



ALFA Programme
Sub-programme B:
Scientific and Technical Training

INTERMEDIATE Technical

Report

Contract Number:

Project Title: *High Energy physics Latinoamerican European Network (HELEN)*

Coordinating Institution: *Universita' di Roma "La Sapienza", Roma, Italia*

Network's Name: *HELEN*

Study Area: *Elementary Particles Physics*

Date of Signature: July 28, 2005

Date of coming into effect of the contract: July 29, 2005

Contract Duration: three years

Addenda (number and object):

Date of Contract Termination: July 27, 2008

Period covered by the INTERMEDIATE Report:

- **from** (Date of coming into effect of the contract):

29.../07.../2005...

- **to** (Date of Contract Termination):

30.../09 /2006

Coordinator:

Full Name: Luciano MAIANI

Position: Full Professor

Faculty/Department/Service: Dipartimento di Fisica

Date:

Signature:

Legal Representative:

Full name:

Position:

Date:

Coordinating Institution:

Signature and stamp of the

1. Introduction and general overlook

We provide here the first Technical Intermediate Report of the HELEN Project, one year after signature of the contract.

As a general overview, highlights of the first year are:

- establishing a general HELEN website: <http://www.roma1.infn.it/exp/helen/>. At the date of writing, the site has received more than 9650 visits.
- establishing the Managerial structure;
- establishing a Consortium Agreement between participating Institutions, specifying role, rights and duties of all Parties;
- running two complete cycles for the attribution of Grants, from the Calls for Applications to the selection of Grant-Holders and attribution of the Grants;
- ways and means have been identified to make effective use of the funds both from the EC and from the participating Institutions, in particular to provide efficiently subsistence funds to the Grant-Holders;
- most of the Grant-Holders of the first year have been received and trained at the Institutions of destination;
- Outreach and Technology transfer activities have started;
- professors' visits have been realized, and have successfully contributed to enlarge existing collaborations between LA and EU Institutions.

The selection of Grant-Holders has taken about three months after signature of the contract, from August to Nov. 1, 2006. Two months later, the first Grant-Holders have arrived at CERN from LA, that is in the early January 2006. The Grant-Holder program, thus, is about six months late with respect to the signature of the contract.

Professor's visits from Europe, aimed at establishing new collaboration links, have started in early 2006. Professor visits aimed at supervising the Grant-Holders work, from Europe to Latin America and vice versa have started still later, around summer 2006.

The time sequence of the selection process accounts for the fact that one year after signature of the contract, the sum effectively spent is around 60% of the provisional budget.

The HELEN Project has entered into operation at a very appropriate time, when the four LHC experiments are approaching commissioning (due in 2007) and Auger has started collecting real data (since Nov. 2005). HELEN Grant-Holders have been able to profit from the enthusiastic and exciting atmosphere.

It is fair to say that HELEN has brought an unprecedented and well-recognized degree of integration of the Particle Physics communities in Europe and Latin America.

2. Fund distribution and level of incurred expenses

To minimize the (sometime problematic) transfer of funds from Europe to Latin American countries, we have asked LA Institutions to pay the travel expenses of their Grant-Holders out of their co-financing share, while subsistence has been provided by the Coordination at the receiving Institutions in Europe. In the other direction, the Coordination has transferred the full cost of Grant-Holders sent to LA to the European Institutions, after subtraction of their co-financing share.

The LA destinations of Grants was concentrated in large research centres, such as the AUGER Observatory and Universidad Nacional de La Plata, in Argentina, CBPF in Brazil, CINVESTAV and Universidad Nacional Autonoma in Mexico. In these cases, we have transferred subsistence funds for the visiting Grant-Holders to the receiving Institutions.

Visits of professors have been financed completely by the sending Institutions, mainly European.

As we observed in the Introduction, the time necessary for the selection process accounts for the fact that the sum effectively spent at September 30, 2006 is around 60% of the provisional budget. Another reason for the reduced level of expenditure is travel costs.

We find:

average expenditure per intercontinental EU/LA travel or vice versa: 1100 E;

average expenditure per LA/LA travel: 870 E

average expenditure EU/EU travel: 330 E

vs. budgeted amounts of 1500 E, 1000 E, 600 E, respectively.

3. Grant-holders mobility

We give in **Annex I** a list of mobility flows occurred from July 29, 2005 until September 30, 2006, including Grants completed or at least started (Grant-Holder in place in the receiving Institution) within this period. In **Annex I** we give as well the declarations of the Interlocutors, concerning the regular development of the Grants at the receiving Institutions. **Annex II** contains the CV of each Grant-Holder.

Selection of Trainees

Rules for the selection of Grant Holders have been spelled out in the Project and enforced in practice (see below).

The HELEN Web site was established on June 10, 2005, at the URL:

<http://www.roma1.infn.it/exp/helen/>

The Grants for the 1st year have been advertised in two Calls for Applications, both by a poster (see **Annex III**) and on the Website, in the following dates:

- Individual Grants of the 1st Call: Sept. 9, 2005; deadline for applications: October 15, 2005.
- Individual Grants of the 2nd Call: March 20, 2006; deadline for applications: April 10, 2006.

Local Committees at each participating Institution, including Alternating Members, had been appointed by Summer 2005. For each Institution, the names of the Local Committee Members were reported in the advertising of the Grants on the website.

The Local Committees examined the applications and produced a list of candidates for each Grant, ordered by merit. The proposals of the Local Committees have been further examined by the Standing Executive Committee, in its role of Central Committee as foreseen in the Project.

Origin/Destination	In 1 st Year Budget		Assigned		Started 30/09/06	
	# Grants	Months	# Grants	Months	# Grants	Months
LA to EU	111	347	114	392	99	244
EU to LA	34	56	25	34	24	34
LA to LA	25	44,5	19	37	17	13

Table 1. Statistics of Grants for the first year.

Grants for the 1st year have been formally assigned in two meetings:

- November 2, 2005 (1st call)
- June 22, 2006 (2nd call);

and published on the HELEN Website.

We give in **Annex III** the Minutes of the SEC Meetings and the list of the Grant-Holders published on the Website.

We report, in **Table 1**, Grants and corresponding months x man assigned in the two Calls of the first year, compared to those foreseen in the budget and to the Grants initiated before Sept. 30, 2006 (with Grant-Holders in place at the receiving Institution).

It has been possible to assign essentially all the foreseen Grants to well qualified

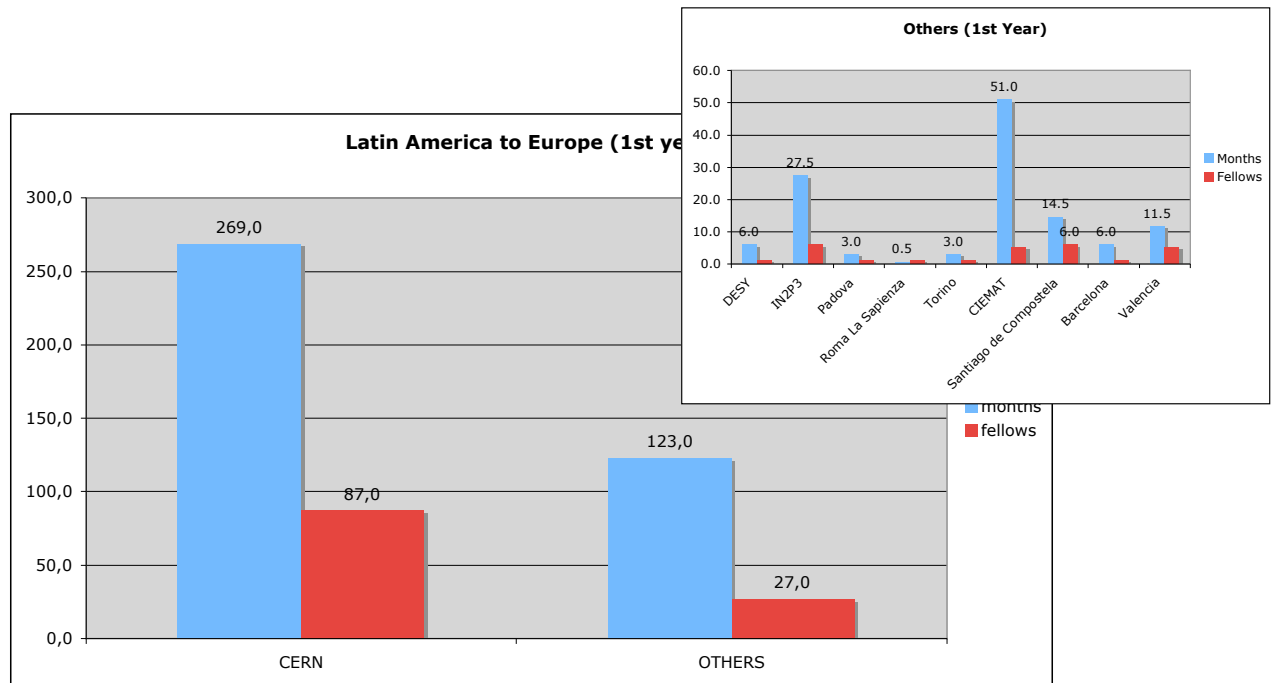


Fig. 1. Destinations of Grant-Holders: Latin America to Europe. Red: number of contracts, blue: number of months.

applicants. The program will be practically completed by the end of 2006.

The 1st Call for Applications of the second year has been already completed, with a total of 123 Grants assigned (see the HELEN Website).

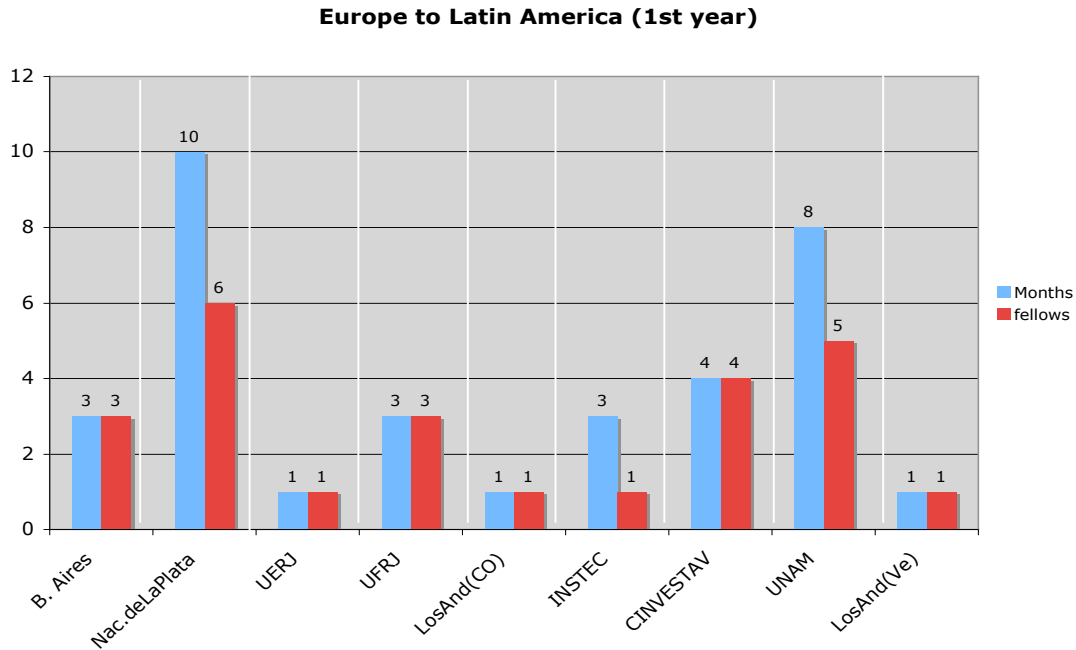


Fig. 2. Destinations of Grant-Holders: Europe to Latin America. Red: number of contracts, blue: number of months.

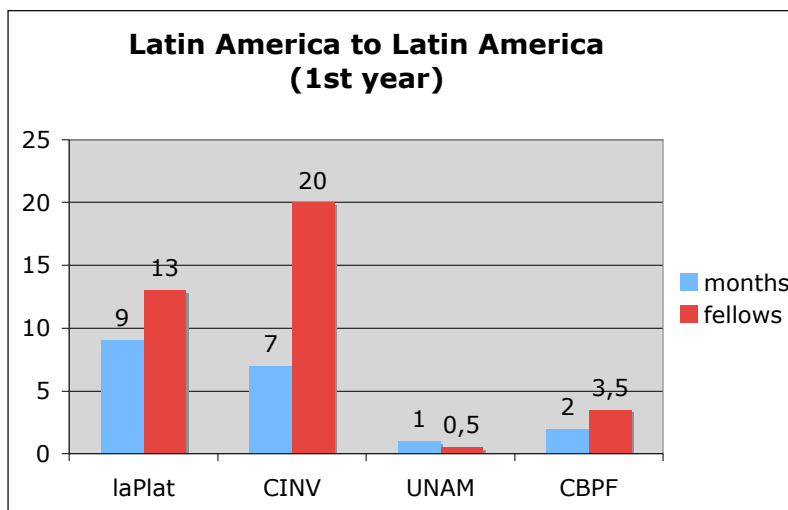


Fig. 3. Destinations of Grant-Holders: Latin America to Latin America. Red: number of contracts, blue: number of months.

Destinations of the Grant-Holders.

The distribution of Grant-Holder destinations is given in **Fig. 1**, for LA to EU Grants, **Fig. 2**, for EU to LA and **Fig. 3** for LA to LA.

Helen at CERN (1st year)

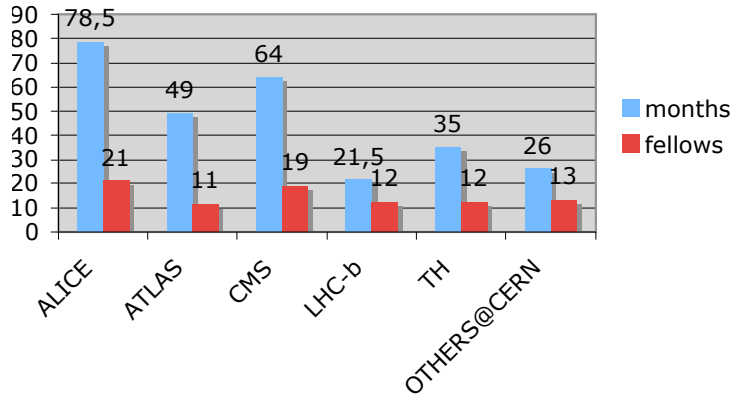


Fig. 4. Destinations of Grant-Holders at CERN from Latin America. Red: number of contracts, blue: number of months.

The distribution over different areas of research of the Grant-Holders assigned to CERN from Latin America is illustrated in **Fig. 4**.

The Pierre Auger Observatory has obtained 16 Grants, for a total of 24 months.

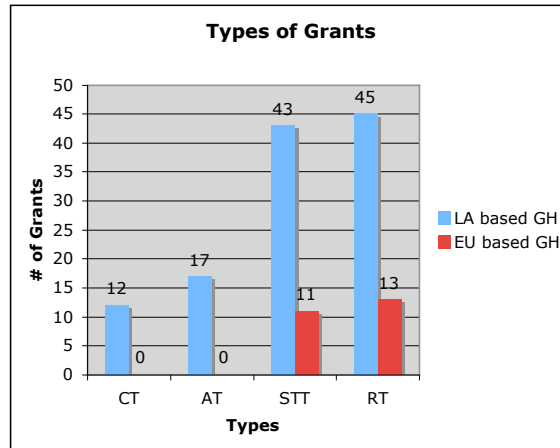


Fig. 5. Distribution of Grant-Holders according to training types. Blue: LA based G-H, red: EU based G-H.

Finally, we show in **Fig. 5** the distribution of Grants over different types of training (CT=Complementary Training, AT= Advanced Training, STT=Short Term Training, RT= Research Training). We separate the Grant-Holders originating from LA Institutions (and going to either an European or a Latin American Institution) from those originating from European Institutions. Training at undergraduate and graduate schools (typically CT and AT) account for a large fraction of Grants in LA.

It is satisfactory to see that HELEN involves the most advanced Institutions and research infrastructures in Particle Physics over the two continents, with a balanced composition of training destinations and training types.

Training Programme of the Grant-Holders.

The emphasis of the Project is training by advanced research in world-class facilities in Europe, e.g. the experiments at the Large Hadron Collider at CERN, and in Latin America, the Pierre Auger Observatory in Argentina.

Well-established groups in have received students and young researchers experimental and, to a lesser extent, theoretical physics, and set to work on subjects determined a priori in the “work program” attached to each Grant when advertised on the web. Local tutors assigned to them by the Interlocutor of the receiving Institution have supervised the work of the trainees.

In case of Grants for Complementary Training (CT, at undergraduate level) the Trainees have followed Academic Training courses in the receiving Institution, mainly at CERN. Grants for Research Training (RT, at postdoctoral level), consisted in visits to research groups with the aim of establishing new, collaborative work, on a basis of equal level between the visitor and the staff of the hosting group.

Grant-Holders have taken advantage of the Academic Training provided by the host Institutions, in particular at CERN, and in some cases have given seminars or lectures about their activity.

Language improvement courses.

Students or researchers in Particle Physics are generally acquainted with English (a common working language except in Spanish speaking countries). Therefore, no preparatory language courses had been foreseen in the budget. Coordination has agreed, during the year, to support one such courses in Chile.

Conditions of the reception of the grant-holders.

Reception of the Grant-Holders (visas, finding accommodation, etc.) has been provided, in general, by the host research groups on a voluntary basis. Universities have extended to Grant-Holders the health insurance conditions applied to their students at no extra cost. No fees have been required by the receiving Institutions to admit the Grant-Holders to the Academic activities.

Special conditions had to be worked out with CERN, due to the large number of Grant-Holders received (70% of the total from Latin America), its nature of International Organisation placed at the border of two different countries (France and Switzerland) which implied special visa problems, and the need to provide individual health and accident insurance to each Grant-Holder, as required by CERN’s rules.

HELEN has recognized expenses for Administrative Support to CERN, in the measure of 800 E/semester/contract (due to the lack of requests from other Institutions, these expenses could still be kept, in the average, within the admissible Administrative Support budget).

Assuring the return of the Grant-Holders to their Institutions of origin

Each Grant-Holder has explicitly subscribed in his/her application to "Return back to Country of Departure after the completion of the program" (see Website under Fellowships/ first year/ application).

During the first year, we had no case of failure to comply with this commitment.

Grades obtained by the Grant-Holders.

AT training Grants are aimed at PhD Theses, which will be finalized in due time. The Institution of origin will award the grades.

There is no reported difficulty for the Institutions of origin to recognize the training achieved in the receiving Institutions.

Until Sept. 30, 2006, we have no reported cases of PhD awarded.

Annex IV collects the Reports of Activity received by the Grant-Holders. Reports give a (sometime candid but very vivid) account of the tasks assigned and results achieved and of their experience in an advanced research environment.

The Grant-Holders work is leading to publications which we shall monitor and report about in due time.

Papers and Acknowledgements

The Helen Project is quoted on SPIRES, the most important search site for High Energy and Nuclear Physics, under:

HELEN: High Energy Physics LatinAmerican-European Network.

Luciano Maiani et al. Aug 2005. 220pp.

Academic Co-operation Programme between European Union and Latin America.

Acknowledgement for support from the ALFA program- **HELEN** has been asked to all participants. Scientific papers and reports originating from LA-EU collaboration are starting to appear. We plan to make a systematic account of the citations.

In the following, we list few cases where explicit recognition is given to **HELEN'** s support.

- "Is cosmology compatible with sterile neutrinos?", Scott Dodelson, Alessandro Melchiorri, Anze Slosar. arXiv: astro-ph/0511500, in press on Phys. Rev. Lett.
- "The impact of neutrino masses on the determination of dark energy properties", Axel De La Macorra, Alessandro Melchiorri, Paolo Serra, Rachel Bean. arXiv:astro-ph/0608351.
- "Neutrino masses and mixing in split supersymmetry" Marco Aurelio Diaz, Pavel Fileviez Perez and Clemencia Mora. arXiv: hep-ph/0605285.
- "Different kind of textures of Yukawa coupling matrices in the two Higgs doublet model type III." A.-Enrique Carcamo, R.-Enrique Martinez, J.-Alexis Rodriguez arXiv: hep-ph/0606190;

- “The Landau pole and Z-prime decays in the 331 bilepton model.” R. Martinez, F. Ochoa. arXiv: hep-ph/0606173;
- “Simulation of the V0A Detector”, J.R.Alfaro Molina et al., Internal Note 2006-09-14, ALICE-INT-2006-018;
- “Digital Closed Loop High-Speed Thyristor Firing System for Line-Commutated Converters”, M. Benedetti et al., submitted to Ep2007, Stockholm;
- “Phase-Controlled Line-Commutated Converter Control in Discontinuous Conduction Mode”, M. Benedetti et al., submitted to Ep2007, Stockholm.
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Technology Transfer and Outreach.

One aim of the HELEN Project is to foster Technology transfer and Outreach activities in Latin America.

Technology Transfer: two Grants have been assigned (Short Term Training) to researchers from Mexico and Brazil, aimed at producing a Data Base for the Technologies available in High Energy Physics in Latin America, under the guidance of Dr. M. Streit-Bianchi from CERN. GRID technologies are an important issue and illustrative posters about GRID and GRID applications have been produced in Spanish and Portuguese, **Annex V**.

The group has started to work on the Data Base and shall continue in the next year, with one possible extension to Argentina and/or Chile.

Outreach: the activity is concentrated to acquire in Latin America the experience obtained in Europe, CERN in particular, in training High School Teachers. Three Grants have been given in Mexico and Chile to participate in the High School Teachers program at CERN. One aim will be to translate in Spanish and Portuguese the material already elaborated in the HST Program at CERN. One example is the Lecture reported in **Annex V**.

The activity shall continue in the next year with other three contracts, to create a LA group based in the major LA countries.

High Energy Physics teaching review

The project here was to create a group to review HEP teaching in Latin America. Until now, it has proven impossible to identify a group of interested scientists.

The project shall be terminated and the resources concentrated on Technology Transfer and Outreach, as recommended by the Scientific Advisory Committee.

4. Visits of Professors

Professor’s visits from Europe, aimed at establishing new collaboration links, have started in early 2006. Professor visits aimed at supervising the Grant-Holders work, from Europe to Latin America and vice versa have started later, around summer 2006.

We give in **Annex I** the full mobility flow of professors.

As **Table 2** shows, visits from Europe to Latin America have fallen short of expectation, numerically.

Qualitatively, however, the professor program has been very successful.

Due to HELEN, high-level professors from Europe have given seminars and lectures in several places of Latin America.

Researchers from CERN have established links with important experimental groups in Latin America and prepared their official participation in LHC experiments. The latter has been greatly facilitated by the possibility to send young students to CERN, via the HELEN Grant-Holder program, as recognized by the experimental Collaborations, see **Annex IV**.

The following new collaborations have been established during the year.

-Argentina in ATLAS:

Universidad de Buenos Aires,
Universidad Nacional de La Plata;

- Brazil in ALICE:

Universidade de São Paulo;

- Chile in ATLAS:

Universidad Tecnica Federico Santa Maria;

- Colombia in CMS:

Universidad de Los Andes;

- Peru in ALICE:

Pontificia Universidad Catolica de Peru.

Origin/Destin.	SCIENTIFIC & MEETINGS		COORDINATION	
	In 1 st Year Budget	Completed 30/09/06	In 1 st Year Budget	Completed 30/09/06
	# Grants	# Grants	# Grants	# Grants
LA to EU	12	9	-	-
EU to LA	62	24	-	-
LA to LA	9	7	2	2
EU to EU	7	5	12	10

Table 2. Visits of professors

A Cooperation Agreement between CERN and CNPq Brazil on Scientific and Technical Cooperation in High Energy Physics has been signed on Sept 19, 2006.

5. Press

In Mexico, the approval of HELEN has been given favourable coverage by press (in Mexico: Milenio, El Sol de Mexico; in Venezuela: El Nacional, in Peru: Red de Periodistas y Divulgadores Cientificos del Peru).

To inform the Particle physics community, an article on HELEN has been published on CERN Courier in May 2005 (by L. Maiani) and three articles on Quantum Diaries (by J. Ocariz) see **Annex V**.

A brief communication with photo has appeared in CERN Courier in June 2006, describing the life of HELEN's Grant-Holders from Latin America at CERN. CMS, in its internele news paper, has hosted a description of the CMS group recently formed in Peru. The High School Teachers Programme has acknowledged the participation of HELEN Grant-Holders to the 2006 School.

6. Added Value

The HELEN Project has entered into operation at a very appropriate time, when the four LHC experiments are approaching commissioning (due in 2007) and Auger has started collecting real data (since Nov. 2005). HELEN Grant-Holders have been able to profit from the enthusiastic and exciting atmosphere.

We give in **Annex IV** the assessments, made by the management of the four LHC experiments and of the Auger Observatory, of the impact of HELEN Trainees on the experimental Collaborations.

We include in the same Annex the report of the HELEN Scientific Advisory Committee after one year of operation. Most of the recommendations made, such as the a priori identification of tutors, have been already implemented in the 1st Call for Applications of the second year.

It is fair to say that the existence of HELEN has brought an unprecedented and well-recognized degree of integration of the Particle Physics communities in Europe and Latin America.

7. Synergies with EU Programmes in ITC

The scientific community of HELEN participates in EU initiatives related to ITC and GRID, such as CLARA (<http://www.redclara.net/> a fast communication line directly connecting LA and EU) and EELA

(<http://www.ciemat.es/portal.do?TR=C&IDR=605> to extend GRID technologies to Latin America). The success of any of these initiatives is visibly beneficial to the others.

8. Comparing objectives and results of the Project in the first year

Following recommendations of the ALFA Program, we may compare the objectives of the Project set a priori and the results obtained in the first year, with a two-column scheme (first column: statements in the Project, second column: results).

HELEN RESULTS, 30 sept. 2006

Project Objectives (*summarize the objectives of the network, 100 words maximum*)

To train young generations of physicists in High Energy Physics, in which Europe is world leader, thereby promoting fundamental physics in Latin American countries and contributing to the modernization of physics education there. CERN, DESY and Gran Sasso facilities, in particular the Large Hadron Collider, HERA and their experiments, as well as the Auger experiment in Argentina are fundamental tools for an advanced training programme. To facilitate access of Latin American countries to the technological benefits in the accelerator, detector and information technology domains (GRID as an example). To strengthen the integration of the European and Latin American Physics communities.

1.3 Network Objectives (*summarize the objectives of the network, 100 words maximum*)

The HELEN network will be essential to integrate, consolidate and booster the existing collaboration in the field of High Energy physics between Latin America and Europe for more than a decade. It will use the mobility of personnel as a basis to: 1) provide specialized training for young Latin American scientists and 2) contribute to the modernisation of physics education in Latin America; 3) foster the scientific

HELEN has assigned Grants to undergraduate, graduate, postdoctoral and staff researchers as follows:

- LA to Europe: 114 (392 months)
- Europe to LA: 25 (34 months)
- LA to LA: 19 (37 months)

for a total of 148 Grants (439 months) compared to planned 174 Grants (447 months). Longer stays than planned have been preferred by Interlocutors, for more fruitful training stages.

As at 30 September, the situation of Grants that have been completed or at least are active (Grant-Holders in place) is:

- LA to Europe: 99 (244 months)
- Europe to LA: 24 (34 months)
- LA to LA: 17 (13 months)

See **Annex I** for the list of Grant-Holders.

Trainees have been embedded in research groups at well-established institutions in Europe (CERN, Universities) and Latin America (Universities, Pierre Auger Observatory).

Experimental and theoretical groups have established new connections via their students and with professor's visits. This applies, in particular, to LA groups working at the Large Hadron Collider at CERN and to European groups at the Pierre Auger Observatory in Argentina.

collaboration in Fundamental Physics between Latin America and Europe by using the existing or foreseen large and expensive facilities, 4) contribute to the technological development of Latin America through the HEP associated technologies.

IV.1.4 General Description of the Project (2 pages maximum)

The main objective of the Project is to create a network for the training of personnel both in European and other Latin-American Institutes/universities.

(omissis)

On the Technology Transfer side, we propose: (1) to diffuse in LA the methods adopted at CERN and (2) to create a HEP Technology Data Base,...

(omissis)

We propose, ... to train some post doctoral students to the critical task of disseminating scientific culture to High School Teachers

(omissis)

The project will be the basis to foster a sustainable collaboration between Europe and Latin America in the field of HEP and associated technologies.

The existence of HELEN has facilitated the formal access of several LA groups in the large international collaborations that are preparing the experiments at the LHC of CERN. The following new collaborations have been established.

-Argentina in ATLAS:

Universidad de Buenos Aires,
Universidad Nac. de La Plata;

- Brazil in ALICE:

Universidade de São Paulo;

- Chile in ATLAS:

Universidad Technica Federico Santa Maria;

- Colombia in CMS:

Universidad de Los Andes

- Peru in ALICE:

Pontificia Universidad Catolica de Peru.

2. Objectives

See data on Grants reported above.

A group formed by M. Bianchi-Streit, CERN, Edgar Linares, CINVESTAV, Mexico, Jorge Amaral, UERJ, Brazil, is at work to produce a Data Base of High Energy Physics Technologies and is participating in technology transfer initiatives (see Posters on GRID and its application to other sciences and to the civil society).

Grant Holders have been sent to the CERN High School Teachers Program (A. Guevara, UNAM, Mexico, R. Lopez, Puebla, Mexico, C. Contreras, U. Federico Santa Maria, Chile) to acquire outreach material and experience.

A Cooperation Agreement has been signed between CERN and CNPq Brazil on Scientific and Technical Cooperation

1 Network Management Structure

(100 words maximum)

Coordinator: Prof. Luciano Maiani, Università “La Sapienza”, Italy, in collaboration with CERN’s representative.

Decisional body: Executive Board

Decisions of the Executive Board are prepared by a **Standing Executive Committee** elected in the first EB Meeting. Until then, elected membership of SEC is from France, Spain, Brazil, Mexico.

Advisory body: Scientific Advisory Committee (Chairman from LA, one Co-chairman from EU, representatives of experiments and other activities as in the chart).

IV.2.2.2 Explanatory Table of Meetings and Travels

(see section V of the application form – Notes on eligible costs)

Two meetings per year are foreseen

...

In the November meeting the Executive Board takes decisions concerning the following year’s programme.

....

The June meeting is at CERN and is dedicated to: advice from SAC and project monitoring. Considerable savings in travel and cost expenses are realised by meeting at CERN, where most of the SAC members are based.

in High Energy Physics, has been signed on Sept 19, 2006.

3. Managerial Structure

The Management Structure foreseen in the Project is now fully established.

Executive Board

L. Maiani (Coordinator), V. Riquer (Assistant Coordinator), J. Salicio (CERN), T. Dova (Argentina), A. Santoro (Brazil), I. Schmidt (Chile), C. Avila (Colombia), F. Guzman (Cuba), A. Zepeda (Mexico), A. Gago (Peru), L. Nunez (Venezuela), F. Schrempp (Germany), J. A. Rubio (Spain), J. Ocariz (France), G. Zumerle (Italy), G. Barreira (Portugal), G. Hall (United Kingdom).

Standing Executive Committee

L. Maiani (Coordinator), V. Riquer (Assistant Coordinator), J. Salicio (CERN), A. Santoro (Brazil), A. Zepeda (Mexico), J. A. Rubio (Spain), J. Ocariz (France).

Scientific Advisory Committee

L. Epele (Argentina, Chair), P. Giubellino (Italy, Co-Chair and ALICE repr.), N. Ellis (ATLAS), E. Aslanides (LHC-b), H. Hoffmann (CMS), J. Salicio (CERN), O. Palamara (LN GranSasso), K. Moenig (DESY), G. Matthiae (AUGER)

The first November Meeting took place in Rio de Janeiro (Brazil):

Nov. 1-2: Standing Executive Committee

Nov. 4-5: Executive Board

The first June Meeting took place in CERN:

June 19-20: Scient. Adv. Committee

June 22-24: Standing Executive Board.

IV.2.6.1 Description of the Training Programme

(omissis).....

1. Selection of the Grant-Holders.
Rules to ensure the transparency will be given, following what is done in other ALFA networks. We give here a few elements (rules will be posted on the HELEN Web site):
 - a. Grants are advertised on the Web, with a description of purpose and requirements of each Grant;
 - b. Applications from registered students of the sending University or from professors associated to the same University are to be addressed to the local Interlocutor, with a CV and a work program;
 - c. The Rector of each University appoints a Local Committee made by the Interlocutor + two members; the Local Committee proposes a list of candidates for each Grant, ordered according to merit;
 - d. an applicant for a Grant may not be in the Local Committee;
 - e. smaller Universities are encouraged to pool and form a single Local Committee, within the same country;
 - f. The Standing Executive Committee fills the role of a Central Committee, to ensure homogeneity of the selection criteria between the different nodes;
 - g. The Central Committee reviews the proposals and finally assigns the Grants.

4. Selection of Trainees

The HELEN Web site was established on June 10, 2005, at the URL:
<http://www.roma1.infn.it/exp/helen/>

The Grants for the 1st year have been assigned after two Calls for Applications, advertised by a poster (see **Annex III**) and on the Website. Individual Grants of the 1st Call, have been posted on the Web on Sept. 9, 2005. Deadline for applications: October 15, 2005.

The Grants of 2nd Call have been put on the Web on March 20, 2006. Deadline for applications: April 10, 2006.

Local Committees, including Alternating Members, had been appointed by Summer 2005 and started their work after the deadlines for applications. For each Institution, Local Committee Members were reported in the advertising of the Grants on the website.

Following the proposals of the Local Committees, the Standing Executive Committee has assigned Grants for the 1st year on:

- November 2, 2005, 1st call
- June 22, 2006, 2nd call;

see the Minutes of the Meetings, **Annex III**.

.....(omissis)

.....

13. Professors/tutors mobility along the network will allow them to give seminars or short lecture series, to:
- enhance training;
 - start new, collaborative, EU –LA and LA-LA research;
 - oversee research internship of the grant-holders, which is the principal form of training in the Project.

Professors/tutors submit to the Network Coordinator a brief report of their travel.

5. Professors visits

Professors visits have also been used to establish or reinforce scientific ties between LA and Europe.

HELEN has supported travels as follows:

EU to LA: 24

LA to EU: 9

LA to LA: 9

EU to EU: 15

Well known scientists from CERN and other European Universities have given seminars and short courses in LA. In the opposite direction, aim has been mainly to supervise student's work and give advanced seminars (see **Annex I** for a full mobility list of professors).

The travels reported above include travels related to the Meetings of the Boards and the visits to CERN from the Coordinating unit, to supervise the installation of Grant-Holders.