The IP Space

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Greetings Earthlings…!... Welcome to this new series of short articles reporting on the latest challenges and successes in the Space Industry. These will be regular updates, posted every couple of weeks or so, primarily aimed at bringing you quickly up to speed with some of the most recent and significant technical developments in the world of Space technology. If you know little about the Space Industry but would like a better understanding of what is going on in this exciting and pioneering area of tech, then you are in the right place. Over the course of the next few months, we will not only keep you updated with the latest developments but also provide wider background context to the various players and projects driving the Space Industry forwards… or should we say… upwards! And given the writer **Adrian Bennett** is not only a mechanical/aerospace engineer, but a patent attorney as well, you can be sure we will squeeze in some brief comment on any relevant IP matters as and when the opportunity arises.

So, our first objective for the next few weeks will be to set the scene and introduce you to each of the major players in the Space Industry. First up is: SpaceX. There can be no better place to start. Even if you have had no previous interest at all in the Space Industry, the chances are you will have heard of SpaceX, and you will surely have heard of Elon Musk, who is the founder, CEO and Chief Engineer of the company.

SpaceX is an excellent example of how the Space Industry has transformed over the last twenty years. Space exploration is no longer the preserve of only the richest and most technologically advanced nations, but is now accessible by private individuals and organisations. Elon Musk founded SpaceX in 2002 to revolutionise space technology, with the ultimate objective of allowing humans to inhabit other planets. Colonising our nearest planetary neighbour, Mars, is a clearly stated aim of Elon Musk. This is an extraordinary ambition of course, but one which SpaceX is working towards achieving within the next ten to twenty years. And their secret to success in this endeavour is the development of spacecraft which are fully reusable, resulting in considerably lower operating costs than for the spacecraft of old. To illustrate this point, the Saturn V super heavy-lift launch vehicle was developed by NASA in the 1960s as part of the Apollo space program for the exploration of the Moon. The Saturn V was not reusable and the cost of using this vehicle to lift each kilogram of payload to the Moon would be around $25k.

In contrast, SpaceX has developed the Falcon Heavy vehicle which you may recall, on its maiden flight in February 2018, launched a Tesla Roadster into space! The cost of using the Falcon Heavy vehicle to lift each kilogram of payload to the Moon would be around $10k. So, considerably cheaper than its 20th Century counterpart, but still expensive. However, while Falcon Heavy is partially reusable, SpaceX is currently developing a fully reusable vehicle known as Starship, and this would be capable of lifting each kilogram of payload to the Moon for around $2k. There are some very considerable assumptions made in arriving at that estimate, but nevertheless the potential reduction in cost is exciting and game-changing in the Space Industry.

You were told these articles would be short, and true to our word, that is it for this week. Next time we will provide more detail about the Starship vehicle being developed by SpaceX and how this vehicle, the largest and most powerful ever to fly, could possibly return to earth without any undercarriage wheels, legs or feet to land on…!

If you have any questions about IP protection for your own products, or about the IP protection of others, please do not hesitate to contact us at aat@aathornton.com to see how we can help.