

Run Skype on Raspberry Pi

by Dmitry Rogov · Apr. 25, 17 · IoT Zone

Skype is available on many platforms, but not on Raspberry Pi (or ARM-based Chromebooks). In this post, we will tell you how to run Skype on Raspberry Pi 2 and Raspberry Pi 3 using ExaGear Desktop, which allows us to run x86 apps on ARM mini PCs.

We had a lot of requests about running Skype with ExaGear, but could not publish a corresponding instruction earlier. The thing is that for playing sound, Skype uses PulseAudio sound server, which was not stable on Raspberry Pi. Fortunately, starting with Raspbian (launched in May 2016), things have become better. Below, we give some hints how to configure PulseAudio and run Skype on your RPi 2 or RPi 3.

PS: Keep in mind that with ExaGear Desktop, you can use not only Skype but other chat (i.e. Telegram), music (i.e. Spotify), productivity (i.e. Dropbox), and many other apps on your Raspberry Pi.

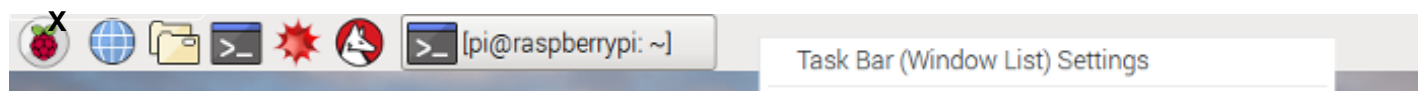
Raspberry Pi Test Stand Configuration

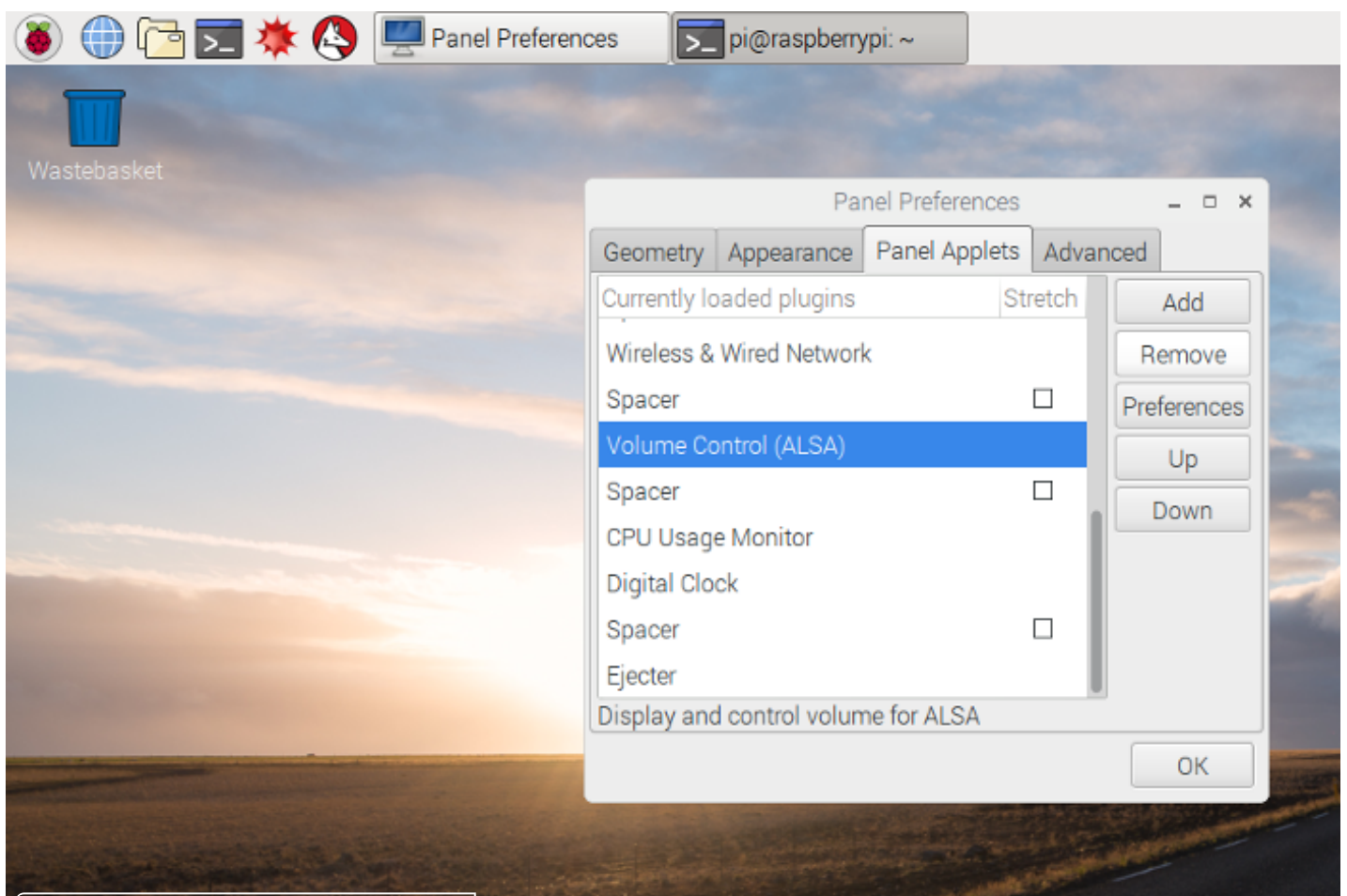
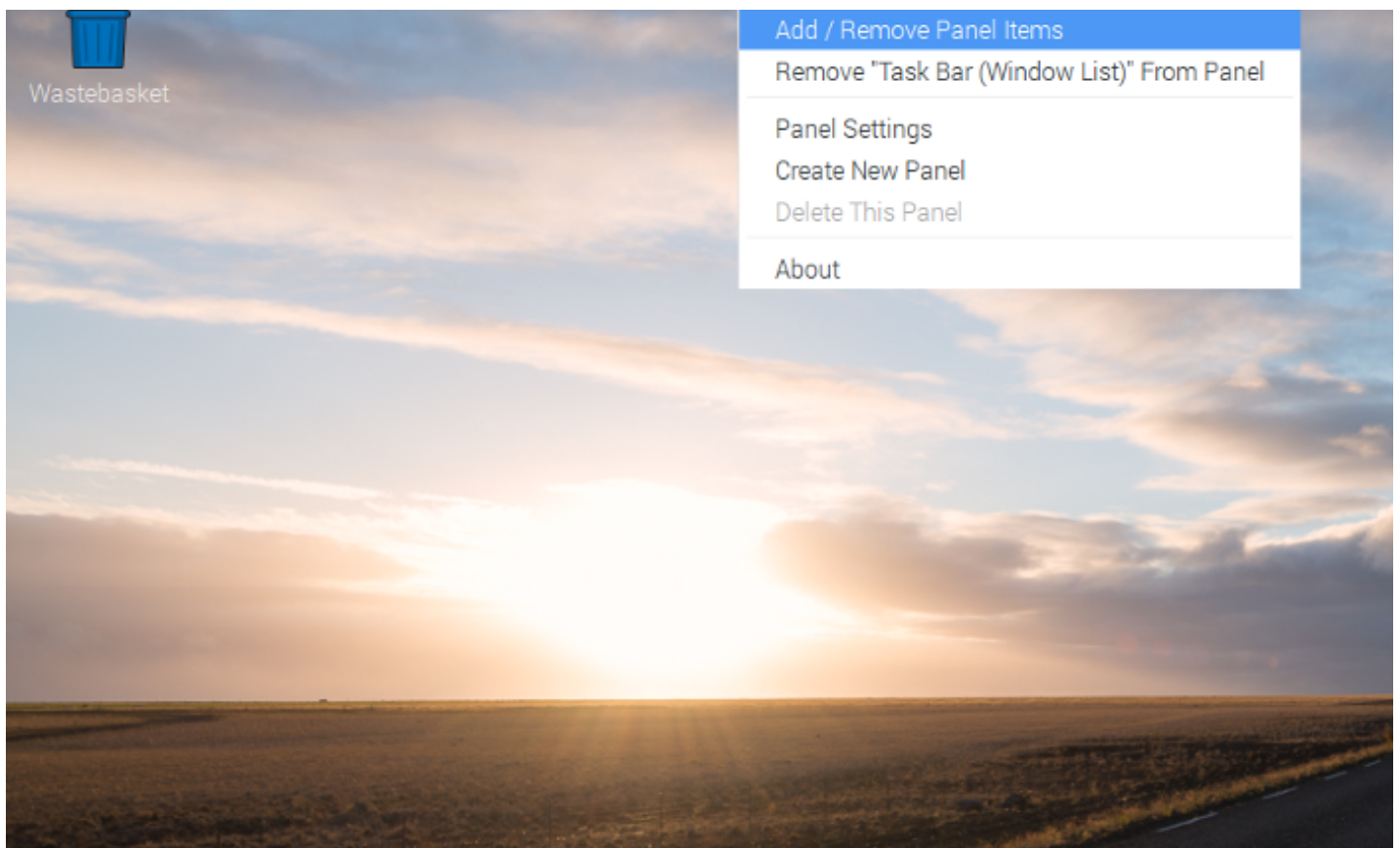
Model	Raspberry Pi 2 Model B	Raspberry Pi 3
Frequency	1000 MHz	1200 MHz
Memory	1 GB RAM	1 GB RAM
Operating System	Raspbian Jessie from Jan 2017	Raspbian Jessie from Jan 2017
Software	Skype for Linux v4.3.0.37 Eltechs ExaGear Desktop for Raspberry Pi 2	Skype for Linux v4.3.0.37 Eltechs ExaGear Desktop for Raspberry Pi 3

Now, here's how you can install Skype on your Raspberry Pi.

1. Configure Host Raspbian System

Configure PulseAudio. As described in release notes of Raspbian, remove the volumealsa plugin from the taskbar. Just right-click anywhere on the taskbar, choose **Add/Remove Panel Items**, and remove the **Volume Control (ALSA)** item from the list.





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Reboot the system to apply PulseAudio configuration changes
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Please note that you should set your Raspberry Pi 2 device overclocked in order to achieve good quality Skype voice calls. Open Terminal (command line) and execute `$ sudo raspi-config`.

Select Overclock section and then Pi2 (1000 MHz).

2. Install ExaGear Desktop

Download ExaGear Desktop archive with installation packages and license key. Unpack downloaded archive using the following command in Terminal: `$ tar -xvzpf exagear-desktop-rpi3.tar.gz`.

Install and activate ExaGear on your ARM device by running `install-exagear.sh` script in a directory with deb packages and one license key: `$ sudo ./install-exagear.sh`.

3. Launch Guest x86 System

Enter the guest x86 system using `$ exagear`.

Now you are in the x86 environment that can be checked by running `$ arch`.

It is recommended to update `apt-get` repositories on the first launch of the guest system: `$ sudo apt-get update`.

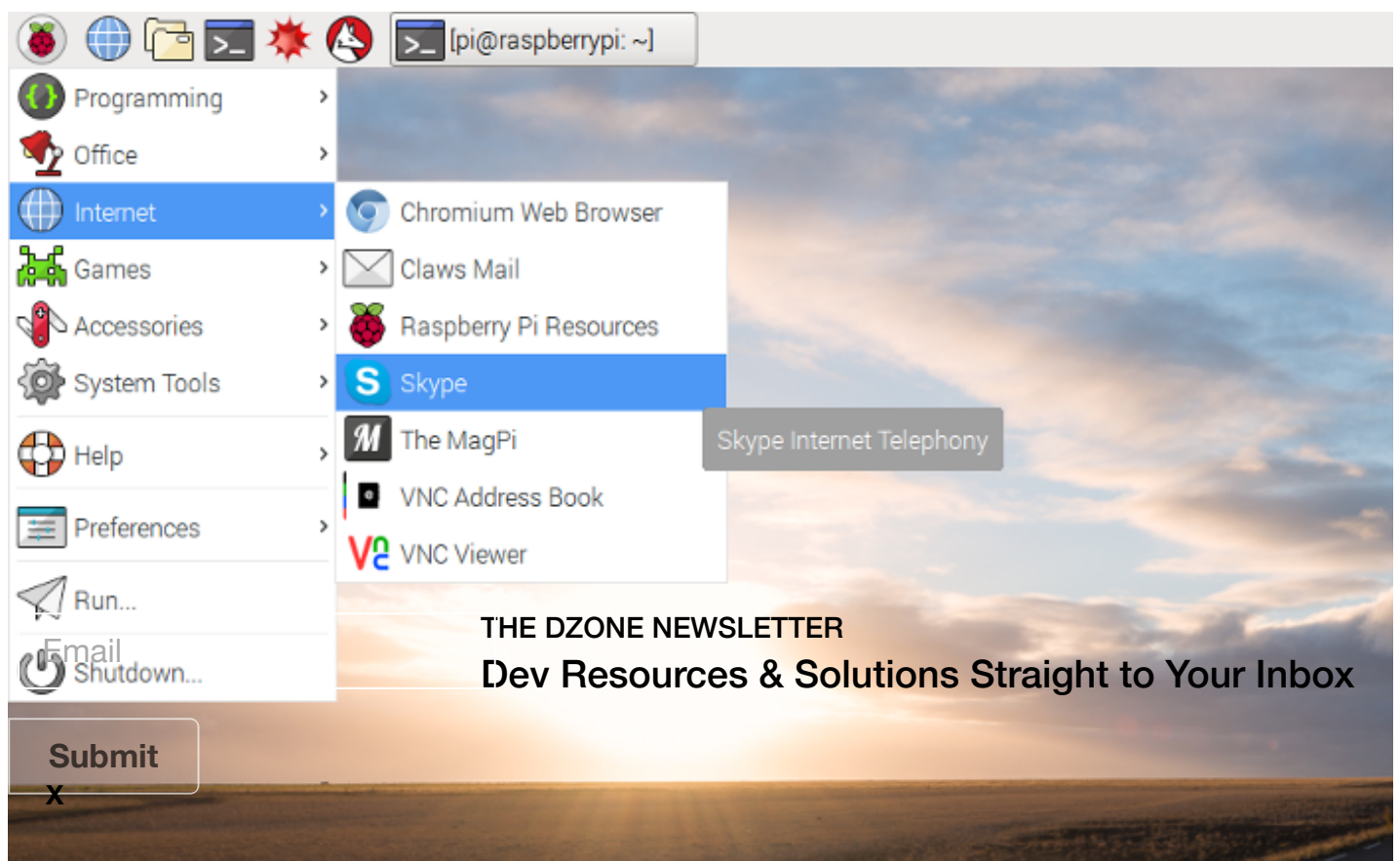
4. Install Skype

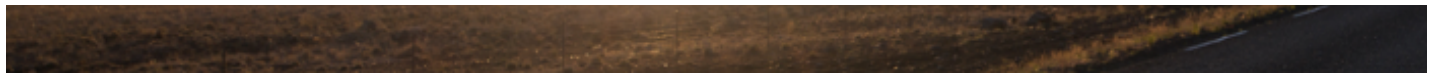
Download Skype for Debian: `$ sudo apt-get install wget`.

Install Skype: `$ sudo dpkg -i skype-debian_4.3.0.37-1_i386.deb; sudo apt-get install -f`.

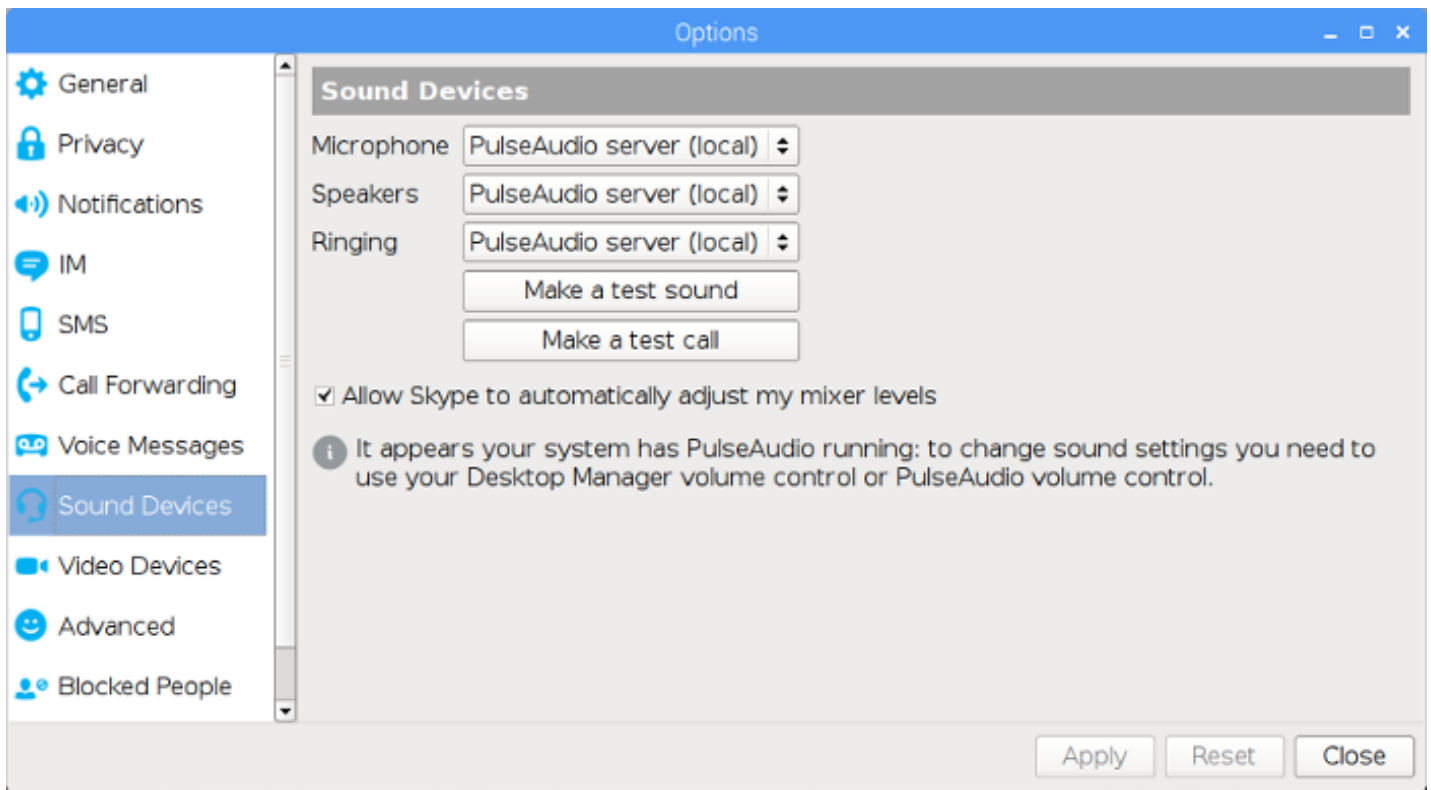
Run Skype

Run Skype from Raspbian Start menu.





Check that Skype Sound Devices use PulseAudio server.



This is it. Now you can make your Skype calls.

Final Notes

It is also worth noting that with ExaGear Desktop, you can run other x86 apps on Raspberry Pi 2 and Raspberry Pi 3. ExaGear also supports other ARM-based devices such as Odroid, Banana Pi, Beagleboard, Cubox, Jetson, Cubieboard, etc.

Please note that running Skype on Raspberry Pi 1 and Raspberry Pi Zero is not possible because of lack of NEON support in the hardware of these devices.

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5 Steps to Implementing Intelligent Asset Strategies

by Joe Nichols  MVB · Apr 26, 17 · IoT Zone

As the hype around industrial enterprise software solutions continues to expand with terms like “Big Data,” “predictive analytics,” “Internet of Things,” and the “Industrial Internet” being thrown around, it is easy to lose sight on the concepts and capabilities that have been around for decades before.

Asset strategies have existed for many years through constructs such as engineering design, maintenance and inspection plans, and condition and process monitoring. But what has shifted in more recent years is the overlaying of risk principles, easier access to the right data in the right context, and the implementation of analytical models, such as a closed loop system. This is a core component of an intelligent asset strategy:

Applying risk-based principles to the management philosophy of an asset, and then creating dynamic management through the integration of conditional data and analytics to detect emerging threats.

This real-time view of how people, systems, and physical assets are performing, and the potential emerging threats, can help minimize safety and environmental risks in addition to ensuring high asset utilization at an optimal cost. In its simplest form, an intelligent asset strategy helps to answer three questions that can form a dynamic and continuous improvement loop:

- What are my high-risk assets, and what is the potential impact when a failure occurs?
- What is my strategy to mitigate the risk associated with a failure in an optimized manner?
- How do I know when threats emerge that can impact the asset strategy, and what actions should be taken?

So, how do you jumpstart the implementation of intelligent asset strategies? We recommend these five steps:

1. Align Your APM Program With Your Business Objectives

Whether your organization is looking to ensure regulatory compliance, cost optimization, or uptime, APM can impact it. Determine which APM value lever best meets your corporate business objectives, map with your goals and measurements, and then implement your program.

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2. Assess Risk and Prioritize Asset Focus

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All assets are not created equal. And if you are like many of our customers, there is actually a subset of assets that you can focus on to have the biggest impact. Whether it's a particular facility, asset type, manufacturer, or industry regulation, setting focus based upon the highest business risk is key.

3. Implement Asset Strategies to Mitigate Risk

Once you understand the risk associated with your assets, it's time to establish a strategy to mitigate that risk at optimal cost. Too often, we see customers performing maintenance that does not have a risk-mitigation benefit – this ultimately increases cost. Even worse, we see potential failure risks that do not have any maintenance or monitoring mitigation in place. This exposes people and the environment to increased risks, and also exposes your business to the impact of unplanned downtime and regulatory scrutiny.

4. Monitor, Detect, and Manage Emerging Threats, and Prevent Failures

Once an optimal strategy is defined, it's critical to know what changes are occurring and which can impact risk. In industrial settings—an aging and transitional workforce, aging assets, and ever changing operational and market conditions—can quickly shift risk curves. Getting the appropriate asset strategy in place quickly is essential, but also making it dynamic, aware, and intelligent is key to true strategy optimization.

5. Create APM Governance and Visibility

Ensuring the organization has complete visibility to what risks exist, how the risks are being managed, and what threats are emerging is essential to fully activating an APM program and ensuring effectiveness to deliver value. The best part of this step is that APM software provides the measurement and status, and ultimately does the heavy lifting through industry standard metrics, health indicators, and dashboards. In the last release, GE Digital's Asset Performance Management (APM) solution provided over 800 embedded APM governance components as part of the baseline system to help users drive a world-class APM program.

Now that you've invested in assets, processes, and systems on a massive scale to meet your business objectives, are you ready to start listening to what your assets are telling you and implement intelligent asset strategies?

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Why Timing Is So Important for Innovation

by **Adi Gaskell**  MVB · Apr 25, 17 · IoT Zone

In May, I'll be speaking at the Health 2.0 event in Europe, with our panel convening to both discuss and demo some of the interesting applications of artificial intelligence in healthcare at the moment. In the health sector, it is very much the technology of the moment, with the vast majority of startups attending the event having some element of AI in their offering.

Except, of course, AI is not a new concept and has largely been floundering for several decades as it struggled to really cross the chasm and create much in the way of useful applications.

Now, this presents us with a dilemma. Is it AI that has advanced and thus found a use and value in the marketplace, or have other things improved to make the AI that was previously a fringe activity more attractive? Despite the buzz surrounding it as a technology, I'm inclined to think it is as much the latter as it is the former.

Don't get me wrong, there have been some tremendous advances made, both in academic research labs and those of tech behemoths such as IBM and Google, but I'm inclined to think that those advances have happened because the conditions are now right in a way they weren't before.

Fertile Ground

Let me explain. A lot of the AI based systems we see today require huge amounts of data, and I'm sure we can all agree that data is more readily available now than ever before. We have billions of IoT sensors, increasingly potent smartphones and mobile devices, wearable devices, and so on. What's more, it's increasingly common for data to be open and available, whether in the scientific world or via the numerous government projects to open up datasets to the world.

With Moore's Law continuing to exponentially increase the computing power we have available, we are also now able to not only generate huge volumes of data but process that data in a timeframe that simply would have been impossible to believe even a decade ago. The original human genome was a multi-billion dollar project that took years to complete, but now you can get your genome sequenced in days for under \$1,000.

We've also got increasingly powerful tools to ensure that data is kept secure, whether it's advanced cryptography techniques or emerging technologies such as blockchain.

There are also social factors, with people increasingly willing to share their data in exchange for as much as possible, whilst healthcare systems are struggling to cope with both demographic pressures of an aging population and financial pressures exerted by the demands placed upon them.

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French writer Victor Hugo famously said that there is nothing as powerful as an idea whose time has come, and I think the journey AI has gone on is a nice example of that. The possibilities have largely been there for a while, but it needed various other bits of the jigsaw to fall into place before it could really take off.

It's a process I suspect many innovations need to go through, and history is littered with great ideas that were simply in the wrong place, at the wrong time. Indeed, in a recent TED talk, Bill Gross argued that timing was the single biggest reason why startups succeed.

Indeed, it seems increasingly common that first mover advantage has been replaced by fast followers who enter a market after others have tackled the systemic challenges that need to be overcome to make the market in the first place.

A classic example is that of the digital camera, which was famously invented at Kodak way back in 1975. Not only was the timing not right at Kodak, but the infrastructure to support digital cameras didn't exist. Personal computers were a rarity, and there certainly wasn't the capacity in them to store photos, either in the cameras themselves or on the computers of the day. It was only when both began to improve 30 or so years later that digital cameras began to gain traction.

Getting the Timing Right

When you're talking systemic things, it's hard for one single organization to really control and influence things sufficiently to ensure the timing is right, but governments can play a bigger role in prodding things along as they have the helicopter view of things required.

The annual innovation index from INSEAD and WIPO doesn't explore particular sectors, but it does provide a systemic look at the innovation health of a nation. It examines things like their academic landscape, the ease of starting a business or protecting one's IP. It examines the ability to raise capital and investment in R&D. Such systemic investments can help to provide a more fertile environment for innovation to thrive, and to ensure that when breakthrough innovations are made, the timing is just right.

What you can do as an individual organization, however, is ensure you have a good grasp of the wider ecosystem that you operate in so you can sense the changes in the market that may make innovations succeed (or fail), and then be agile enough internally to respond rapidly when you sense an opportunity presents itself. It's very hard to get the timing right all of the time, but this will give you a decent change.

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