

GNSS

Software Receivers



the Brainware company

GALILEO

GPS

EGNOS

Employed in initiatives funded by ESA (European Space Agency) and ASI (Agenzia Spaziale Italiana).

Verified with the first GALILEO (Giove A / B) signals.

Software Receivers at a Glance

Traditional **GPS**, **EGNOS** and new **GALILEO** system, together with **Enhanced GPS**, open the door to a great variety of applications in the domain of location based services.

GNSS market is moving from traditional navigation applications towards **fully integrated location based solutions** where the ever more accurate positioning information are integrated into a chain of value added services.

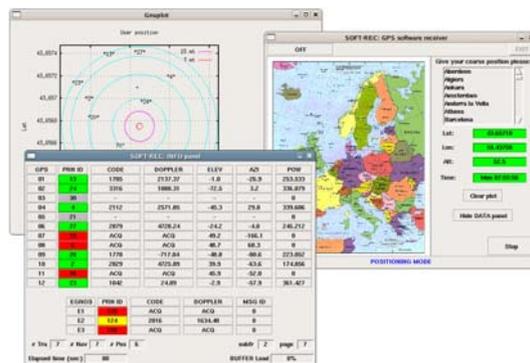
A crucial point is to supply tools capable of taking the most advantages of all GNSS infrastructures available, thus enabling the design of innovative **Location Based Services**.

At Intecs we look for the correct answer to conflicting needs: the system must be **low-cost, highly flexible and accurate**. The answer is the fully **Software Receiver** where the impact of hardware is extremely reduced.

The challenge has been accepted by **Intecs S.p.A.**, which can now boast a set of software based GNSS solutions for the European and National GNSS players **ESA** (European Space Agency), **ASI** (Agenzia Spaziale Italiana), etc.

GPS/EGNOS SoftRec

It is a software receiver, capable of acquiring and tracking GPS/EGNOS signals and implementing the so called navigation layer, giving the current user position in Real-Time.

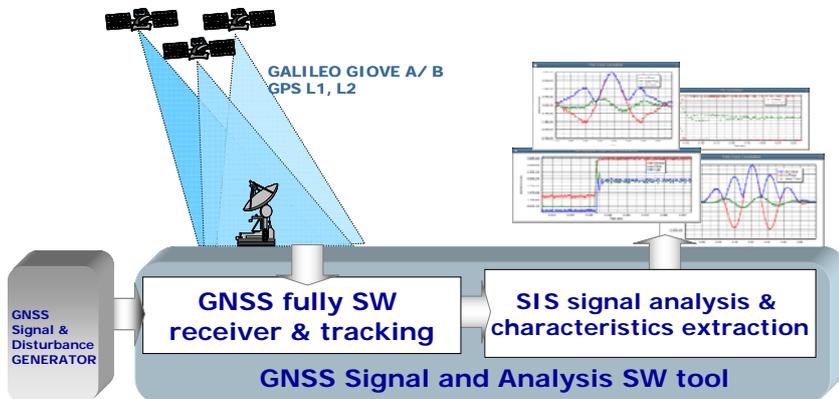


It has been successfully employed in projects and integrated with A-GPS, wireless mobile system, Real Time Differential Corrections (RTCM), and map matching functions

It was also integrated with hybrid techniques for continuous positioning provided by MEMS devices and extended Kalman filters.

SAT: GNSS Signal and Analysis tool

is a non-real time SW analysis tool allowing to study the performance of GNSS Signals based on simulated and real data.



SAT generator provides a wide range of GNSS Signals including consolidated and experimental GPS / GALILEO signals. A filter, both in the time and in the frequency domain, is provided for very accurate signal analysis. The fully SW receiver, with very high configurability level, allows the simulation of signal Acquisition and Tracking phase, for both real and generated data. Finally, the signal analysis module allows to extract the most interesting characteristics as a result of the entire chain.

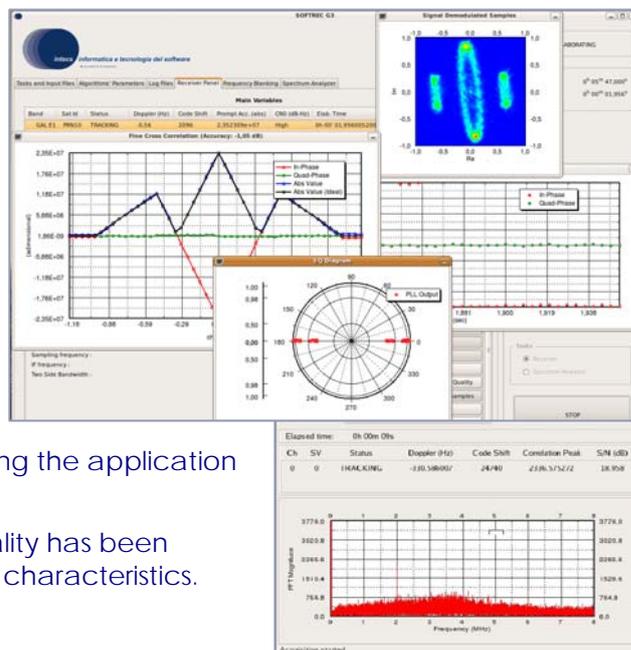
GALILEO SoftRec

This is the SoftRec evolution towards GALILEO constellation.

It is a software receiver, capable of acquiring and tracking GALILEO L1 signals in Real-Time.

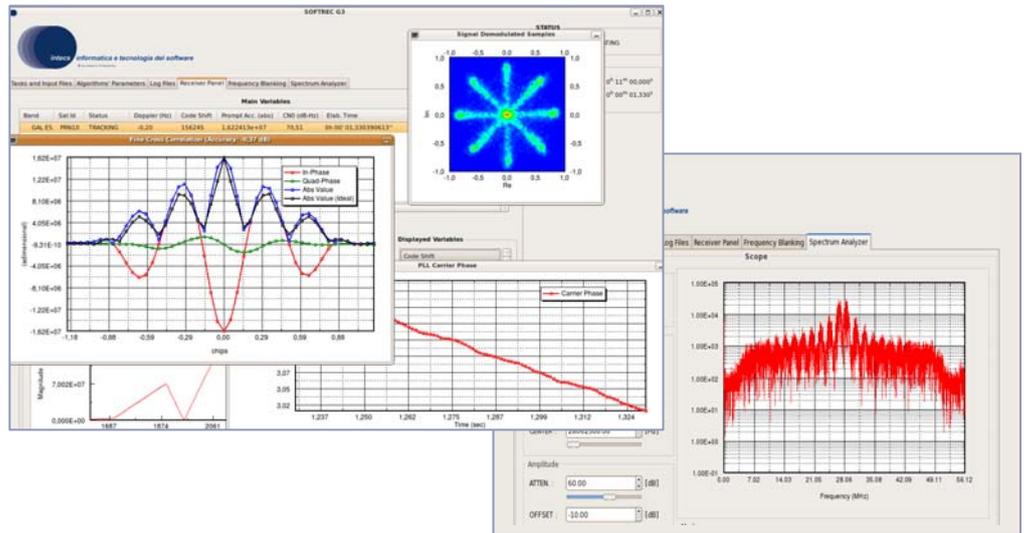
A wide range of signal/channel related variables are logged to file for post-processing elaborations, making the application an easy to use analysis tool.

Besides, a Spectrum Analysis functionality has been added to monitor the incoming signal characteristics.



SoftRec G3: 3-Band Galileo SoftRec

A more sophisticated suite is capable of performing off-line acquisition, tracking, elaboration and analysis of GALILEO signal in all bands: E1, E5 and E6.



Receiver Measurement Analysis Tool

A tool for in-depth signal analysis of Galileo/GNSS receivers. Verified with GNSS standard professional receivers used for the Galileo In-Orbit Validation (on-ground and in-flight testing).

