

# **INTERNET DAS COISAS: REGULAÇÃO E PRIVACIDADE**

**BY EDUARDO MAGRANI**



# Plano Nacional de Internet das Coisas



A Internet das Coisas é a rede de todos os objetos que se comunicam e se regulam de forma autônoma via internet



# Internet das Coisas pode gerar mais de US\$ 11 trilhões até 2025

Por Brasil Econômico | 04/05/2017 11:36

COMPARTILHE



Tamanho do texto - +

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"A IBM não só empregou US\$ 3 bilhões em seu negócio IoT, como também fez uma parceria com a AT&T para fornecer soluções IoT industriais" diz Magrani

**Brasil  
Econômico**

De acordo com a análise do professor e pesquisador do Centro de Tecnologia e Sociedade da Fundação Getulio Vargas (FGV – Direito), Eduardo Magrani, a Internet das Coisas (IoT - na sigla em inglês) deve gerar um impacto financeiro de mais de US\$ 11 trilhões no mundo até 2025.

[Leia também: Empreendedorismo: Brasil teve crescimento de 20% em abertura de empresas](#)



Quanto mais coisas  
melhor...



**12 bilhões**  
**de dispositivos**  
**Conectados à**  
**Internet**

Por **Maurocosta** - abr 6, 2017  1



## Pesquisa do mês

Há quanto tempo você tem seu smartphone?



# Segundo projeção, até 2020 cerca de 50 bilhões de dispositivos estarão conectados à internet

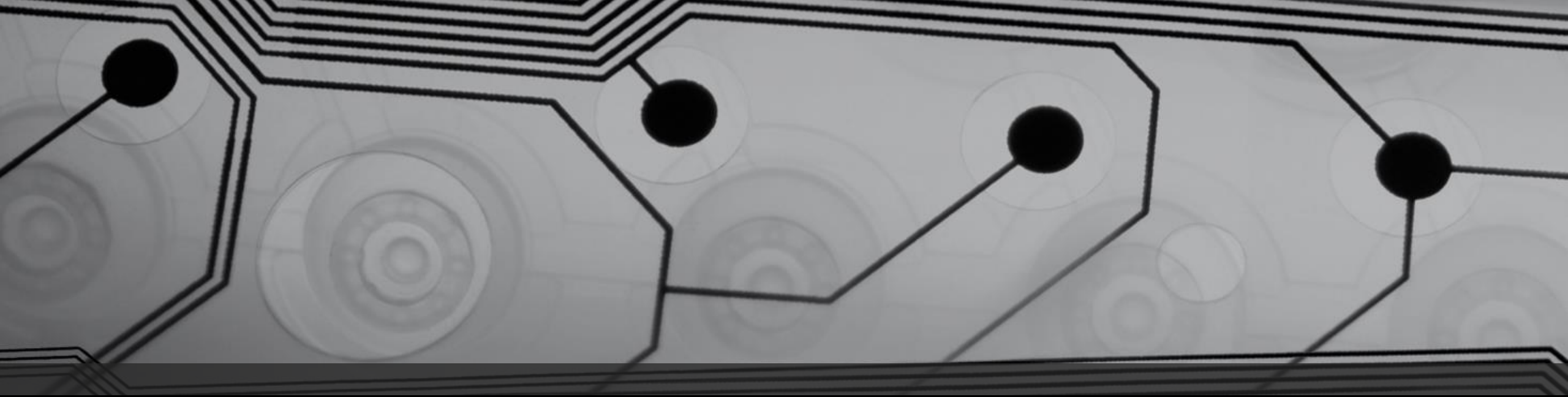
 15 JUN 2017  00h03



COMENTÁRIOS

Com a capacidade de desenvolvimento tecnológico no mundo a conectividade se tornou imprescindível entre as pessoas e as máquinas, desde a revolução industrial há mais de dois séculos, os eletroeletrônicos evoluem em uma velocidade exponencial. Hoje todo dispositivo pode conectar-se, é aí que surge a "Internet das coisas", é um conceito de que um dispositivo com possibilidade de se conectar a





Desafios pela frente...



Global Agenda

Digital

Future of the Internet

Hyperconnectivity

# 4 billion people still don't have internet access.



People use computers at an internet cafe.

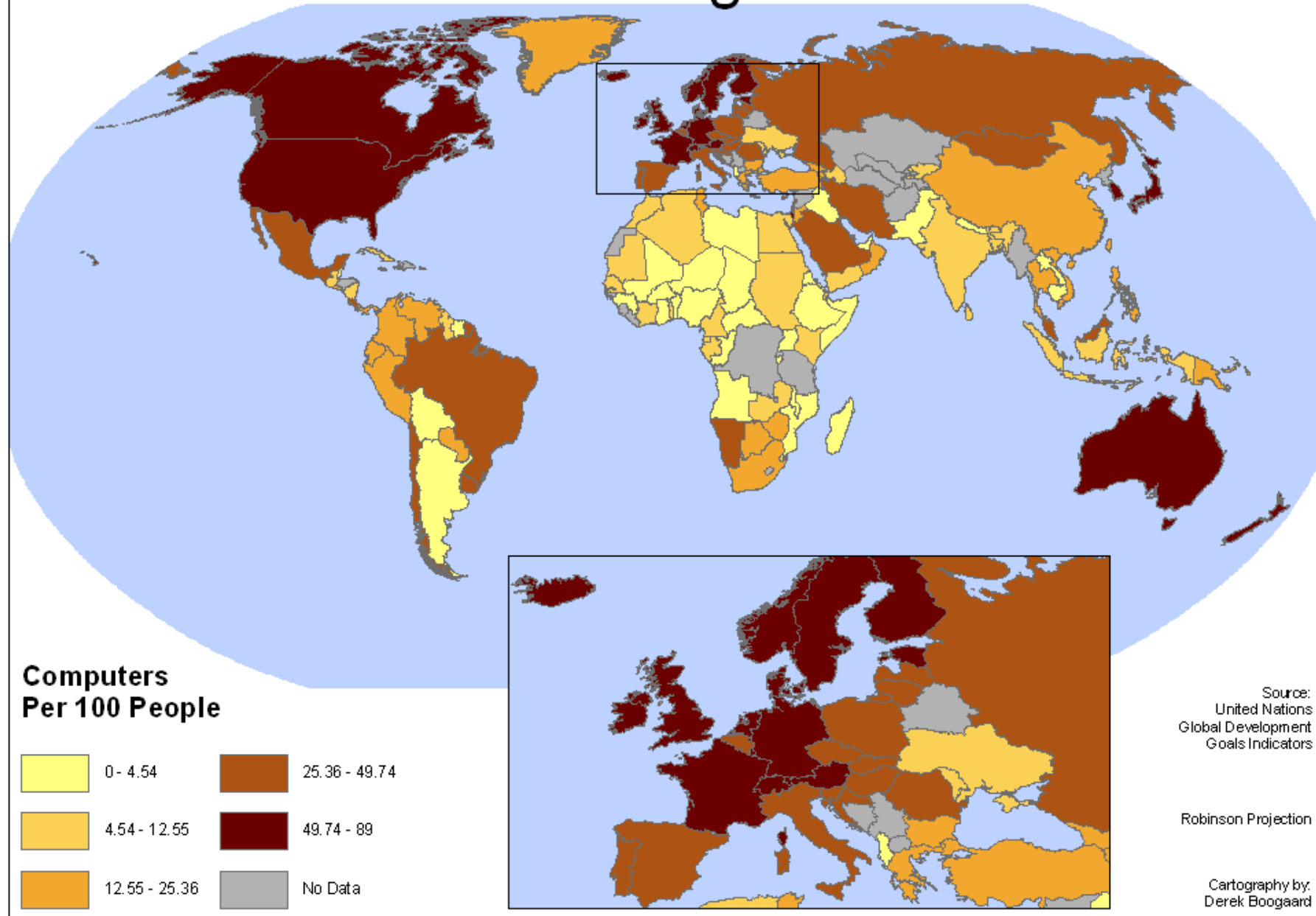
Image: Reuters/Feisal Omar

11 May 2016

Emma Luxton

More than 4 billion people, mostly in developing countries, still don't have access to the internet. This means that over half of the world's population is missing out

# The Global Digital Divide









# Connecting the world

Means the whole world, not just some of us

**OUR MISSION** →

Takes inventing new ways of doing things

**OUR APPROACH** →



Depois de conectar  
pessoas...

Como conectar mais  
Coisas Inteligentes?





## INTERNET

### Brasil é o País que mais cresce em adoção de IPv6 no ranking da Akamai

quinta-feira, 08 de junho de 2017 , 14h17



**BRUNO DO AMARAL** | [bruno@teletime.com.br](mailto:bruno@teletime.com.br)

O Brasil ficou em nono lugar durante o primeiro trimestre no ranking de maior implantação do protocolo de Internet IPv6 no levantamento State of the Internet da empresa de tráfego Akamai divulgado nesta quinta-feira, 8. Com 13% de penetração, o País obteve um crescimento de 29% em relação ao trimestre anterior, o maior dentre os dez países citados no estudo.

Vale lembrar que a pesquisa se refere ao tráfego nas redes da Akamai. De acordo com o Comitê Gestor da Internet no Brasil (CGI.br), o País está atualmente com 17% do tráfego em IPv6, percentual que o colocaria em sétimo lugar, empatado com a Índia, que também mostrou crescimento de dois dígitos (21%) em relação ao final de 2016.

Em primeiro lugar ficou a Bélgica, com 38% de penetração (queda de 19%), seguida por Grécia (25%), Estados Unidos (22%), Suíça (21%), Trindade e Tobago (21%), Alemanha (20%), Índia (17%) e Estônia (16%). Em décimo lugar ficou o Reino Unido, com 13%. Tirando o tráfego indiano e brasileiro, todos os países apresentaram queda – a Akamai não procurou apresentar explicações sobre isso.

Por outro lado, a companhia observou aumento de 0,9% no número de endereços IPv4 conectados à plataforma da empresa. Ao todo, 5 milhões de endereços nesse protocolo antigo foram esgotados a partir dos pools disponíveis nos registros regionais no período, deixando aproximadamente 39 milhões de endereços restantes.



## Brasil salta para 9º do mundo em adoção de IPv6

Luís Osvaldo Grossmann ... 02/06/2017 ... Convergência Digital

O Brasil deu um salto grande em 2016 na adoção da nova versão do protocolo IP, praticamente dobrando a proporção desse tráfego, conforme mostra o novo relatório trimestral da Akamai sobre o 'Estado da Internet'. Em um ano, o país pulou de 16o para 9o país com maior tráfego em IPv6.



Segundo esse novo relatório, 13% do tráfego no Brasil já é no novo protocolo, contra 8% indicados no levantamento feito um ano antes, no primeiro trimestre de 2016. A Net aparece na lista dos 20 maiores provedores do mundo por volume de tráfego em IPv6 (22%).

O levantamento mostra que a Bélgica segue em distante liderança, com 38% do tráfego em IPv6, seguida da Grécia (25%), EUA (22%), Suíça e Trinidad e Tobago (ambos com 21%), Alemanha (20%), Índia (17%), Estônia (16%), Brasil e Reino Unido (ambos com 13%).

JUNTO  
É BEM MELHOR.

“ Opinião ”

**Marco Civil da Internet – Pega ou não pega?**

Por Flávia Lefèvre\*



« 1 2 3 4 5 »

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Regional do Sindpd arrecada brinquedos e roupas para crianças



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Internet ... 02/06/2017

**Brasil salta para 9º do mundo**

**Câmara aprova projeto que só permite acesso a dados em celulares e tablets com ordem judicial**

Iniciativa quer reforçar que o acesso a qualquer dado contido em aparelhos eletrônicos, como fotos,

Como conectar as  
Coisas Inteligentes  
com diferentes  
protocolos?

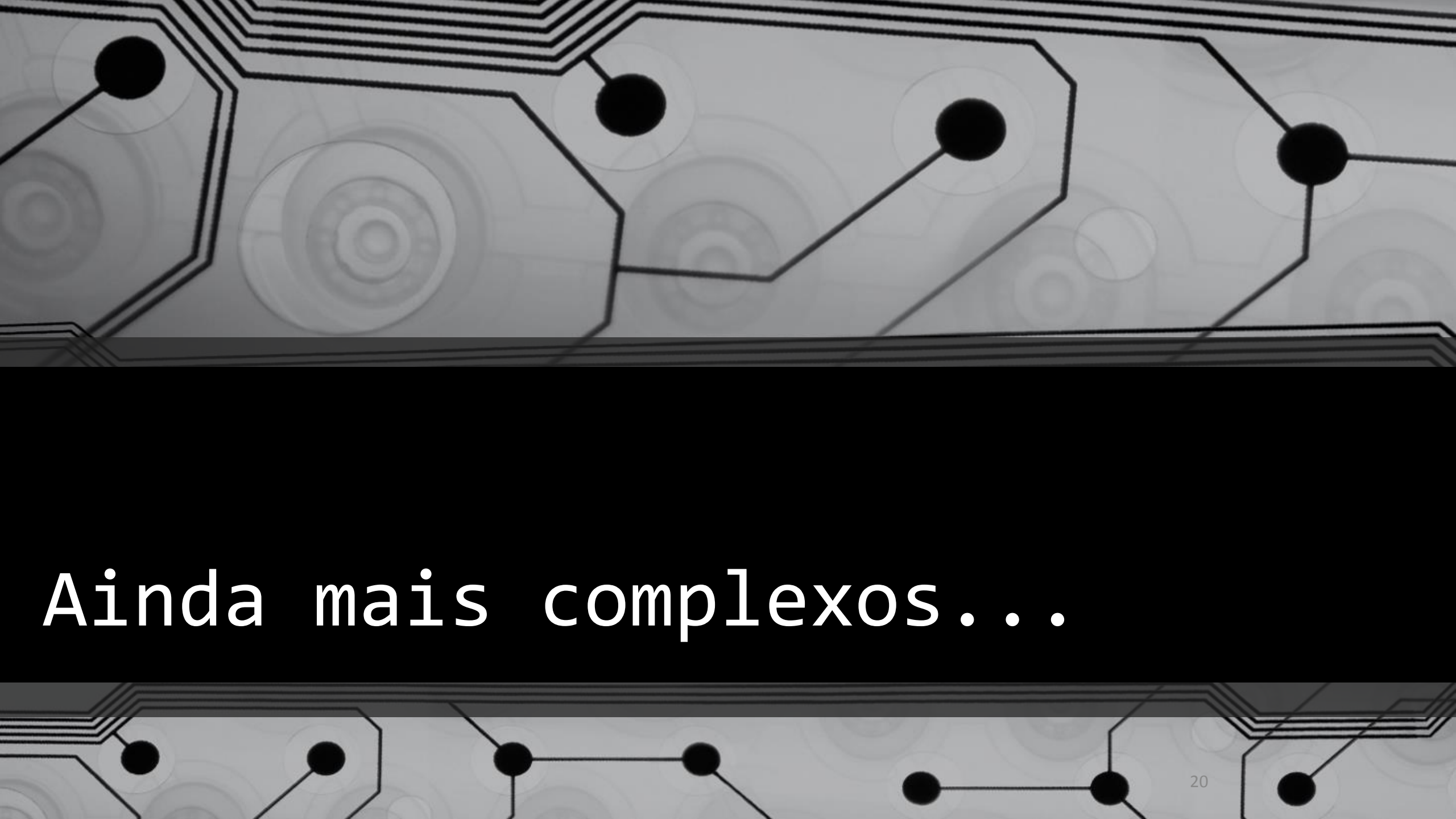
# KNoT

How to contribute to the dissemination of IoT, reducing the current problems of platform interoperability?

Development of KNoT, an open metaplatform that aims to ensure the communication of the various IoT platforms, regardless of the protocol used. KNoT and its information are available at: <http://knot.cesar.org.br>







Ainda mais complexos...

# Cyber-Segurança

# Cyber-Segurança

## Privacidade

# Cyber-Segurança

## Privacidade

## Ética



Regulating the internet giants

# The world's most valuable resource is no longer oil, but data

*The data economy demands a new approach to antitrust rules*

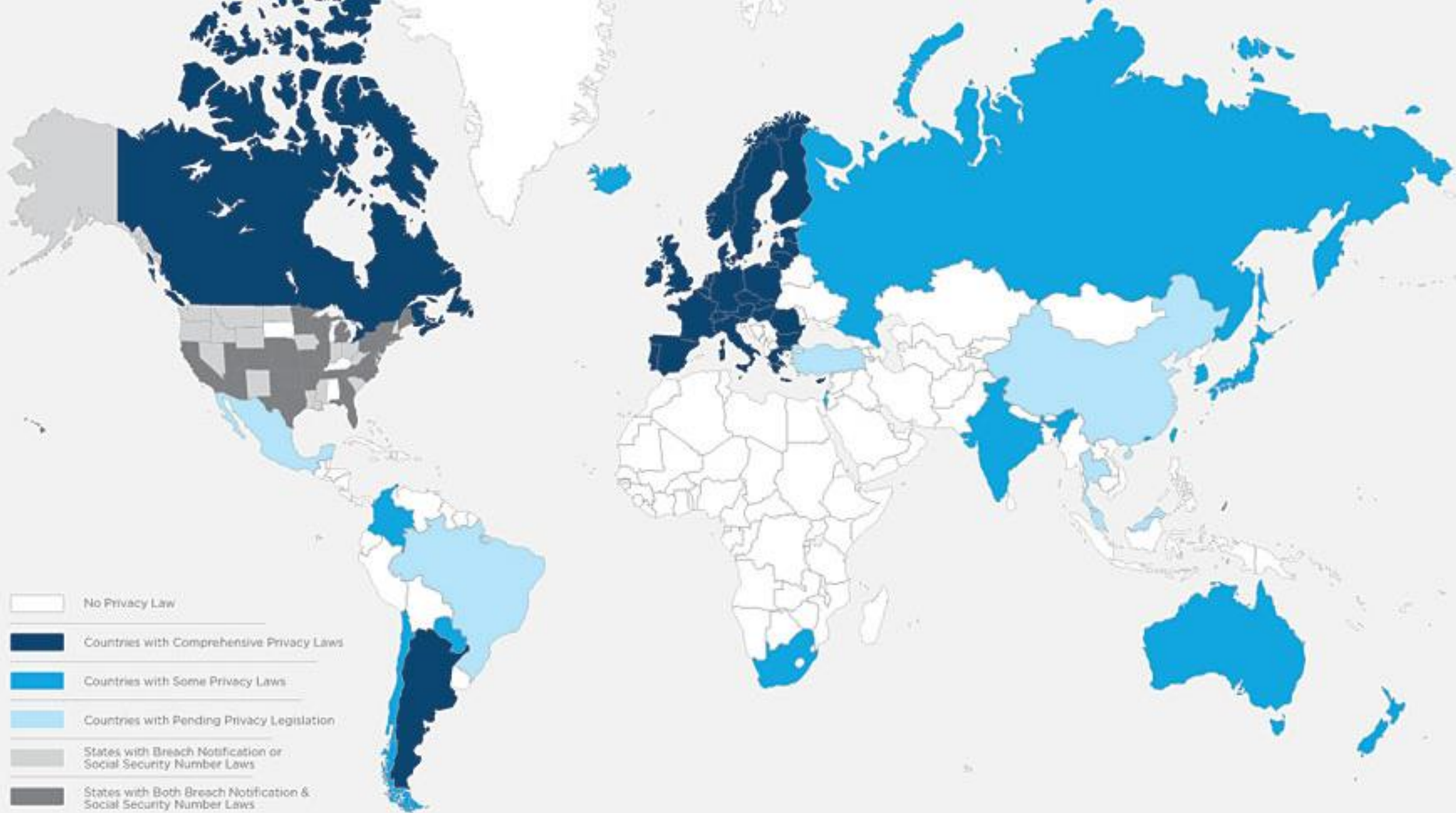


David Parkins

# Modelos de Negócio

Quanto custam seus  
dados!?

Existem limites para práticas de  
*tracking, targeting e profiling?*





**Marco Civil da Internet**



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JAMILA VENTURINI  
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KONSTANTINOS STYLIANOU  
LUCA BELLÌ  
EDUARDO MAGRANI

# TERMS OF SERVICE AND HUMAN RIGHTS

AN ANALYSIS OF ONLINE PLATFORM CONTRACTS



FGV DIREITO RIO

  
Editora Revan



# ToS (HR) Results

- 66% of the analyzed platforms collect more data than necessary and proportionate to operate their services
- 48% of the analyzed platforms guarantee in their Terms of Service the right to track users' activities in other websites.
- 56% retain data for longer than necessary to provide their services
- 72% allow third-parties to track users' activities within the platform



**Modelo de  
Consentimento  
Failed!**

Quem está monitorando  
sua localização e  
outras informações  
relevantes!?



The company says that it does use peoples' microphones, but only to help them out – and there's an easy way of turning it off

ANDREW GRIFFIN  
@\_andrew\_griffin  
Tuesday 31 May 2016 12:08 BST



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# Samsung's warning: Our Smart TVs record your living room chatter

Technically Incorrect: Samsung's small print says that its Smart TV's voice recognition system will not only capture your private conversations, but also pass them onto third parties.



Early favorite for best high-end TV of the year  
LG OLED7P review  
Sponsored by LG



LOW PR

Security



by **Chris Matyszczyk**  
February 8, 2015 2:10 PM PST  
@ChrisMatyszczyk



*Technically Incorrect offers a slightly twisted take on the tech that's taken over our lives.*

Why worry about Big Brother?

It's your big Samsung TV that's watching you. Oh, and listening to you.

That seems to be the conclusion from reading **the privacy small print offered by the company**. (Samsung's motto: **TV has never been this smart.**)

It concerns the voice-recognition feature, vital for everyone who finds pressing a few buttons on their remote far too tiresome.

The wording, **first spotted by the Daily Beast**, first informs you that the company may "capture voice commands and associated texts so that we can provide you with Voice Recognition features and evaluate and improve the features."

This is almost understandable. It's a little like every single customer service call, supposedly recorded to make your next customer service call far, far more enjoyable.

However, the following words border on the numbing: "Please be aware that if your spoken words include personal or other sensitive information, that information will be among the data captured and transmitted to a third party through your use of Voice Recognition."



You see, this is progress in intelligence. Because you need an intelligent TV.

Screenshot by Chris Matyszczyk/CNET

home > tech

## Facebook

# Facebook reveals news feed experiment to control emotions

Protests over secret study involving 689,000 users in which friends' postings were moved to influence moods

Poll: Facebook's secret mood experiment: have you lost trust in the social network?



This article is 2 years old

61,870 850

Robert Booth

Monday 30 June 2014 00.57 BST



Activists and politicians called Facebook's experiment 'scandalous', 'spooky' and 'disturbing'. Photograph: Dado Ruvic/Reuters

It already knows whether you are single or dating, the first school you went to and whether you like or loathe Justin Bieber. But now Facebook, the world's biggest social networking site, is facing a storm of protest after it revealed it had discovered how to make users feel happier or sadder with a few computer key strokes,

It has published details of a vast experiment in which it manipulated information posted on 689,000 users' home pages and found it could make people feel more positive or negative through a process of "emotional contagion".

In a study with academics from Cornell and the University of California, Facebook filtered users' news feeds - the flow of comments, videos, pictures and web links

Advertisement

FotoRegisto

Foto por R\$0,23 só aqui

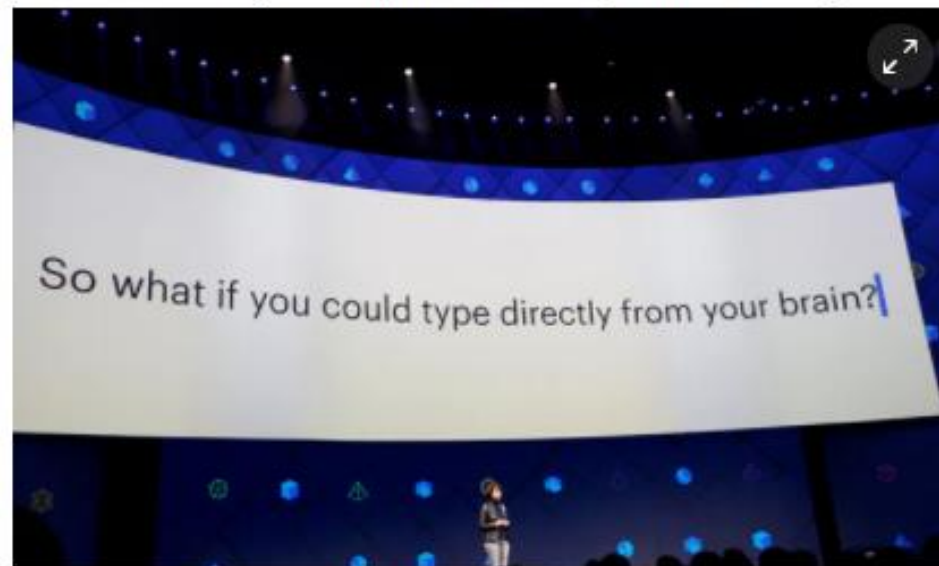
O melhor preço. Apenas R\$0,23





# Facebook has 60 people working on how to read your mind

Social network says it's assembled a team to build technology that allows you to 'think' commands at your smartphone. But what if you think that's scary?



Regina Dugan, head of Facebook's hardware innovation division Building 8, speaks at the company's annual developer conference. Photograph: Stephen Lam/Reuters

Decrying how addictive and attention-sapping smartphones have become was an unexpected way for an executive at Facebook, a company that profits off your attention, to open a talk. But that's exactly how Regina Dugan, the head of Facebook's innovation skunkworks [Building 8](#), started her presentation at the company's developer conference F8 on Wednesday.

Smartphones have been a powerful force in the world but they have had some "unintended consequences" she said,

"[The smartphone] has cost us something. It has allowed us to connect with people far away from us too often at the expense of people sitting right next to us," she said. "We know intuitively and from experience that we'd all be better off if we looked up a little more often."

# Elon Musk has launched a company that hopes to link your brain to a computer

Danielle Muoio  

🕒 Mar. 27, 2017, 3:43 PM 🔥 54,179



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(PressRoomVIP)

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Elon Musk has launched a company dedicated to linking human brains with computers, [The Wall Street Journal's Rolfe Winkler](#) reported Monday.

Internal sources told The Journal that the company, called Neuralink, was developing "neural lace" technology that would allow people to communicate directly with machines without going through a physical interface. Neuralink was registered as a medical-research company in



Asa Mathat | D: All Things Digital

## Tech's Frightful Five: *They've Got Us*

Leer en español



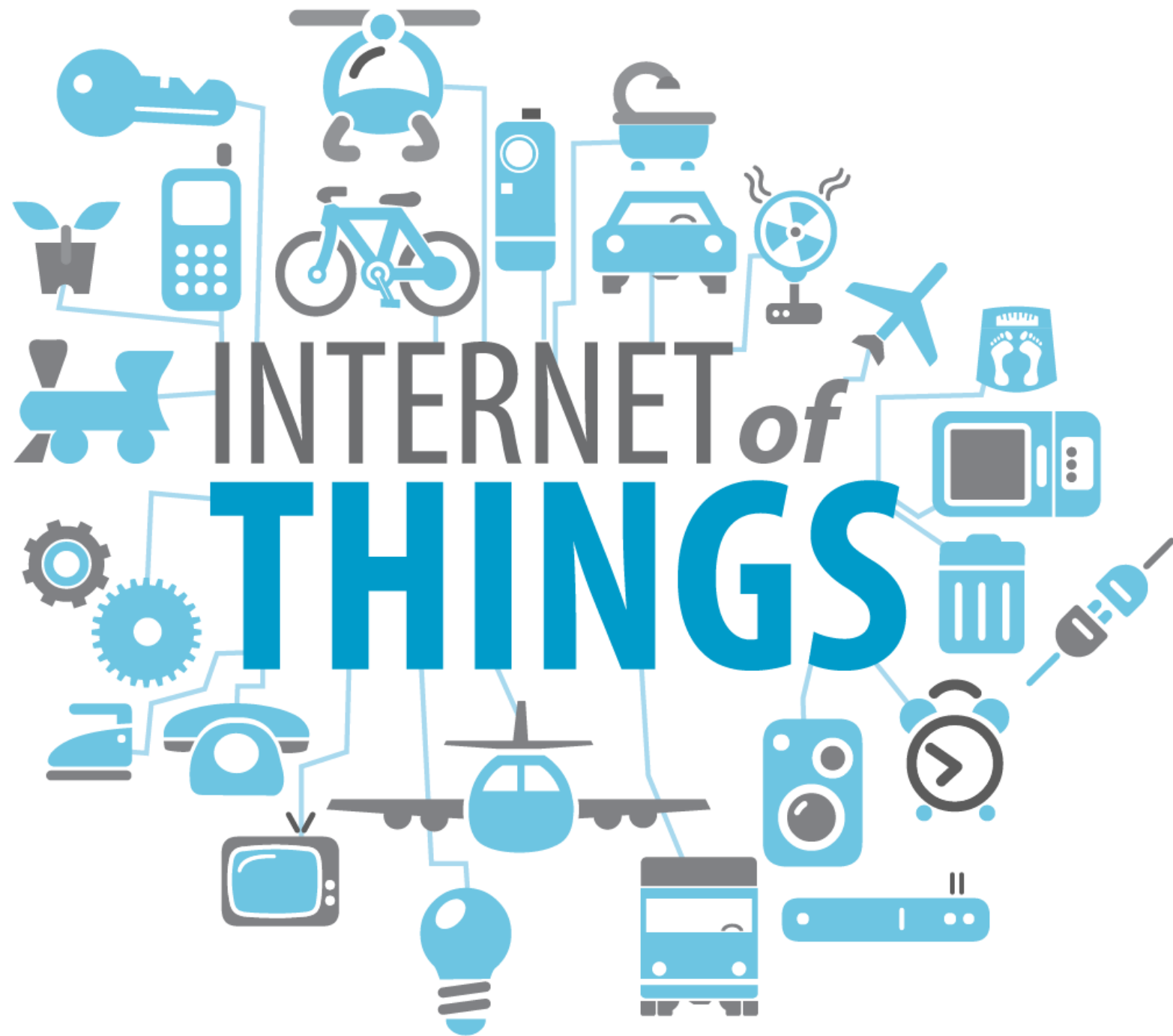
**Farhad Manjoo**  
STATE OF THE ART

MAY 10, 2017



Doug Chayka

A few weeks ago, I bought a new television. When the whole process was over, I realized something incredible: To navigate all of the niggling details surrounding this one commercial transaction — figuring out what to buy, which accessories I needed, how and where to install it, and whom to hire to do so — I had dealt with only a single ubiquitous corporation: [Amazon](#).



Como proteger a  
Privacidade na Era da  
Hiperconectividade?



Do

“Right to be let  
Alone”

do

“Right to Non  
Tracking”

# Privacy by Design / Default

**Aprimorar o modelo  
de gerenciamento de  
dados?**

Hatdax

“Personal Data Economy”





ADVANCING THE PERSONAL DATA ECONOMY



# MyData

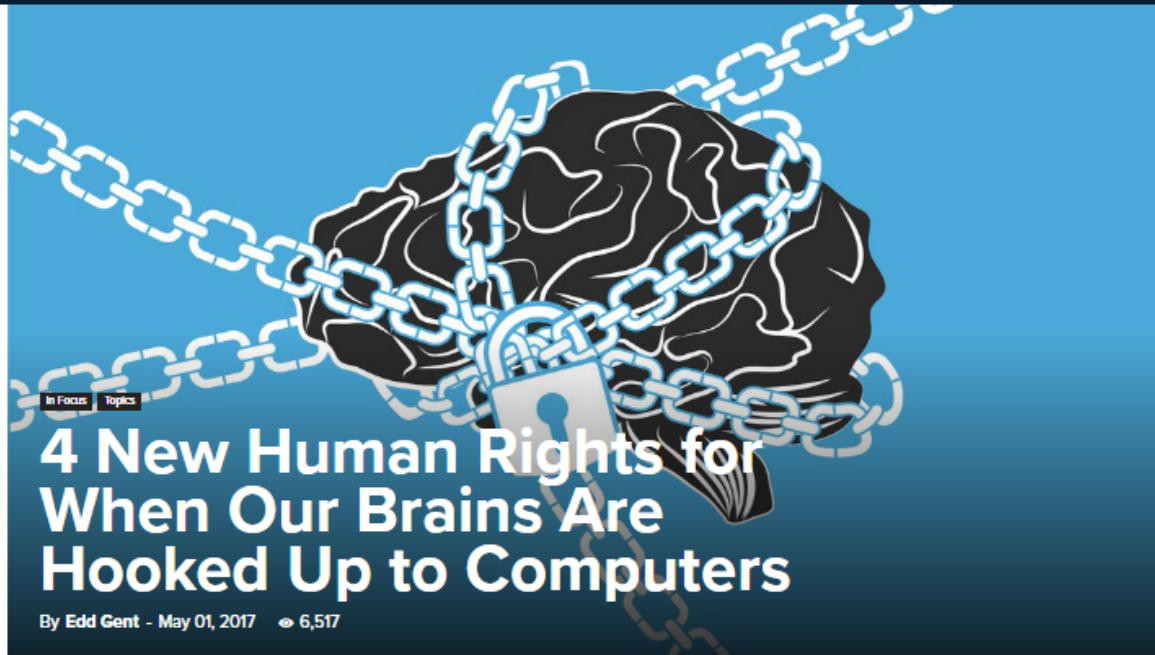
- A Nordic Model for human-centered personal data management and processing



Ministry of Transport  
and Communications



Antti Poikola  
Kai Kuikkaniemi  
Harri Honko



## 4 New Human Rights for When Our Brains Are Hooked Up to Computers

By Edd Gent - May 01, 2017  6,517



The **human-machine mind meld** is just around the corner if you believe the buzz coming out of Silicon Valley these days. But neuroethicists worry the technology poses a threat to the last bastion of privacy, our innermost thoughts, and have suggested tweaks to our fundamental human rights to protect that privacy.

Elon Musk made waves last month when it was revealed that he had **launched a new company called Neuralink**, aimed at building brain-computer interfaces (BCI) that would allow us to “telepathically” communicate with machines.

The tech billionaire has been talking about the need to **avert the existential threat of artificial intelligence by merging with machines** for some time, but he’s now put his money where his mouth is and set an ambitious target of having healthy people installing these devices as a consumer product within the decade.

Earlier this month, the head of Facebook’s Building 8 research group, Regina Dugan, said they are also working on this kind of neural technology, though they want to create **a non-invasive headset** rather than an implant. They envisage people being able to use their thoughts to control a cursor in

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### LATEST



Google's AI-Building AI Is a Step Toward Self-Improving AI



7 Big Tech Trends That Are Changing the Way We Make Things



## 1. The Right to Cognitive Liberty

The first proposed new right is the right to “Cognitive Liberty,” which states that people have the right to use emerging neurotechnology to modify their mental activity. But it also protects the right to refuse to use it in situations such as an employer requiring workers to take advantage of devices that would improve their performance.

## 2. The Right to Mental Privacy

Second on the list is the right to “Mental Privacy,” which would protect people from third parties accessing data about their mental activity collected by a neurotechnology device without their consent.

The impulse for this protection is obvious; tech giants are already hoovering up huge amounts of our behavioral data in their efforts to divine our innermost desires and sell us stuff. Brain data could let them bypass this guesswork and precisely tailor our online experiences in pursuit of their goals.

The authors debate whether this right should be absolute or relative, though. In certain situations, allowing the state to access the thoughts of criminals and terrorists could have obvious benefits for society. But the researchers suggest this could erode the already well-established right not to incriminate oneself, which is widely recognized across the democratic world and enshrined in the Fifth Amendment.

## 3. The Right to Mental Integrity

The last two rights are intertwined and deal with the emerging ability to not just record mental activity, but directly influence it. The right to “Mental Integrity” effectively protects against people hacking brain implants to hijack or interfere with their mental processes or erase memories.

## 4. The Right to Psychological Continuity

The right to “Psychological Continuity” deals with the vaguer notion of attempts to alter someone’s personality or identity, either through similar brain hacking approaches or more subtle ones like neuromarketing, which can involve companies using insights from neuroscience to try and **alter unconscious behavior and attitudes in consumers**.

- DATAISM -





Big data + Add to myFT

# Yuval Noah Harari on big data, Google and the end of free will

Forget about listening to ourselves. In the age of data, algorithms have the answer, writes the historian Yuval Noah Harari



© Janne Iivonen



247

Save

Algoritmos vêm  
tomando decisões  
importantes em  
nosso lugar

# Linked in.

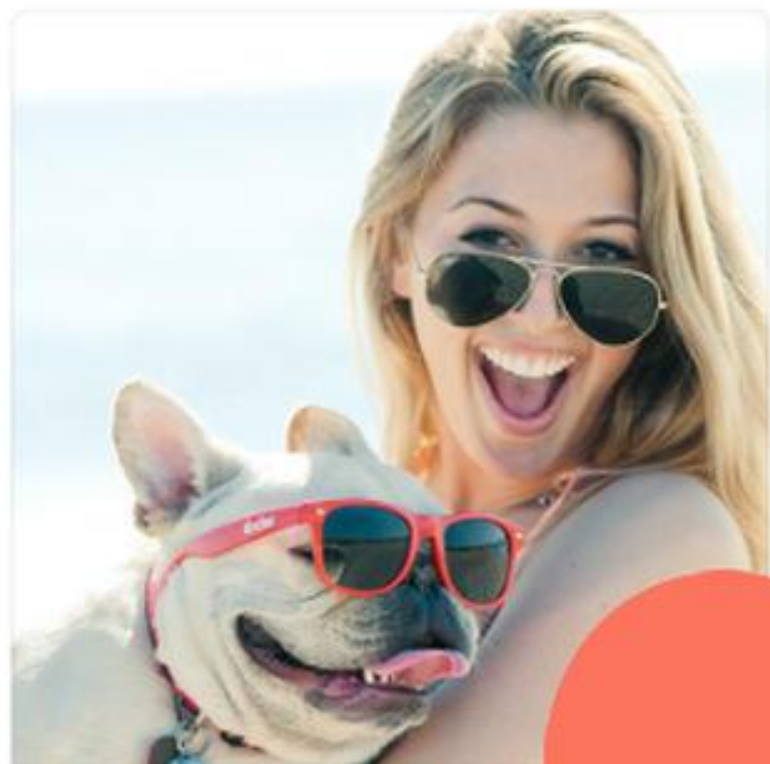








tinder



Allison, 22



# It's a Match!

You and Allison have liked each other.



Send a Message



Keep Playing



**“Algorithmic-Driven Society”**

# Sent to Prison by a Software Program's Secret Algorithms

## Sidebar

By ADAM LIPTAK MAY 1, 2017



Chief Justice John G. Roberts Jr., center, recently said that the day of using artificial intelligence in courtrooms was already here, "and it's putting a significant strain on how the judiciary goes about doing things." *Stephen Crowley/The New York Times*

When Chief Justice John G. Roberts Jr. visited Rensselaer Polytechnic Institute last month, [he was asked a startling question](#), one with overtones of science fiction.

"Can you foresee a day," asked [Shirley Ann Jackson](#), president of the college in upstate New York, "when smart machines, driven with artificial

## Sidebar

Coverage and consideration of developments in the world of law.

[A Constitutional Puzzle: Can the President Be Indicted?](#) MAY 29

[When Does Political Gerrymandering Cross a Constitutional Line?](#) MAY 15

[Why Gorsuch May Not Be So Genteel on the Bench](#) APR 17

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[Will Gorsuch Join Justices in Time to Matter This Term?](#) MAR 20

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## Sunday Review | OPINION

## Is It Time to Break Up Google?

By JONATHAN TAPLIN APRIL 22, 2017



559



An antimonopoly cartoon from 1899, "The Menace of the Hour." Universal History Archive/UIG, via Getty Images

## RECENT COMMENTS

**DenisPombriant** April 26, 2017

You don't need to look as far back as Brandise or as far forward as Google to see the pernicious effects of monopoly. Just look at airlines...

**fortress** April 26, 2017

I have no awareness of how google harms me, I use Bing for searches, and yes they are an octopus, but with efficiencies of scale that...

**SR** April 26, 2017

"True, the internet never had the same problems of interoperability."...but not for want of trying. The old Microsoft Network—MSN—was a...

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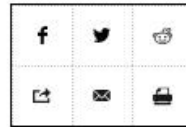


## POLICY &amp; ETHICS

# Will Democracy Survive Big Data and Artificial Intelligence?

We are in the middle of a technological upheaval that will transform the way society is organized. We must make the right decisions now

By Dirk Helbing, Bruno S. Frey, Gerd Gigerenzer, Ernst Hafen, Michael Hagner, Yvonne Hofstetter, Jeroen van den Hoven, Roberto V. Zicari, Andrej Zwitter on February 25, 2017



Credit: Getty Images

*Editor's Note: This article first appeared in Spektrum der Wissenschaft, Scientific American's sister publication, as "Digitale Demokratie statt Datendiktatur."*

*"Enlightenment is man's emergence from his self-imposed immaturity. Immaturity is the inability to use one's understanding without guidance from another."*



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## LATEST NEWS



Ask the Experts: Alaska's Bogoslof Volcano Erupted Again--Why Was It So Hard to Predict?



Honing In on the Brain's "Cuddling" Circuitry

**Um robô, programado no Vale do Silício para vigiar e prever crimes, estreou de forma trágica seu trabalho em um escritório de Washington: ao invés de patrulhar sua zona, o robô-segurança se atirou em uma fonte.**

Robôs estão desempenhando cada vez mais funções, mas não significa que estejam livres de pressões e estresse. Pelo menos, o incidente que aconteceu na capital dos EUA põe em questão a capacidade das máquinas de desempenhar certas tarefas.

K5 é um dos produtos, produzidos pela empresa Knightscope, no Vale do Silício. É um robô que por 6,25 dólares por hora (R\$ 19,68) cumpre tarefas de patrulhamento graças a câmeras, sensores, raio laser e infravermelho. No complexo comercial do porto de Washington "trabalhava" uma destas máquinas.

O robô "foi contratado", mas não conseguiu suportar a pressão: a máquina de 136 quilos decidiu se jogar em uma fonte do prédio.



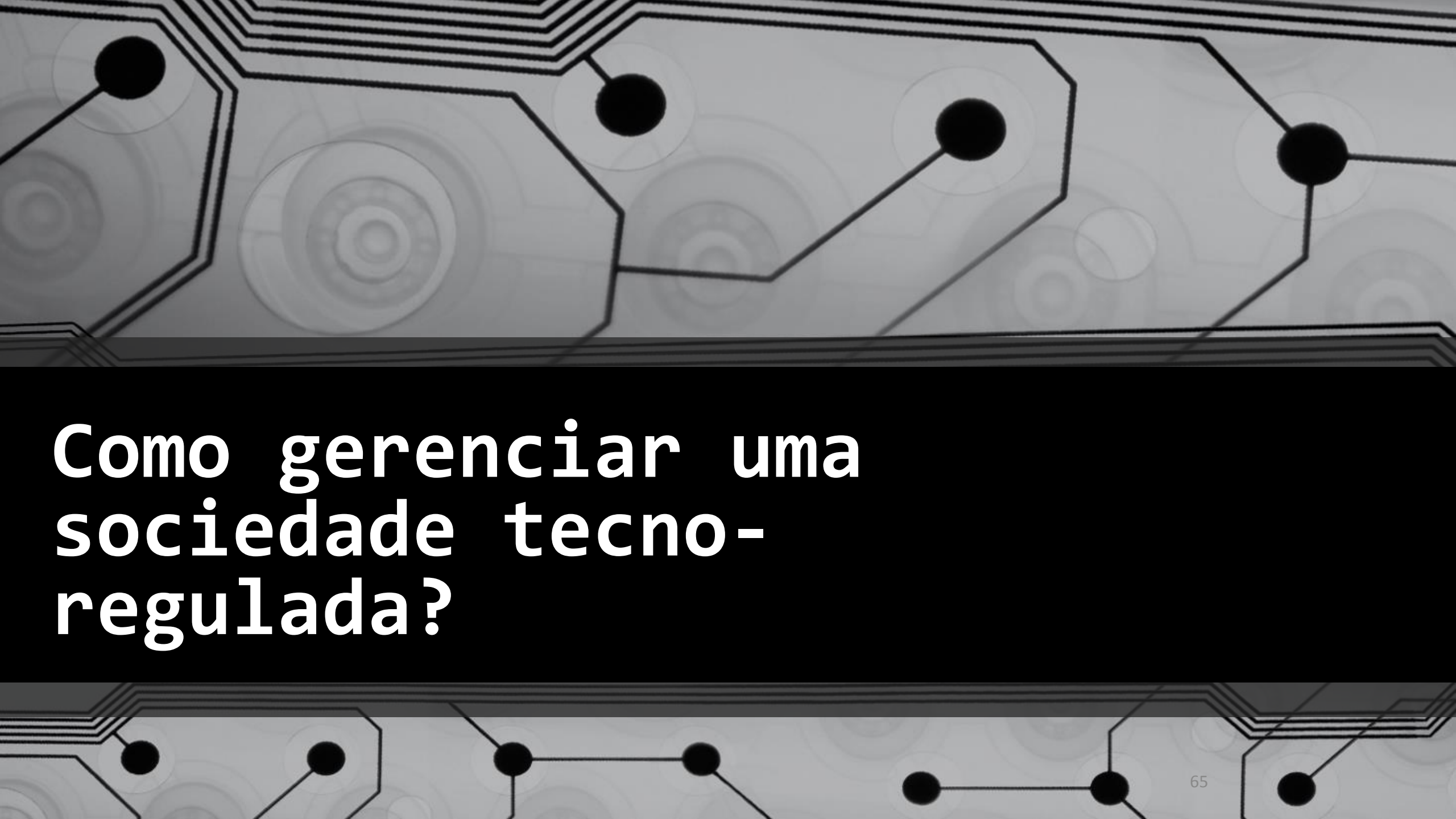
REMY GABALDA/AFP

**Psiu... Tem um robô de olho no seu emprego**

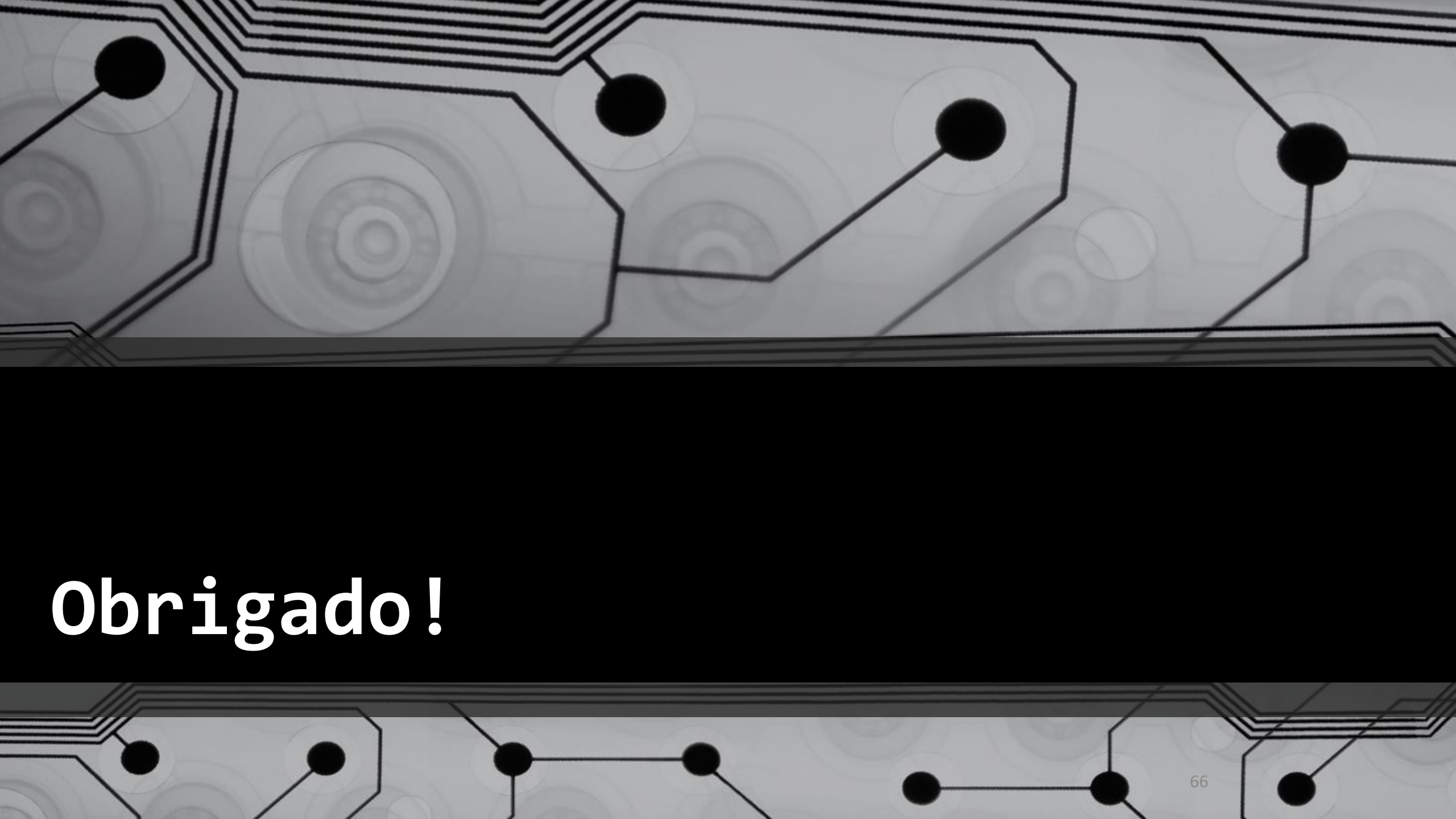
***"Nosso escritório de Washington comprou um robô de segurança. Ele se afogou. Prometeram para nós carros voadores e, ao invés disso, recebemos robôs suicidas", brincou o usuário Bilal Farooqui em um tweet, que foi retuitado mais de 100 mil vezes.***



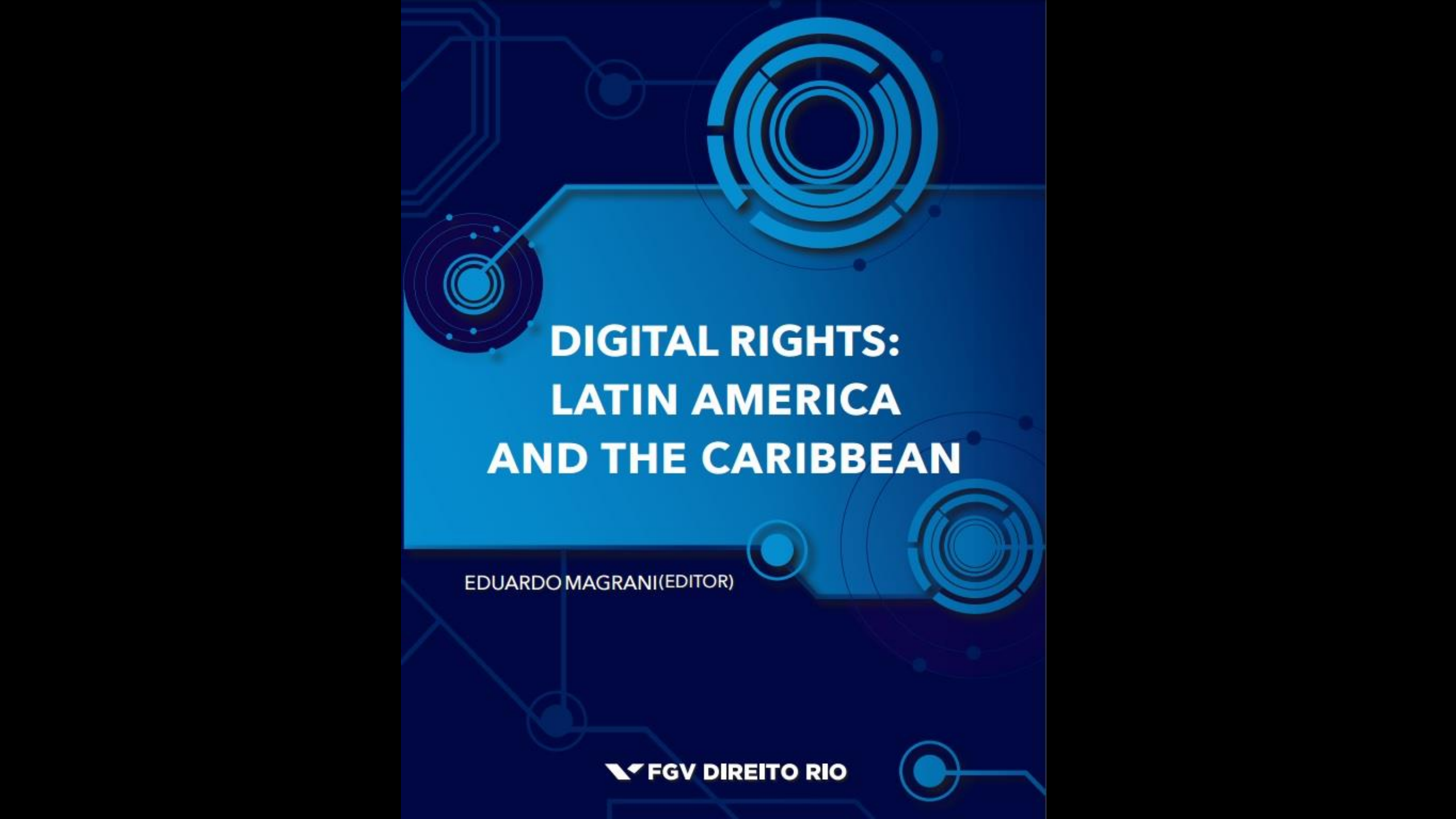




# Como gerenciar uma sociedade tecno- regulada?



Obrigado!



# **DIGITAL RIGHTS: LATIN AMERICA AND THE CARIBBEAN**

EDUARDO MAGRANI(EDITOR)



The background of the slide is a grayscale image of a circuit board. It features a network of black lines representing traces, with several circular pads and vias. The layout is symmetrical and technical in appearance.

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