

## Experience The 5G Generation and Entertainment Evolution

### 5G 最強連線 革新娛樂體驗

#### PCCW Media

#### 電訊盈科媒體

The 5G generation is here, and the world of streaming entertainment will never be the same. Imagine you can watch Avengers End Game, say on your way home in a train; or witness Lionel Messi scoring the winning goal for Barcelona on your mobile phone in 4K with minimal latency, while you're having a work-out in the gym. Thanks to 5G technology, all of these scenarios can be made possible. 5G is definitely taking content delivery to another level. Now E, PCCW Media's award-winning OTT service, will benefit from the launch of the 5G network in a number of ways.

As one of the leaders in the local OTT market, Now E has been bringing viewers high quality entertainment and world class sporting events since debut in 2018. Like most of the OTT media services, Now E offers its users offline viewing by downloading videos and watch them on the go. With the aid of 5G, the download time is significantly reduced, as 5G can provide up to 20 times faster speed (20 Gbps) compared with current 4G peak speed (1 Gbps). Under a 4G environment, it will take around 20 minutes to download "Avengers: End Game" (around 3 hours in length) in HD quality, or 4-5 hours for 8 seasons (73 episodes) of HBO's mega hits "Game of Thrones" on Now E, while it only takes less than a minute and 15-20 minutes respectively through a 5G network for the two cases. The higher frequency bands used within the 5G networks allow for significantly faster data transfer rates, so users can download as many movies or drama series as they like for future enjoyment in a much shorter time frame.

Now E will be offering 4K live soccer streaming in the upcoming season, with action from Europe's top competitions. The 5G technology not only makes better quality and utmost viewing experience possible, but also delivers real time action in minimal latency. With its high spectral efficiency and faster data throughput, the end-to-end latency in 5G could reduce to one millisecond which is 50 times shorter than that in 4G. It is expected to provide users with a seamless viewing experience because of its massive improvements on latency and bandwidth. The increased bandwidth availability and reliability of 5G means viewers will expect watching content with top quality, far better than what 4G has been offering. Now E has been working closely with its content partners to bring in more 4K movies, drama and entertainment programs, so you can say goodbye to the poor SD experiences and expect more 4K enjoyment coming your way.

進入 5G 世代，串流影視娛樂的世界隨之而變得不一樣。Now E 作為電訊盈科旗下獲獎的 OTT 服務，亦因此而突破各種界限，實現以往的不可能。不論是猛片新劇，或是 4K 高清球賽，Now E 都能運用嶄新 5G 技術，為大眾引進更快、更順、更高質素的視聽娛樂體驗。

Now E 自 2018 年就引領業界，讓用戶享有完善高質的視聽體驗，包括預先下載，離線觀看功能。在 5G 的超高網速下，這功能就發揮更大作用，用戶可以在外出路程中收看更多娛樂資訊。現時 4G 的傳輸速度，最高為每秒 1Gbps，5G 的速度可提高 20 倍達每秒 20Gbps。以往下載需時 20 分鐘的《復仇者聯盟 4 - 終局之戰》，現只需少於 1 分鐘；而下載需時 4-5 小時的《權力遊戲第 1-8 季》就只需 15-20 分鐘，高下立見的傳輸速度，讓用戶更省時下載無數頂級的娛樂資訊。

5G 的端對端時延 (end-to-end latency) 可低至 1 毫秒，時間較 4G 短 50 倍。而這種高頻寬、低延遲的特性，亦能夠讓 Now E 在 4K 串流直播歐洲頂級足球賽事時，將畫面延遲減得更低，為球迷帶來同步實時的畫面和臨場感，這嶄新頂級體驗遠超 4G 所能及。Now E 亦會繼續與不同內容供應商合作，發掘更多 4K 電影、劇集和綜藝節目，讓觀眾告別以往標清質素的影視娛樂，迎接 4K 超高清的視覺新享受。

It is not an overstatement to say 5G technology is redefining the ways in which video content is consumed and delivered. Not only does it hugely increase the delivery speed, enhance video quality and reduce latency, 5G also opens the door for more creativity in media production, which can go far beyond your imagination. In the recent years, we have seen the growth of both virtual and augmented reality (VR/AR), particularly in the field of gaming and entertainment. The low-latency properties of 5G and its low cost per bit offer promise for AR and VR applications, with VR contents able to be streamed in 4K or higher resolution. PCCW Media has teamed up with LG U+ and HKT to launch a hugely popular VR K-pop music chart show produced in 4K resolution and especially created a 180° VR viewing. Using a VR head mount, viewers will be able to enjoy this exclusive content. The production of 8K live contents also becomes achievable at any location with 5G coverage benefitting from its network bandwidth with the support of cutting edge tiled streaming technology, users could experience the unprecedented streaming quality on their handsets.

From creativity to opportunity, 5G will no doubt open up exciting possibilities for OTT service providers or content creators. Seeking to take advantage of 5G will be their biggest challenge that lies ahead, and from a consumer perspective, mobile users are in the golden era as they are doing a lot of things from their devices that they could never do before. ●

5G 技術更為影視帶來超乎想像的可能。就如近年興起的 AR 和 VR 技術，有賴 5G 的超低延遲傳輸和低成本的優勢，發展出 4K 或更高畫質的 VR 串流影片。電訊盈科媒體就率先與香港電訊和韓國 LG U+ 攜手提供以 VR 拍攝的韓國 K-pop 節目，讓用戶透過虛擬實境裝置，以 4K 畫質 180° 感受人氣歌手和樂團的演出。此外，有賴 5G 的傳送頻寬，配合最新的串流技術，用戶可在任何有 5G 網絡覆蓋的地方收看 8K 直播節目，在手機上體驗前所未見的畫質感受。

由此可見，5G 技術為 OTT 娛樂平台和內容創作者都帶來不少新機遇，如何應用得宜，化為優勢成為新挑戰。用戶亦即將進入黃金時代，迎接前所未有的娛樂體驗。 ●

