

# COFUNDPostdocDTU

HC Ørsted Postdoc Programme, co-funded by Marie Curie Actions

## External Impact Assessment Report



**Innovayt A/S**

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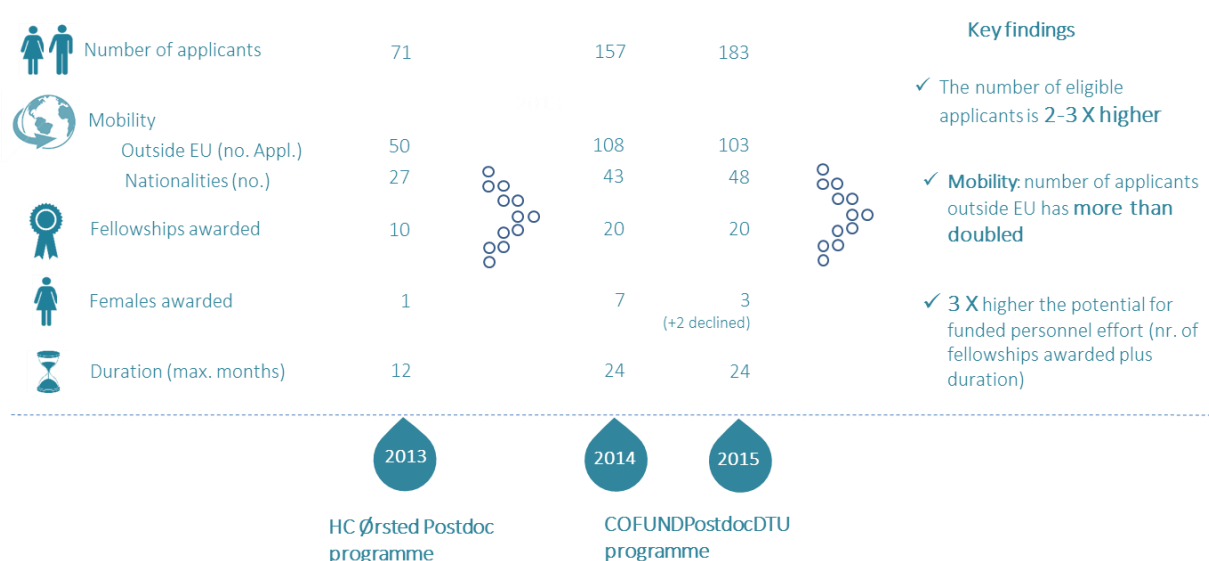


## Executive Summary

The new DTU Postdoc programme – named COFUNDPostdocDTU – builds on the old HC Ørsted Postdoc programme, which is an incoming mobility programme aiming to attract the best international researchers early in their careers. With co-funding from Marie Curie Actions, the COFUNDPostdocDTU was able to improve the previous programme and increase the number of postdoc positions supported by DTU – during its duration the programme will offer a total of 56 individual fellowships.

The present external impact assessment report will evaluate the impact and benefits of the new COFUNDPostdocDTU programme through some key indicators, including the number, nationality and quality of applicants, as well the specific impact as perceived by the fellows (which is evaluated through a series of specific questions).

As illustrated by the Figure below – together with a new and more transparent selection process – the new programme has significantly improved the existing HCØ programme to the benefit of the postdoc candidates – as will be discussed throughout this report.



At the end, this study has resulted in a series of positive conclusions regarding the impact of COFUNDPostdocDTU, as well as in useful recommendations that can potentially be used for a new PostDoc programme co-funded by Marie Skłodowska-Curie Actions.

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# 1. Background and Objectives

## 1.1. Context

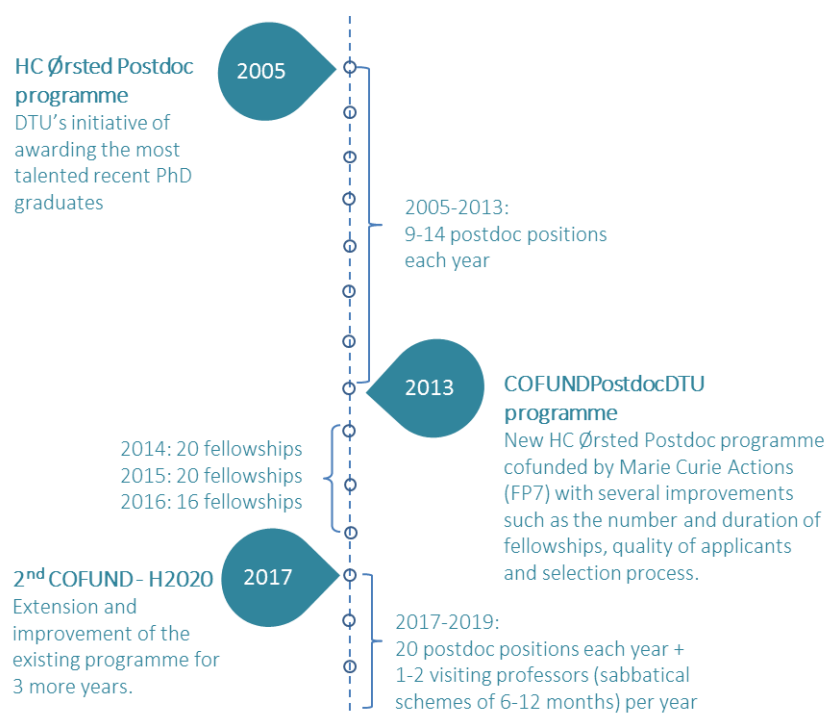
**Technical University of Denmark (DTU)** is an international research university with a first class reputation and high scientific ambition, which collaborates intensively with national and international universities. Moreover, DTU is world leading in collaborating with industry and is engaged in multiple strategic international university alliances, providing internationally leading research, education, innovation and public service.

Research is carried out in 21 Departments and 19 PhD-schools with a total research staff (including PhDs) of 3700. All DTU research departments have at least one world-leading research group. Research at DTU covers all areas of classical and modern engineering and is focused on providing solutions to society's great challenges within e.g. Life Science, Energy and Climate research as overarching themes. DTU continuously invests heavily in research infrastructure – operating and maintaining state-of-the-art equipment and facilities, which allows the University to work at the forefront of a broad range of technological areas.

In order to attract international talent, DTU has – through the **HC Ørsted Postdoc programme** (HCØ programme) – awarded 9-14 postdoc positions each year (from 2005 until 2013) to recent PhD graduates who have already proven outstanding results during their PhD studies and have demonstrated excellence and potential in their fields of research.

In 2013, a new HC Ørsted Postdoc programme – cofunded by FP7 Marie Curie Actions (from now on called **COFUNDPostdocDTU programme**) – started to be implemented with the aim of attracting the most talented postdoc candidates from all over the world to carry out bottom-up research projects within all branches of engineering science at DTU according to the choice of the postdoc. However, the fellowships only started in January of 2014.

The COFUNDPostdocDTU programme therefore follows the HCØ programme and is expected to be the foundation for a new COFUND grant to be applied for in October 2015, under the Horizon 2020 Marie Skłodowska-Curie Actions. Figure 1.1 presents a development timeline for these Post-Doctoral grants at DTU, together with a brief overview of each programme.



**Figure 1.1:** Timeline and short overview of DTU Post-Doctoral Programmes

## 1.2. Objectives

The present report aims to measure what impact the COFUNDPostdocDTU programme has had on participants and whether immediate outcomes have been achieved. The study describes how much the new PostDoc programme has gone beyond the earlier grant (i.e. the HC Ørsted programme), and provides evidence for its quality. Moreover, it will be used to assess the added value of the EU co-funding.

## 1.3. Methodology

The methodology to assess the impact of the COFUNDpostdocDTU programme is mainly based on the following indicators:

- Number of applicants
- Mobility
- Number of fellowships awarded and duration of the fellowship
- Number and success ratio of female applicants
- Quality of the applicants (grades obtained on the evaluation)
- Quality of the evaluation process for selecting the fellows
- Feedback from the 2014 COFUND fellows concerning the programme, obtained through a specific questionnaire
- Number of publications

All figures and assessments provided in this report for the COFUNDPostdocDTU programme are only referred to the first two years of the post-doctoral programme, namely 2014 and 2015. Some of these indicators were compared with the previous programme to highlight the benefit/added value of EU co-funding.

Data collection methods are described below:

**Key interviews/discussion:** A few meetings were conducted with the *Office for Research and Relations* and the H.C. Ørsted COFUND secretariat, exploring the full range of the post-doctoral programme including relevance, design, evaluation process, selection of fellowships and impacts of the programmes. The main people involved were:

- **Dr. Claus H. Andersen**, Programme Coordinator
  - Dr. Andersen is Head of the DTU Research Office with 10 administrative staff and has extensive experience from managing numerous national and EU FP projects including the role as coordinator of FP5 and FP6 research projects
  - Entitled to act and make legally binding declarations on behalf of the programme.
  - Responsible for the day-to-day management of the project.
  - Supported in all tasks by the Programme Manager (Stine Work Brodersen).
  - Acts as liaison between REA and DTU.
  - Will be involved in writing the future COFUND application.
- **Stine Work Brodersen**, full-time Project Manager, academic officer, Office for Research and Relations, the H.C. Ørsted COFUND secretariat
  - Responsible for daily management of the programme.
  - Handles all communication with applicants prior, during and post application and selection process.
  - All communication with the different parties of the secretariat goes through the project manager.
  - Responsible for the on-going evaluation and optimization of the programme and material for applicants/fellows, supervisors and evaluators.
  - Reporting to REA/Commission and the registration of fellows in the Participant portal.
  - Developing PR strategy and its implementation.
  - Ensuring that departments are informed of the requirements in relation to COFUND fellows.
  - Support supervisors and departments in regards to the COFUND fellows.
  - Will be involved in writing the future COFUND application.

- **Ditte Kirstine Andersen**, academic officer, Office for Research and Relations, the H.C. Ørsted COFUND secretariat
  - Assisting the Programme Manager in all aspects. Has taken on the role as Manager during maternity leave.
  - Will be involved in writing the future COFUND application.
- **Lars Brückner**, special Advisor, Office for Research and Relations
  - Extensive experience with networking, attracting and pairing the right people/research groups with the prospects of raising financial support to concrete projects with EU funding.
  - Involved in the writing of the COFUNDPostdocDTU application.
  - Will be involved in writing the future COFUND application.

**Review of administrative data:** Administrative data analysed included the following:

- a) Number of applicants since 2006 until 2015;
- b) Number of fellowships awarded after each call since 2006 until 2015;
- c) Number of female and male applicants in 2014 and 2015;
- d) Fellowship positions offered to female researchers in 2013, 2014 and 2015;
- e) Nationalities of the applicants in 2013, 2014, 2015.

**Document and literature review:** Documentation reviewed included documents produced by DTU, namely the COFUND FP7 application and deliverables of the COFUNDPostDocDTU project – D2.1, D3.1, D3.2, D3.3, D3.4, D3.5). In addition, the fellows' career development plans, as well as their CVs and updated list of publications were also analysed.

**Surveys:** As part of this evaluation, we have conducted a survey among the 20 fellows awarded in 2014. The survey relates to the impact of the COFUNDPostdocDTU programme on fellows':

- skills and ability to conduct independent research and development;
- interaction/ collaboration with industry;
- career development;
- personal research networks;
- demands and expectations.

**The limitations of the present impact assessment** are mainly ascribed to the fact that the first fellowships from the post-doctoral programme cofunded by Marie Curie Actions have only been awarded in the beginning of 2014. Therefore, since then, only two calls were opened (2014 and 2015). Also, none of the fellows has completed their stay at DTU until now. For this reason, it is not possible, for instance, to evaluate the impact of the new programme on the fellows' career in terms of employment opportunities.

## 2. COFUNDPostdocDTU Programme impact assessment

### 2.1. Programme overview and implementation

COFUNDPostdocDTU programme consists of 56 individual postdoctoral fellowships of 12-24 months within five academic programme areas:

- **Mathematics, physics, and informatics** – DTU Compute; DTU Physics.
- **Chemistry, biotechnology, and chemical engineering** – DTU Chemistry, DTU Chemical Engineering, DTU Energy conversion, DTU Biosustain.
- **Electronics, communications, and space research** – DTU Fotonik, DTU Electrical Engineering, DTU Space, DTU Nanotech, DTU Danchip.
- **Construction, production, buildings, and transportation** – DTU Civil Engineering, DTU Transport, DTU management Engineering, DTU Wind Energy, DTU Mechanical Engineering.
- **Life Science** – DTU Systems Biology, DTU Aqua, DTU Food, DTU Veterinary, DTU Environment.

The programme will run for 60 months with three calls in three years (2014, 2015 and 2016) corresponding to 56 individual postdoc fellowships allocated in total – 20 fellowships have been awarded in 2014 and 2015 and 16 will be awarded in 2016.

The COFUNDPostdocDTU programme has been conceived to ensure the greatest flexibility for the fellow, so that the candidates have full freedom to pursue their own research and career goals. In this context, the fellow has the possibility to apply for a 12-24 months fellowship, depending on his/her preference, and is able to freely choose and approach the Department that best accommodates their specific scientific project needs. The host ensures that the researcher will have the best opportunity to perform its bottom-up research plan in the best possible way.

Moreover, the COFUNDPostdocDTU programme fellows' professional development is strengthened by a Personal Career Development Plan and a one-to-one mentorship. Career development plans are executed twice a year during the tenure of the fellowship. Under the HCØ programme, the fellows have been following the Danish law, which states that every employee must have a so-called staff development interview once a year.

Finally, under the COFUND programme, similarly to what happened in the HCØ programme, fellows have the opportunity to participate in professional courses, conferences, and to choose from DTU's large course catalogue to the benefit of their careers and suited to their talents and preferences.

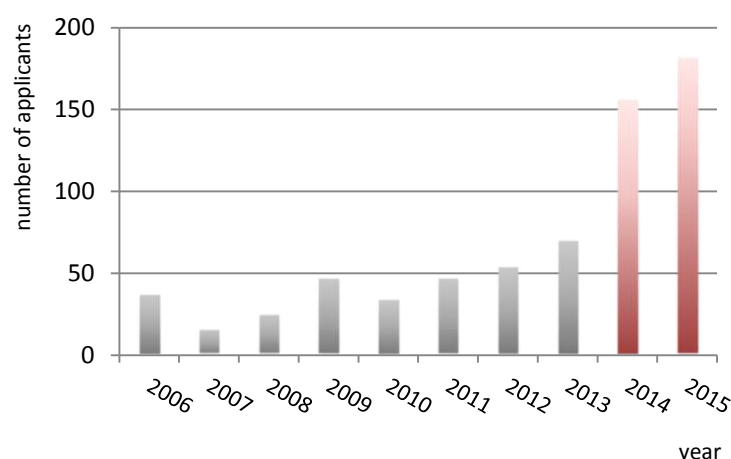
### 2.2. Key facts

In the following, the impact of the COFUNDPostdocDTU programme is assessed. Some of the indicators that can be used to evaluate the impact of the programme are related to the number of applicants and fellowships, nationality (mobility impact) and gender.

#### ✓ Increased number of applicants

The number of applicants has increased significantly from the HCØ programme (2005-2013) to the COFUNDPostdocDTU programme (2014-2015). The number of eligible applicants per call in the previous HCØ programme was always less than 71 candidates, whereas in the calls co-funded by the Marie Curie Action there were 157 and 183 eligible candidates for 2014 and 2015, respectively (Figure 2.1). These figures indicate that there was an increase of at least 2 - 3 times in the number of eligible applicants for the COFUND call when compared with the previous PostDoc programme.





**Figure 2.1:** Number of eligible applicants per HCØ call and COFUND call from 2005-2015

### ✓ **Nationality – mobility impact**

The COFUNDPostdocDTU programme is based on incoming mobility and will enable candidates from all over the world to carry out curiosity-driven, bottom-up research projects within all branches of engineering science at DTU.

Applicants must not have resided or carried out their main activity in Denmark for more than 12 months in the three years immediately prior to the deadline.

In 2014, 49 of the 157 eligible applications were EU residents whereas 108 were from outside of the EU. There were 43 different nationalities and the top 5 countries with the higher number of applicants were India, China, Iran, Spain and Italy in that order. In 2015, 80 of the 183 eligible applications were EU residents and 103 were from outside of the EU. There were 48 different nationalities and the top 5 countries with the higher number of applicants were India, Iran, Spain, China and Germany in that order.

The abovementioned numbers are well above the reported data for 2013, where 23 eligible applications were EU residents and only 50 applications were from outside of the EU. There were only 27 different nationalities in 2013.

**Table 2.1 – EU residence**

	2013	2014	2015
EU residents	23	49	80
Outside EU	50	108	103
Nationalities	27	43	48

### ✓ **Increased number of fellowships awarded**

The previous HCØ programme (2005-2013) has allocated 9-14 fellowships per year (of 12 months duration) whereas the present COFUNDPostdocDTU programme (2014-2015) has allocated 20 fellowships per year of maximum 12-24 months duration. This means that the COFUND has leveraged significantly the potential for funded personnel effort – i.e. it has almost tripled the fellowship man-months per call (480 instead of 168 MM, considering the maximum fellowship's duration).

### ✓ **Higher success ratio for female applicants**

In 2013, only one PostDoc grant was offered to a female applicant. The new COFUNDPostdocDTU programme was, for this reason, committed to disseminate the programme as much as possible to female audiences.

In this background, the COFUNDPostdocDTU call was announced to STEM networks for female scientists, namely the "European Platform of Women Scientists, EPWS" and "International Network of Women Engineers and Scientists, INWES".

The result was approximately one quarter of eligible female applicants in 2014 and 2015 (Table 2.2). One of the indicators for success of COFUNDPostdocDTU is that 30% of fellowships were offered to female researchers in 2014. The success ratio for female applicants was relatively greater than that of male applicants, as approximately one quarter of all eligible applications were submitted by female researchers, while approximately one third of successful applicants were female. In 2015, the success ratio for female applicants was also high. However, from the 5 female applicants that had been offered a fellowship, only 3 have accepted it.

**Table 2.3:** Female candidates and awarded fellows.

Year	% of eligible applications – female	% awarded postdoc fellowships – female
2014	24%	35%
2015	26%	15% <sup>1</sup>

Overall, although these key indicators have been analysed in a preliminary phase (since the COFUNDPostDocDTU programme is still halfway) they clearly show the added value of the EU funding through COFUND, in particular its impact on increasing the quantity of participating researchers (specifically women) and the potential for funded personnel effort, and on enhancing the transnational mobility of researchers.

## 2.3. Excellence of the assessment of applicants

In the previous HCØ programme, applicants were evaluated on the basis of their research plan (including checking whether it fitted the specific Department), publication list, and letters of recommendation. There was only one evaluation panel (the Selection Committee) comprising one member per programme area, all from DTU, and the applicants did not have the opportunity to write a rebuttal of their evaluation report.

In this context, there was a clear need to improve the selection process, also through the involvement of independent evaluators from other countries, with diverse expertise and relevant experience in order to ensure that the higher quality fellows were the ones being selected for the PostDoc programme.

Therefore, in the COFUNDPostdocDTU programme, three entities were selected and/or created to be part of a two-stage evaluation procedure, which was designed to be in full compliance with the European Charter for Researchers and Code of Conduct for their Recruitment:

1. **The hosting research department.** The Head of Departments fills out a standardised form stating whether they can or cannot host the potential fellow in regards to the fulfilment of the sub-criteria “Quality and match of research group facilities/infrastructure, scientific framework and staff hosting the fellow”. The reviewers can take the host’s reflections regarding this sub-criterion into consideration during the evaluation of applications, however they are not bound by the host statement.
2. **Five programme area review panels.** Each panel consists of one DTU Researcher (the coordinator of the panel) and 2-4 international researchers recruited primarily within DTU’s network, from industry and academia. Before starting the review process, each reviewer must sign a statement confirming that he/she is: an internationally renowned and recognised expert in his or her particular field (assessed by bibliographical analysis, e.g. ISI) as is relevant for the programme area and proposal evaluation; fully independent, impartial and objective; able to perform evaluations electronically; and, finally, committed to follow the Guidelines for Evaluation (containing the pre-defined evaluation criteria). In addition, all reviewers are asked to be aware of any conflict of interest between themselves and applicants, and must sign a statement disclosing any professional or personal relationship that could entail disqualification. Until now, in the COFUNDPostdocDTU programme, a conflict of interest between the applicant and one of the evaluators was declared in 16 cases (4 cases in 2015 and 12 in 2014). In these cases, a different evaluator was appointed for the review.

<sup>1</sup> The low percentage in 2015 is explained by the fact that two female applicants have rejected the PostDoc position offered by the programme.

3. **One Selection Committee Board**, for the second stage of evaluation to ensure fairness and secure an optimal process. This Board comprises five members from DTU, overseen by the DTU provost, who ranks the applications based on the scores and comments in the evaluation summary reports from the review panels, and – if relevant – following the rebuttal procedure.

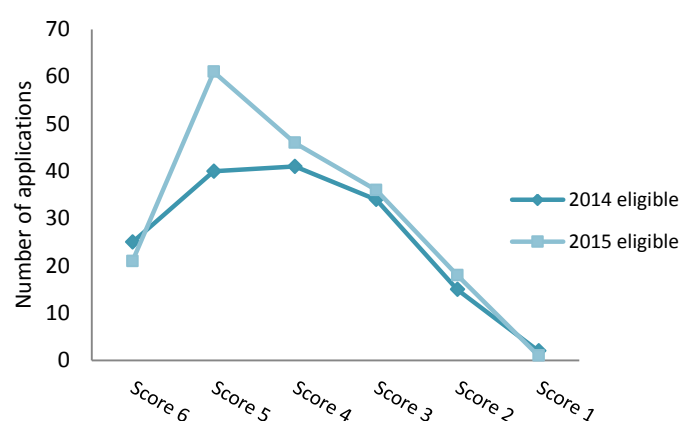
After receiving the evaluation report, all candidates have the **opportunity to write a rebuttal** (that is analysed by an additional expert) – i.e. candidates are able to comment on the review of their application, to report substantial misunderstandings of important aspects in the application by the reviewers. The comments – from both the applicant and the additional reviewer – are then forwarded to the Selection Committee Board to be considered together with the review reports when ranking applications.

Overall, by providing candidates with extensive information about the application and selection process, the COFUNDPostdocDTU programme ensures **transparency in the application and selection processes**. The results of the evaluation process for the years 2014 and 2015 are summarized below.

### ✓ High quality of the applicants

The COFUNDPostDocDTU programme was able to attract high quality applicants, which is shown by the **evaluation results - grades for awarded postdoc fellows**.

In the COFUNDPostdocDTU programme selection process four applicants were chosen from each of the five programme areas, reaching a total number of 20 applicants. During the external review, applications were given a score from 1-6, with 6 being the best score. Figure 2.2 below shows a graphical presentation of the distribution of scores awarded to all eligible applications and successful applications. The graph clearly shows that the applicant field is very strong.



**Figure 2.2:** Graphical representation of the distribution of scores rewarded to all eligible applications for 2014 and 2015.

Approximately 43% of all eligible applications were given the scores 6 and 5 – which shows the high quality of applicants that the programme was able to attract; 69% were given the scores 6, 5 or 4. Only applicants with scores 6 or 5 were successful. Table 2.3 presents an overview of the high-end scores for 2014 and 2015.

**Table 2.3:** Percentage of high-end scores for 2014 and 2015.

Year	scores 6+5	scores 6+5+4
2014	41%	68%
2015	45%	70%

## 2.4. Evaluation criteria as stated in the call text and used under COFUND selection process

When compared with the existing HCØ programme, the new COFUNDPostdocDTU has not only increased its volume but also became **more transparent and open** towards researchers without a pre-established contact to DTU.

The full text of the original HCØ programme was very brief. The main criteria were an excellent academic background (which the COFUNDpostdocDTU retains), and a solid pre-established contact to the host department at DTU. Under the COFUND programme, the call text has been extended and the criteria have become more rigid, but also far more fair, clear and open towards all applicants, regardless of prior contact with DTU (see Table 2.4).

**Table 2.4:** Call text differences between the previous HCØ programme and the new COFUNDPostdocDTU.

HCØ	COFUND
Research plan max 3 pages	Research plan max 4 pages + ½ page introduction
Publication list	Publication list
Letters of recommendation from most recent employer	Letters of recommendation from most recent employer or grad. university
Mandatory letter of support from DTU host dept.	Optional letter of support from DTU host dept.
-	Ethics issues table
Description of how research will be a resource to the departments existing research	Bottom up and idea driven research – no contact to DTU department needed.
-	CV
-	Comply with incoming mobility criterion
Must have a PhD	PhD diploma or declaration from supervisor

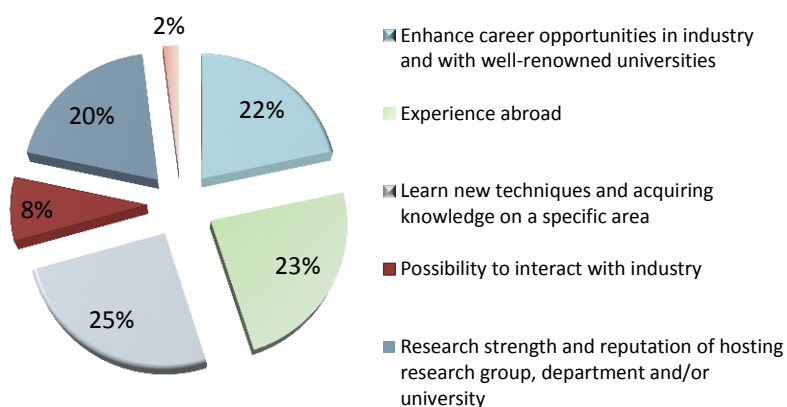
The application in itself is more extensive under the COFUND postdoc programme than under the HCØ. The evaluation criteria of COFUNDPostdocDTU programme are openly published on the programme webpage. The applicant thus knows exactly what criteria are important to DTU and what the evaluators are basing their judgement on.

In addition, career breaks were not specified in the HCØ call text, as opposed to the COFUND postdoc programme call text, which also presents a very transparent timeline.

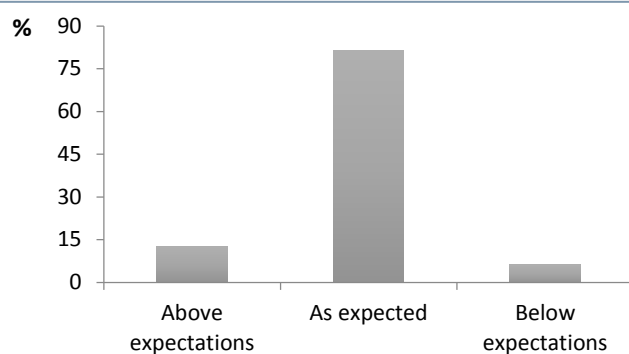
## 2.5. Fellows impact assessment

A questionnaire has been sent out to all 2014 fellows (20 in total) in order to collect their feedback regarding the impact of the programme on their skills and career, and on the potential for improvements. Sixteen fellows have returned their questionnaires, with answers to all questions, except question no. 8, which was only answered by 14 PostDocs. In the following, we will briefly analyse the input received for each question.

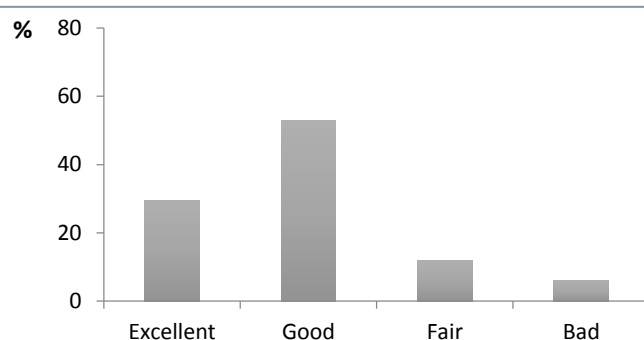
### 1) Which factors were the most important for your decision to apply for this Fellowship?



## 2) To what extent did the COFUND Programme respond to your demands and expectations?



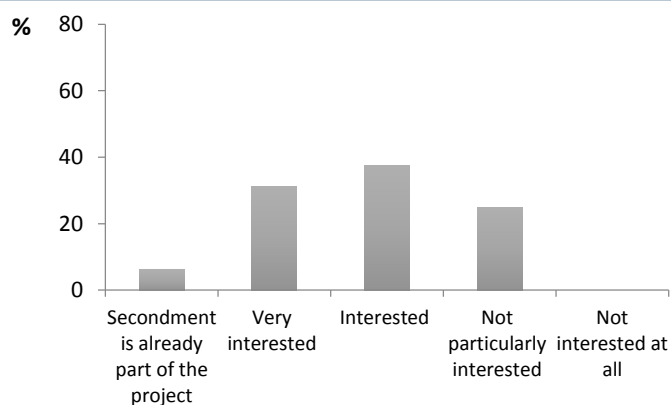
## 3) What has been the impact of the COFUND Postdoc program on developing and expanding your personal research networks?



## 4) What has been the impact of the COFUNDPostdocDTU programme in terms of interaction/cooperation with industry?



## 5) Would you be interested in having a secondment in industry during the Postdoc activities?



- 6) What has been the impact of the COFUNDPostdocDTU programme on your ability to conduct independent research and development? What key professional, technical and scientific experience and skills did you gain during the programme?

The great majority of the enquired fellows have recognised the importance and positive impact of the programme on their skills and ability to conduct independent research. They have described a clear expansion of their scientific and technical skills as well as a very useful learning of new techniques and approaches to solve problems, which is in part due to the access to state-of-the-art facilities and labs. It was emphasized that the programme has helped them to think independently, facilitating their establishment as independent researchers. Supervision, mentoring and teaching experience were also referred as important skills strengthened by the COFUNDPostdocDTU. Finally, the fellows have indicated the opportunity for international and new interdisciplinary collaborations and the interaction with world experts as a key positive impact of the programme, which also contributed for the extension of their professional network.

One fellow has, however, stated that the programme didn't help him/her yet in gaining new research skills, nor has impacted this researcher ability to conduct independent research.

- 7) What has been the impact of the COFUNDPostdocDTU programme on your career so far?

Despite being too early to make a more thorough evaluation of this impact (since the enquired fellows have only spent one full year at DTU), the COFUNDPostdocDTU programme was reported as having a positive impact on the fellows' career so far. The following can be highlighted, in accordance with the received answers: expansion of scientific skills and enhanced problem solving skills; broader scientific networks; new interdisciplinary experience; exposition to new research topics and state-of-the-art techniques. As expected, a few researchers have pointed that it was either too early for this type of assessment, or that they have not yet seen the impact of the programme on their careers.

In the future, it would be vital to evaluate the impact of the COFUND programme on the fellows' career in terms of employment opportunities. However, at this stage this was not possible.

- 8) If you were to mention one thing that we could have done better in this programme, what would it be?

Different suggestions to improve the programme were given by the COFUNDPostdocDTU fellows, among which:

- The possibility to expand the fellowship for at least another year;
- The possibility for the programme to provide funds for at least one conference (at the end of the fellowship), as well as some financial travel support, which could be helpful to establish a better international scientific network or collaboration;
- The organization of seminars and meetings where the fellows could communicate their work, cooperate with other fellows to share experiences and ideas, and build connections between different fields and people. These seminars/meetings could also be used for presentations from researchers outside DTU or from industry;
- The possibility of DTU to provide support for finding an apartment, or, alternatively, to offer temporary accommodation;
- The possibility of having additional funds from the programme to buy some materials and tools to carry out the research project.

We have also consulted the publications resulting from the work funded by the Post-doc programme. The number of publications for each fellow from the calls of 2013, 2014 and 2015 are shown in tables 2.5, 2.6 and 2.7, respectively. However, at this early stage, we cannot arrive at firm conclusions since these figures may not reflect the potential impact of the programme (e.g. some publications are still on the process of being prepared or reviewed; for this reason a longer timeframe would give us a more realistic indication of the programme impact in terms of literature outcomes).

**Table 2.5:** Publications resulting from the work funded by the Post-doc programme – call 2013

Name of the fellow	DTU Department	DTU Publications
Rodrigo Almeda	DTU Aqua	2
Cui Zhang	DTU Compute	8
Remel A. Salmingo	DTU Electrical Engineering	0
Jaka Tušek	DTU Energy Conversion	1
Christos Markos	DTU Fotonik	7
Tobias Eberle	DTU Physics	0
Ramendra S. Dey	DTU Chemistry	1
Manish K. Tiwari	DTU Chemistry	1
Mingdong Zhou	DTU Mechanical Engineering	3
John Castillo	DTU Nanotech	3

**Table 2.6:** Publications resulting from the work funded by the Post-doc programme – call 2014

Name of the fellow	DTU Department	DTU Publications
Nurdagül Anbar	DTU Compute	0
Timur Iskhakov	DTU Physics	0
Jürgen Friel	DTU Compute	0
Rayisa Moiseyenko	DTU Physics	0
Liang Mu	DTU Chemical Engineering	0
Alicia Jiménez Fernández	DTU Biosustain	0
Daniele Stradi	DTU Nanotech	0
Paul Kempen	DTU Nanotech	0
Govindan Puthumana	DTU Mechanical engineering	0
Evangelos Katsanos	DTU Civil engineering	0
Mahsa Seyyedian Choobi	DTU Mechanical engineering	0
Subhendu Chakraborty	DTU Aqua	1
Majid Haddad Momeni	DTU Systems biology	0
Phuoc Long Truong	DTU Food	0
Pradip Kalbar	DTU Management engineering	0
Vida Krikstolaityte	DTU Nanotech	0
Chengyi Hou	DTU Chemistry	0
Ling Zhang	DTU Chemistry	0
Beniamino Iandolo	DTU Danchip	1
Sofia Piltz	DTU Aqua	0

**Table 2.7:** Publications resulting from the work funded by the Post-doc programme – call 2015

Name of the fellow	DTU Department	DTU Publications
Nicki Frank Hinsche	DTU Physics	0
Albert Granados	DTU Compute	0
Shiyu Gan	DTU Physics	6
Albert Kilian Engstfeld	DTU Physics	0
Alexey Dudnik	DTU Biosustain	1
TaeKwang Ha	DTU Biosustain	0
Mátyás Imre Pápai	DTU Chemistry	1
Michal Wagner	DTU Chemistry	0
P. Daniel van Denderen	DTU Civil Engineering	0
Khuong Dinh Van	DTU Mechanical Engineering	0
Julia Hütter	DTU Mechanical Engineering	0
Maryam Jokar	DTU Mechanical Engineering	0
Yoon Suk Choi	DTU Civil Engineering	0
Deepak Marla	DTU Mechanical Engineering	0
Jun Wu	DTU Mechanical Engineering	0
Jose Antonio Yagüe Fabra	DTU Mechanical Engineering	0
Christos Tserkezis	DTU Fotonik	0
Christoph Köhn	DTU Space	0
Platon Gamaletsos	DTU Cen	0
Golbarg Mehraei	DTU Electrical Engineering	0

### 3. Key findings and Recommendations

After a careful analysis of the COFUNDPostdocDTU programme it was possible to draw some key conclusions regarding its impact, as well as elaborate on the main recommendations towards an improvement of the programme in the future. The key findings can be summarized in the following:

- A significant increase has been verified in the number of applicants, when compared with the HCØ programme – the number of eligible applications has increased between 2-3 times.
- The number of applicants outside the EU has more than doubled in 2014 and 2015, which shows a great impact of the new COFUNDPostdocDTU programme in terms of mobility at European and international level.
- A substantial improvement regarding the number and duration of the PostDoc fellowships has been verified – the new programme has almost tripled the fellowship man-months per call.
- In the new programme it has increased the number of fellowships awarded to female applicants.

Moreover, the application and selection process has been improved with increased transparency regarding the evaluation criteria and a two-step review process, where the applicants also have the opportunity to write a rebuttal after receiving their evaluation report. This improved process ensured the selection of high quality fellows – as demonstrated by the awarded high scores.

The COFUNDPostdocDTU fellows were also asked to make an assessment of the impact of the programme through a questionnaire specifically created for that purpose. Overall, most of the fellows have recognized the positive impact of the programme on expanding their scientific skills and on their ability to conduct



independent research. Despite being a bit early to evaluate the impact of the new programme on their careers, the majority of the fellows have given a positive feedback in this regards. However, in the future, it would be very important to assess the impact of the COFUND programme in terms of employment opportunities – which was not possible at this early stage. In addition, the publications resulting from the work funded by the COFUNDPostdocDTU programme should be also measured in a further stage, since these will provide a good overview of the impact of the programme.

From the questionnaire that was sent out to the COFUND fellows it was also possible to conclude that the programme: (1) has responded well to the demands and expectations of the fellows; (2) has been helpful to expand the fellows' personal research networks; (3) didn't have a great impact in terms of interactions and cooperation with industry and, also for this reason, (4) most of the fellows were interested in having a secondment in industry during their PostDoc project.

Finally, we recommend the present report to be used as a tool to evaluate the viability and potential to continue with the COFUNDPostdocDTU programme through a new grant application in 2015. It can also be used as a basis for future improvements or modifications to the DTU PostDoc programme. Some of the already foreseen possible modifications and improvements – drawn from the analysis of this report – include:

- **Number of fellowships awarded.** Given the increasing number of applicants of high quality, we recommend increasing the number of offered fellowships.
- **Industrial secondment.** Include a secondment in industry, where relevant, as part of the fellowship in order for the fellows to develop skills inside & outside academia that respond to public / private sector needs.
- **Networking opportunities.** Development and implementation of networking activities for COFUND fellows (e.g. presentations and poster sessions for fellows, colleagues and invited stakeholders (industry, academia), matchmaking events, seminars and meetings)
- **Help all the very highly qualified applicants scoring 5 and 6 who have not been awarded a post doc position to get a fellowship,** if they wish so. This would be achieved through, for instance, a few hours counselling on other opportunities, either through national or EU funding, through DTU network, etc.

Given the fact that one of the key features of Marie Curie Actions is the opening of research careers at European and international level, and taking into account the importance of promoting the training of researchers, we recommend the inclusion of a **Sabbatical scheme for junior professors**, with a duration of at least 6-12 months, in the next COFUND programme in order to attract to DTU international research capabilities at top level and to boost the career development of researchers.