

[LUCRA](#) exploits European's underutilized and abundant ODMSW and saw dust as feedstocks for the large-scale production of platform building block biobased chemicals at high yield with significant industrial end-user interest using a circular bioeconomy biorefinery approach.

LUCRA provides an optimized and scaleable 'breakthrough first of a kind' innovative technology to create a step change from pilot to large scale integrated fermentation with novel electrochemical extraction of succinic acid (SA) at TRL7.

This will be achieved by the circular utilization of the mentioned renewable resources as feedstocks which will reduce to a large extent the dependence on fossil resources and achieves at the same time a sustainable SA production route. To fit the needs of the industrial level, LUCRA will optimize the hydrolysis process of the different feedstocks to obtain efficient cellulose conversion. The crude sugar-rich hydrolysates will be used as fermentation feedstock in an electrochemical membrane bioreactor for efficient extraction and production of SA. In situ extraction of SA will be achieved through an anion exchange membrane resulting in simultaneous acidification, concentration, lower NaOH consumption for pH regulation and less unit operations for SA purification. To demonstrate the produced bb SA twill be able to compete directly their fossil-based counterparts from petrochemical processes, different polyurethane dispersions and resins will be produced at semi-industrial scale by the involved end-user Covestro.