Hello everyone. My name is Mark Kardash, and I am an undergraduate student at University of Maryland Global Campus. Imagine yourself on a flight to visit your relatives for the holidays. Only on this flight, there is no uncomfortable seat to sit in for hours. There is no loudly snoring co-passenger next to you, and your ears don’t constantly hurt from pressure. Instead, you are having a refreshing drink in the lounge of a spacious, luxurious, and reliable airship. While what I just described may sound like a scene from the distant past, this scenario could be a reality in the very near future. Today, I will inform you about the benefits of bringing airships, once thought unsafe and obsolete, back into our skies. I will detail current steps towards that reality and support my point by referencing credible sources on the topics of aeronautics and engineering.

Airships, also known as zeppelins, were considered the future of transportation in the period between the two world wars. But in 1937, the German airship *Hindenburg* burst into flames and exploded over New Jersey, killing 36 people. While a clear cause was never found, the fact that rigid airships like the Hindenburg were being filled with highly flammable hydrogen significantly damaged customer trust, and was a major blow to the industry. In the next few years, after a series of advances in heavier-than-air aircraft, the zeppelin became obsolete altogether, being too slow and too expensive to operate. Today, however, these forgotten sky giants are returning, much safer, more feasible, and more advanced than ever before, paving the way to a new era of air transportation.

But why should we bother resurrecting the airship? Well, one of the things shown by research is that this mode of transportation is a major ally in humanity’s fight against global warming. According to Linnea Ahlgren of Simply Flying, an airship produces between 80 and 90% fewer emissions than conventional aircraft. This is because, unlike planes, it uses either helium or hydrogen to stay airborne, requiring minimal fuel for propulsion. Thanks to this fact, it can remain in the air for longer time periods, and, if needed, float in place, a task impossible for a traditional airliner.

Despite being lighter-than-air, airships also have significant space for cargo, which prompted the International Air Transport Association (IATA) to recommend that cargo firms use dirigibles to lessen their environmental impact. In passenger airships, this space can be used for additional amenities unavailable on traditional planes, such as cabins, beds, lounges, and others, allowing for a much more comfortable flight.

But while all of this may seem like wishful thinking, the return of the airship is far from a mere optimistic proposal. The British company Hybrid Air Vehicles, Limited (HAV), has developed and constructed the Airlander 10, a helium-filled hybrid airship that could become emissions-free by the year 2030. In 2022, HAV got its first commercial order, from airline Air Nostrum, for ten of their vehicles. The order was doubled the following year. They are expected to enter commercial service in 2027, each carrying 100 passengers. Another company, a startup called LTA Research, plans to use their Pathfinder 1 airship to revolutionize cargo transport. Their goal is to optimize delivery of cargo and emergency supplies to countries that don’t have enough ground infrastructure. This could have a significant impact on world economy, as well as international relations. The Pathfinder 1 is also powered by helium, and contains many innovative elements, such as electric motors, various sensors, and fly-by-wire controls. Since helium is a non-flammable gas, it greatly reduces the chances of a Hindenburg-like accident. The Pathfinder 1 is currently undergoing testing, with its creator, Google co-founder Sergey Brin, looking to expand its use to passenger flights in the future. Yet another aeronautics firm, the French company Flying Whales, is working on a 200 meter, or 656-foot-long cargo airship with a crew of at least two people, and a cargo capacity of 60 tons. The vessel will be powered by 14 helium-filled cells and use sustainable aviation fuel through a hybrid-electric propulsion system. Flying Whales says its airship could not only simplify cargo delivery to isolated regions, but also help carry emergency supplies and disaster relief aid to places inaccessible by other means. On top of this, the emissions it produces will be less than 10% of those produced by helicopters usually used for such deliveries, while local nature and wildlife will remain undisturbed.

While these developments in airship technology are undoubtedly exciting, there is one last harsh reality that may threaten their reemergence: Although using helium to provide lift may seem like a flawless idea, the gas is significantly more expensive than hydrogen, which is why the latter is still used in some airships. According to John-Paul Clarke, Professor of Aerospace Engineering at the University of Texas at Austin, hydrogen is a much more affordable alternative to helium, and produced in much greener ways. This may put many people off, given the high flammability of the gas and the history of previous accidents. Regarding fears of an explosion, Clarke says humanity has learned to handle hydrogen much more carefully, and it is used in many modes of transportation today, such as cars, planes, and trucks. Therefore, hydrogen no longer poses a threat as it did 80 years ago, and should it ever be used in airships, much stricter safety measures will be taken.

We have now seen that there are many benefits to bringing back airships. We know that it is already being actively done. We also know that airships today are much safer that they ever were before. But what exactly does the future hold for these kings of the heavens? Will they hold up against today’s standards and realities, or will they have a second downfall after a brief comeback? While zeppelins in their traditional form can never return, and airship travel won’t be as widespread as in the 1930s, modern, next generation airships certainly have a place in today’s world, being able to serve multiple purposes. Mike Durham, Chief Technical Officer for HAV, says that although airships are not ideal for long-distance flights, they are a great option for shorter, such as regional, journeys. Due to their positive environmental impact, and the need for a general slow-down in the pace of human travel, Durham believes airships will play an important role in society, and a significant one, at that.

In conclusion, the facts presented earlier are the reasons for giving airships a second chance, thus taking better care of our planet, of ourselves, and revolutionizing the way we travel. Their environmental benefits, cargo capacity, and promise of a highly comfortable flying experience have prompted the developments we see in the industry today.

Decades of research and testing have proved airships to be a much cleaner and feasible alternative to the traditional airliner. With mostly helium being used to provide lift, much safer techniques of handling hydrogen, and several next generation airships already on order, we are on the brink of a true revolution in the aviation industry.