



## Deliverable

D2.4 Improved spectrometric dataset and improved pattern recognition software

WP2 – Smart Sorting

### Project Information

Grant Agreement n°	814543
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## Publishable Summary

Within the scope of Deliverables 2.1 and 2.4 Redwave and Covestro have explored classical and novel forms of machine-learning to find a solution for separating different types of flexible PU foam.

At first, a large dataset of diverse PU foams was created to build a solid basis for the evaluation of suitable machine-learning algorithms. After extensive data acquisition and training, a classification model has been established which allows to distinguish different kinds of PU chemistries in the foams. This also includes the detection of certain additives like flame-retardants as well as general differences in the main components of the foams, enabling differentiation of MDI-based foams, Conventional and HR-based foams.

The algorithms were incorporated into a software tool which consecutively was integrated into a sorting machine for high-speed sorting of flexible PU foam.