



"Gozzini 1906 Turini Group S.r.l."

PR FESR 2021-2027 Tuscany Region OP1 OS1 Action 1.1.4 "Research and development for enterprises, also in partnership with research organizations"

D.D. n. 27717/2023 Call for proposals No. 2 "Research and development projects for MPMI e Midcap"

"GALILEO 5.0: INNOVATIVA CABINA DI SPRUZZATURA ROTATIVA"

Duration

04/2024 – 03/2026

Total budget

€ 598.612,91

EU financial contribution

€ 209.514,52

The project in question aims to introduce an innovative machine to the market used for the automatic spraying of animal hides and/or similar materials. In particular, it is widely used in the tanning industry for leather finishing during the final phase of the production cycle. The machinery in question is used for the automatic spraying of paints and/or other coating products onto the surface layer of the leather. Special spray nozzles apply a layer of paint to the hide, modifying the appearance and surface characteristics of the leather itself. The machine represents a major innovation for the sector in relation to two key aspects:

- technological innovation linked to the production technique (technological development of a spraying system with a patent application pending);
- greater ecological sustainability of the production cycle, which is typically characterized by high pollutant emissions into the atmosphere.

The project stems from a previous study conducted by the company to address issues and needs that emerged from the commissioning of spray booths in the tanning sector. These critical issues are linked both to the effectiveness of the spraying techniques and to the pressing need to make tanning processes low environmental impact. Based on the laboratory results of our technological hypothesis, we realized that we could achieve significant improvements by applying technological and mechanical modifications to the machine. The project in question therefore builds on this consideration and aims to demonstrate in a real-world environment the actual achievement of the goals reached during the technological validation phase in an industrial setting.

The innovation is essentially based on modifying the mechanics of the spray booth, obtaining processing techniques different from current ones and overcoming the aforementioned technical limitations, specifically: to provide an apparatus for spraying planar or substantially planar semi-finished products that has a compact footprint, particularly along a direction parallel to the movement direction of the planar semi-finished products, and that is, at the same time, capable of guaranteeing a high spraying quality of the planar or substantially planar semi-finished products treated with a coating and/or coloring product. To provide an apparatus for spraying planar or substantially planar semi-finished products that is capable of guaranteeing a substantially uniform coverage of the planar or substantially planar semi-finished products treated with a coating and/or coloring product even in the event of a malfunction, specifically the clogging, of one of the spraying elements mounted on the apparatus itself. To provide a method for spraying planar or substantially planar semi-finished products that offers similar advantages. In addition to this, we have hypotheses related to the development of an innovative particle abatement method inside the suction tower; specifically, it is believed that it will be possible to contain the pollutants produced by the processing and make them semi-solid, thereby making them easy to collect and dispose of.



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