



General information	
PPP number	TKI-AF-15210
Title	Soluble Bio-based Support Structures for digital printing applications
Roadmap/Umbrella	Biobased Economy, now Kern thema Circulair
Executive knowledge institution(s)	Wageningen Food & Biobased Research
Research project leader (name + e-mail address)	Karin Molenveld, karin.molenveld@wur.nl
Coordinator (on behalf of private parties)	Otto Salomons (Océ)
Government contact person	Jan van Esch
Start date	01-01-2017
End date	01-07-2017

Approval coordinator/consortium	
The coordinator has assessed the annual report on behalf of the consortium:	<input checked="" type="checkbox"/> approved <input type="checkbox"/> rejected
Possible feedback on the annual report:	

Short content description/aim PPS
<p>The objective of this project is to demonstrate that it is feasible to substitute the current 3D printing support materials, that become chemical waste very quickly after use, with environmentally friendly bio-based alternatives. Focus is on the use of commercially available water soluble sugar derivatives.</p>

Planning and progress	
Is the PPP going according to plan? ¹	The PPP is delayed due to the fact that the project was signed later than anticipated and moreover due to reorganisations at project partners and shortage of staff at WFBR since attempts to hire personnel failed. All matters have been solved in Q4 of 2017.
Have there been changes in the consortium/project partners?	No
Is there a delay and/or deferred delivery date?	Yes
Are there any substantive bottlenecks? Provide a brief description	No
Are there any deviations from the projected budget?	Deviations only due to the delay
Do you expect a patent	Yes that is intended but at this stage it is too early to give a

¹ If applicable, use the explanation from the financial project report

application to arise from this PPP?	definitive answer.
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<p>Current summary of the project for the website Kennisonline</p> <p>The objective of the SOLD project is to use agricultural raw materials to develop bio-based support structures for 3D printing. These support structures are not part of the end-product but have to be removed after production without leaving any artefacts.</p> <p>Due to the special requirements imposed on these support structures, it makes them especially suitable for replacement by bio-based materials. Advantages of bio-based materials are their environmental benefit and biodegradability, their cost benefit since they are derived from low cost agricultural feedstock and their functional benefit since there are good opportunities to develop water soluble support structures.</p> <p>Current focus is on sugar derivatives with a melting point at ambient temperatures and good thermal stability. Specific attention is addressed to the melt viscosity that should be sufficiently low.</p>
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<p>Highlights:</p> <p>The most important results in 2017 are:</p> <ul style="list-style-type: none"> • A literature report on the properties of sugar derivatives with respect to the properties needed in printing applications • Overview of commercially available materials that could be suitable in printing applications • Screening program with target properties • Analyses of the first set of materials
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Number of delivered products in 2016			
Academic articles	Reports	Articles in journals	Introductions/workshops
n.a	n.a.	n.a.	n.a

Appendix: Names of the products or a link to the products on a public website

<http://topsectoragrifood.nl/project/soluble-bio-based-support-structures-for-digital-printing-applications/>

<https://www.wur.nl/nl/project/Soluble-Bio-based-Support-Structures-1.htm>

<https://www.wur.nl/en/Research-Results/kennisonline/Soluble-Bio-based-Support-Structures.htm>

Akkoord: Hans van der Kolk (Topsectorsecretaris)