS) software uses nonlinear dynamic analysis to predict the collapse shape of structures. The Applied Element Method (AEM) implemented in ELS allows estimating the shape of collapse and the mode of failure as well as the impact of the debris with the structure. This is used within the INACHUS project to predict the collapse shape of structures. This allows identifying the location of cavities where there is high probability of locating survivors after a structural collapse. Additionally, it allows studying the stability of the debris pile to estimate the safest routes of access into the debris field for the USaR personnel. Furthermore, the possibility of removing some structural components from the debris field without destabilizing the debris field.



Side-by-Side Comparison of ELS Simulation and Actual Demolition

In Pilot 2, the demolition plan was proposed by Cardem and implemented by ASI Europe in the ELS model. The collapse shape was documented by 3D scanning and video imaging using drones. The simulated collapse shape was an excellent match to the observed collapse.



ELS Results Compared to 3D Laser Scan of Site After Demolition

ASI Headquarters:
2012 T.W. Alexander Drive, Durham, NC 27709-3887
Tel: +1.919.645.4090 | Fax: +1.919.645.4085