PLA4COFFEE

Compost your coffee capsules

Aroma System S.r.l. in Bologna, Italy, has produced a fully compostable coffee capsule.

AROMA SYSTEM SRL

OUR STORY

Aroma System spun out of a family business that combines cutting-edge technology with a passion for good coffee. In 1988, we introduced our first degassing valve to restore the pressure inside sealed bags of recently roasted grains and have since been innovating machinery to keep each cup of brew flavourful and environmentally sustainable.

Innovation   Waste reduction   Environment

Larger with Life

Between 2015-2018, the EU LIFE Programme invested €1.5 million in the €2.5 million PLA4COFFEE project to tackle the 70 000 tonnes of waste generated each year by discarded coffee capsules in Europe. Because of challenges recycling the plastic-aluminium compounds in conventional coffee capsules, Aroma System engineered a compostable alternative made of polyactic acid (PLA), a bioplastic extracted from renewable sources such as starch and sugar.

EU added value

- **Reduce plastic pollution in ecosystems**
- **CO_2 emissions per capsule down 40%**
- **Swap chemical fertilisers for compost**

Prospects

- **Save 15 000 tonnes of oil a year**
- **Replace plastics in other products**
- **Drive bio-plastic production in Europe**

Achievements

- Formulated a safe and sturdy **compostable plastic** that remains stable at over 110° C
- Opened an **industrial plant** that can produce 120 kilogrammes of bioplastic an hour
- Manufactured over 400 compostable coffee capsules per minute in a choice of 6 colours
- Reduced **costs** to under €0.025 for each compostable coffee capsule
- Filed some **200 patents** and launched collaborations with the University of Rome Tor Vergata

Policy support

- Favour **composting over landfilling** as set out in the EU Waste Framework Directive
- Substitute **plastics** with renewable materials in line with the European bioeconomy strategy
- Encourage **industrial innovation** following the European entrepreneurship action plan

Contact

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Environment & Climate Action

Life