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OP-ED

# 2022: The tech future is here in Texas

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We just finished quite a year. A year that marked our lives with the impacts produced by the ongoing worldwide health and economic crises brought upon us by COVID-19. But, at the same time, it was also a year that saw tremendous gains in innovations and technological development.

Entrepreneur and investor Peter Diamandis estimates that we'll experience more technological progress in the next 10 years than in the past 100 years put together. According to McKinsey Consulting, 10 years' worth of growth for the technologies powering e-commerce were compressed in just three months of 2019. And just as with that example, 2021 proved to be a year of tremendous growth and quick maturity of innovations and technologies. Other prime examples we witnessed this past year were the fast development of mRNA vaccines and the rapidly evolving space travel sector. 2022 looks to continue to yield exponential growth in innovations and technological development. Today, I want to share some of the most significant technological impacts I see for this coming year, and, more importantly, the way they relate to the State of Texas.

Before I begin, I want to reference a couple of facts on how Texas has emerged as a new tech hub, dubbed "Silicon Hills," and has recently landed several big-name companies that have moved their headquarters to our state. Many of the companies that have recently moved their operations to Texas have stated that the state's lower costs of living, no state income taxes, and recent clusterization of tech companies, all helped secure their decisions.

World-renowned tech companies such as Tesla, SpaceX, Hewlett Packard, and Oracle, among others, have recently decided to call Texas home. This recent trend of companies relocating to our state will continue, and Texas cities,

Laredo among them, can benefit in different ways. It has been well researched in territorial development studies that talent attracts talent, and the expanding companies in Texas are no exception. Recently, WalletHub compared over 100 U.S. cities to rank the best large cities to start a business. To create its ranking, it used a series of 21 key metrics, including five-year business survival rate, office-space affordability, business environment, and access to resources. Its list includes four Texas cities in its top ten. Laredo ranked number 1.

Here's my overview of five technologies that I expect will achieve enough growth this year to catapult them to significantly impact our lives in the coming years. While many of them might seem straight out of a Hollywood movie, the reality is that they are on the verge of prominently shaping our future.

## Air taxis

Air taxis or electric vertical take-off and landing (eVTOL) aircraft are closer to taking flight than we think. 2022 will be a pivotal year for this sector. Some companies, such as Joby Aviation, based in California, and the German company Volocopter will accelerate their tests. The latter will seek to provide its service at the Paris 2024 Olympic Games.

Austin-based Lift Aircraft has partnered with another Texas company, Qarbon Aerospace, to build and fully integrate a personal eVTOL aircraft called the Hexa. The United States Air Force has selected Lift Aircraft as one of its key stakeholders to accelerate the United States' participation in this new aerospace sector.

## Space tourism

2022 appears to be the first year when more people will travel to space as paid ticketed passengers than astronauts from NASA and other international space agencies. The three most relevant companies in

this sector, SpaceX, Blue Origin, and Virgin Galactic, will increase their flights, with the first one aiming at taking passengers to the International Space Station.

SpaceX has a significant presence in Texas, with Starbase located in Boca Chica, near Brownsville. Starbase is now a test, launch, and production site for the company's Starship vehicle, a vessel capable of carrying 100 people at a time.

## Vaccines

Last year was a landmark year in the development of vaccines, thanks mainly to the technologies used in the development of mRNA, the scientific basis behind Pfizer's and Moderna's COVID-19 vaccines. In 2022 significant advances are expected with the use of this technology to develop vaccines that have been waited on for decades, such as the ones for HIV and Malaria.

Recently, a pair of medical researchers from Houston's Baylor College of Medicine and the Texas Children's Center for Vaccine Development have been in the news. Their COVID-19 vaccine, CORBEVAX, developed using an older and different technology than mRNA, can be manufactured more quickly than other vaccines. Their vaccine enables low-income countries to produce and distribute them more affordably and effectively.

## Metaverse

The Metaverse refers to a virtual world accessible by augmented or virtual reality glasses. This year this sector is expected to have a high growth rate, with big-name companies like Oculus, Roblox, Minecraft, and Fortnite taking the lead. Facebook, the owner of Oculus, has rebranded itself as Meta, positioning the company as a major player in this new sector.

Unity Technologies, a real-time 3-D development platform for game and other app development, recently expanded its presence in Austin and has close to 100 employees. The com-



Courtesy photo

## Dr. Daniel Covarrubias

pany's platform powers millions of games, has over 2.5 billion people using Unity-enabled apps and games, and close to 5 billion devices with their software installed on them, making them a key participant in constructing the Metaverse.

## Neurological interfaces

This is one more sector in which Elon Musk is involved. In 2022, a company he co-founded, Neuralink, a neurotechnology firm, will try to implant micro-

chips in human brains for the first time, replicating what they have successfully done with animals. Their goal for this year will be to get people with severe spinal cord injuries and neurological disorders to control digital devices with their minds.

Neuralink, on the heels of other Musk companies such as Tesla and SpaceX, is currently expanding its presence in Texas. It has announced plans to open a facility in Austin and hire electrical engineers, me-

chanical engineers, software developers, neuroengineers, and operations specialists.

Texas is well-positioned to benefit from the impact these five technologies can and will drive this new year... and beyond.

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