How Earth Observation is Driving the Development of the Human Race

While the demand for satellite imagery and value-added services soars in the Earth observation (EO) market amidst the global space race 2.0, enhanced resolution is driving the creation of a queryable digital Earth. We are fixed on a rapid growth curve towards real-time intelligence in under five years, writes Kolemann Lutz in a new column for 'GIM International'. By sharing the true potential and benefits of real-time imagery, we can better help communities enjoy worthwhile life improvements. Imaging satellites will hence be a key driver in the development of the human race, as the capacity of ecosystems thrusts towards a period of hyper-acceleration and an unimaginable reality.

As industries gravitate towards capital demand, developing the global economy begins from the ground up. From predicting poverty to resolving water sustainability and revolutionizing farming in rural communities, geospatial insight is a powerful alternative dataset to bolster the quality of life in developing nations. By aiding NGOs with affordable product rates and by supporting philanthropic efforts of large corporations, the EO community is helping mankind estimate when we will achieve each UN Sustainable Development Goal. The Group on Earth Observations (GEO) provides a robust 2030 Agenda to help us better achieve sustainable development. As stated by Gary Watmough, geospatial researcher at the University of Edinburgh, “the use of satellite images makes it much cheaper to keep track of how far we are in reaching the United Nations’ goals for sustainable development."

Geospatial insight transforms the way we do business

Given that our careers and capacities are driven by intrinsic passions, individuals in the remote sensing field can gravitate towards any sector of interest. Extractable geomatics may be one of the most influential datasets to reduce the time and costs of permitting approval, smart regulation and construction projects specific to foreign direct investment and infrastructure development. By recognizing the capabilities and performance empowerment of real-time imagery data analytics on processes, critical path methods and time-cost savings evaluations across every industry, we can better express the profound benefits of how geospatial insight is transforming the way we do business.

With the plummeting cost of imagery data and diminishing barriers to space, satellite-derived solutions with IoT, sensor and financial archives are transforming the predictive era. Reliable and scalable machine-learning computation is manifesting next-generation products akin to the real-time simulation of global supply chains and distribution networks with progressive economic development rates from a host of geospatial variables in national ecosystems. From forecasting the movement of trade across our skies to predicting resource demand and supply levels, we can begin to capitalize on market trend fluctuations on any scale right from the start. By incentivizing bilateral relations in the geospatial domain between governments and international entities, we can democratize access to Earth observation.

A glimpse into the future of eight geospatial capabilities for global development.

Growth in capital demand

“That’s when we will evolve this smaller industry, which is about a US$5 billion addressable market, to be part of the business-to-business information services economy, a US$100 billion to US$200 billion industry. That’s what we’re focused on,” said Robbie Schingler, co-founder of Planet Labs. To grow into a US$200 billion industry, we can communicate the substantial life and community improvements of what the Earth observation industry will be capable of in under five years. We can better convey long-term savings from real-time insight from high-resolution imagery to decision-makers in end-user markets to accelerate approvals of financial resources.

The growth in capital demand not only enables us to expand satellite systems, but also to embrace higher risk for exponential technologies such as synthetic aperture radar, alternative propulsion sources, on-orbit servicing, quantum software-defined spacecraft and 3D printed extraterrestrial structures by capitalizing on cost-saving evaluations from exponential technologies. Advancements in Earth observation and satellite technology are establishing foundations for humanity to accomplish the unthinkable in deep space exploration.

This article was originally written for and published in GIM International.

https://www.gim-international.com/content/article/how-earth-observation-is-driving-the-development-of-the-human-race-2