



The Pentagon's unmanned X-37B spaceplane has been in orbit since March 2010 on a secret mission.

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The online space community was surprised to say the least. A respected British space magazine editor said last week that the [Pentagon's secret unmanned X-37B spaceplane](#) was likely spying on a Chinese satellite.

The blogosphere erupted with outrage. The spacecrafts' orbits were too different, experts said.

"INCORRECT!" tweeted @EllieAsksWhy.

Ex-NASA mission controller [James Oberg blogged](#) that a "well-respected British spaceflight society" had committed a "horrendous error."

Meanwhile, searches on Google Trends [for "X-37B" skyrocketed](#).

The report also claimed technology has made space-to-space surveillance a ["whole new ball game now."](#)

"It's because we're located on the other side of the planet from Russia and China," he explains. "It's harder for the U.S. to know what's going on in our areas of concern than it is in their areas of concern."

Space-to-space surveillance aims to identify not only the purpose but the technology of satellites. As you'd expect, some of this science is pretty sophisticated.

Spy satellite technology has advanced way beyond the ability to simply photograph objects. Multi-spectral or hyper-spectral imaging uses hundreds of different wavelengths of light to "see" what might otherwise be invisible. Different materials absorb different wavelengths of light, which might reveal to analysts what an object is made of. Suddenly an object that's camouflaged is seen more clearly.

Another critical tool is radar.

"You have in recent years an explosion of radar imagery," says Weeden. The advantage of radar is it penetrates clouds. Also, radar isn't affected by changes in daylight. "There's been talk about using satellite radar to track vehicles on the ground – but that's still a future concept," says Weeden. "But what radar satellites can do - with the right software they can scan large parts of the ocean and track ships."

Just last month, Japan launched a radar equipped spy satellite which analysts speculated would be used to spy on North Korea, [according to news reports](#).

By 2015, the U.S. Air Force intends to begin deploying a "space radar" system with a "constellation" of nine satellites surrounding the planet to ["significantly enhance our level of persistent surveillance against our adversaries."](#)

So, what's next?

Weeden predicts a slew of unmanned orbital vehicles that will be used for a whole bunch of different reasons.

"Everything from on-orbit inspections, to satellite repair, to re-fueling satellites – or even towards the future - removing debris from orbit."

The Pentagon is developing a fascinating RPO-based project called [Phoenix](#) aimed at developing hardware that can approach dead, orbiting satellites, grab their useful equipment – like antennas – and re-use the parts to build new satellites right there on the spot.

What about the military? [The Pentagon's Defense Strategic Guidance for 2012](#), announced this month, emphasizes investment in U.S. space security. But Johnson-Freese, a faculty member at the U.S. Naval War College, fears it's not enough. "We should be upgrading GPS; we should be upgrading reconnaissance systems; we should be upgrading communications systems," she says. "We should be doing more than we are currently doing."

Although the heated Web commentary has cooled off from last week's claim about the X-37B, the question remains: what is the spaceplane's mission?

"It may very well have a space-to-space surveillance capability," says Pike. "It may have released test objects that it took a look at."

But Pike is skeptical. The spacecraft, which has been in development since 1999 first by NASA, and then the Pentagon's research arm DARPA, and then the U.S. Air Force, has had "many paymasters" and "cooks in the kitchen," says Pike. "It's the nature of bureaucratic projects," he says. "The secret of the thing may be that we spent a billion dollars for no real purpose."

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soundoff (33 Responses)

1. *read all*

Völkischer Beobachter II

January 13, 2012 at 9:04 pm | [Reply](#)

2. *Paul*

It's just the beginning ... the USA has been able to disable other spy satellites for about a decade, without destroying them.

I don't know the code name, but I know it's a bug like name. They use EMS pulses to disable on board electronics. They are ultra secret because they carry a nuclear reactor ... Remember when the Chinese satellites collided and NASA made a big deal as saying that was really stupid because of the debris? The real story is that the hunter US satellite had disabled one of the two satellites days earlier ... the Chinese lost the ability to control it. The American thought it would simply fall into earth atmosphere rapidly, instead it kept orbiting longer than thought ... naively simply nobody thought about such possible, in the aftermath, of course everyone said this should have been planned for, as it is obviously possible. Since that accident, disabling of spy satellites has been re-organized. The vehicle in the picture above is the carrier ... goes up release the hunter satellite, which goes out does the job, then get's retrieved and lands safely.

It's truly technology from a science fiction book. This is really where the Pentagon beats Hollywood.

January 13, 2012 at 8:07 pm | [Reply](#)

3. *sweet potato*

X37-B is in test state right now and will be fitted with weapons that can destroy satellites while in orbit, just like how the predator drone started.

January 13, 2012 at 7:54 pm | [Reply](#)

o *clear*

BINGO ! But thats the "Obvious."

But whats the "Not So Obvious" step after that, The answer "IS" in the Servers.
DIG DIG DIG

January 13, 2012 at 9:18 pm | [Reply](#)