

Sustainable Technology Director Account:

Prior to 2020, the world became addicted to smartphone technology. Apple began to take over a huge control of the market with the iPhone, and most people in the world became progressively more attached to using their phone. People began to transition to using the updated Apple Watch as a means of never having to put down their phones and being able to use them constantly, easily, and efficiently. This addiction caused humans to become totally engrossed in each others lives, with little to no privacy. The addiction also caused humans to become overly dependent on their single technology. Direct interpersonal social skills started to become things of the past, and people became less accustomed to accomplishing other simple tasks without technology. Communication became centralized through text messages and email instead of phone calls and face to face conversations, effectively allowing society to become anti-social.

The Great Solar Flare of 2020 plunged the whole world into a technological blackout. Many people were quite distressed about how to go about their lives after losing accessibility to electricity and communications systems that they had become completely reliant on. The groups most affected during this time were the millennials, as they grew up with communications as a key opponent of their lives. The older generations had lived before the time of the phone, and the youngest generation never got the chance to live so dependently on phones, so they both were able to become rapidly accustomed to the lack of power and communication.

The first reaction of many people was that we needed to build new satellites and send them back up into the atmosphere, to reestablish our cell networks. This was tested out by a few corporate groups, but they deemed the idea as a non-reliable option and only a temporary fix. In the event of another future solar flare, it would inevitably cripple Earth's communication infrastructure once again, except this time it would probably be much worse, since we have already been set so far back. However, there were many more issues that needed to be addressed first. After the blackout, large cities that had been depending on external energy and communications as their basis of life fell into chaos. Riots began everywhere, as people demanded power be restored. The United States Government quickly responded to maintain the welfare of its citizens, and implemented the Container Act, a social bailout plan declaring that communities would be built from shipping containers outside of major cities. These shipping containers would serve as efficient homes for the masses of people trying to get away from the danger, and to live safely elsewhere. These homes would be built with solar panels, so getting basic electricity would not be an issue, and they would be close to areas where farms were already established, or in areas where people would be able to make their own food, with equipment also supplied by the government. People were given incentives to live with their families within these communities, such as employment opportunities at these local farms, to help their respective communities survive during this time of no communications. People were more than happy to be brought back together with their families, so these container communities continued to grow all around the country. As a result of the realization that there were still people beyond their local communities they lost touch with, communities developed smaller regional communication systems that could help overcome this issue. Any new idea, however, needed to be more resilient if a similar solar flare were to occur in the future, so that our past mistake of technological dependency would not be repeated to the same magnitude. As more and more communities started to develop their own small communications systems, they began to slowly join back together and reconnect in unique ways. These systems would slowly

merge with one another, creating a new, interconnected communication network that did not require constant use of satellites.

Types of communication differed depending on the region and availability of resources at the local level in many towns. In Easton, Allentown, and Bethlehem (Pennsylvania), historically huge centers for the steel industry, the town centers became central hubs of interconnected communication. In Easton, a building was erected around the central monument, to turn the town square into the central trading post office for the city. As the most centralized spot in town, it was the best location to establish a communication hub. Old steel tubes which once carried water to many of the homes were abandoned due to the inability to transport water long distances, and many were repurposed into pneumatic mail tubes that went all over the city. These are a series of tubes that only require air pressure to functionally move canisters of mail through the tubes and to the mail center where it can be redistributed and sent elsewhere. Once these tubes reach the mail center, the central mail hub operators of the town use these pneumatic tubes to send mail out to the Lehigh Valley Area, as well as utilizing the postal service when necessary, which can both then direct the mail to other towns in the Lehigh Valley.

In 2014, the automotive company Tesla announced that it would be working on creating a Gigafactory that would help create batteries for its electric cars, so that they could be more efficiently, more cheaply, and more sustainably mass-produced in the future. As a result of the blackout, it became increasingly difficult to get gasoline and oil shipped intercontinentally, so the shift towards the electric car as a more sustainable and reliable option began to accelerate. Since the factory was self-sustaining, it made it relatively easy to continue production of Tesla cars throughout the blackout, which would go on to contribute to faster long-distance communications across the country. Tesla offered the use of its cars and technology to the United States Postal Service, so that messages and mail could be quickly and efficiently transported long distances between isolated communities. These cars would serve as a modern-day “Pony Express,” which would be one step closer to helping recover from losing long-distance communications. Other companies, such as Chevrolet in the United States, and BMW, Mercedes Benz in Europe, would soon follow suit to help contribute to both postal and transportation services in the most sustainable way possible.

In Burlington, Vermont, a different regional communication system was developed to communicate with one another. These Vermonters modeled their communication system off of the old passenger pigeon technique. They were able to train the local owls to deliver messages to the center post office area, and then the post office would send owls back to their owners once a message was received. This method of communication, although not the most accurate, would get the job done and was feasible as a natural method of communication which was not harmful for the birds in the environment. Similar to the pneumatic tubes, the owls all lead to a central location. These central location meeting points were able to keep the mail organized and was a faster means of communicating rather than just going through the US Postal Service. Terrain no longer became an issue, and mail delivery continued to become less dependent on non-reliable energy.

Research into fuel cells powered from biological waste, such as plant matter and leftover scraps from crop harvests, became an increasingly researched technology to help overcome sustainability issues. Harvesting and processing coal at plants was certainly a good way of getting electricity to towns and cities before, but with the risk of something like this happening again, it became smarter to look into local energy, as well as other sustainable energies such as wind and solar. If people could convert their own organic waste matter into energy, then perhaps it would not be necessary to reestablish power grids

to the extent that they once were. Energy companies began to invest into this technology in the hopes that biofuel cells would become an incredibly popular form of providing energy for communities and factories, but it would be over a decade, and far into the recovery of communications and energy, before it would actually become a viable technology.

Before the blackout, the US had been working on a new drone technology that would enable packages to be delivered to destinations hands free, without needing as much manual labor to manage them. Since the country was in crisis after the blackout, the US released this technology so that the central valley hubs can use these “miniature planes” to distribute messages across the country. These drones were functionally similar to Vermont’s messenger owls, but in a technological manner. These machines were more precise than the owls, but at first would often have difficulties finding the correct location because GPS was knocked out due to the storm. Owls at least had the sense of smell and direction from their animalistic instincts that the drone’s were lacking.

It is now 2030 and the US is stable using a system of interconnected communication systems. Nearly everyone relies on drones and the US Postal Service for long distance communication. However effective this modern pony express system has been, governments have still been looking into opportunities to recover global communications. Japan has been researching the potential of a single global communications network, while the United States has been investing heavily in fiber-optic technologies, which would not fail in the case of a recurring solar event. However, the drones are the fastest form of communication for the time being, and local communications networks have been able to function with significant efficiency, relative to having no electronics at all. The smaller regional forms of communication are also very effective with dealing with their respective geographies when trying to connect to other communities. Whether it be Vermont’s Owls, or the Lehigh Valley’s Pneumatic Tubes, communities were able to transmit messages efficiently to and from their respective town centers. Centralizing the communication allowed for more efficient ways to communicate and ensured that even if one system went down, there were other options as alternatives to use so that regions would be safe, and the entire world would not be at risk of becoming crippled like this again. People are no longer completely reliant on a single form of communication. Technology had essentially come to control our everyday lives, but we have progressed past that age of dependency. Ten years after the Great Solar Flare of 2020, life is much simpler and more reliable than it once was. It is our turn to take control of technology and dictate how we communicate with each other, not the other way around.