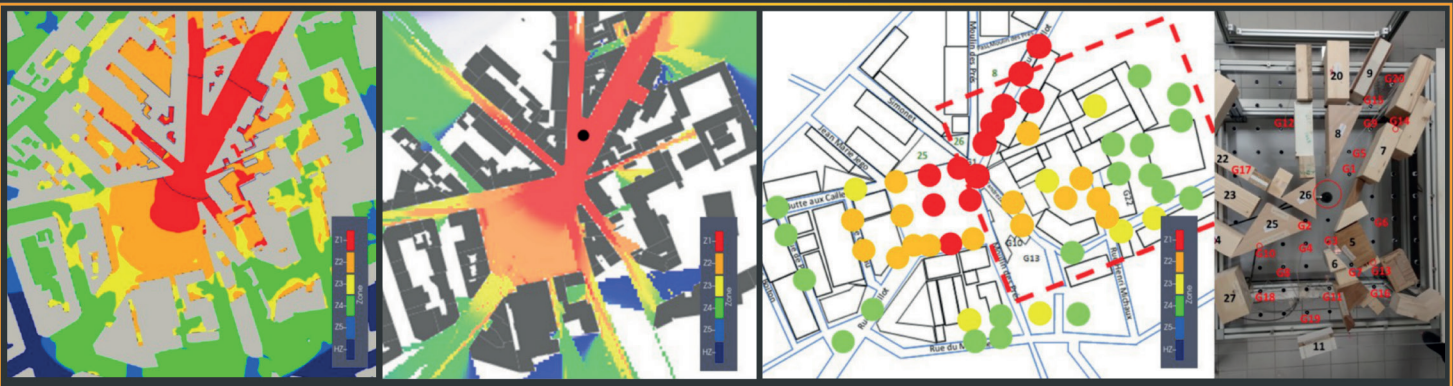
URBEX

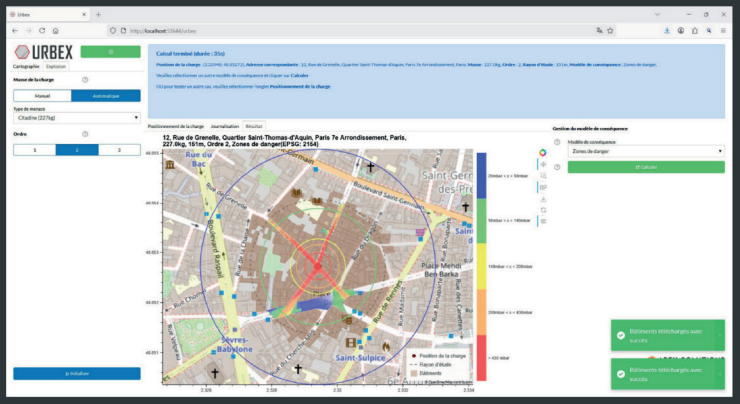
Explosions in urban settings

URBEX is a fast-running, meshless, breakthrough model for computing the consequences of explosions in urban or industrial settings.

- Output of a R&D project co-funded by the French National Research Agency (grant number ANR-21-CE39-0016).
- Innovative, patented mathematical method (patent number FR3158819).
- All urban effects are taken into account:
  - Multiple diffractions, multiple regular and Mach reflections.
  - Street channeling effects.
  - Urban canopy bypassing.
- Standard consequence models are implemented (ΔP zones, Green book probits).
- Runtime ~1 minute on a recent computer (order 2 for a 300 m radius zone).
- Worldwide coverage (OpenStreetMap buildings and tiles, ESRI imagery).
- Almost as accurate as a 3D numerical code.



From left to right, danger zones : Viper::Blast 3D code (0,15 m + remap 0,50 m) ; URBEX order 3 (185 unit waves, 28 secondes) ; INSA-CVL experiment (courtesy Pr. Sochet) at scale 1/175



URBEX GUI

URBEX is available as standalone software for an annual license fee and can be tailored to your needs

- Your geospatial data sources (building footprints, satellite imagery, map tiles).
- Your preferred consequence models (from literature or developed in-house).
- Translation of the user interface into your language.
- Offline version.

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APEX SOLUTIONS
THINKING OUT OF THE BOX