

CONTRACTORS

From Humvees to the stars

A local company with US and German links stands to benefit from the white paper, writes Gregor Ferguson

THE defence white paper makes pleasant reading for Ben Greene, chief executive of Canberra-based technology company Electro Optic Systems. The company, which has offices in Australia, the US and Germany, develops sensors and tracking software to monitor the thousands of satellites and pieces of space junk circling the Earth; weapon stations for armoured vehicles that allow gunners and commanders to aim and fire from under a closed turret hatch; and last year it teamed up with Bremen-based satellite manufacturer OHB-System, which created Germany's first strategic reconnaissance satellite system.

Greene was in Germany when the white paper was published and says he is gratified that it calls for all three types of technology.

The white paper announced that the Australian Defence Force would acquire a surveillance satellite carrying a high-resolution, cloud-penetrating synthetic aperture radar. Greene is hoping the Defence Department will look closely at OHB System's SAR-Lupe reconnaissance satellite. The Germans operate a constellation of five of these 770kg SAR-equipped reconnaissance satellites, launched between 2005 and 2008.

From a 500km orbit their 3m radar antennas can provide imagery down to a resolution of 50cm. Germany and France have a co-operation agreement, sharing data from Germany's SAR-Lupe, and France's Helios optical reconnaissance satellite.

It's not certain when the ADF would acquire its satellite but Greene says OHB-System can build and launch something similar to SAR-Lupe in 12 months if necessary. He refuses to be drawn on pricing but industry estimates of the cost of building and launching such a satellite start at about \$200 million, down from \$500 million only five years ago.

"Australia has picked a good value point in time to enter this market," Greene says.

EOS is likely to be the prime contractor for future SAR satellite programs with OHB-System. These programs are much more than just the satellite segment, Greene says. A requirement such as Australia's cannot be met without many of EOS's skills in mission analysis, orbit planning, mission control centre design and development, design and production of specialised spacecraft functional packages, data security and replication, and debris avoidance and surveillance.

The ADF will need to prepare for this new capability before it becomes a reality and EOS is the only company in the region able to provide the training, technology and infrastructure necessary to support it, Greene says.

His company first made an impression on the defence market when it teamed with American firm Recon/Optical to equip US Army Humvees in Iraq with a new common



Pleased with new policy: Ben Greene, chief executive of Electro Optic Systems, at the company headquarters in Canberra

remote operated weapon station; this was subsequently fitted to Bushmaster vehicles by the Dutch and Australian armies.

The CROWS is a mounting for a machine-gun or cannon that sits on top of an armoured vehicle. The operator sits safely inside, aiming and firing the weapon by a joystick connected to a day-night sight. EOS and Recon/Optical were the first to win an important contract for such a sight but lost out to Norwegian firm Kongsberg in 2007 when the Pentagon put the \$US1.6 billion (\$21 billion) CROWS 2 follow-on order to a competitive tender.

The loss hurt the company and contributed to a drop in revenue from \$80 million a year to just \$40 million, highlighting the vulnerability of small companies to individual

contract losses. But Greene says EOS is maintaining production capacity to pursue further phases of this ongoing program, which will significantly exceed the value of the CROWS 2 contract.

Nevertheless, the CROWS-2 loss slowed EOS's growth for about two years, a period in which it has been investing heavily in research and development for new space and defence products. After recording thumping losses between 2005 and 2007, EOS announced a return to profit last year, \$2.2 million on revenue of \$39.7 million. And the company retains the faith of an important minority shareholder, US defence giant Northrop Grumman, which bought a 12.6 per cent share in January 2005.

In this market sector R&D is expensive, but essential. EOS has teamed with another Australian company, Brisbane-based ballistics firm Metal Storm, to develop an innovative new weapon named Redback. This is designed, among other things, to shoot down incoming rocket-propelled grenades, a significant threat in Afghanistan and Iraq.

This 40mm weapon weighs 70kg and has four barrels that can be loaded with different types of ammunition, including non-lethal payloads. It can be mounted on vehicles or fortified buildings and is controlled and programmed from a desktop or laptop PC. The Redback uses EOS's thermal and image-intensifying sensors and stabilised gimbal mount to detect and track targets.

Com for t

Cameron Cooper

IMAGINE a desktop computer that has been used on a Joint Strike Fighter.

This scenario, as technology progresses, is increasingly applicable to the common.

The US found operating platform systems that a completed reliable include motor digital cameras, diagnostic equipment commercial and

In the past decade by developing systems, which has systems requiring including the A1 F-35 fighter. Australia 100 of the JSF's

Green Hills' David Cooper says focus on greater applications security-conscious financial and

The rollout of defence-related ing down to use

"I think it's because, quite I prize typically we time, money, ene this," Cooper governments have defence technology outside of ju

At the heart capability to run environment. It's a requirement to handle multiple from missile launch that heat a pilot without compro

"The Joint Strike sense that th that they neede they physically weight or the po platform," Coop

Late last year certification fro Agency in the U; robustness EAL security certifi; operating syste national stand

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Cooper believ tralia is compani are subject to po