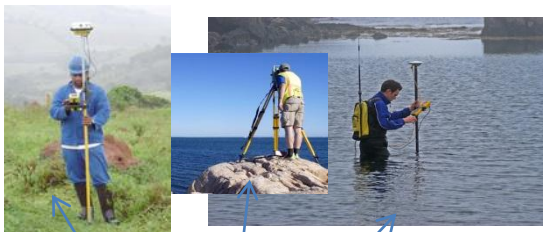


# iRTK Surveying Business Model

*'Smart surveying office'*  
*'Own your survey network'*  
Solution

## **Objective**

Promote the concept of inverse real-time kinematic surveying technique where surveyors/surveying firms make use of the abundance of resources provided by the Permanent Reference Station Networks.



Field crews collecting data and communicating with the office in real time



Crew chief in the office communicating with field crews in real time; office is connected to the FPRN and to its own base station through the irtkG1 station

## **Concept**

GNSS receiver and software technology is currently the backbone of most surveying work, large and small. Real-time surveying applications require expensive equipment and skilled professionals because most of the work is done on the rover receiver. By inverting the roles of the rover and the base receivers, the survey can be done by lower cost receivers and less skilled field data collectors, in real time. This is done by running the RTK software engine on a central processing unit remotely connected to the base and the rover. Not only the CPU can do the job better, but also the crew chief can manage several crews remotely from the office. iRTK enables the survey business to be more efficient.

## **Application**

We developed a complete hardware and software system for this business model, the iRTK system. G1: Pocket GNSS - Affordable Precision is the world's smallest light-weight rugged precision GNSS receiver. The receiver measures only 3" x 2" x 1", weighs 125 g (50 g w/o enclosure), costs a fraction of the cost of its peers, and offers the same capabilities of a survey-grade receiver of its category. The G1 receiver system is meant to replace bulky and expensive GNSS surveying equipment. The receiver is also easy to port and operate, either in real time or in post processing. The whole receiver system fits in the pocket of the surveyor, and operates off a cell-phone battery. The G1 system targets applications requiring high positional accuracy (0.01 to 1.0 m) in the engineering, aerospace, and surveying and mapping areas. The iRTK system comes fully powered with real-time and post-processing software.