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(translation from Swedish version)

(revised 25/2/09)

**VINNMER**  
**- researcher qualification for**  
**VINNMER Fellows**  
**(female doctoral researchers)**

**Programme**

## 0. EXPANSION

The VINNMER programme has during 2009 been expanded. The programme today includes the following sub-programmes:

VINNMER Marie Curie international qualification  
 VINNMER Marie Curie chair  
 VINNMER national qualification

The budget is €35 million during 2007 – 2014, whereof €5 million is co-funded by Marie Curie Actions (European Commission). Including co-financing, the programme encompasses more than €60 million during 2007 – 2014.

## 1. VINNMER

The long-term objective of the VINNMER programme is to contribute, in the coming generational changes in Swedish research, to the presence of significantly more research-qualified individuals who can become future leaders of universities and colleges at universities/colleges, centre groupings, research institutes and companies. One systemic weakness which has been identified is that relatively few women are qualifying in comparison with men. For this reason, the VINNMER programme is being implemented in order to promote women's qualification routes. In accordance with the research bill<sup>1</sup>, VINNOVA has allocated resources for the period 2007-2014 which, in conjunction with co-financing, will result in a powerful investment comprising a total contribution exceeding SEK 0.5 billion. With this programme, VINNOVA will promote qualification for people running needs-driven research within VINNOVA's fields of activity and which is being conducted in collaboration between academia, industry and/or the public sector.

There should be a major effect from targeted initiatives to employ the currently underutilised skills found amongst women in the majority of strongly male-dominated fields where VINNOVA operates. More women qualifying will increase the pressure of applications for advertised higher posts. Appointments to things like professorial chairs can then take place under stiffer competition and result in increased quality in the selection process. According to government recommendations<sup>2</sup>, VINNOVA should contribute to equality of development in society. There is also a great need for targeted measures to increase the number of women in research-related positions<sup>3</sup>. A tangible example of the Swedish research system as a whole is the fact that in the group of women and men who presented their doctoral theses in 1991, 8% of the men and 4% of the women succeeded in becoming professors within a 12-year period. Another example, taken from the scientific field (engineering), is the fact that amongst those who presented their doctoral theses between 1980-85, 22% of the men and only 14% of the women had become professors 18 years after their doctorates. The same trends are also seen amongst those who presented their doctoral theses in 1994<sup>2</sup>. The proportion of doctoral women/researchers within the natural scientific and technoscientific fields in colleges is low

<sup>1</sup> [http://www.sweden.gov.se/sb/d/5359/a/41135/dictionary/true;jsessionid=arhuct\\_c8fG8](http://www.sweden.gov.se/sb/d/5359/a/41135/dictionary/true;jsessionid=arhuct_c8fG8)

<sup>2</sup> [http://www.vinnova.se/vinnova\\_templates/Page\\_99.aspx](http://www.vinnova.se/vinnova_templates/Page_99.aspx)

<sup>3</sup> <http://www.hsv.se/download/18.539a949110f3d5914ec800085671/0602R.pdf>

(17%)<sup>4</sup>, as is the number of applications from women for postdoctoral qualifications. This indicates that the number of women choosing a research career is low compared with men. However, this is not unique to Sweden; in fact, similar distributions are also seen in the majority of EU countries.<sup>5,6</sup> Since the approval level is the same for men and women, targeted initiatives are required to increase the total number of women qualifying within research.

According to EU working life rules<sup>7</sup>, it is permissible in the case of active recruitment to use positive action to achieve equality effects for an underrepresented gender in fields where need is great. It should be clearly stated in advance that active recruitment is applied in order to achieve positive action for the purposes of equalising imbalances.

There are currently imbalances in many of the fields within which VINNOVA operates, with women comprising the underrepresented gender. Aiming to impact the systemic weakness of a low proportion of qualifying women and equalise the current underrepresentation in higher positions, VINNOVA has chosen to angle the VINNMER programme towards women. This is being effected by bolstering opportunities for researcher qualification through increased mobility for women in fields of strategic importance to Sweden. With this programme, VINNOVA also wants to promote the development of strategic collaboration between Swedish Centres of Excellence in research and innovation and prominent international R&I environments. Since residence in prominent international environments is a highly useful qualification, the programme can advantageously combine these objectives. The programme also allows opportunities for qualification through increased mobility between environments in Sweden.

The programme is initially aimed at women who have passed their doctorates **and** completed their first post-doc qualification. Thus, the programme is not aimed at those seeking traditional post-doc financing in direct connection with completion of their doctorate.

In order to ensure that individuals who are offered qualification opportunities are also involved after the qualification period, VINNOVA expects the active involvement of Swedish Centres of Excellence in research and innovation. To ensure this, it is the Swedish R&I environment which is the formal applicant and thus the grant recipient. Co-financing of VINNOVA's grant (half salary) is also required, preferably from the applicant environment.

The programme permits a high degree of flexibility in regard to varying conditions within and between the different subject fields. Individual proposals for qualification opportunities are therefore encouraged, provided they are in keeping with the aims of the programme and fall within VINNOVA's field of responsibility.

The programme consists of two parts:

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4

<http://www.vr.se/huvudmeny/trycktochpublicerat/analysochuppfojning/vetenskapsradetochjamstalldheten.4.2197dce310eccdec28d8000219.html>

5

[http://cordis.europa.eu/documents/documentlibrary/2727EN.pdf?bcsi\\_scan\\_D446EA4221FC99EA=0&bcsi\\_scan\\_filename=2727EN.pdf](http://cordis.europa.eu/documents/documentlibrary/2727EN.pdf?bcsi_scan_D446EA4221FC99EA=0&bcsi_scan_filename=2727EN.pdf)

<sup>6</sup> <http://cordis.europa.eu/improving/women/policies.htm>

<sup>7</sup> Badeck et al, case C-158/97, Marschall C-405/95, Lommers C-476/99, Abrahamsson et al C407/98.

***International qualification – researcher qualification through international collaboration between Centres of Excellence in research and innovation***

This programme revolves around ***International qualification*** with the aim of creating postdoctoral researcher qualification opportunities (not post-doc). This takes place through promotion of collaboration between Centres of Excellence in research and innovation (R&I environments) in Sweden and within prominent international environments abroad such as the EU, North America, Japan, China and India.

The framework of ***International qualification*** comprises:

- Mobility to a foreign environment – contributing to financing of a researcher in Sweden residing for 1½ - 2 years at a prominent environment in another country. After the foreign residence, the researchers should return to a Swedish R&I environment (the applicant) and contribute to the Swedish environment being able to maintain/further develop collaboration with the foreign environment.
- Mobility from a foreign environment to a Swedish Centre of Excellence in research and innovation – contributing to a Swedish environment recruiting a Swedish researcher who will shortly have completed, say, post-doc in a foreign R&I environment and who can be the uniting link in a long-term collaboration between the foreign research environment and the Swedish one (the applicant).
- Recruitment from a foreign environment to a Swedish Centre of Excellence in research and innovation – contributing to the financing of one or more years' residence in Sweden for a foreign researcher, provided the intention is for the residence to result in establishment of a long-term collaboration between the researcher's home environment (which is a prominent environment abroad) and the Swedish Centre of Excellence in research and innovation (the applicant).

For ***International qualification*** the initial recommendation is to apply for a planning grant but it is possible to send in a complete proposal straight away. The planning grant should be used to travel to the foreign R&I environment and formalise the collaboration. When applying for a planning grant, this is done with the intention of submitting the complete proposal at the next call.

***National qualification – researcher qualification through college/research institute/industry/public sector collaboration***

This part of the programme comprises a greater range of types of researcher qualification. Its purpose is to create postdoctoral researcher qualification opportunities (not post-doc) by mobility through different categories of player in Sweden. The aim is to advance collaboration/cooperation between research environments at universities/colleges and industry/the public sector as well as between colleges and research institutes and research institutes and industry/the public sector.

The *National qualification* framework comprises qualification grants, for example:

- a researcher currently operating at a Centre of Excellence in research and innovation, resides at another Centre of Excellence in research and innovation in Sweden for 1-2 years and contributes to the establishment/further development of long-term collaboration between these environments.
- a researcher at a company qualifies at a research institute/other company/university/college/the public sector for 1-2 years followed by a year in the Swedish R&I environment (the applicant) and contributes to the establishment/maintenance of a long-term collaboration between these environments.
- a researcher takes leave of absence for several years, initially to be resident for 1-2 years at the qualificatory environment and then for a year in the (applicant) Swedish R&I environment, following which the person might return to the original environment for further qualification/a career.

#### *Project leader - VINNMER Fellow*

From the individual researcher's perspective, a period in residence with a nationally/internationally prominent R&I environment is undoubtedly a qualifier for a continued career as a researcher. Being the one who organises and runs a collaboration between the various environments is also a qualifier.

With the programme's aim of increasing the number of research directors, the development of research director skills in day-to-day work and, where appropriate, through additional leadership training is of great importance.

The individual researcher should drive the collaboration and find solutions as to how the collaboration should be conducted. Thus, the work is already a qualifier through the design of the proposal, including establishing contact with the qualificatory environment.

It is important for the researcher to qualify scientifically for a future college career as well as being qualified for research director posts at research institutes or in industry/the public sector.

The programme is initially aimed at women who have passed their doctorates **and** completed their first post-doc qualification. Thus, the programme is not aimed at those who are seeking traditional post-doc financing in direct connection with completion of their doctorate.

#### *Applicant Swedish Centre of Excellence in research and innovation*

Applicant Swedish Centres of Excellence in research and innovation/research groups at universities/colleges or research institutes should have a clear ambition to build up and maintain a long-term collaboration with the qualificatory environment. The applicant Swedish host environment/research group should also describe its view of the qualification opportunities with accompanying career plan for the individual (project leader) and associated national and international collaborations.

For the applicant R&I environment/research group, the collaboration means a further strengthening of existing collaboration or a starting point for future new collaborations. For the companies and public organisations associated with the Swedish Centre of Excellence in research and innovation/research group, the collaboration means access to an extended network.

The programme is aimed at strengthening Centres of Excellence in research and innovation where collaboration with industry and the public sector is well-developed. Environments which may be considered are both those which have received VINNOVA financing and those which have received financing from other backers. Examples of such environments include VINN Excellence Center, Berzelii Centres, Strategic Centres, Institute Excellence Centres, R&I environments under VINNVÄXT investment etc. A Centre of Excellence in research and innovation is characterised by:

- world-class, needs-driven research
- research collaboration with established internationally competitive companies
- a network of academia and established companies/public organisations as an arena for developing small and medium-sized companies, i.e. so that they are linked into the R&I environments and collaborate with companies/the public sector and researchers in the environment
- cultivation of professional leadership for further development of the R&I environments
- the ability to attract several financiers in order to achieve necessary leverage effects

Through an investment in Centres of Excellence in research and innovation, the VINNMER programme is aligned with the priorities, in strategically important fields, of both universities/colleges and national financiers.

#### *Qualificatory environment – International qualification*

The foreign environment should be an international leader in its field and/or have important complementary qualities in relation to the (applicant) Swedish research environment. The foreign R&I environment may be at a university/college, a research institute or company/public sector body, or a combination of these.

#### *Qualificatory environment – National qualification*

The qualificatory (Swedish) environment should be internationally prominent within its field and/or have important supplementary qualities in relation to the (Swedish) applicant research environment. The environment may be at a university/college, a research institute or company/public sector body, or a combination of these. A conceivable example might involve the association of researchers with companies in projects.

### *The grant*

The costs which can be covered by VINNOVA when a researcher resides in an R&I environment are: up to half the researcher's salary during the qualificatory residence (1-2 years) and for one year with the applicant environment in Sweden. In order for VINNOVA to be satisfied that the environment in both the short and long-term will invest in the individual, the environment should contribute the remainder of the salary as co-financing. VINNOVA also funds additional costs for the researcher and any accompanying family (travel, higher accommodation costs etc). The grant is paid in the form of a block grant to cover these salary and additional costs. Additional costs are also included for establishment/further development of collaboration with the qualificatory environment after the researcher has returned to the applicant environment, as well as things like travelling expenses for a number of trips.

For a Swedish researcher recruited to a Swedish R&I environment after completion of post-doc, finance is provided for up to half salary for three years. For foreign researchers recruited to a Swedish environment, finance is provided for up to half salary for a maximum of three years. In addition to the half salary grant, certain additional costs are financed for the researcher under a block grant to cover these salary and additional costs.

## **2. Background and reasoning**

In accordance with the research bill, VINNOVA has earmarked funds to increase qualification opportunities for doctoral researchers (*Research for a better life*; bill 2004/05:80<sup>1</sup>). From a lower level during 2007, the volume of investment is SEK 50 million per year from 2008. The Swedish Research Council (VR), Swedish Council for Working Life and Social Research (FAS) and Swedish Research Council Formas have also been allocated new funds for this purpose. The government stresses particularly that the investment should contribute to a more equal gender distribution in research.

A brief background to VINNOVA's investment in VINNMER:

- A new generation in universities/colleges – many lecturers/researchers will be retiring in the next few years and qualified researchers must be found to take over
- There is a lack of qualification opportunities for doctoral researchers – double the number of doctorates in 10 years, but a constant number of research assistant posts for example
- Uncertain career pathways can put capable young people off having a research career – women are more disadvantaged by uncertain career pathways than men<sup>8</sup>
- A new generation provides good opportunities to promote a more even distribution of women and men
- It should be possible for the period immediately after the doctorate to be one of the most productive in a research career and this potential should be better exploited

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<sup>8</sup> <http://www.regeringen.se/sb/d/108/a/12185>

- A new generation provides good opportunities both for renewal of organisations and for targeting of Swedish research.

There is great need for targeted initiatives to increase the proportion of women in research-related positions. As shown by the Swedish National Agency for Higher Education (Report, 2006:2 R<sup>2</sup>; *Researcher training and researcher careers – the significance of gender and social origin*) men still have a clear advantage when it concerns reaching the position of professor – a clear example for the research system as a whole is that in the group of women and men who presented their doctoral theses in 1991, 8% of the men but only 4% of the women succeeded in becoming professors within a 12 year period. Another example, drawn from the scientific field (engineering), is that amongst those who presented their doctoral theses between 1980-85, 22% of the men but only 14% of the women had become professors 18 years after their doctorates. Even a comparison of the distribution of men/women amongst those who presented their doctoral theses in 2004 and distributed across various categories of college employees shows that few women reach higher positions<sup>2</sup>.

The fact that those fields within which VINNOVA operates are strongly male-dominated makes an offer targeted at women particularly important. Through a joint initiative on this, VINNOVA can help make a significant impact.

Of particular importance, both for the individual researcher's qualification and for the development of Swedish R&I environments, is collaboration with the leading R&I environments abroad. Increased qualification opportunities go hand-in-hand with mobility to foreign environments. From a corporate perspective, it is valuable to gain access through the researcher to broader international research networks. In this connection, it is crucial for the researcher to reside for a certain period in foreign R&I environments and to participate in international research projects.

The programme has been designed to facilitate collaboration/mobility between colleges and industry/the public sector. Different subject fields or industries have different collaboration mechanisms, for which reason the programme is highly flexible on this point.

### 3. Impacts

On an overall level, VINNOVA's financing should promote sustainable growth in Sweden. The impacts in a programme express what VINNOVA expects the programme to promote. In terms of result objectives, the programme as a whole (2007-2014) should provide approx. 130 VINNMER Fellows (female doctoral researchers) with the opportunity for further researcher qualification.

The impacts are as follows:

#### **Short term (during the programme)**

- Corroborated need for the programme, total approx. 500 applicants
- Interview/questionnaire shows the value of the programme to the individual's qualification and the involved organisations/Centres of Excellence in research and innovation



#### **Medium term (five years after the programme's conclusion)**

- During the programme, at least 50 projects have resulted in lasting international collaboration after conclusion of the “qualification”
- During the programme, at least 30 projects have resulted in lasting national collaboration after conclusion of the “qualification”
- 80% of the VINNMER Fellows (project leaders) have got new higher posts

#### **Long term (10 years after the programme's conclusion)**

- At least 22 VINNMER Fellows within the programme have been appointed professor
- At least 15 VINNMER Fellows within the programme are in leading positions in industry/institutes/the public sector.

### **4. Assessment criteria**

The criteria guiding the choice of projects for researcher qualification within the sections of the programme are as follows:

**Relevance**, i.e. how consistent the project is with the direction of the programme and whether it contributes to its impact.

- assessment of the potential of the collaboration and the mobility that the project is aiming for (international and/or academia/industry/public sector)
- strategic importance of the field regarding future growth in Sweden
- assessment of the qualification value to the individual
- assessment of the need for more women to qualify in the field being applied for

**Quality**, i.e. position of the participating R&I environments within the research field, that the environments are excellent and are conducting needs-driven research.

- assessment of the position of participating R&I environments' (Swedish and foreign) in an international comparison
- assessment of the potential of synergies between participating environments
- assessment of goal, strategy and content of the collaboration between the environments
- researcher's activity in the host (applicant) environment
- assessment of the individual researcher's CV
- assessment of career plan

**Feasibility**, i.e. capacity and credibility concerning implementation of proposed projects.

- assessment of the applicant R&I environment's and qualificatory environment's resolve and capacity to establish and in the long term maintain/develop the collaboration (relates to *International qualification*)
- assessment of the applicant R&I environment's and qualificatory environment's resolve and capacity to establish and in the long term maintain/develop the collaboration with industry/the public sector (relates to *National qualification*)
- assessment of the researcher's (project leader's) previous experience of collaborations with industry/the public sector in those cases where the project is to develop academia/industry/public sector/research institute collaborations (relates to *National qualification*)

**Exploitability/utilisation**, i.e. the resolve and capacity to convert the collaboration into social benefits and/or commercial exploitability.

- assessment of the benefit to the Swedish R&I environment (and associated companies and the public sector) of enhanced collaboration with prominent environments abroad in the short and long term (relates to *International qualification*)
- assessment of the benefit of enhanced academia/industry/public sector/research institute collaborations in terms of social benefits or commercial exploitability in companies/the public sector (relates to *National qualification*)
- assessment of the researcher's opportunity for implementation of the new knowledge from the qualificatory environment and the applicant environment
- assessment of how the researcher's qualification affects the planning of their continued career.

## 5. Calls

An open call with collection of proposals for assessment taking place in the spring and autumn of each year. The last assessment is expected to be in the autumn of 2011. For planning grants, the last assessment is in the spring of 2011.

During 2007 and 2008, it is expected that a total of 40 grants will be awarded for the programme with the majority in International qualification.

## 6. Follow-up, learning and evaluation

Follow-up is an instrument of learning for all participating players, with whose help necessary corrections are made in order to develop the programme's initiatives towards desirable impacts.

Learning in the programme should concentrate particularly upon what obstacles and opportunities affect the career development of female researchers in Swedish research. As a part of this, the programme is funding companion research to study the projects being financed. Funds will also be earmarked for research projects which broadly address questions about women's research careers and how the proportion of senior female researchers can be increased within the fields of activity with which VINNOVA is working.

Follow-up should measure the number of initiatives for offering qualification opportunities in various strategically important fields. In the short term, it should also provide feedback to the programme on how qualification opportunities in various fields should be designed. This will aid them in making the best contribution to impacts relating to international collaboration and co-operation between academia and industry/the public sector.

In the longer term, evaluation (effect evaluation) should measure effects in relation to impacts. In addition to measuring the number of qualified people who have applied for and received leading positions within research (the qualification effect), the effect evaluation should study: whether the programme had a clear effect on the gender distribution by and large within strategically important fields; what renewal of research people with VINNMER financing had; the development of forms of collaboration between academia and industry/the

public sector; and the significance to both academia and companies of a strong link with prominent research environments overseas.

By way of comparison material for future follow-up/effect evaluations, a survey is being conducted in 2007. This describes the situation before the start of the programme in terms of qualification opportunities and the career situation of women within the fields which VINNOVA supports.

## 7. Budget

In terms of budget, the main emphasis of the programme is on the International qualification section. Flexibility will be used in adjusting budgets between the various sections and may vary between the calls.

Budget, 2007-2014: SEK 300 million.

Of this, SEK 2 million per year is earmarked for companion research from 2008 (SEK 1 million during 2007).

## 8. Timetable 2007

Start March	Call opens
4 June	Closure prior to first assessment
Latest 20 June	Decision, planning grants
14 September	Decision, complete proposals
1 October	Closure prior to second assessment

See also the relevant call.

## 9. Contacts

Additional information about the programme, the call and proposals may be obtained from:

Erik Litborn, Programme Manager	Ranya Said, Assisting Programme manager
Tel: +46 8 473 31 98	Tel: +46 8 473 30 69
E-mail: <a href="mailto:Erik.Litborn@VINNOVA.se">Erik.Litborn@VINNOVA.se</a>	E-mail: <a href="mailto:Ranya.Said@VINNOVA.se">Ranya.Said@VINNOVA.se</a>