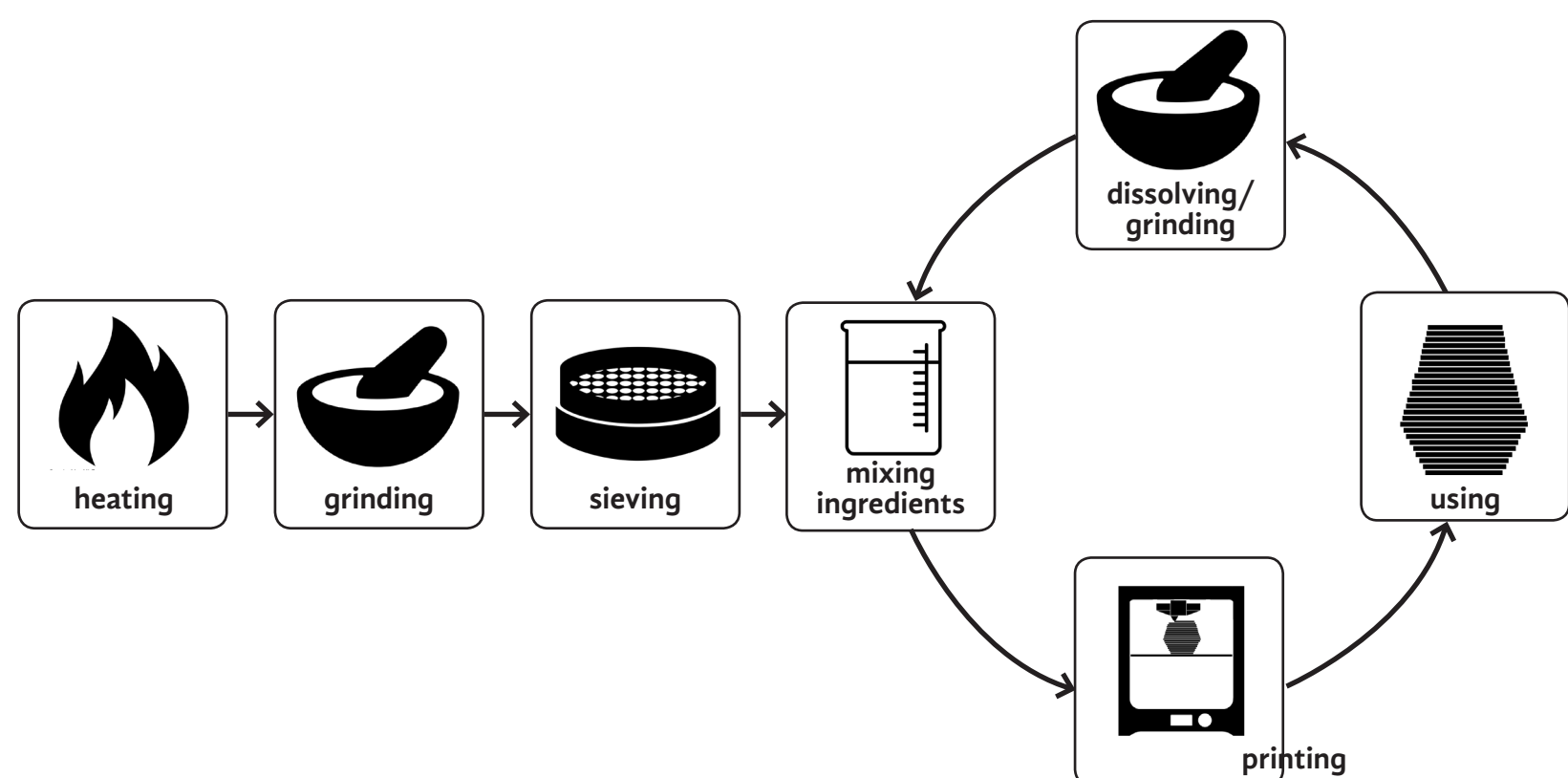


SHINING LIGHT ON MUSSEL SHELLS

The development of a 3D printed and recyclable material

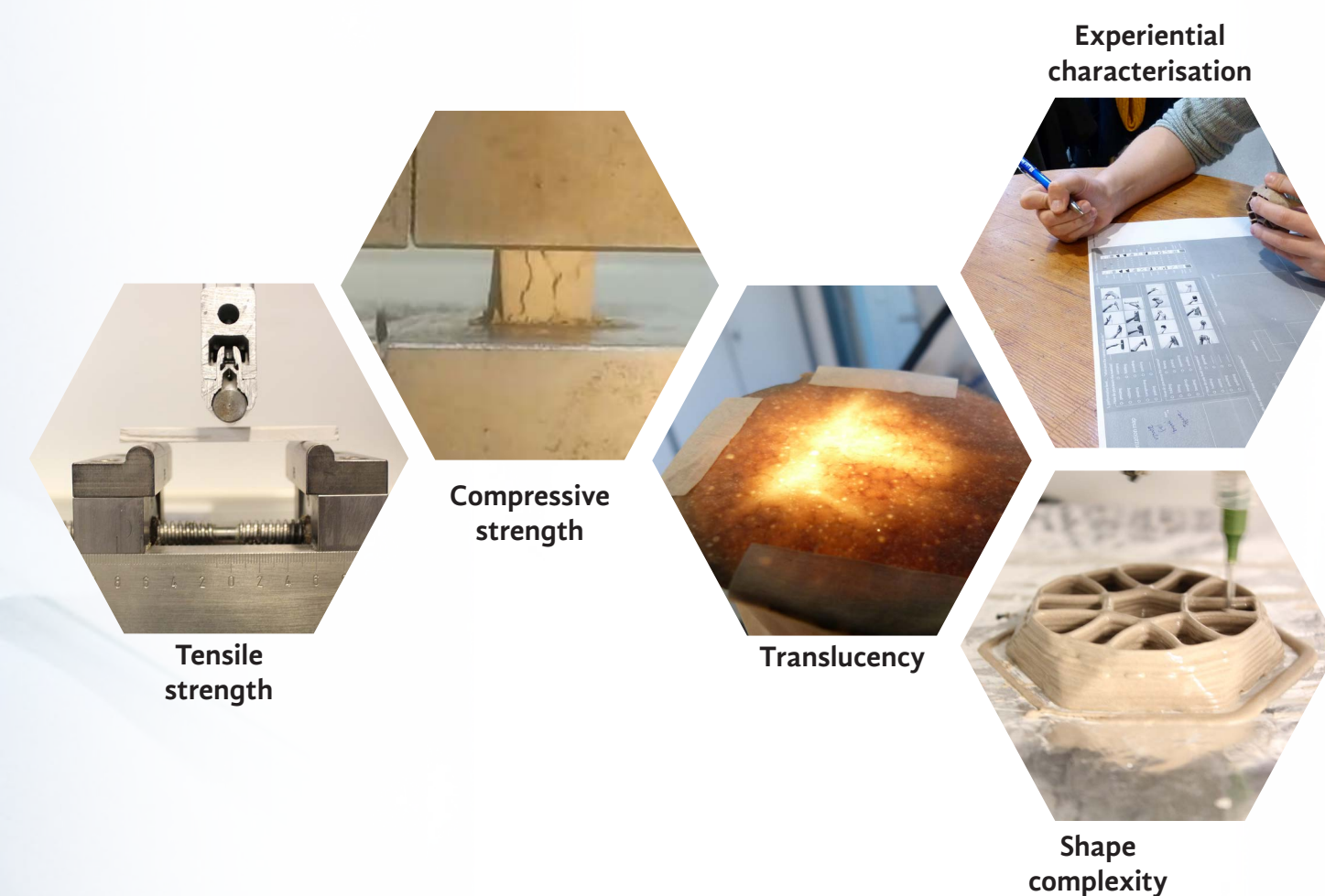
Development

Mussel shells are an enormous waste stream in the Netherlands. This project aimed at the transformation of these shells in a 3D printable and recyclable material, to create a locally available material suitable for distributed manufacturing. This to explore the role of distributed manufacturing enabled by additive manufacturing for a circular economy. Defined process steps to transform mussel shells into a printable material are:



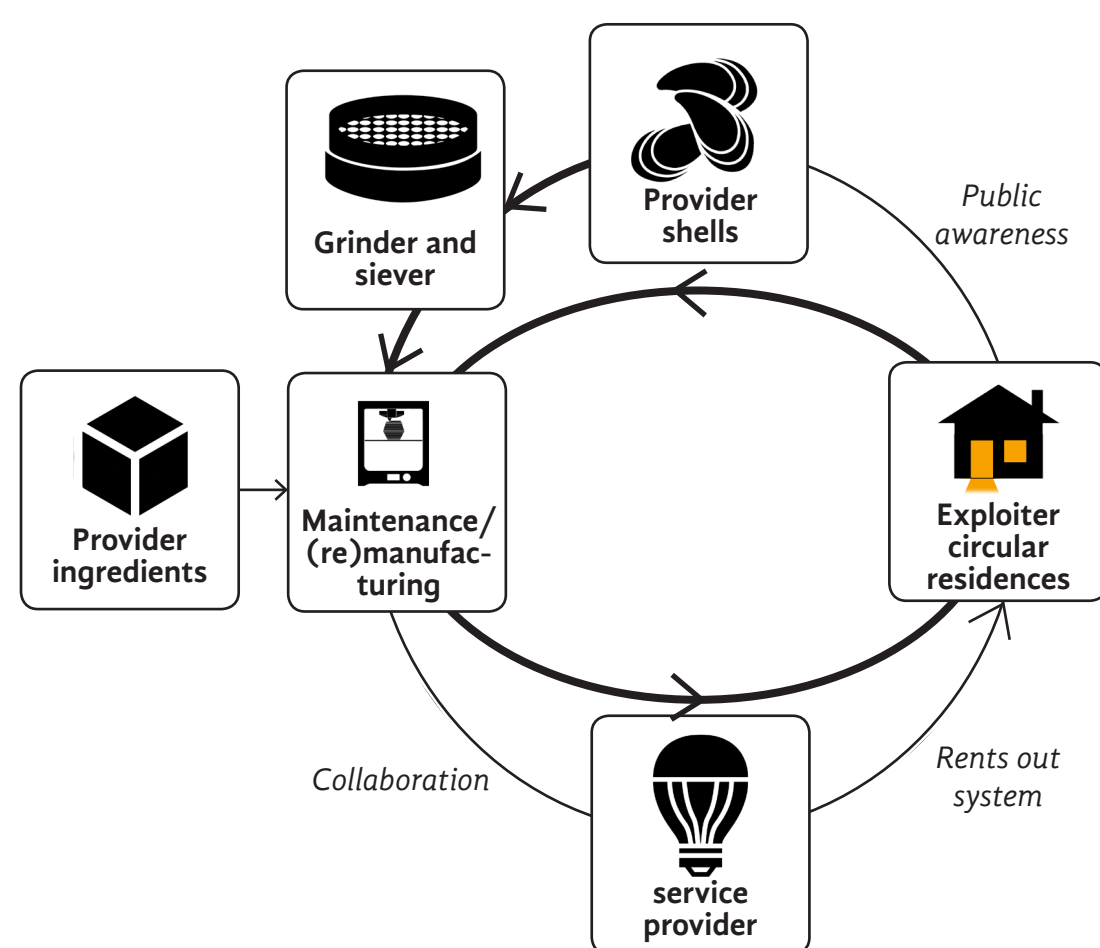
Characterisation

After development important material characteristics were defined. As the material is developed in this project, not only the characteristics themselves but the effect on process parameters on the characteristics are defined. Below some examples of tested characteristics



Application

Developed material would fit in a circular that uses local materials. An example is the concept 'Circular Lighting': a lighting rental system meant for tourist residences near the sea with lamps made of developed material, so they can be locally repaired or remanufactured.



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Integrated Product Design

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