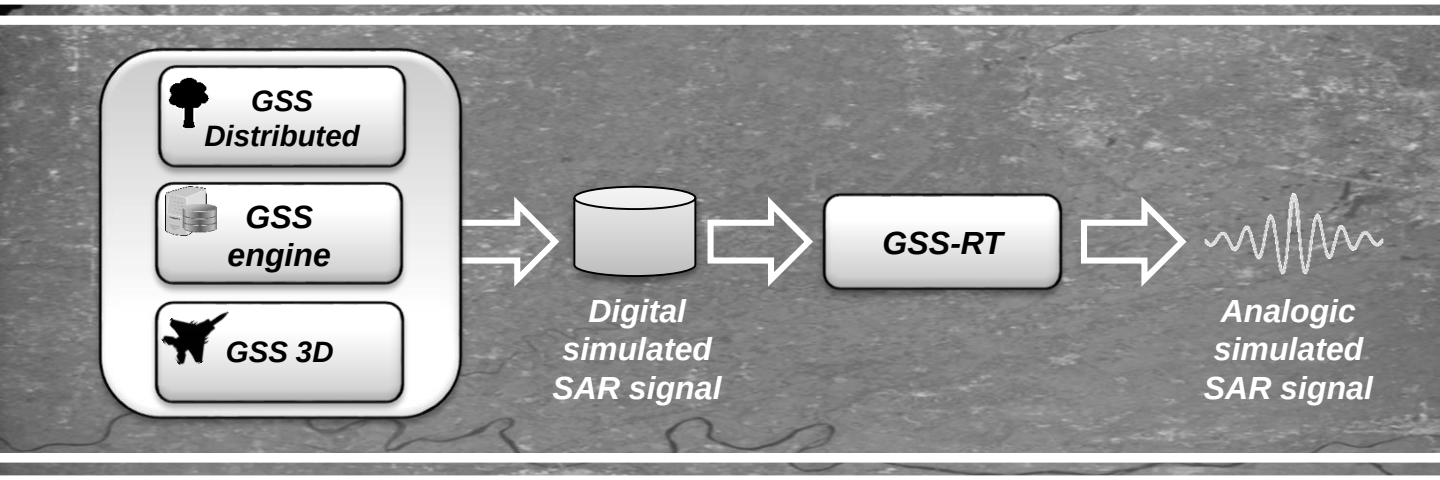
GSS-distributed

Accurate extended SAR scenes simulation.



A complete SAR data simulation system

GSS suite is an end-to-end SAR raw data simulation system. GSS allows to generate and to work with realistic SAR data before the real SAR system is in operations.

GSS suite is composed by four main components:

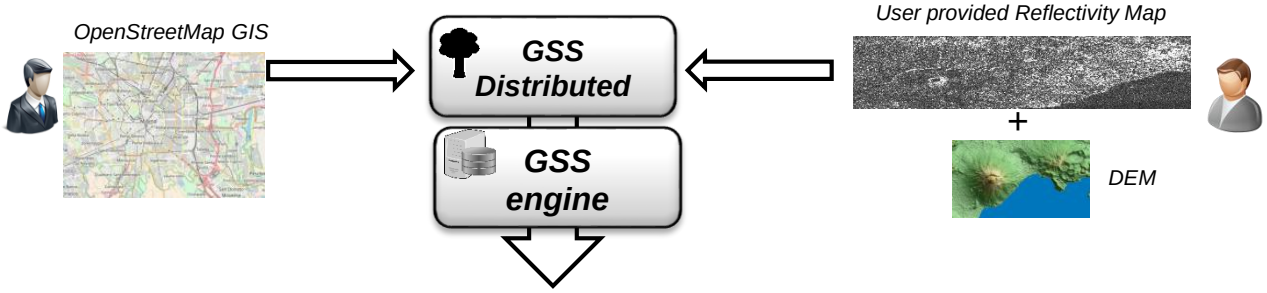
- **GSS engine**: the core simulation software, modelling the SAR data acquisition
- **GSS-distributed :** the extension for distributed scenes simulation, with interferometric capability
- **GSS-3D :** the module dedicated to model complex targets such as ships, planes
- **GSS-RT :** the real-time signal generator to generate analogic signals from the simulated data.

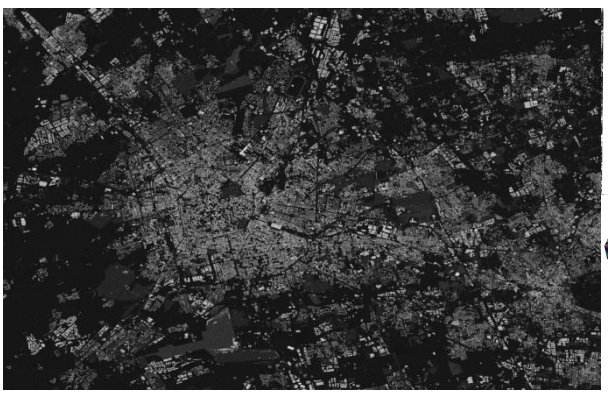
GSS-distributed module

The GSS-distributed module allows the generation of extended scenes, modelling the SAR acquisition over large and various scenarios.

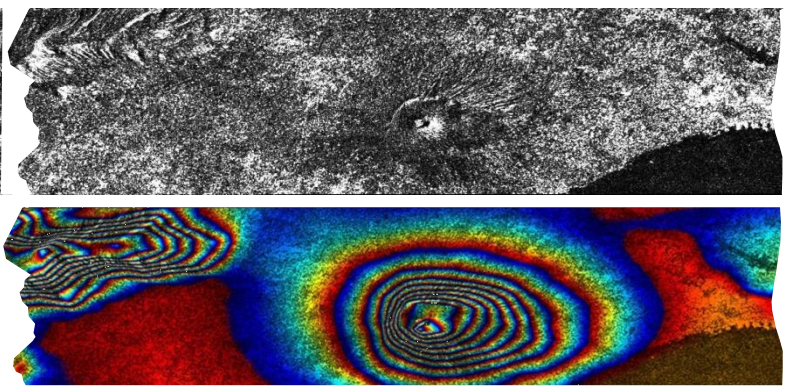
The scene can be composed of a set of user-specified areas such as terrain, vegetation, or ingest a DEM and a user-provided reflectivity map; also capable of make use of OpenStreepMap GIS data input

The accurate simulation of the speckle allows also the simulation of interferometric acquisitions with realistic geometric effects on the SAR signal phase.





Milano, Italy: simulated using Geographic Information System from *OpenStreetMap*



Vesuvio volcano, Italy: simulated using Reflectivity Map + DEM. Intensity image (*top*); Interferogram with across track baseline (*bottom*).

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