

### ***Informatics – Information wants to mash***

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On February 2<sup>nd</sup>, 2009, Google did something that made its users see red. This reaction was neither the embarrassed states of its many corporate rivals nor the rage of information privacy advocates, but instead the result of a new release of one of Google's most popular and acclaimed pieces of software, Google Earth. Tucked away in this shiny new version was a new feature sure to delight fans of planetary science and imagery – at last, users not only had the option of viewing the planet Earth, but the red planet Mars too. Through the imagery of NASA's Mars exploration fleet and the prowess of Google's image processing and geospatial capabilities, astronomical aficionados can explore the ridges and valleys of the red planet's surface with as much ease as they can now spy on the layout of their own home town. Mountains of imagery that often languished in large NASA databases have now become more accessible to a much larger audience. Returning back to Earth, it bears mentioning that so much has happened in how we use public and commercial satellite imagery that we ought to take a step back and see how far we've come and how fast.

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Only just over a decade ago, not only did Google Earth not exist, but almost the whole of the commercial satellite imaging market also did not exist. IKONOS, the first high-resolution commercial imaging satellite, would not be launched until late 1999 and other satellites years after that. Mountains of data from government-operated imaging satellites did indeed exist (as they still very much exist today) but, just like the Mars data, they existed in an obtuse format useful sometimes to experts but inaccessible to the vast portion of the public. Even when comprehensive imagery servers, such as the famed Microsoft TerraServer, came online in 1998, common users would still need considerable agility before they could even exclaim "I can see my house from here!"

Underlining this is a fundamental problem with satellite imaging and remote sensing. Human ingenuity has been exceedingly good at building machines that churn out petabytes for megabucks, but it has done a patch poor job of making the data actually useful to people when they need it – that is, channeling information from photons to electrons to neurons exactly when those very same neurons need it most. It is here that image collecting meets its



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match and more sophisticated analysis comes to play. Over the last couple of decades, a very healthy industry has arisen to fill this need for geospatial analysis by bringing to bear processing techniques and interpretation algorithms to weave a fabric of knowledge from the wool of information. To some, this industry is known as geomatics, the gathering, storing, processing, and delivery of geographic information, or spatially referenced information.

We can go farther – take geospatial imaging and add the wonders of GPS-based navigation, a telecommunications network, databases of transport networks, routing algorithms and some simple machine intelligence and now we have the fast growing multi-billion dollar industry of asset tracking and GPS navigation. This too has a name – many call it telematics.

Truth be told, both geomatics and telematics should not be thought of as two separate disciplines but rather as subsets of informatics – the analysis of information in general. Information about place, position and time are just a few different kinds of information that can be brought together to bring forth greater understanding of the world. To these we can effortlessly add demographic, cultural, medical, conversational, culinary, legal, horticultural, ethical, mathematical, conceptual and many, many more forms of information. Under the right circumstance, all of these strands can be combined together into something that can tell us more than the sum of its parts.

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All of which brings us all the way back to Google Earth and its cousin, Google Maps. The real trailblazing part of the software and the service was not merely the accessible presentation of geography, but the open software architecture which allowed anyone to cross-reference map data against any other readily available data. Hence the phenomenon of the so-called mash-up: user-created real-estate maps drawn from classified listings, or charts of crime incidents drawn from police reports or many other similar creations. Informatics in the modern world not only means that all the aforementioned information sources will end getting mashed together, but will do so as a direct consequence of user demand.

What will this mean for the business of information? First, as demand grows, expect to see raw data (ie. raw images and unprocessed databases) becoming more commoditized and for



margins to shrink. Conversely, players on the right hand side of the value chain, those who specialize in processing, mashing and interpreting data for geomatics, telematics and informatics will boast heftier margins, but in a fragmented field. Commodity data providers will eventually find themselves either seeking greater scale along the horizontal (a satellite image company moving into other sources of images, such as aerial imagery) or expanding into informatics services themselves either through organic growth or by acquisition. Corporate strategists, however, should take note – if we've learned anything about the mash-ability of data, it's that the sophisticated end-product of today will eventually become a commodity data-point for another mashable tomorrow. The value chain is always moving to the right and they must be ready to move with it.

Perhaps the greatest opportunities exist for those who can build platforms for information that become the most widely accepted. Google's greatest success has been in becoming a de facto standard for serving up and organizing the world's information. History shows that to have such a position is always an enviable one. As Jerry Seinfeld's neighbor, the hapless mailman Newman, wisely put it "When you control the mail, you control ... information". If this is indeed the case, then one hopes that Google will use its dominant position in the marketplace more responsibly than Newman was often depicted. If not, its users will no doubt find more than a few reasons to see red.

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## **SPECIALISTS IN SATELLITE, MEDIA AND TELECOM INVESTMENT BANKING**

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