casella
Macchine Agricole

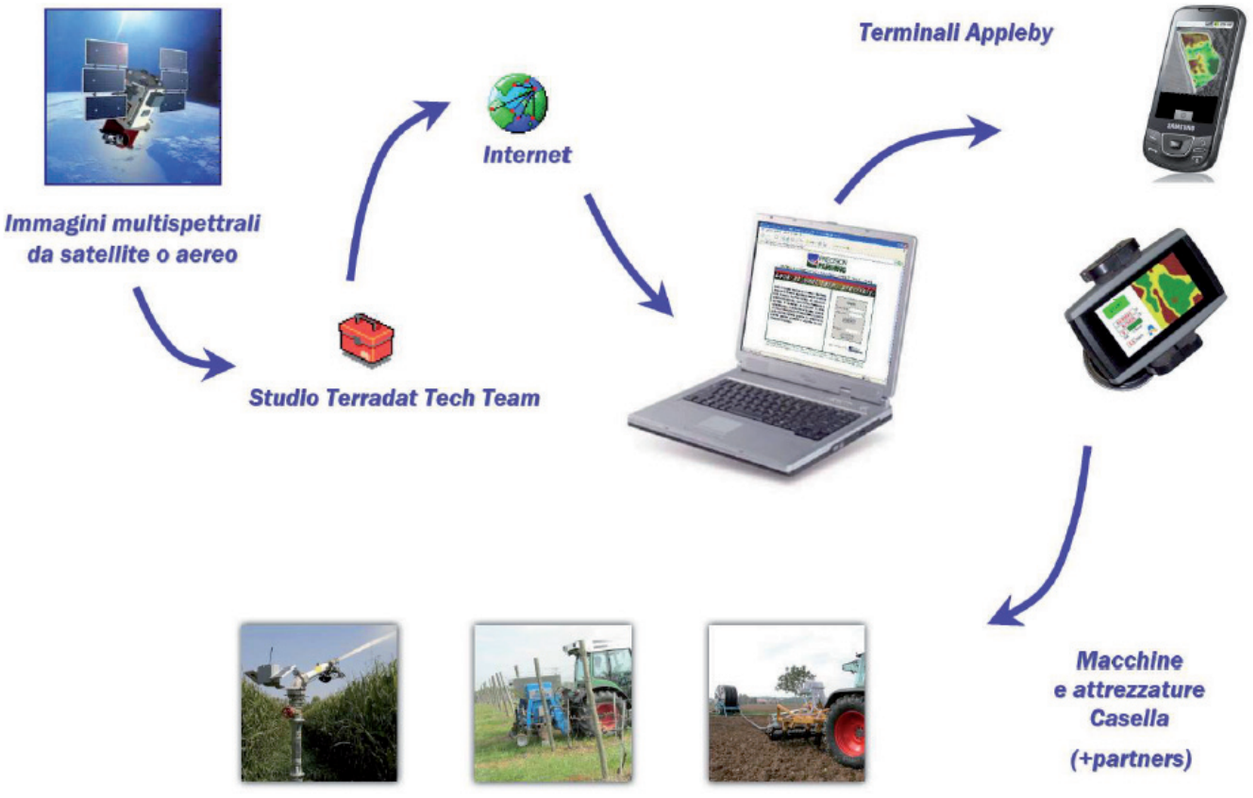
TEAM

TECNOLOGIE - EVOLUTE - AGRICOLTURA - MECCANIZZATA

For many years we spoke about agriculture and precision viticulture, but the practical consequences are often very limited due to a number of factors, for example:

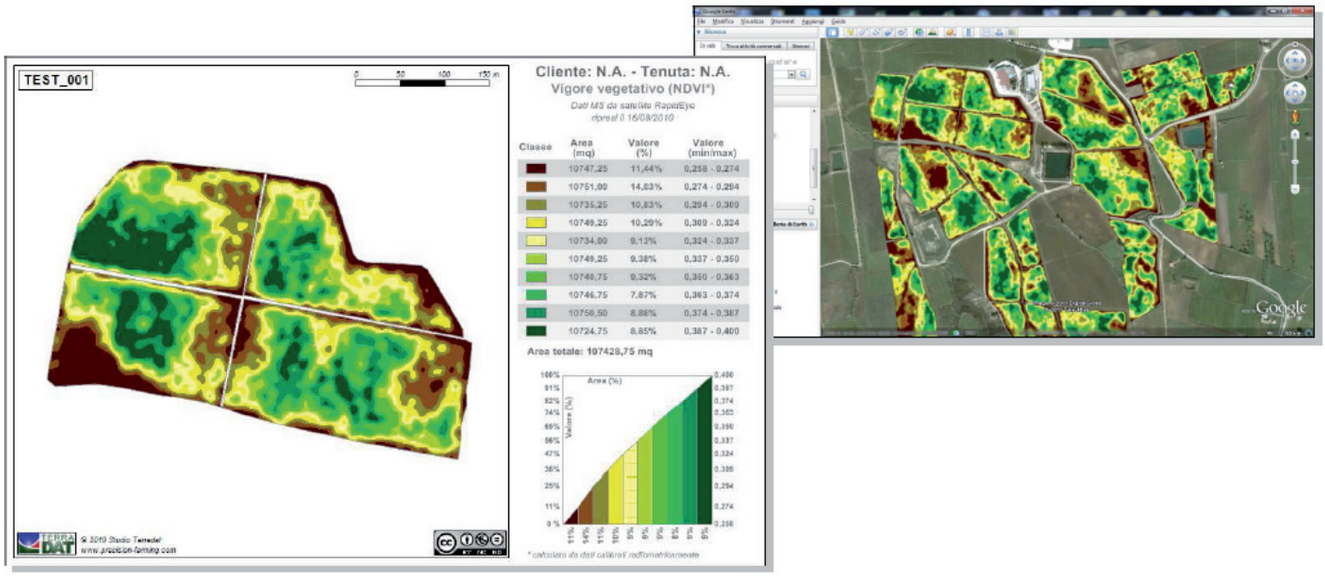
- difficulty of finding timely and reliable low cost thematic maps;
- difficulty of finding a complete solution (electronic + maps + equipment) on the market;
- confusion about reference standards (ISO 11783) and their actual implementation and effectiveness;
- coexistence of theoretical and methodological approaches not always consistent with each other and not all equally effective;
- roles admixture between research and private enterprise worlds.

In order to give a solid, clear and convincing answer to the above mentioned doubts and limits, Appleby, Casella and Studio Terradat created TEAM (Evolute Technologies for Mechanized Agriculture), a brand indicating a business group with the purpose of moving from words to facts for the applications in agriculture and precision viticulture. To do so we must just be a TEAM, since the multidisciplinarity required cannot reside in a single organization, and because the actual start of this market requires to develop, as a TEAM, complete "turnkey" solutions and not sporadic and isolated testing prototypes.



VIGOUR MAPS FOR PRECISION FARMING

The long experience of Studio Terradat in the field of geomatics, especially in the field of precision farming, gives TEAM the most advanced know-how in this field. Countless long-term and experimental evidences demonstrate how significant are the maps produced by Studio Terradat, which over the years has tested and perfected the production of its vigor maps using data from different acquisition sources (photogrammetric aero-mounted multispectral digital cameras, multispectral satellite data, drones remote-controlled from the ground). Starting from 2010, thanks to a partnership with the world's largest provider of satellite data for agriculture, Terradat Studio is able to provide vigor maps of any agricultural area in the Italy, at low prices and in the best conditions available in terms of operating costs / benefits and recovery opportunities.
This allows to support with vigor maps farms of any size. Terradat Studio can virtually serve any agricultural area of Europe, USA, Brazil, Argentina, Chile, China, South Africa and growing part of Australia, using satellite data acquisition mode.



PRECISION VITICULTURE SUPPORTED BY REMOTE SENSING

Wine experts have always known that grapes picked from different areas within the same vineyard can produce wines of various quality. Even when factors such as biological clones, varieties and rootstocks are identical, the quality of the grapes, their ripeness and the wine produced from them are influenced not only by different growing techniques, but also by subtle differences in the characteristics of the vineyard such as the geological nature of soil, drainage capacity, microclimate, slope, exposure, or working conditions of cover crop in the alleyways and the availability of limiting factors such as water and nutrients. The fruit and foliage of the vines are therefore very sensitive to the surrounding environment and, especially, to the level of sunlight to which they are exposed, the water availability and the level of available nitrogen nutrition, all factors that can change very rapidly in the vineyard due the same vigor of the plants. Using vigour maps produced by remote sensing data, the growers can precisely determine the areas where the canopy is overdeveloped or underdeveloped.
Thus, remote sensing allows to assess the full vegetative-productive balance of vines within the vineyard, and then check if the present foliage is able or not to meet the nutritional needs of the corresponding clusters.

By the end of flowering stage the areas of the vineyard can be classified according to vegetative vigor and maps that localize precisely the needs of farming (irrigation, pruning, fertilization, pesticide treatments, ...) can be produced. During the collection phase, remote sensing allows growers to plan grapes harvest strategies at the appropriate time and start to produce wine using grapes with a similar level of maturity or to obtain differentiated musts even within the same vineyard.

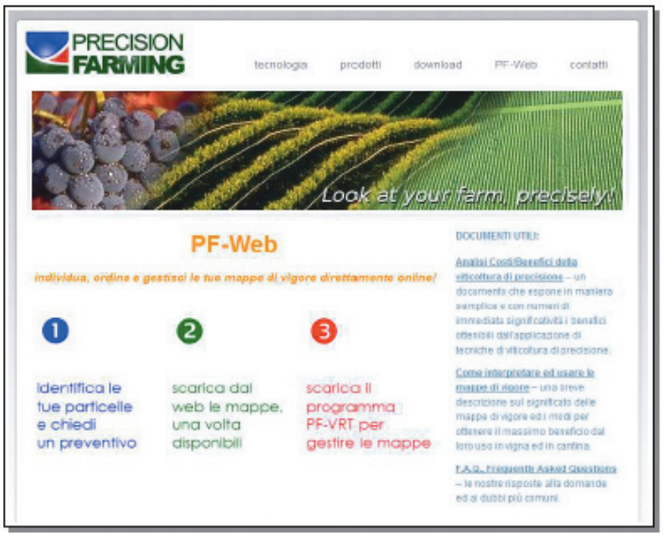
PRECISION FARMING WITH A CLICK

TEAM invested many resources during these years aiming at making easier to use and interact with our products and services by the users.
The website www.precision-farming.com represents the showcase of the whole range of offers by TEAM, gathered under the united brand PF-Solutions.

PF-Solutions is a complete suite of products and innovative services in the field of Precision Agriculture and Viticulture systems: vigor maps, software tools for web and desktop which allow to arrange and manage their own maps, electronics that can read and use the maps in the field, and also the tools to manage cultivations with variable doses in a focused and differentiated way (VRT, Variable Rate Technology).

PF-WEB

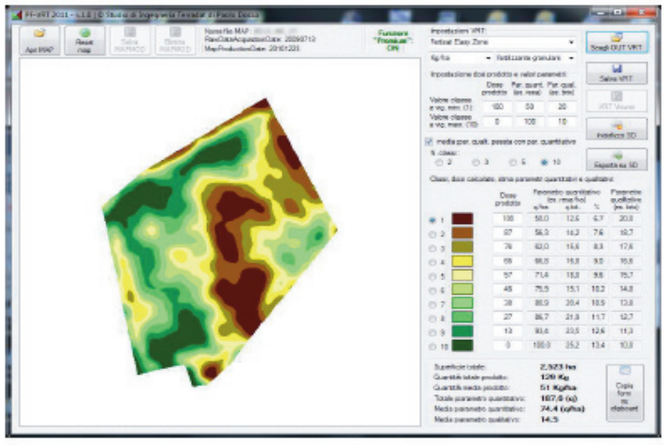
Through the website www.precision-farming.com, users can identify our plot to be monitored by vigor maps, and download the same maps once available.



PF-VRT

PF-VRT is a desktop software that allows the agronomist of the farm to autonomously manage the programming of Appleby terminal by means of prescription maps, from the vigor maps provided by Studio Terradat.

It is possible to handle a variable number of classes (10, 5, 3, 2), as well as to revise the composition of each classe. The different configurations of electronics and equipment are supported. As far as concern precision viticulture, also the software - based on data from a few target samples - can make a classification of the map into two classes with significant benefits with regard to issues related to the harvest (logistics and optimal timing of harvest, size of lots to be collected in desired quantity and quality desired, also in relation to the logistics of the cellar); the tool itself can then set a strategy of optimal harvesting. With focus on the single vineyard, it is possible "segmenting" the production of the same into two classes and therefore two separate batches, so to reach the collection of two predetermined amounts with enough precision and whose qualitative characteristics are known, always with a adequate degree of approximation.



MACHINES AND TOOLING FOR PRECISION FARMING

The Company Casella serves TEAM with its unquestioned performance and experience in the field of agricultural equipment for full field and vineyard. The Fertilizer spreader is equipped with significant innovative elements when compared to other created prototypes: among them we point out the mechanism of automatic calibration, based on the use of load cells, which allow a more precise supply of the product in terms of weight, eliminating boring and repetitive manual system calibrations of the system before its use on the field.

SpreadSat

- capability 500 liters
- compensated weighting system
- work with inclination till 40° both transversal and longitudinal
- automatic Variable rate metering
- integrated GPS Receiver
- widespread or localized distribution system
- easy-use display in the cabin: it fits for all kind of tractors
- possibility to distribute changeable doses of product according to well elaborated a distribution map.

HydroSat and RipperSat

Solutions for the open field, they allow to apply variable doses techniques for watering, for underground injection of sewage and irrigation. They both share the use of prescription maps based on maps of force and terminals Appleby to be used for the reading of the same ones, for GPS position and for the actuators setting.