

White paper: COVID-19

MATACHANA and its commitment to infection prevention: emergency RUMED and comprehensive solutions for the disposal of biocontaminated healthcare waste

It is not the first time that human beings have faced a challenge like this and overcome it. In the early 1980s, the detection of the first cases of Human Acquired Immunodeficiency Syndrome baffled scientists because of the interspecies transfer of a virus that completely weakened the immune system of affected patients, who quickly died from uncommon infections. Despite this, prevention, education and scientific research have made it possible to mitigate the effects of the disease and, with the right treatment, to turn it into a chronic but non-fatal pathology.

Near the end of the 1990s, the outbreak of mad cow disease caused the death of 226 people affected by a variant of Creutzfeldt-Jacob disease, a neurodegenerative pathology with no cure. Again, research and prevention were key to defining the origin of the condition and preventing new cases.

As now with COVID-19, all these threats forced us to stop, contain, control, delay and reduce its impact until medicine and science were able to subdue, prevent and alleviate the disease.

MATACHANA, a Spanish company founded in 1962 and world leader in the prevention and control of infections, collaborates and advises health entities and research institutes by offering its technology to fight potentially dangerous microorganisms. The company manufactures sterilizers for the health care field, research, industry and the pharmaceutical sector.

All the national reference centres that research with high-risk pathogens and work to develop vaccines to contain certain infections have been clients of MATACHANA for years: Instituto Carlos III (Madrid), Centro Nacional de Biotecnología (Madrid), INIA (Valdeolmo), CRESA (Barcelona), CITA (Zaragoza), CIMA (Pamplona), CINBIO (Vigo). In addition, renowned international centers such as in France Institut Pasteur, Institut Servier, Centre CEA Paris-Saclay, in Germany Helmholtz Zentrum (Munich) and Universität Leipzig, in Belgium Ega (Leuven) and Erasme (Brussels), Panum Institute (Denmark), among others.

In this sense, we have practical solutions that can be quickly adapted to different situations, with the aim of adjusting our response planning at any time.

From Sterilization Units (RUMED); mobile in this case, that can be incorporated into newly built hospitals designed as containment and isolation areas for COVID-19 suspected/confirmed patients, or in areas intended for this purpose in already functional hospitals.



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Other applications include mobile solutions for the treatment of biocontaminated waste used in the care of these patients (IWIS system).

In this respect, the proposal offered by MATACHANA, is to install an autonomous plant in a universal transport container of 20 feet, to be able to treat **on site** the infectious waste that has been exposed with isolated patients. The treatment is by sterilization at 134 °C in sterilizers dedicated exclusively to the waste, guaranteeing several critical aspects:

- Inactivation of the microbial load, reaching the sterilization of the infectious waste.
- Treatment of air and condensate during the sterilization process, as done in a P3 safety level laboratory.
- Subsequent shredding of the sterile waste to make it unidentifiable, in separate equipment. In this way, in addition to turning the waste into unrecognizable, it reduces its volume by up to 80% and prevents the reuse of processed material.
- No chemical agents are used, only treated water.
- All this in an autonomous and easy to transport way, occupying the physical space of 1 container of 20 feet.



The new nature of this coronavirus and our constantly evolving technical-scientific understanding require a high degree of alertness in order to adapt quickly and always offer the most appropriate solution.

MATACHANA, accumulating more than 55 years of experience in this sector, has always been at the forefront of the infection prevention field, protecting both the lives of patients and the safety of healthcare professionals who put their lives at risk every day in order to look after our patients.