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Silicon Valley rooted in backing from US military

By April Dembosky in San Francisco

The latest revelations on US surveillance of the internet highlight the long-standing ties between the US military and Silicon Valley. A connection that was first forged in the Second World War has evolved to produce technologies ranging from chips that powered ballistic missiles to today's data-mining software employed to ferret out terrorists.

Many of these technologies have their financial roots in government grants, that supported early research into complex concepts, or military contracts, that provided revenues alongside commercial sales of an early product, such as semiconductors. Such products form the technical foundation of modern electronics from radios to phones to computers.

"All of modern high tech has the US Department of Defense to thank at its core, because this is where the money came from to be able to develop a lot of what is driving the technology that we're using today," said Leslie Berlin, historian for the Silicon Valley Archives at Stanford University.

Even the networking backbone that supports the modern global internet was first built by researchers funded by an early iteration the Defense Advanced Research Projects Agency. Darpa provides money from the Department of Defense to develop technologies for military use.

Many technologies used widely today are rooted in Darpa-backed research, from the user interface that powers a Windows laptop to Siri, the voice of the Apple iPhone.

Siri was developed out of a project backed by SRI International, a nonprofit research organisation with funding from Darpa, which aimed to integrate various aspects of artificial intelligence into a virtual assistant that could learn and evolve without constant follow-up coding.

"[It] was an extremely ambitious project, beyond what could be done commercially," said Adam Cheyer, a Siri co-founder. "In a company, you need to show results in a one- to two-year time frame, which means productising and delivering and monetising at the right level. This was a five-year project."

The Central Intelligence Agency formed its own nonprofit corporation in 1999, In-Q-Tel, to support technology being built in the commercial sector that it believed would also be useful in collecting and analysing intelligence information. Today, the same tools and techniques that are used by the financial sector to do fraud prevention are used by intelligence agencies to piece together connections among terrorists. These are the kinds of technologies that are conceivably being used in the National Security Agency's alleged effort to analyse data from internet companies such as Google, Microsoft, Yahoo and Facebook.

"Many of the underlying technologies that are driving the information revolution are now directly applicable to the intelligence business," wrote Rick Yannuzzi, In-Q-Tel's first director of business operations and a former CIA manager, in an article about the creation of the programme.

In-Q-Tel currently backs 59 IT companies, one-third of which are based in Silicon Valley, working on things such as image analysis and data-centre efficiency. The list includes several companies that have been rising in the ranks of Valley darlings, including Cloudera, which does big-data analytics, and Palantir, another software analytics company backed by Peter Thiel that has contracts with companies and government.

Similar relationships helped boost companies' revenues in the 1960s. Fairchild Semiconductor, considered the pioneer start-up of today's Silicon Valley, won its first business through military contracts, building chips that helped send American astronauts to the moon, and

helped build missiles that armed the US in the Cold War.

Then Lockheed set up shop in Sunnyvale and got a contract to build all the submarine missiles for the US. Its employee count grew from zero to 25,000 in four years.

“From the 1960s to the late 80s, the Valley was crawling with Soviet spies,” said Steve Blank, a retired entrepreneur and author of the Secret History of Silicon Valley.

Even before that, in the 1940s and 1950s, following World War 2, the US government began funding universities to research weapons technology. Fred Terman, dean of engineering at Stanford, encouraged graduate students and professors to spin their research into start-ups that sold their products to defence contractors. The first initial public offering out of Silicon Valley was in 1956 for a company called Varian, which sold microwave tubes for military applications.

Today’s tools have evolved around more commercial uses, but the military intelligence sector still finds them equally useful.

“In the last couple of decades, the industry has gone form solving problems in the physical space to bigger issues of cybersecurity,” Mr Blank said. “We’re now wiring the data world for our intelligence agencies.”

Additional reporting by Tim Bradshaw in San Francisco

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