

## Wireless Wake-Up Call: Jeromy Johnson at TEDxBerkeley

無線科技的警鐘 （2016年2月 於柏克萊大學 TED 演講）

TRANSCRIPT:

I'd like to begin by asking a few questions.

首先，我想先提幾個問題。

Who knows if they have a wireless smart meter on their home? Ok.

誰知道自己家裡安裝了無線智慧電錶？OK.

And who has their smartphone in their pocket right now? Alright.

有幾位現在口袋裡帶著智慧型手機？很好。

And who has read the fine print in your owner's manual that says that the smartphone should never be within an inch off the body?

有幾位讀過使用手冊中的細則，其中規定智慧型手機必須距離身體至少一英寸？

Today, I want to speak to why we can no longer assume that our wireless technology is safe.

今天我要來談談，為什麼我們不能假設無線技術是安全的。

Technology has allowed us many benefits.

科技為我們帶來了許多方便之處。

It has connected us to places and to people and has brought us convenience that we could not have imagined just ten years ago.

科技讓我們能和不同地方的人聯繫，帶給我們連十年前都無法想像的便利。

It has had also brought us tremendous economic benefits.

也為我們帶來了巨大的經濟效益。

If we can look at how technology has increased our lives in just the last eight years...

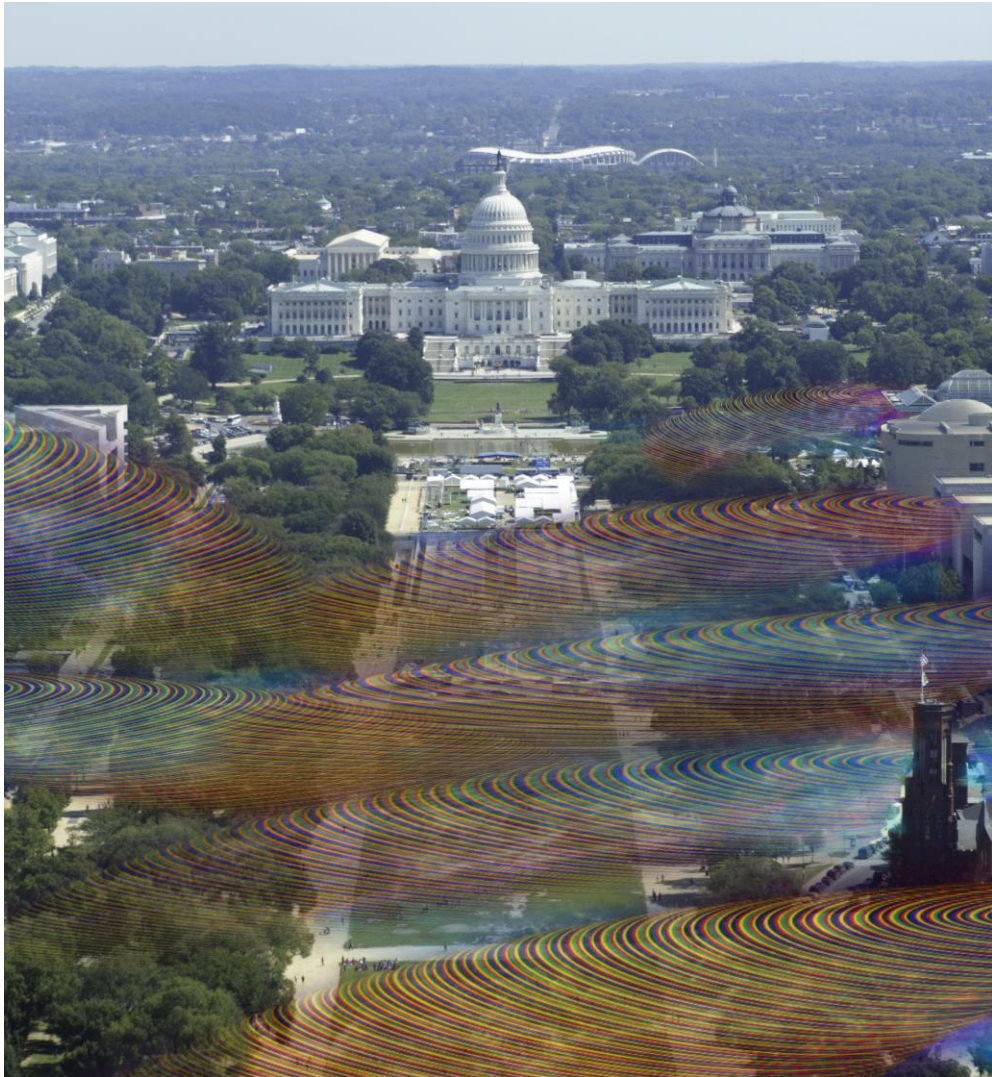
如果我們能看看僅僅在過去的八年，科技為我們的生活帶來了多少進步...

It started with the iphone, and then tablet computing, ubiquitous wifi, the smart meter and the smart home and wearable tech, and now the internet of things. . .

從 iPhone、平板電腦、無所不在的 Wi-Fi、智慧電錶和智慧房屋科技、穿戴設備開始，然後是現在的各種網路功能..

If we could imagine at how this would look, it would actually look like this:

如果要想像無線科技世界會是什麼樣子，應該會是如同以下這圖片：



This is an artist's rendition of what Wi-Fi in our public spaces looks like.

這是某藝術家描繪公共場所設有Wi-Fi 的模樣。

And, if we could hear what it sounds like, we could listen with an EMF measurement device such as this.

而且，如果我們想聽聽它的聲音，可以使用如這一類EMF（電磁波）測量儀的設備，來收聽微波輻射。

So, if you would like to hear what your smart phone or smart watch sounds like, come see me after the talk and I'll show you.

所以，如果你想聽聽智慧型手機或智慧手錶的聲音，請等演講結束後來找我，我可以示範給你看。

But, how does the exponential rise in microwave affect our bodies?

但是，微波使用的快速增長對身體有什麼影響？

That is the question I want to look at today because an increasing number of scientists and medical doctors now say that we have a serious problem on our hands – especially when it comes to the safety of children, who will be exposed to this technology their entire lives.

這就是我今天想討論的問題。因為越來越多的科學家和醫生都同意，這是我們現在必須要面對的一個嚴重問題。尤其是兒童，他們終生都會受到影響。

But today I'd also want to share solutions.

但今天我也要分享一些解決方法。

I want to give everyone here a few things that you can do in your own lives in order to reduce this type of exposure.

我們將介紹您在日常生活中可以採取的措施來減少此類接觸。



I actually got into this topic about five years ago.

我是大約5年前開始接觸這個問題。

Before this, I was a young technology enthusiast.

在那之前，我還是個沉迷於科技的年輕人。

I always used my smartphone and wifi. I worked in Silicon Valley and have a master's degree in engineering.

我整天都在使用智慧型手機和 Wi-Fi。我曾在矽谷工作過，也擁有工程碩士學位。



So if anyone had told me that wireless technology could have health effects, I would have thought they're crazy.

因此，如果有人對我說：無線技術可能有害健康；我會想，這個人肯定是瘋了。

So if you're thinking that right now, I can relate.

所以如果你現在有同樣的想法，我可以理解你的感受。

But this all changed for me over a period of about one week.

但就在短短一個星期之內，我的看法完全都改變了。

I started to experience headaches, ringing in the ears, insomnia and a fatigue and a brain fog I've never experienced before.

我的身體突然開始出現從未有過的症狀：頭痛、耳鳴、失眠、疲勞和思維混亂。

And I shared it with a colleague at work and she said to me, you know, the exact same thing happened to her husband when a wireless smart meter was installed in their home.

當我告訴一位同事之後，她說她先生也有同樣的問題，而且是在她家安裝無線智慧電錶之後才開始的。

So I went home that evening and I checked downstairs and sure enough. We had a bank of wireless smart meters installed just below our bedroom in San Francisco.

於是，那天我回到家就到樓下檢查。結果不出所料，我在舊金山的房子臥室底下給安裝了一群無線智慧電錶。



So this started me on a journey to learn as much about this topic as I possibly could.

所以我決定開始盡己所能研究這個問題。

And now I have a website about this. And I'm contacted by people all around the world, every day, who experience the exact same thing.

我現在有一個相關的網站。而且每天都會收到世界各地的網友來信，告訴我同樣的經歷。

It can be when they have a wireless smart meter installed, or a new wifi router or even a cell tower placed across the street from their home.

不是安裝了無線智慧電錶之後，就是裝了新的 Wi-Fi 路由器，要不就是他們家對面設置了手機訊號塔。

These are the common symptoms that people start to experience:

- Tension Headaches/head pressure
- Insomnia
- Tinnitus
- Cognitive Decline
- Fatigue
- Heart Arrhythmia

以下是常見的症狀：

- 緊張性頭痛
- 失眠
- 耳鳴
- 認知能力下降
- 疲勞
- 心律不整

This is actually from a published paper on the health effects of the wireless smart meters by Dr. Frederica Lamech.

這是根據 Dr. Frederica Lamech 發表的關於無線智慧電錶對健康影響的一篇論文。

Just here in the Bay Area, I'm in touch with dozens of people who had their lives changed by this: medical doctors, school principals, teachers and students, IT professionals and even entrepreneurs.

光是在灣區，就有數十人因生活受到影響而和我聯繫，包括：醫生、校長、教師和學生、資訊科技專業人士，甚至企業家。

These are people who had a normal life, and then over a short period of time went to where they could no longer work, where they could no longer go to an office.

他們本來日子過得很正常，却在短時間內突然就無法做事，無法再去上班了。

Some of them actually have had to move out of their homes, because they can't be in an

environment, which is normal now for most people.

其中一些人甚至不得不搬家，因為已經無法再待在這種現在對大多數人來說是正常的環境。

I've been in touch with people around the world that have become homeless because of this.

我接觸過世界各地因此而無家可歸的人們。

There's many people that's actually happen to.

有很多人確實有過這樣的經歷。

And unfortunately I know people that actually have taken their lives, because there's essentially no place they can go, and this is something that society has not yet recognized.

更不幸的是，我還認識一些最後因此而自殺的，因為這些人基本上無處可去。但是我們的社會仍然沒有意識到這個問題。

My own life has been tremendously changed by this.

我的生活也因此有了很大的改變。

After that first exposure to wireless smart meters, now I can no longer be in an enviroment with strong wifi for very long.

自從我第一次接觸到無線智慧電錶以來，我就無法再在強烈的Wi-Fi 環境中停留太久。

So I can't go to my work where I used to be able to.

所以我不能再像以前那樣去工作了。

Most environments now are essentially toxic to me.

現在大多數環境對我來說本質上都不安全。

Even finding a safe place to live becomes very difficult.

所以現在連找到一個安全的住處都非常困難。

So imagine not beeing able to live in an apartment building where everyone has wifi; or to be able to live next to a cell tower.

所以想像一下，如何住在家家户户都裝有無線網路的公寓大樓裡；或者你的家就在手機訊號塔旁邊。

This is actually a proposed cell tower here in Berkeley.

這是提議要裝設在柏克萊的手機訊號塔。



The residents have actually stopped it for now, but most churches and most schools now have a cell tower on them.

當地居民目前已經設法不准許通過，但大多數教堂和學校的屋頂現在都裝有手機訊號塔。

And so this exposes the people around them and of course the students that go to school.

不僅是附近的居民接收到輻射，尤其是就讀學校的學生更是首當其衝。

This is a cell tower in San Francisco. That brown thimble on the telephone poll is a cell tower.

這是舊金山的一個手機訊號台：電線桿接的棕色管子就是手機訊號台。



And it's been placed in every couple of blocks.

幾乎每隔幾個路口就有一台。

So you can have an amazing home and then, one week, a company can come and put a cell tower right outside your window.

所以你可能擁有一棟很棒的房子，但是有一天某個公司可能就在你的窗外安裝一個手機訊號塔。

This is something that's happening throughout the Bay Area and it's going to be happening throughout the United States.

這樣的情況灣區隨處可見，不久整個美國也不會例外。

So ... it makes it so that people like myself have a hard time finding a place to live, but it's also ratcheting up the exposure of the entire population.

這不僅像我這樣的人很難找到適合居住的地方，也讓所有的人輻射暴露增加。

So you might be asking perhaps some people are being injured by this, but if you're not feeling it, it's probably not that big of a deal.

您現在可能會認為，某些人可能因此而健康出問題，但是如果您感覺不出來，應該沒什麼大不了的。

And I think that's a very common experience.

我同意這是很正常的現象。

But it's not as simple as saying that just a few unfortunate people are being affected by this.

然而，這並不光是說只有少數不幸的人受到影響那麼簡單。

Because the science shows that, we're all affected on some level, whether we can feel it or not.

因為科學已經證明，每個人都在某種程度上受到影響，無論能感覺與否。

And the reason is because essentially, our bodies are electric.

原因是我們的身體本質上是帶電的。

Every cell in our body communicates using tiny electric signals.

我們體內所有的細胞都透過發出微小的電訊號來相互溝通。

It's how our nervous system operates.

這也就是我們的神經系統運作的方式。



So, to think that we could put an exponential amount of microwave radiation into our environment and not feel effects is simply false.

這就是為什麼巨量微波輻射滲入我們的環境，而只因身體沒有查覺，就認為它對身體沒有影響是錯誤的。

To illustrate this, I actually had many friends come to me when I started to experience this and they have said: “Jeromy, are you sure you aren't making this up in your head?” and I thought this myself at the beginning.

例如，當我開始有這種經驗時，很多朋友告訴我：“傑羅米，這大概是你的憑空想像吧？”一開始我也以為有可能。

But then a year or two later they would come to me and they say: “You won't believe it, but now I'm feeling pain in my arm when I use my cell phone, when I put it to the head or when a new wifi router is installed”.

但一兩年後，就有人來告訴我：“你大概不能相信，當我使用手機時會感到手臂疼痛。或是當我把手機放得靠近頭部時，或新 Wi-Fi 路由器安裝之後，就會感覺有影響”。

So this is something where when people have more than one exposure, more people are being affected.

接觸到輻射的人越多，受影響的人就越多。

And it's not just headaches and insomnia; it's much more serious things, such as infertility, DNA damage and eventually cancer.

其影響不僅是頭痛和失眠，還有更嚴重的，例如：不孕症、DNA損害並最終導致癌症。

This is what the research is starting to show.

這就是各方研究開始揭示的。

And you don't have to take my word for it.

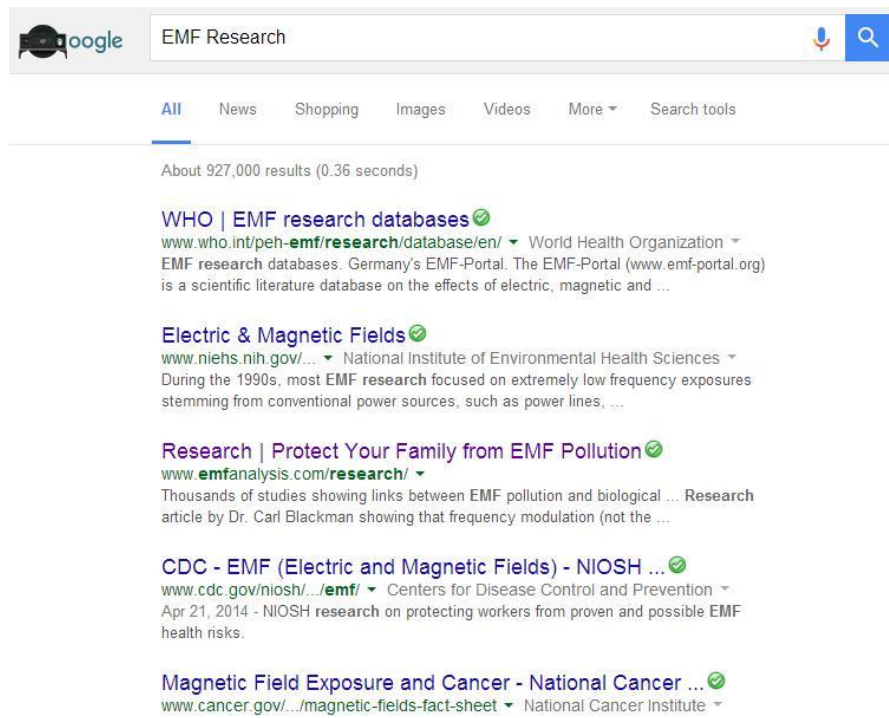
你不必相信光是我的片面之詞。

I encourage you to start researching this for yourself.

我建議你親自去揭開底細。

If you simply Google “EMF Research” this is a screenshot of what you'll find.

如果你在 Google 上搜尋“EMF Research” (電磁場研究)，就會出現底下的畫面。



The world health organization is the first link there. In 2011 they came out and said that wireless technology is possibly carcinogenic.

第一個是世界衛生組織 (WHO)，他們在 2011 年已指出無線科技“可能致癌”。

Now there are scientists around the world that say that it's most likely carcinogenic.

現在世界各地的科學家都說他們幾乎可以肯定無線技術具有致癌性。

The third link there is actually my own website.

第三個是我自己的網站。

It's there because last five years I've gathered research from around the world that shows that we now have enough evidence to at least take precaution when it comes to this technology.

在過去的五年裡，我透過收集世界各地的研究結果創建了這個網站，這些研究表明：現在有足夠的證據證明我們至少可以對這項技術採取預防措施。

So isn't wireless technology regulated?

那麼難道這無線科技不受法律監管嗎？

And this is one of the most interesting things I found. The Federal Communications Commission is who is supposed to be regulating wireless technology.

這是我發現的最有趣的現象之一：聯邦通訊委員會 (FCC) 本來是應該負責監管無線科技的。

But if you look at the regulations they're almost 20 years old.

但是如果仔細端詳，這些法規已經落後20年。

So that means our most advanced technology is using science that's at least 20 years old.

這意味著尖端技術是根據至少20年前的科學。

But not only that - they're based on a concept which is nearly 50 years old, which says if microwave radiations doesn't heat us, it can't possibly hurt us.

不僅如此，這些法規所依據的概念已有近50年的歷史。  
其中道理是，如果微波輻射不會產熱，那就是無害的。

But there are now hundreds of studies that show this is false.

但現在有數百項研究顯示這個概念是錯誤的。

So how is it that we have a regulatory body that's not protecting the public?

那麼監管機構為什麼不保護公民呢？

Well, like many issues... like many public health issues in our country, you end up having industry influencing the regulatory body and that's what's happening here.

正和許多其他與公共衛生相關的議題一樣，產業不斷在影響監管機構。這是現在很常見的現象。

So you have a revolving door between the wireless lobby and the FCC commission.

無線科技的遊說團體與聯邦通訊委員會之間存在“密切關係”，  
也就是說，官方立法監管者和業界僱員角色不斷輪換，監守自盜。

So that's what's happening.

這是現在很常見的現象。

Plus, the science is heavily influenced by industry funding.

此外，科學研究在很大程度上受到產業資助的影響。

This is the study by Dr. Henry Lai.

這是賴亨利博士的一項研究。

He looked at 326 studies based on the biological effects of cell phone radiation.

他審查了326項有關手機輻射生物效應的研究。

He found that about half of the studies showed effects, and the other half didn't.

他發現大約一半的研究結論認為手機輻射會有影響，另一半則沒有。

That's pretty normal for this type of research.

對這類研究來說，這算是很正常的現象。

But what he found was interesting was that if you look at who funded the studies. Seventy percent of the independent studies showed effects, and only 32 percent of the industry-funded study showed effects.

可是有趣的是，當他仔細查看是誰資助這些研究時，發現70%獨立研究的結論認為有影響；然而只有 32% 受行業資助的研究認為會有影響。



So you see that there is influence in money on this topic, just like many other topics.

因此，就如同很多其他研究一樣，這類研究也涉及金錢。

Tobacco is another one, where essentially the industry-funded science was going to show their products were safe.

菸草就是一個例子，該行業資助的研究聲明香菸是安全的。

So that's the bad news. And, now want to share some good news; and that is that there are solutions for this.

這可不是好消息。但現在讓我告訴你一個好消息，這問題是有方法可以解決的。

We are going to have to have industry start to create safer products, but there are also

ways that we can both protect ourselves and move the technology industry forward.

我們必須確保無線科技行業生產更安全的產品，也必須確保我們可以透過多種方式保護自己並同時推動行業向前發展。

So one of the primary things we can do is to move towards fiber optics, because this is a way that we can make your home safer, our businesses, and our schools;

其中之一就是使用光纖，因為這是可以讓您的家庭、工作場所和學校更安全的一種方式。

So fiber optics are safe, secure and absolutely they're one of the fastest things we can use.

光纖安全、可靠且快速。

Another way we can go is to design products which are safer.

另外一個辦法是設計更安全的產品。

Currently we have product designers and engineers working together. We can bring in bio-physicists and biologists to work together to create products that don't just admit right underneath the FCC regulations but admit the least amount of any type of electromagnetic fields as possible.

目前，產品設計師可以和工程師合作，讓生物物理學家和生物學家也參與其中。不僅要低於聯邦通訊委員會規定的安全極限，我們將共同努力創造出盡可能微量電磁輻射的產品。

If smart meters had been designed to use either fiber optics or to emit just once or twice a day rather than the 10,000 times they do emit, I would not be standing here today, and thousands upon thousands of people around the world would not have been injured by smart meters.

如果智慧電錶設計為使用光纖，或是每天只發射一兩次，而不是每天發射微波 10,000 次，我今天不會站在這裡，也不至於全世界有成千上萬的人受到智慧電錶的傷害。

So, what are some things that all of us can do?

那有什麼是我們大家能做到的呢？

This is one of the most important things, because everyone wants to know how to essentially protect themselves and their families.

這是最切身的問題之一，因為每個人都想知道如何保護自己和家人。

So the first thing is to make sure we use our cell phones wisely.

首先，請確保明智地使用手機。

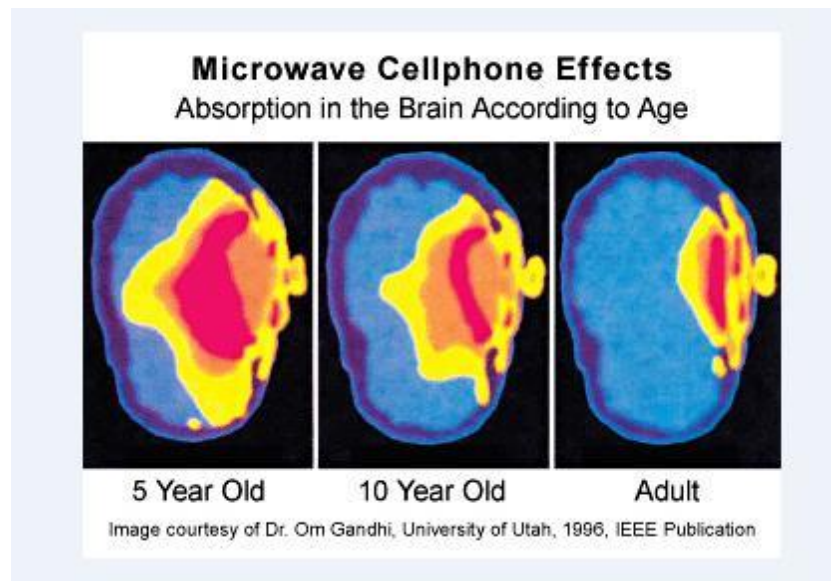
I mentioned that you don't want to put the cell phone within about an inch to the body.

正如我之前提過，不要將手機放在距離身體一英寸的範圍內。



The industry is telling us this now.

業界也開始坦白地公開這項事實。



So make sure you use speakerphone, get an air tube headset and when it's on the body, make sure that you put it on airplane mode where you sit in the pocket, or sometimes have it under the bra.

因此，請嘗試使用揚聲器，購買氣管耳機。如果手機必須靠近身體，例如放入口袋內或放進胸罩，請將其設定為飛航模式。

When it comes to kids, we don't want to have kids using cell phones.

至於兒童呢，白來就不應該讓他們使用手機。

But if they must, please teach them how to use these wisely.

如果迫不得已確實需要使用，要教他們如何明智地使用。

We can wire our homes.

我們可以在屋子內接線。

Most people don't need wifi in their home.

大多數人家中根本不需要 Wi-Fi。

So move towards Ethernet, move towards fiber optics

因此，請嘗試使用乙太網路或光纖。

And if you must have wifi, make sure you turn it off at night.

如果你絕對需要 Wi-Fi，最好每天晚上關掉。

You can get a simple timer, so you don't even have to think about it.

設定簡單的定時器，就不必每天要記得關掉。



When it comes to kids, we want to reduce their exposures as much as possible.

對於兒童來說，我們必須盡可能減少他們受到的輻射量。

So if they use an iPad, put all of the data on the iPad, and then turn the Wi-Fi off.

如果他們使用的是 iPad，請將所有資料傳輸到 iPad 並關閉 Wi-Fi。



In the schools, I simply do not think we need to have wi-fi in schools, because we're filling those classrooms with microwave radiations...

我認為學校沒有必要使用Wi-Fi，因為透過Wi-Fi教室會因此充滿了微波輻射。

We could have amazing technology, but it can be wired.

我們還是可以使用令人驚嘆的技術，也同時是用有線的。

And this is where I think we're gonna have to go.

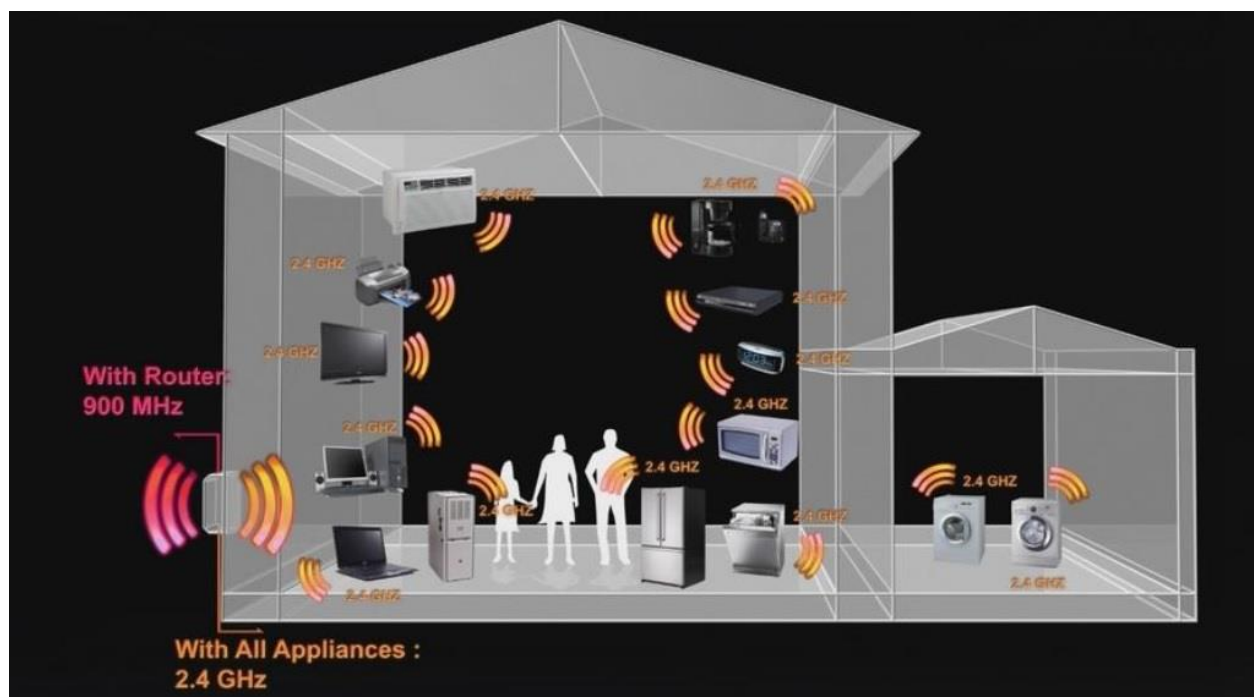
這是我們未來該走的方向。

When it comes to the smart meter and smart home, I recommend you: opt out.

至於智慧電錶和智慧房屋，我建議千萬不要考慮。

I've had wealthy early adopting families contact me, that went “all in” on the smart home, and they ended up getting sick within a few months.

有一些富裕家庭來告訴我，他們是早期採用智慧房屋科技的一群，但因為整個房子充滿了輻射，不到幾個月健康就出問題了。



So this is something that affects families and I just recommend that you don't go down this path, because it's a technology we simply do not need.

我建議你不要走這條路，因為這會造成健康危害。我們根本不需要如此的技術。

The last solution I want to give today, is to create a safe place to sleep.

我今天要與大家分享的最終解決方案是創造一個安全的睡眠空間。

Because this is one of the most important things.

這是首要之務。

Because this is when your body rejuvenates. And it's when you can make sure that everything is off.

因為當你睡覺的時候，就是身體修復的機會。這就是為什麼我們該將一切無線裝置都關掉。

So turn off all your wireless devices and unplug things.

關閉所有無線設備並拔掉插頭。

If you have a baby monitor, I actually recommend that you turn that off, especially at night.

如果你有嬰兒監視器，我們建議將其關閉，尤其是在晚上。

I just do not recommend those for kids.

我就是不贊成讓小孩使用無線儀器。

And if you do these things, I know many people who ended up sleeping better, they are much clearer during the day and their fatigue is much less.

我知道很多人在做了這些改變之後能夠睡得更好，白天感覺頭腦更清醒，也比較不易感到疲勞。

So this is something which I recommend everyone can do.

我推薦的這些辦法是任何人都做得到的。

So in conclusion I want to say that, this is a problem that we can solve.

總之，我的結論是這個問題是有辦法可以解決的。

There are tremendous people around the world working on this issue right now.

現在世界各地都有人在致力於此類研究。

And I believe we're coming to a tipping point, where enough people realize that this is an important topic and that there are solutions.

我相信我們正處於一個轉捩點。人們已意識到這是一個重要的問題並且是有解決方案的。

So, I recommend that you share this with the people who are close to you.

請和您所關心的人分享這個議題。

Because if enough people wake up to this issue, then industry will start creating safer technology.

因為越多的人意識到這個問題，工業界才會發展出更安全的技術。

And once they do that, our entire society can move towards a healthier future.



一旦他們願意這樣做，我們整個社會才能走向更健康的未來。

Thank you.

謝謝大家。



December, 2023 screenshot of the YouTube TEDx talk.