

Accelerating the development of e-scooters

Disruptive technology. Upending convention and challenging the norm. Is micromobility disruptive or is it the logical next step?

Lightweight personal transport has undergone a renaissance in recent years. The availability of electric motors for use in bicycles (e-bikes) has widened the appeal of cycling and led to more and more people engaging in active travel. Likewise, interest in e-scooters is booming.

The use of e-scooters – the new kid on the block – is challenging convention and driving innovation. Recently, a new e-scooter racing series was launched in London (the eSkootr Championship, eSC). At the New Mobility Forum, the day before the event, Alex Wurz, a former F1 driver and co-founder of the eSC, described the series as a platform for micromobility and has previously referred to it as “a high-speed laboratory”. Innovators have a key role to play to inform the UK government about the potential of e-scooters. Along the way, you may want to protect your ideas to help safeguard your own position.

Innovation through motorsport

Working in motorsport gives you a unique perspective on what is technically possible. Owen Carless, a

senior Formula One (F1) engineer shares his views on how influential motorsport is on human endeavours.

“To lean on the example of the late Dr Carl Sagan, humans are not the dominant species on this planet because they’re the fastest animals, nor the largest, nor the strongest, but because they’re the most intelligent and are capable to using their hands and minds to create great things. Like the Arts, sport shows us what humans can do when incentivised to excel and master tasks, and when it comes to harnessing engineering and technology to achieve some technical specification surely motorsport is near the top of the pile?”

- Owen Carless, Head of Mechanical Simulation at Red Bull Powertrains

Many UK-based motorsport teams now have an applied-technology division specially dedicated to expanding the home-grown Formula 1 know-how into the non-F1 world. Innovations borne out of these centres will likely be assessed for protection using intellectual property laws to support the business and help fuel growth.

Intellectual property

What is intellectual property (IP) and why pay attention to it?

IP refers to creations of the mind and IP laws are written to help protect them. IP rights include patents (and utility models) for inventions, industrial designs, trademarks, copyright, and trade secrets.

Evaluating published IP rights can reveal trends in research and development (R&D), and predict future / understand current commercial activity.

One way to protect an idea is through a patent. By doing so, you obtain a monopoly over the invention which can allow you to stop others (although you may not be at liberty to launch without infringing other rights).



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Patent rights are territorial and are mostly governed by local laws. Patent laws are complicated so it is best to seek professional advice at an early stage.

Inspecting patent filings (and publications) enables third parties to understand where their competition is focusing their attention. Patent filings can also provide insights into the direction a sector is exploring and/or heading.

Beneficially, for a patent applicant, their patent application will remain officially undisclosed until the application is disclosed to the public, generally 18-months down the line. This allows applicants to continue technical developments in secret before any commercial launch.

European patents

For protection in Europe, a single application can be filed at the European Patent Office (EPO). Doing so, currently gives you access to thirty-eight member states, two extension states, and four validation states – nearly the same number of states available to a US patent application.

Changes are taking place in Europe with the expected launch of the Unitary Patent (UP), which attempts to give patentees the option to simplify the process after grant.

Transportation

According to the latest statistics from the EPO, the number of European patent application filings in the field of transport – filed directly or on regional phase entry (from an international (PCT) patent application) – increased in 2021 (+4.5%). As discussed in the EPO's podcast on 'Smart urban mobility' in April 2022, such an increase is

encouraging because the European patent filings decreased dramatically in 2020 as a result of the COVID-19 pandemic (-5.7%). Although down from 2019 (-1.5%), filings in transport in 2021 are back with vengeance.

Prior to 2021, filings in transport were either increasing or stable year-on-year from 2012. In terms of absolute numbers, European patent filings in the digital communication and medical technology (MedTech) were the highest in 2021 (>15k) with transport placed number 5 on a list of 35 fields of technology (>9k).

According to the EPO's statistics, the number of UK applicants (the first named applicant is based in the UK) filing European patent applications in the field of transport increased by over 30% in 2021. This was the second highest growth in all technology fields. This trend is mirrored from US applicants.

Transport, as a field of technology, finishes on the podium for the total number of UK applicants filing European patent applications and for the top four filers of European applications in 2021 (the US, Germany, Japan, then France). Transport is the pole sitter for filings from France-based applicants (40% higher than the second technology field; MedTech), 2nd place for Germany-based applicants (only 4% lower than the highest), and 3rd place for Japan-based applicants (down from 2nd in 2020).

In terms of European patent applications, transport, as a field of technology, is therefore a significant player.

Micromobility trends

At the EPO, patent activity is increasing in smart urban mobility. The EPO's recent 2021 insight into this growing field highlights how innovation to support 5G implementation is enabling vehicles to be more connected in the drive towards the city of the future (vehicle-to-vehicle (V2V), vehicle-to-pedestrian (V2P), vehicle-to-infrastructure (V2I), vehicle-to-everything (V2X)).

The EPO recognises the uptrend in European patent application filings in micromobility, although filings in e-bikes has been on pole since 2014, the filings for e-scooters has increased significantly since 2019 and is now 2nd place. There has been a drop off in the number of filings in self-balancing vehicles from the significant peak in 2018, which is also reflected in the e-motorcycle filings.

Final Remarks

For proponents of greener travel, electric mobility (e-mobility) is key to addressing climate change. For agnostic innovators, e-mobility represents one in a multitude of options. Whichever way you lean, protecting your IP may be the best decision you will make for your business and help provide the platform for growth.

At Abel + Imray we blend legal experience with commercial awareness to advise and represent our clients on all aspects of patent, trade mark, and design law in the UK, Europe and around the world.

If you require advice about patents, designs, trade marks and IP disputes in the areas of transportation and/or sport do get in touch with one of our experts.