

# A SIMPLER, CHEAPER AND EASIER TO RECYCLE AEROSOL CONTAINER

## Results in Brief



## Plug-in aerosol fitting makes recycling cheaper and easier

Aerosol products are incredibly useful, but most canisters end up in landfill sites. A new design makes recycling a lot easier.



Aerosol cans are used widely in many fields and industries but are especially popular in beauty and personal care. Over **5.5 billion** units of aerosols are produced in Europe each year, much of which ends up in giant landfill piles. Only 700 million units are recycled in Europe annually, because complex packaging and assembly developed in the early 1950s make recycling difficult.

The Click and Spray project, which received support from the EU, has brought the design into the 21st century, removing these unnecessary parts and reconstructing the system. The new design reduces material, speeding up production and simplifying recycling, while creating possibilities for a **circular economy** within the aerosol and packaging industry.

“The idea came about while researching the aerosol industry, with the aim of developing a high-pressure container for the purpose of packing a cooling agent. The traditional aerosol container exploded instantly in every trial,” says Mikael Sahlström, founder and co-inventor at **Purple Holding**, which hosted the project.

The team concluded that the traditional container had a dangerously low pressure threshold, as the aerosol valve mounting cup separated from the can very violently.

“We thought that the valve should be held inside and by the can instead of being clinched onto the can, so we had to reconstruct the valve and the can. Our new system self-seals and locks within the can by internal pressure,” explains Sahlström, Click and Spray project coordinator.

The new system is cheaper, quickly produced and safer and, being fully recyclable, greatly reduces the carbon footprint from traditional aerosol production.

## **Plug and spray**

Conventional aerosol valve systems comprise a valve plate, an inner elastic ring, and an outer rubber ring, which rests on the edge of the housing.

Purple Holding’s **Plug In Can** swaps out the traditional mounting cup, and all valve components are inserted into a specially designed canister inside a piece known as a stabiliser.

The stabiliser includes all the tubes and plastic housing, and rather than using seals, it is pushed into the can with a specialised machine, using a simple mechanical movement. “This makes it possible for any user of a moulding machine to produce the stabilisers,” adds Sahlström.

the stakeholders, adds construction.

The specially designed aluminium cans are tailor-made and look slightly different to traditional aerosol cans, but the machinery needed to produce them is the same. The only change necessary comes when carrying out the **necking** process, in which **the neck of the can is shaped**.

The Click and Spray project allowed the team to conduct an in-depth market analysis and design an extensive business plan. They are now looking to find alternative materials suitable for expansion of their packaging.

A patent has been submitted and approved in various countries, including Belgium, Czechia, France, Germany, Italy, Luxembourg, the Netherlands, Poland, Portugal, Spain, and Switzerland, in Europe alone. Around the world, it has been approved in Brazil, China, Hong Kong, Turkey and the United States, and a decision is currently pending in Argentina.

Purple Holding is actively seeking further funding and hopes to bring the product to market soon.

## Keywords

Click and Spray, aerosol, design, environment, landfill, waste, patent, container

### Project Information

Click and Spray

Grant agreement ID: 886285

[Project website](#) 

Start date

1 January 2020

End date

30 April 2020

Funded under  
H2020-EU.3.

H2020-EU.2.3.

H2020-EU.2.1.

Overall budget

€ 71 429

EU contribution

€ 50 000

Coordinated by

**PURPLE HOLDING AB**

 Sweden

**Discover other articles in the same domain of application**



## Documenting environmental abuses



7 February 2011



## Climate change mitigation: what's the cost for Europe?



4 May 2011



**WaysTUP!**

VALUE CHAINS FOR DISRUPTIVE TRANSFORMATION OF URBAN BIOWASTE INTO BIOBASED PRODUCTS IN THE CITY CONTEXT

NEWS

NEW PRODUCTS AND TECHNOLOGIES

## WaysTUP! project progress



31 October 2020

**Last update:** 27 September 2020

**Record number:** 422194

**Permalink:** <https://cordis.europa.eu/article/id/422194-plug-in-aerosol-fitting-makes-recycling-cheaper-and-easier>

© European Union, 2020

