

The Future of Apps in the Internet of Things

March 2018

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On 6 January 2007, Steve Jobs, the founder of Apple, announced to the world the Apple iPhone. Since then, sales in the iPhone range have totalled more than a billion units worldwide. **The birth of the smartphone was also the birth of the app economy.** The unrivalled success of the iPhone arguably has as much to do with the content on it, rather than the novelty of using an iPod as a cell phone.

Apps are everywhere and increasingly permeate every aspect of our lives. From sports to healthy living, to business management, to music, games and online dating, apps have become the nexus for our interactions with the world. The average person spends approximately two hours each day on social media, with 90% of Facebook users accessing the social network via their mobile app. As the world becomes increasingly connected, time spent by users on various apps will increase also.

Apps, along with many other digital products and services, are disrupters to traditional industries. Far beyond our smartphones, apps are now moving into our cars, fridges, healthcare devices, televisions, drones, and a whole host of innovative smart devices. By 2025 it is predicted 75.4 billion devices will be connected to the Internet of Things and apps will be the interface by which consumers interact with this network of communicating gadgets:

- *Apps provide vital business-to-business services* that lead to cost savings and efficiency gains with up-to-date data, telemetry and end-to-end support through analytics.
- *The proliferation of 5G networks are set to send app development into a new stage of expansion* by harnessing the power of Big Data and seamless connectivity between devices in concentrated areas. Importantly, services unforeseen by the market at the present time will also develop and lead to an explosion of innovation by downstream actors creating new markets, industries, and jobs. Companies like Uber were unimaginable in the past, and in just a few years has grown to be dominant players.

With over 83% of apps developed outside of Silicon Valley, Europe has become a key market where app development has taken off. The global value of the app economy was €1 trillion in 2017 and is expected to grow to over €6 trillion by 2030. Despite facing the worst financial crash and a double-dip recession, the vibrant European app economy supports 1.64 million app developer jobs.

Yet, the app economy as a sector is overlooked and undervalued. For this thriving new sector to continue to flourish, appropriate regulation needs to be set in place – regulation that takes into consideration that apps do necessarily fit within the one-size-fits-all regulatory approach to the traditional economy.¹

¹ The app economy demonstrates particular economic behaviour as a two-sided market: app developers benefit from relatively weak competition between platforms, which allow them to gain access to large customer bases of app users and



The European Union has been one of the first to develop an integrated approach for the app economy through its **Digital Single Market Strategy**, which is halfway through its implementation. Future prospects in the app economy look good, but the European Commission is still investing the need for further regulation:

- *The vast majority of app developers are small companies competing in an ecosystem dominated by very large actors.* Cognisant of this fact, the European Commission is considering proposing a **regulation on promoting fairness and transparency in online intermediated trade** to increase the transparency of Platform-to-Business (P2B) relationships and support the development of EU businesses in the online platform economy.
- *Another challenge for app developers, particularly those developing products in new vertical markets associated with the Internet of Things, concerns Standard Essential Patent (SEP) licensing practices.* SEPs encompass patents involved in the implementation of a technical standard in the ICT sector and app developers must use them to develop interoperable devices. App developers require a healthy SEP licensing environment which is threatened by Non-Practicing Entity activities which have increased by 19% year-on-year in Europe since 2011². Since SEPs are some of the most litigated patents the European Commission released a **Communication on SEPs** in late 2017 to provide some guidance for the future and will set up in 2018 an **Expert Group** to monitor SEP developments in the European Union and around the world. Nonetheless, regulatory needs remain difficult to apprehend as SEPs encompass diverse areas including, competition, antitrust, intellectual property and standardisation.
- *Data is central to the app economy.* Three overlapping and complementary pieces of legislation due to come into effect or planned to come into force in 2018 will define the future of the European app economy: (i) the **General Data Protection Regulation**, which lays down a unified regulatory framework for personal data protection in the EU, (ii) the upcoming **ePrivacy Regulation** that will protect the right to the respect of private life with regards to electronic communications, and (iii) the **Free Flow of Non-Personal Data** that removes obstacles to the free movement of non-personal data across the EU. As these come into force in the coming years, both European and international companies will need to adapt to the new environment whilst regulators need to ensure their regulatory approach does not hamper the flourishing of a European data economy and the industries it supports.

In the ten years that the app economy has developed, we have seen an exponential growth in the app economy that we can expect to continue in the future. To expedite this process further, the regulatory framework needs to be adjusted according to the specific context of the app economy. Broad-overarching approaches that do not take into consideration the nuances of the market could exacerbate existing problems or could disturb the balance of the app ecosystem.

spread development costs while consumers also benefit from greater product differentiation. In this way, the app economy requires specific consideration if regulation were to be proposed.

² An Non-Practicing Entity (NPE) is a person or company whose business model relies on acquiring patents or patent rights without practicing the patented invention to make profits on the royalties paid for licenses on their patent portfolios.