



FIG Working Week
 – Bridging the Gap Between Cultures
 Marrakech, Morocco
 May 18-22 2011



**GIS for Land Management:
 an overview on Italy**



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THE SUBSOIL CADASTRE OF MAZARA DEL VALLO

Il Catasto del sottosuolo di Mazara del Vallo

- The project, born from an idea of the Provincial College of the Surveyors of Trapani and from the synergy between the administration of Mazara del Vallo, with the Surveyors Professional Organizations :
 - ◆ the National Council
 - ◆ the Provincial College
 - ◆ the Social Security Fund Institute of Surveyors

ACTORS

- young Surveyors registered to the Professional Register of Surveyors
- a team of young trainees Surveyors
- expert topographers with proved experience.



DIRECTIVE 3rd MARCH 1999

General Urban Plan of Subsoil Service (PUGSS)

General Town-Planning Scheme



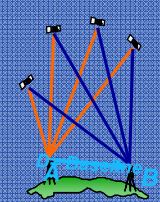
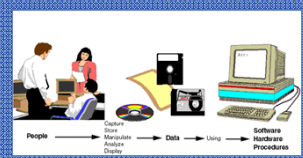
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4 teams composed by 4 surveyors + one worker

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    graph TD
      A[Expert surveyor that coordinated the work.] --- B[Young trainee Surveyors]
      A --- C[Young trainee Surveyors]
      A --- D[Surveyor registered to the College of Surveyors of Mazara del Vallo]
      B --- E[Worker]
      C --- E
      D --- E
    
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GPS Course **MAIN GOAL: Formation of Specialised Professionals**



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GIS Course

METHODOLOGY

The survey has been carried out recording and mapping underground services with the support of:

- 22 aero-photogrammetric maps 1:2000 (1987)
- the General Town-Planning Scheme of Mazara del Vallo
- the Cadastral Cartography.

Instruments



GPS LEICA GS20

- 12 channels
- Code C/A phase L1
- Sub-metric precision

Technologies



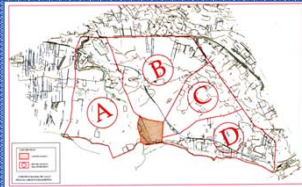
**GPS-RTK
GIS**



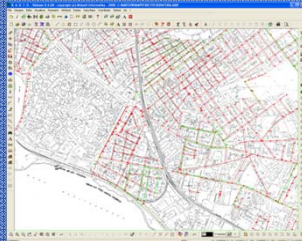
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OPERATIVE STEPS

Urban and extra-urban areas were divided into four sectors, covering an area of about **828 ha** of the **27.000 ha** of the total council area, each of them assigned to a team of Surveyors.



- Hydraulic system
- Sewer system
- Methane gas system
- Public illumination system
- Electricity system



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CONCLUSIONS

- Data obtained with this survey have been recorded on a magnetic support and distributed to all professionals of Mazara del Vallo.
- Data have been made available **online** on the city's web site.
- System updatable.
- Useful tool for professionals, technicians of the municipality offices, foreman and workers, for planning maintenance interventions, querying and updating GIS data.
- Important aid to the municipal administration on defining the priority of resources allocation, for planning and modification of works, keeping under control the social costs.
- Importance for environment protection for air pollution levels control and monitoring.



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**Thank you
for your kind attention**

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- ◆ Provincial College of the Surveyors of Trapani



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