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Cyber-security

The internet of things (to be hacked)

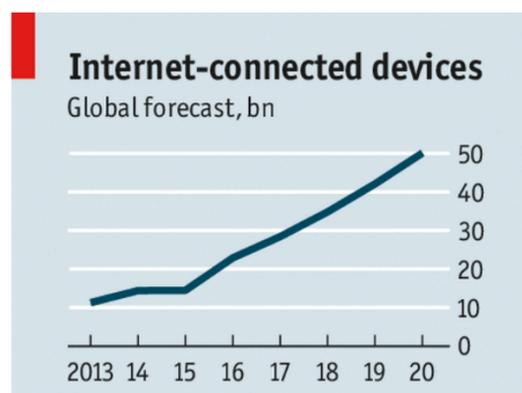
Hooking up gadgets to the web promises huge benefits. But security must not be an afterthought

Jul 12th 2014 | From the print edition



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CYBER-SECURITY is now part of all our lives. “Patches” and other security updates arrive for phones, tablets and PCs. Consultants remind us all not to open unknown files or plug unfamiliar memory sticks into our computers. The bosses of some Western firms throw away phones and laptops after they have been to China assuming they have been hacked. And yet, as our [special report](#) this week points out, digital walls keep on being breached.



Last year more than 800m digital records, such as credit- and debit-card details, were pinched or lost, more than three times as many as in 2012. According to a recent estimate by the Centre for Strategic and International Studies, a think-tank, the cost to the global economy of cybercrime and online industrial espionage stands at \$445 billion a year—about as much as the GDP of Austria.

Now a new phase in this contest is emerging: “the internet of things”. This involves embedding miniature computers in objects and connecting them to the internet using wireless technology. Cisco, a technology company, predicts that 50 billion connected devices will be in circulation by the end of the decade, up from 11 billion last year. Web-connected cars and smart appliances in homes are becoming more common, as are medical devices that can be monitored by doctors many miles from their patients. Tech companies are splurging cash: witness Google’s punt on driverless cars and the \$3.2 billion it has spent buying Nest, a maker of smart thermostats.

Such connectivity offers many advantages, from being able to adjust your house’s heating when you are in the office (or more likely your bed) to alerting your doctor that your insulin level has risen. But it also gives malicious hackers an easy

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way to burrow deeper into people's lives. The small, embedded computers at the centre of the internet of things do not have as much processing power or memory as, say, a smartphone, so security software on them tends to be rudimentary. There have already been instances of nefarious types taking control of webcams, televisions and even a fridge, which was roped into a network of computers pumping out e-mail spam. And security researchers have found ways of hacking into some kinds of medical devices and cars, though this still requires specialist knowledge and kit. The wireless heart monitor of Dick Cheney, America's former vice-president, was modified to stop remote assassination attempts.

Beware the fridge in Ealing

For the companies building the internet of things, its vulnerability could be costly. The tactic of pumping out new software as fast as possible and then issuing patches later to fix flaws in the code may be tolerable if all that is lost is data, but if it involves personal safety, consumers will be less tolerant. In order to avoid lurid headlines about cars crashing, insulin overdoses and houses burning, tech firms will surely have to embrace higher standards. Just as with computers and phones, there will be more passwords and more updates, though that may make the internet of things less easy to use—a blow for a business based on making life more convenient.

For governments, the temptation will be to panic and do too much. They should make clear that web-connected gadgets are covered by existing safety laws and existing product-liability regimes: last year Japan's Toyota was successfully sued for installing malfunctioning, but not web-connected, software. Wrongdoers should be punished, but the best prompt for securing the internet of things is competition. Either tech firms will find ways to make web-connected gadgets more dependable, or people will decide they can live without them. Who needs a smart fridge anyway?

From the print edition: Leaders

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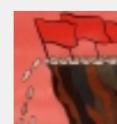
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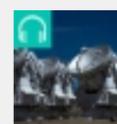
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I was on the business side of software for a dozen years. In that time, I met many diligent craftsmen, artistic people who wrote elegant software. I also met many sloppy, lazy, wanna-be-a-hacker types that would just write sloppy code, then when confronted, wrote more code to undo the net effect of the sloppy code instead of rooting the weakness out. The arrogance was similar to a builder that does sloppy work and then covers it up with wallboard and paint. Not only did they not care, they nearly dare you to figure it out.

This is the weakness in the IOT, only the stakes are higher and with significantly higher risks.

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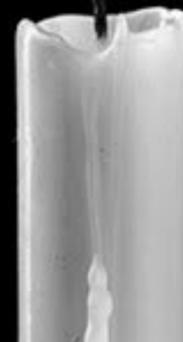


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