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Dr. Sugandh Malhotra has over seventeen years of professional experience in industrial design and automotive design industry. He has worked on design projects for marquee brands in the industry that include Honda R&D, Hero Global Design, Hi-Tech Robotic Systemz Ltd., SETI Labs Berkley, Aprilia Motors Italy, Bombardier Canada and most of the leading automotive and consumer brands of India. He has worked on over 75 projects and has been instrumental in design of over 23 techno-commercially successful launched products at a pan India level. He has won many International and National level design awards. Dr. Malhotra takes keen interest in teaching design and had been mentoring students from many leading institutions such as IIT Delhi, IIT Roorkee, SPA Delhi, Lady Irving College, IILM, Pearl Academy among others.

Since 2016, Dr. Sugandh Malhotra is working as an Assistant Professor and the Coordinator of MVD program in IDC School of Design at IIT Bombay.

His research interest areas include design research methods, future design possibilities, trend research and design forecasting and intelligent mobility systems.

Dear friends,

Soaked greetings from an over-rained city of Western India.

If there is one thing that past one and half year of struggle against pandemic has taught us, it is the famous parable 'United we stand and divided we fall'. World has survived many adversities and it is through a common goal and united perseverance that we managed to pull through. Additionally, pandemic also brought spotlight back on the basics of human life. The will to survive, focus on health and well-being, and necessity to socially connect reinforced the basic essential values of life. Many of my friends shared their joyful moments of seeing their office neighbors after months of home isolation. The very same office neighbors who were perhaps invisible until a few months back.

As a faculty who teaches Industrial design and mobility & vehicle design courses, I wonder everyday about the fundamental question, what could be the ideal mobility solution to move a nation of over 1.4 billion people? I am nowhere close to the answer but I am also convinced it will certainly not be an exclusive large car. The roads that are choking with crawling traffic are a ready reference to the abysmal conditions that we live and dwell in. A luxury car interior often provides comfort to the solo traveler but it certainly does make the journey longer and therefore cuts down on quality time that he would have otherwise spent with family or playing with kids. A normal office goer in metropolitan city like Mumbai spends 1/4th to 1/5th of his awake time in traveling to office and back.

Mobility for today and future:

There has been a lot of buzz about autonomous cars in recent years. Although the trial runs has given successful results in many research labs across the world, automation of cars on roads seems well within our grasp, and an achievable reality. However, what is plausible is quite difficult to be possible. The main reason for the same can be attributed to diversity and complexity of traffic on roads. In 2016, I led a team of design researchers at IDC School of Design, IIT Bombay and conducted a study on identifying what would the people do if the car drove by itself. And the results of the study were quite intriguing. Over 82% drivers agreed that they did not feel good about missing their favorite entertainment shows when they were driving and reaching home late; while around 60% drivers wished they had more time to make calls and talk to their friends and relatives, and surprisingly over 50% indicated that if they had spare time, they would love to finish their breakfast that they had missed to skip the morning traffic. Besides these indicators there were several others that solidify how much we are missing while being stuck in traffic.

On the other hand, there are several established case studies that illustrate how specific products have been replaced by more efficient product services. The recent up rise of efficient product services such as rented bicycles and rented cars, Ola/Uber shared cabs have provided a viable substitute to owning the car itself. This has significantly started to impact the sale of pre-owned cars. Although some of these services have existed for decades, it is only now that we saw the focus shift towards a more standardized design of exteriors and features, and a more elaborate interiors, especially the

design of rear-seat where the passenger sits. Then there is no concern of parking, operational running expenses, maintenance, no guilt of running on fossil fuels, etc. This has become a big influencer while deciding whether to buy a car in first place or not. This makes me wonder about the future of automobiles on Indian (or anywhere in the world) roads.

I see two possible directions while moving ahead:

1) Mobility for all: One of the smarter ways to design and manufacture automobiles is to make a modular, adaptable, standard platform that can allow further development. This has been followed but not so holistically. Recent developments of skateboard chassis are a step-up from previous generation base designs that provided only limited scope of further developments. This is a positive development but we have a long distance to cover before this becomes optimal and sustainable. If the same chassis platform of the automobile provides foundation to be (or to build) a vehicle for everyone and even the neighbors, that is the true 'Mobility for all'. The simple yet elegant solution will offer flexibility for modifications and building-up to provide appreciation to individual taste.

2) Mobility of All: A good transportation system is a backbone of any city, whether big or small. An efficient and effective well-connected transportation system provides the city inhabitants with an effective alternate way to travel. I have several friends who prefer moving around Mumbai city in the famous Mumbai local. Though overcrowded, it is notably the most efficient, quick and economical (both in money as well as time) means to

travel. I do not know of any great city that is so without the support of a good and well-connected transportation system. However, the cities of future have very diverse and complex requirements and thus need a multi-tiered, multi-pronged network of transportation systems. This has scope for so much new developments and innovations to facilitate movement of people. I believe that our mainstream automotive OEMs of the world should start looking at public transportation system as a potential area of investment and development for the future.

I remember the famous quote from Star Trek that says, “Needs of the many outweighs needs of the few (or one)”. It is to the benefit of everyone if we have fewer products on the road but those that are really efficient and significantly better not only for individual but more importantly for the entire community.

I sincerely wish that the design schools teach the value of ‘compassion’ to budding design students alongside ‘passion’ that is needed to create beautiful objects. I believe that through an inclusive thinking and consideration of community over individual gains we would be able to overcome shortsightedness that impedes our growth and development. Corporates and thought leaders should focus not only on the financial and economic growth but it should be the ‘people’ that should come before everything else. It is the human value that would help us endure and prosper and create a world that is indeed better for our next generation. Mahatma Gandhi once quoted, “World has enough for everybody’s need but not everyone’s greed.” If I could humbly replace ‘greed’ with ‘want’, it should be the ‘need of many’ should take precedence over the ‘need of few’. It

is with these core values of universal design that Design for All newsletter has been serving design readers for over 16 years.

With all sincerity and earnest offering, DFA has been providing authors a platform to present their ideas and views / opinions freely and on the other hand, DFA has been able to reach far and near, to over a million readers. It is an emotional moment for the entire DFA family to come up with the 199th issue as we leap into the next chapter of our journey. A few months back DFA registered to be a research journal and we plan to stick to our base values of providing knowledge that is open-access. This is a major step ahead as we plan to make an online website where one could read selected articles in a more user-friendly format. We intend to include many new features, workshops, tutorials and video logs etc. to take interactions to the next level. We would need your continuous support to realize this dream.

But for now, let us celebrate our 199th issue with prayers to heal and recover from the recent tragedies caused by pandemic.

With warm regards and best wishes

Sugandh Malhotra