

Eyes on the prize

In August 2017, *WorldECR* editor Tom Blass crossed continents to visit the James Martin Center for Nonproliferation Studies in Monterey, California, where he met the people directing the largest nongovernmental organisation in the United States devoted exclusively to research and training on non-proliferation issues. This is his report.

Notwithstanding all other considerations, it was almost fortuitous that I visited the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies at Monterey (henceforth ‘CNS’ or ‘the Center’) in California in August last year, exactly as US-North Korean (or Donald Trump-Kim Jong Un) tensions were reaching their apex.

The forecast wasn’t good. A grey bank of mist rolled in off the Pacific, threats were being hurled between Pyongyang and Washington DC, and the world experienced once again the sense of nuclear dread which, most had hoped, had permanently abated shortly after the collapse of the Berlin Wall. It was fortuitous in so much as I was permitted an insight into the Center working at overdrive.

Quiet for a moment

CNS sits on a quiet street, seemingly a world away from the sealions, chowder stalls and candied excesses of Cannery Row. For much of the time, the department, scholarly and industrious, though very much engaged with the work of policymakers, government agencies and international institutions in the non-proliferation and nuclear security ‘space’, escapes the notice of the public at large. But over the course of that week last August, its experts were called into TV studios on almost an hourly basis, with journalists and anchor-men and women demanding answers to questions sometimes verging on the existential: ‘What is Kim Jong Un thinking? What is Donald Trump thinking? What kind of missiles does North Korea actually possess and



what can they do? Are we on the brink of an apocalypse?’

CNS people are no strangers to the airwaves and international crises have a habit of setting their phones alight. Indeed, it’s safe to say that a surge in activity at CNS is not usually a positive indicator for the state of world affairs. Against this backdrop, I felt honoured that the Center’s programme director for export control and non-proliferation, Robert Shaw, had time to show me around the facility, and thankful to Robert and his colleagues for explaining their activities – which include research, outreach, training and diplomacy – as well as their *raison d’être*.

Bringing it together

‘We really work,’ Shaw told me, ‘as a platform for bringing together stakeholders such as national

governments and civil society, sometimes in closed briefings, and facilitating engagement between them. We run diplomatic workshops, host 1.5 track (backchannel diplomacy) meetings – and explore the potential impact of new and disruptive technologies such as biotechnology, or 3D printing.’

The Center, explains Shaw, also works to educate established and aspiring professionals, offering certificates and Master’s degrees in non-proliferation studies, and training in the use of new techniques for making the most out of tools such as 3D modelling, geo-spatial analysis and social media (the arrows in the quiver of the modern non-proliferation professional).

Its an organisation with a worldwide viewpoint and a global reputation. Alumni of CNS are known

Links and notes

Find out about the Center at www.nonproliferation.org

and benchmarking roundtables, whose participants are senior-level trade/export controls specialists at technology producing firms.'

These roundtables, he says, typically draw around 15 representatives of industry. CNS will submit a 'menu' of topics to which it feels that it can add value: 'Due diligence and red flags are invariably issues that come up for discussion, but we also look at the trends that are most current in non-proliferation and export controls, or, say, the intersection with IT security. Currently, there's still a lot of focus on the Crimea-related sanctions and on avoiding diversion risk.'

Shaw, in these scenarios, would typically serve as a moderator and facilitator: 'The key is letting the discussion flow. Where we provide input on the CNS side is sharing things that we're observing or that we've heard in terms of proliferation threats and trends – it's a means of direct outreach.'

These discussions – typically conducted over the course of a half or full day – give companies (who may, or may not be, competitors) an opportunity not only to share best practice but also to evaluate it – and to reach some kind of consensus as to what does or doesn't work successfully.

Motivations are various. On the one hand, it is general risk reduction – with positive knock-ons for a company's corporate responsibility portfolio. From an industry sector perspective, there's also an opportunity to explore specific consequences of regulation, and to consider how best to develop compliance strategies accordingly. (As a paper prepared by Shaw and his colleague Catherine Dill notes, the incentive for industry participation here lies in 'reducing the risk of a major export control or sanctions violation that might, if severe enough, result in legislative action adding constraints on an entire industry sector's international trade activity – even if only one company perpetrated the violation.'

For CNS researchers, the process assists in helping understand the extent to which companies, some of whom may be direct competitors, are willing to share their experiences with each other where or if they perceive a common interest.

Taking advantage of Monterey's

proximity to Silicon Valley, CNS also makes a point of participating in the regularly scheduled activities organised by the Northern California chapter of OWIT ('The Organisation of Women In International Trade').

'Every other year, we present a full proliferation trend and red flag overview,' says Shaw. 'But we try to take it further. We've made a point of not just describing the proliferation environment and possible red flags but going beyond that, sharing our open source research methodologies. We've



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made a very conscious effort to move in that direction. Many companies are confident that they have their red flag detection methods up to speed. But what they want help with is ways of efficiently vetting "grey" flags – which, really, is the second level of due diligence.'

Both the approaches serve a critical purpose, in so much as that they provide an interface by which the highly specialised and frequently esoteric world of non-proliferation can engage with the compliance-focused world of business.

'The overall goal is to attune industry to the proliferation environment, and to the kinds of diversion risk that technology companies can unwittingly fall prey to. The benchmarking roundtables and industry events help us to make sure that what we're describing is not abstract and alien, but operationally useful. And that's why my industry background was so appealing to the Center, because it helps immensely in helping make that translation.'

CNS also has resources, which, ironically, aren't available to even hugely well-funded companies. 'Fundamentally, most companies don't have the research time to undertake extensive and painstaking due diligence, especially given the speed of the modern supply chain. They're facing pressure to increase efficiency. But our research team has that time,

and can spend days looking at satellite pictures, or at the shadows of buildings...'

For their part, Monterey researchers glean important insights, both into the extent to which companies are willing to share information with others, even competitors, but also around the efficacy and relevance of regulation.

'A great deal of hard work goes into crafting policy, but it has to always be considered in an on-the-ground context. In the United States, and in other countries, such as the United

Kingdom, the agencies do try to stay up to speed with the real nature of the threat. But it's a challenge, and I think there are people who think that it needs attention. Good regulation reduces diversion but won't choke off legitimate trade. But it can be a hit or miss thing. I've seen it, and I've heard from companies who say it. Some laws work. Others drain off time, and defeat their own fundamental goals!'

Korea moves...

No surprises that North Korea is currently preoccupying the James Martin Center. Taking time out from media appearances, research associates Melissa Hanham and Shea Cotton walked me through some of the open source tools they use to attempt to hone in on North Korean military capability, sanctions compliance – and procurement. Modern satellite imagery – and dogged ingenuity – have led to some remarkable results. 3D modelling techniques, for example, have enabled CNS to undertake in-depth (open source) analysis of North Korea's Punggye-ri nuclear site, to estimate the fuel capacity of North Korean ballistic missiles, and create models of Iranian centrifuges, so as to help verify compliance with the JCPOA.

Sometimes the outcomes are seemingly prosaic – but no less important for that: Hanham showed me a satellite picture of a khaki-clad crane, which evidently, had been used

for missile-lifting. 3D modelling allowed the team to identify the crane as not only being from Japan (and being on that country's Commodity Watch List), but also, by determining its specifications, provide insight into the weight of the missile it was lifting. Another image enabled the team to trace a truck used to carry a missile in a display of military might to a manufacturer in China (it's original purpose being hauling lumber).

Each revelation is like a piece of a jigsaw, helping make sense of a larger puzzle. 'We've seen a significant increase of interest in our North Korea research in recent months and weeks, particularly from the Department of State and Department of Defense,' says Shaw. 'But beyond North Korea, what is driving our research strategically is to reduce the threat of proliferation. So, that means that you have to imagine a future in which there's a potential breakthrough, that North Korea re-engages with the international community – a scenario like that which we've seen with Iran, although clearly that's a work in progress. Still, if that were to happen, the work in the non-proliferation area will change. The expertise will certainly be required in any transitional period, just as currently, there's a great deal of energy being expended on monitoring the implementation of the JCPOA. It would mean that there would need to be mechanisms in place on the Korean peninsula for decades.'

Watch the additives

It's through organisation like CNS that the world – governments, businesses – become alive to new proliferation threats and fears – whether related to emerging technologies or new nuclear aspirations both from state and non-state actors.

Since I visited in August, CNS has been paying close attention to a development, the perception of which as a proliferation threat has waxed and waned but is currently seen as on point.

'Export controls are well developed

The Vienna Center for Disarmament and Non-Proliferation

If CNS is itself guilty of proliferation, it is only in the sense that in 2010 it established a foothold in central Europe, the Vienna Center for Disarmament and Non-Proliferation ('VCDNP'). This sister organisation which, though lacking proximity to the beach, is compensated by the city's profusion of international organisations (amongst them, the Nuclear Suppliers Group, the OECD, the OESCE, the IAEA, CBTO, the Wassenaar Arrangement, and the UN Office of Disarmament Affairs).

'The Vienna Center was actually an initiative of the Austrian government,' explains Elena Sokova, executive director of the Vienna Center between 2011 and 2015, and now deputy director of CNS. 'They wanted to grow [Austria's] non-proliferation footprint. We had been looking at possible new locations, and thought, "Here's our chance."

The presence of not only the international organisations but also diplomatic missions lends Vienna a 'critical mass of expertise', says Sokova, which would be difficult to find elsewhere, and enables the VCDNP to partner with a wide range of organisations to conduct research, outreach, education and training in non-proliferation and disarmament – in essence, transplanting the Monterey mission to the heart of Europe.

'Because of the presence of the diplomatic missions, it enables us to provide smaller, developing countries with training that they wouldn't otherwise receive,' says Sokova.

One example of this was a series of meetings with Afghan officials advising on a draft Strategic Trade Control Law. 'Sure, Afghanistan isn't producing dual-use goods, but it does have transit issues – especially given its proximity with Iran, Pakistan and China. For the Afghan government, it represents a low-cost way of demonstrating its contribution to Resolution 1540.'

Now under the directorship of Laura Rockwood (previously with the IAEA), the VCDNP also counts among its fellows Angela Kane, previously UN High Representative for Disarmament Affairs where she was responsible for investigating Syrian chemical weapons in 2013 – leading to the country destroying its stocks of those weapons.

A highly international and eminent advisory board ensures that the VCDNP's work is taken proper notice of. In February last year the VCDNP launched the European Non-Proliferation and Security Initiative ('ENSI'), 'focusing on providing support to the European community...in relation to global non-proliferation efforts in the years ahead.' Headed by Ian Stewart of Project Alpha, part of King's College London and Senior Fellow at the VCDNP, it promises 'world-class research and analytical expertise on issues related to non-proliferation and strategic trade controls,' the need for which would seem not to be abating.

in terms of usual manufacturing processes, but the industrial and other possibilities opened up by 3D, or "additive" manufacturing, and its prominence in the supply chain is really going to create challenges.'

CNS has recently completed a project under a Department of Defense-sponsored grant to examine the proliferation implications of the technology, '...and also, who is using it – because you can't separate the two.'

'3D printing is now ubiquitous,' says Shaw, 'not just in the well-resourced industrial domain, but it's also accessible by SMEs, entrepreneurs, and hobbyist communities that love experimenting with 3D printing. It offers enormous potential to the global

economy and to human welfare, because in time it will enable people to manufacture almost anything, anywhere. It will lower the cost of production, and help developing economies get off the ground.'

But 'almost anything', of course, could be prosthetic limbs, or it could be export controlled rotors, vacuum pumps or machine tools – and may require a whole new paradigm of risk assessment, and fit-for-purpose regulation, if the proliferation threat is to be addressed.

'We're unlikely to be redundant any time soon,' points out Shaw. 'It would be nice to think the goal of eliminating proliferation is achievable. But somehow, I think that's a way off.'



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