



## **PNB Housing Finance signs MoU with IIT Delhi, supporting critical scientific research of KAWACH team in developing sustainable and reusable PPE kits for healthcare workers**

- ***Program to benefit healthcare workers at notable government hospitals across India***
- ***Aims at protecting frontline warriors from COVID-19 infection risks***

**New Delhi, 6 May 2020:** Sustaining its commitment of contributing towards the well-being of healthcare workers during the COVID-19 pandemic, with the able guidance of the Principal Scientific Advisor's (PSA) Office to the Prime Minister, GoI, PNB Housing Finance Limited (PNBHFL) signed a Memorandum of Understanding (MoU) with IIT Delhi (Indian Institute of Technology). The initiative will support critical research and development (R&D) of a unique prototype material to be used in manufacturing sustainable (washable and reusable) PPE (Personal Protective Equipment) surgical gowns and masks. These will then be supplied to notable government hospitals.

In managing patients afflicted with the highly-contagious COVID-19, healthcare workers rely heavily on PPEs in protecting themselves from being infected or infecting others. But a shortage of PPEs is exposing ill-equipped doctors, nurses and other frontline workers to the risk of infection while caring for COVID-19 patients. Through this MoU, PNBHFL will support the Department of Textile and Fibre Engineering, IIT Delhi in fast-tracked R&D of high-quality PPE material. The cloth technology developed under this initiative will help in producing affordable, sustainable and reusable PPEs. The prototype will be tested at government-accredited labs.

The main objective of the current research is designing and developing critical PPE face masks and surgical gowns using Jacquard knitting technology. The knit construction for the mask will be optimized for a secure 3D-fit around the face with a layer of melt-blown, nonwoven material in between ensuring efficient filtration/barrier protection with good breathability. For the gown, the fabric and lamination process can be engineered in achieving a stretchable, non-permeable gown adhering to international standards.

Typically, PPEs are made from a material that is both impermeable to fluids and 'breathable' – filtering the air before breathing. Thereby, healthcare workers can wear them with minimal heat stress. Some PPEs can be easily washed with soap and water for reuse. Cotton or spun synthetic material is used for isolation gowns, depending on whether these are for one-time use or to be laundered and reused. For masks/respirators, filtration of air before inhalation ensures respiratory protection. The most popular is the N95 mask – capable of blocking any particles less than 5 microns in diameter. With the availability of this technology for production of PPEs, PNBHFL and IIT Delhi hope to bridge the gap in the availability of high-quality, sustainable PPEs for healthcare workers.

Elaborating on the initiative, **Mr. Neeraj Vyas, Managing Director and CEO of PNB Housing Finance** said, *"The COVID-19 pandemic has triggered an unprecedented lockdown in many geographies globally. We believe all public and private stakeholders must contribute their mite in stopping its spread. As part of our societal responsibilities, PNBHFL has joined hands with IIT Delhi in ensuring we contribute to the national*



*effort in flattening the COVID-19 curve. Through this partnership, we can play a small yet meaningful role in safeguarding the well-being of our frontline warriors, who are risking their lives by putting service before self, day after day.”*

Praising the initiative, **Dr. Sapna Poti, COVID 19 Special Task Force, Principal Scientific Advisor's Office, GoI** said “The Covid-19 pandemic situation is globally unprecedented. Our healthcare workers, scientists and law enforcement officials are working relentlessly to combat the virus. At this juncture, it is essential that their efforts are supplemented in every way possible. The initiative by IIT Delhi and PNBHFL is of grave importance as availability of sustainable and reusable low-cost PPE will empower larger number of healthcare workers to fight the disease.”

Discussing the initiative, **Professor Bipin Kumar, Department of Textile and Fiber Engineering, IIT Delhi** said, "Along with the challenge of meeting PPE demands in the country due to the Covid 19 crisis, another threat looms ahead- the disposal of PPEs (including mask and coveralls) after one time use. Though a non-woven layer is must for ensuring desired filtration level but the loose fibrous structure in locally available PPE make the product disposable after one time use. Disposing off synthetic polypropylene non-woven PPE can result in serious environmental consequences. Finding other textile solutions that offers reusability, biodegradability, affordability and scalability for PPEs is truly the need of hour as it serves the dual purpose of supporting healthcare workers and protecting our environment."

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#### **About PNB Housing Finance Limited**

PNB Housing Finance Limited (NSE: PNBHOUSING, BSE: 540173) is promoted by Punjab National Bank and is a registered Housing Finance Company with National Housing Bank (NHB). The Company got listed on the Indian stock exchanges on 7th November 2016. The Company offer its retail customers “housing and non-housing loans”. The Company is also into construction finance loans to real estate developers for residential housing. PNB Housing Finance is a deposit-taking Housing Finance Company.

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