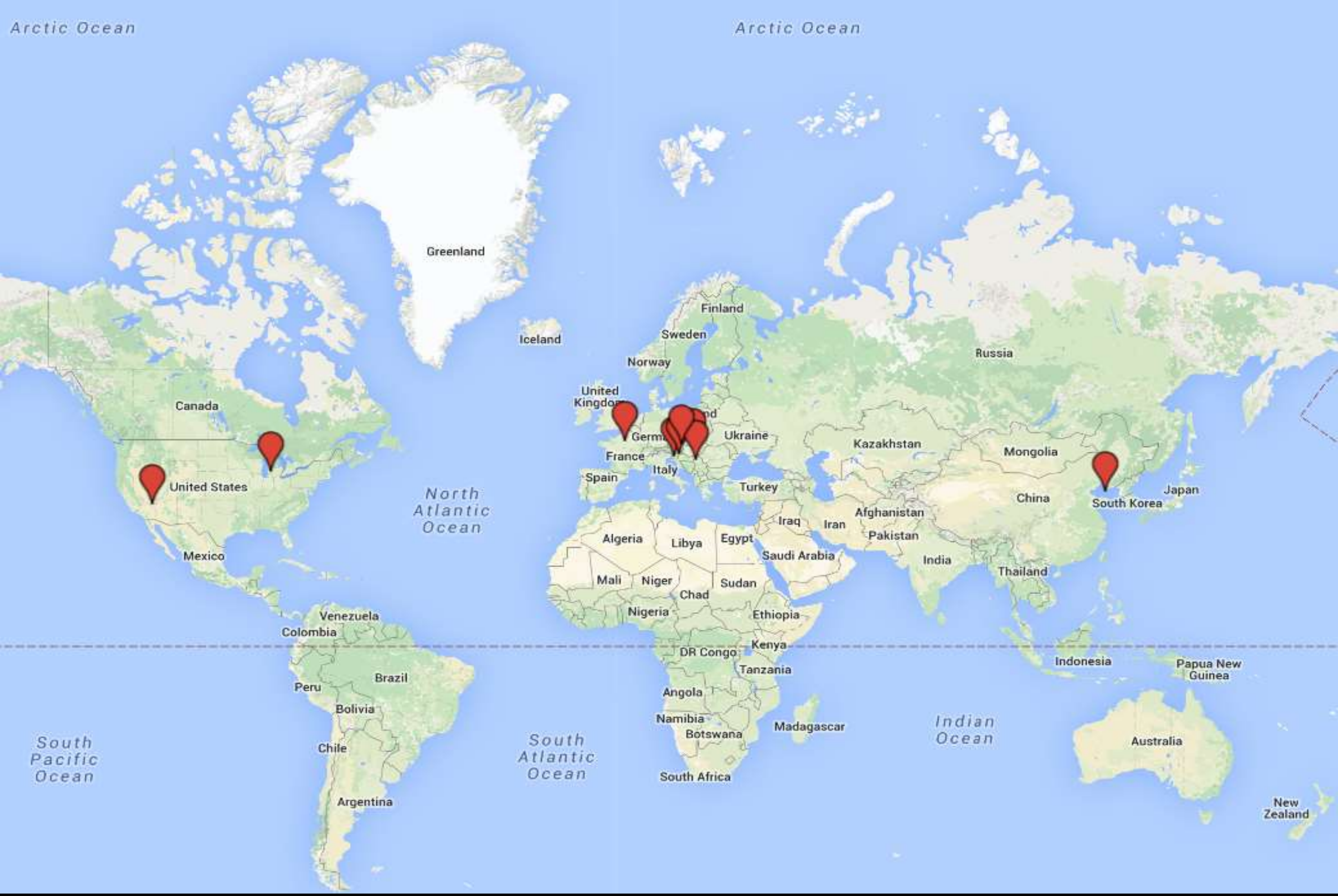
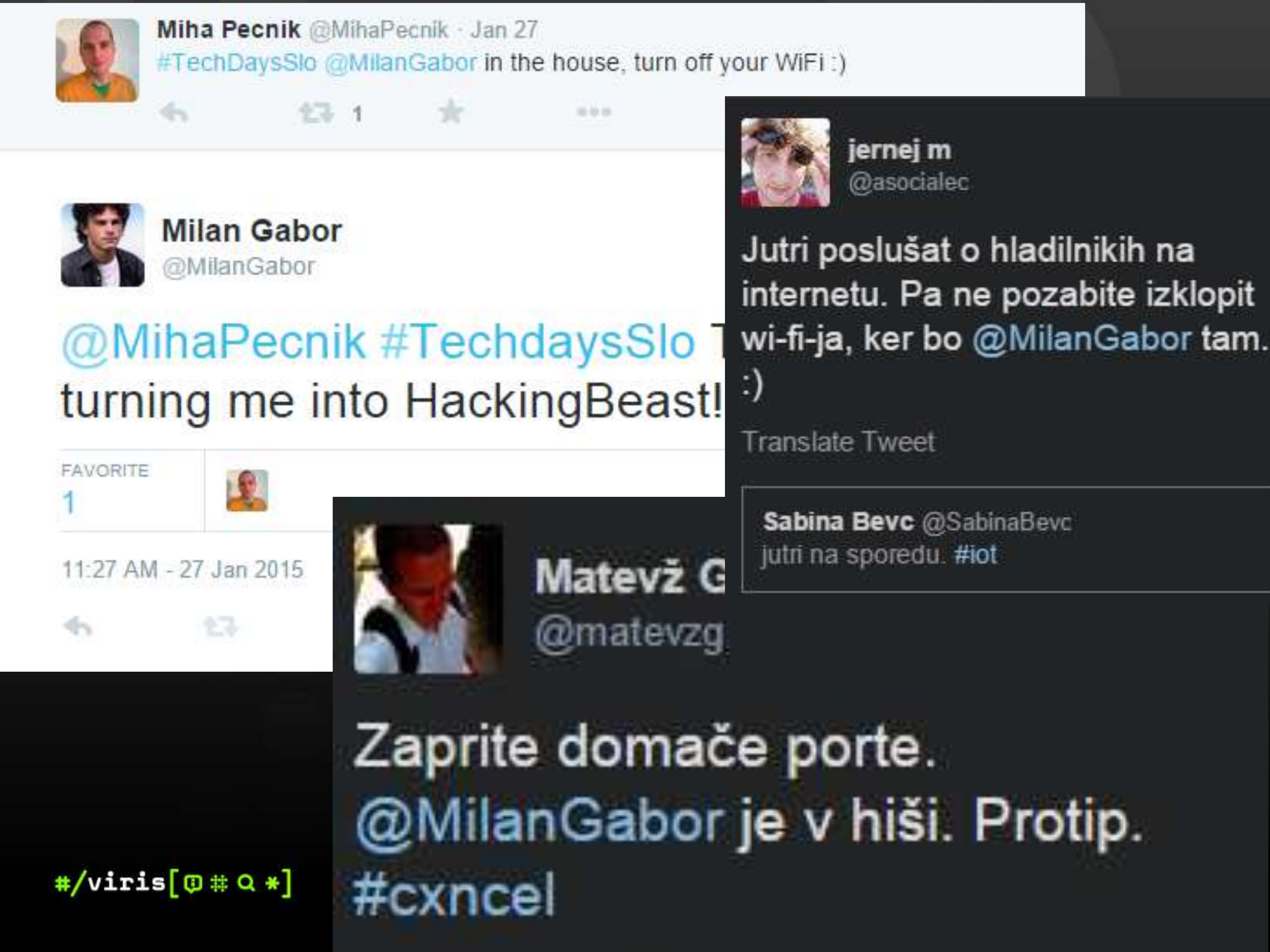
IoT in varnost ...

Milan Gabor

#/viris


Arctic Ocean
Arctic Ocean
Greenland
Iceland
Finland
Sweden
Norway
Russia
United Kingdom
Canada
Germany
Poland
Ukraine
France
Kazakhstan
Mongolia
Italy
Spain
United States
North Atlantic Ocean
Turkey
China
South Korea
Japan
Iraq
Iran
Afghanistan
Pakistan
Algeria
Libya
Egypt
Saudi Arabia
Mexico
India
Mali
Niger
Sudan
Thailand
Chad
Nigeria
Ethiopia
Venezuela
Colombia
Kenya
DR Congo
Indonesia
Papua New Guinea
Tanzania
Brazil
Peru
Angola
Bolivia
Namibia
Botswana
Madagascar
Indian Ocean
South Pacific Ocean
South Atlantic Ocean
Australia
Chile
South Africa
Argentina
New Zealand



Miha Pecnik @MihaPecnik · Jan 27

#TechDaysSlo @MilanGabor in the house, turn off your WiFi :)

1

Milan Gabor
@MilanGabor

@MihaPecnik #TechdaysSlo T
turning me into HackingBeast!

FAVORITE
1

11:27 AM - 27 Jan 2015

jernej m
@asocialec

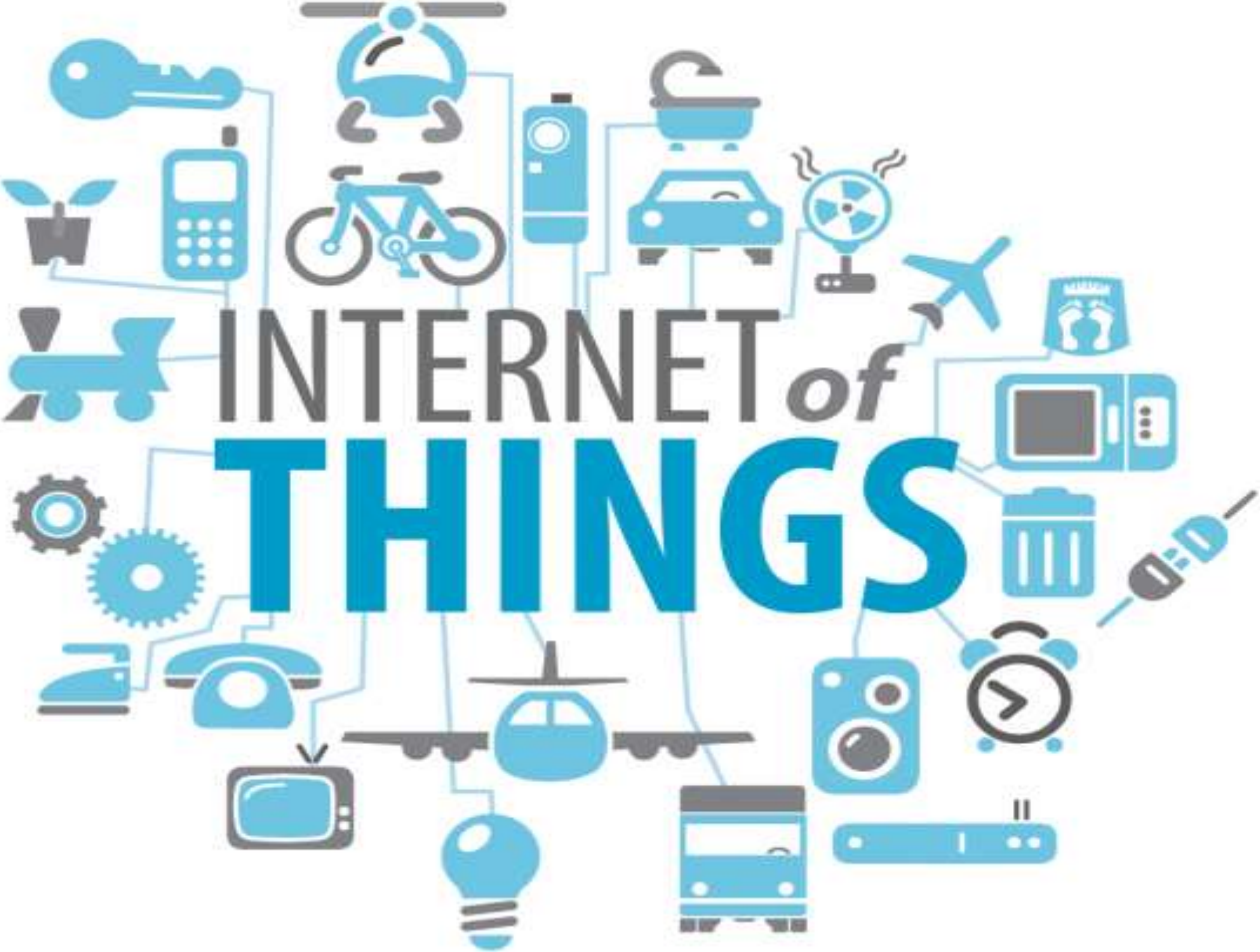
Jutri poslušat o hladilnikih na internetu. Pa ne pozabite izklopit wi-fi-ja, ker bo @MilanGabor tam. :)

Translate Tweet

Sabina Bevc @SabinaBevc
jutri na sporedu. #iot

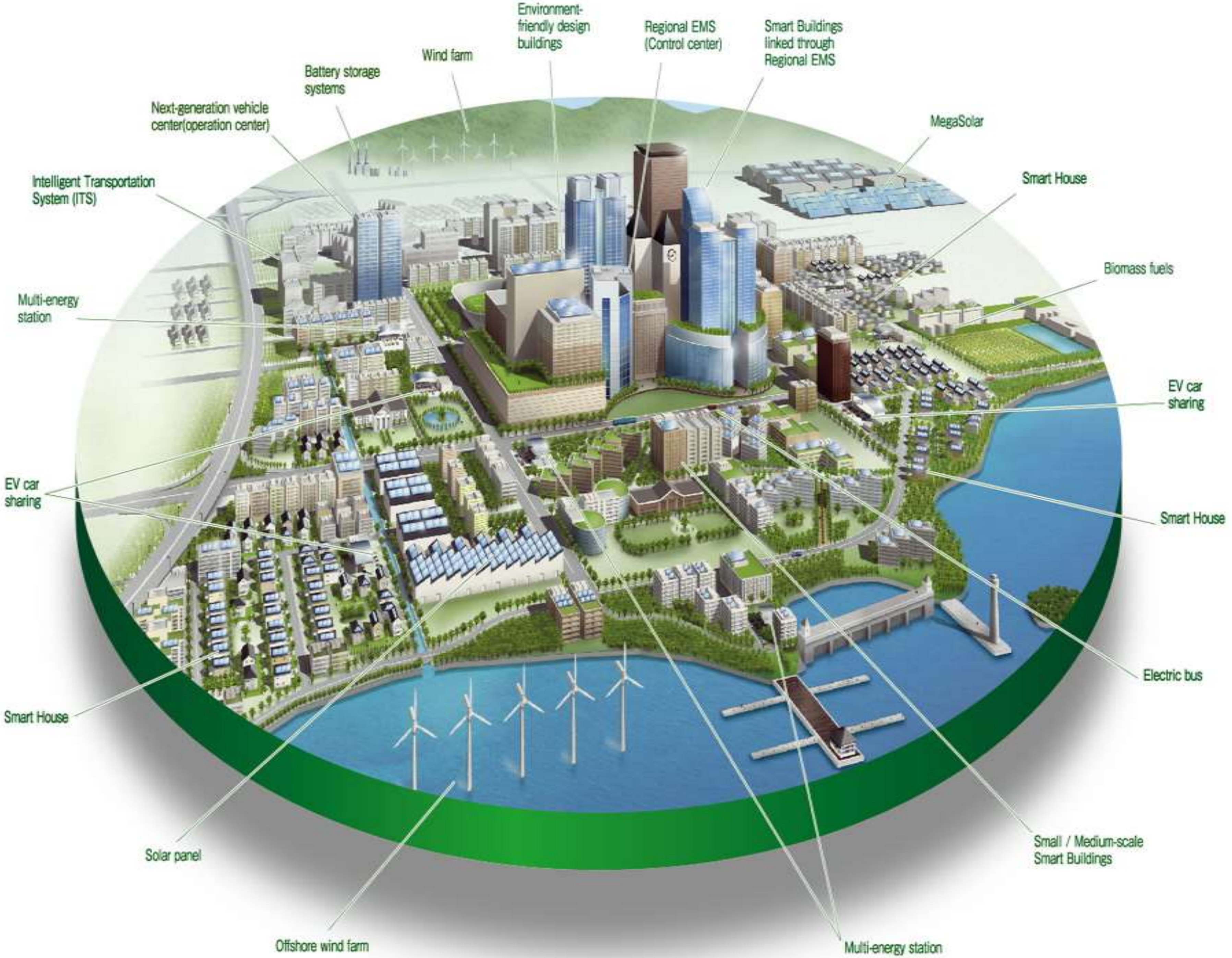
Matevž G
@matevzg

Zaprite domače porte. @MilanGabor je v hiši. Protip. #cxncel


INTERNET of
THINGS

I HAVE A DREAM

MARTIN LUTHER KING


Environment-friendly design buildings
Regional EMS (Control center)
Smart Buildings linked through Regional EMS
Wind farm
Battery storage systems
Next-generation vehicle center(operation center)
MegaSolar
Intelligent Transportation System (ITS)
Smart House
Biomass fuels
Multi-energy station
EV car sharing
EV car sharing
Smart House
Electric bus
Smart House
Small / Medium-scale Smart Buildings
Solar panel
Offshore wind farm
Multi-energy station

The "Internet of Things" (IoT) links intelligent machines, sensors and analytics online to form a productivity-enhancing revolution. By 2020, Gartner says it will connect **26 billion devices** (excluding PCs, smartphones and tablets).[1] The IoT is already under attack, and the following four scenarios highlight the security challenge:

Industrial control systems

that run everything from utilities to factories now combine formerly walled off operational technology and IT in new IoT-based solutions, potentially exposing fundamental infrastructure to threats that could shut down cities or harm citizens.

Connected vehicles

stream the latest information and entertainment, but could fall victim to hacker attempts to reprogram vehicle electronics, compromising passenger safety or damaging automaker brands.

Unmanned aerial vehicles

("drones") play increasingly prominent roles in modern life, but their wireless IoT connections are vulnerable to attack, allowing hackers to hijack them for malicious purposes.

Connected retail

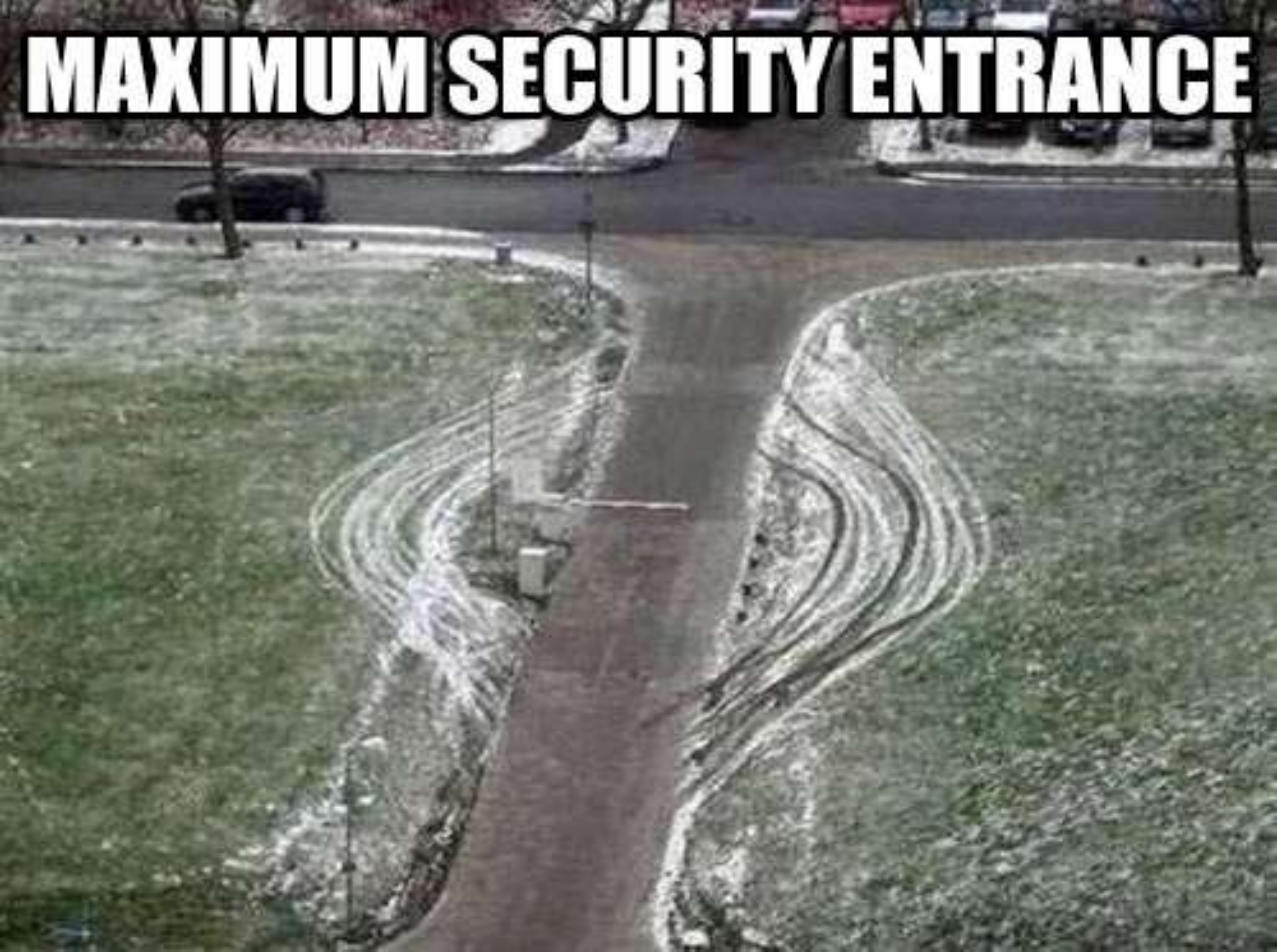
provides more insights than ever into consumer behaviors, but it also opens up massive new amounts of customer data to attacks.

Razlika? Ena črka o

IT		IoT
“Open” Easy to install	*Openness*	**“Closed”** Not open to new software after device leaves factory
“3” (Mostly UDP, TCP, IP)	*Protocols*	**Thousands of Protocols** (Hundreds in each vertical)
“5” (Mostly Windows, Linux, OSX, iOS, Android)	*Operating Systems (OS)*	**Dozens** (Heavily fragmented by vertical)
20k seat enterprise (Typical Enterprise)	*Scale*	**100M “things”** (Typical Car Maker)
All verticals have **same** Hardware/OS supply chain	*Fragmentation*	Each verticals has **different** Hardware/OS supply chain
“2” X86 and x64 by Intel and AMD	*Chipset Architectures*	**Many** 8bit AVR,16bit MCU,32/64bit ARM,x86/64;12+vendors

WHAT IF I TOLD YOU
IT'S ALREADY HERE
memegenerator.net

WELCOME TO
REALITY
ENJOY THE JOURNEY



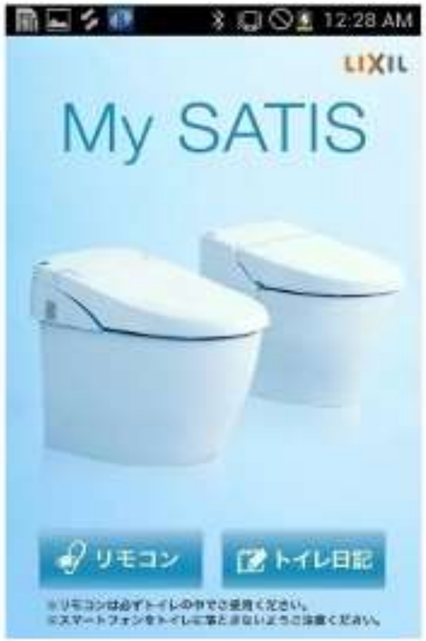
MAXIMUM SECURITY ENTRANCE

Japanese Smart Toilet Vulnerable to Hackers

BY STEPHANIE MLOT AUGUST 6, 2013 11:56AM EST 2 COMMENTS

The Satis smart toilet, available in Japan a whopping $4,200, is reportedly susceptible to cyber-attacks via a hard-coded Bluetooth PIN vulnerability.

0
SHARES



Picture this: You're relaxing on the commode with a good book and the encouraging sounds of Wham!, when without warning you feel the whirl of the toilet flushing or the squirt of the bidet.

It could be a simple technological malfunction, or perhaps the sneaky doing of voyeuristic hackers.

The Satis smart toilet, available in Japan for **a whopping $4,200**, is reportedly susceptible to cyber-attacks via a hard-coded Bluetooth PIN vulnerability. According to a **Trustwave SpiderLabs security advisory**, anyone within range of the waste-disposal system can gain access to its control functions.

WCROAM

WiFi v vsak poljski WC!

SPONZORJI PROJEKTA

DRUŠTVO UPORABNIKOV TELEFONA NA SEKRETU

VODJA PROJEKTA

http://wcroam.um.si

CISCO AKADEMIJA FERI

POKROVITELJ

http://cisco.feri.um.si

SINOG

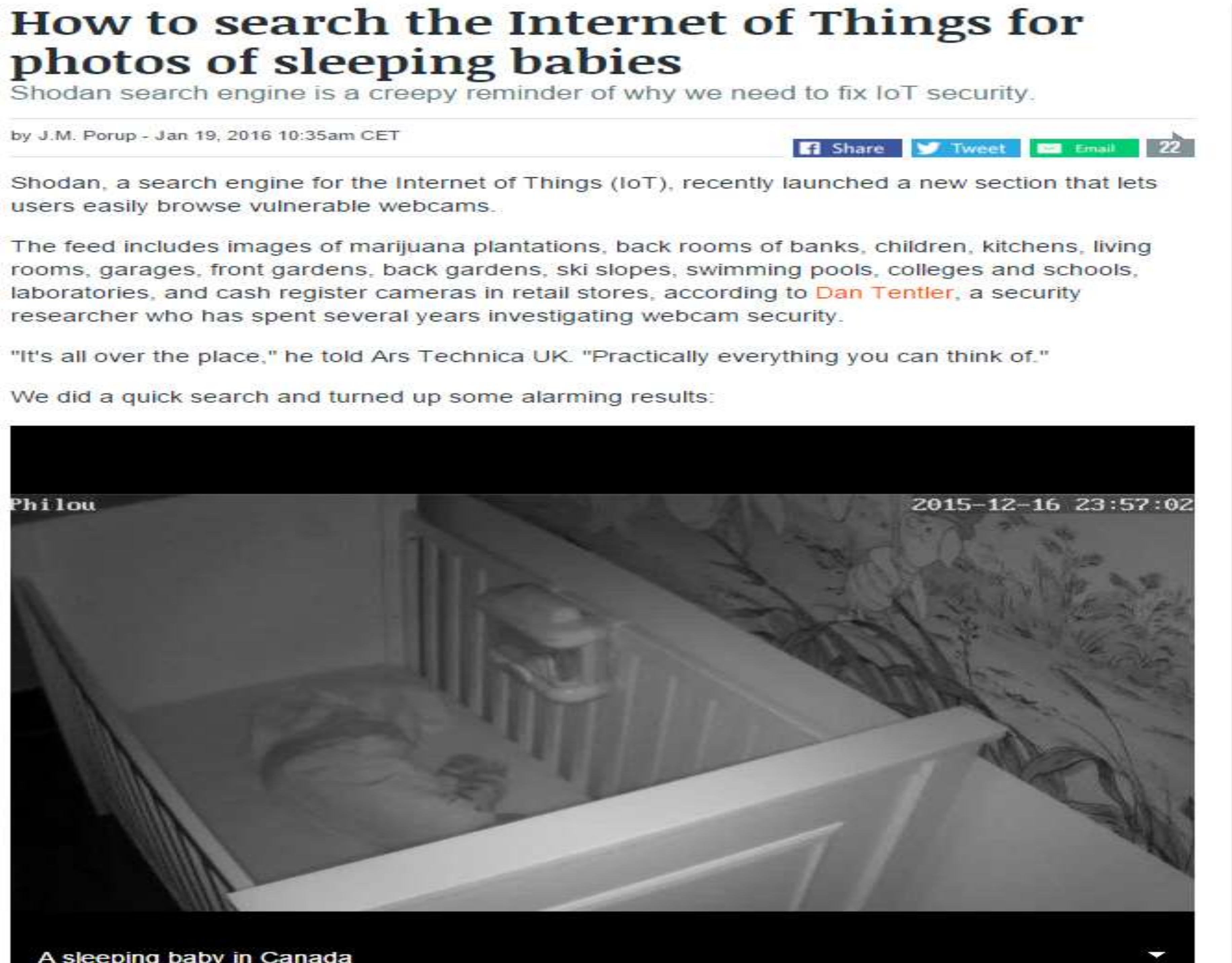
TEHNIČNA PODPORA

http://sinog.si

PROMOCIJSKI MATERIAL

RAPID7

HACKING IoT: A Case Study on Baby Monitor Exposures and Vulnerabilities



How to search the Internet of Things for photos of sleeping babies

Shodan search engine is a creepy reminder of why we need to fix IoT security.

by J.M. Porup - Jan 19, 2016 10:35am CET

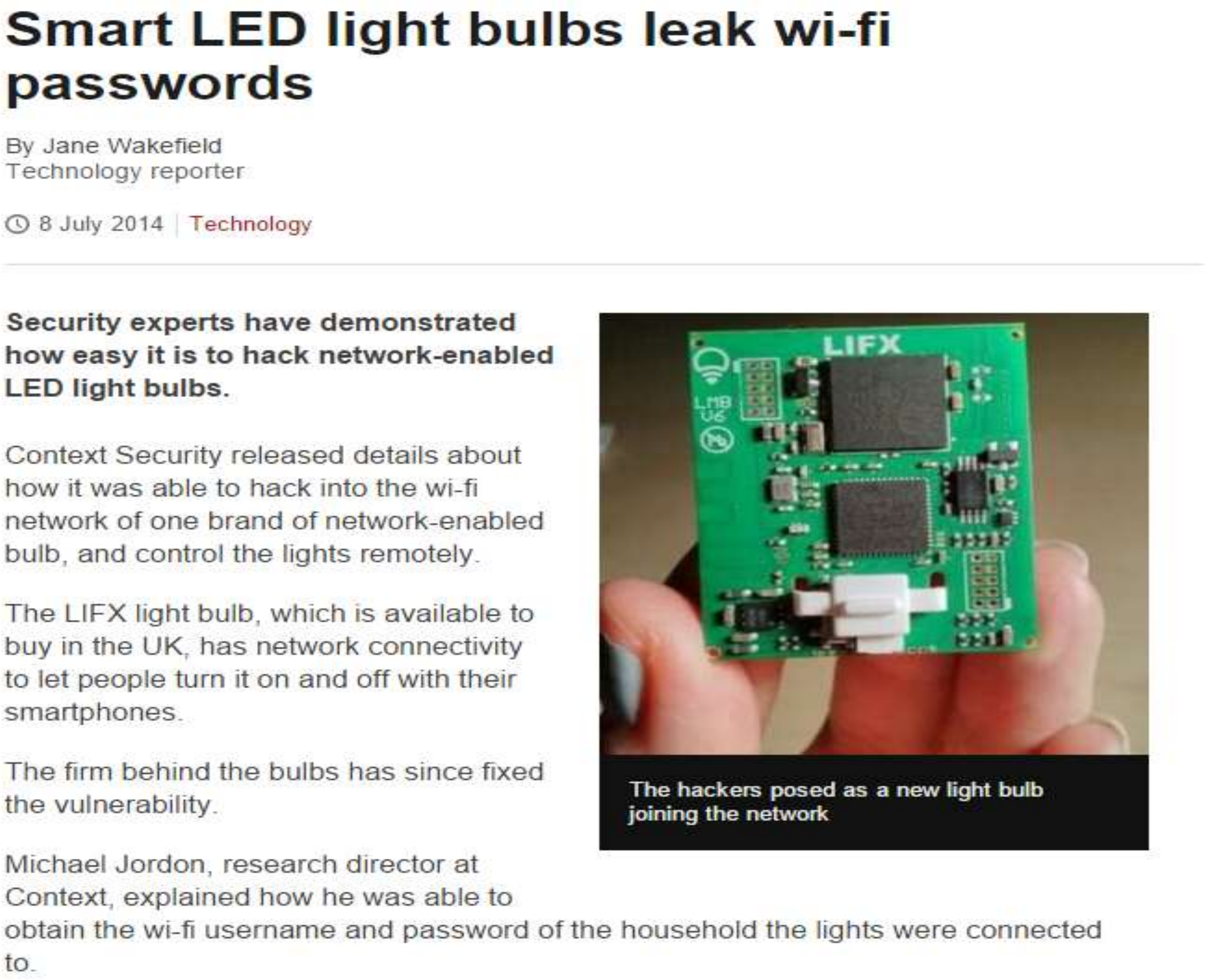
Shodan, a search engine for the Internet of Things (IoT), recently launched a new section that lets users easily browse vulnerable webcams.

The feed includes images of marijuana plantations, back rooms of banks, children, kitchens, living rooms, garages, front gardens, back gardens, ski slopes, swimming pools, colleges and schools, laboratories, and cash register cameras in retail stores, according to Dan Tentler, a security researcher who has spent several years investigating webcam security.

"It's all over the place," he told Ars Technica UK. "Practically everything you can think of."

We did a quick search and turned up some alarming results:

A sleeping baby in Canada



Smart LED light bulbs leak wi-fi passwords

By Jane Wakefield
Technology reporter

8 July 2014 | Technology

Security experts have demonstrated how easy it is to hack network-enabled LED light bulbs.

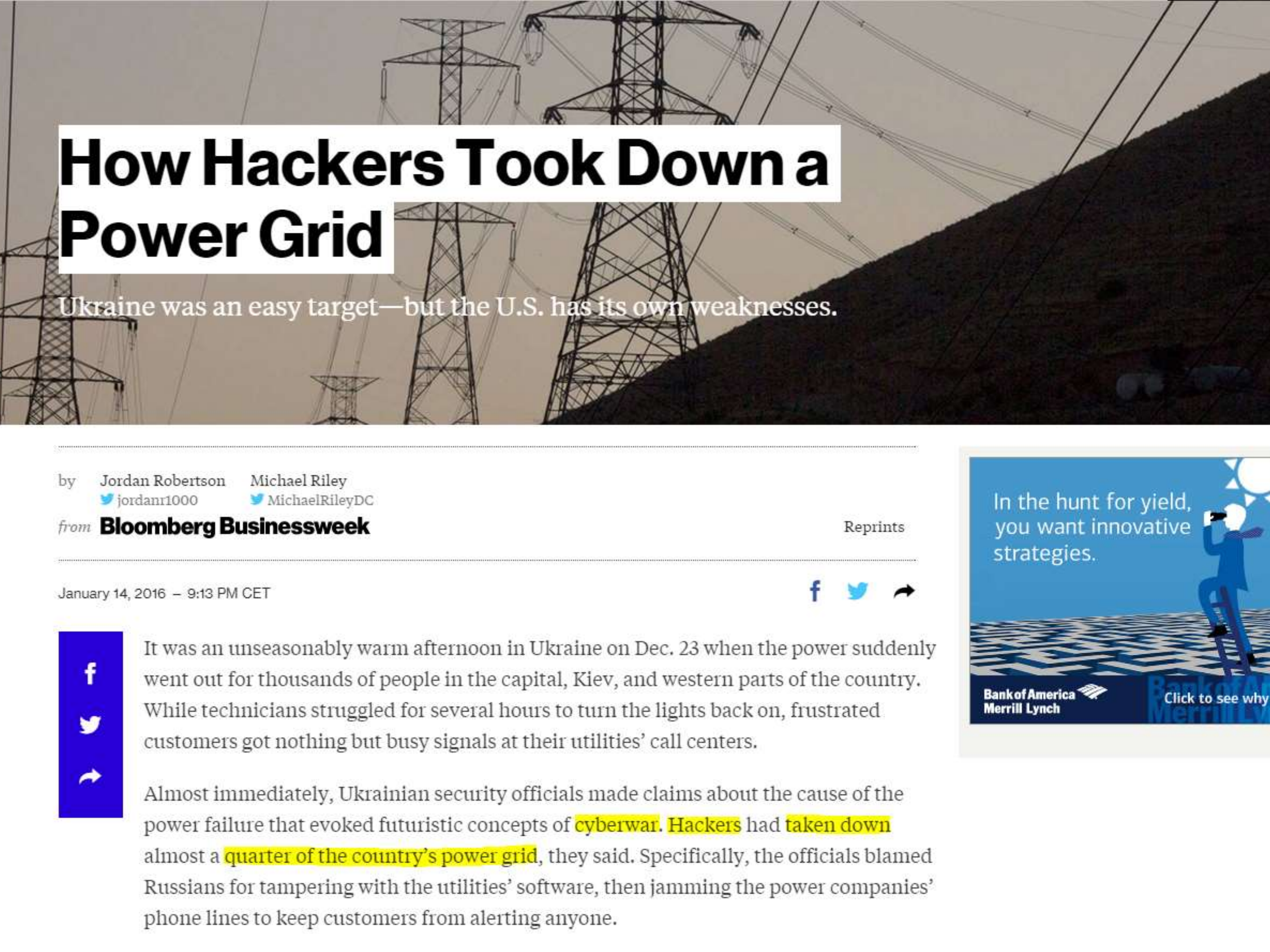
Context Security released details about how it was able to hack into the wi-fi network of one brand of network-enabled bulb, and control the lights remotely.

The LIFX light bulb, which is available to buy in the UK, has network connectivity to let people turn it on and off with their smartphones.

The firm behind the bulbs has since fixed the vulnerability.

The hackers posed as a new light bulb joining the network

Michael Jordon, research director at Context, explained how he was able to obtain the wi-fi username and password of the household the lights were connected to.



How Hackers Took Down a Power Grid

Ukraine was an easy target—but the U.S. has its own weaknesses.

by Jordan Robertson jordanr1000 Michael Riley MichaelRileyDC

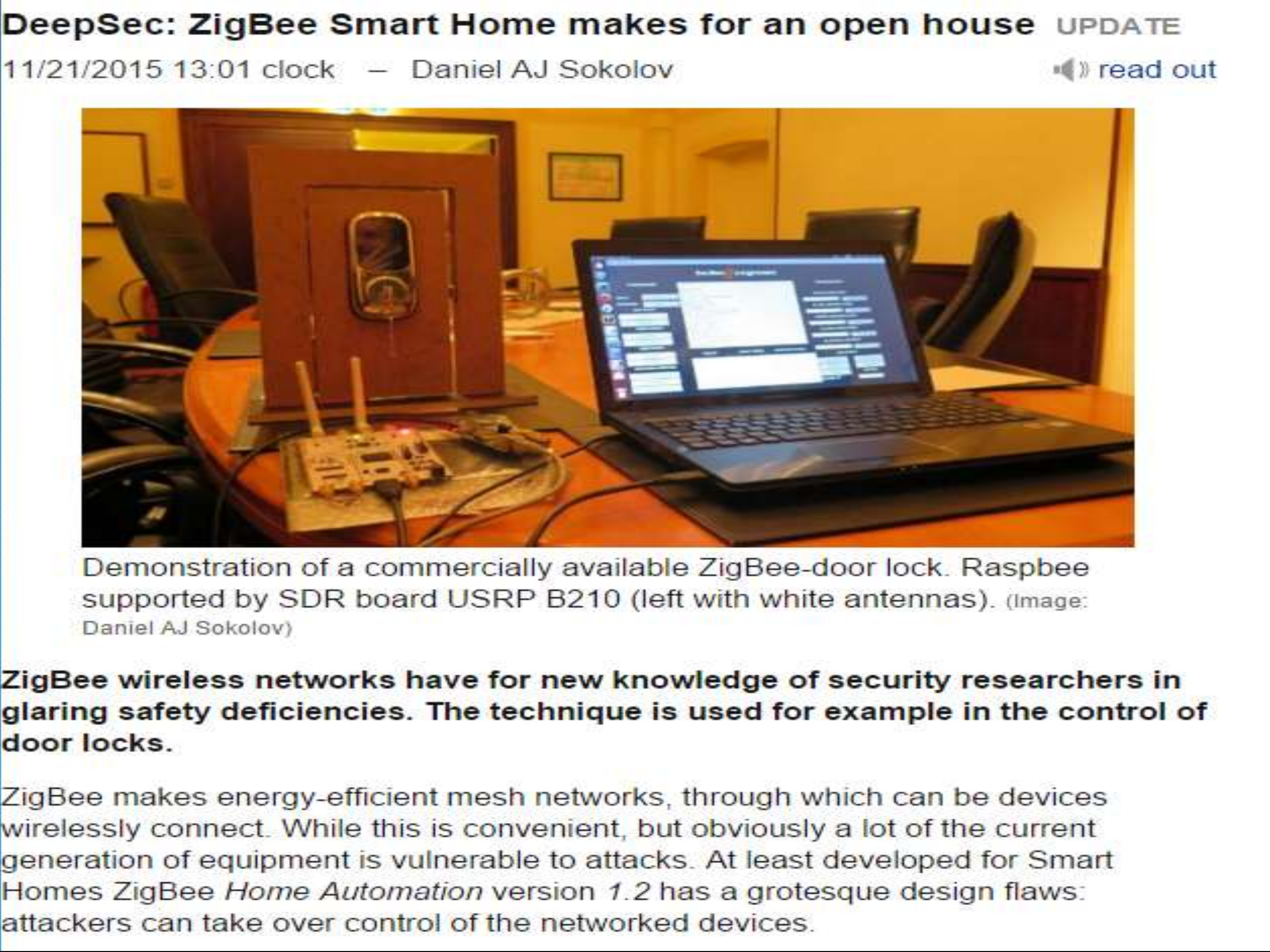
from **Bloomberg Businessweek**

Reprints

January 14, 2016 – 9:13 PM CET

It was an unseasonably warm afternoon in Ukraine on Dec. 23 when the power suddenly went out for thousands of people in the capital, Kiev, and western parts of the country. While technicians struggled for several hours to turn the lights back on, frustrated customers got nothing but busy signals at their utilities' call centers.

Almost immediately, Ukrainian security officials made claims about the cause of the power failure that evoked futuristic concepts of cyberwar. Hackers had taken down almost a quarter of the country's power grid, they said. Specifically, the officials blamed Russians for tampering with the utilities' software, then jamming the power companies' phone lines to keep customers from alerting anyone.



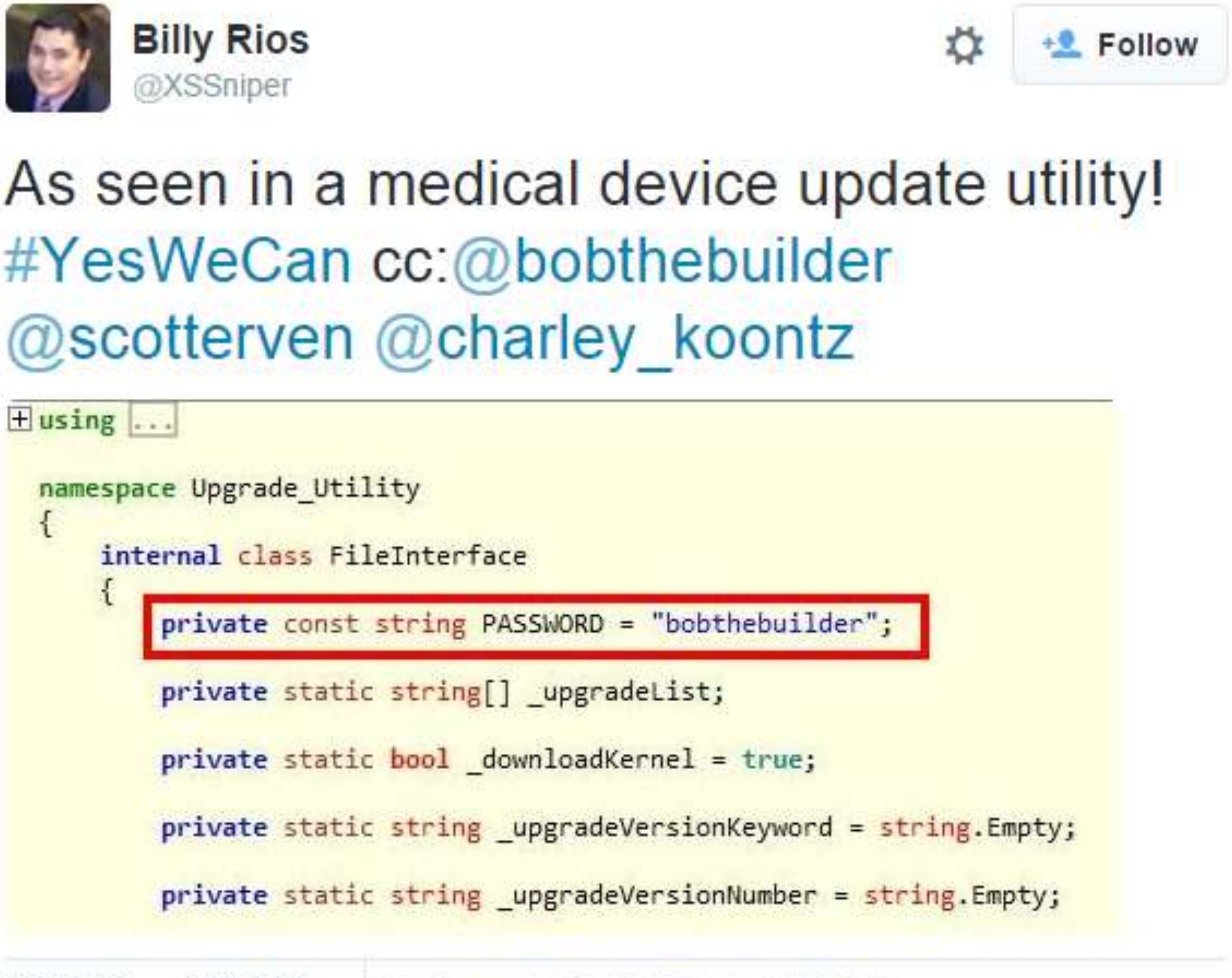
DeepSec: ZigBee Smart Home makes for an open house UPDATE

11/21/2015 13:01 clock – Daniel AJ Sokolov

Demonstration of a commercially available ZigBee-door lock. Raspbee supported by SDR board USRP B210 (left with white antennas). (Image: Daniel AJ Sokolov)

ZigBee wireless networks have for new knowledge of security researchers in glaring safety deficiencies. The technique is used for example in the control of door locks.

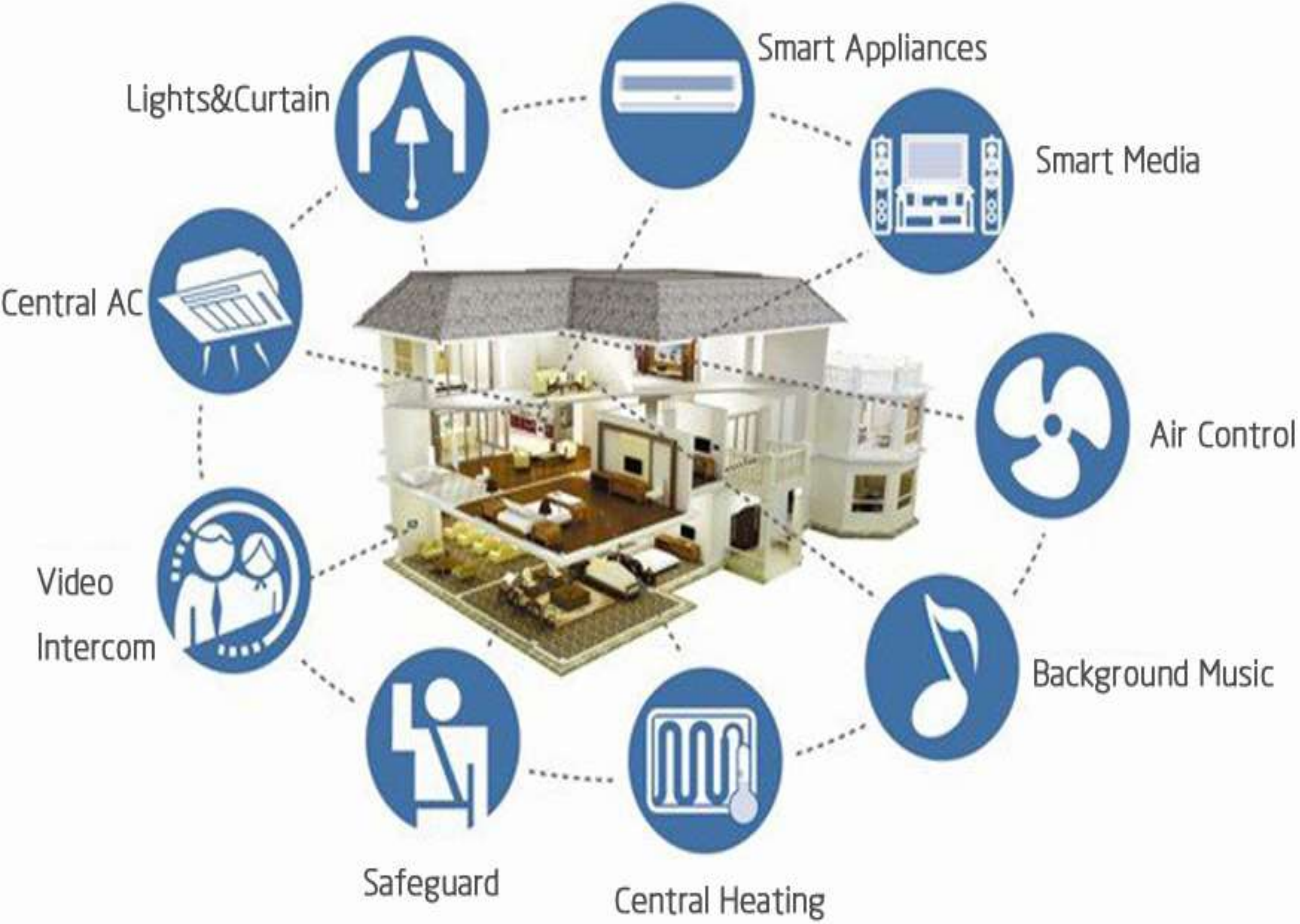
ZigBee makes energy-efficient mesh networks, through which can be devices wirelessly connect. While this is convenient, but obviously a lot of the current generation of equipment is vulnerable to attacks. At least developed for Smart Homes ZigBee *Home Automation* version *1.2* has a grotesque design flaws: attackers can take over control of the networked devices.



Billy Rios
@XSSniper

As seen in a medical device update utility! #YesWeCan cc:@bobthebuilder @scotterven @charley_koontz

```
⊞using ...

 namespace Upgrade_Utility
 {
     internal class FileInterface
     {
         private const string PASSWORD = "bobthebuilder";

         private static string[] _upgradeList;

         private static bool _downloadKernel = true;

         private static string _upgradeVersionKeyword = string.Empty;

         private static string _upgradeVersionNumber = string.Empty;
```


Smart Appliances
Lights&Curtain
Smart Media
Central AC
Air Control
Video
Intercom
Background Music
Safeguard
Central Heating

14 DEVICES

GOTTA HACK 'EM ALL

Cameras

- D-Link DCS-2132L
- Dropcam Pro
- Foscam FI9826W
- Withings Baby Monitor

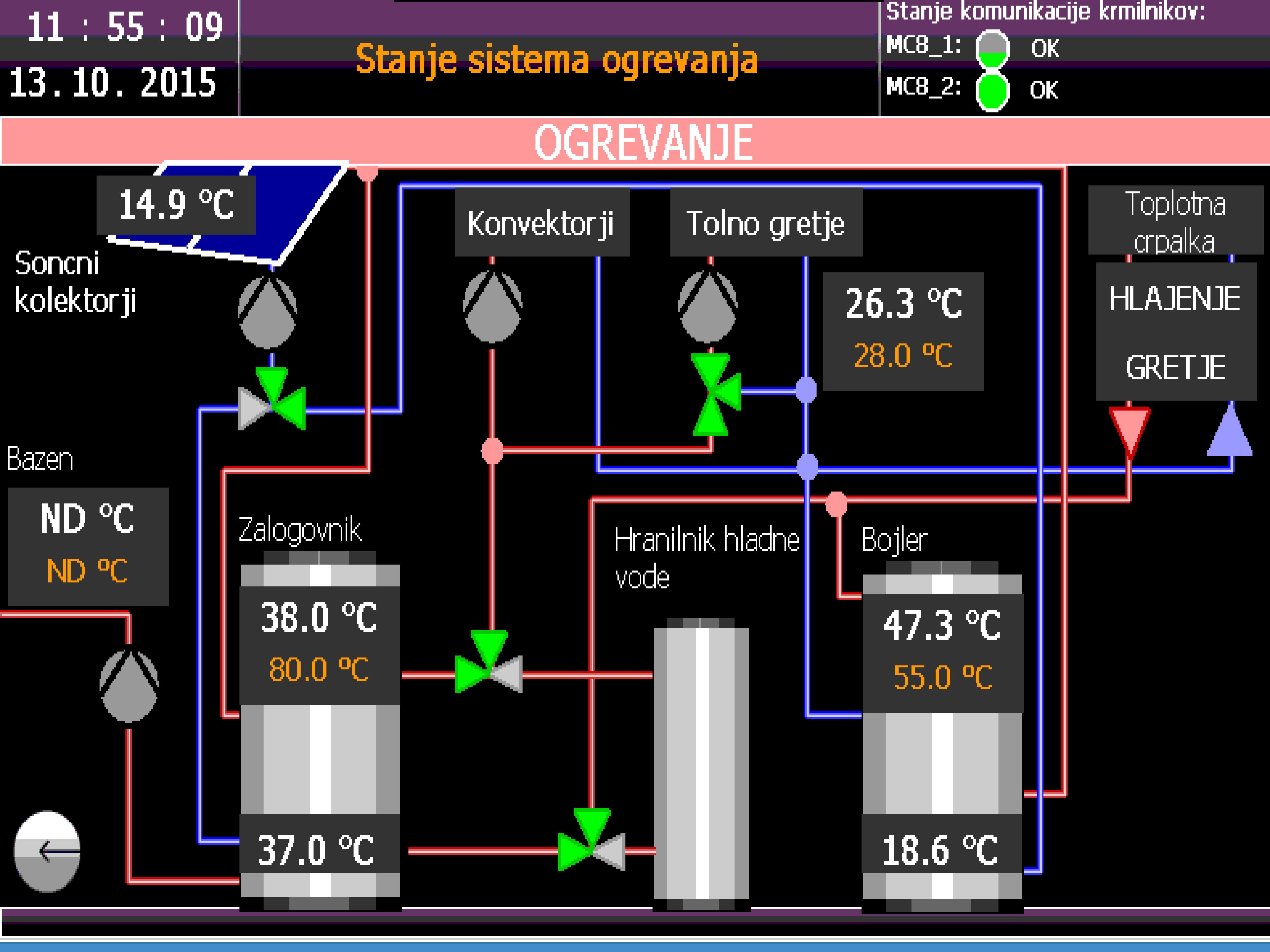
Home Automation

- Control4 HC-250
- Lowes Iris
- Revolv
- SmartThings

Thermostats

- Hive
- Honeywell Lyric
- Nest Thermostat
- Nest Protect

Synack



11 : 55 : 09

13. 10. 2015

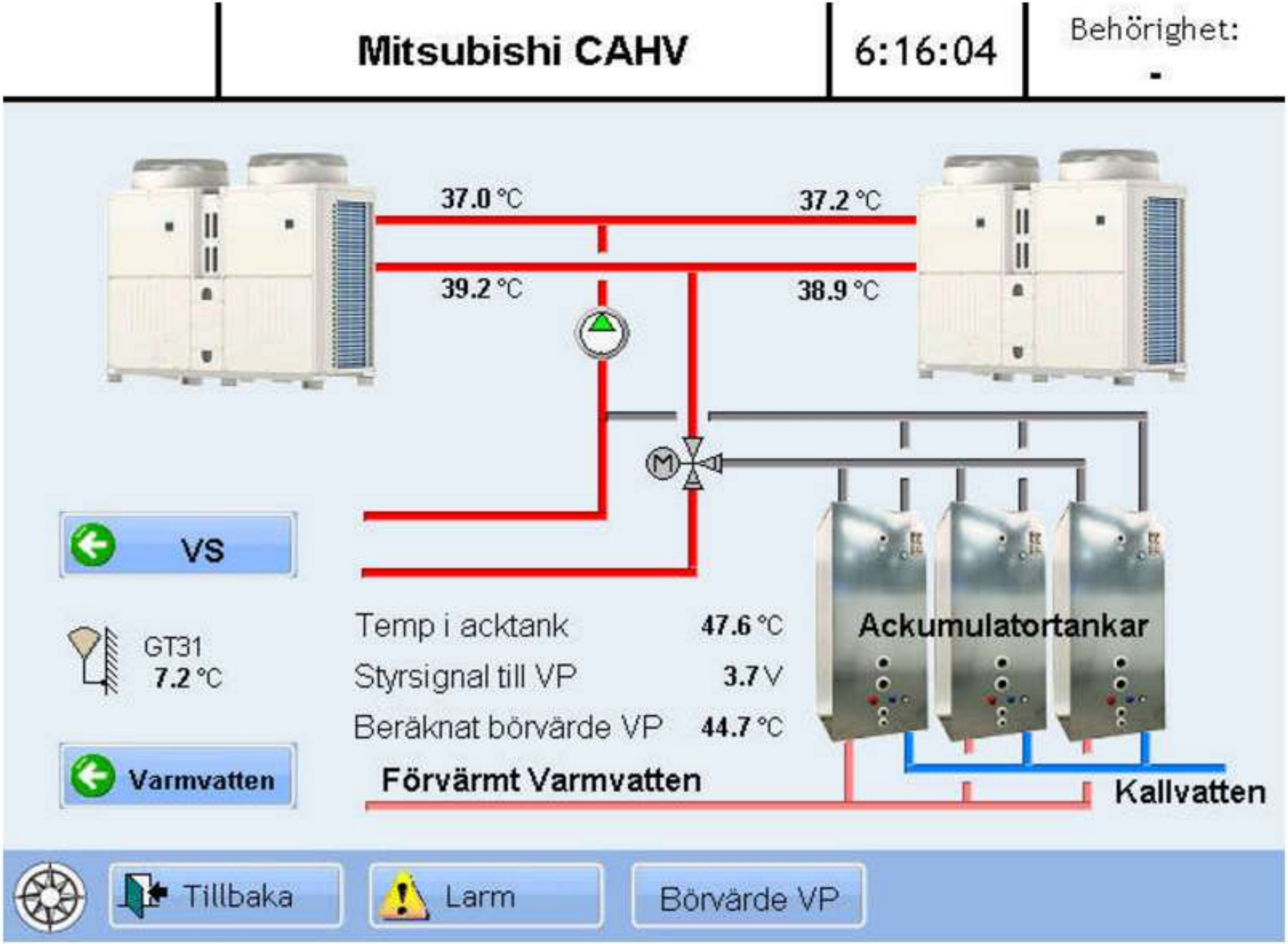
Stanje sistema ogrevanja

Stanje komunikacije krmilnikov:

MC8_1: OK

MC8_2: OK

OGREVANJE



Mitsubishi CAHV

6:16:04

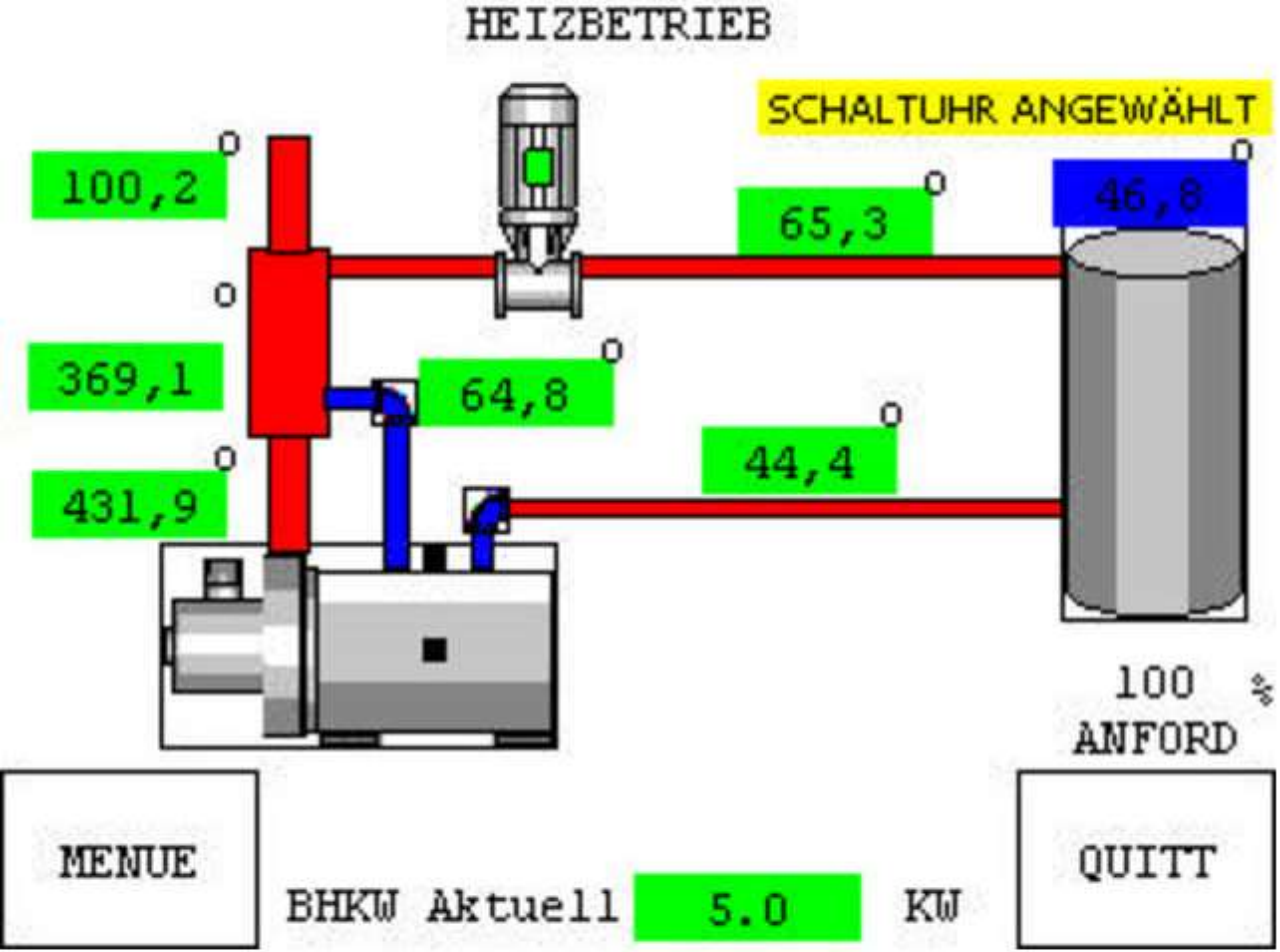
Behörighet: -

Temp i acktank 47.6 °C

Styrsignal till VP 3.7 V

Beräknat börvärde VP 44.7 °C

GT31 7.2 °C

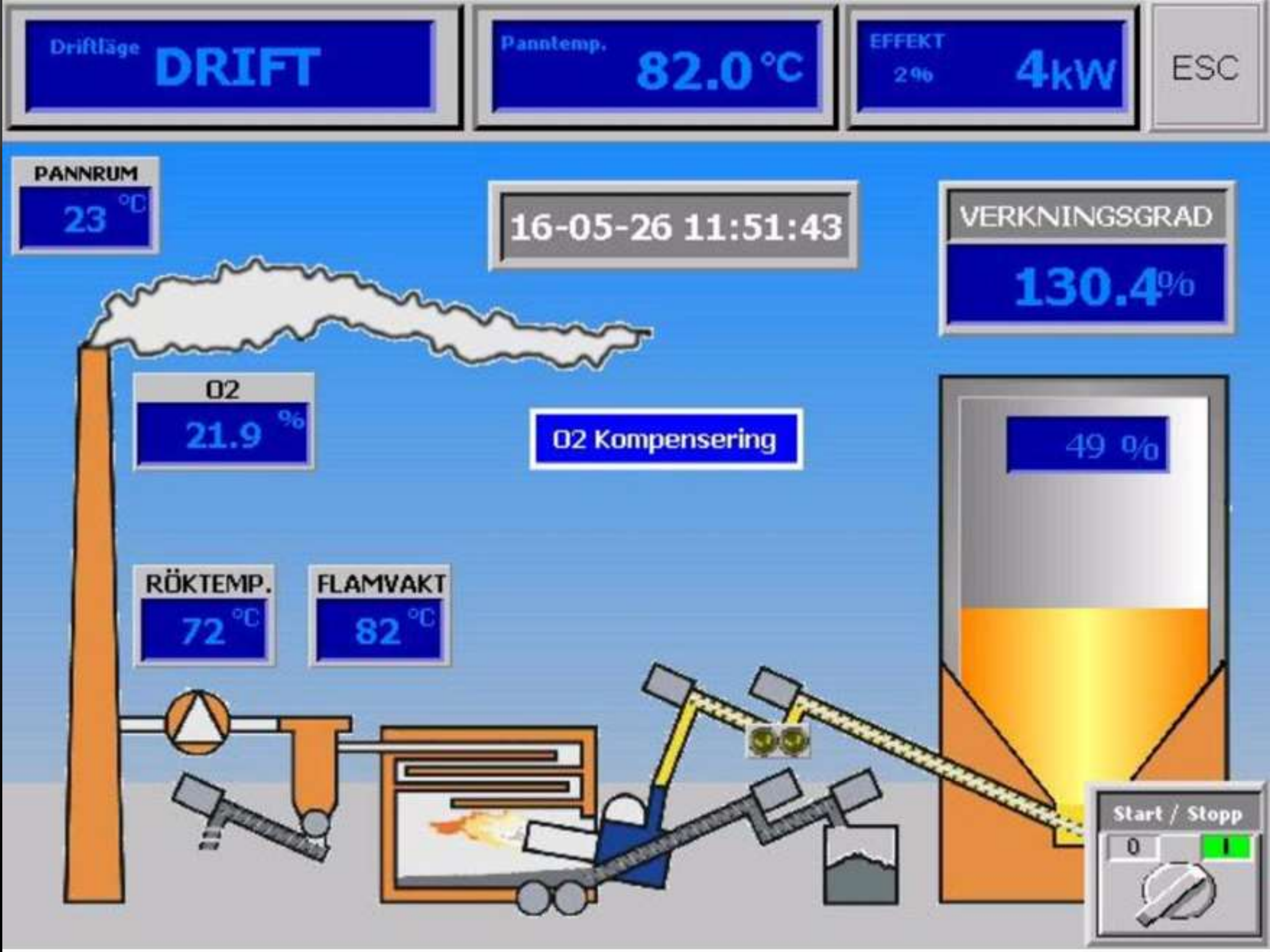


HEIZBETRIEB

SCHALTUHR ANGEWÄHLT

BHKW Aktuell 5.0 KW

100 % ANFORD



Driftläge DRIFT

Panntemp. 82.0 °C

EFFEKT 2% 4kW

PANNRUM 23 °C

16-05-26 11:51:43

VERKNINGSGRAD 130.4%

O2 21.9 %

O2 Kompensering

49 %

RÖKTEMP. 72 °C

FLAMVAKT 82 °C

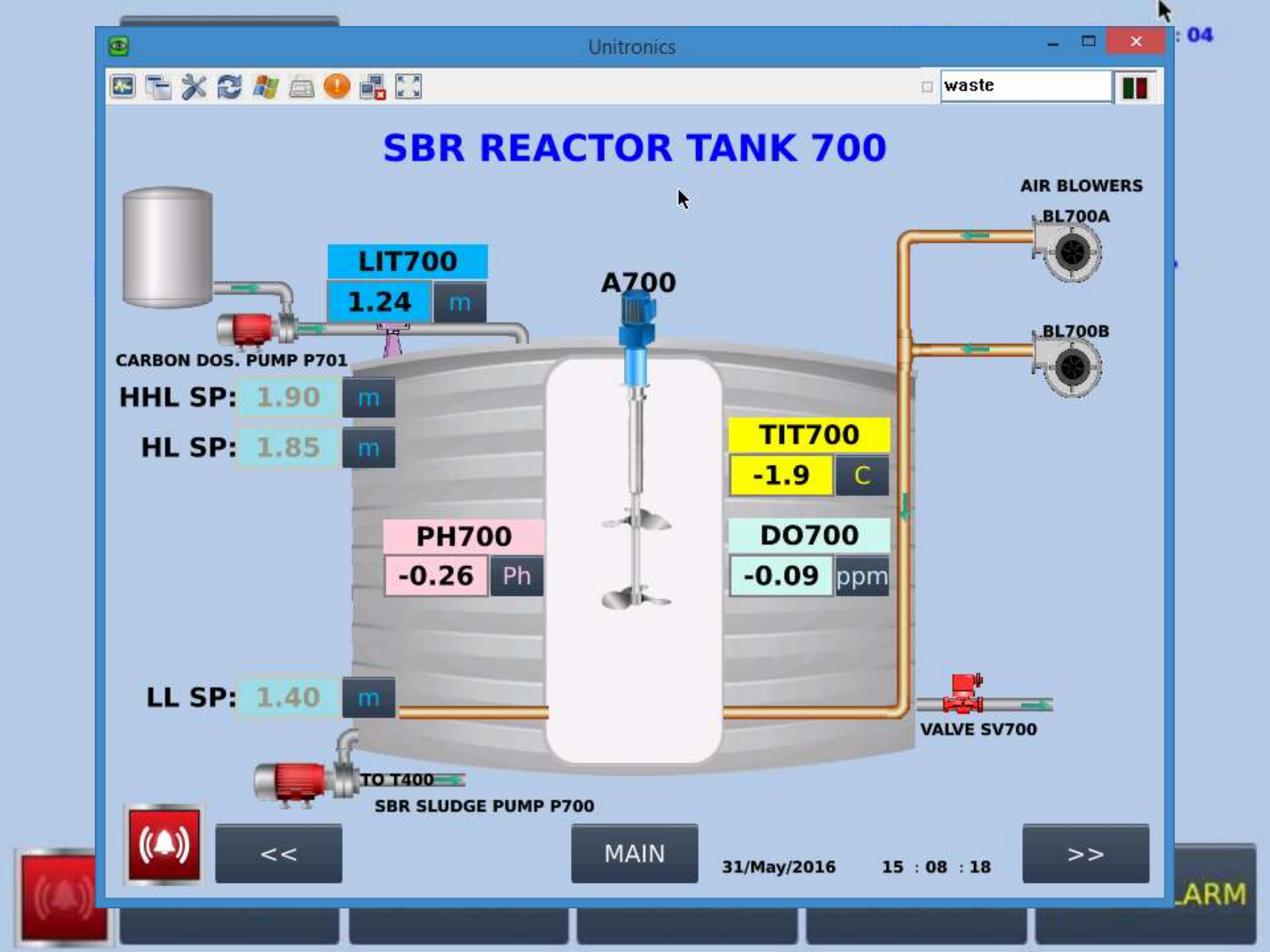
BJE-CP1:0.0

pametna.hisa.at

ÜBERSICHT

Jal. Wohnzimmer ∨ ∧	Wohnz. Decken… 0% − Einsc… +	Küche Deckenli… 0% − Einsc… +	Licht Zentral AUS
Jalousie Esszimmer ∨ ∧	Wohnz. Licht Ind. Einschalten	Küche LED Hänge… Einschalten	Jalousien Zentral ∨ ∧
Jalousie Küche ∨ ∧	Wohnz. Stehleuchte Einschalten	Küche LED Ceranf… Einschalten	Alle Jalousien OG ∨ ∧
Markise Terrasse ∨ ∧	Terrassenlicht 0% − Einsc… +	Essz. Deckenlicht 0% − Einsc… +	Alle Jalousien EG ∨ ∧

Di. 21-06-16 21:11 21.8°C



□ waste

SBR REACTOR TANK 700

LIT700
1.24 m

HHL SP: 1.90 m

HL SP: 1.85 m

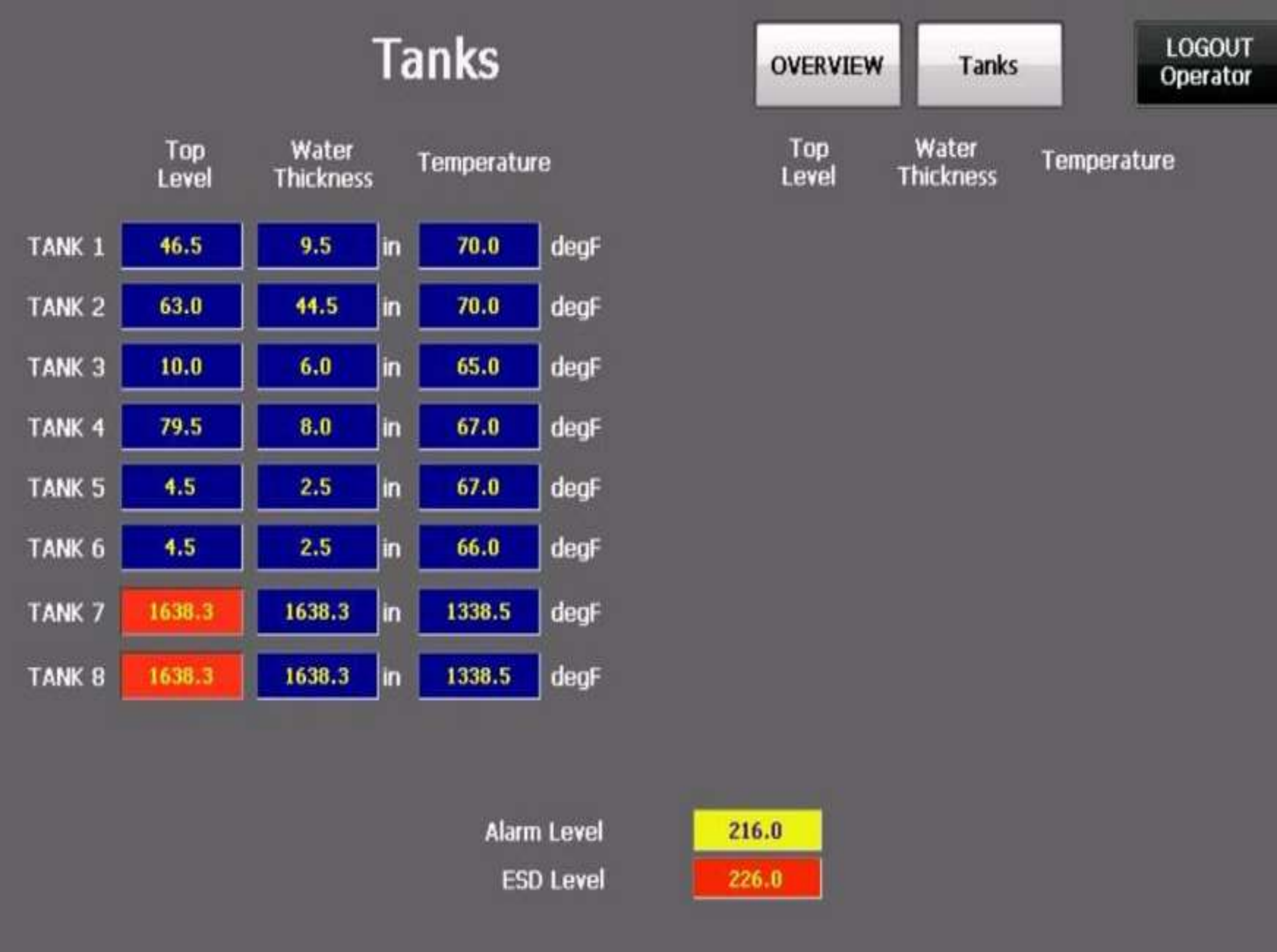
LL SP: 1.40 m

TIT700
-1.9 C

PH700
-0.26 Ph

DO700
-0.09 ppm

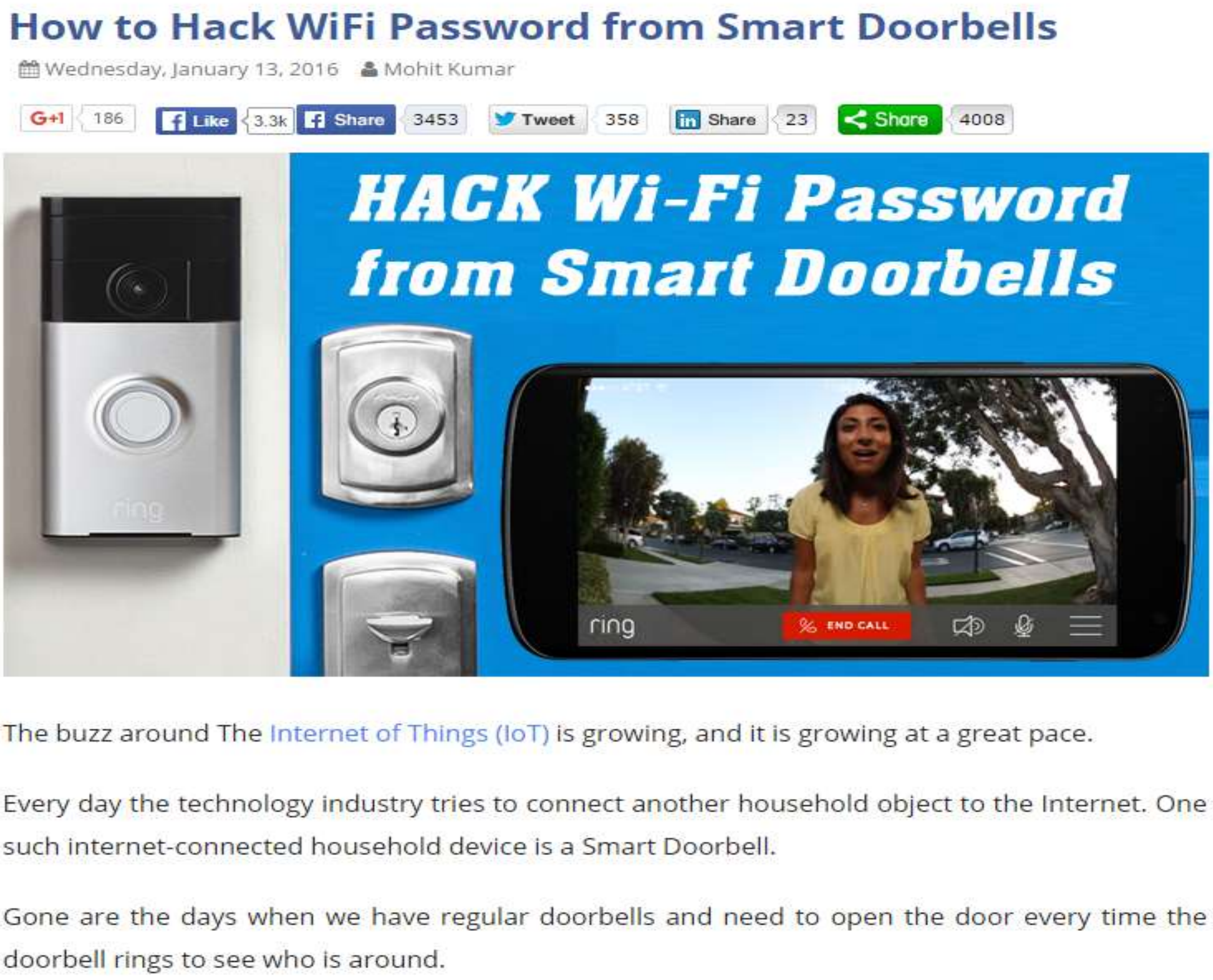
31/May/2016 15 : 08 : 18



Tanks

	Top Level	Water Thickness		Temperature		Top Level	Water Thickness	Temperature
TANK 1	46.5	9.5	in	70.0	degF			
TANK 2	63.0	44.5	in	70.0	degF			
TANK 3	10.0	6.0	in	65.0	degF			
TANK 4	79.5	8.0	in	67.0	degF			
TANK 5	4.5	2.5	in	67.0	degF			
TANK 6	4.5	2.5	in	66.0	degF			
TANK 7	1638.3	1638.3	in	1338.5	degF			
TANK 8	1638.3	1638.3	in	1338.5	degF			

Alarm Level	216.0
ESD Level	226.0



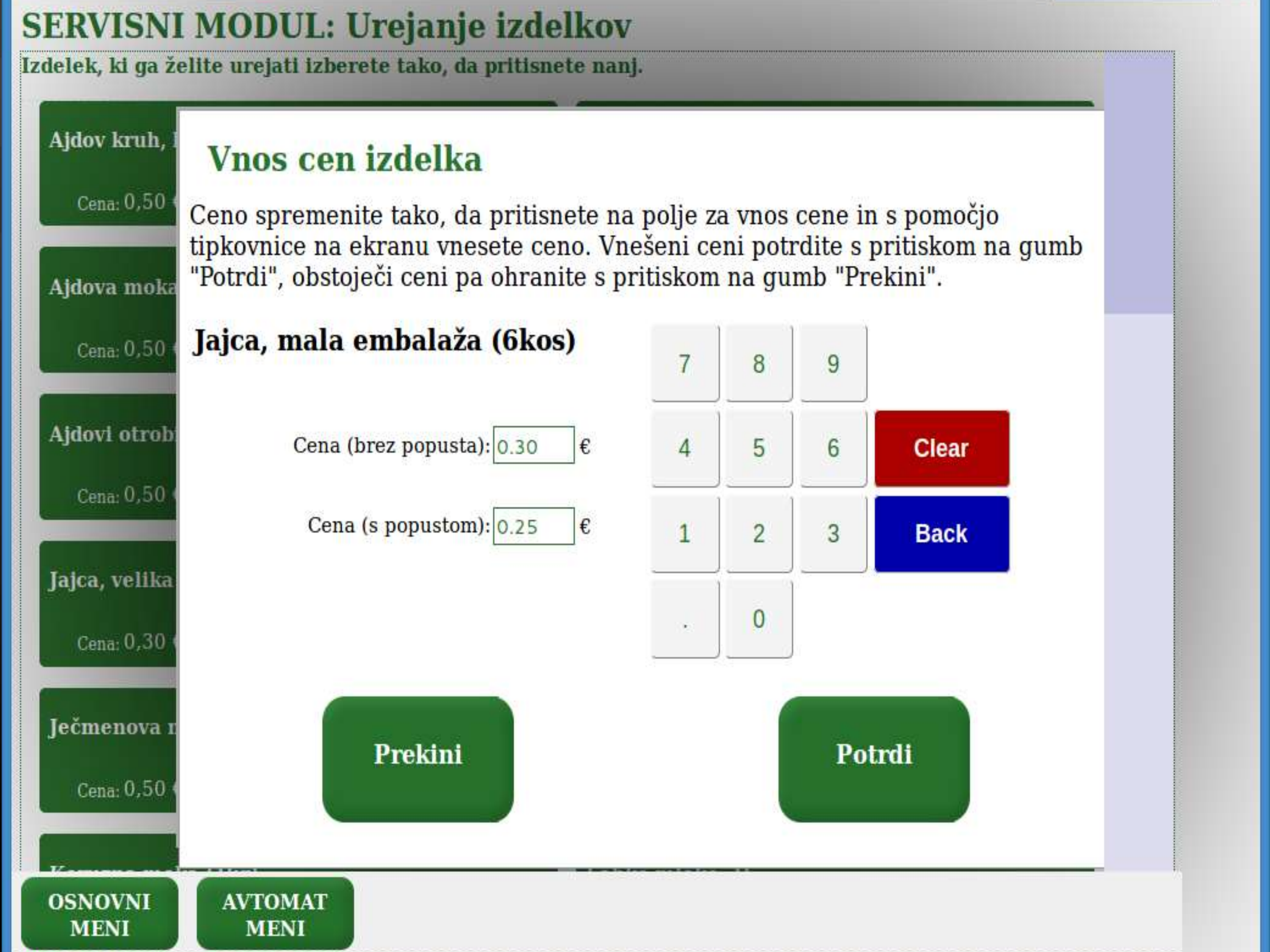
How to Hack WiFi Password from Smart Doorbells

Wednesday, January 13, 2016 Mohit Kumar

The buzz around The Internet of Things (IoT) is growing, and it is growing at a great pace.

Every day the technology industry tries to connect another household object to the Internet. One such internet-connected household device is a Smart Doorbell.

Gone are the days when we have regular doorbells and need to open the door every time the doorbell rings to see who is around.



SERVISNI MODUL: Urejanje izdelkov

Izdelek, ki ga želite urejati izberete tako, da pritisnete nanj.

Vnos cen izdelka

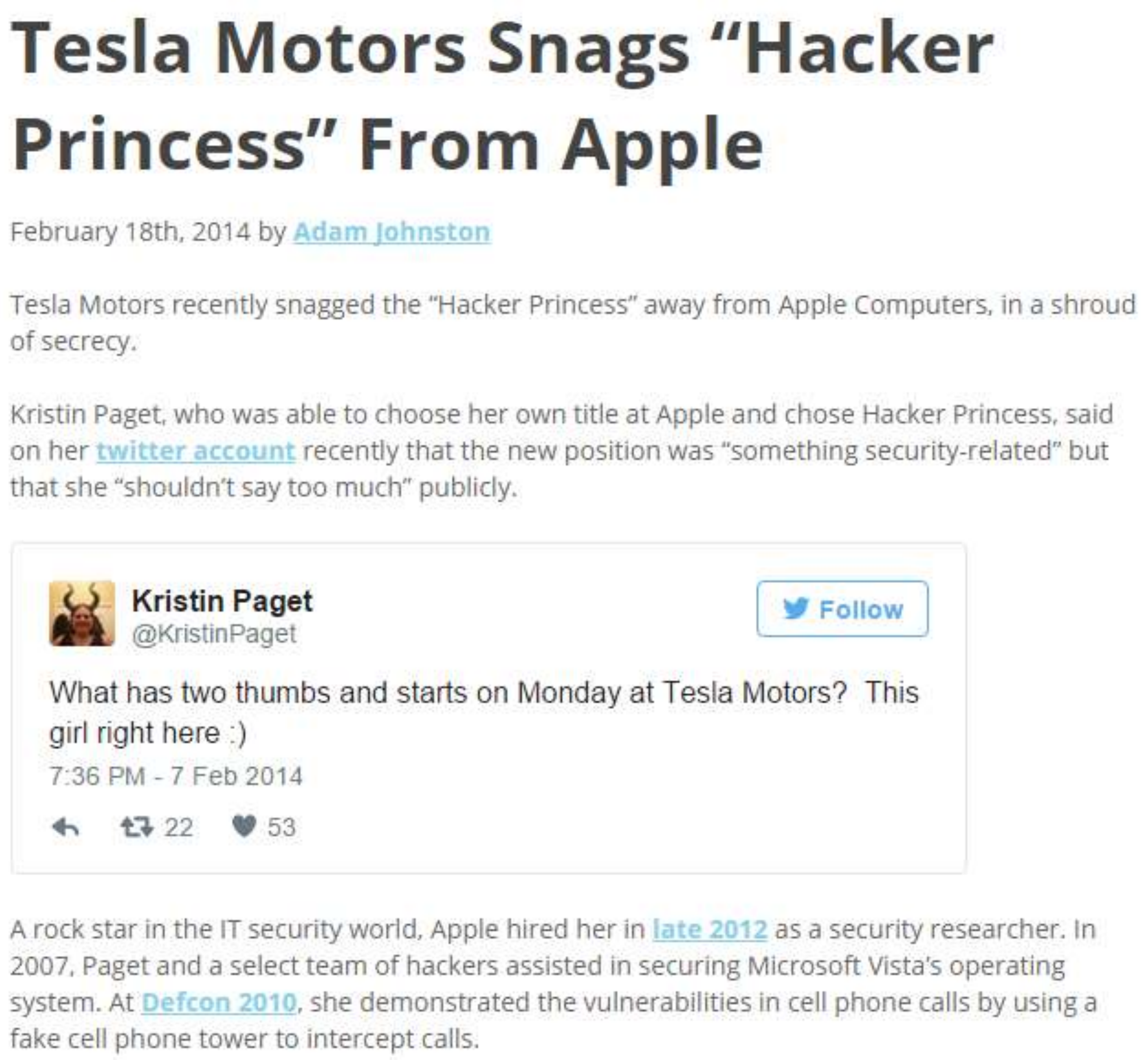
Ceno spremenite tako, da pritisnete na polje za vnos cene in s pomočjo tipkovnice na ekranu vnesete ceno. Vnešeni ceni potrdite s pritiskom na gumb "Potrdi", obstoječi ceni pa ohranite s pritiskom na gumb "Prekini".

Jajca, mala embalaža (6kos)

Cena (brez popusta): 0.30 €

Cena (s popustom): 0.25 €

Controls
Settings
Driving
Trips
Displays
E-Brake & Power Off
DOORS & LOCKS
LIGHTS
FRONT TRUNK
LOCK
UNLOCK
CHARGE PORT
TRUNK
HEADLIGHTS
OFF
ON
AUTO
Charge Port Open
Sun Feb 17
10:57
AIRBAG



Tesla Motors Snags "Hacker Princess" From Apple

February 18th, 2014 by Adam Johnston

Tesla Motors recently snagged the "Hacker Princess" away from Apple Computers, in a shroud of secrecy.

Kristin Paget, who was able to choose her own title at Apple and chose Hacker Princess, said on her twitter account recently that the new position was "something security-related" but that she "shouldn't say too much" publicly.

Kristin Paget
@KristinPaget

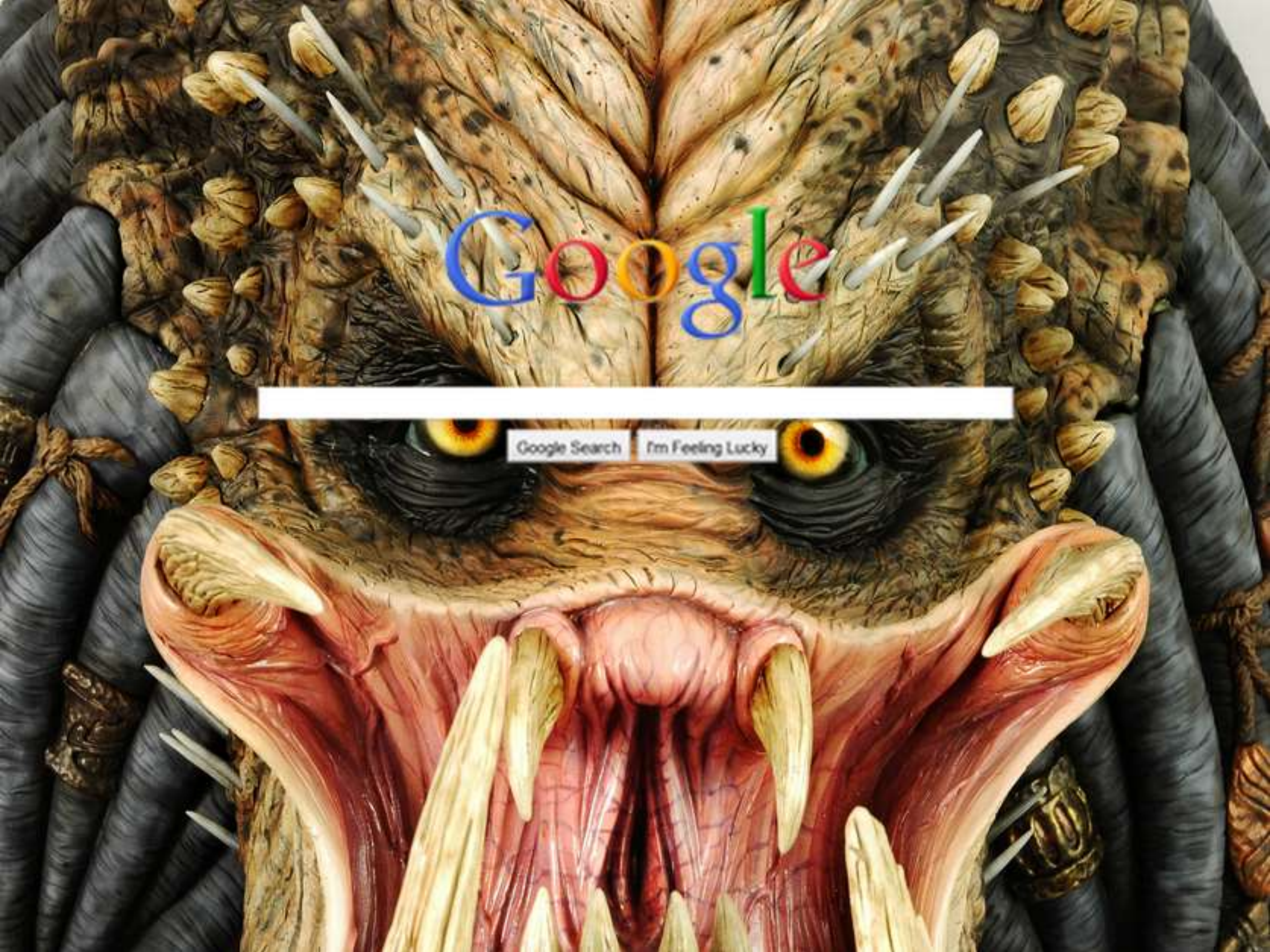
What has two thumbs and starts on Monday at Tesla Motors? This girl right here :)

7:36 PM - 7 Feb 2014

A rock star in the IT security world, Apple hired her in late 2012 as a security researcher. In 2007, Paget and a select team of hackers assisted in securing Microsoft Vista's operating system. At Defcon 2010, she demonstrated the vulnerabilities in cell phone calls by using a fake cell phone tower to intercept calls.

DEMO
TIME

N
NE
E
SE
S
SW
W
NW


Google
Google Search
I'm Feeling Lucky

CHALLENGES
AHEAD

Windows IoT Core Starter Kit

Evaluate Windows 10 IoT Core on an industrial platform today!

Windows® 10 IoT Core has arrived on Toradex modules! Experience the new Windows Operating System with this special offer including a powerful Nvidia® Tegra 3 Colibri Module with full Hardware Accelerated DirectX Graphics.

✓ Microsoft Azure Certified

Colibri T30 platform is certified to run with Microsoft Azure IoT

✓ DirectX

Unparalleled graphics experience with hardware accelerated DirectX

✓ Industrial grade

Industrial grade hardware for your robust embedded products

Microsoft Azure Certified

PREINSTALLED Windows 10 IoT Core

Windows®10 IoT Core Technical Preview

Windows 10 IoT Core offers a host of features that makes it an ideal choice for developing IoT applications and compact connected devices.

- **Universal Windows Platform (UWP)**
  Universal Windows Platform allows you to write one Application and run it seamlessly on multiple Windows 10 platforms such as smartphones, embedded devices and PCs. Further, the UWP also extends to drivers, this allows you to tap into the rich driver eco-system of Windows

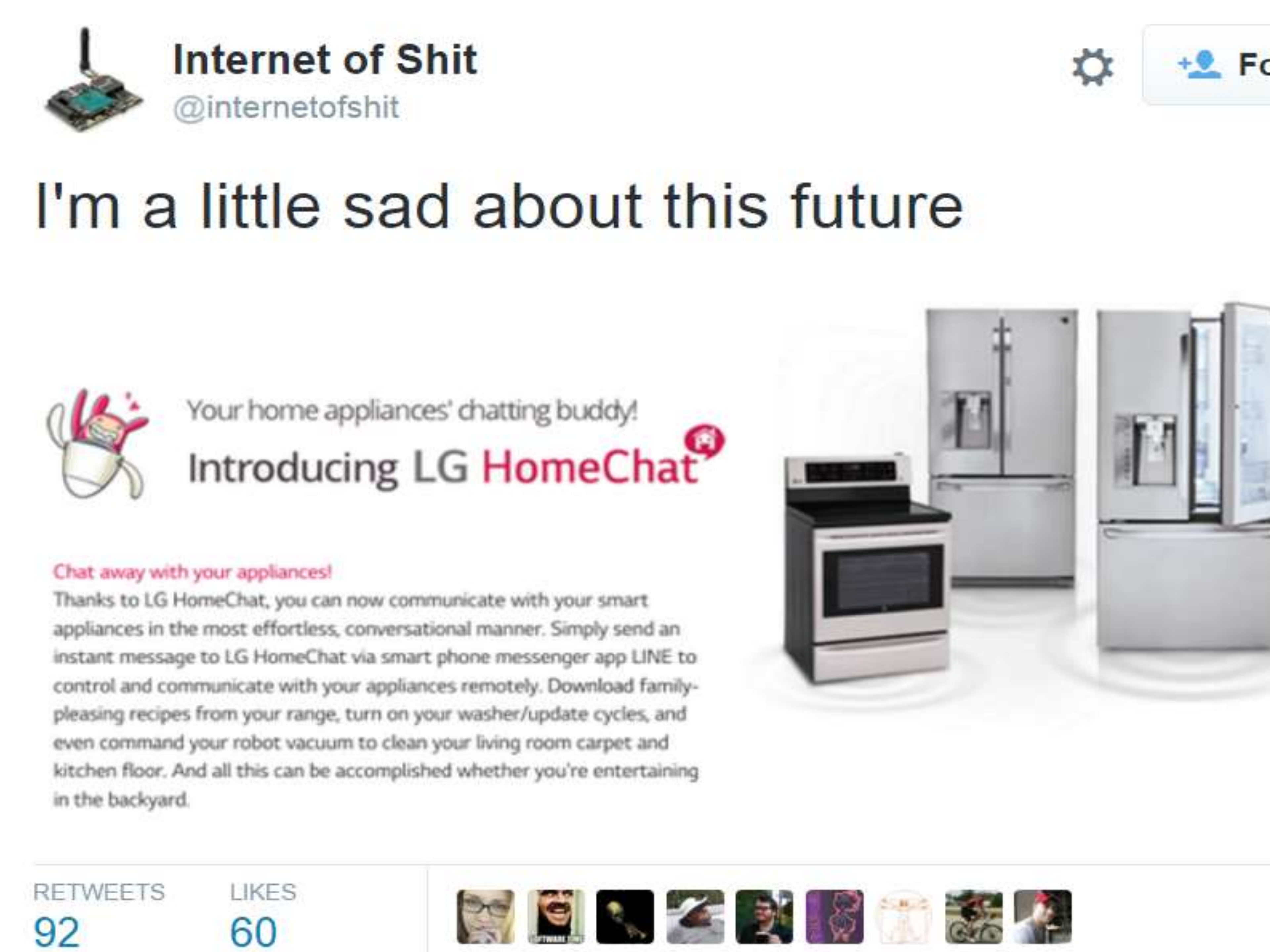
- **Visual Studio**
  The latest Visual Studio can be used as a development environment which provides a feature rich and convenient way of programming and debugging applications in C#, VB, C++, HTML, JavaScript and more

- **Azure IoT Suite**
  Windows 10 IoT Core easily connects to the Azure IoT Suite. The Azure IoT Suite enables you to monitor and analyze data from your IoT applications to create meaningful insights that can add operational efficiency and value. It offers preconfigured IoT scenarios, so you can easily deploy these solutions on your products

```
password = MD5(IMEI + CARRIER_NOT_SO_SECRET)
```

https://www.blackhat.com/docs/us-14/materials/us-14-Solnik-Cellular-Exploitation-On-A-Global-Scale-The-Rise-And-Fall-Of-The-Control-Protocol.pdf

0,1% od 1M je še vedno 1000



Internet of Shit
@internetofshit

I'm a little sad about this future

Your home appliances' chatting buddy!

Introducing LG HomeChat

Chat away with your appliances!

Thanks to LG HomeChat, you can now communicate with your smart appliances in the most effortless, conversational manner. Simply send an instant message to LG HomeChat via smart phone messenger app LINE to control and communicate with your appliances remotely. Download family-pleasing recipes from your range, turn on your washer/update cycles, and even command your robot vacuum to clean your living room carpet and kitchen floor. And all this can be accomplished whether you're entertaining in the backyard.

RETWEETS 92

LIKES 60

It's the END
of the World
AS we KNOW it
and I feel
FINE

@MilanGabor

WE'RE HIRING!