Team name: ions vs SARS-CoV-2

Date updated: 2021 1st October

S1: Title & Elevator Pitch/Headline	• From biological point of view, breathable air quality is very poor • Nowadays, no technological system is available to mitigate air-pathogens spread. • In the past, vaccines never have stopped any air-spread pathogen. For example, nowadays, Tuberculosis continues being one of five major cause of death worldwide.
S2: The problem and who has it	• Breathable air biohazard is higher in major cities. • Air spread pathogens lead to annual epidemics (e.g. flu, COVID19) and lock down consequences are catastrophic. • Transport media, Hospitals and Classrooms are three main focus of infection
S3: The solution	• Nowadays, natural ventilation and HEPA filters are the only solutions consistent with human presence. • Natural ventilation is not always suitable (or legal) in public spaces. • HEPA filters are energy & biologically inefficient and produce biohazard wastes.
S4: Product (how it addresses the problem)	• Electrical ionization reduces pathogens rate over 95% more efficiently (biologically and energetically) than HEPA filters. • No maintenance and no biohazard residues are generated. • Ion technology is compatible with human presence and pre-existing materials.
S5: Technology	• Positive ions inactivate replication ability of breathable pathogens. • No pathogens limitation: Strongly affects to all families & strains. • Air conditioning system retrofit is possible without affect to structure or compressors.
S6: Competing approaches	• Filter industry has a strong implantation in air conditioning systems. • Ozone and UV-C ionization are non-compatible with human presence.
S7: Traction	• Knowledge generator: INTA research group (Optoelectronics depart). • Partnership: Long-distance Spanish busses, Madrid Metro, Hospitals (Navarra) & Universities (Nebrija). • Utility Model pending
S8: Team	• Small research group in big Spanish Research Institute. • CSO: Raul Lopez, Eng.Dr. & MSC • 3 supporting engineers
S9: Closing	• Better technology to avoid air infection spread (human presence compatible). • Affordable technology and retrofit possible without biohazard waste.