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General details

1a. Details of project leader

-Name, title(s): 5.1.2e
 -Affiliation: Leiden University
 -E-mail: 5.1.2e@lic.leidenuniv.nl

1b. Details of project manager

-Name, title(s): 5.1.2e
 -Affiliation: Shell Global Solutions International B.V.
 -E-mail: 5.1.2e@shell.com

1c. Title of research project (& Acronym)

Promoter and poison effects in heterogeneous catalysis: Novel tools to shed fundamental insight (PromPoCat)

1d. Type of project

IFC-TA

1e. Project number

731.016.201

Grant details

2. Recruitment efforts, assignments and purchase of equipment

List the employment of personnel in the project, and specify below any changes.

Position (PhD/PD)	Hiring institution	Name of Employee	Start date	End date
PhD	Utrecht University	5.1.2e	5.1.2e	
PD	Leiden University			
TA	Leiden University		5.1.2e	
TA	Leiden University		5.1.2e	

If indicated in the project agreement, report about the status of purchase of the highly specific equipment related to the project. In case of any delays please specify cause.

Description in PA	Supplier and model	Actual cost (€)	Acquisition date	Installation date
5.1.2b, 5.1.2i			31.12.2018	January 2019
			22.10.2018	November 2018
			17.01.2019	February 2019
			16.04.2018	August 2018
				April 2019
			2018	2018
			10.12.2018	February 2019
			2019	2019

5.1.2b, 5.1.2i	27.11.2019	July 2020
	30.04.2021	September 2021
	17.06.2021	October 2021

3. Realisation programme/project expenses

3a. Cash expenses

Please indicate roughly how much of the total cash programme/project budget has been spent

<2020 realised	2020-21 realised	Total cash programme/project budget
5.1.2b, 5.1.2i		

3b. In-kind contribution(s) [if applicable]

If of relevance, please specify the in-kind contribution per private partner up to and including this reporting period. Include the number of man hours and relevant tariffs, value of consumables and/or equipment. (Bear in mind that for the final project reporting at the end, it is required to provide NWO with an accounting of the in-kind contributions. In case a project partner's in-kind contribution that is to be accounted for exceeds 125,000 EUR, an auditor's statement must be provided; in other cases, a written statement by a proxy – to the effect that the in-kind efforts contributed are in fact attributable to the project – will suffice.)

Project partner	Labour			Consumables/ equipment	Total Value (€)	
	Man hours (h)	Tariff* (€/h)	Value (€)	Value (€)		
Shell	5.1.2b, 5.1.2i					
DSM						
LPM						

* Note up to a maximum tariff of 1.2b, 5.1.2i per hour.

Results

4. Specific aims of the project

Indicate what the specific aims in the project were.

5.1.2e

5. Deviations of project plan (optional)

If of relevance, explain why the research activities deviate from the original project plan as described in the granted application.

5.1.2b, 5.1.2i

5.1.2b,5.1.2i

6. Project results

6a. Scientific highlights

Briefly describe the achieved aims and scientific highlights. Indicate the improvement with respect to the state of the art.

5.1.2b,5.1.2i

5.1.2b,5.1.2i

6b. Valorisation and Intellectual Property

Briefly describe the importance of the results achieved so far for the industrial partners. And if of relevance, list the results that have been or are being protected by Intellectual Property. If the latter has led to knowledge transfer, please also mention any financial compensation paid.

5.1.2b,5.1.2i

6c. Status Milestones & Deliverables

Present a table in which the status is indicated of the Milestones & Deliverables. Explain in more detail when the initial aimed level of completion has not been realised.

5.1.2b,5.1.2i

5.1.2b,5.1.2i

6d. Added value of international cooperation

Briefly describe the cooperation with your international partner(s), e.g. the highlights, learned lessons for future cooperation with international partners or best practices.

The collaboration between two universities and industry was very fruitful. This project has resulted in a follow-up collaboration between a.o. Utrecht and Leiden (ENW-5.1.2e), a.o. between Leiden and LPM (Horizon 2020 FET ProAct, Horizon 2020 FET Open, Vidi), and between Leiden, ESRF and Shell (funding from the three partners without official funding scheme). Additionally, in Utrecht, we have collaborated with the Paul Scherrer Institute (Villigen, Switzerland) to obtain the modulation excitation infrared spectroscopy results as described in Sections 5a and 6. This collaboration was particularly useful and has resulted in Utrecht University considering purchasing a suitable setup for such experiments, so that they could be done in-house in future work. We have additionally collaborated with the Advanced Light Source (ALS) in Berkely (CA, USA) to obtain X-ray microscopy results.

Project meetings

7. Project meetings

Number of projects meetings held in this reporting period: 7

Meeting type (full consortium / other)	Date	Location	Attendants
full consortium	15.12.2017	Utrecht	5.1.2e
full consortium	03.05.2018	Leiden	
full consortium	10.10.2018	Utrecht	
full consortium	04.07.2019	Utrecht	
other	09.10.2019	Leiden	
full consortium	14.10.2020	online	
full consortium	02.12.2021	online	

8. Results of interest to the general public: You should list your final results via your project in ISAAC via the tab Reports/Summary for non-experts update.

ATTENTION: NWO will use this text for publicity and publication on the NWO website. If applicable the text in this section may be used by NWO to report about the programme/project to TKI Chemistry, Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland), Ministry of Economic Affairs or Ministry of Education, Culture and Science.

For the sake of clarity: NWO assumes that the text in section 8 has been approved by all consortium partners. When it appears that the information was not approved for publication and/or had to stay confidential NWO will

not take responsibility.

Summaries for non-experts are published on your project page on the NWO website. This page also contains your Summary for non-experts from the proposal, the output entered and any previous updates.
You should list your final results via your project in ISAAC via the tab Reports/Summary for non-experts update.



5.1.2b,5.1.2i

Dissemination of results

9. Dissemination activities of the results

List the dissemination of results per kind of dissemination activity; please add your activities to the list of the previous reporting period(s). Examples of dissemination activities are e.g. abstract submissions, oral and poster presentations, peer-reviewed or popular articles, website contributions, patent applications, etc.

Conference contributions				
Date / period	Conference name & location	Type	Title of the contribution	Authors
[Redacted content]				

5.1.2b,5.1.2i

April 2021	International Seminar on Transient Kinetics, Online	Talk	5.1.2b,5.1.2i	
Papers				
Type (article / abstract)	Title	Authors	Reference	
article	5.1.2b,5.1.2i			
article				
article				
Patent Applications				
Patent Appl. No.	Title	Inventor & Co-inventors	Applicant	

10. Signature

I hereby declare that the information provided on this form is true and accurate.

Completed on: 11.10.2022

