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On the launch pad with Earth-i

Alistair Maclenan meets with Britain's newest satellite data supplier to learn more about its plans and ambitions

Nearly six years ago, the then Minister for Science and Innovation, Lord Paul Drayson, wrote a foreword in the UK Space Innovation and Growth Strategy (IGS) document in which he said that the 'UK Space Sector is a genuine success story'.

At the start of 2016 that statement remains true and indeed, the successes keep coming.

The 2010 IGS report was written by a panel of industry experts in recognition that the British space industry had come a long way from its first launch of the Ariel 1 satellite in 1962.

Concentrating on the future, it made 16 separate recommendations as to how the nation should support this industry in raising its share of the global space-enabled marketplace, worth an expected £400 billion, to 10% by 2030.

Huge progress

Last year Andy Green, chairman of the original panel, released an updated report in which he detailed the huge progress that had been made. In four years, the Space Leadership Council, the UK Space Agency and the Satellite Applications Catapult had all been created and The European Centre for Space Applications and Telecommunications was completed on the Harwell campus.

The commitment to meet the ambitious targets of the original report is reiterated in the 2014 version and an interim goal has been added; to grow the UK space industry to a turnover of £19 billion by 2020.

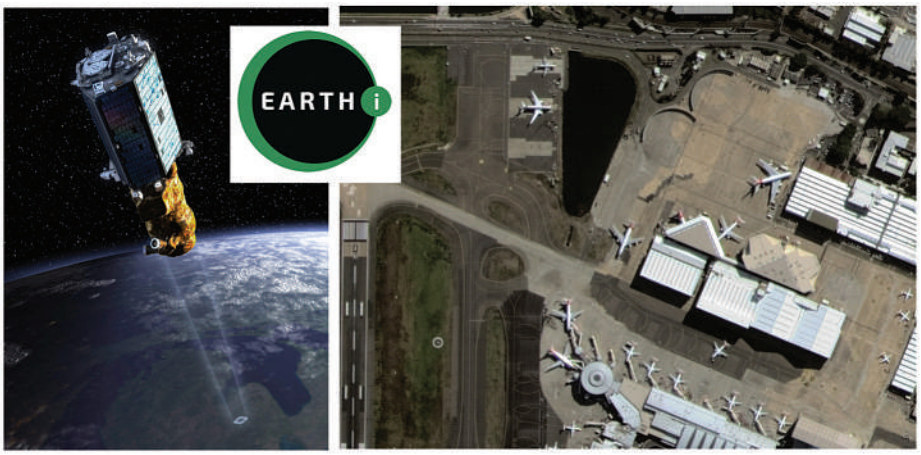
Tough targets in a financially and politically unstable world will be difficult to achieve. The UK space industry will need to continue to expand and must see the creation of new, innovative companies offering superior services in order meet them.

However the latest and newest of these companies is not actually a new organisation at all. When Earth-i opened its new operations centre on the Surrey Research Park in Guildford in 2015, the move was the culmination of over three years of thinking, planning and development.

Selling message

Britain's newest earth observation data and solution provider has the Master Distributor agreement to distribute – in plain English, sell – data that is collected by the shiny new DMC3 constellation across

Steve Young



The TripleSat (above left) utilises a new smallsat design that provides unparalleled 1-metre resolution imagery with high-speed downlink and 45 degree off-pointing. The first imagery was captured in September last year, a sample of which (Sydney Airport in Australia) is shown above right. Imagery: SSTL / Earth-i

various markets worldwide.

Built by close neighbours, Surrey Satellite Technology Limited (SSTL) to its latest design, the constellation comprises three orbiting satellites that are operational following their successful launch in July of last year.

With this setup, Earth-i is able to supply one metre resolution imagery to users all around the world and, because of the number of sensors, is able to offer daily or better revisits, even at the equator. This high temporal resolution is vital for many modern applications of Earth Observation data.

If the hardware and data is impressive, the people behind Earth-i more than match up. The senior management board boasts well-known industry names, all of whom have been attracted by the idea of building something brand new.

Solid foundation

I asked Sales Director Steve Young, who joined Earth-i after seven years in the role of Head of Business Development at SSTL, to explain his reasons for committing to the new company; "We currently have a very supportive environment in the UK within which the industry can grow. Earth-i is a fantastic example of how the combination of British engineering expertise, a receptive business environment and a focus from government can come together to provide a solid foundation upon which forward looking organisations can flourish.

"With the successful launch of the DMC3 constellation earlier this year, the increasing global demand for data and a supportive business environment, the time was right for Earth-i and we're confident of a busy and exciting future."

Young recognises the need for downstream suppliers to expand the number of market places in line with the IGS targets and goes on to explain how he and the management team has put this at the heart of the Earth-i strategy. "There is an increasing number of applications being developed and coming to market that require Earth Observation data. Existing and new applications need that data to be of a consistently high quality, quick to access and with the knowledge that the times to repeat a visit are short. We can tick all of those boxes."

He continues: "With the increase in the spatial resolution of optical satellite systems getting to the point where each new step delivers a relatively modest increase in the amount of information derived from the data, the more significant change comes from the frequency with which that data can be collected. As such, a fleet of three identical very high resolution optical satellites that work together to provide daily, or better, imaging opportunities of anywhere on the globe presents an exciting opportunity to deliver a dependable data stream that can support applications efficiently and in new ways."

Carving out a niche

So will it work? Will this new British company be able to carve out a niche in a crowded data supply market that continues the remarkable expansion of the UK space industry?

Young certainly believes that Earth-i can do just that and is extremely encouraged by the interest shown in new data from the DMC3 constellation (also referred to as the TripleSat constellation); "We are experiencing significant interest from a diverse group of industries and users, with data customers already secured. This confirms our original assumptions that speed of coverage, quality of product and consistency of supply are fundamental in satisfying customer demand."

With the 2020 financial targets looming for 'Business Space UK' it is good to know that the Earth-i team is providing new ways of accessing new Earth Observation data. Without companies like it, those targets will just be far-distant aspirations. With them, the success story looks set to continue long into the future.

DMC3 spacecraft capability	
Mass	350 kg
GSD	PAN: 1 m GSD, Multispectral: 4 m GSD
Swath	23 km
Offpointing	Up to 45 degree fast slew
Data speed	16 Gbyte High Speed Data Recorder
Data storage	128 Gbyte non volatile storage
Downlink	X-band at up to 320 Mbit/s
Antenna	Antenna Pointing Mechanism to track groundstation during spacecraft slews and maneuvers

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