



PPP Project Annual Report 2017

The PPP-projects that have been established under the direction of the top sectors must submit an annual report on their technical and financial progress. This format is to be used for reporting the technical progress. A separate format ('PPP final report') is available for PPP-projects that have been completed in 2017.

The annual reports will be published in full on the websites of the TKIs/top sector, excluding the blocks 'Approval coordinator/consortium' and 'Planning and progress'. Please ensure that no confidential matters are left in the remaining blocks.

General information	
PPP number	TKI -AF-AF16508
Title	Design and sensory perception of multi-scale food structures fabricated by 3D printing
Roadmap/Umbrella	
Executive knowledge institution(s)	Wageningen University & Research
Research project leader (name + e-mail address)	Maarten Schutyser (Maarten.schutyser@wur.nl)
Coordinator (on behalf of private parties)	Hanneke Zijtveld, FrieslandCampina
Government contact person	
Start date	1/9/2017
End date	31/8/2021

Approval coordinator/consortium

The annual report should be discussed with the coordinator/the consortium. The TKIs appreciate being informed of possible feedback on the annual report.

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:	No Remarks; Fine progress report

Short content description/aim PPS

3D Food printing is a rapidly emerging research area with much attention in the media and from consumers. Current technologies however only allow its use as small-scale 'gimmick': the use of ingredients is limited, one cannot yet create a multiscale food structure as is present in natural foods, and its use of energy and other resources per kg product is still prohibitive for larger-scale use. This is why it holds great potential as method for point-of-sale assembly, which can strongly reduce the amount of waste in the chain, which ranges from around 30% in Europe, to 50% in the United States. The overall objective of this PhD project is to develop a scientific base to prepare printed food structures that have excellent sensorial properties with focus on structure formation at multiple length scales.

Planning and progress *(if there are changes to the project plan, please explain)*

Is the PPP going according to plan? ¹	Yes
Have there been changes in the consortium/project partners?	No
Is there a delay and/or deferred delivery date?	Yes, the start has been delayed due to the search for a suitable candidate for the PhD-position. In September 2017 Sciong Zhu has been appointed which also indicates the actual start of the project
Are there any substantive bottlenecks? Provide a brief description	No
Are there any deviations from the projected budget?	No
Do you expect a patent application to arise from this PPP?	Not at this moment

Current summary of the project for the website Kennisonline
<p>3D Food printing is a rapidly emerging research area with much attention in the media and from consumers. Current technologies however only allow its use as small-scale 'gimmick': the use of ingredients is limited, one cannot yet create a multiscale food structure as is present in natural foods, and its use of energy and other resources per kg product is still prohibitive for larger-scale use. This is why it holds great potential as method for point-of-sale assembly, which can strongly reduce the amount of waste in the chain, which ranges from around 30% in Europe, to 50% in the United States. The overall objective of this PhD project is to develop a scientific base to prepare printed food structures that have excellent sensorial properties with focus on structure formation at multiple length scales.</p>

Highlights: <i>provide a brief description of the most important results</i>
On 28 September 2017 a project kick-off meeting in Wageningen was held with all consortium partners, i.e. FrieslandCampina, Ruitenber, Foodjet and Oceanz and WUR. Introduction presentations were held and the project proposal was reviewed. In a follow-up meeting on 6 December 2017 Sicong Zhu shared her first experiences and challenges in relation to the work as proposed in WP1. Contacts have been set-up with TNO/TUE to set up a coherent PhD program around 3D food printing.

Number of delivered products in 2017 <i>(in an appendix, please provide the titles and/or description of the products or a link to the products on public websites)</i>			
Academic articles	Reports	Articles in journals	Introductions/workshops
NA	NA	NA	NA

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

Link naar Kennisonline/TKI AF:

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