



vitimap

Advanced services
for precision wine growing.

www.terrasystem.it/vitimap.htm

Nowadays the optimization of a quality wine growing production doesn't prescind from practices that require a detailed mapping of the vineyard spatial variability: on this information, both the agricultural techniques and variable intensity interventions and the practices of the "differed" harvesting and wine production are based. **Vitimap** is an offer of advanced on demand mapping services in support of precision wine growing, based on aerial remote sensing and geomatics.

With **Vitimap** thematic maps of vigour and vegeto-productive and eno-chemical parameters from aerial multi-spectral remote sensing are realized and supplied in almost real time by WebGIS.

Terrasystem takes care of the whole die of acquisition, correction, processing and distribution of the data, realizing a unique, efficient and extremely specialized service. **Vitimap** has an extremely competitive cost per hectare, both for satellite-based maps and for land relief-based maps. Generally the fly cost is amortized for large vineyards and the data treatment is made in a semi-automatic mode.


VITIMAP ADDRESS TO:

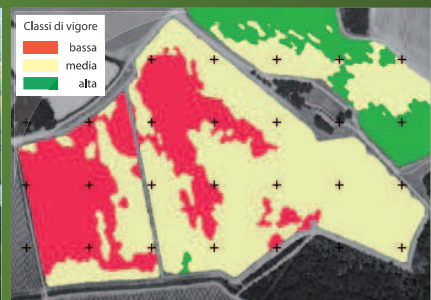
- Consultancy companies and engineering and design departments and firms that offer specialized services in the wine growing sector
- Wine growing companies, producers combines and wine co-operatives
- Research agencies
- Agricultural and land development agencies

THREE GOOD REASONS TO CHOOSE VITIMAP:

- Optimization of the production quality at a contained cost and with the employment of innovative technologies
- Elevate geometric and radiometric resolutions of the images
- High speed in data acquisition and restitution of derivativemaps

COMPARATIVE TABLE : VITIMAP VS. ALTERNATIVE INSTRUMENTS AND TECHNIQUES

	Geometric resolution	Radiometric resolution	Choice of the data acquisition time	Simultaneous acquisition of the whole area	Speed of data processing since the acquisition	Unit cost at an increasing surveyed area
	😊😊	😊😊	😊😊	😊😊	😊😊	decreasing
Maps from satellite	😊	😊	😞	😊😊	😊	constant
Maps from field surveys	Punctual data	😞	😊😊	😞	😞	constant



Since its born, **Terrasystem** supports through aerial remote sensing research bodies on precision agriculture projects, in particular of the wine growing sector. The accrued experience in this activity has permitted to expand and constantly readjust innovative methods and instruments dedicated to the mapping and monitoring of vineyard spatial variability.



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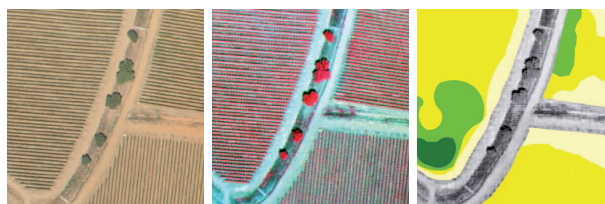
PRODUCTS

Terrasystem acquires, by its aerial systems DFR and ASPIS, multispectral and thermal images at a very high geometric resolution. The data are radiometric corrected, ortho-projected and then processed in vegetation indexes. The final maps are obtained from vegetation indexes through GIS processing and spatialization techniques. The produced maps are delivered in few days after the fly through FTP, DVD or WebGIS services. The maps are ready to use and they can be directly integrated in GIS environment or loaded in GPS peripherals for navigation in field or on the GPS terminal of the tractor to effect interventions in variable intensity (VTR).

VITIMAP BASE

Provision of a set of images and digital ortho-maps of the ordered vineyard plots.

- Mosaic of ortho-photos in real colors at 30cm geometric resolution
- Multispectral mosaic at 50 cm geometric resolution
- Vigour map in a number of class fixed by the buyer
- Vigour map in print format (on request)

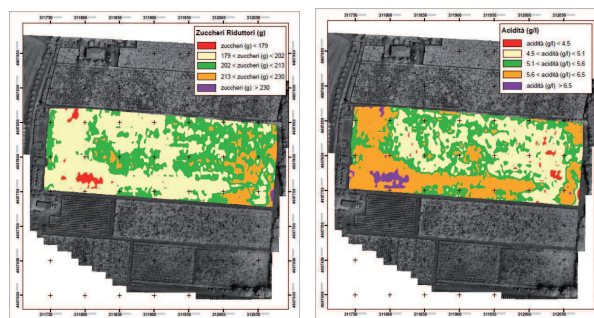


VITIMAP PLUS

In addition to the "base" products, quantitative ortho-maps of vegeto-productive and eno-chemical parameters of the ordered vineyard plots are given. In this case, realizing a series of samples on the vineyard of the requested parameter will be necessary; support for the choice of the spots to sample is provided.

Some of the parameters that is possible to map:

- Exposed leaf surface
- Total sugars
- Titrable acidity
- Polyphenols and Anthocyanins Content
- Grapes average weight
- Water deficit

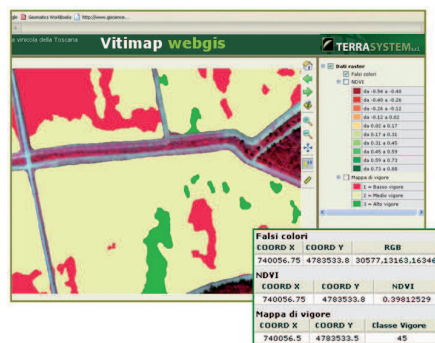


VITIMAP WEBGIS

Vitimap WebGIS is an optional service that, coupled to the base and plus packets, permits in a simple manner to organize, display and navigate all ortho-photos and maps, and to use GIS instruments for the filing, analysis, and data administration, everything connecting oneself to internet through a protected access by user ID and password.

Features:

- Instruments for the navigation of the Vitimap maps and the ortho-photo
- Instruments for the exact query of maps and the advanced attribute query of data
- Possibility to superimpose base and thematic cartography at the firm disposal
- Possibility to request a GPS survey in firm and specific cartographic elaborations
- Functions for the editing of new cartographic themes by the user
- Print of informative maps and reports
- Hosting on dedicate server



PIATTAFORMA DI ACQUISIZIONE VITIMAP

AIRCRAFTS: SKY ARROW 650 TC/TCNS - Piper PA-34 Seneca II

REAL COLORS CAMERAS: Hasselblad H3dII-31 (CCD RGB 6496 x 4872 pixels) - Canon EOS 20D (CCD RGB 3504 x 2336 pixels)

MULTISPECTRAL CAMERAS: RedLake MS4100 (CCD 1920 x 1075 pixels; spectral bands: 550, 670 e 800 nm;)

ASPIS (CCD 2048 x 2048 pixels; 12 selectable spectral bands in the 350 - 950 nm interval)

THERMAL CAMERA: Flir SC500 (Microbolometer 320 x 240 pixels 14 bit, spectral band 7.5 - 13µm)

