



X GxxD

Well Metaversed

The Japanese company leading
the march into virtual reality

© Yuri Group
nearer by not keeping still

The Japanese word hikikomori made its appearance as a loanword in the Oxford Dictionary of English in 2010. It's a term to describe individuals who may live in bustling towns and cities, but choose to become recluses, shunning all social contact and rarely venturing outside their own homes or even bedrooms.

One theory holds that Japan's social and economic issues today – rapidly aging society, collapsing birth rates, and ballooning government debt – are harbingers of what's to become more pronounced in other advanced economies. So with Japan's government having appointed a minister with a portfolio to deal with hikikomori loneliness and isolation, what is behind the phenomena and how is it being dealt with?

The word is derived from Japanese characters describing being pulled inward or confined and has been linked to trends noted some decades ago in Japan where larger numbers of children started refusing to attend school, which was in turn linked to extensive peer pressure and bullying.

A 2023 government survey estimated there are now 1.5 million people in Japan living as hikikomori. That translates into 2% of the working-age population (15 to 64 years old) and as a result has attracted widespread scrutiny. As indicated, it's now not just a Japanese issue. Other countries report similar signs of the so-called 'Hikikomori Syndrome.'

If hikikomori reject all social contact in the real world, would they feel different about contacts in the virtual world? That's a question a Tokyo-based metaverse services company – appropriately named Hikky – is seeking to answer.

Hikky began life in 2018 as the brainchild of the company's Chief Virtual Officer, who goes by the moniker Phio's Moving Castle. Phio is a self-described hikikomori, having suffered from social phobia after a struggle with depression.

Phio began experimenting with the metaverse – virtual worlds populated by people using digital avatars – as a space for hikikomori to re-experience a sense of community.

More than that, however, the management team at Hikky view the metaverse as a digitalized global public square and marketplace. One that uses extended reality (XR) technologies to open up a new forum for community building and economic exchange.

Mobile communications giant NTT Docomo, which is developing its own XR technologies, invested \$57 million in Hikky in a Series A funding round in November 2021. The following year, Hikky signed a partnership deal with Media Do, the biggest player in Japan's ebook distribution market.

The votes of confidence chime with the Japanese government's buy-in to the metaverse as a way to deal with socio-economic challenges, including how to bring 1.5 million hikikomori back into the nation's workforce. Lifetime losses of hikikomori contributions to the national economy are estimated at \$2.4 trillion, with an additional loss of unpaid taxes of \$27 billion.

By expanding the XR market and attendant digital infrastructure, metaverse building services like Hikky could create virtual employment opportunities and support systems for economically inactive groups like the hikikomori, providing a timely boost to a Japanese economy that is also struggling to go digital.

YURI GROUP ESTIMATES THAT WORKFORCE RE-ENGAGEMENT OF JUST 10% OF THE ECONOMICALLY INACTIVE HIKIKOMORI GROUP THROUGH THE METAVERSE COULD ADD AT LEAST \$240 BILLION TO THE JAPANESE ECONOMY BY 2050, WHILE ALSO PROVIDING \$2.7 BILLION IN TAX CONTRIBUTIONS. IT COULD ALSO ADD WORKERS IN SEVERAL INDUSTRIAL AND TRANSPORT FIELDS.

The reintroduction of 1.5 million workers to the Japanese workforce could also help address a huge worker shortage expected to accelerate dramatically over coming decades.

Japan's Onrushing Labor Shortage (no. of workers)

2030= **3.41 mln**

2040= **11 mln**

Global Phenomenon

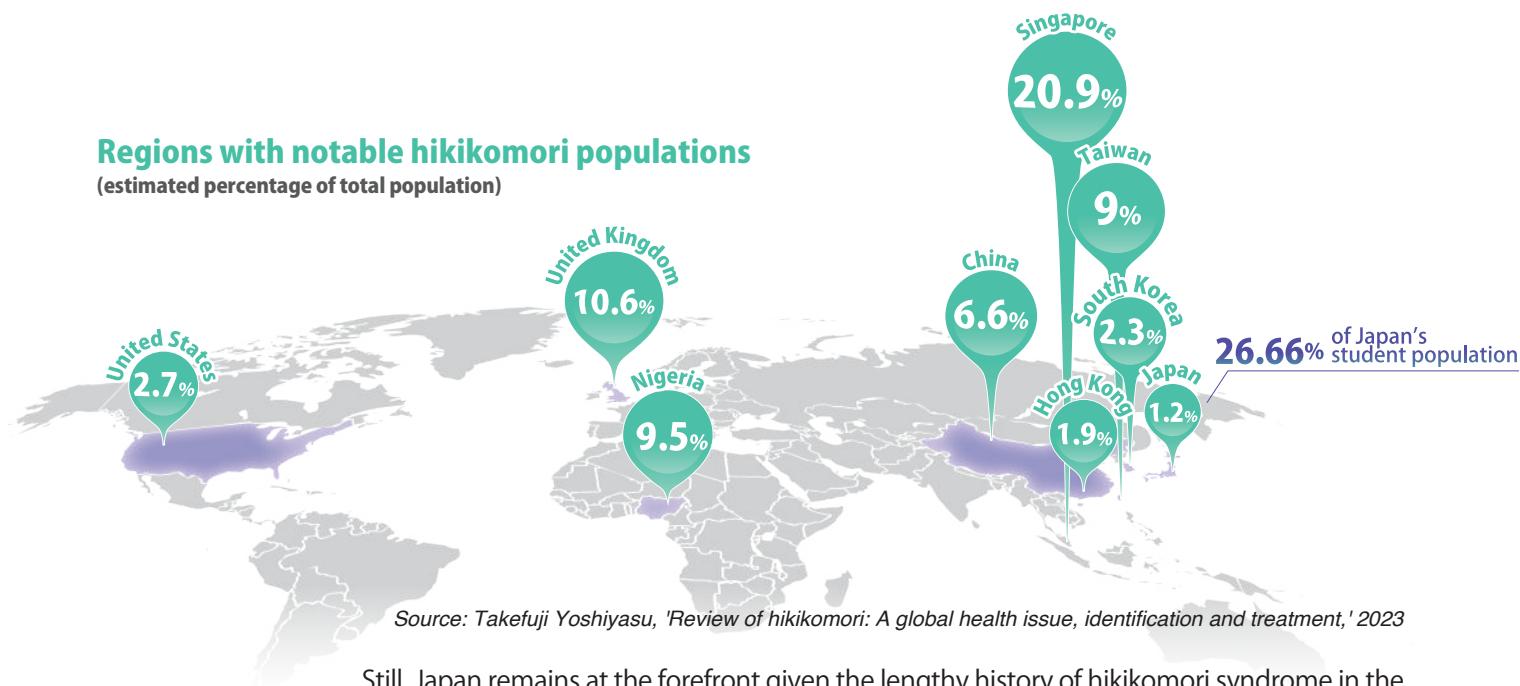
Psychologists attribute the rising number of extreme recluses in Japan to a variety of reasons. These include the pressures in strictly hierarchical working environments, bullying in schools, overprotective parenting, uncertain employment and marital prospects, as well as internet/social media addiction and undiagnosed mental health problems such as depression.

In neighboring South Korea, where individuals experience many similar social pressures, 5% of the population aged 19 to 34 – some 540,000 Koreans – were living in some form of isolation in 2021. In 2023, Seoul introduced a \$500 monthly payment to encourage these young people to re-engage with society.

Elsewhere, the phenomenon has parallels in the U.S. with the post-Covid school refusal epidemic, and in China with the so-called “lying flat generation,” who reject the working norms of their forebears in an environment of rising social and economic disparity. Cases of “hikikomori syndrome” have been recorded in Nigeria, the U.K., Italy, Oman and Brazil.

Categorization and quantification differs across regions, but studies find that many regions even overshadow Japan in terms of the percentage of socially withdrawn individuals.

Regions with notable hikikomori populations (estimated percentage of total population)



Still, Japan remains at the forefront given the lengthy history of hikikomori syndrome in the country and its growing impact on society. The phenomenon contributes to Japan's perilously low national fertility rate and the labor shortages hitting key areas of the economy. In the context of Japan's “super-aging” society, there are other looming consequences.

A growing number of parents in their 80s now find themselves responsible for adult children in their 50s that have withdrawn from society, with the whole family living on the pensions of the parents. By 2030, many of these parents will have passed away, leaving a generation of socially withdrawn individuals to fend for themselves.

In 2021, the Japanese cabinet office appointed a minister for loneliness and isolation to tackle these issues. In June this year, the government passed a law urging regional and municipal governments to focus on alleviating loneliness and isolation in their communities as a matter of national urgency.

Going Meta

The metaverse is one of a basket of digital technologies being explored by Japan's government to tackle hikikomori and other socioeconomic problems. As a feature of the country's DX (digital transformation) policy, it has the backing of the administration of Prime Minister Kishida Fumio.

Yet despite the communications ministry's release of a metaverse white paper in July last year, it is still unclear how the government intends to make use of the technology, how it can be rolled out nationally, and who might be willing to pay for it.

Beyond Japan, the global acceptance of the metaverse to date has been far from smooth. A so-called "metaverse boom" during the peak Covid-19 pandemic period was strongly fueled by Mark Zuckerberg. The social networks billionaire bet big on the metaverse as the next big thing and even updated his company's name from Facebook to Meta. The firm has invested almost \$50 billion in its metaverse division since 2021.

But since the explosion of generative AI, which has largely sucked up venture capital funding since Open AI took the world by storm with its Chat GPT chatbot, momentum to shift human communications to the metaverse has largely stalled. Even Zuckerberg seems more tilted toward AI nowadays.

The becalming of the metaverse initiative has been linked to fuzzy definitions of what it actually is, let alone how it can be used to solve social problems.

For example, is an immersive multiplayer shoot-em-up game like Fortnite a part of the metaverse? Does the metaverse necessarily require 3D-enabling hardware, like a virtual reality headset? Or can it be accessed via 2D handsets like the smartphones in our pockets?



Answers to these questions are subject to the interpretation of creators and users. What consensus there is defines the metaverse as a series of virtual worlds enabling online relationships using digital avatars.

These engagements mimic those of the physical world, without the pesky limitations of time and space, and usually conform to one of four separate categorizations: VR (Virtual Reality), AR (Augmented Reality), MR (Mixed Reality) or XR (Extended Reality)

Telling your XR, from your VR and AR



Asia Calling

While the metaverse buzz may have quietened in the West, the same cannot be said for Asia. China leads the world in metaverse patent applications, with local governments throughout the country recreating themselves online to boost regional commerce.

Chinese high-tech private sector giants Huawei, Tencent, and ByteDance are also building metaverse platforms to prepare for any future based on XR technologies.

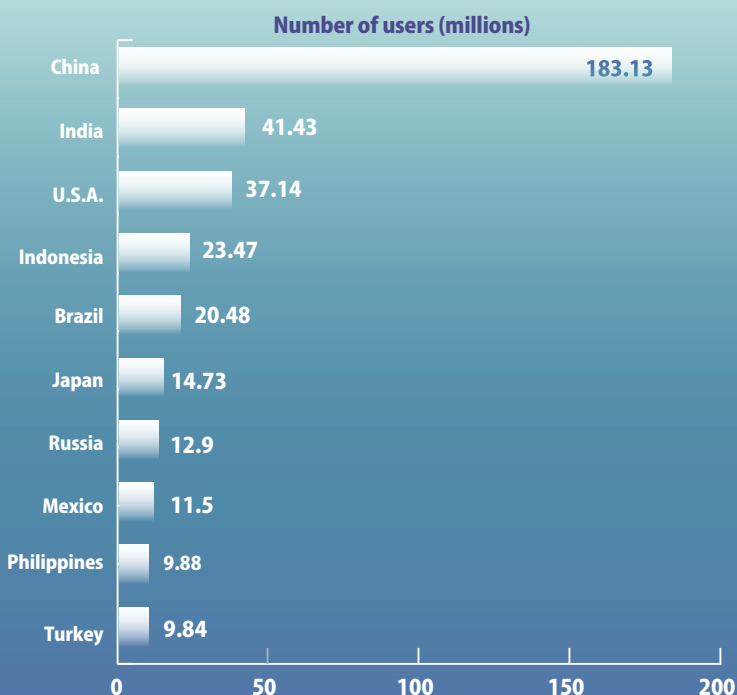
South Korea is also in the game. Last year, the capital city launched the first stage of Metaverse Seoul. This \$1.5 million metaverse promises citizens access to various services (tax information, youth counseling, document issuance, and more) via a 3D online creation of the city complete with digital avatars.

Vietnam, ranked by the Vietnam Insider magazine as the world's most mataverse friendly country, produced the once hugely popular Axie Infinity play-to-earn game, a metaverse based platform that rewards users with cryptocurrencies for completing various tasks.

Before a multi-million dollar hack in 2022 by the North Korea-linked Lazarus cybercrime group, the game had an estimated player base of 2.5 million. In three months alone in 2021 during the height of the pandemic, the game generated almost \$500 million, with 40% of the gamers hailing from the Philippines.

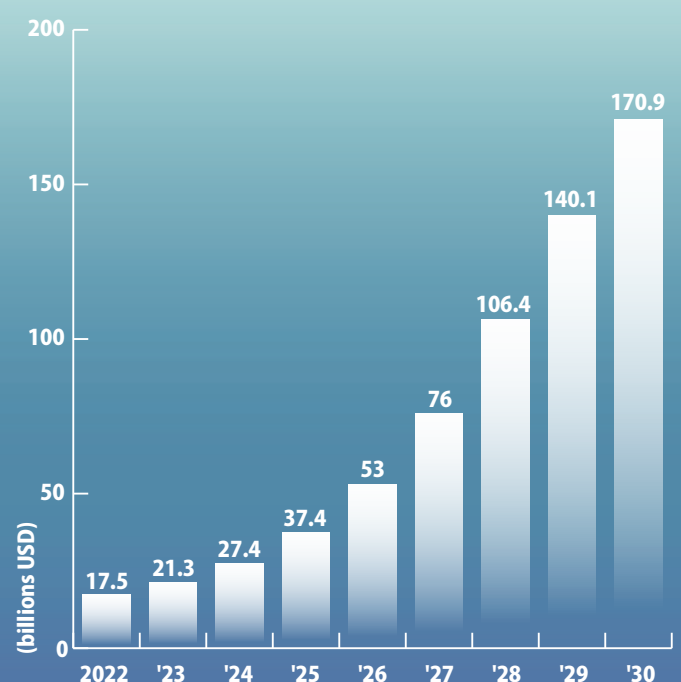
Similarly, for popular blockchain-based virtual world platform The Sandbox, three Asian territories – Hong Kong, South Korea and Japan – are the company's top markets.

Metaverse Global Top Ten



Source: Welt der Wunder

Asia's Expanding Metaverse Market



Source: Statista Market Insights, March 2024

The metaverse could be a way to prepare people for social interactions in the real world, such as studying abroad, which could help to reduce stress.

In the physical world, people tend to categorize themselves by a job title. But by using an avatar in the metaverse they can change who they are. In the case of Japanese people, they stop talking about work altogether in the metaverse, adopting the persona of their avatar.

The ability to freely choose an avatar means freedom from gender and appearance, and liberation from social constraints.

Source: Ministry of Internal Affairs and Communications, Metaverse Whitepaper 2023, social impact section

Big in Japan

In Japan, a number of cultural factors contribute to growing optimism around the domestic metaverse market. For one, the artwork used in the creation of digital avatars and virtual locations borrows heavily from the immensely popular world of anime and manga. It is hard to overstate the ubiquity in Japanese society of these pop culture staples, which both now boast huge audiences in markets overseas.

The country is also home to the VTuber (or Virtual YouTuber), a form of digitally animated metaverse character. VTubers fulfill similar roles to physical celebrities, such as fronting online chat shows, music videos and advertisements. VTubers clocked up 1.1 billion hours of viewing time in 2023, up 14.2% on the year before, with almost 40% of the world's VTubers based in Japan.

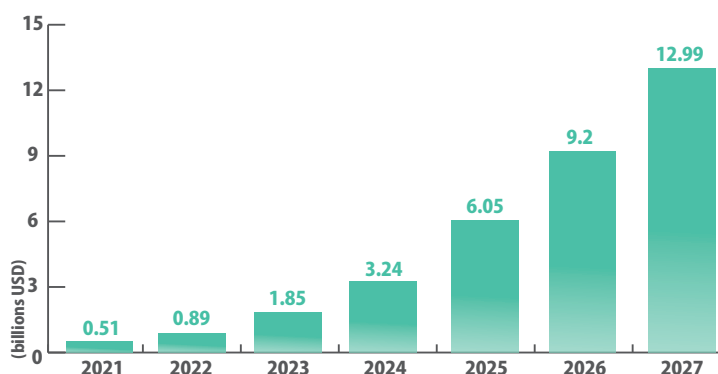
Japan's cultural inclination toward reticence, reserve and even anonymity also bodes well for adoption of the metaverse in the country. Applications such as Facebook (used by 29.9% of total social media users), require users to use their real names and images to post and lag in popularity of, say, Twitter/X (45.3%) where users can choose to post anonymously.



IN THE VIRTUAL WORLD, EVERYTHING CAN BE EXPRESSED DIGITALLY, SO YOU CAN INHABIT YOUR OWN IDEAL FORM WHICH YOU CREATED YOURSELF FROM SCRATCH. IF YOU COMMUNICATE IN THAT FORM, IT GIVES YOU A SENSE OF CONFIDENCE AND PERFORMATIVE ABILITY THAT YOU NEVER HAD BEFORE. THIS IS NOT JUST AN EXPERIMENTAL OR HYPOTHETICAL IDEA, BUT SOMETHING THAT IS REALLY HAPPENING.

HIKKY CEO, FUNAKOSHI Yasushi

\$13 billion market by 2027



Source: Yano Research Institute, Domestic Metaverse Market Trends 2023

*USD-YEN conversion at 1=153.92 (2024/7/30)

The projection of a sense of self that is both anonymous and idealized appeals broadly across the Japanese population. This applies to groups beyond simply the hikikomori, with domestic shipments of VR headsets up 70% YOY for 2023 as individuals increasingly seek out a means of communication that bypass the usual pressures of workplace etiquette and social standing.

The cultural fit has prompted various research institutions to make bullish projections about the future of the virtual reality market in Japan, with established and experienced metaverse creation services like Hikky set to lead the charge.

Worldwide Marketplace

Hikky made its name with the VKet (Virtual Market) online event space and virtual showcase venue. Now in its 12th iteration, VKet is the world's largest virtual reality marketplace, having attracted over 1.4 million guests since 2018. It also holds a Guinness World Record for hosting the most virtual reality booths at a single event.

Event spaces are modeled on certain real life Japanese locations, such as otaku (geek) culture paradise Akihabara in Tokyo, overseas cities like Paris, or inventions from the minds of Hikky's digital creators. Participants navigate these spaces in the form of a 3D digital avatar, exploring the various booths, performances and activities in much the same way they would a physical trade fair.



Corporations pay to exhibit in virtual booths, where participants can view digital representations of their products and discuss the items with a company representative. They can make purchases of virtual goods, such as avatars and accessories, or real versions of the items represented. Participants enter the virtual event space for free using a VR headset, or simply by logging in with their PC, tablet or smartphone.

Concurrent events take place in the physical world. At the Hikky Virtual Summer Market 2024 (July 20 to August 4), participants at physical events in Japanese cities Yokohama and Osaka, but also in Dubai, can join the event in person while also engaging in virtual activities in the metaverse.





AS THE METAVERSE DEVELOPS, A WIDE VARIETY OF JOBS WILL BE CREATED IN THE VIRTUAL SPACE, VALUE WILL BE CREATED, AND A UNIQUE ECONOMIC SPHERE WILL DEVELOP.

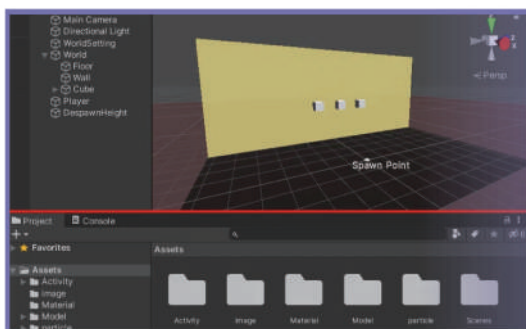
Hikky Chief Virtual Officer, Phio's Moving Castle

A key element of the Hikky offering is the reciprocal nature of metaverse creation. As creators build the new virtual world from the ground up, each addition adds a new layer to the digital landscape of the metaverse. As the landscape grows and becomes more expansive, so do the possibilities inherent within it, increasing the points of entry for potential users and creators alike.

For Hikky management, the more possibilities to replicate physical activities in the metaverse, the more opportunity this creates for users. In theory, someone who is unable to leave the house may still participate economically in the metaverse, by doing an online version of physical activities.

Virtual Economic Sphere

Hikky's Chief Virtual Officer calls the activities enabled by the metaverse the "virtual economic sphere." To expand that sphere, the company created the VKet Cloud service. This tool allows both individual and corporate clients to build their own virtual worlds using the Hikky platform and creative tools.



For an individual, this might mean creating a virtual space to meet with friends, a 3D multiplayer game, or an interactive website. It might also mean using the Hikky tools to become a paid metaverse creator for your own clients.

For a corporate client, this might mean creating a bespoke digital event hall, an interactive conference room for online meetings, or even a branded 3D exhibit space where potential customers can immerse themselves in virtual representations of the company's corporate philosophy and product offering.



Vket Cloud can be accessed via a browser using a computer or smartphone. It is free for individual users and paid for collaborative projects, including different payment plans for use by businesses. The site contains detailed instructions on how to use the featured tools, meaning no additional software or coding skills are required. When a project is complete, it can be shared immediately using a QR code or by posting a link via social media.

Big Business

The Hikky management team say the metaverse offers opportunities to users that may not be available in the physical world. For example, virtual employment openings currently exist in sales, consultation services, and digital infrastructure building and design.

Throw into that potential opportunities in virtual education, administrative services, health consultations and elderly support, and it helps to understand why the Japanese government is getting behind the metaverse idea. And in that mix is the potential to reintroduce groups like the hikikomori back into the workforce.

Japan's Ministry of the Environment is already a Hikky customer, using the service to display homes fitted out with green, sustainable technologies. Major private corporations and quasi-public institutions such as Canon, Cup Noodle (Nissin Food Products), East Japan Railway Company and the Japan Racing Association have also built their own branded exhibition spaces in the Hikky metaverse.

Elsewhere, multinationals Mitsubishi UFJ and Fujitsu head up a finance and manufacturing consortium that last year announced it would create a national "metaverse economic zone." Leading printing firms Toppan and Dai Nippon Printing are also lending their expertise to build out metaverse projects by regional governments throughout Japan.

These developments suggest the metaverse future looks relatively bright in Japan, but some pressing questions do remain.

Namely, metaverse development is extremely pricey. The skilled people needed to build virtual economic worlds do not come cheap and are short on the ground in Japan. Who pays for the education to train a generation of tech workers capable of constructing such grand, national or international metaverse worlds?

Secondly, who gets to decide the parameters of metaverse development? The players range from Hikky on the startup end of the spectrum to Fujitsu on the corporate behemoth side. This suggests that any metaverses built will be siloed, which is typically an obstacle to innovation.

Japan is trying to position itself as an arbiter on the legal structure of a globally relevant metaverse, e.g., how to build a cross border virtual world that, say, allows free downloads of a particular product in the U.S. without simultaneously breaking several IP laws in Japan.



Implications

Hikky CEO Funakoshi Yasushi is bullish about his company's future in the Japanese metaverse market, citing long-standing relationships with clients that spanned the pandemic-era metaverse boom and continue today. The company's successful Series A round in early 2022 means that he has the finances to build.

But the same economic assurances do not necessarily exist for Hikky's target audience, whose buy-in is necessary for the business model to grow. On the bargain side, Hikky's offerings include low priced or even free access to metaverse services via ubiquitous smartphones.

But the VR headsets are a different story. The fully immersive element of the metaverse is a key aspect of its appeal, but the equipment requires deep pockets. The latest VR headset by Meta, Quest 3, costs twice as much as a Nintendo Switch console and 25% more than the new Sony Playstation. And that's the 'affordable' segment. Apple's Vision Pro VR headset is close to ¥600,000 (\$3,900) – ten times the price of a Playstation.

Funakoshi argues that the hardware issue must be addressed before the Japanese metaverse market can evolve. But as this report has shown, the market is there, should these issues be ironed out.

WE ESTIMATE THAT AROUND \$10 BILLION A YEAR (\$240 BILLION TOTAL THROUGH 2050) CAN BE INJECTED INTO THE JAPANESE ECONOMY SHOULD JUST 10% OF THE NATION'S 1.5 MILLION HIKIKOMORI RE-ENGAGE IN THE WORKFORCE VIA THE METAVERSE.

This is obviously a conservative estimate based on a small percentage of the hikikomori group alone. Take into consideration other groups: individuals with disabilities, the elderly, and workers who would prefer to opt out of the Japanese office straightjacket and this number becomes a lot larger.

Economically, the government's embrace of the metaverse concept makes sense. Expansion of virtual reality employment, and the educational and social opportunities offer a possible innovative solution to various social issues, including the hikikomori phenomenon.

But will it work? As discussed, building virtual worlds needs lots of IT talent with the right skill sets. So, training up and/or importing domestic IT cadres is crucial. The price of VR headsets and other tech that provides the entrance ticket to online worlds will also need to drop to prevent a digital class divide. Perhaps a more fundamental issue to be carefully monitored is whether adding an additional virtual layer to the existence of those who have withdrawn from society alienates them further.

Whether the metaverse is broadly embraced today or in five or ten years time, the evolution of social communication and networks into 3D virtual worlds seems highly probable. Today's children are growing up as metaverse-natives (think Pokemon Go, Fortnite, etc.). In that sense, hikikomori are the pioneers, the pathfinders to the next transformation of our society in which all realities, digital and physical, are mixed and shared.



The GxxD reports series covers the megatrends, business models, and innovations at the crossover between digital and clean energy. With stories on areas as diverse as AI, the CO2 economy, robotics, and fusion, we share intelligence that anyone with an eye on Japan will want to explore further.

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Interested in taking your first steps into the metaverse?

Hikky's Virtual Summer Market 2024 is underway now!!

JULY 20 - AUGUST 04

Featuring physical/virtual 'Real' events in **YOKOHAMA / OSAKA / DUBAI**

<https://event.vket.com/en>

