

## State-of-the-Art Polymer Coating Technologies for Flexible Barrier Packaging

**one.five** is a biotechnology platform company aiming to scale applied material science. **one.five** is interested in **polymer coating technologies**, with an emphasis on coating technologies that pertain to paper or pulp-based substrates.



### Materials

- Novel biopolymer formulations, where additives are used for increased flexibility and reduced adhesion. Particularly interested in PHA but are also interested in other biopolymers, as well as blends of PHA and other biopolymers
- Research using polyesters, biodegradable and petroleum-based (if a biopolymer is an indirect component of claims)
- Interested in the use of paper/pulp substrates (or similar)
- Also interested in the multilayering of plastics without paper/pulp substrates

### Processing Methods

- Wet processing methods must be used when utilising main substrate for minimal coat weight requirements
- Dispersion coating where PHA will be dispersed into water using stabilizers and then solidify once coated on substrate
- Lamination coating where processing allows for low coat weight
- Melt processing methods for techniques involving the multilayering of plastics and where the process does not harm delicate substrates despite high processing temperatures
- Numbers of layers and thickness of coating layers should be minimal for sustainability and biodegradability reasons
- Coating methods that work at temperatures below 100°C, with a focus on reducing energy consumption/CO2 emissions
- Solvent coatings where PHA will be dissolved using green solvents, however, are also interested in learning why the use of toxic solvents perform better than their sustainable dispersion coating peers
- Coating technologies must allow for continuous coating of the substrate

**Out of Scope:** Coating technologies that do not optimise coat weight or use of materials, approaches using rigid materials and coating of singular or small batches of the finished product/packaging are not of interest.

**Stage of Development:** Opportunities at TRL3 and above are within scope, with research that can be scaled to market within 1-5 years being of highest interest.

**Incentives for Academics:** Potential collaborations will be assessed on a case-by-case basis, with example outcomes including research collaborations, consulting/advisory agreements and licencing.

**Submission Information:** Submission of one page, 200-300 word briefs are encouraged. In submitting to this campaign, you confirm that your submission contains only non-confidential information.

### Opportunities sought

-  Technologies
-  Academics and expertise
-  Centres of excellence
-  Research projects
-  Spinout companies

### Submissions

Please submit relevant, non-confidential opportunities online via: [discover.in-part.com](https://discover.in-part.com)

Deadline: **27th September 2021 - 10:59 pm GMT**

#### Have any questions?

Contact our team at [discover@in-part.co.uk](mailto:discover@in-part.co.uk)