THE FELLOWS, ASSOCIATES AND STUDENTS PROGRAMMES

In 1965, a five-yearly cycle of reporting to the Scientific Policy Committee, Finance Committee and Council on the CERN Fellows, Associates and Students programmes was implemented. Accordingly, this document reports on developments in these programmes since 2010, when the previous review was presented (CERN/2944). In addition, annual reporting on these programmes, and all HR related statistics, is presented to TREF and available to Council in the form of the Annual Personnel Statistics.

No proposals for decision-making are set out herein, as employment conditions for Fellows, Associates and Students form part of the Five-Yearly Review, which is presented to the Council under CERN/3213.
# TABLE OF CONTENTS

1. THE FELLOWS, ASSOCIATES AND STUDENTS PROGRAMMES ........................................... 1
   A. INTRODUCTION ........................................................................................................... 1
   B. DESCRIPTION OF THE PROGRAMMES ..................................................................... 2
   C. SUMMARY OF RESULTS IN THE PERIOD 2010-2014 ............................................ 6
   E. SUMMARY OF FINANCIAL DATA ............................................................................. 15

2. EVOLUTION OF THE PROGRAMMES: PROCEDURES AND DATA ................................. 17
   A. PROCEDURES .......................................................................................................... 17
   B. FELLOWSHIP PROGRAMME .................................................................................... 18
   C. SCIENTIFIC ASSOCIATES PROGRAMME ............................................................. 24
   D. CORRESPONDING ASSOCIATES PROGRAMME .................................................... 26
   E. STUDENT PROGRAMMES ........................................................................................ 26
      a. Doctoral Student programme .............................................................................. 26
      b. Technical Student programme ........................................................................... 28
      c. Summer Student programme ............................................................................. 31
      d. Other programmes ............................................................................................. 32
   F. PROJECT ASSOCIATES ............................................................................................ 33
   G. APPOINTMENTS ON EXTERNAL FUNDS .............................................................. 35
      a. European Union .................................................................................................... 35
      b. Other Funding Sources ....................................................................................... 39
   H. FAS GENDER DATA ................................................................................................. 41

3. SUMMARY OF REVIEW PERIOD ................................................................................... 44

4. RELATED ASPECTS IN THE FIVE-YEARLY REVIEW ................................................... 45

5. CONCLUSIONS ............................................................................................................. 46

LIST OF FIGURES ............................................................................................................. 48
1. The Fellows, Associates and Students programmes

A. Introduction

The first formal review of the Fellows, Associates and Students (FAS) programmes took place in June 1965 (CERN/598); the most recent review was in December 2010 (CERN/2944). This document reviews the period 2010-2014 which is also the Five-Yearly Review period currently under review. The menu identifying the financial and social conditions to be reviewed, including those touching the FAS population, was approved by Council in June 2014, (CERN/3125) and all associated proposals are being submitted to Council as per the principles laid down in Annex A1 of the Staff Rules.

CERN's FAS programmes are acknowledged to be a major asset for the scientific and technological communities. Building upon the four cornerstones of CERN's mission - research, technology, collaboration and education - these programmes provide a direct contribution to carrying out CERN's mission in Europe and worldwide, whilst providing first class training opportunities in a high-tech, multicultural and multi-lingual environment.

The programmes are not only beneficial to the individuals but contribute significantly to the exchange of knowledge between the Laboratory and the Member States.

The success of the programmes is due on the one hand to CERN’s ability to attract the finest calibre applicants, and on the other to the strict criteria applied in the selection process, ensuring that decisions are taken on grounds of excellence. Here the role of the Selection Committees is vital, preserving through their action the aims and quality of the programmes.

The popularity of the programmes can be reliably measured through the total number of applications, which has seen a major surge during the last five years. The interest and prestige of these programmes may also be measured through the rise in external financial contributions, such as the European Commission’s Marie Curie Actions COFUND contributions.

Every year, approximately 1,200 students, scientists and engineers, from undergraduates to senior scientists, participate in the FAS programmes, which create a highly effective link between the Laboratory, its users, Member State industry and educational institutions. CERN’s HR-TA (Talent Acquisition) group bears the responsibility for the management and coordination of these programmes.
Figure 1 FAS programmes and participants in 2014 shows a summary breakdown of the main types of programme, including the number of participants in 2014.

B. Description of the programmes

The Fellowship programme is aimed primarily at Member State physicists and applied scientists, seeking a position in research physics or applied sciences and the computing or engineering fields. There also exist a small number of fellowships in administrative fields (e.g. Diversity, HR, and Legal). Although the vast majority of Fellows come from the Member States, highly-qualified applicants from non-Member States are also eligible. The programme offers recent graduates the opportunity to enhance their qualifications through participation in the work of the Organization. Fellows benefit from employment contracts with the Organization for a limited period, typically two years. This appointment, which often constitutes a first employment opportunity, is considered a great asset for pursuing a successful career in particle physics research, applied science or engineering.

The Fellowship Programme is separated into two sub-programmes:

- The Senior Fellowship Programme addresses PhD holders and graduates with at least four years of work experience after the degree giving them access to PhD studies, typically an MSc degree. The recruitment criteria are
academic and research excellence and potential. Candidates are ranked according to these criteria either by Member State Delegations in the case of research physicists or by a CERN panel of experts in the case of applied scientists.

- The **Junior Fellowship Programme** targets holders of at least a Bachelors degree (or equivalent) and at most an MSc degree (or equivalent), with no more than four years of experience after finishing their degree. The recruitment criteria match technical qualifications and skills with specific CERN activities. The programme emphasises the concept of “on-the-job training”. Junior Fellows are nationals or permanent residents of CERN’s Member States.

Since its launch in 2009 to encourage applications from engineers to the Fellowship programme which was still perceived as very much a physics-based programme outside of the Organization, the (Graduate Engineering Training) GET programme is an integral and vital part of the Fellowship programme. Initially, the programme was limited to 5 MCHF CERN-wide, but due to increasing requests from Departments and the quality of the candidate pool, CERN Management has supported a sustained growth of the programme to its current level (around 70 GET fellows) with close financial monitoring.

Applicants apply to the programme rather than to a specific post (unlike applicants for Staff positions). Fellows in theoretical or experimental particle physics have a free choice of the research topic they wish to follow, while applied science and GET Fellows are assigned to a project determined in advance.

Fellowship applications are examined by the Associates and Fellows Committee (AFC), which includes representatives from all Departments and external members appointed ad personam. The Committee meets twice a year, in May and November and makes around 220 new appointments per year (currently in the ratio 20:80 for Research/Applied Fellows and 55:45 for Senior/Junior Fellows).

Fellows hold a full employment contract with the Organization including membership of the CERN Pension Fund. They receive a stipend, allowances and social security coverage through the CERN Health Insurance Scheme.

**The Scientific Associates programme** is aimed at senior physicists and engineers from Member States and non-Member States, wishing to spend a period of up to one year at CERN, typically for work connected with the research programme of their parent laboratories. It is an opportunity to participate in challenging research and development and to promote the exchange of knowledge in leading scientific and technological fields.
Since 2003, all Associate applications have been assessed by the AFC. The programme is open to scientists and engineers on leave of absence from their Home Institute which remains their employer for the duration of their stay at CERN. During their stay Scientific Associates receive a subsistence allowance (including a seniority supplement) to cover the additional cost of living in the Geneva area.

Every year, a few eminent scientists are directly offered Scientific Associate appointments on invitation by the Director-General and thus receive the title of Guest Professor.

The Corresponding Associates programme is designed for scientists and engineers wishing to come to CERN for a short period, up to a maximum of six months. During their stay at CERN, Corresponding Associates are expected to receive normal salary payments from their home institutes, while CERN adds a subsistence allowance to cover the additional cost of living in the Geneva area. Corresponding associates receive the basic rate applicable to scientific associates but are not entitled to the seniority supplement.

Student programmes constitute a key component of CERN's strategy to provide education and training to junior researchers and engineers. These programmes provide a link with the undergraduate population at universities and technical schools in the Member States to whom they offer training places as part of the curriculum. They also provide valuable human resources, contributing to the advancement of significant research and development projects. Depending on their academic level and the programme chosen, students spend between 8 weeks and 3 years at CERN. Students are entitled to a subsistence allowance, at a rate depending on the specific programme.

I. The Summer Student programme is designed for undergraduates in physics and engineering, mainly from Member States, who come to CERN during the summer months for 8 to 13 weeks. Approximately two-thirds of the students are placed in experimental activities within the Physics Department, the remaining third being placed in more technical activities in the Beams, Technology and IT Departments. In addition to participating in the day-to-day work of a research or development group, summer students have the opportunity to attend a bespoke series of lectures on particle physics and related technologies as well as dedicated workshops and visits. Students are also encouraged to present the results of their work through poster and seminar sessions. The lecture programme is organised by the Summer Student Lecture Programme Committee.

II. The Technical Student programme is targeted at students from Member State universities or higher technical schools, who need to spend a training period in industry or at a laboratory and produce a report as a mandatory part of their
studies. Candidates are selected by the Technical Student Selection Committee (TSC). The programme is restricted to students having completed at least 18 months of full-time studies in a technical field. The duration of their stay at CERN is from 4 to 14 months.

III. The Doctoral Student programme is intended for postgraduates wishing to perform their PhD work in a technical field (excluding theoretical and experimental particle physics) who have been studying in a CERN Member State and are enrolled in a Member State university. Daily tutoring during the period at CERN is the responsibility of a CERN Staff Member, while the award of the PhD remains the responsibility of the university. Candidates are selected by the TSC. The duration of Doctoral Student appointments cannot exceed three years.

IV. The Administrative Student programme offers a small number of positions to students in the fields of international management, finance, law, personnel administration and translation. It was created in parallel to the Technical Student programme and offers around 30 placements/year for undergraduate students who have studied at least 18 months at university level or at an establishment for higher administrative education. The programme is intended for students who are required to complete a practical training period as part of their studies. The duration of stay is at least 2 months and runs up to a maximum of 14 months.

Project Associates are scientists, engineers or technicians admitted by the Organization to contribute their expertise on behalf of their home institution to the execution of project-related activities designated by the Director-General (AC1 wording). The Project Associate category was created in 1994. The objective was to second scientific, engineering and technical staff from institutes to CERN for a limited period and assign them to a specific project. Besides the educational value for the participants themselves, this category opened up the possibility for non-Member States to contribute to CERN projects with a view to extending and strengthening scientific collaboration. Project Associates are required to have an outside employer which must be a scientific institute (commercial firms do not qualify). Project Associates must remain employed by their employing institute during their entire association with CERN. The association with CERN can be established from 1 month to 3 years maximum subject to agreement by the employing institute. CERN’s financial support consists of a flat-rate subsistence allowance and a family supplement in case the PJAS is married and/or with child(ren) who take up residence in the region for at least 6 months.
Special programmes exist in addition to the afore-mentioned programmes. They are based on externally-funded collaboration agreements which enable an increasing number of additional scientists and students to come to CERN. An overview of these programmes is provided later on page 12.

In line with CERN’s mission of education, contributing to enhance the talent pool in its Member States, and taking into account the Organization’s own challenges in recruiting high-calibre international technicians, a scheme to pilot a Technician Training Experience (TTE) was tested in 2012. The inspiration for the TTE scheme also came from the success of the GET (Graduate Engineering Training) scheme introduced by management in December 2009 to attract more engineers. The TTE scheme began with just 5 recruits in 2012 and grew to nearly 50 individuals on-board by the end of the reference period (2014). After excellent feedback from both within CERN and Member States alike, this scheme has become well-established and offers around 20-30 positions per annum. A survey was sent to all TTEs and their supervisors to gather feedback on their experience of the scheme and the results were extremely positive with 90% of responding supervisors considering their TTE to be good or exceptional and 90% of the TTEs fully satisfied with their project and workload.

C. Summary of Results in the Period 2010-2014

An outline of the main changes which occurred in the period under review is given in the following paragraphs.
Figure 2 Evolution of Fellow and Student applicants since 1980

As observed during the previous review (CERN/2944), from 2007 increased effort was placed on various recruitment strategies (from posters to fairs to social media) in order to attract candidates, particularly in the technology and engineering domains, to these programmes from CERN’s Member States. Combined with the subsequent media attention of key events such as the LHC restart (2009), the so called “Higgs Boson” announcement (2012) and Nobel prize announcement (Englert & Higgs - 2013), CERN has continued to attract significantly more interest in the opportunities provided by the FAS programmes as illustrated in Figure 2.

For the Fellowship programme, a number of changes were introduced during the reference period.

- As of January 2013, following changes in the Staff Rules and Regulations, it was possible to issue the initial Fellow contract for a 2-year duration. This
has reduced administrative overheads (suppression of paperwork for both extension of contracts and legitimation cards).

- At the beginning of 2014, CERN piloted a Post-Career break Fellowship scheme aimed at scientists or engineers who have been on a career break for at least 2 years. The proposal was inspired by the desire to get researchers back to full or part-time employment and to facilitate their re-entry into the world of research. During the review period three female researchers have been selected for a Post-Career break Fellowship and also additionally benefitted from COFUND.

- CERN’s involvement in Marie Curie Actions under Framework Programme (FP7) continued with great success. By the end of FP7 in 2013, CERN was responsible for 67 million euro of Marie Curie Actions funding, of which 28 million alone was for the Fellowship Programme under COFUND. The total COFUND selections over the 4 Grant Agreements amounts to 185 fellows. The next framework programme, Horizon 2020, started in 2014 and CERN has already been successful with the re-branded Marie Skłodowska-Curie Actions under Innovative Training Networks, Research and Innovation Staff Exchange, Individual Fellows and COFUND. Around 60 COFUND selections are already foreseen under Horizon 2020.

- In addition to Marie Curie Actions, under FP7, CERN was involved in 10 ERC Grants, 8 of these hosted by the Organization.

- The payment of subsistence to Paid Scientific Associates was transferred from the Departments’ personnel budget to the materials budget to bring these payments into line with all other Associated Members of Personnel who are paid on the materials budget.

- A number of improvements were also made to the Technical Student programme, including:

  - TSC committee meetings reduced from 3 to 2 per year. After analysing several scenarios and also taking into account the selection cycles in the Member States, it was found that the September and December TSC’s were too close together, and this had a negative impact on the selections. The September TSC was very inconvenient for candidates as the application deadline fell into the holiday period, August, and it was difficult for applicants to obtain references. This resulted a low numbers of applications and fewer excellent candidates. For the December TSC there were opposite observations. There is a large candidate pool but fewer candidates selected due to the preceding selection in September. It was decided to enter a test
phase in 2011 where the TSC would be reduced to two committees. During 2011 this proved to be a good decision. The new Committee Dates in June and December brought a more diverse set of applications with respect to nationalities and also quantity wise we are now receiving some 500-600 TECH applications per committee compared to some 110-150 at a typical September TSC.

- A number of improvements were also made to the Doctoral Student programme, including:

  o Regular gatherings of doctoral students were initiated: the 1st doctoral student assembly was organized in 2010 where 20% of the students could present a poster on their work. The aim was to foster communication between students, supervisors and university professors. The event was introduced by the Director General who took part in the Question and Answer session, replying to various questions of the student population. This was very much appreciated by the students and the whole event proved to be a real success. It was subsequently decided to hold such poster sessions on a regularly basis.

  o Guidelines for doctoral student supervisors were set up in 2010 giving information on eligibility, selection, contract conditions, and supervision of doctoral students but also setting the minimum training requirements for this population. It was felt important to make supervisors aware that this programme is a training programme and students should not be assigned to work unrelated to the scientific scope of the PhD thesis. It is within the group's responsibility to provide the framework and funding such that the PhD can be completed. Furthermore for the programme to be successful it is essential that solid links are in place between the CERN supervisor, the university professor, and the student in the context of which the academic arrangements and the progress are discussed. This is why specific guidelines were also set up for university professors in 2014 to make them aware of their responsibilities.

  o Collaboration with the CERN library set up a dedicated workspace where the PhDs of the DOCT are stored. Upon termination of their contract, the students are asked to electronically upload their PhD.

  o Revised contract procedures for Doctoral Students incl. the frequency and content of progress reports to improve the programme. Instead of granting an
initial one year contract an initial contract of 6 months is granted, followed by two extensions of one year and then the final 6 months. The advantage of this scheme is that the first 6 months are considered as a probation period to see if this is the right way to go.

- After 1.5 years there is a crucial holding point. A progress report is required and the Professor should confirm that the Doctoral Student is on track for achieving a PhD. Ideally for these discussions, the University Professor should be invited to CERN. If everything is going well, the contract is extended for one year.

- At 2.5 years: a progress report is required and the Doctoral Student should be on track to complete the thesis during the next six months. An extension of six months is normally granted upon production of a progress report signed by all parties.

- 3 years: maximum Doctoral Students contract length. The thesis should normally be complete by this time. If a longer period is required by the university, external funding must be found.

• Improvements were also made to the Administrative Student programme, including:
  
  o The Administrative Student programme was integrated in 2010 into the TSC selection process. This programme is intended for students in administrative fields such as translation, business administration, law, finance, and communication. Students applying for this programme have accomplished 18 months of undergraduate studies and are generally preparing either a Bachelor or a Master diploma. It can be viewed as an equivalent programme to the Technical Student programme and has been in place since 1992. The Administrative programme was running at very low numbers (originally 10 students per year benefitted from such a position) and generally the students were placed in the administrative departments (HR, DG, FP). Contracts were made ad hoc, upon specific individual request and initiative of the supervisor. It was decided to integrate this programme as of 2011 into the TSC having the clear advantage to benefit from a more transparent and fair selection process with a committee decision. Furthermore, the programme was opened to all departments provided they had suitable projects and the maximum duration of stay was aligned to the TECH to 14 months (instead of 16 weeks). This was a great success as CERN is are now selecting 30-40 students per year. In 2012 the Admin. Student subsistence was aligned to the Technical Student subsistence.

• Administrative streamlining and more modernized processes were introduced:
Analysis of student travel reimbursement: comprehensive study on the travel payments (population of ~600 persons) made to students on arrival and departure. The proposal was evaluated and accepted by HR department and Management and launched in August 2014. The new scheme which is based on real costs has a single rate per country aiming to adopt a simple, transparent and cost-efficient approach as well as giving a fairer treatment to students, while remaining in line with the Administrative Circular 11: "students are paid on a lump sum basis. There are separate rates by country for technical-, doctoral-, administrative students who stay up to 36 months who are required to buy two separate tickets and there are rates for summer students who come for a very short period and who can purchase a return ticket which is cheaper. The payments are set to be revised on an annual basis where the CERN travel agent is consulted. This new scheme has simplified the workload for HR and the Departments, is accurate and more efficient and economical with respect to the previous scheme.

All the different student categories are invited in their first week of arrival by the coordinator in charge to an induction meeting to provide them with information on their contract as well as useful information on the Geneva region in order to facilitate their integration. These meetings have proven very useful also as it is an occasion for the students to meet other fellow students starting on the same day.

• After successful operation of LHC and with the view of LS1, the guidelines for Project Associates were revised and approved by the Directorate and implemented subsequently. The main aim of the revision was to eliminate inconsistencies and to align the family supplement to the Scientific Associate scheme. The gap period after a Project Associate contract of at least three years was reduced to 18 months or pro-rata for contracts of shorter duration. The maximum duration for Project Associates returned to three years since the exceptional extensions to five years were only during LHC construction. HR Department has been monitoring this closely to detect any issues related to this category of personnel.

• The Summer Student programme continued to go from strength to strength with a significant portion of the non-Member State (NMS) students organised by the DG Unit being incorporated into the main programme run by the HR Department. In 2010, a major change of the Summer Student selection software and process was introduced which allowed for selection based on preferences and ranking of students and projects. The results of this, presented to the Advisory Committee of CERN
Users (ACCU) in September 2010, demonstrated an overwhelming preference for the new *modus operandi*. The selection process has been much smoother since the implementation of the new tool.

- The reference period also saw growth in the popularity of the CERN Openlab Summer Student programme. CERN Openlab is a science-industry partnership programme, based on joint research, communication and education. CERN Openlab activities are funded by its industrial members. Openlab summer students work on advanced IT projects together with CERN and industry experts for nine weeks (June to September 2015). The Openlab summer student programme has grown from 15 summer students in 2010 to 23 selected in 2014 with an expected continuation in growth.

- A number of improvements were made on the informatics tools:
  
  o Introduction of diversity reporting and monitoring per Programme in collaboration with the Diversity office in HR.
  
  o A process analysis study was undertaken, resulting in subsequent implementation of an ePersonnel file system, due to go live in the first half of 2015. This system not only means all personnel records are electronic as opposed to paper, but all associated recruitment and selection processes are reviewed and further streamlined to benefit from the implementation.
  
  o Introduction of a specific tool (FAS tool) for gathering student project descriptions at CERN, which are published online in re-structured application forms. Candidates may indicate an interest in these projects during the application process, and submit more clearly structured information during the application process, which has significantly improved the match between selected students and projects at CERN and reduced the administrative time needed to determine candidate eligibility.
  
  o Expansion of this FAS tool so that candidate selections could be made by supervisors online, confirmed at committee and the subsequent contract follow-up and contract generation automated as much as possible, resulting in administrative savings.
  
  o Launch of a new Recruitment website giving much more clearly structured information to potential candidates, and also reflects CERN’s employee value proposition.
  
  o The application form for students was completely revised to eliminate unnecessary and repetitive fields and make it easier for the students to apply. In order to get a full picture of a student’s application it was made mandatory
for the applicant to include the academic records as indeed beside the report from the professor the grades represent an important element of a student’s application. A one page document outlining the grading systems in our Member States was put together and made available to selecting supervisors.

• Concerning the National Special programmes, a number of existing agreements were renewed and expanded and a number of new agreements were also concluded. In particular:

  o Spain

  The Spanish agreement between CERN and the Ministerio de Ciencia y Innovacion (MICINN) was revised in 2010, allowing for an increase in trainees (up to 20). The last selection under this programme took place in 2012 and the trainees left in 2014. The agreement has subsequently been replaced in 2015 with a new agreement between CERN and the CIEMAT (2014) allowing for up to 25 trainees to be selected to come to CERN for a period of up to two years and with a view to preparing them for Spanish Industry after their traineeship.

  o France

  In 2002, the Ministère des Affaires étrangères et européennes (MAEE) signed an Agreement to establish a programme which is now integrated into the framework of the Trainee programme (“Volontariat Civil international”). The Agreement was revised with the Ministère des Affaires étrangères et du Développement international (MAEDI) in 2013 and the number of positions was set to 50 in total. The aim of the Trainee programme is to enable young people specializing in engineering and technology to gain initial practical experience in CERN's high-tech activities. A selection committee takes place once per year. All European Union nationals or nationals from the European Economic Area are eligible to apply. Selected candidates come to CERN for periods from one to two years. They are funded by CERN with the MAEE covering their health insurance. Between 2010 and 2014, 81 Volontaires Internationaux came to CERN under this framework.

  o Portugal

  In 1996, the Agência de Inovação (AdI) signed an Agreement to establish a programme which is now integrated into the Trainee programme. The aim of this programme is to enable young people specialising in engineering and
technology to gain initial practical experience in CERN's high-tech activities. Since the start of the agreement over 180 participants have come to CERN with 40 selected during the reference period 2010-2014. The Agreement was revised in 2012 with the Foundation for Science and Technology in Portugal (FCT) allowing between 5 and 10 Portuguese graduates to come to CERN each year for a period of 2 years at most.

- **Italy**

  Following a request by the Istituto Nazionale di Fisica Nucleare (INFN) to establish a programme for its most qualified personnel to spend some time at CERN in the framework of the LHC activities, the 'Special INFN Associate programme in the Framework of the LHC' was approved in 2007 and an agreement signed. It was updated in 2009 to increase the number of Associates from 25 to 40 and to change the normal duration of appointment from 6 to 12 months.

- **Austria, Germany, Greece, Norway, Sweden & Japan**

  A number of highly successful agreements were made for additional funding contributions to the standard official programmes (Technical, Doctoral, Summer, Fellow). Full details of these may be found on page 39.

- Concerning maintaining a balanced representation from the Member States across the programmes, in addition to the regular monitoring as part of the HR key performance indicators, HR actively participated in the CERN-Greece, CERN-Spain and CERN-Norway working groups chaired by the Director of Administration and Infrastructure. A number of recruitment campaigns were organised in these contexts as well as a recruitment drive to address the lack of candidates for FAS programmes from targeted Member States.
E. Summary of Financial Data

![Figure 3: Evolution of the FAS expenditure](image)

Error! Reference source not found. shows the evolution of FAS expenditure at CERN including all funding sources, highlighting a significant continued investment in the programmes during the review period. Particularly noticeable increases are in the external financing of students and the EU contributions to the Fellowship programme.
Figure 4 shows the evolution of CERN-supported FAS participants expressed in headcount at 31 December each year. In this context, the students include all those present on that date (Technical, Doctoral & Administrative Students) but do not include the Summer Students which are reported separately later in this document.

The number of Scientific Associates fluctuates but one can observe increases with the physics data-taking activities of the LHC and then a decrease at the start of LS1.

The number of Fellows has increased significantly for a number of reasons, including increased success with EU contributions (Marie Curie Actions and COFUND), and the additional increased funding for specific projects both on the LHC programme, and non-LHC physics as well as infrastructure (LS1 preparation, HL-LHC and LIU upgrade R&D, RF systems, power converters, CLIC/ILC, nTof Area2, HIE-ISOLDE cryomodule, ELENA conception etc.)
2. Evolution of the programmes: Procedures and Data

The following section provides detailed information and analysis concerning the evolution of the various programmes over time. Unless specified otherwise, the period under consideration coincides with the review period (2010-2014).

A. Procedures

In most of the programmes, dedicated selection committees, with representatives from all Departments as well as external institutions, play a central role in appointment decisions. They are essential for preserving the aims and quality of the programmes. The HR-TA (Talent Acquisition) group is responsible for the overall management.

- The Associates and Fellows Committee (AFC) was created through a merger of two separate committees in May 2003. During the reference period Dr. R. Voss was chair from 2007 until the end of 2013 when he was succeeded by Dr. P. Wells. The AFC meets twice a year (May and November). The Committee is guided in the selection of Fellows by a ranking for Senior Fellows, which reflects each candidate's competencies and long-term potential. Each Member State Fellowship Delegation provides the ranking for its own candidates in particle physics, whereas for candidates in applied science the ranking is made directly by a dedicated CERN panel. With the separation of the Junior & Senior Fellows programmes in 2006, Junior Fellows are no longer ranked and are selected on technical excellence. COFUND Fellows are selected at the AFC purely from the Senior Fellow candidate pool and are the highest ranked candidates with either ‘A’ or ‘AB’ ranking. Marie Curie Fellows are selected separately under dedicated Marie Curie Selection Committees with the AFC being informed as necessary under the agenda point Matters Arising.

- Technical and Doctoral Students are selected by the Technical Students Committee (TSC, meeting twice a year). In the period under review, the TSC has operated under the chair of Dr. S. Russenschuck who took over in November 2009. In addition to coordinating the selection of Technical Students and Doctoral Students, policy proposals are made which are put forward to the Extended Directorate for endorsement (e.g. student travel policy). As from 2011, the TSC also integrated the selection of the Administrative Students (already detailed above).

- Summer Students are selected in a two-step procedure: a pre-selection phase which identifies the best candidates for each of the Member States, followed by a
The final selection performed by the groups hosting the students. CERN professional staff as well as scientists and engineers from the User's community are responsible for tutoring.

The Summer Student Lecture Programme Committee (SSLP) was chaired by Dr. J. Wells in 2010 (STAFF, Theory), by Dr. A. Hoecker (STAFF, Experimentalist) between 2011 and 2013 and by Dr. E. Perez (STAFF, Experimentalist) as from 2014.

B. Fellowship programme

Figure 5 shows the evolution of the number of candidates and appointments (including externally-funded) on a Fellowship position in the period from 1990 to 2014.

![Figure 5 Evolution of Fellow candidates and appointments: 1980 – 2014.](image)

The 2003 peak can be explained by the fact that three selection meetings (instead of two) took place that year due to the merging of the Fellows and Associates Committees. The subsequent increase from 2007 is due to a combination of the dynamic recruitment and outreach campaign initiated by HR targeting engineers as well as physicists (e.g. with the introduction of GET), as well as CERN's increased attractiveness for Fellowship positions related with the diversity of opportunities available as LHC went into first full operation.
Table 1 shows a broad representation of fellows selected across the Member States, Associate Member States and the non-Member States. The success rates by country are detailed on an annual basis and may be found in the CERN Personnel Statistics. Compared with the previous reference period there is an increase in non-Member State fellows, which may be accounted for by the funded Marie Curie fellowship positions that are open to non-Member State nationals (condition of the European Commission funding).
In addition to nationality diversity there is also an increasing diversity in the various disciplines in which fellowships are being offered, as shown in Figure 6.

Figure 6 Evolution of the various disciplines in the Fellowship programme

Without detriment to the appointment to the experimental and theoretical research physics fields, the number of appointments in engineering has increased following the introduction of the GET programme as shown in Figure 7. The number of ‘technical’ fellows has followed a similar pattern following the introduction of the TTE.

Figure 7 Evolution of GET Fellows

Whilst there appears to be a decrease in GET fellows in 2014, this is due to the way the fellows are labelled in the IT system. A number of GET fellows were also beneficiaries of
COFUND and a number of engineering fellows were funded from other funding sources (such as project financing). Table 2 provides a detailed breakdown of the evolution of Fellowship appointments by discipline across the review period in absolute numbers and percentages..

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<td></td>
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</tr>
<tr>
<td>Number</td>
<td>118</td>
<td>120</td>
<td>140</td>
<td>143</td>
<td>146</td>
</tr>
<tr>
<td>Percent</td>
<td>27.3%</td>
<td>25.2%</td>
<td>25.9%</td>
<td>25.3%</td>
<td>23.7%</td>
</tr>
<tr>
<td>Computing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>96</td>
<td>101</td>
<td>126</td>
<td>127</td>
<td>124</td>
</tr>
<tr>
<td>Percent</td>
<td>22.2%</td>
<td>21.2%</td>
<td>23.3%</td>
<td>22.4%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Engineering/Scientific</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>93</td>
<td>123</td>
<td>135</td>
<td>139</td>
<td>146</td>
</tr>
<tr>
<td>Percent</td>
<td>21.5%</td>
<td>25.8%</td>
<td>25.0%</td>
<td>24.6%</td>
<td>23.7%</td>
</tr>
<tr>
<td>Experimental Physics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Number</td>
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<td>68</td>
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<td>Percent</td>
<td>16.4%</td>
<td>14.3%</td>
<td>12.2%</td>
<td>10.1%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Technical</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>7</td>
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<td>18</td>
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<tr>
<td>Percent</td>
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<td>2.1%</td>
<td>3.3%</td>
<td>7.4%</td>
<td>10.5%</td>
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<td>Theoretical Physics</td>
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<tr>
<td>Number</td>
<td>38</td>
<td>42</td>
<td>39</td>
<td>39</td>
<td>45</td>
</tr>
<tr>
<td>Percent</td>
<td>8.8%</td>
<td>8.8%</td>
<td>7.2%</td>
<td>6.9%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
Regarding the evolution of non-Member State (NMS) Fellows during the reference period, it is worth noting that appointments under Marie Curie Actions (including COFUND) are not restricted to Member-State nationals. Figure 9 shows the evolution of NMS Fellow appointments. Document CERN/598 (June 1965) placed a ceiling for NMS appointments at 1% of the CERN personnel budget. Even with 10% of Fellows from NMS that ceiling is still respected due to tighter restrictions applied elsewhere (particularly on Staff Member appointments).
Figure 9 Member vs. non-Member State Fellowship appointments

Regarding gender evolution, Figure 10 shows the percentage of female Fellows by discipline. Overall the numbers have remained at around 20%. Category 5 (admin) are small numbers (around 20 fellows) and there are proportionally more women in this discipline. Engineering (category 2) is stable at around 20% and research physics at around 15%. The technical domains (category 3) have a much lower representation but a positive trend.
C. Scientific Associates programme

Figure 11 shows the evolution of Paid Scientific Associates since 1990 and that of the Project Associate, a new category introduced in 1996 for the construction of the LHC. The numbers of Project Associates clearly rise during LHC construction and decline following commissioning, but then rise again for LS1. A similar peak may be anticipated for LS2. The dip in the Scientific Associates programme in 2005 is partly explained by a shift in priorities from Associates to Fellows in preparation of the LHC activities and also by the completion of the LEP physics analysis at that time.
Figure 11 Evolution of Scientific, Corresponding and Project Associates between 1980 and 2014

Figure 12 shows the nationality distribution in the Scientific Associates programme for the period under review.

Figure 12 Nationality Distribution of Scientific Associates programme

There is a noticeable cumulative peak of Italian scientific associates across the reference period. On further analysis this is not due to a higher success rate since the success rate
was around 50% (compared to Germany which had a 57% success rate and the UK which had a 54% success rate), but it is purely down to the high number (of equally high calibre) applicants from Italy over the reference period. Over the period there were three times as many applicants from Italy as from any other country (over 160 applicants compared with 63 from Germany, 47 from France and 41 from UK) to this programme.

D. Corresponding Associates programme

The number of Corresponding Associate appointments remained relatively stable during the review period. Candidates must be employed by institutions located in one of the following Member (or Associate Member) States: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, Greece, Hungary, Israel, Netherlands, Norway, Pakistan, Poland, Portugal, Romania, Serbia, Slovak Republic, Spain, Sweden, Switzerland and Turkey.

E. Student programmes

a. Doctoral Student programme

Figure 13 shows the number of candidates and appointments per year under the Doctoral Student programme as well as the number of students present.

Figure 13 Evolution of Doctoral Student candidates and appointments: 1985-2014.
During the review period, the Doctoral Student programme showed a progressive increase in the number of appointments. External funding continued to contribute to additional appointments such as the Germany funding the entire stay of up to 13 students from German universities. Under a similar agreement, Austria also funds up to 7 students for 30 months. Figure 14 illustrates the contribution of external funds to the Doctoral Student programme, particularly from Austria and Germany.

Figure 14 Doctoral Students - strength of the programme: CERN vs. external funding.
b. Technical Student programme

Figure 15 shows the trend in the number of candidates and appointments to the Technical Student programme and the number of Technical Students present at CERN. It clearly illustrates the impact of outreach actions taken in the early 1990s after the start-up of LEP in 1989 and a subsequent decline prior to the introduction of a web-based process in 2003. There was a further worrying decline in the ratio of applicants to selections in 2005 and 2006, leading to a lack of quality candidates. For this reason, a major recruitment drive from 2007 onwards specifically targeted the student community, notably using Social Media (Facebook and YouTube presence) in addition to traditional poster printing and e-mailing of universities across the Member States. This drive combined with the spotlight on CERN in the media has continued to drive the increased number of applications during the reference period.

As well as receiving more applicants, CERN increased its capacity to admit students to this programme, thanks partly by abandoning quotas in the previous reference period, and also by attracting increased external funding. These two effects can be seen in Figure 16.
The number of Technical and Doctoral Student applicants for each country of origin is shown in Table 3. The success rates by country are detailed on an annual basis and may be found in the CERN Personnel Statistics.
Regular reports on this questionnaire are given at the TSC. Overall, the Student Programmes are running smoothly. Similarly, in order to deal with larger numbers of arrivals and to assist with improving integration, the induction for Technical Students was re-organised. Instead of being on an individual basis, a monthly induction was organised in which the students receive practical information related to their stay, meet the Programme Coordinator and also have the opportunity to meet other students.
c. Summer Student programme

Numbers:

Figure 17 shows the evolution in the number of Summer Students in the review period.

![Figure 17 Evolution of Summer Students 2010-2014](image)

The gradual increase of the Member State component of the Summer Student programme is part due to geographical enlargement and part due to additional external financing. The overall increase in student numbers is due to the progressive integration of the non-Member State students into the main Summer Student programme. A large percentage of the non-Member State students are externally financed.
Figure 18 illustrates the nationality distribution of selected Member State Summer Students in the review period. Nationality quotas exist, based on a Member State’s contribution. However, small variations may exist in cases where a refused offer is replaced by the next available student suitable for the selected project (who may not necessarily be of the same nationality) or where external financing is involved.

Clear evidence for the success of this programme is provided by the analysis of the questionnaires completed by both students and supervisors at the end of the stay. Students are asked to comment on the overall organization of the programme, quality of the projects and supervision, as well as on the quality of the lectures. Feedback on the lectures, which often includes specific suggestions, is made available to all speakers. A high response rate has always been observed in the period under review, providing useful suggestions which have been promptly implemented in order to improve the programme. In 2014, for example, 95% of supervisors said they would recommend their student if he/she was to apply for a technical/doctoral or Fellowship position.

d. Other programmes

Additional, informal programmes involving students exist at CERN. Students participating in such initiatives are referred to as Stagiaires or Short Term Students. They come to CERN for short-term, practical training assignments. Typically they are recruited from local schools and universities through contacts between CERN supervisors and local educational establishments, although these programmes are open to nationals of all Member States and non-Member States. They can join CERN at any point during their studies. The period spent at CERN is part of the student’s school/university curriculum, the maximum length of stay being six months. In
particular, to enable schoolchildren from the local area to discover CERN, the Director-General decided in 2000 to accept students aged between 15 and 18, undertaking a short non-remunerated traineeship. In this case, the maximum duration of stay is two weeks. Due to increasing popularity of this initiative their registration has been transferred in 2013 to the hosting departments directly.

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Short-Term Students</td>
<td>192</td>
<td>173</td>
<td>172</td>
<td>159</td>
<td>246</td>
</tr>
</tbody>
</table>

Table 4 Evolution of Short-Term Students in the period 2010-2014

The growth of this programme is also proof of a high level of interest and mutual satisfaction of supervisors and students. Through this programme, CERN provides a service to universities and schools and contributes to the education and training of young people.

**F. Project Associates**

Figure 19 shows the rapid growth of this programme which started in 1996 over the years of LHC construction, followed by a decline related to the change in activities as CERN moved from construction to commissioning and operation. It should also be noted that this is the programme with the highest rate of participation of NMS nationals.
Figure 19 Evolution of Project Associates: 1996-2014.
G. Appointments on External Funds

Promoted jointly by Member State delegations and CERN Management, a number of special programmes based on external funds have been negotiated.

a. European Union

The European Union continues to be a very significant source of external funds through Framework Programmes (FP).

1. Marie Curie Actions

The Seventh Framework Programme, FP7, continued until 2013. CERN was particularly successful in obtaining additional funding for unparalleled training for Fellow years.

- Although the Initial Training Networks (ITN) were not designed specifically for doing PhDs, this had always been encouraged. As FP7 progressed, a subset of ITN appeared, in additional to the original format: the European Industrial Doctorate (a multi-site action) and the Innovative Doctoral Programme (a mono-site action). The mono-site ITN, of which CERN had two projects (ACEOLE from 2008 to 2012 and CATHI from 2010 to 2014), became rarer and by the end of FP7 there had only been four mono-site projects across Europe. ITNs were funded for 48 months each.

- Participation in individual fellowships continued in the Intra-European (IEF) and International Incoming (IIF) Fellowship programmes. CERN did not participate in the International Outgoing Fellowship (IOF) programme. IEF and IIF researchers were funded for up to 24 months each.

- CERN was beneficiary in two Industry-Academia Partnerships and Pathways (IAPP) projects for scientific / engineering exchanges.

- The greatest success in budgetary terms was with COFUND. This provides supplementary funding for the CERN Fellowship such that a selected number of the highest-ranked Fellows can have a third year of Fellowship. All or part of one contractual year can be spent on special paid leave at an institute outside CERN or in industry, on the condition that the Fellow continues work on an activity which is linked to their topic of work/research at CERN. The take-up of the special paid leave was lower than initially expected, which may be explained in part by the wish to remain at CERN during the peak period of LHC activity in the reference period.

Table 5 summarises CERN’s FP7 successes so far with respect to Marie Curie Actions. There are two columns relating to the contribution. In all cases CERN is the coordinator.
so ‘manages’ the full amount of the contributions (column ‘Total contribution’), but in the case of multi-site projects the this amount may differ from the actual amount for which CERN benefits (column ‘Contribution to CERN’).

<table>
<thead>
<tr>
<th>Project (by type and start year)</th>
<th>Fellow years recruited by CERN</th>
<th>Contribution to CERN M€</th>
<th>Total contribution to project managed by CERN M€</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITN ACEOLE: Data Acquisition, Electronics, and Optoelectronics for LHC Experiments (2008-2012)</td>
<td>40.92</td>
<td>3.469</td>
<td>3.469</td>
</tr>
<tr>
<td>ITN PARTNER: Particle Training Network for European Radiotherapy (2008-2012)</td>
<td>12</td>
<td>1.110</td>
<td>5.601</td>
</tr>
<tr>
<td>ITN CLOUD: CLOUD Initial Training Network (partner with coordinator Frankfurt) (2008-2012)</td>
<td>2</td>
<td>0.297</td>
<td>0.297</td>
</tr>
<tr>
<td>ITN DITANET: novel Diagnostic Techniques for future particle Accelerators: A Marie Curie Initial Training NETwork (partner with coordinator Liverpool, UK) (2008-2012)</td>
<td>9</td>
<td>0.690</td>
<td>0.690</td>
</tr>
<tr>
<td>ITN UNILHC: Unification in the LHC era (partner with coordinator Palaiseau, France) (2009-2013)</td>
<td>3.5</td>
<td>0.460</td>
<td>0.460</td>
</tr>
<tr>
<td>ITN CATHI: Cryogenics, Accelerators and Targets at HIE-ISOLDE (2010-2014)</td>
<td>55.4</td>
<td>4.80</td>
<td>4.80</td>
</tr>
<tr>
<td>ITN ENTERVISION: Research Training in 3D Digital Imaging for Cancer Radiation Therapy (2011-2015)</td>
<td>7.6</td>
<td>0.74</td>
<td>3.82</td>
</tr>
<tr>
<td>ITN LA3-NET: LAsers for Applications at Accelerators: A Marie Curie Initial Training NETwork (partner with coordinator Liverpool, UK) (2011-2015)</td>
<td>9</td>
<td>0.74</td>
<td>0.74</td>
</tr>
<tr>
<td>ITN oPAC: optimization of Particle Accelerators: A Marie Curie Initial Training Network (partner with</td>
<td>14.75</td>
<td>1.24</td>
<td>1.24</td>
</tr>
<tr>
<td>ITN/SPC/1058</td>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CERN/3218</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5 Funds for Marie Curie Actions

<table>
<thead>
<tr>
<th>COFUND (2013-2018)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment / maximum total funding for CERN</td>
<td>52</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>134.42</td>
<td>13.723</td>
<td>21.814</td>
</tr>
</tbody>
</table>

Figure 20 shows the combined effect on the number of FTEs funded by the Marie Curie Actions at CERN in FP6 and FP7. The COFUND actions are included.

![FTEs funded under the EC Marie Curie Actions, FP6 & FP7](image)

Figure 20 Impact of Marie Curie funding

2. Other EU-funded initiatives

During the period 2010-2014, the equivalent of 127.0 Fellow-years were funded by the European Commission in addition to the Marie Curie Fellows.

**EUCARD: 14.8 FTE**

*EUCARD was an FP7 project for European Coordination for Accelerator Research and Development*

**LAGUNA-LBNO: 12.1 FTE**

LAGUNA-LBNO was an FP7 project Design of a pan-European Infrastructure for Large Apparatus studying Grand Unification, Neutrino Astrophysics and Long Baseline Neutrino Oscillations

**EGI-INSPIRE: 11.0 FTE**

EGI-INSPIRE was an FP7 project to continue the transition to a sustainable pan-European e-Infrastructure started in EGEE-III

**LHC-THEORY: 8.3 FTE**
LHC-THEORY is an FP7 ERC Advanced Grant on theoretical predictions and analyses of LHC physics

**SLHC-PP: 7.3 FTE**
SLHC-PP was an FP7 Infrastructure project that includes the coordination, support and technical activities for the LHC upgrade.

**CRISP : 7.2 FTE**
CRISP is an FP7 project creating synergies and developing common solutions for an initial group of eleven ESFRI-PPs (European Strategy Forum on Research Infrastructure preparatory phase) projects in the field of Physics, Astronomy, and Analytical Facilities

**AIDA: 6.3 FTE**
AIDA was an FP7 project which addressed the upgrade, improvement and integration of key research infrastructures in Europe, developing advanced detector technologies for future particle accelerators, as well as transnational access to test beams and irradiations facilities

**EMI: 5.7 FTE**
EMI was an FP7 project EMI aiming to deliver a consolidated set of middleware components for deployment in EGI, PRACE and other DCIs.

**Other: 54.3 FTE**
The equivalent of 54.3 FTE have been funded, spread over 32 other projects throughout various departments of the Organization.

b. Other Funding Sources
In addition to the EU funded initiatives and to the programmes already mentioned in section 1 a further number of externally-funded initiatives exist whereby funding is integrated directly into an official programme, thus enhancing the capacity of the programmes.

- **Austria**
The Austrian Doctoral Student programme, fully funded by the Austrian Government, was set up in 1993 and continues to be an extremely successful model for the participation of a Member State in CERN programmes. So far 179 students
have participated in this scheme. Approximately 15 Austrian Doctoral Students are present at CERN at any given time.

- **Germany**

In 2007, an Agreement with Germany was signed between CERN and the Federal Ministry for Education and Research to provide for the complete financing of up to 13 doctoral students from German universities (this programme is known as the “Gentner” programme). The students are completely integrated into the official Doctoral Student programme and in the review period 41 students came to CERN under this framework.

In 2007 an Agreement was also signed with the region of Baden-Württemberg (in Germany) which was enlarged in 2009 and again in 2014 to include additional technical universities (“Technische Hochschule”) and universities. This agreement is contributing 130,000 EUR to partially fund Technical Students for 3 months of stay.

In 2010 an Agreement was signed with the region of Rheinland-Pfalz who contributes annually with up to 55,000 EUR to partially fund Technical Students. In the review period 5 students were selected under this framework.

- **Greece**

A new Agreement with the Greek funding body IKY was set up in 2013 replacing the NTUA/IKY Agreement of 2009, partially financing Students and Fellows. In total 25 Summer-, Technical-, Doctoral- and Administrative Students benefitted from the special funding from Greece.

- **Norway**

Norway is continuing to partially finance technical students further to an Agreement concluded in 2003. In the reference period 40 Technical Students were partially supported by Norway.

- **Sweden**

A new agreement was signed with Sweden in 2012 which foresees the partial funding of Technical Students (Sweden pays 6 months of stay). 6 Students were selected to participate in the Technical Student programme.

- **Japan**

Part of the interest produced by the first contribution of Japan to the LHC machine has been used since 1996 to cover the cost of approximately 3 Fellows per year (previously under the CERN-Asia Fellowship programme and since 2005 under the CERN-Japan Fellowship programme) and one trainee.
Additional Agreements for the training of students have been signed with the ‘Sharing Knowledge Foundation SKF’ (2014), fully financing students from Middle Eastern and North African universities on our various student programmes. In the review period, one student benefited from this opportunity.

Finally, several other countries, including Denmark, the Netherlands, Japan, the Czech Republic and the USA, have financed additional positions in the Summer Student programme.

**H. FAS Gender Data**

As an equal opportunities employer, CERN has been closely monitoring the gender distribution of personnel appointed at all levels, to ensure as diverse a representation as possible across the Member States, and in particular regarding the representation of women within the Organization.

Figure 21 shows the percentage of applicants across the FAS programmes for the period 2005-2009. The percentage of female applicants decreases significantly when one compares junior appointments (up to Fellow level) with senior ones (Associates). The low percentage of female applicants for senior appointments reflects the demographics of the applicant pool.
Figure 21 Percentage of Female applicants for different FAS programmes.

Figure 22 illustrates the gender bias on selection. The volatility of the bias for the Scientific Associates appointments is due to the small data sample (e.g. 6 female applicants in 2005 of which 3 were selected). In general the data indicate that, on average, there is little gender bias at the selection level (except for a consistently small positive bias for student population).

Nationality distributions for Fellows, Doctoral and Technical Students show varying of female participation depending on the country of origin (see Figure 23).
Efforts continue on an ongoing basis to increase the number of applications from female scientists and engineers. At Organization level, awareness has been raised through the Diversity programme and through articles in the CERN Bulletin such as in March 2014 when the Director-General wrote about International Women’s Day and celebrating diversity. The Recruitment Unit produced a series of photos for International Women’s Day that was prominent on social media. CERN took part in a recruitment event *Top Women, Top Careers*, in Brussels in November 2010. There are also regular contacts with specific job boards for female scientists and engineers such as Women in Engineering and Science.
3. Summary of Review Period

As shown in the previous chapters, the FAS programmes continue to fulfil their mission of providing first-class training and research opportunities to a large community of scientists and engineers in a very successful way. Previous Five-Yearly Reviews revising the categorisation and payment schemes have laid the foundations for increased external financing sources, expansion, growth and overall improvements in the programme. Tools have been introduced upstream to attract a more diverse applicant pool, measure the quality of selected candidates (e.g. via supervisor questionnaires) and the overall quality of the programmes (e.g. via exit questionnaires).

The success of additional funding from EC into the fellowship programme is an endorsement of the high calibre and level of quality of this programme, and its associated selection process.

During the period 2010-2014, the Technical and Doctoral students have gone from strength to strength. The period under review has also seen a revision and increase in the administrative student’s programme which peaked at 30 students per annum.

Given the increased numbers of participants within the programmes, continued monitoring of the quality of projects and supervision remains of high importance.

The Associate Member State status was created just prior to the start of the review period and the FAS programmes have seen a growth of participation from Associate Member States which represent a first opportunity for career development and education of future young scientists and engineers.

The review period has also seen a continued growth in NMS activity for the Summer Students. The NMS Summer Student programme is managed by the NMS relations office outside the HR Department but with close coordination between those involved.

Following on from the successful growth of the Graduate Engineering Training programme which was introduced at the end of 2009, the subsequent Technician Training Experience pilot has received extremely positive feedback and it is expected to continue to broaden this programme, which offers career development opportunities to recently qualified technicians from the Member States, in the next review period.
4. Related aspects in the Five-Yearly Review

In the context of the Five-Yearly review a number of recommendations will be presented to Council on employment and working conditions of the participants of the FAS programmes. These include the following:

- generally maintaining the stipend levels for Fellows. Stipend levels have been frozen since the previous 5-yearly review since the cost-of-living index has been below 0;

- introducing measures for covering the situation of maternity leave of a female fellow should this coincide with the end of her three year contract. These measures include extension of social coverage and in exceptional circumstances the possibility of a contract extension.

- introducing the full recognition of partnerships for employed and associated members of personnel.

- maintaining the subsistence rate levels for Associated Members of Personnel including Doctoral and Technical Students,

Full details of these proposals are in the Document CERN/3213.
5. Conclusions

In this document we review the evolution and achievements of the FAS programmes over the period 2010 – 2014.

The main achievements can be summarized as follows:

1. A continued increase in attracting high calibre candidates and participants to the Fellowship, Associate and Student programmes

2. A successful ‘core’ participation of the programmes complemented by a broadening of fields with particularly an increased interest in engineering and technical opportunities.

3. A vehicle for successful participation for Associate Member States in the Fellowship, Associate and Student programmes.

4. A continued success in external funding, both from certain Member States and particularly from the European Commission.

5. A streamlining of administrative processes in order to cope with the increased workload associated with the expansion of the various programmes.

6. Increased monitoring, particularly in the qualitative aspects of the programmes with the introduction and follow-up of exit questionnaires.
List of Figures

Figure 1 FAS programmes and participants in 2014 ................................................................. 2
Figure 2 Evolution of Fellow and Student applicants since 1980 ........................................... 7
Figure 3 Evolution of the FAS expenditure .............................................................................. 15
Figure 4 Evolution of the strength of FAS programmes ......................................................... 16
Figure 5 Evolution of Fellow candidates and appointments: 1980 – 2014 .............................. 18
Figure 6 Evolution of the various disciplines in the Fellowship programme ......................... 20
Figure 7 Evolution of GET Fellows .......................................................................................... 20
Figure 8 Evolution of the Senior / Junior Fellowship sub-programmes .................................. 22
Figure 9 Member vs. non-Member State Fellowship appointments ......................................... 23
Figure 10 Percentage of female Fellows by discipline .............................................................. 24
Figure 11 Evolution of Scientific, Corresponding and Project Associates between 1980 and 2014 .... 25
Figure 12 Nationality Distribution of Scientific Associates programme ................................... 25
Figure 13 Evolution of Doctoral Student candidates and appointments: 1985-2014 .................. 26
Figure 14 Doctoral Students - strength of the programme: CERN vs. external funding .......... 27
Figure 15 Evolution of Technical Student candidates and appointments: 1980-2014 ................ 28
Figure 16 Evolution of Technical Student Population and funding source at CERN: 2005-2014 ..... 29
Figure 17 Evolution of Summer Students 2010-2014 ............................................................. 31
Figure 18 Nationality of Member State Summer Students 2010-2014 ..................................... 32
Figure 19 Evolution of Project Associates: 1996-2014 .............................................................. 34
Figure 20 Impact of Marie Curie funding .............................................................................. 38
Figure 21 Percentage of Female applicants for different FAS programmes ............................ 42
Figure 22 Gender bias for applicants across the FAS programmes ........................................ 42
Figure 23 Percentage of female applicants for Fellows, Associates and Students .................... 43

List of Tables

Table 1 Number of Fellows selected by Nationality 2010-2014 ............................................... 19
Table 2 Evolution of Fellowship disciplines ............................................................................. 21
Table 3 Number of Technical and Doctoral Students selected by Nationality ......................... 30
Table 4 Evolution of Short-Term Students in the period 2010-2014 .......................................... 33
Table 5 Funds for Marie Curie Actions ....................................................................................... 38