General MappingSystem

GMS

GSM is a proprietary basic kernel software, developed by I.D.E A. srl, which synthesizes "operational" information. It reads, computes and relates raw data retrieved from a "global" database in order to represent on the display end/goal dependent outputs.
These are real-time, multimedia, interactive and dynamic representations of functions and relations.
By changing values of parameters, representing the reference universe, specific algorithms producing scenery simulation are activated

GMS works out data in order to make you able to:

- Know
- Manage
- Control

The complex realities and the several environmental, social and economic features of "ecology" on a territorial basis.

"Able to know…."

"Knowledge" is related to the realization of an alphanumeric and/or cartographic database by means of:

- Research
- Analysis
- Selection
- Cataloguing
- Homogenisation
- Validation and Uploading

of data coming from:

1. paper and/or digital archives pre-existing in Public and/or private Institutions;
2. territory recognition for the punctual location of the significant objects;
3. monitoring the environmental matrices and chemical-physical parameters in the territorial samples located.

"Able to manage…."

"Management" is related to the realization of logical-mathematical models, based on statistic and stochastic primitive models, able to turn the "static knowledge" of territory into a "dynamic one", according to natural and anthropic variables.

It allows:

1. To study the environmental system by means of simulations, performed by combining integrated data of environmental, territorial and economical nature, whose output supply the definition of an environmental quality index.

2. To turn the "raw data", constituting the database, into "information" which make the difference for the environmental evaluation and exploitation.

"Able to control…."

"Control" comes from the technical-scientific ability of this information system to define a strategy of environmental control on the basis of chemical-physical and biological parameters, while giving measurable references to the concepts of development sustainability and environmental compatibility.

GMS

GENERAL MAPPING SYSTEM

Control models and management tools for
environment, territory and economy
knowledge and decision systems

The UNIVERSE of reference

Let's look at a a localized district as a set composed of two parts:

- **Territory**: characterized by human settlements, infra-structural systems and social services.
- **Environment-Economy**: all that "dynamically lives", that is to say air, water, ground, flora, fauna and productive and/or transformation activities.

The Static Set: Territory

It's the mere "picture" of cities, towns, historical centres, scattered settlements, industries, commerce, handicraft, agriculture, roadnets and communication systems, railways, airports, ports, health services, cultural, sporting, amusing services, welfare organizations, financial and banking services…….

The dynamic set: Environment and Economy

All that "lives":

air, water, soil, flora, fauna, productive and/or transformation activities.

Therefore…

Environment is: oceans, seas, rivers, lakes, watersheds, snowiness, mountains, hills, ground, underground, woods, flora, fauna, landscapes, atmosphere, climatic changes, geographic location of the considered issue;

GMS
GENERAL MAPPING SYSTEM

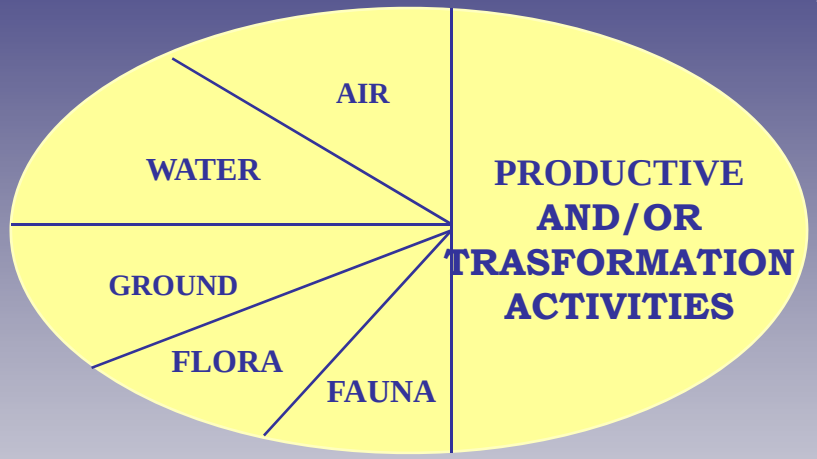
Territory control at each very instant in relation to the natural phenomena and the anthropic activities, in order to supply information for support to political and technical-operative decisions.

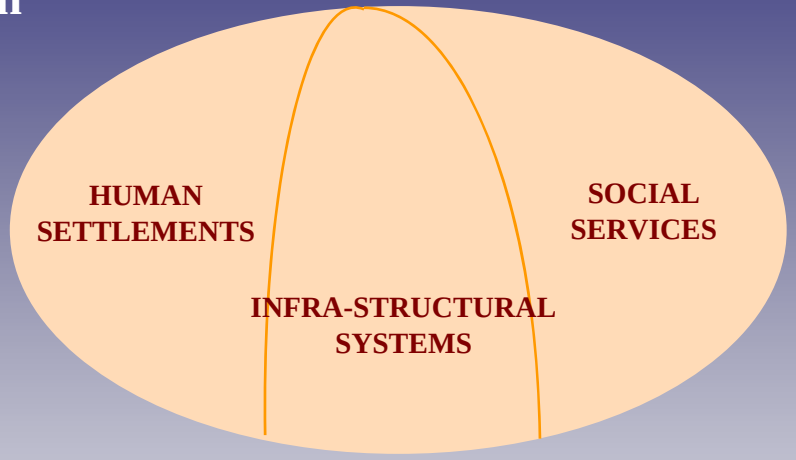
NATURAL PHENOMENA

ENVIRONMENT-ECONOMY

Impact upon

TERRITORY





ANTHROPIC ACTIVITIES

Impact upon

ENDLESSLY EVOLVING DYNAMIC SYSTEM

STATIC SYSTEM
WHICH CAN BE REPRESENTED AT THE VERY INSTANT “t”

Models allowing interpretation, simulation and control of the two systems interaction

Environment - Economy

ENDLESSLY EVOLVING DYNAMIC SYSTEM

Each problem depends on "n" variables

Mathematical models from the GMS" allowing:

1 – identification of parameters
2 – Their storing on line
3 – their interpretation and management

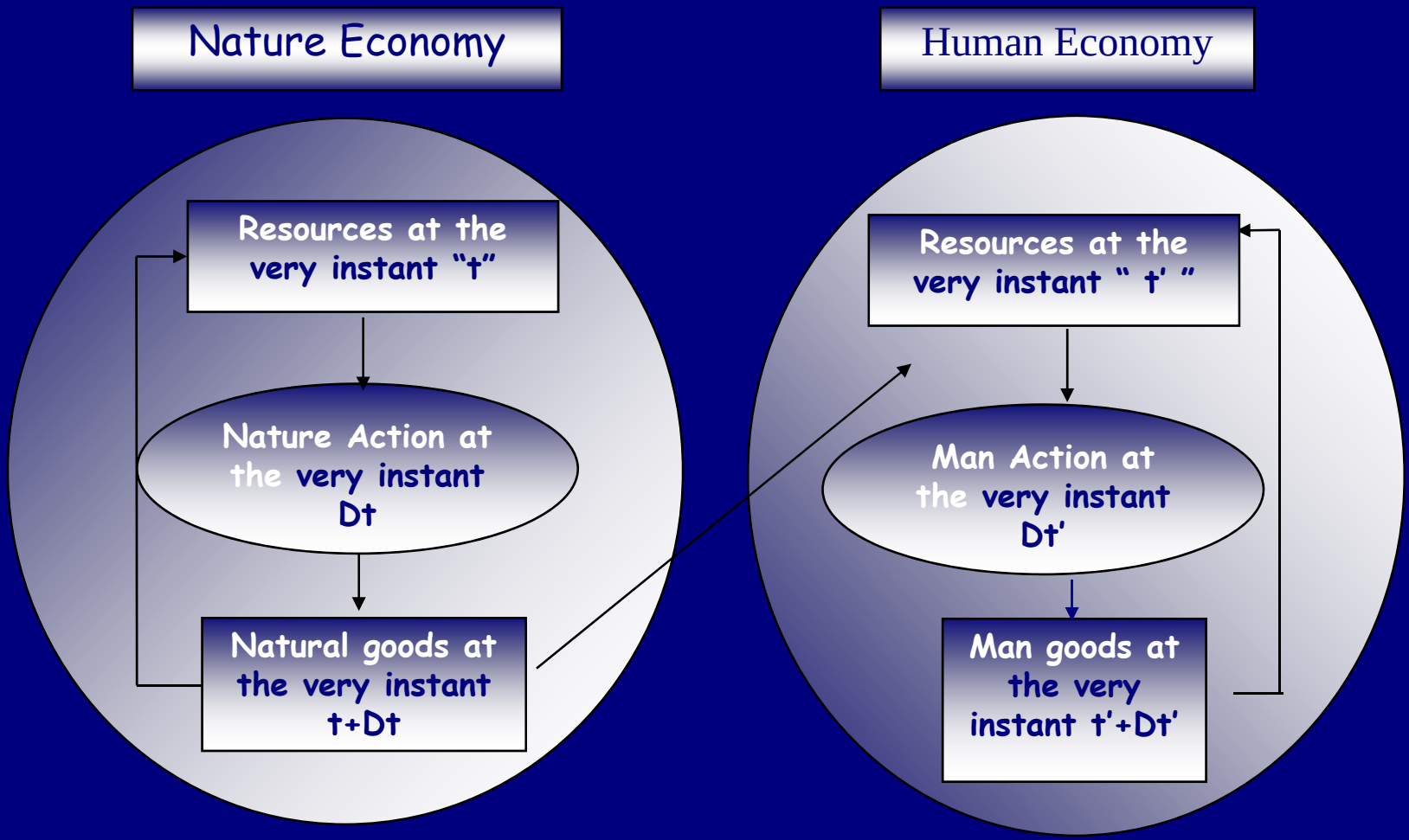
Territory

STATIC SYSTEM Which can be represented at the very instant "t"

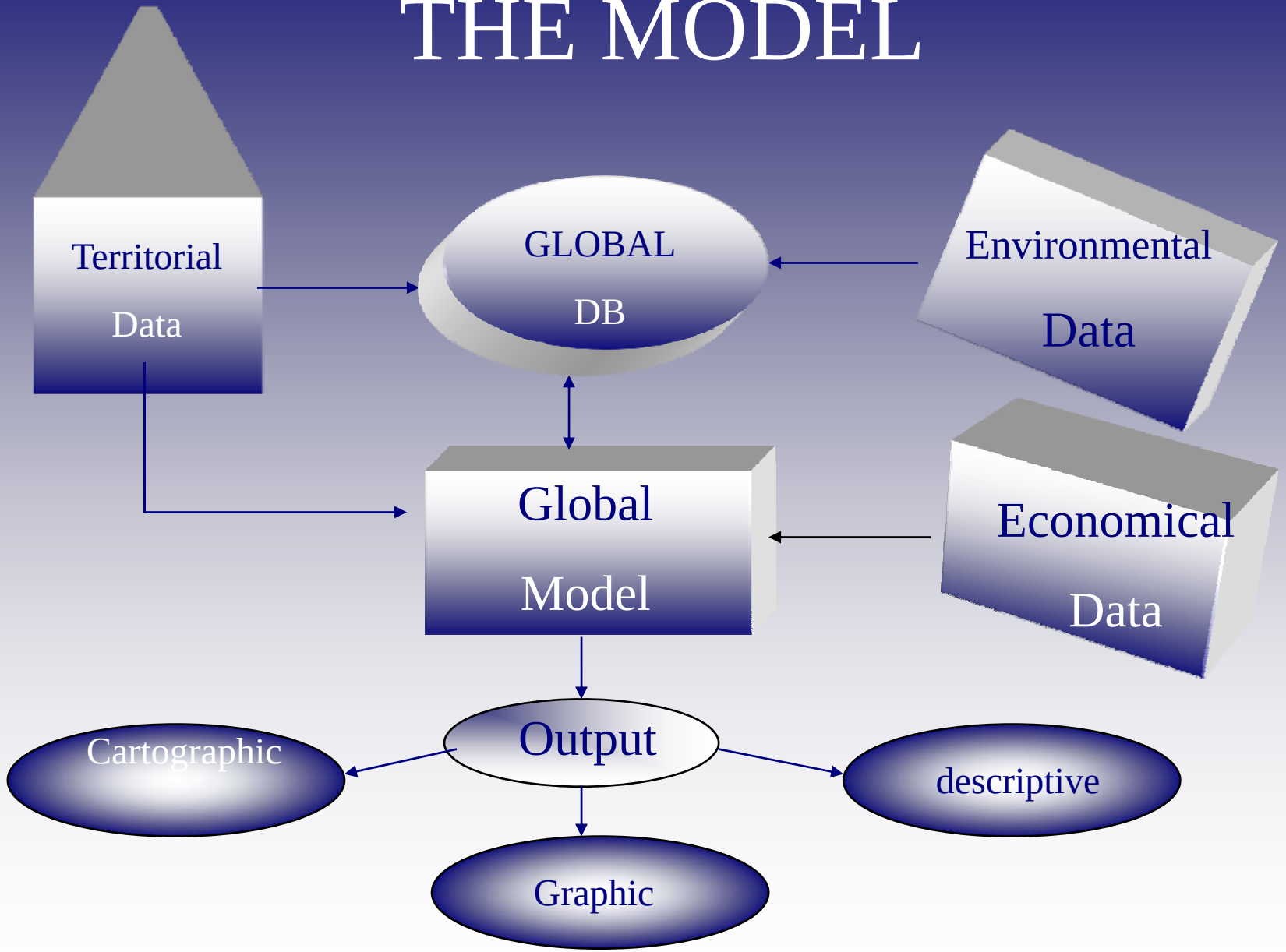
Cartographic and alphanumeric pre-existing data, coming from archives and monitoring, each of them georeferenced.

A territorial database as an exstensible logical structure, which can generate interrelated but independent complex systems.

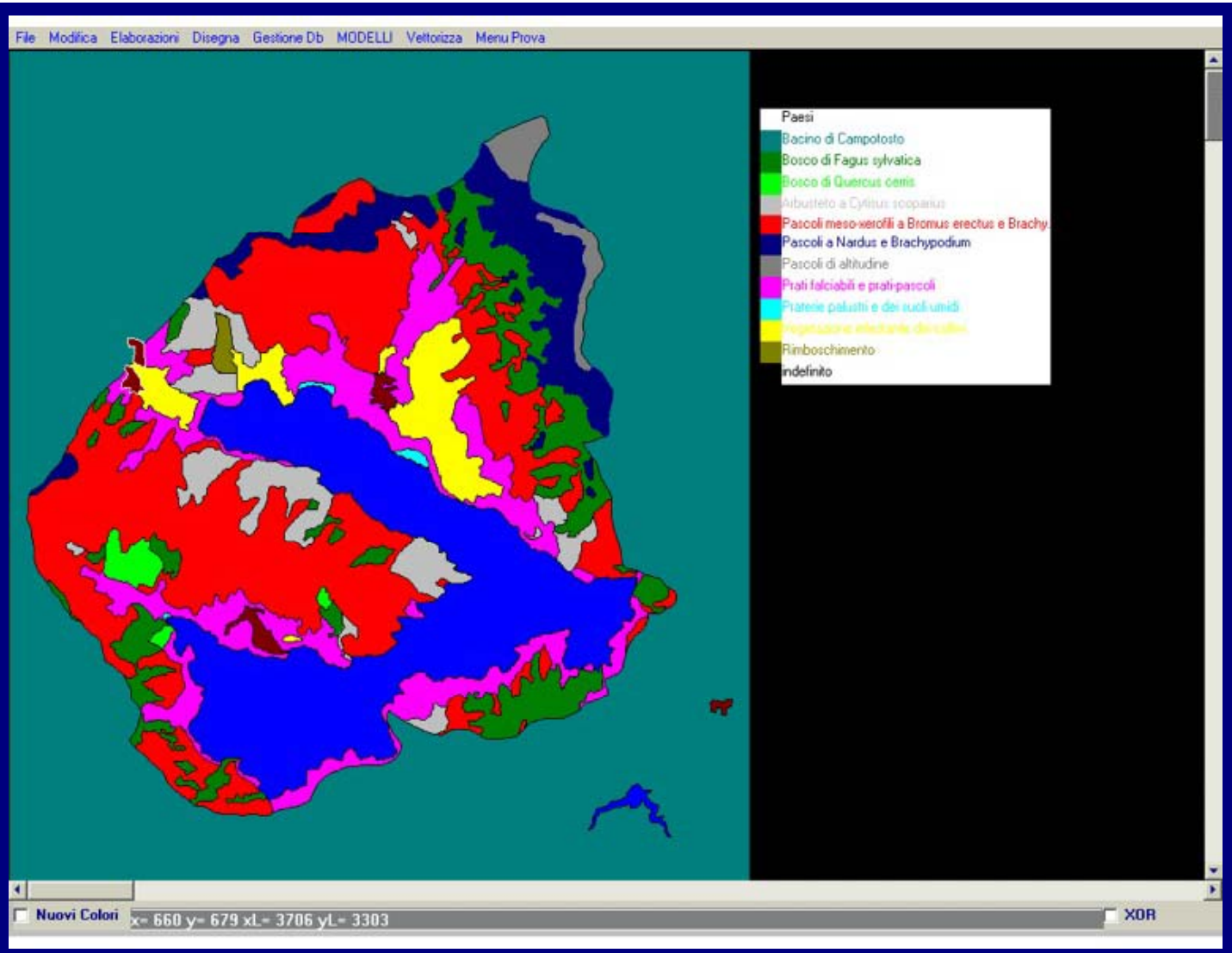
GMS operation



THE MODEL

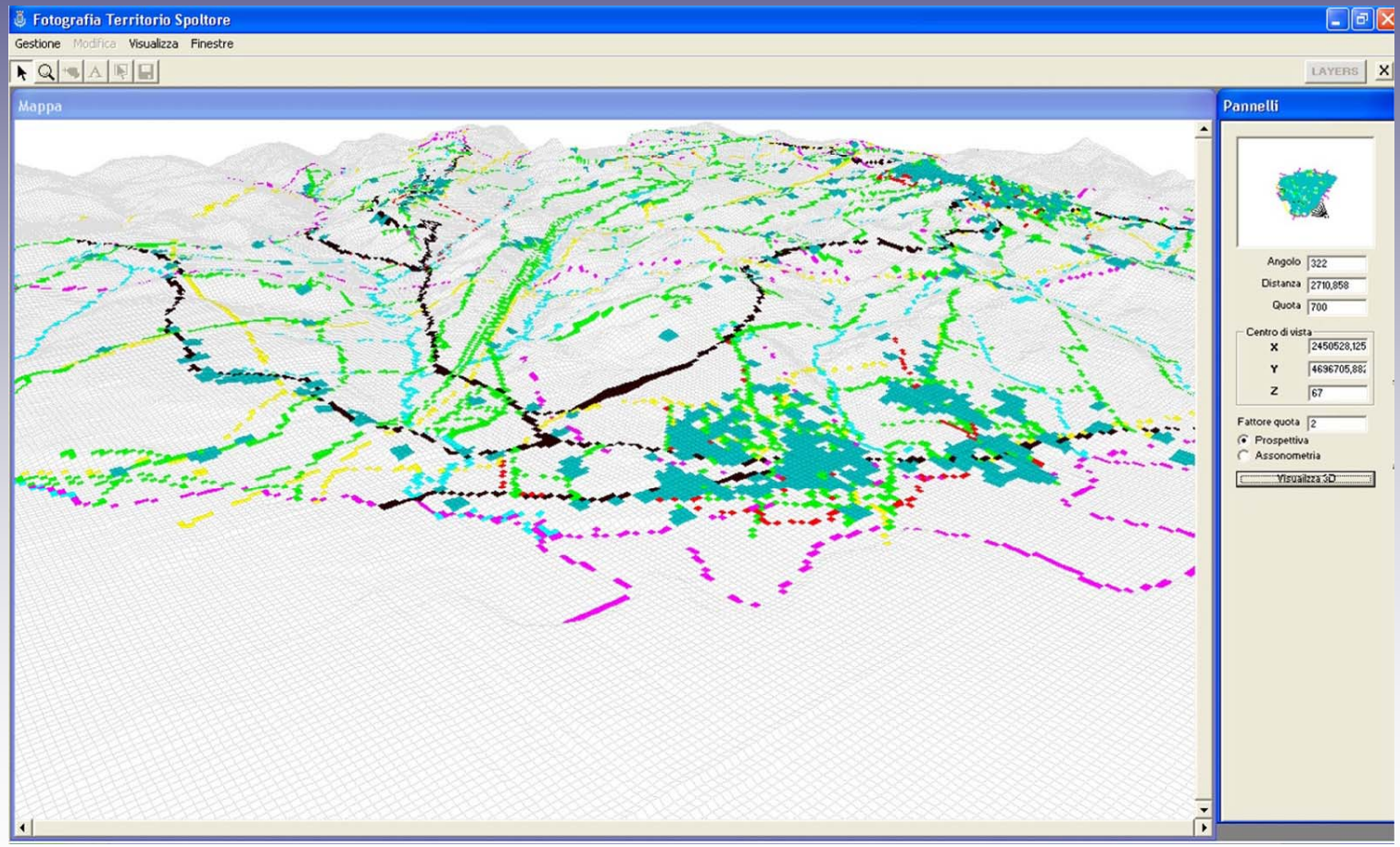

Territorial
Data
GLOBAL
DB
Environmental
Data
Global
Model
Economical
Data
Output
Cartographic
descriptive
Graphic

A carthographic output exploiting Data fusion methods

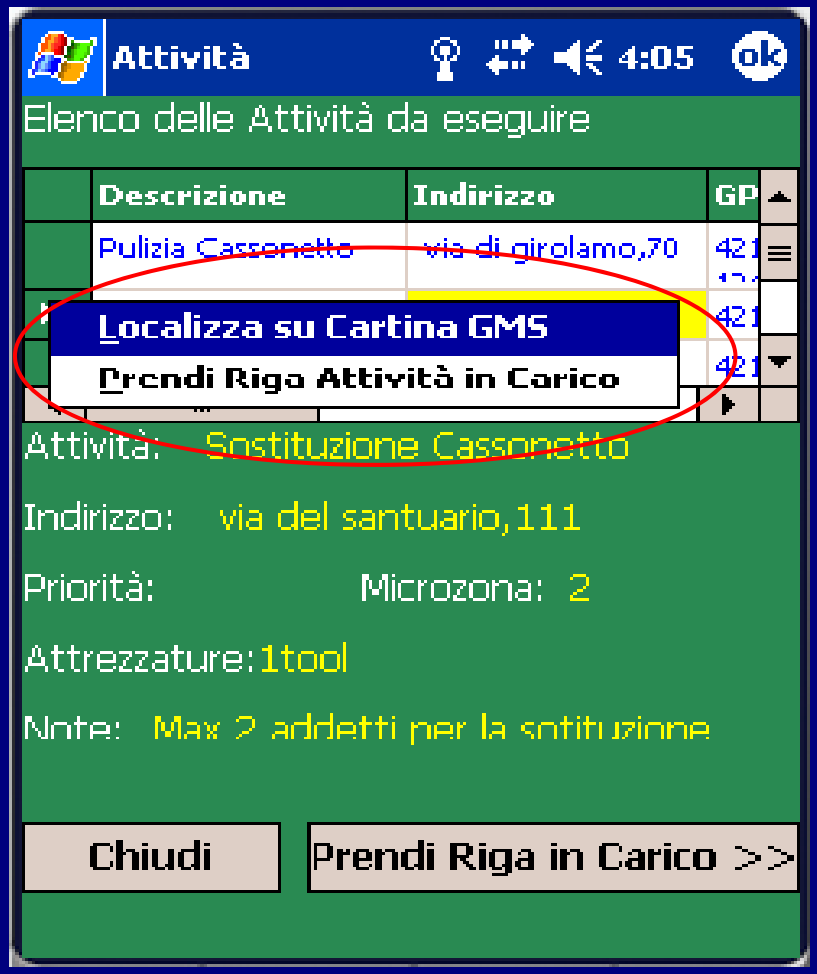


Situation Awareness Picture

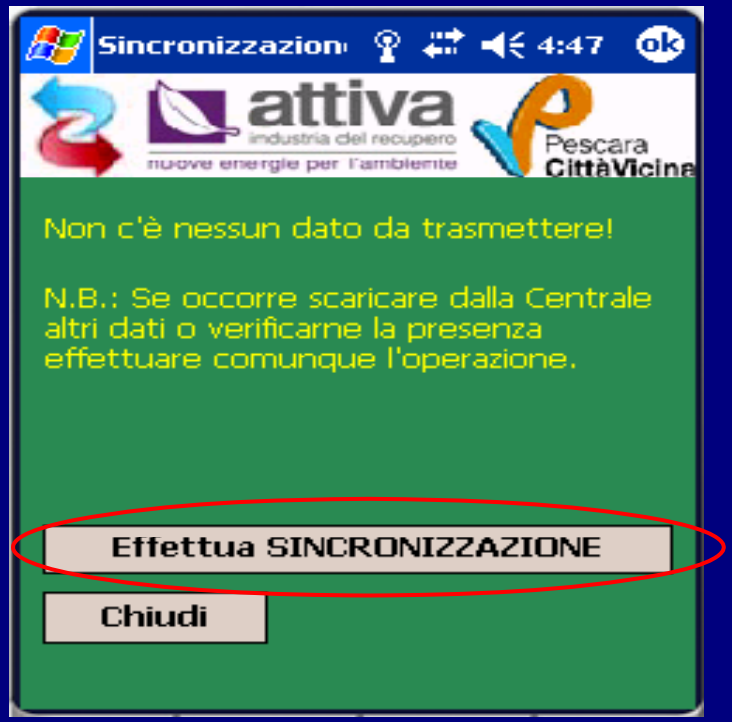
Enterprises' activities and relationships geolocalization 3D modelling

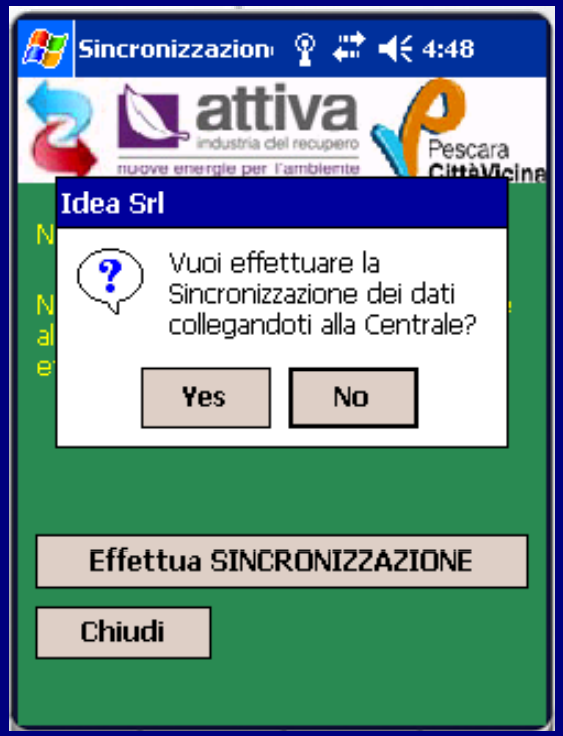


Enterprises' activities and relationships geolocalization modelling. PDA Version of GMS for "in the field" surveys

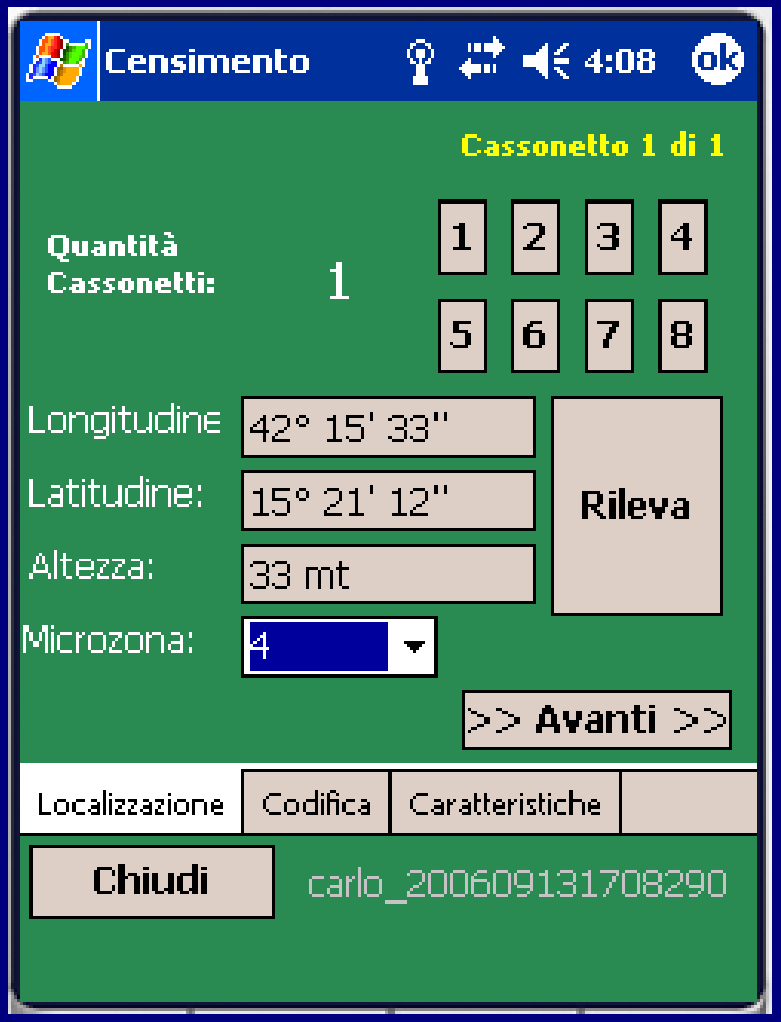


Data Transmission Synchronizing the PDA Version of GMS to Terminal Server computer

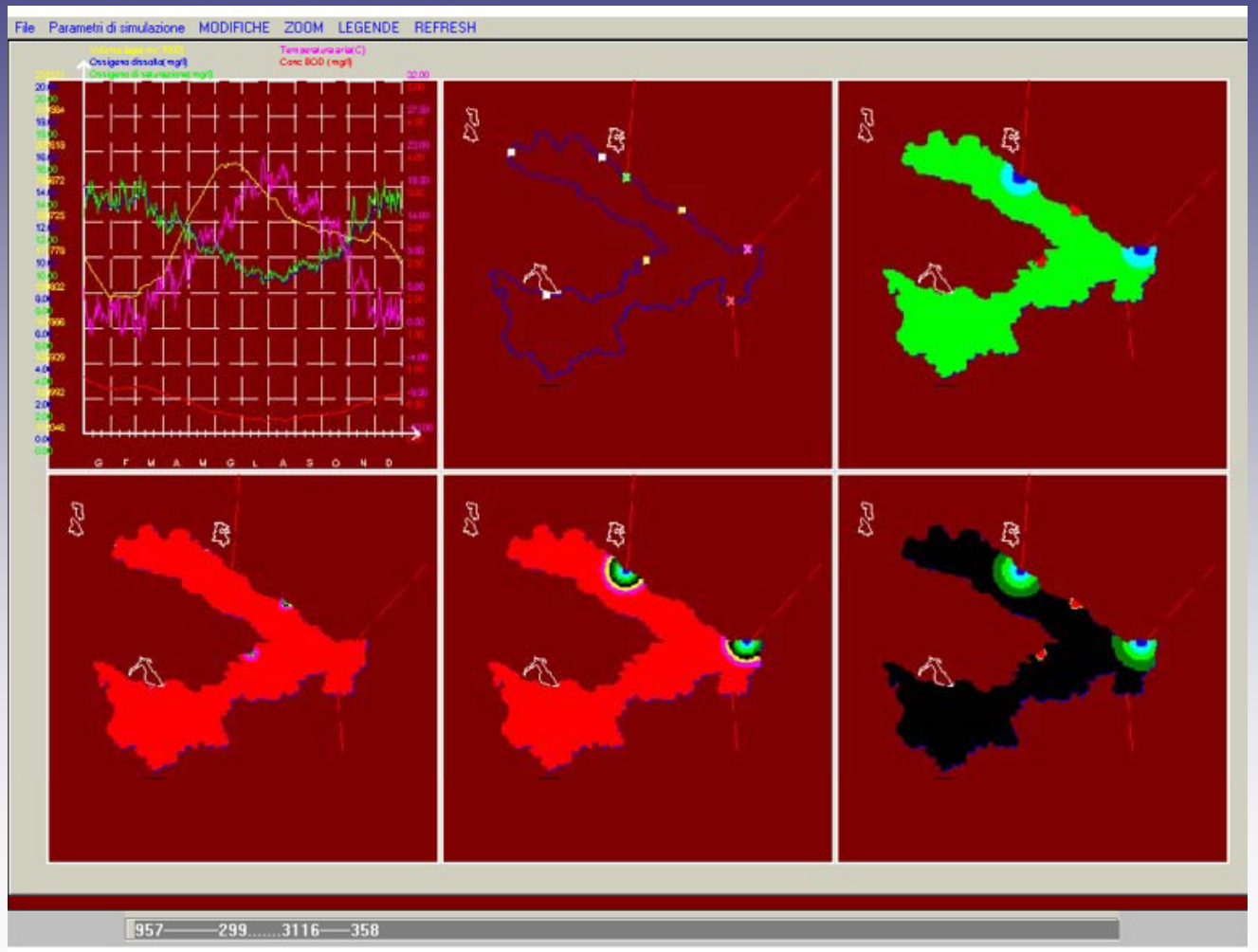




Objects and events geolocalization on PDA



Database Driven Geographic dynamics



Safety at work promotion.
Database Driven combined descriptive Output

208 LA SICUREZZA NEL CANTIERE. Guida per immagini

Immagine 16 - Lavori in quota per il montaggio di prefabbricati mediante l'uso di autogrù: Segnaletica di sicurezza rivolta agli operatori dell'autogru e del montaggio dei prefabbricati.

VOCI principali che hanno relazione con l'Immagine:
LAVORI TEMPORANEI IN QUOTA; SISTEMAZIONE DEI TERRENI; CANTIERE: Recinzione di aree interne, Organizzazione, Impianti; IMPIANTI DI SOLLEVAMENTO; IMBRACATURA DEI MATERIALI; ATTREZZATURE PER LAVORI IN ALTEZZA; DISPOSITIVI DI PROTEZIONE INDIVIDUALE; SEGNALETICA DI SICUREZZA; PSC; POS;LAVORI CHE COMPORTANO RISCHI PARTICOLARI; CADUTE DALL'ALTO; MONTAGGIO DELLE STRUTTURE PREFABBRICATE; ATTREZZATURE DI LAVORO: Uso, manutenzione; VERIFICHE; SEGNALI GESTUALI ; COMUNICAZIONE VERBALE.

NOTA 1: Vedi parole in MAIUSCOLO nell'Indice analitico
NOTA 2: Le stelle posizionate sotto ciascun segnale si riferiscono alla attenzione da dedicare a:
informazione, formazione e consultazione, riguardo al contenuto del segnale stesso.
Il numero delle stelle fa riferimento ai pericoli insiti nelle attività circoscritte dalla tipologia del messaggio contenuto nel segnale

Database Driven Geographic , alphanumeric and statistic output