Development Contract for the
IT University of Copenhagen
2015-2017

Introduction

This Development Contract concerns the development of the IT University of Copenhagen 2015-2017 within the following areas:

1. Improved quality in education
2. More relevance and increased transparency
3. Improved coherence and cooperation
4. Strengthened internationalisation
5. Increased social mobility – more talent in play
6. More externally funded research
7. More PhD students
8. More scientific publications

The first five areas to be measured have been requested by the Minister of Research and Education to the universities, while the last three self-imposed stem from the strategy documents of the IT University of Copenhagen.[1] The three self-imposed areas all concern growth in the volume of IT research. The reason for the IT University of Copenhagen desiring an increase in the volume of IT research is as follows: In 2011, 73,509 people in Denmark were engaged in IT jobs.[2] The number of IT researchers at senior level in the primary IT research milieu at CBS, DIKU, AAU, Daimi/AU, ITU and DTU/IMM was 326[3] altogether in 2012, that is about 4 researchers for every 1000 working in IT jobs in Denmark. In comparison, the number of researchers (total for all professions) in Denmark was 12.98 per 1000 of the workforce in 2011, and the EU average was 6.75 researchers per 1000 of the workforce in 2011[4]. The IT University of Copenhagen in reality frequently experiences having to decline requests for research collaboration with public and private enterprises, simply due to capacity. To increase the number of IT researchers, the IT University of Copenhagen wishes to increase externally funded research and to use the growth to increase the number of PhD students at the university and thereby increase IT research capacity.

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[1] IT University of Copenhagen: "Strategy 2012-2016", "Research Strategy 2012-2016" and "Education Strategy 2012-2016" with addenda on globally interactive research and education belonging to them.
[2] Erhvervsstyrelsen (Agency of Trade): Beskæftigelsesmønstre inden for IKT, marts 2013
[3] The number is based on data from the Heads of Departments in question.
[4] Uddannelses- og Forskningsministeriet (the Ministry of Education and Research): Danmark i europæisk Forskerrapport 2014 (note from October 21st, 2014)

Improved Quality in Education

Below, two quality targets are laid down, one concerning educational development (which must be reflected in the results of the half-yearly course evaluations) and the other concerning a reduction in the average period of study.

The strategy for educational development at the IT University of Copenhagen emerges from the quality policy of the university[5]. Among other things, the IT University of Copenhagen - starting from recommendations resulting from the recent institutional accreditation process – wishes to develop education further and to measure the effect through course evaluation. IT University of Copenhagen has in its course evaluation a line of quantitative questions, which beyond overriding student satisfaction, among other things, asks whether the student experiences a close alignment between the course content and the teaching goals; whether there is a close alignment between teaching goals and examination types; and whether the student finds the course relevant to his or her future job profile. The students of the IT-University of Copenhagen give the courses high scores in that regard. Thus, in 2013 the average of the quantitative questions was 4.72 on a scale from 1 to 6.[6] Still, the IT University of Copenhagen strives for even better results:

> **Measuring item 1.1** The average from the students to the quantitative questions in the course evaluation must be at least 4.75 on a scale from 1 to 6. This goes for each year of the contract period.

The IT University of Copenhagen must reduce the average study time[7] for bachelor and MSc education so that the quality of student education is improved. The goal is to have the students spend more time on their studies and through that obtain increased competences and faster completion rates. At the same time, the IT University of Copenhagen must remove administrative impediments so that the students can concentrate on their studies. This can lead to a reduction in the average study time.

> **Measuring item 1.2** The IT University of Copenhagen will reduce the average excess of study time for its MSc graduates in 2015 with 0.5 month compared to 2011; 1 month in 2016 compared to 2011 and 1.6 months in 2017 compared to 2011.

The starting point is an excess of 11.6 months in 2011. Data is provided yearly by the Agency for Higher Education as a part of the study time model.

More relevance and increased transparency

Graduate unemployment (though highly dependent on market conditions) is an indicator of how well the match is between demand for competences from the labour market and the competences that graduates supply. When looking at all the Danish universities as a whole, the unemployment rates of graduates

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[5] IT University of Copenhagen: "Quality Assurance Policy – Revised 2013"
[6] Source: ITU's Annual Report 2013. In the calculation of the average, all student replies count equally, regardles the course.
[7] As defined in the note dated August 27th, 2013, "Udformning af studietidsmodellen", sent out by the Ministry of Education and Research

graduating in 2011 was 12 per cent, which was measured from 4th to 7th quarter after graduation.[8] The corresponding number for IT University of Copenhagen graduates, in isolation, was 15 per cent. The IT University of Copenhagen wishes to gradually reduce graduate unemployment by one per cent each year of the contract period.

Measuring item 2.1 The unemployment rates of graduates graduating from the IT University of Copenhagen from the 4th to the 7th quarter after graduation, will in 2015 be at most 14 per cent; in 2016 at most 13 per cent and in 2017 at most 12 per cent.[9]

Data is provided annually by the Agency of Higher Education as part of the dimension work.

The IT University of Copenhagen wishes to maintain their stance that more graduates from the university find employment in the private sector. Although, according to the view of the university, it would be easier to curb the fluctuations in graduate unemployment by targeting jobs in the public sector.

Measuring item 2.2 The number of IT-University of Copenhagen graduates graduating from 0 to 10 years ago and working in the private sector, must be at least 75 per cent of the employed graduates. This applies to every year of the contract period.

The quota of IT-University of Copenhagen graduates working in the private sector is added up by the Ministry of Education and Research in connection with the annual supervision report. In the supervision report for 2014, the quota was 79 per cent. On a national basis approximately half of Danish university graduates are employed in the private sector.

Improved coherence and cooperation

When first established, the IT University of Copenhagen was dependent on all its MSc students having a qualified (bachelor) degree from another institution, as the IT University of Copenhagen did not offer any Bachelor programmes. Since then, the IT University of Copenhagen has constructed three bachelor programmes. Hence, some of the places on the MSc programmes now available are occupied by bachelor students from the IT University. Furthermore, the combination of dimensioning and legal claims could potentially lead to an increase in the percentage of MSc students, who have a Bachelor degree from the IT University of Copenhagen. Nonetheless, the IT University of Copenhagen wishes to retain what it regards as a position of strength in relation to coherence and cooperation, that the university admits a considerable number of MSc students from other Danish educational institutions other than the IT University of Copenhagen.

Measuring item 3.1 The number of admitted MSc students, who qualified at a Danish educational institution other than the IT University of Copenhagen, must be at least 230. This applies to every year of the contract period.

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[8] Source: The spreadsheet "ledighed-dimensionering.xlsx", distributed on November 4th, 2014, by Danish Agency for Higher Education ("Styrelsen for Videregående Uddannelser").
[9] Calculation method: the available definitions of graduates' unemployment per November, 14th, 2014 on http://ufm.dk/uddannelse-og-institutioner/politiske-indsatsomrader/dimensionering.

In 2013, 304 of the MSc students admitted to the IT University of Copenhagen came from other Danish educational institutions, 93 came from the IT University of Copenhagen and the remaining 76 from foreign educational institutions. In the period 2015-2019 an annual admittance of approximately 119 is expected with an ITU Bachelor degree for the MSc programmes.

The goal of a large share of mobility between institutions from bachelor level to MSc level is in keeping with the Bologna model for further and higher education. With its large percentage of MSc students from other education institutions, the IT University of Copenhagen wishes to become a pioneering institution regarding diversity among its students.

> **Measuring item 3.2** During 2015, the IT University of Copenhagen will formulate a strategy of how the university consciously exploits the many different educational backgrounds from the MSc students. By the end of 2017, at the latest, the IT University of Copenhagen will have formulated and carried out the actions, processes and procedures for the plans to implement the strategy.

Diversity is, among other things, about the MSc students gaining experience during their studies by working together with students from a different academic background than their own.

The goal of 2015 is that the IT University of Copenhagen before the end of 2015 has decided upon and published the aforementioned strategy. The goal of 2016 is that the university, in its annual report for 2016, lays out the initiatives for the development of the plan's actions, processes and procedures belonging to the strategy. The goal of 2017 is that the IT University of Copenhagen before the end of the year has decided on and carried out the plan's actions, processes and procedures belonging to the strategy. Both the strategy and the plan's actions, processes and procedures will be published on the Internet as inspiration for other educational institutions and as information for future students.

Strengthened internationalization

For a number of years the IT University of Copenhagen has worked with global interaction within research and education. A lot of graduates experience working with colleagues in India, China or other faraway countries. So the IT University of Copenhagen works with a complete portfolio of initiatives within global interaction in education and research. In the Education Strategy of the IT University of Copenhagen, the goal is formulated like this: "to develop global competence profiles within all full-time education at the university

- …with focus on developing learning activities and possibilities of exchange, which
- …give the students a varied set of competences for a global labour market and a global community
- …in accordance with the subject area and professional need of competences within each education field."

In certain study programmes, however, there is a need for intensified effort, including improved reporting to the Head of Studies.

> **Measuring item 4** The profile of global competences and related activities of the bachelor and MSc programmes are evaluated each year of the contract period and a plan of action is made for the following year. These plans must be approved by the Head of Studies.

Increased social mobility – more talent in play

The IT University of Copenhagen wishes to contribute to all talent, regardless of background, and give full knowledge of the possibilities available in the IT profession. There is a huge difference in how large numbers of young people in different local areas of the country are offered a student place in further and higher education.[10] An *under-represented* area is understood as a postal district from where less than 8.5 per cent of the young people are offered a student place in further and higher education. Some under-represented areas are sited in or close to Copenhagen.[11]

> **Measuring item 5** During the contract period, the IT University of Copenhagen will develop a "visiting programme" aimed at upper secondary schools, and in each year of the contract period the university will carry out visits to/from at least 50 students in total from one or more upper secondary schools sited in an under-represented area close to Copenhagen.

The "visiting programme" is intended to form a lasting partnership with the education institutions in question. The "visiting programme" will be evaluated in 2017.

More externally funded research

As described in the introduction of the present development contract, an increased volume in IT research is a central element in the strategy of the IT University of Copenhagen. To increase the volume of research, the IT University of Copenhagen wishes to increase externally funded research.

> **Measuring item 6** The total usage of external funding divided by the number of senior-faculty man-years must be at least 650,000 DKK in 2015; 800,000 DKK in 2016 and 1,000,000 DKK in 2017.

"Senior-faculty" is understood as a person who is employed as associate professor or as full professor; "senior-faculty man-year" is understood as the number of man-years of such a person. Total external funding usage includes funds brought in or used by other categories of employees. The starting point is a total usage of external funding of 24.7 million DKK in 2013 and about 44 senior-faculty man-years in 2013, corresponding to approximately 563,000 DKK per "senior-faculty" man-year between the two. With the current forecast in numbers of "senior-faculties", means that measuring item 6 will be the total amount spent in funding should be at least 37 million DKK in 2015, 48 million DKK in 2016 and 60 million DKK in 2017. The target of this marked increase in externally funded research needs to be seen in connection with the external funding of the IT University of Copenhagen, divided by the number of faculty man-years in 2013 being merely half of the weighted average of Danish universities.

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10 Source: The note "Social mobilitet", Uddannelses- og Forskningsministeriet (Ministry of Education and Research), September, 2014.
11 Source: The note "Social mobilitet", Uddannelses- og Forskningsministeriet (Ministry of Education and Research), September, 29th, 2014, page 27.

More PhD students

The IT University of Copenhagen wishes to increase the number of PhD students, and by that contribute to increasing the quota of IT PhDs in the labour market. The IT University of Copenhagen has on average, taken in 11 new PhD students each year except for a few years around 2010 where more capital was at its disposal. In 2013, the number of new PhD students was 11 again. It is the wish of the IT University of Copenhagen to double this intake to 22 per year. The increase in external funding from measuring item 6 will make it possible to offer more PhD scholarships and in that way boost intake.

Measuring item 7.1 The number of PhD students admitted during the year should be at least 14 in 2015, 18 in 2016 and 22 in 2017.

Besides this intake, the IT University of Copenhagen also wishes to increase the number of PhD students without an ordinary scholarship, for example through the Industrial PhD Programme. So, specific targets have been laid down for the number of PhD students who are enrolled, but not employed as PhD students[12].

Measuring item 7.2 The number of people admitted as PhD students at the IT University of Copenhagen in the year in question, without receiving an ordinary PhD scholarship, will be at least 2 in 2015, 3 in 2016 and 4 in 2017.

More scientific publications

The IT University of Copenhagen strives for a high number of publications, measured by the principles of the national BFI ("bibliometric research indicator"):

Measuring item 8 The number of bibliometric points divided by the number of faculty man-years reported to the Agency of Danish Universities Statistics will be at least 1.85 in 2015, 1.96 in 2016 og 2.08 in 2017.

Bibliometric points (BFI) are centrally calculated (up till now every fall). This means that the calculation made in the fall 2014 covers publications from 2013. If, as expected, the central calculation is improved so that the result can be calculated earlier, hopefully the target for 2015 of 1.85 BFI points can be calculated into the beginning of 2016 and with that be reported in the annual report for 2015. Faculty man-years are calculated by the definitions used in the annual report of statistic key figures of the Agency of Danish Universities Statistics.

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[12] Nationally, included the fulfilling of the goal is Industrial PhDs (administrated by the Innovation Fund), people admitted as PhD students under ITU's "Tuition Fee-Free Stipend" and similar arrangements and cooperation agreements, like 100 % externally funded PhD students and self-funding PhD students. Internationally is included people admitted as PhD students under the "Tuition Fee-Free Stipend" arrangement, *Science without Borders* and similar international agreements, for example with the PhD student being 100 per cent externally funded or self-funded. People, who in connection with their admittance as PhD students are employed as PhD students at the IT University as well, are not part of the calculated fulfilment of goals, not even if their scholarship is funded by private companies, the Research Agency, the EU or other external sources.

In 2012 23,544.41 BFI-points were calculated for all Danish universities. In 2012 the total of faculty man-years from all Danish universities was 11,344.86. This means an average of 2.08 BFI points per faculty man-year of the sector as a whole in 2012.

The starting point for the number of BFI points and number of faculty man-years of the IT University of Copenhagen was 159.38 in 2012 (according to the Ministry of Education and Research's indicator statistics 2013) and 91.84 faculty man-years in 2012, respectively, that means a ratio of 1.74.

Calculation and follow-up on measuring items

This contract contains one or more measuring items for each of the eight areas. Each measuring item has the flexibility to alter its degree of fulfilment from year to year, as its degree of fulfilment is decided upon for each year in isolation. For example, this means that if a measuring item is not fulfilled in 2015 or 2016 it can be so in 2017.

The measuring items are calculated annually and reported in the IT University of Copenhagen's annual report. The follow-up on measuring items in this contract takes place in part through the annual report, through the annual supervision meeting between the Agency of Further and Higher Education and the IT University of Copenhagen.

Measuring items, which during the term of the development contract change their meaning due to changes in measuring methods not decided upon by the IT University of Copenhagen, will be regarded as fulfilled. Moreover for each of the targets 1.2, 2.1, 2.2 and 8 and for each year of the contract period, the measuring item is regarded as fulfilled in that year, if the data necessary to determine whether the measuring item is fulfilled or not, is not supplied to the IT University of Copenhagen by March 1st, the following year, at the latest.

Signatures

Copenhagen, January 8th, 2015

For the IT University of Copenhagen

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Jørgen Lindegaard
Chairman of the Board

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Sofie Carsten Nielsen
Minister of Education and Research