
ACTIVE PROTECTION (ACTPRO)

A team at Catholic University of Temuco (UCT, in Spanish) created **Active Protection (ActPro)**. This technology includes development and validation of Personal Protective Equipment (PPE) with copper nanoparticles to be used by health staff, especially during Covid-19 pandemic.

DESCRIPTION

Covid-19 is an infectious disease caused by SARS-CoV-2 coronavirus, which has generated more than 23 million cases worldwide and more than 800 thousand deaths, having no vaccine and/or specific medication for its treatment, yet. In this context, prevention measures have become essential, such as Personal Protective Equipment (PPE) – masks, vests, face shields, shoe covers and gloves – social distancing and hand washing. Besides, it is estimated that 6% of Covid-19 infected people correspond to health staff, which reduces effective patient care capacity significantly. Due to all these reasons, it is crucial to generate technologies that reduce health teams' contagion.

SOLUTION

ActPro is a Personal Protective Equipment for health workers. Given the fact that it has copper nanoparticles incorporated – with antimicrobial and antiviral activity – and due to its ergonomic design, it would prevent SARS-CoV-2 contagion, whether in direct contact with infected patients, or during disposal or replacement PPE process.

TECHNOLOGY

ActPro is in a state of development equivalent to TRL4. There are laboratory tests about the functioning of copper nanoparticles together with the polymer Personal Protective Equipment is made of. Besides, **ActPro** offers vest and shoe cover designs, being validated by health staff in terms of their

TECH BASED

STARTUP



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ergonomics and usability. Currently, **ActPro** is carrying out piloting under real conditions of the PPE manufacturing process and tests in Chilean health premises (It's a three-month pilot). The target is reaching the market with national products which are useful for health personnel, particularly in the context of the prevailing coronavirus pandemic, or any other in the future.

MARKET

Market Size: USD 12,9 thousand million (2019).

CAGR: 12,4%.

Segment: Healthcare Personal Protective Equipment.

Expected market size: USD 33,4 thousand million (2027).

BUSINESS MODEL

Catholic University of Temuco is in the creation process of a technology-based startup. The objective is commercializing **ActPro** directly in national health centers, both public and private. Besides, in the event of a potential international expansion, this technology would be available for licensing.

ADVANTAGES

- Personal Protective Equipment (vests and shoe covers) with antimicrobial and antiviral activity tested for health personnel use.
- PPE may be used in other fields and industries, like laboratories and food industry.
- Scalable and extrapolated generation process to other PPE, as a garment protecting people entirely.



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