PPP Project Annual Report 2018
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 2018.
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.
The PPP Project Annual Reports must be submitted by 15 February 2019 to Hans van der Kolk

General information	
PPP number	HT17215 TKI toeslag project
Title	Smart Materials for Packaging
Theme	High Tech to Feed the World TKI AF Slimme Technologie
Executive knowledge institution(s)	Wageningen University (WU), Delft University of Technology (TU Delft), Eindhoven University of Technology (TU/e), University of Twente (UT) and Wageningen Food & Biobased Research
Research project leader (name + e-mail address)	Karin Molenveld, karin.molenveld@wur.n
Coordinator (on behalf of private parties)	Karin Molenveld
Government contact person	Frans Lips
Total project size (k€)	1.803 k€
Address project website	
Start date	01-07-2018
End date	30-06-2022

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:	X approved □ rejected
Possible feedback on the annual report:	

Short content description/aim PPS What is going on and how is this project involved? What will be delivered by the project and what is the effect of this?
The aim of this project reduce food losses by developing improved packaging concepts. These concepts include improved materials, better sealing and/or innovative sensors that allow monitoring of decay processes. The project is divided into 4 work packages; WP1) New materials (WU) WP2) Improved sealing (UT/TUD) WP3) Innovative sensors (TU/e) WP4) Package of the future (WFBR) Material developments from WP1, WP2 and WP3 will be integrated in WP4 into a package of the future. Moreover a tool/database will be made to make technical developments from WP1, WP2 and WP3 accessible for the companies involved.

Planning and progress (if there are changes to the project plan, please explain)	
Is the PPP going according to plan?	The project is running as planned with a kick-off meeting just before summer and hiring of PhDs around October/November
Have there been changes in the consortium/project partners?	No
Is there a delay and/or deferred delivery date?	No, but in the coming period a delay is expected in WP2 since the PhD stopped his work after 3 months and a new candidate needs to be hired.
Are there any substantive bottlenecks?	No
Are there any deviations from the projected budget?	No

Results in 2018/ so far
Give a short description of the high-lights and (most important) project deliverable in 2018 / so far and their target group

In 2018 main focus was on the project start-up including hiring of PhDs and introductory discussions with the companies involved in the project.

WP1: PhD candidate Ivanna Colijn started November 1st 2018 and is working on a literature survey. Focus of this study is on the effect of chitin sourcing and production methods for chitin nano-particles on the characteristics of these nano-particles. Also (chemical) modification routes are studied to enhance the compatibility with the biopolymer matrix.

WP2: PhD candidate Roland Milatz started October 1st 2018 and has prepared a list of potential research questions based on a literature survey and introductory meetings with the companies involved in WP2. Examples are the effects of powder contamination, seal thickness and crystallinity on seal integrity and sealing processes.
Within the WP a post-doc has been hired that will start working January 1st 2019.

WP3: PhD candidate Yari Foelen started October 1st 2018 with an extensive literature study. Together with industrial partner Avery Dennison it was decided to start with the development of an irreversible humidity sensor (humidity can be related to growth of bacteria, molds and yeasts). Various design approaches to develop systems for sensors with commercial potential are being investigated.

WP4: Master student Lisanne de Weert started September 15th with a literature study on models and tools that can be used to develop new packaging concepts. Various industrial partners were interviewed on how packaging innovation processes are managed within their companies.

Number of delivered products in 2018 / so far *(in an appendix, please provide the titles and/or description of the products or a link to the products on public websites)*			
Academic articles	Reports	Articles in journals	Introductions/workshops
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Appendix: Names of the products or a link to the products on a public website