

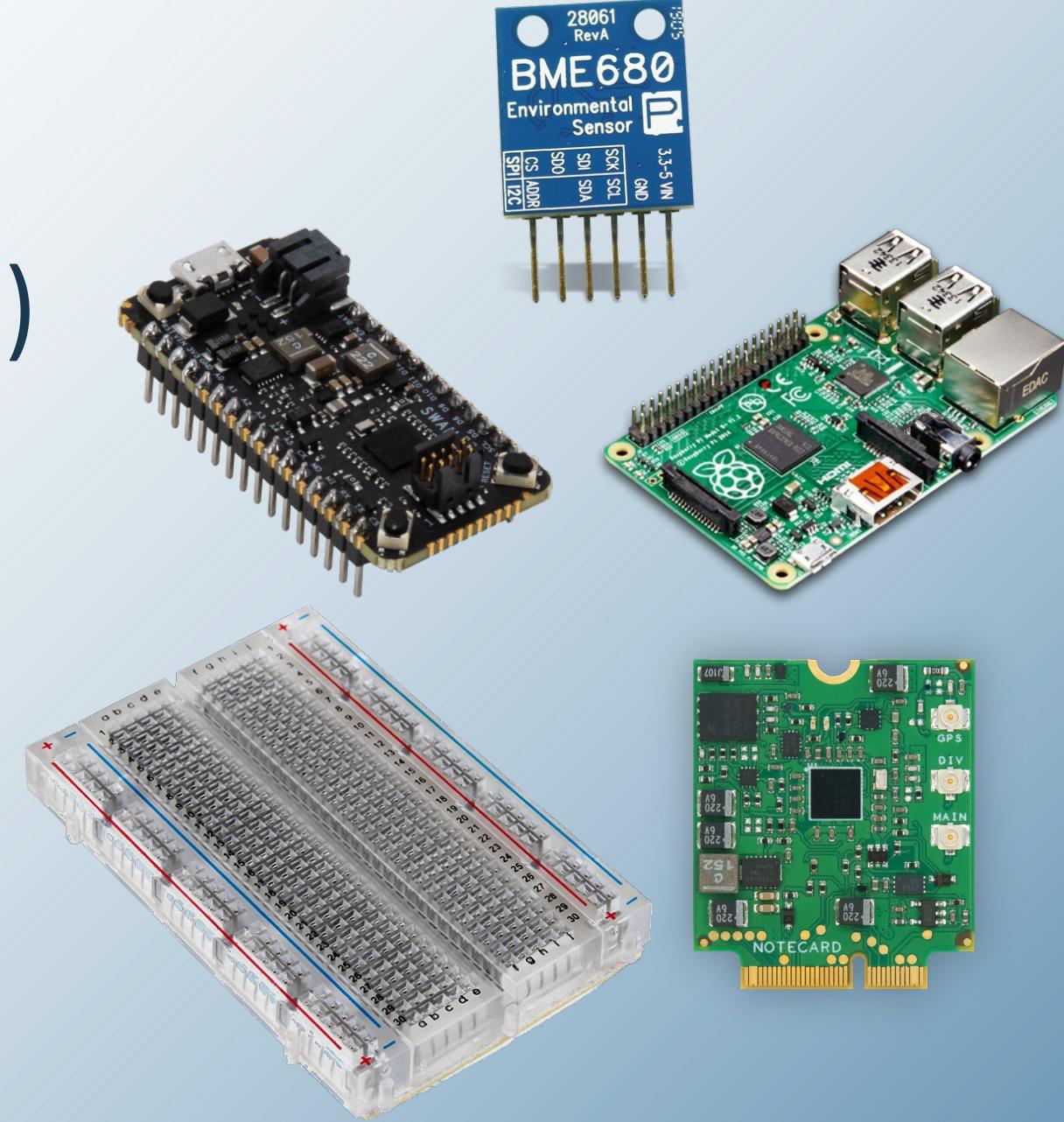
# IoT 101

(a.k.a. The IoT is Dead)

**Rob Lauer**

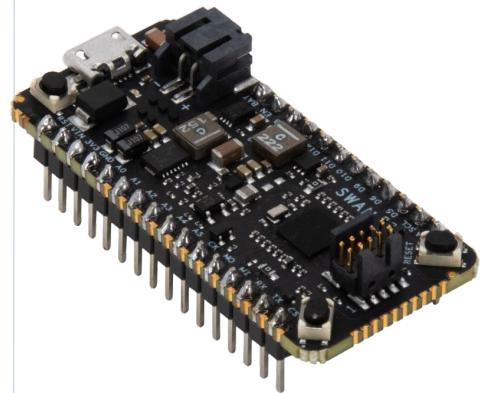
Director of Developer Relations

 blues wireless



**What Even *is*  
Embedded/IoT  
Development?**

# Sense, Measure, Track, Control

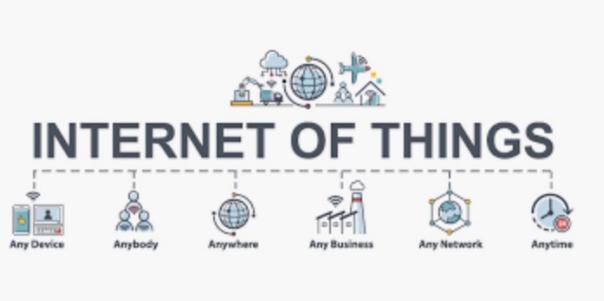


Temperature: 22.3°C  
Humidity: 57.1%  
Pressure: 1281 hPa





What is the IoT? Everything you need to ...  
zdnet.com



Breaking down the IoT | Smartrek  
smartrek.io



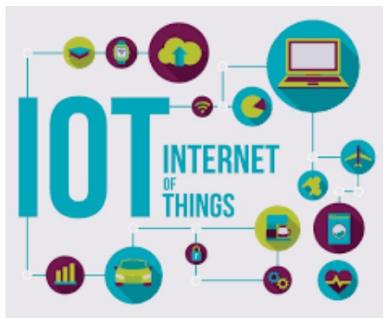
The IoT Is Transforming Our World  
soundandcommunications.com



What is the IoT? Everything you need to ...  
techradar.com



What is the IoT? Introduction to t...  
medium.com



IoT Past and Present: The History of...  
channelfutures.com



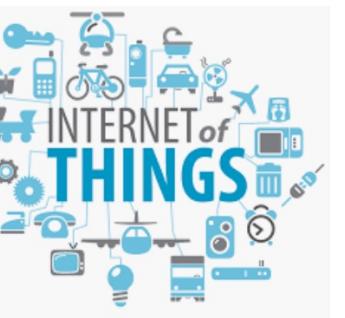
Who Services the Internet of Things I...  
cellbotics.com



Jumping into the IoT revolution with ...  
cio.com



IOT HISTORY A. IoT Definition ...  
researchgate.net



Manufacturing and The Internet...  
apsresource.com



Five Years Hold For the Internet ...  
e-zigurat.com



What is the IoT? - Linkind Smart Hom...  
linkind.com



What is the Internet of Things (Io...  
komutel.com



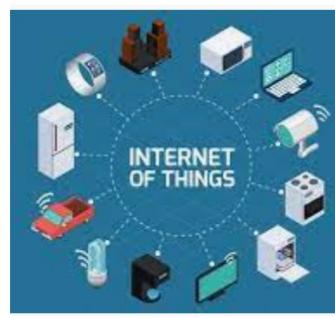
The IoT threat to privacy | TechCrunch  
techcrunch.com



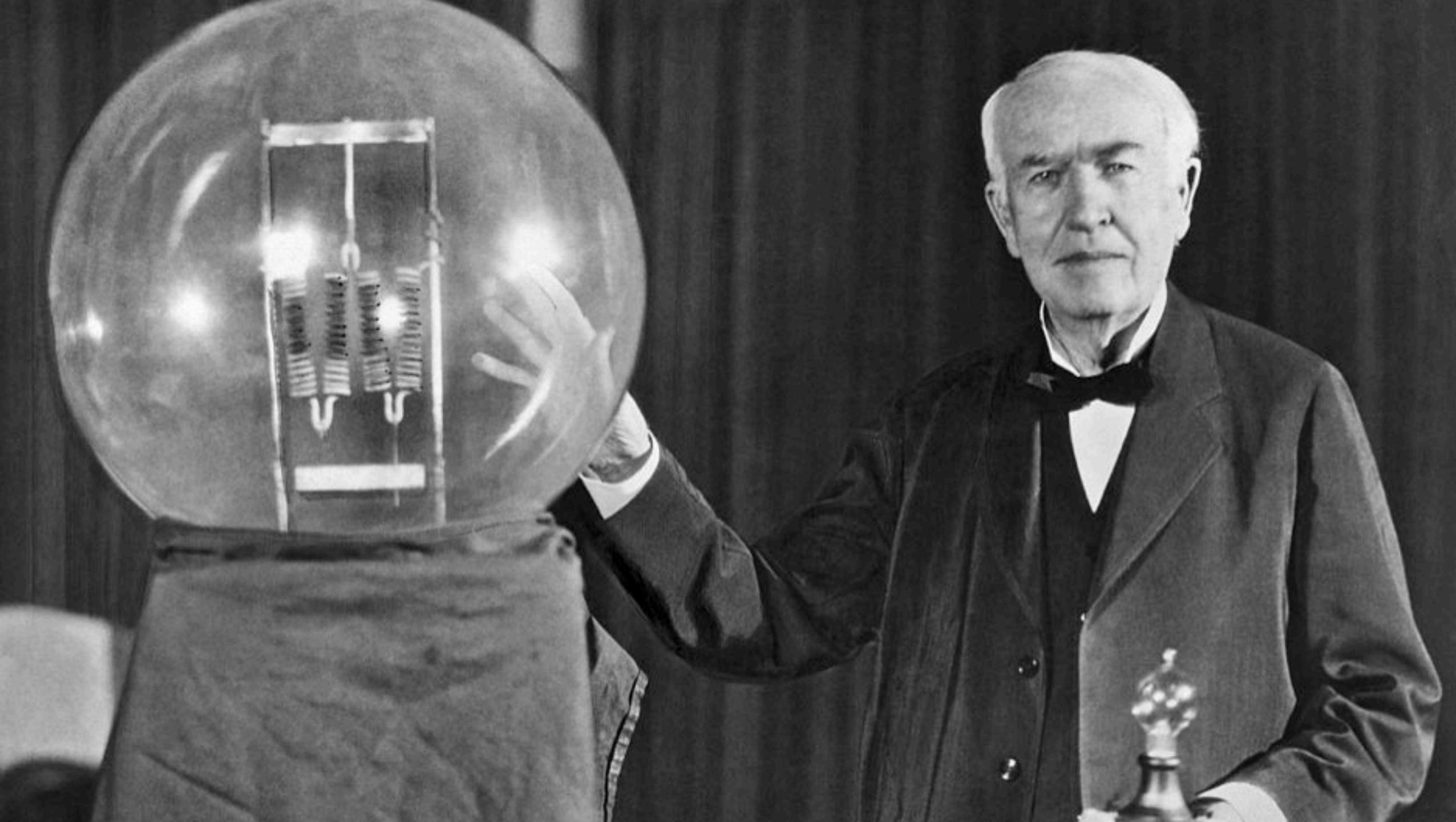
Things: Architecture, Edge Computing...  
dataversity.net

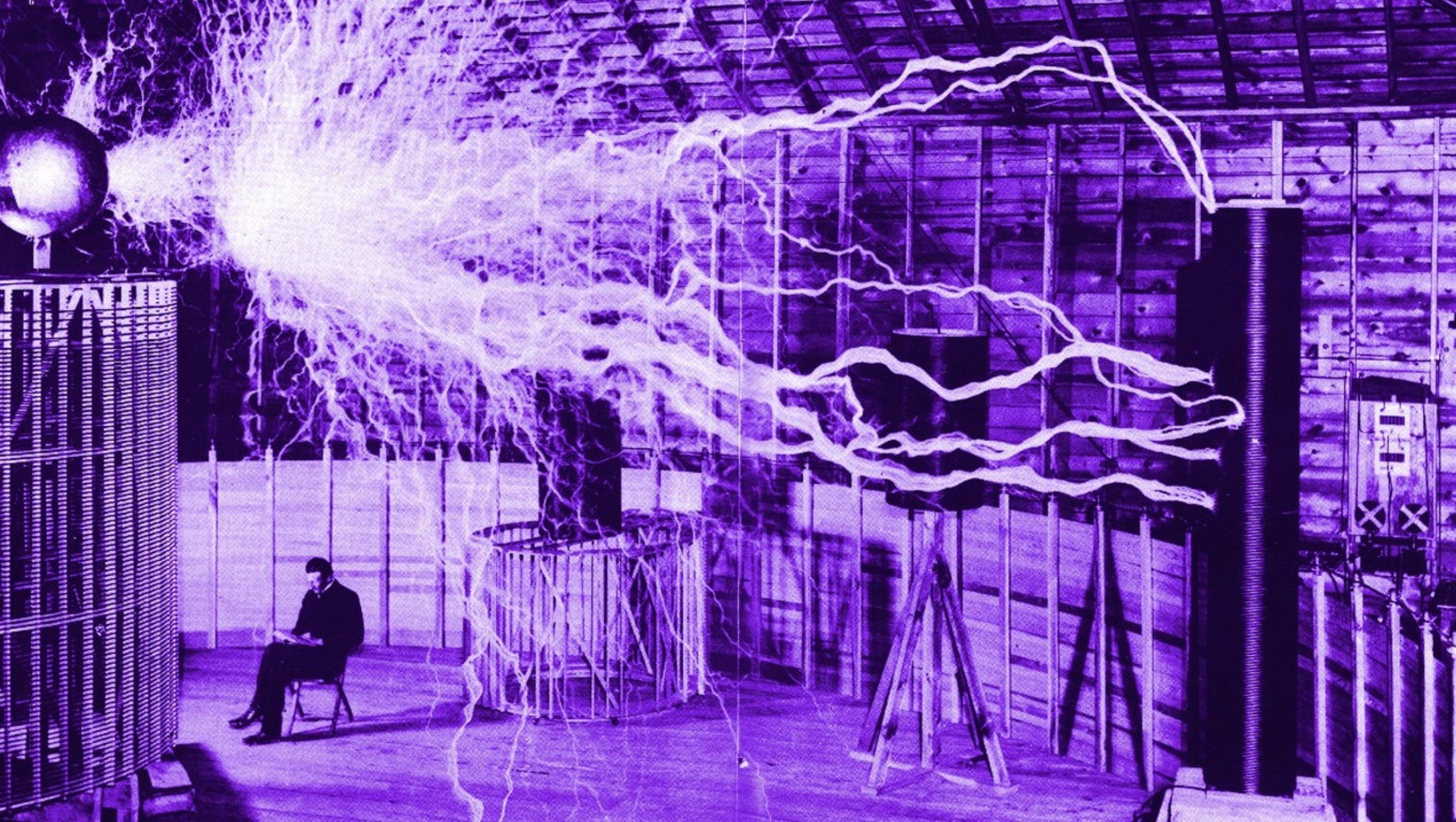


10 IoT Security Tips - Hitachi Systems ...  
hitachi-systems-security.com



future of the eCommerce Industr...  
geospatialworld.net





“

When wireless is perfectly applied the **whole earth will be converted into a huge brain**, which in fact it is, all things being particles of a real and rhythmic whole...and the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. **A man will be able to carry one in his vest pocket.**

Nikola Tesla





# 75 BILLION

*Devices online by 2025*



# \$15 TRILLION

*Spent on the IoT (2019-2025)*

~~The lot~~

# Awww...er and the Terrible, Horrible, No Good, Very Bad Day

JUDITH VIORST

Illustrated by RAY CRUZ



# Expectations vs Reality

**Updating your watch (4%)**  
Update in progress. Please keep your watch close to your smartphone and do not quit the app.

**Internet of Shit** @internetofshit  
hi what time is it?  
oh well uh sorry it's firmware update time so  
10:46 PM - Sep 11, 2018  
1,150 306 people are talking about this

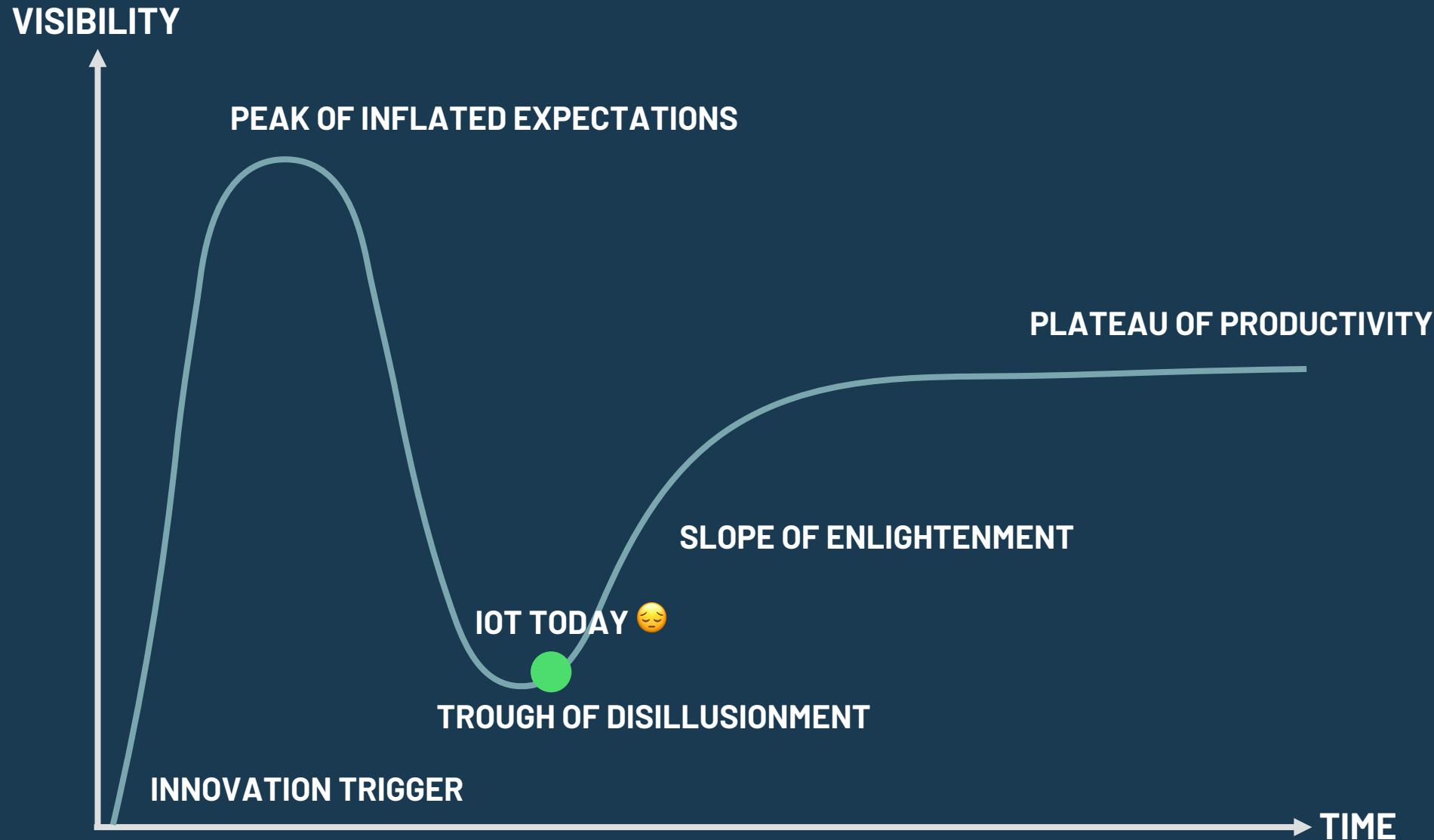
**New people seen**

**Sa** @  
Just got  
Hive has  
4:34 PM -  
488 0

**B.J. May** @bjmay  
My @nest doorbell automatically locks the front door when it sees a face it doesn't recognize. Today it didn't recognize me, so I went into the app to investigate and...  
6:38 PM - Sep 17, 2018  
35.5K 9,474 people are talking about this

**ENDING SOON**  
Support us now!







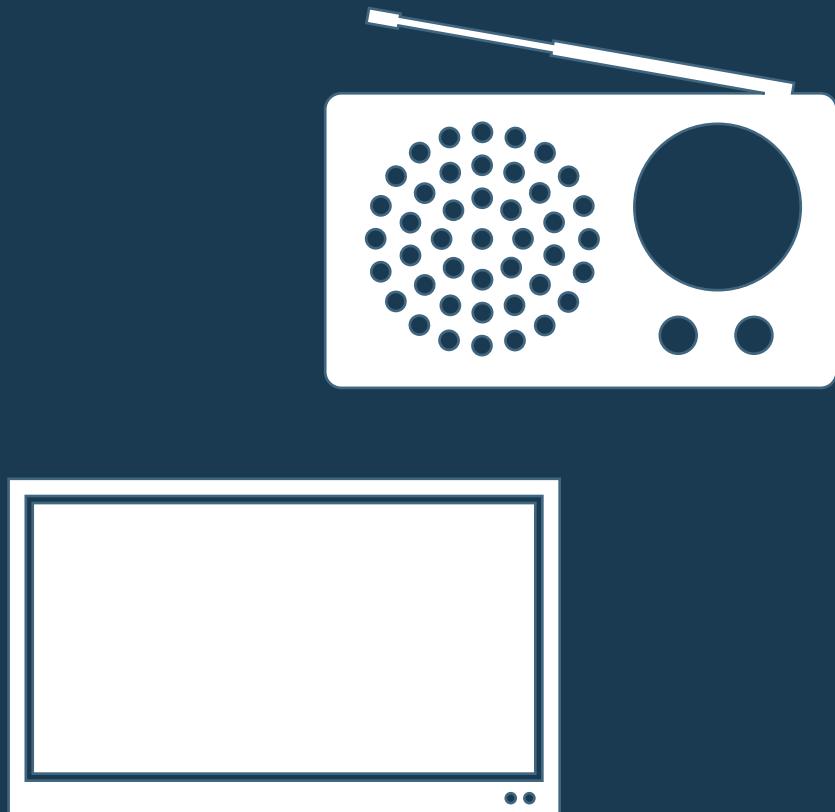
# An Informal History of Laughable Innovations



# The Television

“ Radio is the theater of the mind; television is the theater of the mindless.”

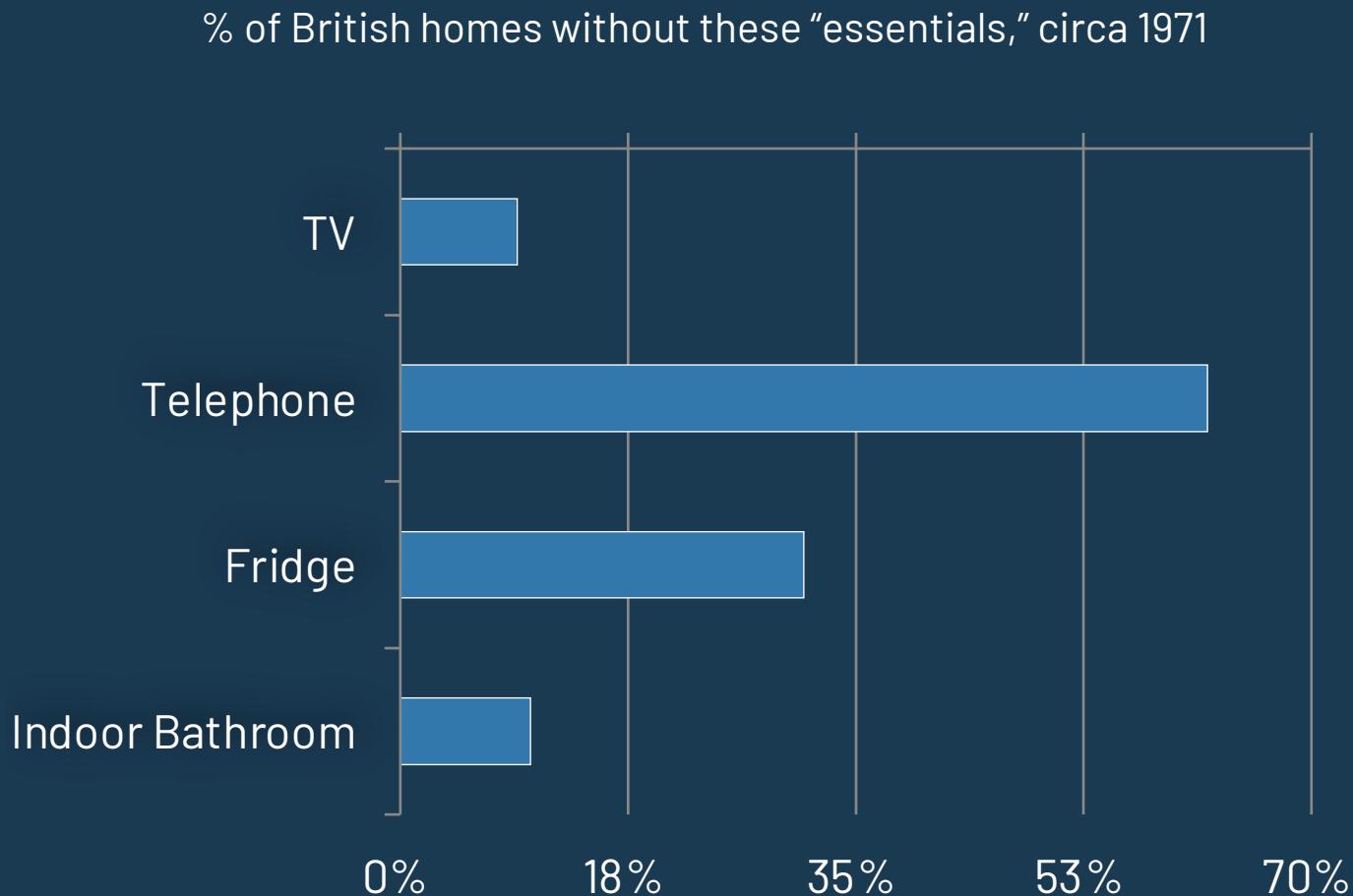
- Steve Allen



# The Television

“Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night.”

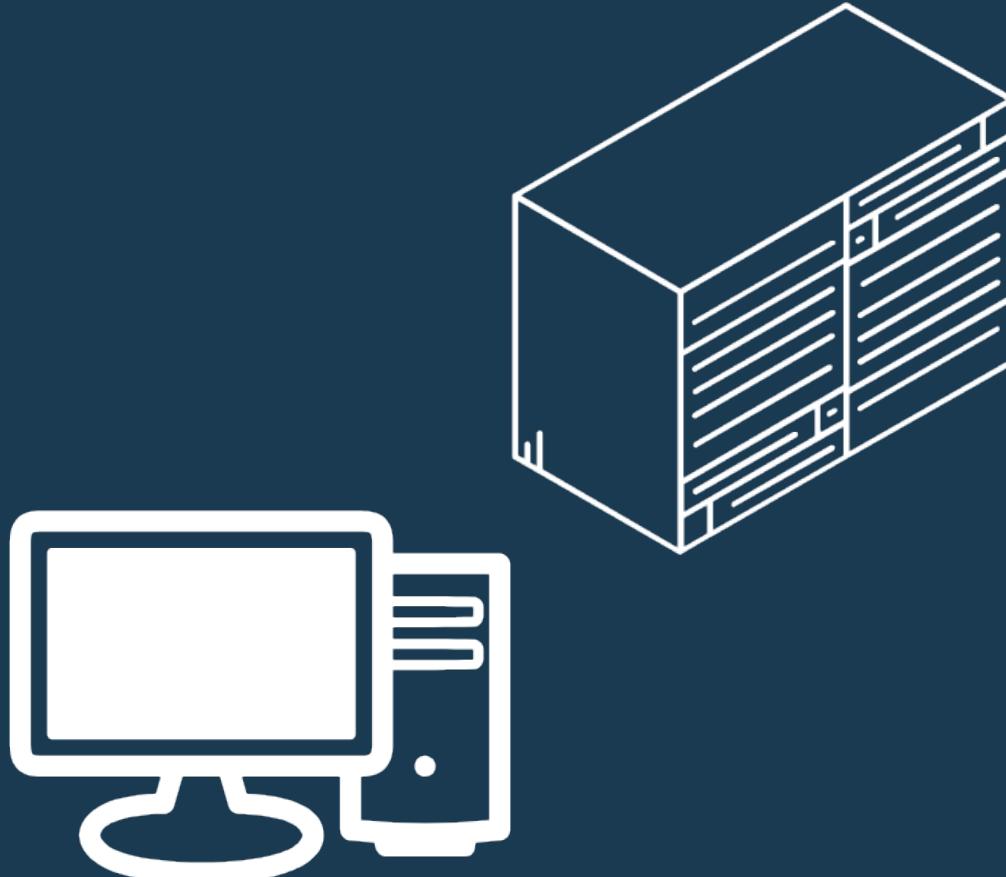
- Darryl Zanuck



# The Personal Computer

“ There is no reason anyone would want a computer in their home.”

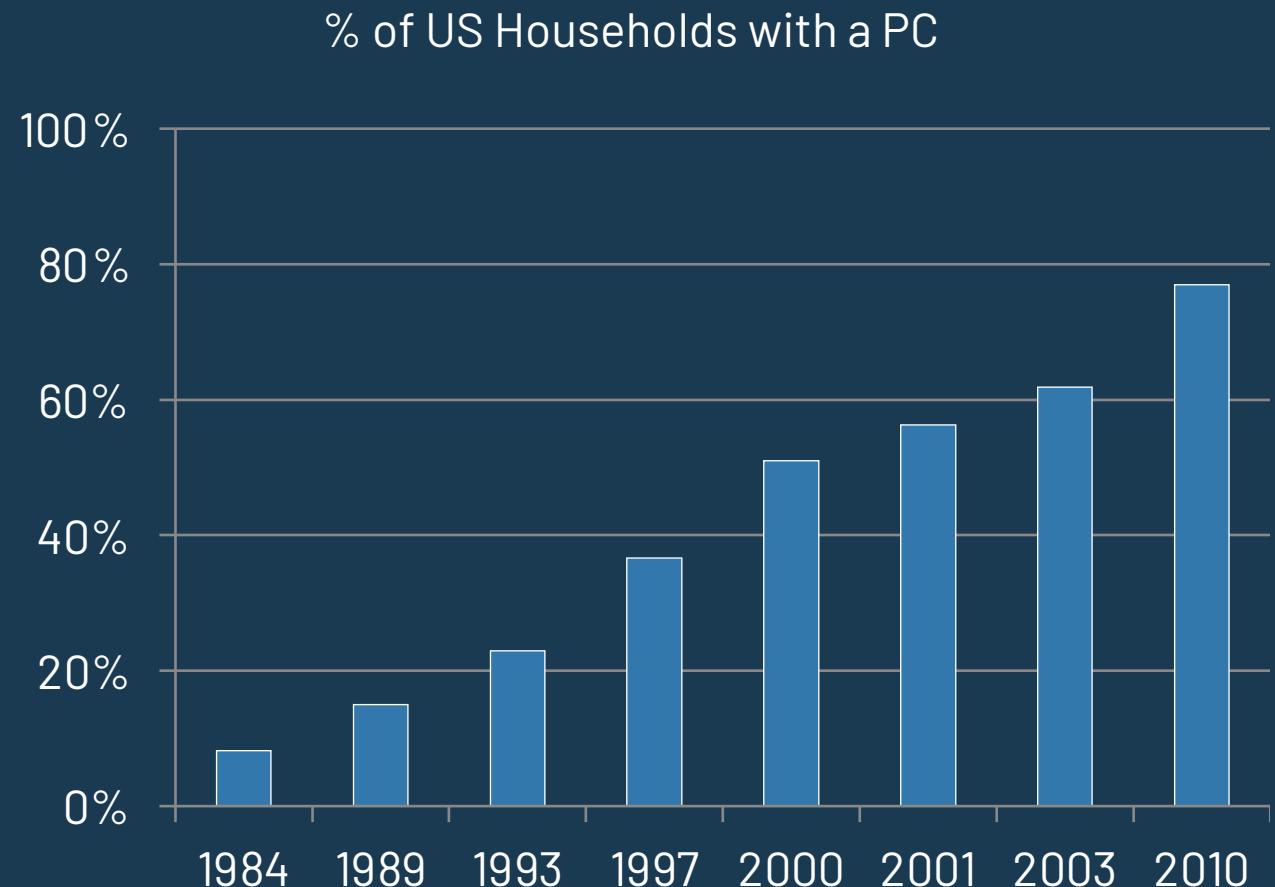
- Ken Olsen



# The Personal Computer

“I think there is a world market for maybe five computers.”

- Thomas Watson



# The Internet

“ I predict the Internet will soon go spectacularly supernova and in 1996 catastrophically collapse.”

- Robert Metcalfe



# Mobility

“ There’s no chance that the iPhone is going to get any significant market share.”

- Steve Ballmer

“ The iPad is ridiculous. It’s just a big iPhone.”  
- Rob Lauer

**\$3 TRILLION**

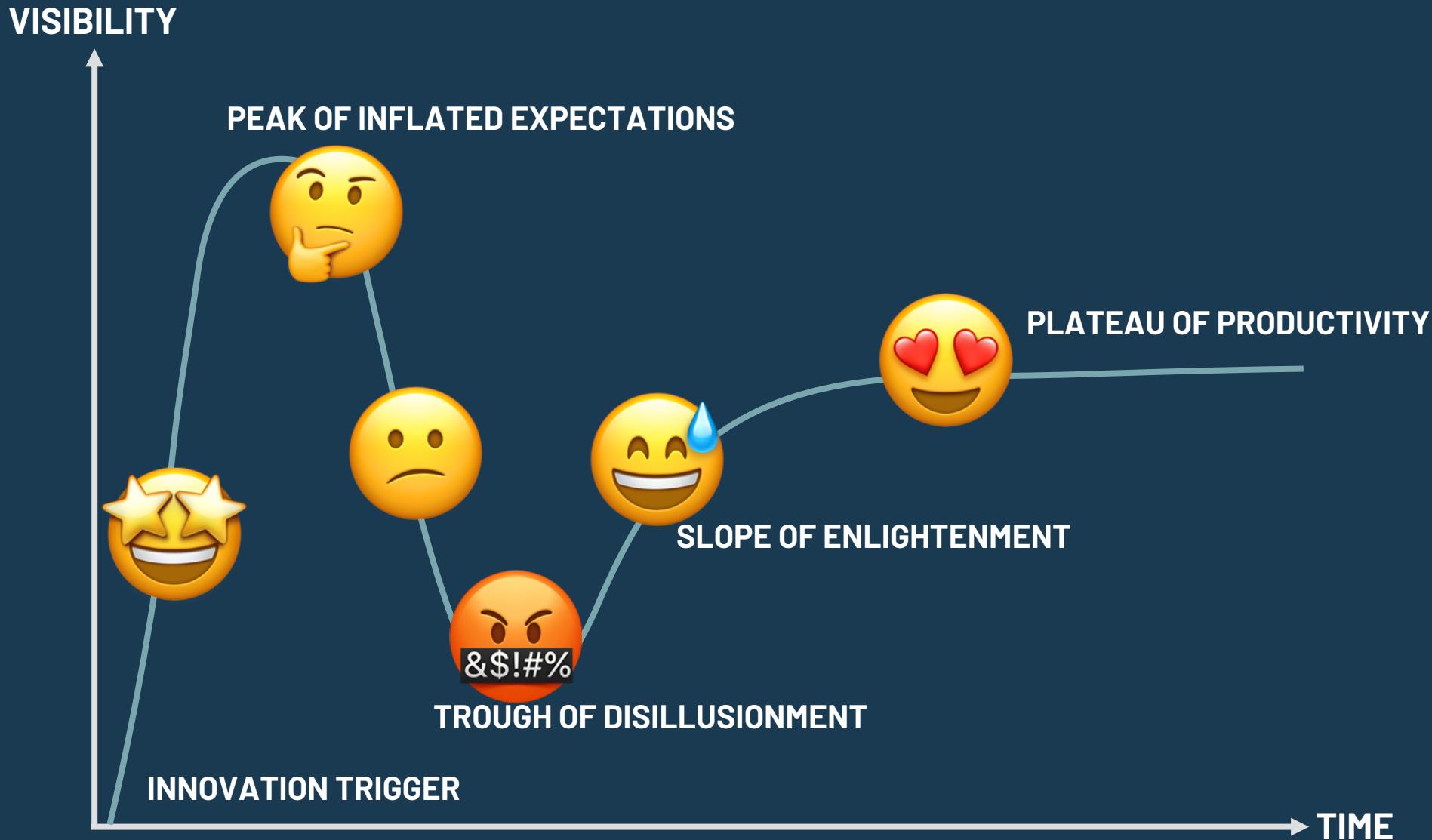
*Apple's Market Cap*



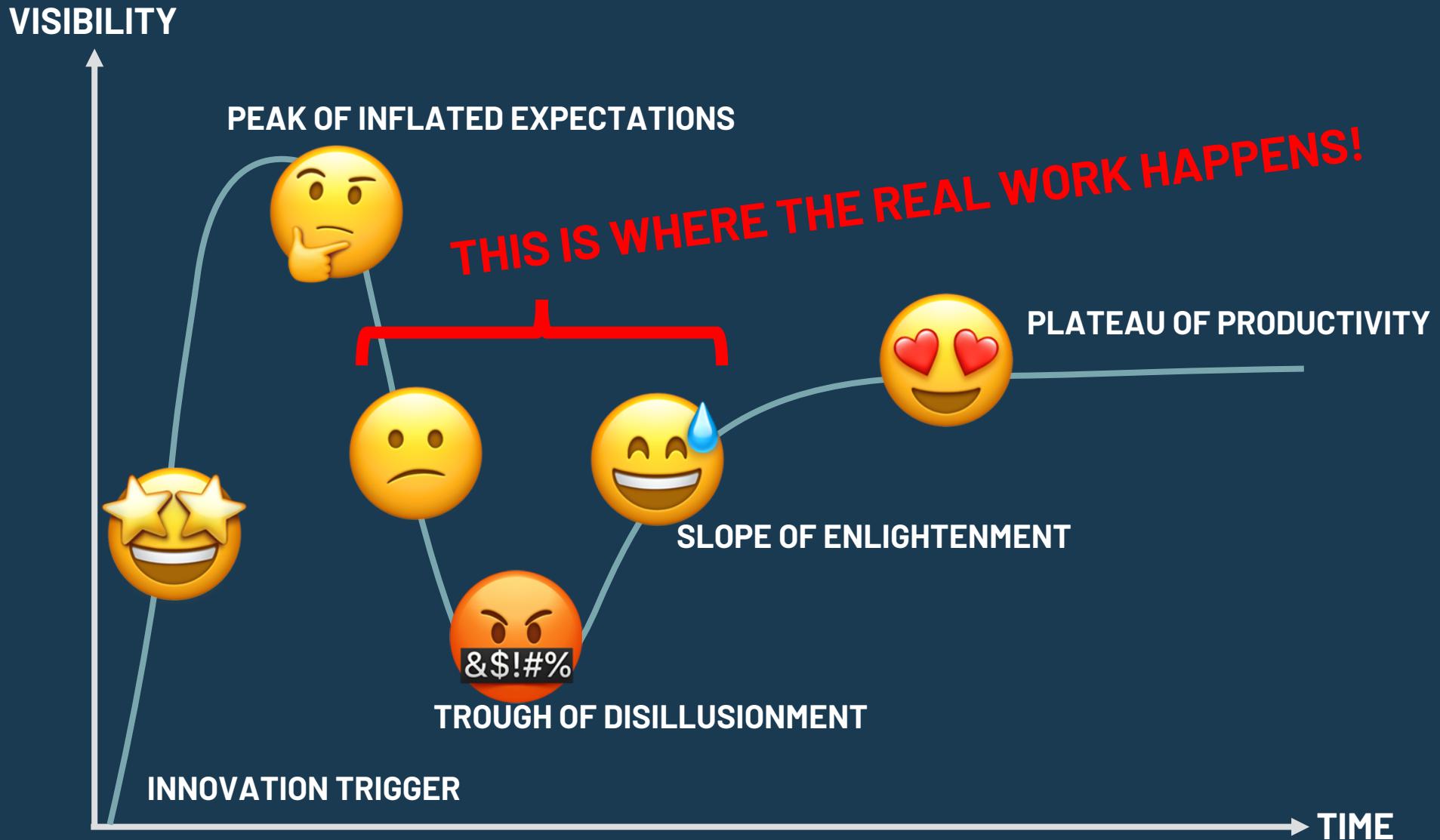
Schitt's Creek



# Every Innovation Follows a Pattern



# Every Innovation Follows a Pattern



Long Live the  
Internet

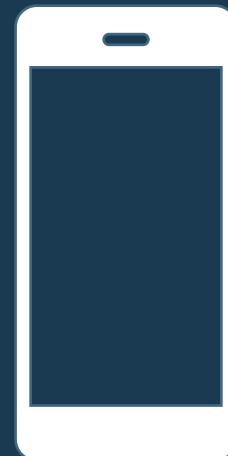


# The Internet of...?

**The Internet of  
Personal Computers?**



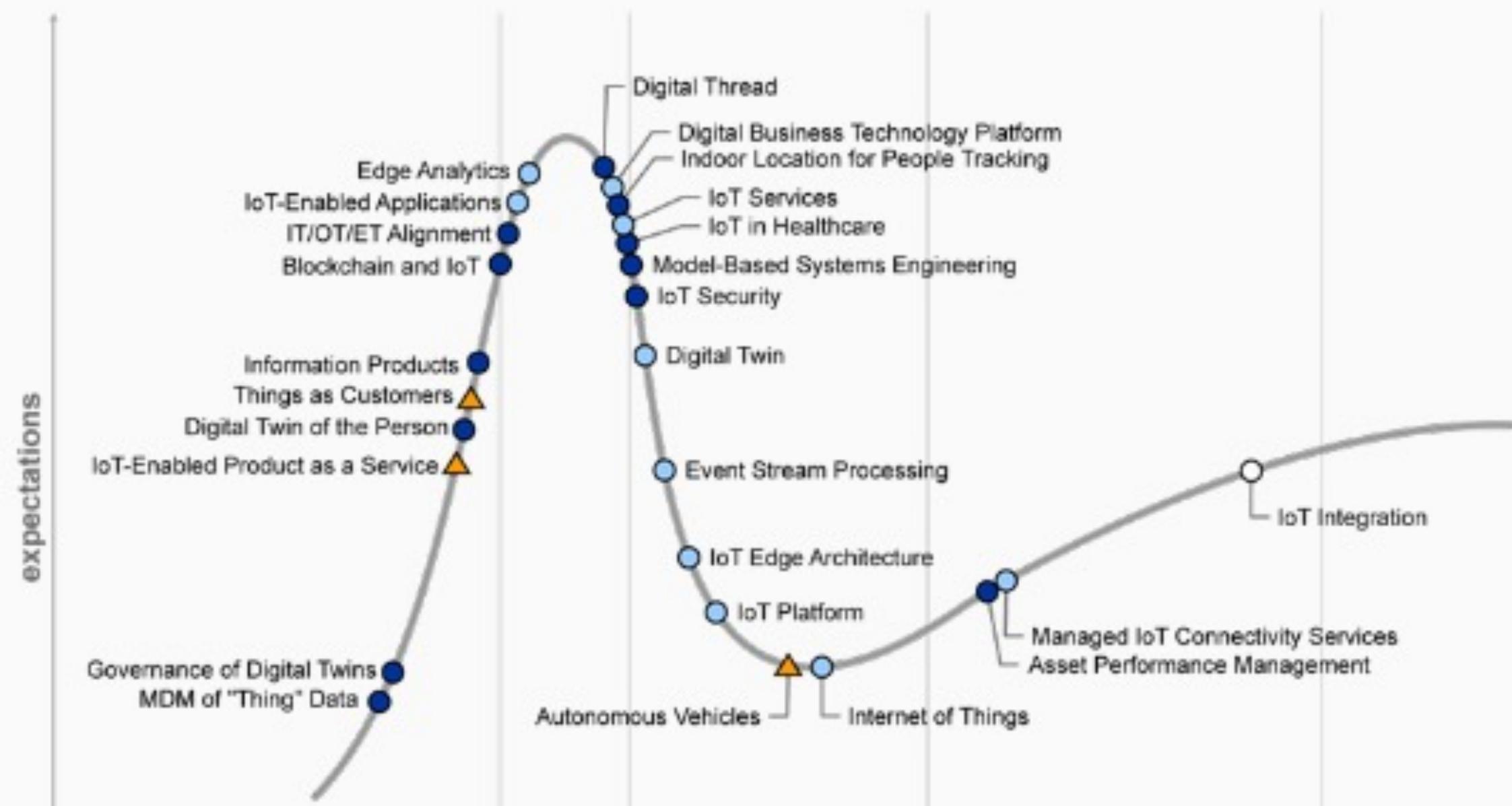
**The Internet of  
Mobility?**



**The Internet of  
Things?**

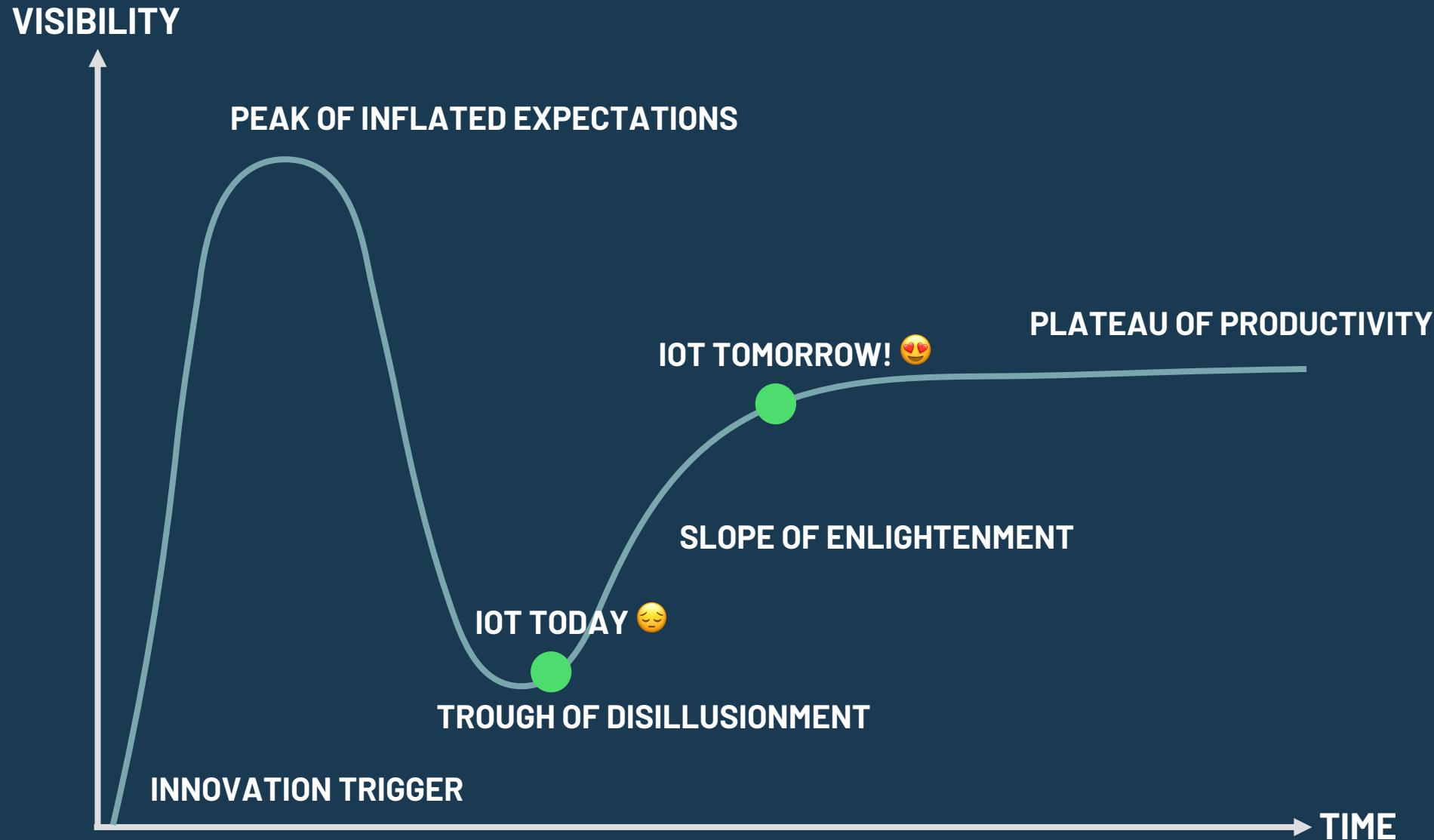


# Hype Cycle for the Internet of Things, 2020



IoT: It's Just the  
Internet



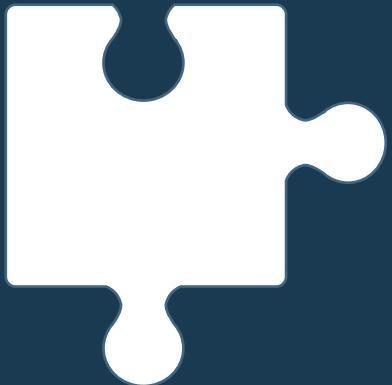


# How Do We Exit the Trough?

---

1

FOCUS ON SOLVING  
REAL PROBLEMS



2

BE SMARTER ABOUT CONNECTIVITY  
AND SECURITY



3

EMBRACE THE  
INTERNET



# Solving Real Problems



**YOU WERE SO PREOCCUPIED WITH WHETHER OR NOT YOU COULD**



**YOU DIDN'T STOP TO THINK IF YOU SHOULD**



Location: <http://www.ilovejustintimberlake.com>



What's New!

What's Cool!

Handbook

Net Search

Net Directory

Software

# Welcome to my page! I want to marry Justin Timberlake!!!!!!!!!!



# NCSA Mosaic for MS Windows

File Edit Options Navigate Annotate Global On-Line Search ... Gopher Servers

Other Documents Personal Richard

Help



Document Title: Welcome to PizzaNet!

Document URL: <http://www.pizzahut.com/>



## Welcome to PizzaNet!

PizzaNet is Pizza Hut's Electronic Storefront and is brought to you by Pizza Hut® and The Santa Cruz Operation®. You may click on the Pizza Hut logo on any page to submit comments regarding PizzaNet to [webmaster@PizzaHut.COM](mailto:webmaster@PizzaHut.COM).

---

If you would like to order a pizza to be delivered, please provide the following information:

# Big DINNER BOX

2 medium pizzas, 5 breadsticks & your choice of pasta or wings

ORDER NOW

Boneless wings only

pizzahut

**Start here**

Find your store to see local deals

FIND DEALS

## Featured

[SEE MORE >](#)



\$10 Tastemaker™  
Large up to 3 toppings



\$12.99 Original Stuffed Crust®  
Nothing beats the original



Wings  
Choose your favorite sauce or rub



With the Internet,  
Connectivity Enabled  
Commerce 💰

With the IoT,  
Connectivity Enables  
Control ⚡



"American Crane & Equipment Corporation has unlocked 10x lower up-front costs vs. out-of-the-box solutions."





"Instead of the farm having to send somebody out to every greenhouse to read the current temperature and humidity of each greenhouse, for very little money you can have data points every 10 or 15 minutes."

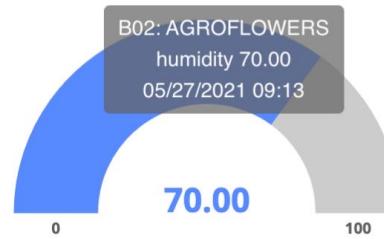
Temperatura Actual



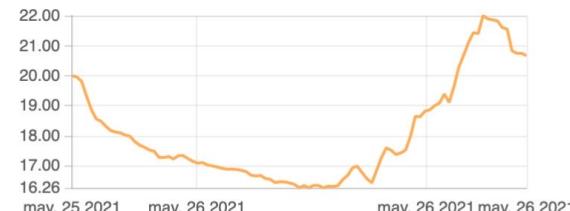
20.67

Último Actualizado: 05/26/2021 17:15

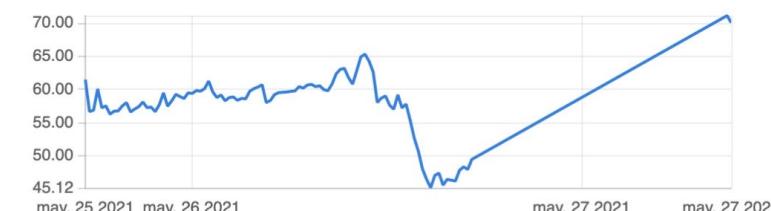
Humedad Actual



Temperatura Histórica



Humedad Histórica





“By offloading the complexity of moving sensor data over cellular networks, we get to market faster and there less that can go wrong.”



Solving Problems where  
*Connectivity* is the  
Secret Sauce



# Smarter Connectivity and Security





Wi-Fi is  
Brittle



Cellular is  
Expensive



Bluetooth is  
Limited

LoRa

LoRaWAN is  
Constrained

	Long Range	Low Power	Continuous Availability	High Bandwidth	Low Latency	"Just Works" Setup
Ethernet	🔴	🔴	🔴	🟢	🟢	🔴
Wi-Fi	🟡	🔴	🔴	🟢	🟢	🟡
Cellular IoT	🟢	🟢	🟢	🟡	🔴	🔴
LoRa	🟢	🟢	🔴	🔴	🔴	🟡
BLE	🔴	🟢	🟡	🔴	🟢	🟡

# Is Internet-Connected the Right Choice?

Home > Security

FEATURE

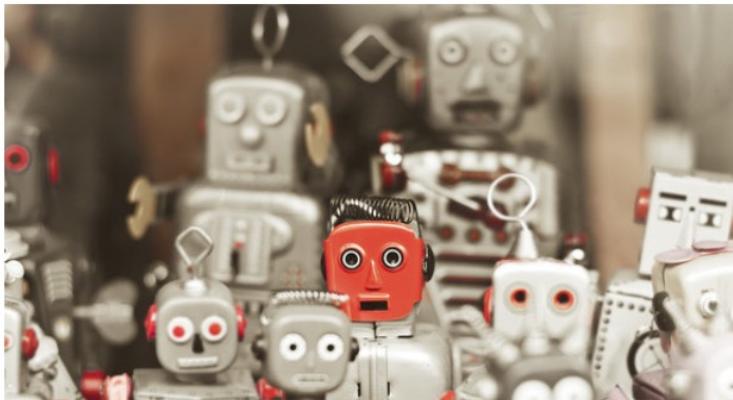
## The Mirai botnet explained: How teen scammers and CCTV cameras almost took down the internet

Mirai took advantage of insecure IoT devices in a simple but clever way. It scanned the internet for open Telnet ports, then attempted to log in with default passwords. Mirai was able to amass a botnet army.



By **Josh Fruhlinger**

CSO | MAR 9, 2018 3:00 AM PT



MORE LIKE



## A New IoT Botnet Storm is Coming

### Key Points:

- A massive Botnet is forming to create a cyber-storm that could take down the internet.
- An estimated million organizations have already been scanned with an unknown amount actually infected.
- The Botnet is recruiting IoT devices such as IP Wireless Cameras to carry out the attack.

cp<r>  
CHECK POINT RESEARCH

PUBLICATIONS

TOOLS

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UNDER ATTACK?

Search for research publications, malware families etc..



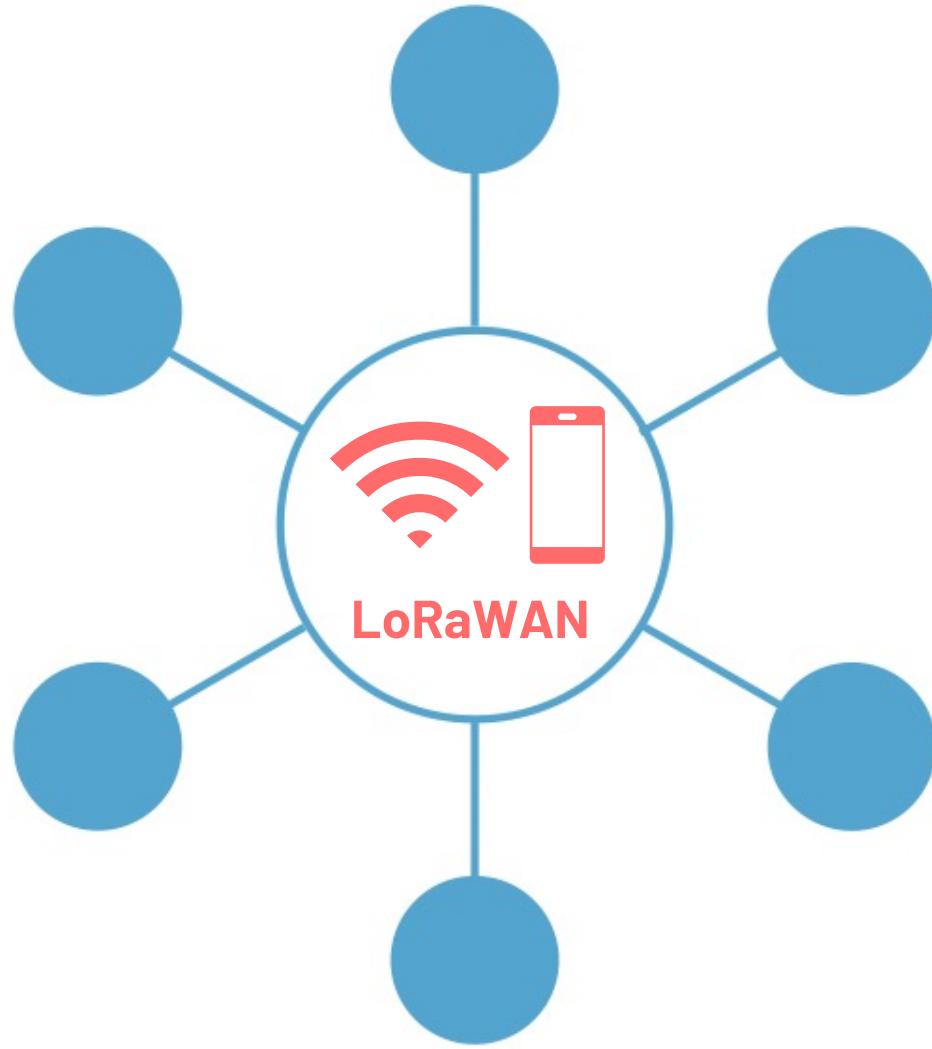
IPS ADVISORIES

Democracy Under Attack: Summarizing the Elections Threat Landscape

Check Point CloudGuard and VMware Deliver Advanced Security at Scale and Speed at VMworld Europe 2018

Microsoft Office Vulnerability Found, Check Point

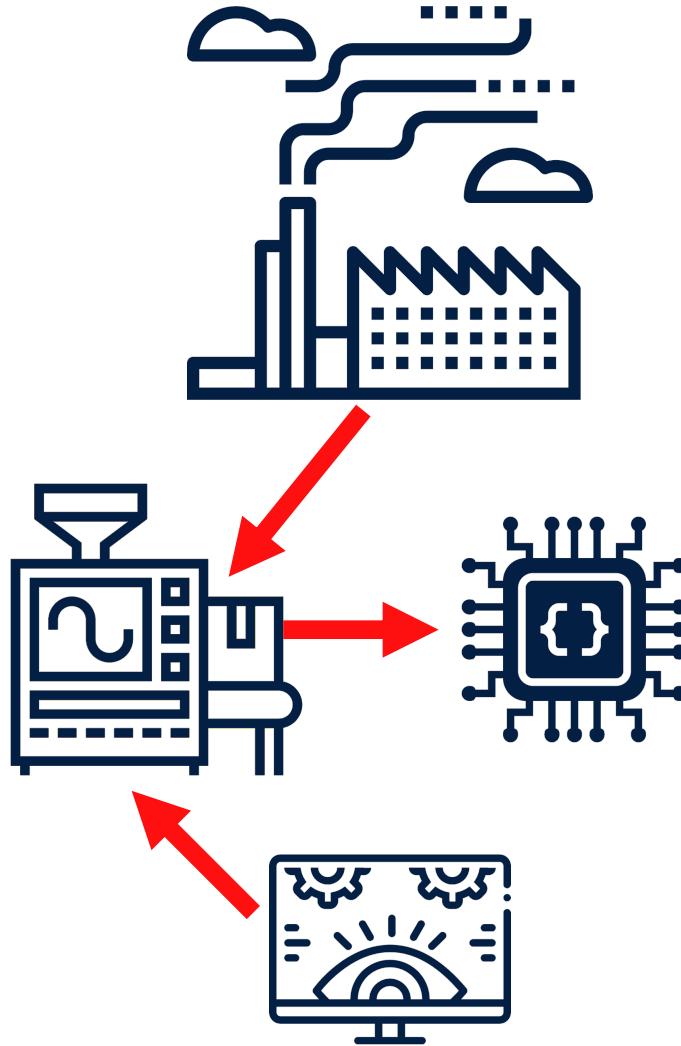
The IoT Needs Less  
Internet 



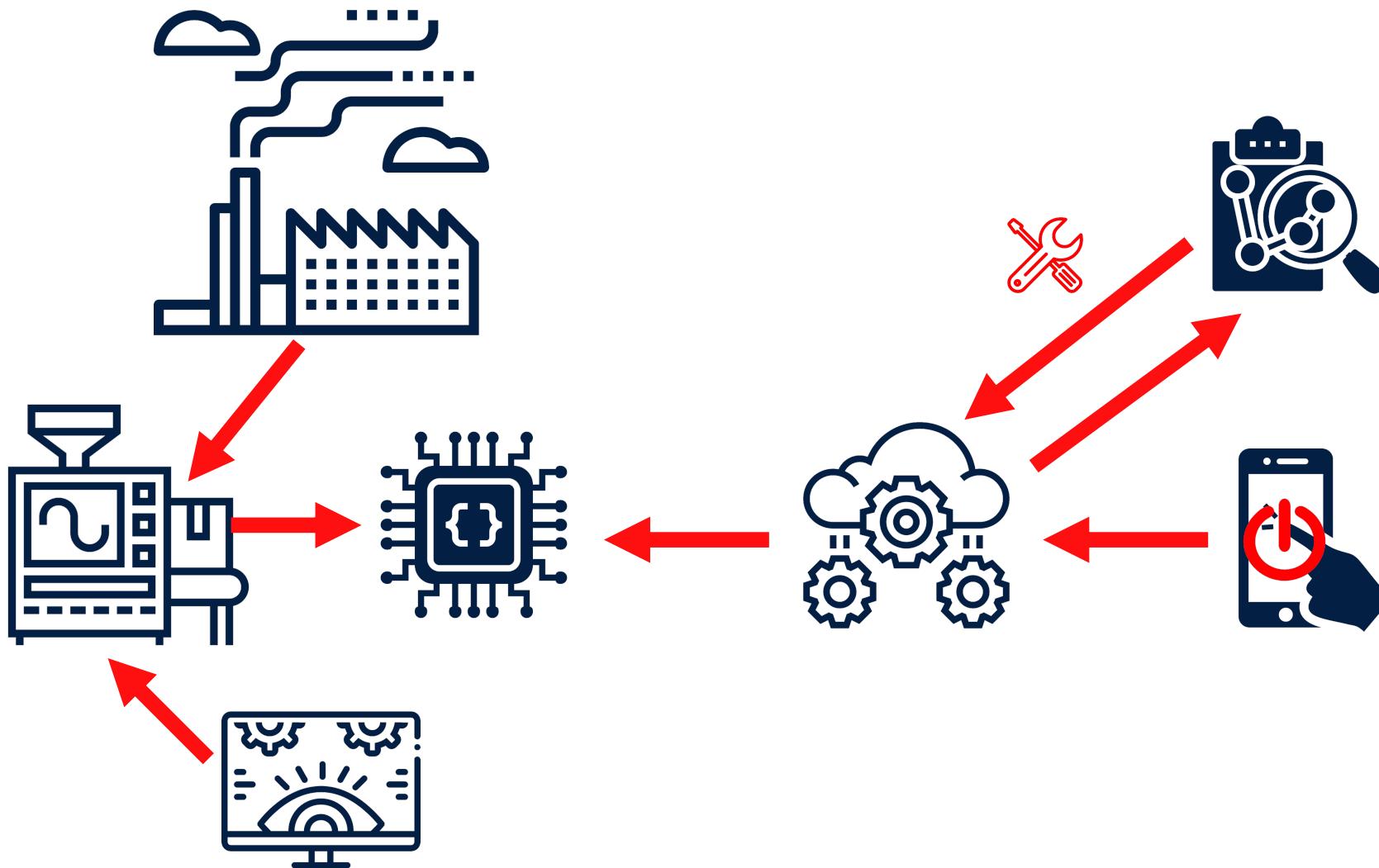
# Embracing the Internet



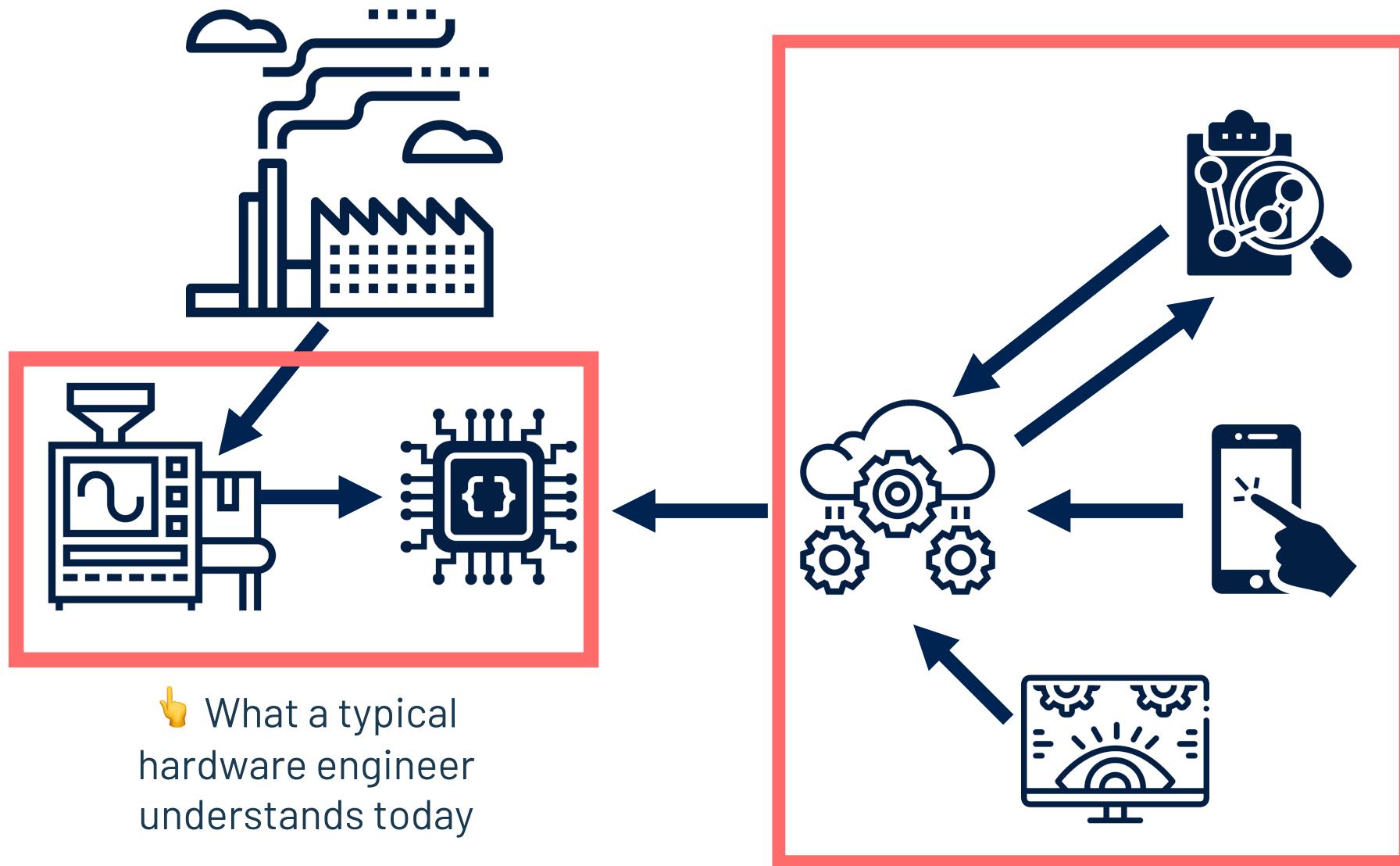
# From Closed to Open



# From Closed to Open



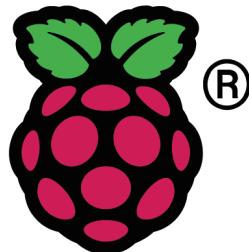
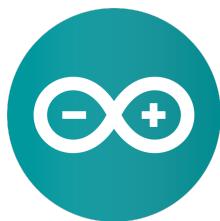
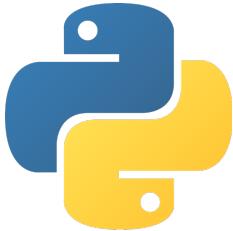
# “The IoT” is a Foreign World





#SCHITTSREEK

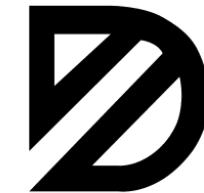
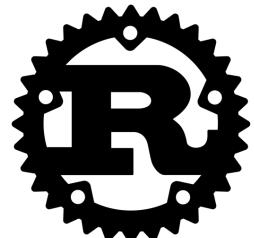
Pop



## Languages



## Platforms



## Capabilities



The IoT is Dead! Long  
Live the IoT!

