

20<sup>th</sup> May, 2020

## **SRM AP student's endeavour to fight COVID-19: Developed Face Shield 2.0**

During the unprecedented crisis, when the world is slowly falling into despair, the talented students of SRM University- AP are using the time for brainstorming and innovation. It is believed that a safe face shield is the need of the hour for people to valiantly engage in their work without being infected by the coronavirus. Attesting the signs of a true researcher, P. Mohan Aditya, a 2nd - year Mechanical Engineering student, represents the future generation well by developing a highly useful face shield that costs less than a plate of snacks.

Mr Aditya has named it "Face Shield 2.0". The face shield is very lightweight, easy to wear, comfortable yet durable. It protects a person's entire face from hazards with a thin layer of transparent plastic film that serves as an outer defence. It is a piece of protective equipment to guard the face against exposure to potentially infectious materials. This face shield is biodegradable as the headband is made of cardboard(paper) which is 100% degradable material and the plastic can be reused.

The Face Shield 2.0 was manufactured using the CNC (Computer Numerical Controlled) machine through which Aditya designed a headband, and the shape of the transparent plastic film was created using CAD (Computer-Aided Design) software. "I gave this CAD model as an input to the CNC machine. Now the CNC machine software analysed the CAD model and started to cut the cardboard and transparent sheet according to the drawing provided as an input. Thus, I managed to bring down the production time for manufacturing and assembling the Face shield in less than 2minutes," explained Aditya. A 3 Ply Corrugated Cardboard Sheet had been used in making the headband so that the headband becomes durable, comfortable and lightweight. The Bursting Strength of the Cardboard sheet is 16kg/sq.cm. A thick 175-micron transparent plastic sheet has been placed over the headband to protect the person against the virus. This also forms a barrier that keeps people from easily touching their faces. The transparent film also helps in allowing the visibility of facial expressions and lip movements for speech perception.



**SRM - 01 - Student P.Mohan Aditya, SRM University, AP with his face shield**

The other innovative features of the face shield are - a cushioning type of structure has been attached to the headband so that the person wearing it for a long time does not get strained. This structure helps the person to wear the face shield comfortably. By providing the elastic band to this face shield, any person with different head circumferences can wear it easily.

Wearing this 'Face Shield 2.0' will help the police, medical personnel, municipal workers, people working in sanitizing department, people working in the essential goods sector by not getting infected by the virus. It can also be used by virus-infected patients so that the chance of spreading the virus to a healthy person can be decreased. Moreover, several lakhs of students of schools, colleges and universities could use the Face Shield 2.0 when they come back to the educational institutions after the lockdown is lifted.



**SRM-02- Face Shield Inaugural Education Minister Adimulapu Suresh, MP Nandigam Suresh, SRM University, AP Student Mohan Aditya, University PRO Venugopal**

This Face Shield prepared by Mohan Aditya was unveiled at the Velagapudi Secretariat on Tuesday evening, where the student was seen wearing the Face Shield and preparing them. **The Sophisticated Corona Face Shield was handed over to Mr. Adimulapu Suresh, the Minister of Education, Andhra Pradesh, and Mr. Nandigam Suresh, MP from Bapatla district of Andhra Pradesh.** The masks were circulated among the police and paramedics, who appreciated Mohan Aditya for this initiative. The management of SRM AP applauded the research work of Mohan Aditya, praising his new and inspiring invention that is useful to the society. **Dr. P Sathyanarayanan, President, SRM University-AP, and Prof. D Narayana Rao, Pro Vice Chancellor, SRM University-AP,** celebrated the commendable intelligence of the student and congratulated him for developing the face shield using new technology.

Mohan Aditya always wanted to make a difference. So, when he read in many articles and newspapers that there is a huge shortage of the PPE (Personal Protective Equipment) in the world, the idea of making a face shield crossed his mind. "I thought to make a face shield which is 100% biodegradable, low in cost and also gives protection to the facial area and associated mucous membranes (Eyes, Nose, Mouth) which are the possible entries for a virus to infect people," said Aditya.



**SRM-03- Face Shield analysed by Education Minister and MP**

Mohan Aditya wants to be a successful engineer in life. He is very passionate about making useful gadgets. His previous endeavour with his team successfully ended up in making an Electric bicycle by using a 24V 250Watt DC motor powered a 12V and 12Ah battery. At present, they are working on the retrofit of an old IC Bike into brand new Electric Bike. Our young engineer P. Mohan Aditya truly one of those people whom the future world can rely upon.

**About SRM University, AP:**

SRM University, Andhra Pradesh is a multi-stream research university with focus on diverse fields. From engineering to medicine and from liberal arts to management, SRM's vision is to emerge as a world-class university that is globally connected, nationally relevant, and regionally transformative. SRM has partnered with the world's best names for educational method and philosophy, campus design and infrastructure, learning and living spaces, and recruitment of faculty and leadership.