Microsoft Hong Kong's Dedication in Empowering the Metaverse Momentum
Microsoft 香港致力推動元宇宙發展

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Microsoft is one of the pioneer companies empowering society and organizations to create their own Metaverse through its technology applications. The Metaverse, which Satya Nadella the CEO of Microsoft refers to as "The Next Wave of The Internet", may eventually be a place where anyone can create their own virtual universe and overlie with the evolution of Web 3.0. He once mentioned enterprises' digital transformation was expected to arise in 10 years, however it started making significant strides in only 2 months spurred by the pandemic. The expansion of the Metaverse is expected to coincide with the emergence of new immersive technologies that are specifically intended to connect people with human touch in virtual worlds coupled with the rising demand for digital products and services. Microsoft Work Trend Index 2022 report has shown that employees' priorities have shifted from work to health and wellness, and people are more comfortable working in hybrid mode after the outbreak of Covid-19. It has unavoidably given the Metaverse a head start as well as opening up massive opportunities for the innovation and technology community.

General Manager of Microsoft Hong Kong and Macau, Ms. Cally Chan, sees the Metaverse as a conduit that links the virtual and physical worlds. She sees the Metaverse as both a revolutionary transformation and a logical extension from the reality we are living in. The Metaverse is liberating our daily lives in a way that is both natural and stems from the development of existing technology such as 3D technology, virtual reality (VR) and mixed reality (MR). Stimulated by the

Microsoft 率業界之先，為社會各界及企業提供技術，鼓勵大眾創作自己的元宇宙。Microsoft 行政總裁 Satya Nadella 形容元宇宙為「互聯網的下一個浪潮」，與網絡 3.0 的演變重合，最終成為一個任何人能自由創造虛擬世界的場所。他曾提到企業數碼轉型需要十年時間發生；然而在全球新冠疫情的催化下，轉型進程僅在兩個月內便取得重大進展。元宇宙的擴展，與強化互動體驗的沉浸式技術的出現不謀而合，提高人與人之間在虛擬世界的聯繫，元宇宙的普及同時是數碼產品和服務日漸增長的市場需求的結果。2022 年初所發佈的「Microsoft 工作趨勢指數」年度報告顯示，相比於工作，員工更重視生活及身心健康的議題。在全球新冠疫情爆發後，人們更願意以混合模式工作。不可否認，這正正為元宇宙的應用提供了先機，同時也為科技業界帶來大量新機遇。

Microsoft 香港及澳門區總經理陳珊珊女士指出，元宇宙是連接虛擬世界和現實世界的管道。她認為元宇宙既是革命性的轉變，亦是我們所處的現實空間的延伸。元宇宙的出現是自然地衍生出來，也同時是由技術發展而生如 3D、虛擬現實（Virtual Reality）和混合實境（Mixed Reality）的技術突破等。在疫情的刺激下，混合工作模式展現了元宇宙如何為虛擬會議帶來更多變化，員工能夠通過虛擬化身（Avatar）進行交流，為傳統會面模式帶來嶄新的突破。

pandemic, the hybrid working model has been a fantastic illustration of how the Metaverse has become a natural extension of our virtual meeting routines but with two-way communications via avatars, which is groundbreaking and removes the need for conventional face-to-face meetings.

Through the provision of hyperscale cloud services, Microsoft Hong Kong aims to empower local businesses to create values in the Metaverse environment. Microsoft Hong Kong appears to be heavily involved in a number of industries, including healthcare, finance, and entertainment, and more. For instance, it developed HoloMedicine – a mixed reality platform leveraging the Microsoft HoloLens hardware, to produce medical pictures as well as to iron out inefficiencies in clinical workflows. In the example of Tseung Kwan O Hospital, by integrating these technologies into the Metaverse, it would be possible to connect local and remote medical professionals in real time and gain more insights that could improve surgical precision. Online concerts are another relevant instance. With the help of avatars, musicians can perform virtually on Minecraft, where the audience can engage with one another just like they would during live performances. One of the leading insurance companies – AIA also hosted its internal townhall meeting via AltspaceVR and HoloLens, allows its employees to gather in the same virtual world whilst they are physically apart during the lockdown.

How to Enhance Flexibility and Collaboration in Metaverse

Chan predicted that the financial sector will ultimately benefit the most from Metaverse. The fact that blockchain in Metaverse promotes secure and traceable transactions could unlock regulators concern and easily restore public confidence and integrity and authority of financial markets, especially for service providers who are struggling from lagging behind on innovations.

For those who would like to enter the Metaverse, Chan suggested business must be attentive to the following components while boosting their user and business adaptability in the virtual realm. The development of Cloud and Artificial Intelligence (AI) technology indeed plays a critical role in the future of the Metaverse for different industries, such as providing customers behavior insights to retailers, or construction sites and office safety. Cloud platform allows infrastructure that requires to support the Metaverse be massively scalable. AI will be important in managing all the required infrastructure, including hardware, software, and communications in such a demanding setting. The capacity of machines to aggregate data and automate will be crucial to ensuring not just the stability of the Metaverse infrastructure but also the provision of activity insights in order to ensure that everyone has access to the Metaverse.

The other component to facilitate working flexibility is the adoption of collaboration tools. The pandemic has proved that adaptability and an open mind are necessary during uncertain times. In many businesses, the hybrid workplace is now the norm. The ability of employees to collaborate

Microsoft 香港為本地企業提供強大的雲端服務,使他們能在元宇宙環境中發掘不同商機。Microsoft 香港亦關注不同的業界發展,包括醫療、金融及娛樂產業等,由其研發的 HoloMedicine 便是應用在醫療行業範疇的實例之一,它建構於提供混合實境技術的 Microsoft HoloLens 硬件,主要協助醫療圖像拍攝和消除在臨床流程中的低效工作。將軍澳醫院把此技術於元宇宙世界整合,便捷地連接本地和遙距工作的醫護人員,從而為病人獲得更精準的治療建議。線上音樂會也是另一新嘗試,透過虛擬化身技術,表演者可在 Minecraft 上舉行虛擬音樂會,而觀眾也能仿如親歷其景般與其他人互動及享受音樂會氣氛。儘管受各地疫情隔離措施影響,業內領先的保險公司友邦保險也利用 AltspaceVR 和 HoloLens 舉辦了員工大會,以虛擬化身與其他員工見面。

如何提升元宇宙的靈活度和協作性

陳女士估計,金融行業將在元宇宙熱潮中受益最多。事實上,元宇宙中的區塊鏈技術使交易變得更安全,交易紀錄亦可被追溯,不僅能解除監管者的擔憂,恢復公眾信心,也有助維持金融市場的核心價值和權威,對未能跟上創新趨勢而苦苦掙扎的企業而言更是有莫大助益。

對欲踏入元宇宙的企業而言,陳女士建議他們在吸引用戶和改善業務適應能力的同時也需要考慮以下因素。雲端技術和人工智能技術的發展確實會在各行業中的元宇宙發揮關鍵角色,例如可為零售商提供客戶行為洞察分析、或是協助維護建築工地和辦公環境的安全。雲端平台為支援元宇宙成長的基礎設施提供極佳的擴展空間。人工智能在管理基礎設施時亦非常重要,當中包括各高技術要求的硬件、軟件和通訊系統時。機器匯總數據的能力和自動化的能力不僅能維持元宇宙基礎設施的穩定性,更能以其優秀的洞察能力確保每個用戶都能輕鬆進入元宇宙。

remotely is crucial to the success of various work arrangements, which has sped up the market for enterprise collaboration. The Metaverse is disrupting our working routines with some unexpected advantages. Real-time sharing of tasks and priorities can inspire creativity and boost productivity. People can present themselves however they feel comfortable doing so when they gather and communicate with each other in Metaverse, which is powerful and encouraging. More collaborative elements can also result in cross-checks of ideas, which may help decision-making progress even more.

Microsoft Supports Metaverse as a Technology Enabler

Microsoft's aspirations in Metaverse are portrayed in its mixed reality platform named Mesh for Teams. Presenter mode and together mode are two capabilities that enable shared experiences across devices. Users can view their relative location to one another using 3D avatars that show proximity and spatial audio, enhancing the sense of virtual presence. This creates a VR experience outside of the 3D environment. This process is known as holoportation, which enables users' holographic versions to move to another location for interaction. The three cloud solutions of Microsoft, including Microsoft 365, Dynamics 365, and Azure are currently in use and are expected to play an increasingly significant role in shaping the virtual world.
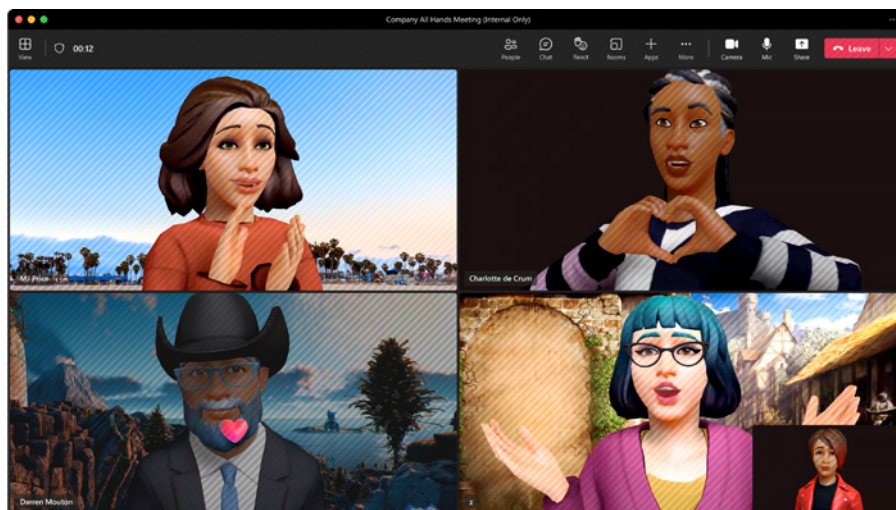
One limitation is that the virtual component cannot completely take over the process as physical elements are still required at particular times or in certain scenarios. Another strategy is to arm developers with better technology. Partnership with other technology firms or telecommunications companies is a possible area of expansion, such as enhance cloud-based solutions or leverage 5G network to co-create values. In addition, Microsoft Hong Kong also work with social enterprise CubicHK to drive societal changes and enable underprivileged youth to experience the power of Metaverse and equip them with in-demand digital skillsets through Minecraft, which echoes to Microsoft commitment in driving social good.

採取協作工具也能幫助促進和改進工作的靈活度。近年的疫情已證明企業在不確定的時期保持適應性和開放的心態尤其重要。對許多企業來說，使用混合工作模式已成為主流。員工的遙距協作能力將大大改善工作的安排進程，為企業的合作發展注入強心針。元宇宙正為我們常規的工作帶來意想不到的正向改革，例如實時分享工作和處理優先事項能激發員工的創作力和生產力。員工可以他們自的方式於元宇宙中相聚和交流，促進溝通和社交活動，成效令人相當鼓舞。更多的合作機會也能鼓勵想法交換，幫助員工取得更好的決策。

Microsoft 成為元宇宙技術推動者

Microsoft 的元宇宙抱負在旗下的混合實境應用 Mesh for Teams 中展現。演講者模式（Presenter mode）和共用模式（Together mode）同時實現了跨設備共享工作的功能。用戶可以透過虛擬化身的功能探索自己與他人的距離，立體的音效也能提高用戶的存在感。這些升級讓虛擬實境體驗在 3D 環境以外再次得到昇華。此技術被稱為「全息傳送」（Holoportation），它使用戶的全息投影能輕鬆轉移到另一個位置繼續進行活動。Microsoft 的三大雲端方案，包括 Microsoft 365、Dynamics 365 和 Azure 都廣受用戶歡迎，為虛擬世界的塑造提供重要的助力。

在構想虛擬世界時面臨的其中一個問題是，虛擬元素並不能完全取代所有實體場景，在特定的時間和技術場景下，現實中的元素依然有其存在的必要性。其中一個解決方向將是讓開發者擁有更全面的技術認知。企業可以探討與其他科技公司或電訊公司的合作機會，例如加強雲端技術或利用 5G 網絡為業務創造價值。此外，Microsoft 香港也與社會企業 CubicHK 合作，透過 Minecraft 技術讓來自弱勢群體的年輕人也可體驗元宇宙的力量，並裝備數碼技能，實現 Microsoft 推動社會公益事務的承諾。

Advice to Enterprises and Startups Before Stepping Foot in the Metaverse

Chan advised businesses to adopt technology like integrated secure cloud platforms in their development blueprint and equip their staff members with strong digital mindsets and abilities in order to help them be well-prepared for the Metaverse. Employees' participation in the Metaverse is highly influenced by their opinions and beliefs in technological transformation. Microsoft also supports startups through a 360-degree approach that includes more cooperation and enterprise resource planning (ERP) tools. In a startup environment, having a central platform designed for ERP initiatives would be beneficial in managing finances, planning sales, and making business projections. In order to build and better a trust system, businesses should also look for go-to-market strategies and achieve competitive advantages through corporate partnerships. Increased brand awareness is another benefit of partnerships that may help a startup prosper. Chan also advised developing an end-to-end solution and forming a partner ecosystem to leverage the resources in different locations.

Everyone is creating their own virtual environment and jumping on the Metaverse bandwagon. Interoperability, or the capacity to harmonize economies, avatars, and systems between worlds, is frequently cited as one of the key characteristics of the Metaverse. However, lack of interoperability is now one of the major hurdles for Metaverse's mass adoption. Open standard protocol should be in place to assure integrity and continuity across different virtual worlds for an unified user experience, just the way it happens in reality. The issues of security, compliance, and privacy are another key concerns in Metaverse. Despite the above, businesses ranging from global leaders in technology to local SMEs are nonetheless rushing into the Metaverse. These issues should be handled in caution as users will be conducting transactions virtually, and immense amounts of data would be stored and processed.

對想要踏足元宇宙的企業和初創的建議

陳女士建議企業在踏足元宇宙時將融合雲端技術發展納入未來的藍圖中，同時也要為員工提供數碼思維方面的訓練，為迎合元宇宙做好準備。員工對元宇宙參與很大程度上受到自身對技術轉型的意見影響。有見及此，Microsoft 已為有意迎接元宇宙的初創企業提供 360 度全方位支持，當中包括提供多元化的合作和企業資源計劃（ERP）工具，為初創的營商環境賦予以 ERP 管理概念為主導的營商平台，有利初創企業進行財務管理、計畫銷售活動和預測業務發展。為了能建立更好的互信關係，企業應該積極尋找市場策略，通過與企業夥伴合作實現競爭優勢。與其他品牌合作的另一好處是能有效提高品牌知名度，為初創企業的成功打下良好的基礎。陳女士也建議企業開發點對點的網絡解決方案，並共同建立合作夥伴生態系統，為資源的利用和整合提供有利條件。

每人都在響應元宇宙不斷地創造專屬的虛擬環境。開放及互通性（Interoperability）的元宇宙、或其協調經濟體系、虛擬化身和系統環境的能力一直被認為是元宇宙的魅力所在。然而，缺乏互通性也為元宇宙的推行構成阻礙。元宇宙的使用協議應該受標準規範，以確保不同虛擬世界間的完整度和連續性，使用戶也能在元宇宙中獲得如現實生活中般流暢統一的體驗。安全、合規和隱私問題也是元宇宙發展路上需要解決的關鍵難題。儘管這些問題均有待進一步處理，全球科技領導者至甚至是地方中小企業依然對元宇宙的世界充滿憧憬。元宇宙用戶會進行大量的虛擬交易，眾多數據將被反覆儲存和處理，這是在嘗試解決以上的困境時需要考慮的方向。