DOC.1
INITIAL ACCREDITATION OF SCHOOLS FOR ADVANCED STUDIES
EVALUATION PROTOCOL
SCUOLA UNIVERSITARIA SUPERIORE S. ANNA

Summary

SECTION A. INITIAL ACCREDITATION REQUIREMENTS (MINISTERIAL DECREE 439/2013)

REQUIREMENTS	INDICATORS	REQUIREMENT EVALUATION
STRUCTURAL REQUIREMENTS	- In-school residence, namely the availability of appropriate accommodation facilities (e.g. University colleges) for the number of students enrolled to study at the school and specifically a number of beds within the school or available on the basis of agreements with external accommodation facilities not less than the number of pre-doctoral students envisaged. - Availability of teaching and scientific facilities such as classrooms, libraries and laboratories appropriate for the educational activities and the type of research subjects envisaged. - Economic and financial sustainability of the school's activities	In consideration of the number of pre-doctoral students for the 2018 (reported to be 319), the number of accommodations is barely sufficient (284). This divergence looks more evident if pre-doctoral students of different years are counted in. Indeed, the total number of students appears to be around 800 while the total number of "posti letto" appears to be around 300; the number of "posti mensa" appears to be 240, without any reported provision for self-catering. The quality of the different residential facilities might differ according to the location and distribution of rooms and this aspect is not evident from the enclosed documentation. The places available in the boarding school are shared with the Scuola Normale of Pisa, partner of the SSSA. It is also unclear whether the students enrolled for the Master and PhD course have (at least a part of them) their own accommodation or whether the structures are only devoted to ordinary students. If this is the case, the accommodation facilities are not suited and do not promote the training of a community of students of the three orders of Academic education. The residential structures (Collegi Universitari di merito) require accreditation. This point should be specifically addressed, especially if the SSSA deems mandatory the residential permanence for the students of different levels. The current buildings in the 13 campuses and colleges (spread across Pisa, San Giuliano Terme and Pontedera) offer sufficient numbers of seats for teaching activities. However, it is unclear whether the distance between the different places allows a rational and timely transfer of students among them. In this respect, it looks like the total number of seats in classrooms is highly dispersed across the city (and beyond) and difficult to assess in the absence of a mapping of users to locations. The scientific facilities are sketchily described and a more detailed account of the research laboratories and the staff would be helpful to assess their adequacy. The library appears to be insufficient considering that the SSSA is funded to provide library access to its students. There appear to be 75 seats (less than 1 per 10 students) and it is not clear if there are enough access to computers. The comment about the future 38 "postazioni" implies that these are not present at the moment. The committee would like to understand better **what do the "38 places in the library and about further 70 places in a new multi-purpose classroom" represent in comparison to the need the students have of those facilities? To what extent students have been involved in developing the plans for the new library space? Do they view this increase in space/seats as sufficient?**

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		The planned requalification of the old library and nearby historical auditorium should be discussed during the audit, together with more precise information about the structures that students have at their disposal. The school declares the budget devoted to the library, the availability of the places and its patrimony in terms of books (654.000 Euros, 75 places to seat and a paper collection of 78.000 volumes). This collection has to be integrated with the libraries in the Faculties. For a competitive international institution, a prominent role is expected to assure the structural equipment available to students, such as desktop/laptop, databases (there is no mention in the library of access to Jstor), and rooms where work and co-operation can take place (presumably not the library, where silence is expected). For example, it would be interesting to know how a student can help other students in debugging a long piece of computer code, to make an example. One of the goals of being residential is, in fact, stimulating the young ones to exchange views with the scholars who are bound to start their research path. **Are there any actions the school has already activated in this sense with current resources?** **The pandemic has shown the need to have the access to structures in different forms from the "material" ones: has the school equipped itself to answer?** Moreover, the school declares that the library provides electronic resources, but more than these resources the digitalization of the books are necessary to allow the access to the library from everywhere: **has this digitalization been activated or can the students get the access only to the paper books? As stated before, which research database (Jstor, etc.) are supplied by the library? Do the SSA students use library resources different from the one used by the students of the University of Pisa or are the structures the same ones? How do students access texts that are kept in the 'external warehouse'? Does this cause any delay in them receiving the texts they need or is it a fast process?** The laboratories for experimental research activities should be explained, i.e. where are the experimental facilities and how they are managed and connected. The possibility of gathering the experimental research facilities is extremely beneficial in terms of scientific interaction and budget. In this regard, a necessary step towards an improved offer for the students will be represented by the Science Park, whose project is apparently going through a number of temporary delays. **It would be**

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		important to share the status of work advancement with the committee and clarify some aspects of the allocated budget. In this respect the committee would address some of the following questions during the interviews: **Is there any plan for a commercial and intellectual property support structure? Is there any place reserved to an incubator or for the development of translational research? The also raises another, linked point: the management of the facility and activity decentralization at the SSA should be addressed. How are the lessons and courses and the use of the structures going to be integrated? What about the students'' opinion and involvement?** As mentioned, the canteen is not available so meals are supplied by outsourced facilities. **Nonetheless, the number of meals looks relatively low for the number of students. What is the reason?** As detailed in the "Documento programmatico delle politiche della scuola" (indicted as DP hereafter) the financial planning for the medium term sustainability of the school activity looks appropriate, considering a balance between FFO and the planned fundraising policies, with some exceptions further specified below. The indicators about the financial asset of the school are all respected; the budget planning for the next years suggests a sustainable course of the school activities. The need for increasing the boarding school is stated in the DP, an increase that is part of the SSA strategic plan. The SSA declares that the increase in the number of students will be linked to the increase in the places, mainly in the boarding school, through FFO and fundraising actions (page 26 of the DP). However, as those actions are strategic for the recruiting activities of the school, it could be suitable to state how the strategy can be activated. Indeed, the way the fundraising will be realized are not fully specified. Furthermore, considering the PhD strategic importance (most of all the recruiting of foreign researchers), the accommodation facilities should be guaranteed to ensure the researchers a suitable place to stay. While the students' appreciation of the facilities available for teaching and studying activities is reported in the documents, similar questionnaires for the accommodations, research facilities, and equipment are not easy to find. **Do laboratories have places fulfilling the students' need of research? What is the weight of facilities on the financial plan of the SSA? How are they implemented?**
STUDENTS	- Selection admission procedures, including foreign languages, aimed at encouraging the development of an international student body;	The admission tests are explained on the site of the SSA. The selection of the students is led through procedures explained in the web site, is detailed, seemingly competitive and oriented to create an international students' community. English is considered as foreign common language, for the admission

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	- a minimum number of 150 duly enrolled students in pre-doctoral courses, where these are offered, - 100 in doctoral or postgraduate courses, where these are offered.	and teaching in doctoral courses; it is unclear whether the attention to internationalization starts already at the pre-doctoral level (see also below). The number of students enrolled in pre-doctoral and doctoral courses is higher than the minimum requirements. While the number of pre-doctoral students (level I) slightly increased from 2016 to 2018, there was a substantial drop in the master students (level II) and doctoral students. **What is the situation in 2019? Any explanations for this trend? What measures will be undertaken to correct this tendency?** Among the initiatives that the SSA is promoting for the next years, it is worth to mention the talent scouting and all the programs to favor talent recruitment from disadvantaged social realities. However, the geographical origin of the students is not fully described, beside a generic division between Italians and foreigners. This information would be important to influence the future planning. From the names of the students admitted to the courses, it looks like the majority of them in the first and second cycle come from Italy, and this happens even if the test can be performed abroad (that is why the announcement of selection is also in English). If this is the case, it could be interesting to know through which channels the SSA promotion is carried out abroad. - **How do admission tests lead to determine the excellent students? Which are the criteria used?** - **What are the SSA policies for the "collection" and "recognition" of talents in different territories and educational fields? Does the SSA have a program through which it is possible to determine talents even among those who, due to social or economic conditions, could not even get the access to university education?** - **Even if the SSA proposes orientation activities (page 23 of the DP), sometimes in cooperation with IUSS and SNS, some clarifications may be required about the way the high school students are reached by the SSA.**
TEACHING STAFF	*This requirement relates to the maximum amount of teaching that can be provided. It defines the student/teacher relationship and the minimum number of research staff, assistants and researchers.* - The indicator relating to the number of students per faculty member for pre-doctoral courses is calculated as the ratio between the number of	The number of faculty member/student for both pre-doctoral and doctoral courses is respected. In particular: Pre-doctoral students: 25 prof. per 248 students= 9.92 (10, minimum value); minimum threshold observed; PhD students: 38 prof. per 303 students: 7.97 (8) minimum threshold observed; PO= 46; PA= 30. Total number: 76; RIC= 67; the proportion required (number of researchers less than the double of the teaching staff) is observed. These numbers should be updated to 2019. The number of research assistants and laboratory technicians is difficult to infer from the available documentation.

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	regular students enrolled in pre-doctoral programmes and the number of professors employed by the school (full, associate or adjunct professors in accordance with Article 6 of Law No 240/2010) or 100% available on the basis of agreements with other universities. The student/faculty member ratio should not be less than one faculty member every ten students. - The indicator for doctoral courses is based on the total number of students enrolled in doctoral courses divided by the total number of tenured faculty members (full, associate or adjunct professors in accordance with Article 6 of Law No 240/2010) or 100% available on the basis of agreements with other universities. For doctoral ad postgraduate courses, that ratio should not be less than one teacher every eight students. - The number of research assistants and researchers should not be less than double the number of professors (full and associate)[1]. The calculation includes full, associate and adjunct professors and those available 100% under agreements.	**Even though the numbers and ratios are acknowledged, a school of excellence should be leader in academic training and educate the students by giving them contents that the "generalist" universities do not offer**. **Furthermore, the distribution of the personnel among different research areas and the future recruitment strategies for the different Institutes should be shared with the committee, as further detailed below**. This is more relevant for some Institutions of SSA, such as the Life and Health Science, where there is a wide heterogeneity in the research and disciplinary scopes. The document "Relazione Ricerca" enlists the international ranking of the SSA, which is considered quite remarkable. Some comments are required, nonetheless. Most international rankings are designed to capture the relative performance of "normal" universities (with roughly between 10,000 and 40,000 students taught by academic and supported by staff fully employed the institution) while are less efficient to capture excellence in atypical universities, such the London Business School, or the EUI in Florence, or some of the French Grandes Ecoles, just to mention a few EU institutions. The selection of the figures in the "Relazione Ricerca" is insufficient to illustrate the claimed research prowess: for example, in Figure 2.1 the reader is unable to assess how much of the increase in the number of publications in Scopus is due to the increase in the number of academic staff (table 6, p10, in the Document Programmatico – hereafter referred as DP), how much to the increase in the number of journals included in the Scopus database, and how much to a genuine improvement in the average quality of the publication records of the SSA researchers. This last parameter should be considered as one of the main goals of an excellence school, highlighting the strict interlink between research and teaching. Indeed, according to the data from the web-site, the activities that the teaching staff performs within the SSA (i.e. publications, attended conferences, awards, keynote talks, editorships, and other indicators of international recognition) are not much different from those reported by other "generalist" universities, where an increasing fraction of the staff members have stable relationships with important foreign institution. **The question then arises about the added value of the staff's recruitment policies and the research carried out at the SSA, and especially how the research is aimed at converging in teaching**. The CEVS feels that additional information should be provided to evaluate in full both the teaching staff and the SSA policies.

[1] The number of researchers and research assistants may include these individuals even if they are associated with other bodies providing they operate full-time at the school under specific agreements.

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		- **How are laboratories considered and promoted to be a tool to establish this link? Which is the role - where requested - among these laboratory activities and the training of the students?** - **How are the scientific collaborations established with the neighbour Universities?**
STUDENT'S SERVICES	- Availability of mentoring programmes for pre-doctoral students and placement for the entire student population; - Availability of mobility funds for pre-doctoral students to be defined for each undergraduate class for which supplementary tuition activities are offered by Schools for Advanced Studies; - Availability of mobility funds for doctoral students intended to encourage participation of students in research activities and research teaching both nationally and internationally on a scale at least equal to that required for students in Universities doctoral courses (Article 9(2) and (3) of Ministerial Decree No 45/2013); - Requirement that all places for doctoral/postgraduate courses are covered by study grants or an equivalent endowment (see Ministerial Decree No 45/2013 and subsequent Ministerial Memorandum No 0011677 of 14 April 2017 "Guidelines for accreditation of doctoral courses").	The orientation, mentoring, tutoring and placement activities are in place. All positions for doctoral courses are covered by study grants or an equivalent endowment. **The committee would like to understand better some aspects related to these activities. In particular, how have the new tutorial support arrangements for students gone since 2018/2019? How were the faculty members given this initial responsibility trained/briefed to undertake the role? Is there feedback that this has improved the situation?** There is a budget of 200.000 euros for pre-doctoral students' international mobility in 2018/2019. In additional to extra funds provided by the school for international doctoral mobility, other funds are available from external sources (i.e. Fondo Giovani, Erasmus+ Mobility consortium program, and Talent at work), in order to assure a time abroad between 6 and 12 months. In the DP, it looks like that these funds for mobility are deemed short for the needs. These needs should be specified since they cannot apply to either access to mobility abroad, as it is compulsory to be granted to everyone, or the Erasmus program, which has its own funds. **The committee would like to understand whether the SSA refer to the costs of the stay. Talking about the exchange mobility, which mutuality is established in the agreements signed with foreign institutes not only for the research but also for welcoming the students? The activities to be carried out abroad are not described: Which is the aim of the stay abroad? Which is its role in the students' career? How is this abroad experience monitored and assessed once it is over? Who guarantees its effectiveness? In addition, as the Erasmus international agreements foresee that the students get curricular credits, do the existing agreements at the SSA foresee the same or what kind of credits are they? How are students supported in selecting their stay abroad?** As far as the Placement is concerned, in the DP this activity is quoted but there are insufficient data about the students' employment after the education at the SSA. To this respect the following issues are going to be addressed by the committee during the interviews: **Is there an office devoted to Placement that not only organizes events but also monitors the students' careers for a given period of time? This point is not highlighted. Furthermore, how long have the careers of the students that were educated at the SSA been monitored?**

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		Mentoring and placement activities are active and successful for UG and PG students, but concentrate on the professional and industrial market for PhDs. For example, there is no mention of activities of support for the economics job market fairs held (in the pre-COVID era) before and after Christmas in Europe (Rotterdam and Naples in the past two years) and in the US (for a long time). All economics departments with a substantial number of PhD students (e.g. 20 or more) have at least one "placement officer", whose tasks is to co-ordinate and support the job-hunting activities of the graduands, and it is therefore surprising to note its absence in a department with 26 PhDs. It is unclear how many students benefit from these opportunities every year and, most of all, how many foreign students choose the SSA for a mobility period in Italy. These data should be shared with the Committee. In particular, doctoral students should all complete a period in a different laboratory. In this respect the following questions might be addressed during the interviews: **Are the financial resources commensurate to provide this opportunity? Furthermore, the spread of coronavirus in the world poses some logistic and practical threats to mobility. What is the current analysis and the options set in place by the SSA for international mobility under the pandemic situation? Are data about current doctorate cycles and academic year available?** **The committee would also like to hear more about the strategic approach to formal collaborations. Indeed, SSA indicates signing agreements in specific cases. The threshold and decision policies about entering formal agreements should be discussed.**
TEACHING	- Whether supplementary teaching for students in undergraduate and Master's degree programs is provided, the conclusion of agreements with universities that have obtained an accreditation grade of at least C - "satisfactory" under Ministerial Decree No 987/2016 (Article 3(3) and Article 10(2); - The appropriateness of supplementary tuition provided by the School within each basic course in relation to the undergraduate courses that	The school set an agreement for supplementary teaching with Pisa University, which obtained an accreditation grade of B, Trento, which obtained an accreditation grade A, and Firenze, which obtained an accreditation grade C - under Ministerial Decree No 987/2016 (Article 3(3) and Article 10(2). The Pisa partner is close enough to further the creation of a community of students in Pisa. In case of courses activated with the University of Trento and Florence, the proximity with the school is not guaranteed and it should be clarified how the specific activities are followed. The duplication of courses is minimal, if any. Nevertheless, the SSA should have a way to monitor the courses followed by the students to avoid repetitions and to activate a more effective and excellence teaching. Through which actions is the coordination between the teaching of the attended universities and the courses offered by the SSA guaranteed?

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	may be taken at the same time by the school's students[2]. - The requirement for pre-doctoral students to attend at least 50 hours on average per year of educational activities provided by the school within the specific academic class[3] and at least 20 hours of teaching provided outside that class in order to promote an interdisciplinary approach to study; - The requirement for doctoral students to actually attend at least 150 hours of teaching in total over the entire duration of the course specifically provided by the school for these students and intended to expand their knowledge base, where applicable through specific interdisciplinary methods, and specialist preparation through development of original research programmes[4];	The path towards research orientation of the students should be better indicated. Moreover, there is no information about the action taken in case of negative assessment of the university whose SSA students are enrolled. The students' attendance indicator for the pre-doctoral level is respected. The integration with interdisciplinary activities is mentioned but not defined in its essence. **How is the school monitoring these transversal activities? How do the students perceive them?** There is an emphasis about the "Climate change" topic for interdisciplinary development but other challenges might also be considered. **Is there any actual project that students from different fields have to work on together and define solutions taking into account more than one field`s perspective?** Worth of appreciation is the emphasis about talent training for a personalized education and career. This would require to be monitored in the next accreditation steps. The lack of data does not allow to evaluate the requirement for the doctoral students to attend at least 150 hours of teaching over the entire duration of the course as well as the interdisciplinary methods for their training. One issue that should be considered is the opposite trends in the student's satisfaction for the didactic activity: whilst the indicator is decreasing for the Social Science area, it follows an opposite trend for the Experimental Science area. **Additional clarifications would be helpful about the way teaching is performed in the school courses and what is the difference in comparison to the courses followed at other universities. Are they just face-to-face lessons? Is innovative teaching (see below about the document for quality shared with IUSS) foreseen and, if so, how? Is only intra-disciplinarity favoured between similar teachings of the class or are there experiences of real inter-disciplinarity? If so, what are they? How does the teaching of the school courses promote and implement the students' training towards research? Do the students perceive that the time spent carrying out research in the prestigious research institutes**

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[2] This involves identifying the classes related to the undergraduate courses that may be taken by students admitted to a specific basic course, grouped by uniform discipline/subject according to CUN classes and research area (https://www.cun.it)

[3] The term academic class refers to the various internal divisions of Schools, sometimes called classes, in other cases institutes or other terms.

[4] This offer includes various types of educational activities not limited to hours of classroom teaching. It may also refer to doctoral teaching provided by other university and research institutions providing it forms part of an overall organic programme approved by the school's governing bodies.

REQUIREMENTS	INDICATORS	REQUIREMENT EVALUATION
		complements their teaching? Are the skills and knowledge that they learn brought back into the classroom and, if so, how? For the Master degrees, agreements are in place with other Italian universities. However, notwithstanding the vocation to research and internationalisation, there is no Double Degree. This point will be further mentioned below. **Why has it been established a consortium with other Italian schools of excellence without favouring the same experience with European and extra-European schools, which could bring a real surplus to an experience that, despite everything, is completely Italian?** This is odd since there are research agreements set forth with international institutes, but there are no paths leading to the sharing of diploma, at least at the first sight of the provided documentation. Double degree: why there is none? **The CEVS would be keen to meet, even if only virtually, students selected by the CEVS for an informal exchange with the members of the committee (both individually and as a group).**

Preliminary evaluation Section A

(to be completed by the CEVS according to the analysis of documents) **This section may also include information that the CEVS seeks to gather and analyse during the on-site visit**.

The committee was positively impressed by SSA. CEVS raised several issues and comments in the protocol that represent suggestions for the School, with a view to next periodic accreditations. The committee has appreciated the attention SSA pays to the creation of a strong students' community since the selection phase to placement, providing also good support to mobility projects, as well as effective orientation, mentoring and tutoring activities. Students' selection procedures are well explained and seem to be competitive, oriented towards creating talented students' groups. SSA is definitely promoting the talent scouting for all the programs and favour talent recruitment from disadvantaged social realities.

Also financial sustainability is considered positively: the financial planning for the medium term sustainability of the school activity looks appropriate, including also interesting fundraising policies. The indicators about the financial asset of the school, so far, are all respected and the budget planning for the next years suggests a sustainable course of the school activities. All positions for doctoral courses are covered by study grants or an equivalent endowment also addressed to support mobility abroad. The committee has appreciated the positioning of the School in well-known international rankings, which confirm the excellence of research activities carried out by the SSA.

This notwithstanding, the committee outlines some points and issues that **require either clarifications from the School or additional information.**

The school should clarify its position about the residential permanence of the students and present a plan of how existing facilities answer the current and future needs for lodging and meals.

The dispersion of teaching rooms and research facilities might pose a serious limitation to create and build up a real community of students. The program for the future, both in the short term but also the long term (i.e. 15-20 years), is considered strategic for the SSA. In this regard, the Science Park might represent a model for the evolution but the project is slowing progressing. Its integration with the existing facilities is not fully highlighted, as well as its strategic role for the School. Can this be clarified?

Also the renovation of the library should be discussed in relationship to the role it might have for the digitalization, creation of new resources and student community enlargement (with particular attention to the need for the phD students too, which might different from other student groups).

With respect to students' population in general, the CEVS feels that the current demographic of the students is not sufficient to have a clear idea about gender, geographic distribution (both regional but also international), education, socioeconomic status. Gathering of these data should be part of an updated and growing database of the school (SuA Scuole).

The selection process and the monitoring strategies for admission test are well described. Nevertheless, the CEVS would like to know more about its adequacy, update, outcomes and implementation. This requires additional comments by the SSA. The number of foreign students and strategies for their attraction are also deemed to constitute essential aspects for the placement of an excellence institution in an international environment. To this respect could the School provide data concerning the students that every year ask to be admitted to the SSA and information about their origin? Could more information about selection process be provided to allow understanding how really attractive is the School? What is the explanation for the recruitment mostly being local?

The CEVS encourage the SSA to report about the international mobility of outgoing and incoming students at all education levels. The SSA should also comment about the adequacy of financial supports, in past years as well as in the future. What is the real support of the School for students' mobility abroad? More information should be provided about the actions undertaken by the School to evaluate the real impact of the permanence abroad on the training/career of the students, as well as in the international collaboration. These points might be covered in depth. To this respect the committee would like to understand whether SSA is giving opportunity to every student for time abroad and how this process is monitored in terms of outcomes, for example in establishing careers and international connections. On the reverse side, how many foreign students, considering mobility and Erasmus programme, decide to spend time in SSA? What are the alternatives under the pandemic situation offered by the School also to maintain programmes alive for the future?

The CEVS would also appreciate to have a deeper understanding of the workload allocation of the SAA Faculty as compared to their colleagues in the partner Universities. More information could clarify the integration of SSA and Universities in Firenze and Trento. This is part of a more general consideration about the added value of the teaching at the SSA and how this activity refers to standard courses in Pisa, Firenze and Trento.

The teaching programs for the PhD students are not defined and it is not clear whether this activity has already been measured for some of the planned inter-disciplinary "broad" initiatives of the school. Could the School clarify these points? It would be worthy also to understand how the integration of teaching and research is pursued.

Comments to the preliminary evaluation- Section A
(to be completed by the School)

SSSA appreciates the attention which the CEVS dedicated to the analysis of the accreditation documents and the recognition of the SSSA efforts in creating a strong student community and in preparing a balanced financial planning.

In this section, SSSA provides some general answers to the above comments, with references - when possible - to the specific questions which will be approached during the virtual visit. More details and more illustrative documents will be also provided during the visit or attached to the present document as "Annexes".

A first general comment concerns the **residential permanence of the students and their needs of facilities, in terms of lodging and meals**.

For better approaching this point, we should clarify that there are different typologies of "Allievi" at SSSA: Allievi Ordinari are honors students of the Bachelor and/or Master Courses; Allievi Dottorandi (PhD students); Allievi of University Master Courses (for specific topics); Allievi of Joint Master Degrees. Only Allievi Ordinari have a residential position (meals and lodging). Allievi Dottorandi have one meal per day and no lodging; Allievi of Joint Mater Degrees have meals and lodging only if they are also Allievi Ordinari; the other typologies of Allievi have no additional benefits if not included in the specific training program.

In the 2020/2021 academic year, the "Allievi Ordinari" currently active - first and second level - are 264. Compared to the official figure from the Ministry, the difference is represented by the students "in proroga" (those students who have finished the course of study and who are waiting the diploma defence); they are not entitled to accommodation, even though the School has guaranteed it so far. Regarding meals, the 264 active "Allievi Ordinari", together with those "in proroga", are entitled to all meals (breakfast, lunch and dinner). As anticipated, PhD students are entitled to only one meal per day from Monday to Saturday.

Nevertheless, SSSA intends to increase accommodation possibilities for Allievi Ordinari and for PhD students, especially for the first year, as well as for foreign students; the School would like to do this through the acquisition of other spaces for residential use in partnership with other institutions. More specifically, in this framework, we mention the Fondazione Luca Cavallini: it was established in 2016 by the will of Enrichetta Colombi in memory of his son Luca, who died prematurely. It is a philanthropic institution mainly dedicated to the enhancement of merit and advanced education. It supports Scuola Sant'Anna talented students – especially those coming from weak socio-cultural background - with scholarships, awards and residential and campus services. The Foundation has considerable real estate assets which is on the way to be valorized for improving residential possibilities. In this framework, the SSSA has also promoted the birth of the TAO Foundation (Fondazione Talento All'Opera: https://www.santannapisa.it/it/il-talento-allopera; (Annex n. 1 "Fondazione Talento all'Opera"; Annex n. 2 "Santa Croce in Fossabanda") with the aim to merge contributions from public and private partners to sustain initiatives and investments for talented students. More specifically, Talento all'Opera Onlus is a not-for-profit philanthropic foundation (according with Third Sector Law), established in 2020 by some important Italian companies (Toscana Aeroporti, Acque Spa, Intesa San Paolo, EY Foundation etc.). The mission is raising private funds to strengthen teaching, research and third mission activities within Sant'Anna School, in order to support a large number of talented students and researchers. The Foundation's activity is driven by a pluriannual Plan of Activities, approved by the board, on the basis of priorities shared with the School. Currently, the main project is the Santa Croce in Fossabanda Campus: it aims to renovate an historic building (owned by Pisa municipality) to ensure suitable accommodations (70 rooms) and working spaces for talented students.

Moreover, the SSSA in this last year designed and launched a new large program of Seasonal Schools. The goal was to offer talented students from Italian and foreign universities a training experience to learn to address problems with an interdisciplinary approach. The School's Institutes and Laboratories open their doors not just to the Allievi ordinari but want to increase impact involving talented students in their cutting-edge research projects for the progress of science and society (the seasonal schools started in the second half of 2020, see Annex n. 3 "Seasonal School 2020-2021").

The 14 Seasonal Schools organized for the a.y. 2020/21 are open to university students enrolled in Bachelor's Degree, Master's Degree and PhD courses, at an Italian or foreign university, who have the same advancement characteristics as the Sant'Anna School's students. These initiatives have a duration of one or two weeks, they are preferably held in English and may take place in presence or online.

Participants are awarded with a certificate of attendance at the end of the program after passing a final examination, with full recognition of credits (CFU).

The tuition fee can be reduced, by virtue of a Ministerial funding, for candidates who present a valid ISEE (Equivalent indicator of the economic situation for University) certificate.

Italian and foreign universities with specific agreements with Sant'Anna School are entitled to reserved places and to a 10% reduction in the enrolment costs. The School has already agreements in place with the following institutions: University of Catania; University of Tuscia; University of Trento; Fondazione Onaosi; University of Messina; University of Macerata; University of Camerino and University of Calabria. These agreements allow SSSA to play a stronger role at a national level as a partner of generalist Universities to provide integrative training for their talented students.

Furthermore, agreements are currently under discussion with: University of Basilicata; University of Salerno; Vanvitelli University; University of Urbino; University of Palermo; University of Aosta Valley; University of Bari Aldo Moro; University of Sassari; University of Insubria; University of Brescia; University of Cagliari and Conferenza dei Collegi Universitari di Merito.

More information is available in the explanatory video you can access at the following link: https://youtu.be/xvBmdpKDeoA

Regarding "posti mensa", while the 164 places in the canteen of the Headquarters are actual places, for the other canteens (those for which Sant'Anna has different agreements with several organizations and companies (in particular, CNR and Piaggio in Pontedera), the numbers provided indicate the "equivalent canteen place", obtained by comparing the number of meals provided to students in 2018 with the number of working days in the year (no. meals /working days). In other words, if the number of meals provided had been greater, the number of "equivalent canteen place", as calculated, would have been greater.

Finally, the seats are used several times in a day. For example, compared to 164 seats in the Central Canteen, in normal pre-COVID conditions, the meals provided at lunch could be up to 400. Furthermore, about the canteen of the Headquarters, the construction of a new pavilion in the next few days will increase the capacity by 30 more places.

Based on the CEVS evaluation, **the dispersion of teaching rooms / research facilities and the slowing progress of the Science Park** are real criticalities for SSSA.

As it can be observed in the attached map (Annex n. 4 "Sedi SSSA 2020"), there are three main locations of Sant'Anna School in Pisa: the first one, located in Pisa downtown, is dedicated to the Social Sciences, Institutes, the Higher Education Unit, classrooms and the Headquarters facilities. All these buildings are within walking distance (less than 200 metres). The second area, 1,5 km from the first one, is located in "La Fontina" and hosts the laboratory of Perceptual Robotics and some laboratories of the Life Science Institute. Nearby, there is the third area, located in the CNR area, which hosts TECIP Institute, some laboratories of the Life Science Institute and the research Hospital "Fondazione Monasterio", where our medical professors and researchers work. The only Institute that is located at 20 km from Pisa, but very close to the railway station, is the BioRobotics Institute. There are also additional smaller laboratories or joint laboratories, dedicated to specific research activities (e.g. for clinical activities), but they are attended only by more senior PhD students. In all these locations there are classrooms (up to 80 seats) for seminars and lectures. So, our PhD students or II level master students don't need to reach the main building for teaching duties.

Since March 2020, training activities have been delivered with blended modality. The School promoted web meeting and web conference platforms, to help organizing teaching, research and other institutional activities remotely; furthermore, a digitization program was completed, by transferring all application interfaces to the Web.

In July 2020, the Joint Students and Teachers Board (L. 240/2010, art. 2, c.2, let. g) promoted a survey, in collaboration with the Quality Enhancement Committee (Presidio della Qualità), addressed to Allievi Ordinari, Master students (students of the "Lauree Magistrali" co-leaded by the School), PhD Students, Researchers and Professors of the School, in

order to monitor and receive the most updated and sharp feedback on the quality of the teaching activities delivered by the School during the COVID emergence ("Survey on the impact of the Covid-19 emergency"). By referring to the survey's results as a whole, the most frequent answers revolve around five basic remarks:

I.   Flexibility, in terms of delivery of the didactic and research activities, together with the experienced opportunity of realizing meetings and workshops through digital systems, is a result that all categories perceive as a positive lesson and as a silver lining of the COVID period.

II.   All the categories involved in the survey express the willingness to acquire more refined technical and educational skills related to the DAD (Distance Didactic Activity), together with a more appropriate use of the digital systems for distance learning activities.

III.   The internal communication related to the evolution of the sanitary aspects and the correlative measures could have been extended further.

IV.   A wider attention to the relational and psychological aspects of the educational and daily experience, as well as the social one, is required by all the categories involved.

V.   A faster transition towards the implementation of a fully bilingual system for all aspects of the college life is perceived as important and urgent, in order to boost a complete integration for foreign students within the Sant'Anna community.

A synopsis of the results is presented in the Annex n. 5 ("Indagine COVID 2019").

During the pandemic period, we covered distance teaching activities in 100% of cases and reached a percentage of staff structured in smart working over 95%. In the period July-October 2020, thanks to a specific national financial support by the Ministry of University and Research, we designed and equipped seven classrooms for blended teaching at the Headquarters. We have enhanced the campus WiFi network to better support students residing in the colleges. We will also complete the migration of workgroup services to the public cloud by the end of 2020, to strengthen the initiatives to support smart working already underway.

Concerning the research facilities, the Science Park is still the main project for SSSA. On the other hand, as correctly observed by CEVS, the activity is slowing down for a set of problems which will be better discussed during the virtual visit. Briefly, the project of the new Science Park suffered a significant delay due to a legal recourse presented by a competitor in the engineering services. When the legal recourse was rejected, the project resumed its process. The first part of the Science Park is estimated to be completed in four years. The budget allocated by the School was integrated, at the end of 2019, by a contribution of 2.5 million euros from the Tuscany Region.

In the meantime, SSSA has invested in new infrastructures which collect laboratories and groups, that were before dispersed, in new locations. The investments for the PERCRO laboratory and for some of the Life Science Institute laboratories are efforts which tried to mitigate the problems related to the lack of space for those research teams that needed it the most.

The library, located in the SSSA Headquarter, is the only one for the entire community of the School. Users can enjoy a main reading room and other three smaller rooms, one of which is suitable for group study; seven PC stations, printing, copying and scanning machines are also available. In the reading rooms, students may access three different WiFi networks. The Library is open Monday to Friday from 8.30 am to 6 pm but in regular, non-pandemic, times SSSA students may access the Library, through an automatic control system, also in the early morning, evening and the weekend, from 7.30 am to 1 am. The Library resources are mainly related to the fields of applied sciences; the library's collections are entirely modern: scientific manuals, textbooks and journals, partly printed and partly online, searchable by a discovery tool. At the moment, users can access about 78.000 printed volumes, 93 current printed periodicals, 67.648 e-journals, 5100 e-books. Online resources are available on and off campus, through a VPN connection (Virtual Private Network) or through federate network for identity management (IDEM et alt.).

From the Library web pages, users can access full text academic articles by the most important international publishers (Elsevier, Springer, Wiley, ACS, Emerald, IEEE, Nature, Oxford, Jstor); ebook collection (Oxford and Italian publisher law collections); Laws and Regulations databases (De Jure, Sistema delle leggi d'Italia, Foro italiano online, Nexis Uni [European

and International law]). Specialized databases allow market researches, industry analysis, company information, patents and statistical data (Datastream, Orbis, Zephyr, Orbis Intellectual Property, Orbit). Bibliometrics and citation analysis tools are available from Web of Science, Journal Citation Report and Scopus databases.

The enhancement of the e-journal and e-book collections will be the goal for the library next year. As the publishers' licence agreements authorize institutional access by Secure Authentication (IP range), each academic institution in Pisa have to subscribe electronic resources individually. However, there are forms of library cooperation for the exchange of documents and library services. The oldest books are placed in two external stocks: students can request these items from the Library catalogue. Books from Aula Magna Storica are delivered daily, within max 24 hours from the request. Books from the Archivio are delivered twice a week by a courier.

The School has already developed a project to extend the current library capacity, with an increase of 33 seats, and the construction of a new multipurpose room with an additional 70 seats for reading / consultation. The project will be implemented within the next two years. The representatives of the students in the Academic Senate and in the Board of Directors examined and evaluated the project, which was approved by the bodies.

Being aware that these seats cannot satisfy the needs of all students, in the Collegio Terzani (76 beds) there are 4 study rooms with more than 50 seats. In the Faedo College (84 beds reserved to Sant'Anna students) there is a study room of 30 seats for the students. In the Headquarters, in the afternoon and evening, students may use the classrooms for group activities. In particular, room 6 is always available for study or meeting. Moreover, every student has a desk in their bedroom.

The **demographic analysis** of the SSSA students is continuously monitored from the different responsible entities of SSSA: Deans of the Social Sciences and Experimental Sciences Faculties, Coordinators for Joint Master Degrees courses, PhD Programs Coordinators, Pro-rector for Higher Education. The analysis of the provenience and demography is jointly performed with the International Relationship Office and its Pro-rector.

As observed, there are very few foreign undergraduate students at SSSA and this is the result of various factors. Institutions such as ours, that have a mission of promoting merit and social mobility, are few in Italy compared to those that would be needed and 264 places are still limited considering the actual need. Although the School is open to foreign students, it is consistent with our mission that almost all students, especially for the first level, are Italian.

The situation is obviously different for Master (Laurea Magistrale) students (in cooperation with other universities) and PhD students, since English is the official language for these programs.

We wish to point out that an international environment is provided to all SSSA undergraduate students, including beginners, by seminars and lectures from non-Italian scientists and researchers, either organized by the Institutes, which undergraduate students are highly encouraged to attend. Participating to seminars and short courses given by or including foreign researchers enriches undergraduate students' curriculum and represents one of the evaluation criteria during the periodic assessment that the undergraduate students undergo.

The objective of SSSA for undergraduate students is to enlarge as much as possible the geographical distribution of candidates. SSSA promoted many initiatives for **collecting talents in different territories**, with a multifaceted strategy. SSSA **orientation activities** are mainly focused on the promotion for undergraduate students (Corsi Ordinari), providing information both to high school students and high school teachers.

An important aspect of this strategy is that it is based on a preliminary selection done by the high school managers, who recommend their best candidates. A final selection for the orientation events on site is done by a specific selection committee, which, among other criteria, takes into consideration geographic representation and curricular types. Activities were organized with the support of an internal database which is constantly updated with contacts of students, high schools and high school teachers (usually the Director of the high school and the teachers delegated to orientation activities). All students asking for information (email, telephone), visiting our stands during orientation fairs (SSSA participated

to several fairs around Italy in 2019) or participating to SSSA orientation initiatives are registered and are asked to leave (in respect of the GDPR dispositions) their email in order to be contacted and updated about SSSA orientation activities.

Orientation is also conducted with the support of our Allievi Ordinari, every year engaged in organizing a road map tour of visits and presentations of the SSSA in a selected number of Italian high schools. In 2019 Allievi visited about 50 high schools, meeting more than 220 students. Every year, usually before Christmas, we send a "newsletter" to our mailing list (about 10.000 contacts) giving information about the yearly Orientation Program (Agendas, terms of applications, etc.), which is published on our website (https://www.santannapisa.it/it/orientamento-0).

When the Call for application for Corsi Ordinari is published (late January/mid February), we deliver a second issue of the newsletter, focusing on the restricted list of teachers and on students attending the last high school year. From March to late June we send several updates concerning the call such as deadlines or the agenda of the preliminary test to apply for the "Concorso d'Ammissione". From a more strategical point of view, it is important to notice that SSSA implemented a monitoring system with the aim of improving every year the way of reaching high school students.

All the students participating to orientation activities (714 in 2019) are asked to fill in a survey where they are asked to give information about the way they knew about SSSA, their appreciation for the initiative they took part, specifying strength and weakness points, and giving suggestions for improving them.

In this way we are aware that the main channel for being informed by the existence of a "special University focused on fostering talent and merit" is the word of mouth between students, friends, family and family friends. That is why the last campaign for promoting Corsi Ordinari was programmed with radio announcements and several campaign on newspapers or newspapers' websites (in order to reach the "elder" part of the influencer, such as parents, family friends and teachers) and with a focused campaign on Instagram, the more diffused social among high school students, which we can define as our direct target.

Our orientation activities are also dedicated to enlarge the **socio-economical distribution** of our candidates for Allievi Ordinari. In this framework, we are carrying out the Project ME.MO. "MErit and social MObility" which is continuing the activities of the "Social Mobility and Merit" Project funded and carried out in cooperation with MIUR in the three-year period 2014 - 2016 involving 290 students from 26 schools in 5 regions (Lombardy, Tuscany, Campania, Sicily and Sardinia) with very good results.

The ME.MO. project involves talented students with fragile socio-economic background and meeting great obstacles to continue their studies. The project aims at offering them an orientation and mentoring path (in presence and remote activities) to assist students from the very beginning of the fifth grade, towards the final exam and the university admission. In the last edition of the MEMO project, among the 452 applications received, 136 students from 92 schools were selected. In the selection phase, in addition to the academic results and the student's personal profile, also the parents' educational status was assessed. To ensure a balanced geographical representation, the available places have been divided into 5 macro areas (North West, North East, Center, South and Islands).

More details about the Geographical Origin and the Gender Distribution of our Allievi Ordinari are given in the Annex n. 6 "Geographic origin of undergraduate students".

As explained above, the **attraction of foreign students** is a relevant issue for Master (Laurea Magistrale) students and for PhD Students. The capability to attract foreign students is demonstrated, for PhD students and university master students, by the country of origin of the applications. For PhDs, 61% of applications come from non-EU countries and 5% from EU countries (other than Italy). All PhD Programs are continuously monitoring their attraction at international level. In addition to the overall percentage as reported above, more details can be found in in the folder attached as Annex n. 7 (" Relazioni PhD") which collects all the 2019 PhD reports yearly delivered to the Nucleo di Valutazione, and which represent a picture of the results, strength points and potential weaknesses of the PhD Programs.

The **international mobility of outgoing and incoming students** is extensively promoted by Sant'Anna and it is implemented with different modalities for Allievi Ordinari and PhD Students.

For Allievi Ordinari, SSSA allocates each year a conspicuous amount of funds to this purpose. The total number of "soggiorni fuori sede – SFS" approved and financed in 2018 and 2019 are reported in the tables below (number of mobility periods funded for each area. In bracket the number of students involved).

AREA	Year 2018	Year 2019
Ecomomics and Management	36 (25)	35 (26)
Law	15 (14)	29 (22)
Political Sciences	39 (36)	47 (26)
Agricultural Sciences and Plant Biotechnology	14 (10)	25 (14)
Engineering	18 (18)	26 (24)
Medical Sciences	43 (35)	60 (38)
TOTAL	**165 (138)**	**222 (150)**

Requests are submitted at specific time of the year by the students, after an interaction with his/her tutor. A set of criteria are considered: i) the student's curriculum and performance; ii) seniority; iii) quality of the proposed activity, and iv) previously supported mobility. For each criterion a maximum score is attributed. A panel of evaluators (not including tutors) for each field, designated by the Deans, assesses the proposals and produces a list from which the proposed mobility is approved and financed. On average > 80% of the requests are approved and financed. As for the evaluation *ex post* of the efficacy of the activities done during the mobility, a standardized procedure is not in place, besides the fact that students need to present a report to the Dean upon their return. Currently, most of the evaluation is done by tutors, who monitor the research experience abroad in progress and at the end. It should be noted that in most cases, mobility is achieved by a direct intervention of tutors or teaching and research staff through their international network of collaboration and acquaintances. Even if not formalized, this has been so far a solid guarantee of the quality of the educational and research activities conducted abroad. An exception is represented by Medical Sciences that organizes presentations by the students upon their return from their mobility leave, attended by both faculty and students. We have been talking to extend this good practice to all the other areas but it has not been finalized yet.

Also PhD students are recommended to spend a period abroad of 6 to 12 months. The choice of where to spend the period abroad is taken in agreement with the PhD thesis supervisors, depending on the specific research projects. These periods abroad are supported by SSSA, through its PhD programs. More details can be found in the folder attached as Annex n. 7.

In addition to mobilities for Allievi Ordinari and Allievi PhD, SSSA is managing all activities related to International Mobility through the International Relations Office and its Pro-. They are responsible to develop a strategy to select international partners, to promote high-potential international relationships, to deal with ERASMUS programs and – more recently – to deal with European Universities. In fact, SSSA has recently started the EELISA Project, the "European Engineering Learning Innovation and Science Alliance", which includes 9 European Universities and which, in the next 3 years, will carry out an ambitious project that intends to enhance the students' scientific skills and innovation capabilities by expanding the context of learning to broader disciplinary perspective.

More details about the present activities and future strategy of the International Team are reported in Annex n. 8 "Internationalization".

Concerning the **workload allocation for the SSSA faculty and the specificity of the SSSA teaching,** we have to underline that Sant'Anna is a University for talented students. So, its strength point is the ratio between teaching staff and students, also considering that in the last ten years the teaching staff has increased from 57 professors and 46 researchers in 2010 to, respectively, 82 and 72 units in 2019. In addition, Allievi Ordinari attend the traditional first and second level courses at the partner University and they have the opportunity to improve their preparation with dedicated, high qualification courses at SSSA. They have also the opportunity to have a personal tutor for all the duration of their stay.

The **Sant'Anna School training proposal** for undergraduate students is renewed every academic year through a close interaction with the students of the School. This modality permits to strengthen the connection between research and teaching and, at the same time, it allows to propose a didactic offer which can integrate the programmes of University of Pisa and University of Florence. The teaching proposal focuses on new, interdisciplinary topics, largely neglected by the traditional teaching agenda. During courses and seminars, the presence of stakeholders and public servants at national, supranational and international level, whose activity is related to the topics of the courses, helps to bridge theoretical and practical approaches. The recent decision to include in the curricula 2 CFUs related to the Institutes' research projects facilitates the early introduction of the students to the research field.

In the educational program of undergraduate students, **tutors** play a crucial role. In fact, due to the limited number of SSSA undergraduate students, the interaction between tutors and their students is for the most part very frequent. First year students, are assigned a "reception tutor" (*tutor dell'accoglienza*) the day they enter SSSA, whom they can refer to until the actual personal student is assigned by the Deans. Tutors have the responsibility to counsel students in preparing their annual plan of activities. Such plan is formally approved by the tutor before being submitted. Any request regarding changes or modification to the student's curriculum and timing of his/her activities is previously discussed and signed by the tutor before being considered by the Academic Class. Tutors assist students in identifying the type and duration of any request for mobility, the so-called *soggiorni fuori sede*, most appropriate for his or her personal and cultural-scientific growth. Any request before being submitted to the dean must be approved by the tutor.

A fruitful relationship between student and tutor relies on a bilateral cooperative attitude. Sometimes this is not established. For this reason, students have the power to change their tutor any time. It is the Deans' responsibility to make this change as smooth as possible. In order to facilitate the establishment of such cooperative and trustful interaction and to monitor tutors' activities, SSSA recently produced a guideline for tutors.

Concerning the overlaps between the SSSA faculty teaching and the partner University teaching, a clarification about joint master courses is opportune. SSSA, by Statute, cannot provide Master Degrees alone. It has to join with one or more Italian Universities to deliver Master Degrees. This is a limitation, e.g., for joint degrees with foreign universities (SSSA cannot enter these initiatives if the other universities are all from abroad). In these framework, joint Master Degrees with Pisa and Trento University are designed in order to offer a high qualification Master to talented students who are enrolled in the affiliated universities. They follow courses taught by the professor of the School. It is "possible" that these courses are also attended by "Honours Students" of the II level of the School; for them, 2 places are reserved in 5 Master Degree Programmes for a total of 10 places (MISS, MAIN , ECONOMICS, MOLECULAR BIOTEC and BIONICS). All these students attend courses given both by professors of the partner university and professors of SSSA. The problem of overlaps is approached from the beginning in the different *Consigli di Corso di Laurea*, when designing the course. These websites present the teaching organization for the Joint Master Degrees currently active: https://www.santannapisa.it/en .

In the present academic year, the **PhD programs of SSSA** are 13, including a recent PhD program which is selecting right now the first year candidates ("Health Science, Technology, Management") and those in partnership with other universities ("Data Science" and "Transnational governance") for which students are enrolled in the Scuola Normale Superiore. All of them have their respective Collegio dei Docenti, and a strategic plan well aligned, on a yearly basis, with the strategic plan of SSSA. On the other hand, they have also many differences concerning the topics and the way to conduct the research. They are normally 3 years long, but there are also 4-year-long programs. More details about each PhD Programs are reported in the folder attached as Annex n. 7. Each PhD has a specific organisation of the courses, with the constrain of attending at least 150 hours at SSSA with courses

dedicated to PhD students, specifically. Interdisciplinary is guaranteed by soliciting PhD students to attend courses from others PhD courses, with the objective to improve their research plan.

It is worth noting that for the doctoral program in " Political Science, European Politics and International Relations" no further positions have been assigned since the academic year 2017/2018; this fact partly explains the progressive reduction in the number of doctorates in subsequent years. Moreover, even if the School, for PhD programs, has a budget of 3,6 million every year (dedicated to grants and other expenses) financed by own and ministerial resources, the increase in the costs of a single position has made a reduction in the number of PhD, as well as the fact that Agrobiodiversity has become a 4 years long program since the academic year 2018/2019 and that the School finances also 3 positions for the "Data Science" and "Transnational Governance" programs whose students are not considered in the statistical data as Sant'Anna students. Every year the School finances around 50 PhD positions while other 30/40 positions are financed by privates or research projects.

Finally, the drop from 2016 to 2017, instead, is due to the fact that the PhD programs in the past started at different date, while since 2015/2016 they all start on the 1st of October; therefore, data of 2016 and of the following years are not homogeneous.

Final evaluation – Section A

(to be completed by the CEVS after the on-site visit ; max 2500 words)

As far as the structural requirements are concerned, the accommodation is guaranteed to Honour Students. In comparison to other Italian institutions, the school has undoubtedly many facilities.

A face-to-face visit would have favoured a check that was (partly at least) obviated by the video materials provided by SSSA. During the interviews the students spoke about the availability of the facilities and the common spaces they have at their disposal provided by SSSA. From these, some strong points have come out and also some levels of criticality of the whole SSSA buildings. After all, there is the awareness by SSSA of the need of implementing both the facilities for the students, and the premises for the research, especially libraries and Laboratories. Also, the need for creating connections among the different scientific and the research premises has come out. SSSA goes on in the strengthening of the premises, though often facing hindrances and unforeseen restrictions set forth by the Italian legislation. There is a good relationship between the available structures and the Honour Students, even if the premises could be improved.

The school has organised some strong Research Institutes. Each School has, on average, good level of technical assistance that helps in keep on running the experimental facilities. A few years ago, SSSA had the courage to perform some important investment in facilities for developing top class technology. The most visible investments are in the field of robotics and in the clean room for optoelectronic devices. The latter is a 14M Eur facility, quite unique in academic institutions in Italy. In robotics the school benefits from strong international recognition. This is also one of the field where the School's intellectual property is fully developed. Another sector that merits to be mentioned is the biomedical activity that, even though very specific, has obtained some remarkable achievements. Research moreover is well connected with the program for visiting professors, seminars, internal courses and conferences.

In terms of facilities there are some institutes that, because of their high productivity, can probably provide more adequate facilities to students, particularly PhD students; however, other research fields, which currently have lower academic potential, are less capable to provide facilities as good, in respect of personal space, laboratory space or electronic devices. So far, without denying the merit of any of the SSSA's activities, one may form the impression that they are originated from individual projects and thus lack of an organic, synergetic coordination. The school might gain enormously by implementing this scientific coordination internally, but also externally, at least at the Pisa level, by sharing its facilities with those of the SNS, for instance the NEST laboratory (SNS-CNR). The growing need for high-through put technologies for biomedicine and agronomics cannot be afforded by a single institution. Moreover, the School should also consider the potential to be as environmentally friendly as possible, not only from the point of view of recycling but also concerning packing and containers in services such as canteens. The design of the new park should try to consider such strategies in order to be also a leader from the infrastructural point of view. Finally, SSSA should continue the process on promoting the digitalization of the library and decreasing the scattering of the buildings in the area.

The school has a strong identity and all students express pride of being part of it. The interviews have given CEVS the opportunity to discuss and listen to brilliant and very motivated students, capable of expressing enthusiasm for their current situation and their professional environment. Satisfaction is outstanding, the possibility to interact with other students from different fields and with professors and researchers create an enriching environment towards their educational experience at the school. The interviewed students are excellent and attest the validity of the system of recruiting both Honour Students and PhD Students. As far as the students of the second level degree are concerned, they are generally those of the first year (Undergraduate Students) continuing their career in SSSA. The small number of students depends on the possibility of SSSA to offer facilities to Honour Students. The interviews confirmed the impression in the first reading of the documents, i.e. students are mostly from Italy.

The recruiting procedures have been suitably explained and can be considered absolutely valid as the students met at any grade or level (Honour Students, Master Students and PHD Students) have shown their excellent qualities. Having said so, there is a perceivable difference between the undergraduate and master students and the PhD ones. The former went through a real selection and are the real living "soul" of the school; however, they make a limited contribution to the research programmes/projects. The selection of the PhD students, in fact, is similar to that of any university and there is no such a sense of involvement with SSSA as for graduate students. The difference with generalist universities is made by the articulated, mandatory classes that PhD students follow. As a matter of fact, due to the complex geographical situation, interdisciplinary programmes seems to stay at a concept level. The scientific projects of the thesis seem also to belong to one discipline only. Some substantial difference is also perceived between students working in sciences (in particular in Engineering and Robotics) with respect to those in Economics and Politics and Law. In sciences, PhD students are regularly present in the laboratory, have a desk and an office, and are constantly followed by their advisors. For the others, the situation looks different and the school shows some potential for improvement in terms of available places for studying, but also simply for meetings. While the freedom left to PhD students to pursue their projects is admirable, still the guidance of the supervisor is essential for the feasibility (in terms of financial and accessible technological platforms) and the access to publications in best journals.

Notwithstanding these observations, SSSA manages well the fine balance between these two, quite distinct parts of the Institution. Probably, this "human capital" asks SSSA a bit more of an effort in its awareness. Generalist Universities do not have the same human capital SSSA has. This requires an "awareness" for which the monitoring actions of the students SSSA activates is only partly suitable. The criteria SSSA uses (requesting the students to keep a certain average in the grades of the exams and sitting them within a given period of time) is definitely much but not enough, as these are the same criteria required by other institutions of higher studies, not as excellent as SSSA.

Concerning students' services the CEVS appreciated as most remarkable points: a) the strong employment outcomes for the Scuola's graduates, b) the comprehensive and effective support provided by the International Office, which is highly valued by non-native students and c) the mobility and internship opportunities for students, which indeed enhance their exposure to high quality and professional research environments.

Tutoring and mentoring services could be improved through a more systematic monitoring and assessment of the students' placement. Regarding Honor, Master and PhD students the goal for the future could be the insertion of these students in international milieus, favouring not only the participation to programs promoted by SSSA (Jottofair for example) but also to events organised in Europe meant to introduce the students in wider contexts. A monitoring of the students' careers once they are out from SSSA should not be limited to the data supplied by "Alma Laurea" but following their careers could be a useful practice to improve the placement and, as a consequence, to monitor and evaluate the effectiveness of the SSSA's training. Organising job-fairs, so far, is not the only possible support platform. Typically, many institutions have a career service, to let students know how jobs are like. In many institutions recent former students are invited to give talks about their current positions to the school students. Given the strong SSSA alumni loyalty, this would be easy to organise and would also strengthen the link between students and alumni.

SSSA should improve the internal support for students which appears to be currently limited: supervisors agreeing to write reference letters are an important part of the support that students need to receive, but most institutions also offer more formal help, such as academic placement officers for PhDs intending to pursue an academic career, and "inside information" of possible career paths for both levels of the honours.

A generic course on "how to publish" is important (though it should also include subject specific "sub-courses"), but it should not be the only institutional support to a job market: many interviews with colleagues and current students suggested that doing effective research is all is needed, both to publish papers and to be successful on the academic job market.

In some disciplines, the junior labour market is highly centralised. Among those provided by SSSA economics is a prime example. Two conferences, one in the US one in Europe, are held annually around Christmas time, and serve as meeting point of academic employers and junior job applicants, such as final year PhD students and current holders of post-doc posts. Each participant can benefit from dozen of first interviews in two-three days, and 90% of posts in the top institutions in the world (universities and other research centres) are filled via a process that starts at these venues. The SSSA does not support its students in the complex and difficult application process (or even discourages them from participating), thus essentially cutting them off from a large chunk of the available academic posts. Students in economics are further hampered by the required structure of the thesis. The standard structure of a thesis in economics, a de-facto requirement for consideration for academic jobs in good schools is single substantial paper, preferably single-authored, which given the time scale of the best economics journals is unlikely to be published. The SSSA instead requires two-three published pieces of works, and does not explain the importance of single authorship for the job market.

As far as the orientation activities are concerned, SSSA organizes many events with the High Schools all over Italy. In the future, this process for its promotion could be integrated by the creation and the realization of "challenges" and courses that would stimulate high schools to take part in programs of excellence and not only to highlight excellent students who can become SSSA's students. This would not be impossible, as High Schools take part in events (usually called "Olimpiadi") where students are stimulated by the teachers to follow

paths of a higher level in comparison to the ordinary ones. Moreover, it could be useful promoting among the High Schools not only the activities of the SSSA but also "policies of interaction" and shared programs.

In this respect, the matter about how the promotion of SSSA is pursued abroad is still open to improvements. In fact, the promotion of SSSA takes place in Italy but the School could attract also students coming from abroad. At the moment, this is limited to PhD students but it could be considered also at the other levels. Even this matter could be a challenge for the near future. So far, increasing the promotion of the school abroad also for Honors students (both first level and master) could be an issue the School might address.

To this respect the CEVS observed as useful options the following:

- Promoting and scouting international placement events for PhD students.
- Further systematise student recruitment practices, so that the Scuola's reliance on word-of-mouth promotion becomes less relevant over time. For example, more connection with other master programs from other universities
- Improvement of Website information. These could be clearer, in particular when it comes to different languages, as some information is missing depending on the language.
- More connection between research and Master student – the 2 credits related to research is a measure to move along this trajectory.

Teaching requirements are well satisfied. Students are free to select from a broad range of optional courses and a high quality student experience is maintained also during the Covid-19 pandemic and a close relationship between students and supervisor is observed in some specific fields. Nevertheless, the teaching and research fields are sometimes limited (see Medicine) and connection between internal courses, sharing activities or projects might be improved. Increased connection between internal courses, shared activities or projects, is also related to new possible innovative teaching methodologies. Students at every level, especially at the master and PhD, want to learn things that have direct impact of their learning process. Sharing projects between some internal courses could be a good approach to achieve it. Also review arrangements to support students' research interests where they do not entirely align with those of the Faculty might be useful together with a more formal organization between PhD students – Supervisor. If the school becomes as big as the objective is, this in fact might be a problem in the future.

With respect to interdisciplinarity and innovative teaching these have to come to terms with a certain disparity among the SSSA's institutes. For instance, if the BioRobotics Institutes has a very high level, there are some others at less competitive placement, not only at an international level but also at a national one. However, as the six institutes and their courses belong all to the same excellence school, in the future the school should think about some training strategies, which could promote excellence in any sector.

Innovative teaching projects, such as the EELISA project, are a great opportunity to know and implement new innovative teaching methodologies from other universities. Results and conclusions from these kinds of projects could help the school to improve, not only the teaching staff, but also the competences of future students.

As far as laboratories are concerned, the CEVS positively noted the investment made by SSSA in the laboratories where, as it came out during the visit, a community between students and technical personnel is created, and the chance of detecting and inviting Visiting Professors who, though for limited periods, can provide an important impulse to the teaching. This important investment in education should be monitored regularly, together with the progresses that such activities make possible. In other words, SSSA could activate some strategies to monitor and assess the effective progresses made in its activities at any level, that is the interdisciplinary teaching activities, the "ordinary" ones and the research

activities carried out with the laboratories. The "standardization" of this strategy could be useful to monitor and assess the teaching effectiveness and the progresses it makes possible for the students. In this way, SSSA could standardize the check procedures of the effectiveness in the teaching and research activities in order to monitor the effectiveness of their research activity and teaching in the training of this excellent "human capital". Currently, the check procedure is performed by the tutor assigned to each student and this check is surely effective. Therefore, more could be done in assessing how all these SSSA activities produce a surplus in the academic training of SSSA students. This would favour the creation of group of "strong" researchers.

Also the relationship with generalist universities and the role of schools of excellence in these partnerships still requires some fine-tuning. Maybe, as the agreement with Trento suggests, the School might extend its partnerships beyond the Tuscan universities.

With respect to the teaching staff, this is certainly excellent and consistent with the size of the School. Some Professors have been recruited after having coming back to Italy following a working period both at European and extra-European Universities taking into account both teaching and research. Notwithstanding the challenges (e.g. salaries) and the constraints that the MIUR imposes on recruitment, the Scuola would benefit from more integrated and comprehensive recruitment strategies for attracting international academics using, whenever appropriate, unconventional channels such as "chiamate dirette", for individuals of "chiara fama". The School should pursue an effort to integrate professors from abroad to promote both the internationalization of the SSSA and the international education of students. Linked to this, the strategy to recruit expatriate Italian academics is logical but a more expansive approach is needed if the Scuola truly wants to compete internationally.

The effective use of high-quality, visiting lecturers clearly emerged. The long-term involvement of excellent visiting professors in the different fields of research could implement the placement of SSSA in the international landscape. This is a task that SSA can set for the near future, aiming in this way at becoming an Italian point of reference in the international research panorama.

SECTION B. THE SCHOOL'S STRATEGIC AND PLANNING DOCUMENT

The planning Document sets out the School's aims and strategies for educational and research offers, the specific approach to QA a well as the role and position of the School in the national and international contexts. The document must indicate the basic choices, objectives and corresponding priorities that guide policy choices made by the School, the mission that the school identifies for itself within the national university system, and how it is positioned within the international landscape, specifying the role assigned to the school's doctoral and pre-doctoral programmes, if present, how they relate to choices made in terms of research and infrastructure, the consistency of those choices and priorities and achievement of the stated objectives. The document must demonstrate the school's economic and financial sustainability and all resources relating to teaching for the school's educational activities when it is fully on-stream. The CEVS should then check the consistency of the School's strategies, objectives and means (see Guidelines page 20).

NB: Strategic and Planning Documents might change across Schools which are free to organise its contents and structure (template not provided)

CONTENTS	CEVS EVALUATION
STRATEGIC VISION, OBJECTIVES AND SCHOOL ORGANISATION	There is a clear perception of the SAA positioning at the national and international level and the potential as well the ambition to be a world leader in a small subset of the broad areas of the disciplines it includes. The school ranking makes it one of the top academic environments in Italy. It is not completely clear which are the perspectives through which the school looks at this leadership position in coming years. Once the positioning was gained, which institutions does the SSA mean to compete with? Will this concern all areas where its strategic sectors are or have been determined? Is this competition affecting equally all areas or has the Academic Board identified strategic sectors? What does this position in the international ranking offer more to Italy in comparison to the one of other institutions, which are not excellence but present in the same ranking (for example Politecnico of Milan)? The DP does not explain this last point and it focuses more on the development of the currently guidelines followed and less on the opening of new perspectives, which would make the SSA competitive among the universities in the world. The strategies for teaching, research and third mission are described in the DP. The key players (leader and school offices) for the coordination of each task are indicated. There is a plan for five years, with special attention to the monitoring of the interventions for the first year and after

CONTENTS	CEVS EVALUATION
	three years. The document was apparently approved on December 2019 by the Senate and CdA. The document about the next year program includes several performance indicators, some of which needs to be updated but in general they represent acceptable parameters to guide and monitor development strategies of complex organizations. The reference to the performance markers is recalled in the DP several times. Some indicators and their interpretation could be better discussed during the "on site" visit. For example, one indicator that could be considered shows opposite trends in the pre-doctoral students' satisfaction for the didactic activity: whilst the indicator is decreasing for the Social Science area, it follows a reverse tendency for the Experimental Science area. In addition to comments raised in previous sections, it looks like the SSA academic staff is mostly coming from Italy, likely from nearby areas in Tuscany, suggesting a high rate of local recruitment and internal career progressions. The leadership of the SSA should really consider whether this is a desirable feature and, in any case, try and understand the reason for this concentration. Ideally, the SSA might want to consider a plan to ensure that this trend is reversed since Pisa and Tuscany are locations highly desirable to international researchers, which the recruiting success of the EUI in Fiesole testifies, despite its obvious shortcomings such as the short term nature of its contracts. The disproportionate local provenance of the staff could be rooted into the insufficient or inadequate advertisement of available positions to qualified and potentially interested applicants. The mildness of the individual Institutes' plans (reported in the DP, pp 16-20) to pursue the third research objective suggests that such introspective analysis is not mature yet. While competing for staff salaries with European and US institutions might be hard, research funding and the relatively lighter teaching and administrative burden may add to the attractive location to induce outstanding researcher to consider a position at the SSA. As reported above, the faculty recruitment plan is indicated for each Institute with slight differences in the main guidelines. The whole process, however, is sketchily described. There is an emerging commonality, which is the need to favor recruitment over in house career progression and attraction of foreign researchers/teachers, in line with what stated before. The strategies to pursue these significant goals are, nonetheless, incompletely delineated. A lengthy part of recruitment plan discusses the possibility of visiting academics. The experience across the world is that few outstanding institutions rely on organized programs for visiting academics to enhance their status. The typical arrangement is rather bottom-up, with academics inviting colleagues with whom they have a working collaboration and this may develop into a more stable medium term relationship (with, for example the provision of an annual course over a period of say three years). Because of natural assortative matching between co-authors, a middle-of-the-road academic will co-operate and invite middle-of-the-road researchers, and a program of world leader visiting researchers can in general happen at institutions where there are world leading academics. If the school wishes to pursue that route, it should consider exactly what benefits SSA hopes to achieve, and whether it runs the risk of being seen as an attractive location for a long paid vacation. **Whatever the planned intervention might be, some issues should be considered: How does the SSA characterize this action in comparison to other "generalist" Universities? How does it select and choose those Visiting Professors? How do those Visiting Professors integrate in the path of excellence of the SSA and how do they integrate with the students? How do they weigh on the students' training and education? How**

CONTENTS	CEVS EVALUATION
	the school makes sure that the visiting professor really makes a difference in the student`s training? What is the students' perception about visiting scholars?

In the DP there is the description about quality strategies and the third mission. Nevertheless, as far as the publications (shown as the goal of the third mission) are concerned, the excellence goals are similar to those considered by the non-excellent Italian Universities, i.e. publication in Scopus or WOS indexed journals is favoured by any University. Most of all, this indexing is not enough and it must go together with an effective value consideration of a journal in the international scientific community. Therefore, stated as a goal some articles published according to those criteria is not sufficient to guarantee excellence.

In the examined documents, for the CEVS some of the answers to the following questions regarding "STRATEGIC VISION, OBJECTIVES AND SCHOOL ORGANIZATION" should be considered.

- **How does the school establish and monitor the criteria of the non-Scopus nor WOS indexed publications?**
- **How does it encourage publications in international journals and with publishers with great scientific relevance?**
- **Why and how does the school mean to attract excellent scholars external to its scientific community to create that bridge it talks about on page 49 of the DP?**
- **How does it mean to stimulate competitiveness in the research of its teaching staff and researchers and how does it try to stimulate in this sense even the young ones that it educates to research?**

The monitoring data about the employment rate are available only for 2018 and it should be interesting to have additional reports. There is also an experimental survey completed on February 2019 by the Placement Service for graduate employment. The outcomes are quite good but selective, as stated before. The school will implement different activities with the aim to assist the employment of the students, at different levels. In particular, there are agreements with private and public entities for stages of the students, the "Jobfair" with different Excellence Schools, and the Career mentoring. **Does SSA track students who participate in the JoTTO FAIR? Are they still in contact?**

The SSA is considering policies for the next years aiming at further expanding the administrative support, increase the quality of the services, as well as to promote and monitor the sharing with administrative and technical staff. Some actions are extremely relevant, such as the reduction in gender gap, the lean management, the continuous formation/training program, and improving internal and external communication also through the school website (which should be certainly modified). In this regard, the administrative staff's point of view about this integration and its involvement represent necessary and useful implements. However, even though the school makes use of questionnaires to improve its activities and the assessment of its strategies, those questionnaires are not foreseen for the administrative personnel.

The committee would be like to share with the leadership the vision about the breadth of SSA ambitious strategic themes: *'climate change, environmental sustainability, justice and social inclusion, new procedures for international relations, health and connected technologies, big data and the impact on economic systems and technologies'.* **Are these themes pervasive through SSA future programs? To which extent does the leadership think this approach is systematised? How does it influence staff recruitment/research directions, funding and culture**

CONTENTS	CEVS EVALUATION
	/curriculum development and didactics/QA processes and so on? How are these themes managed through the Federation? The strategic intent is clearly laudable but the committee would like to have a full sense as to how SSA really drives practice in all of these areas.
POLICIES AND STRATEGIES FOR QA	In general, the instructions on the quality policy are suitably promoted and, in the DP, we read that "The school commits to promote the culture of quality among all the components of the institution" (see the reference to the event dated on 11th June 2018). The "Process to Guarantee Quality" are described too. As far as the QA policies are concerned, the school shares them with IUSS (see the document https://www.santannapisa.it/sites/default/files/politiche_della_qualita_sssa_iuss_approvato_pq_19.12.18.pdf). The QA process is a relatively recent addition to the school policies but it looks like a steady process to be monitored in the coming years. The description about the strategies for QA is clear but also explained very rapidly. **It would be suitable to know how the SSA means to carry them out. For instance, the document speaks about innovative teaching, but how do the courses use it according to their specific topics? How is this innovation monitored and assessed? Furthermore: how is the impact of the training offered by the school assessed?** In the documents there is a reference to the European Quality Assurance standards (ESG - Standards and Guidelines for Quality Assurance in the European Higher Education Area - Part 1), even if the reference is limited to a hint. It would be useful, to assess the policies in a suitable way, to know also the opinion of the Stakeholders and those who invest on the students trained at the SSA. There is still the matter on how QA promotion is activated and on the effectiveness of the results that the data on the students' careers (currently not supplied) would clarify. Also the results of the questionnaires could provide an effective feedback on those policies, maybe extending those surveys to the administrative staff too, as previously indicated. Questionnaires and protocols should be shared and harmonized with the partner universities to assure a standard interpretation and data gathering. Questionnaires for either education or research appreciation should be disjointed and differently shaped for the PhD students as compared to other students at SSA. The Quality Enhancement Committee will be an essential driver for the whole QA process. **How influential does the Quality Enhancement Committee view itself? Can SSA expand on what it defines as 'informational and educational activities' delivered by the QEC to promote the overall QA approach? How effective have these new developments been to date? What are the precise roles and responsibilities of the QEC Coordinator and Vice Coordinator? How were students involved in the development of the Quality Policies?** One potential issue with the perfunctory determination of prizes/rewards (either to the best researcher or the best teacher) concerns the risk of creating perverse incentives (as a well know paper which proves that offering biscuits to students improves the questionnaires scores), and could be accompanied by subjective judgments, perhaps with external assessors. **The committee would like to know more about the current status of the project: "implementazione di un nuovo questionario per la valutazione della customer satisfaction degli allievi PhD, in sinergia con la Scuola Normale Superiore e con il progetto Good Practice del Politecnico di Milano". Also, is the document "Relazione Nucleo e Opinione Studenti" survey missing?**

CONTENTS	CEVS EVALUATION
INTERNATIONALISATION	The number of agreements with EU and non EU partners is already relevant, indicating a strong drive of the school towards its international placement. However, the internationalization strategies could be better defined during the "on site" visit to appreciate what are the expectations and views for the future. There should be a well thought-out plan to increase the proportion of non-Italian academics: in many European institutions based in non-English speaking countries, the official language is English.
	Agreements that foresee exchange for the teaching staff and students are considered for the research but not for courses aimed at obtaining Double Degree (this was stated before). The school does not have joint degrees and doctoral degrees with foreign Universities. The SSA does declare that double degree with the University of Trento in International Security Studies gives excellent results and attracts many students from abroad. Also the PhD attracts those students. It thus looks like the school does not attract foreign students in ordinary courses but it does it at other levels.
	The funds coming from international, mostly European, grants are remarkable. The school is planning to create a central Grant office to support different affiliated Institutes in their international research project management. **While this is certainly recommended, there is a request to specify better the modalities for its realization, as well as how the help can be adapted to the very different and rather specific research directions within the school. Which are the scientific areas of the financed projects? If the funding was given to a research network, which is the role of SSA in this network? Which is the surplus that the SSA offers to foreign partners in the projects activated and that no other university could give in the same way – or that the SSA more and better than other universities could offer?**
	The number of international student is remarkable, when compared to other Italian institutions. This is particularly true for the PhD and master students. The percentage is lower at the level II of pre-doctoral course and not specified for level I. The policies for the recruitment of foreign students in the pre-doctoral level are not well described. It is not stated whether foreign students are mainly from and if they also come from extra European countries. In addition: which are the criteria from their enrolment? How is the amount of places available for the foreign students and how many are enrolled in comparison to this amount? How are the SSA activities promoted among other European and extra-European institutions? In order to assess the effectiveness of internationalization of the PhD, it would be suitable to receive the data of the PhD thesis carried out in "joint supervision".

Preliminary evaluation Section B

(to be completed by the CEVS according to the analysis of documents), This section may also include information that the CEVS seeks to gather and analyse during the on-site visit).

The School has both the potential and the ambition to be a world leader in a small subset of the broad areas of the disciplines it includes. CEVS had a clear perception of the SAA positioning at the national and international level which is judged positively. The school ranking makes it one of the top academic environments in Italy. It is not completely clear which are the perspectives through which the school looks at this leadership position in coming years.

The CEVS appreciates the general vision of the SSA programming document but generally feels that the single Institutes/Departments have not provided a clear description that can take into consideration the peculiarity of researches and their current placement in international ranking, with emphasis on the development ambitions. Why Institutions of the School are not emerging better in the document? Is there a strategy for each Institutions? What is the real ambition of the School in each institution?

The overall ambition of the School as top leader in the world might emerge better from additional considerations from the SSA leadership. The SSA strategic themes for the future are all relevant and worth of appreciation but there should be a more articulate description of priorities, advancement status, actions taken by Institutes to merge into these programs. The implementation of technology transfer, from the protection and valorization of intellectual property, presence of incubators, assistance to spinoff, contact with investors and fundraisers could be a plus for the SSA. Despite undeniable progresses in this area, mild policies for intellectual properties are observed. What is the real revenue for the School?

The CEVS would like to understand better the extent and policies for recruitment/attraction of Faculty members from other Italian regions and the international community. This will be of outmost importance for the positioning of SSA in the near future.

The path towards QA is recent, compared to other actions of SSA. The Quality Assurance system is progressing although it is not yet completely understandable what are its effects on the School (in terms of produced changes). Un update about the progresses and sharing of recent questionnaires' results would be appreciated. The document "Relazione Nucleo and Opinione Studenti" survey seems to be missing.

Finally, in addition to other comments in the main protocol, the CEVS would like to have an idea about the policy of the school for double degrees with other companion Universities abroad and the vision to implement access and success rate of application to European and international fundings for researches.

Comments to the preliminary evaluation - Section B

(to be completed by the School)
The School carries out research activities through its six Institutes, although many projects of a more interdisciplinary nature involve more than one Institute. In the strategic plan of the School, prepared in 2019, thematic areas of transversal interest have been identified such as health, climate change, sustainable circular economy, data science and technological innovation. In fact, already in 2020, initiatives have been launched to implement the commitment in these areas. Examples are the new PhD program, Health TEchnology and Management (TEaM), which was launched in 2020 and whose faculty board includes members from all six Institutes, or the decision of the Senate to activate various scholarships within the two national PhD programs in Climate Change and Data Science, involving professors from different Institutes and disciplines. Moreover, most of the projects financed by

the European Commission are carried out involving staff from more than one Institute, especially combining researches of experimental sciences with the ones of social science, and this is surely one of our point of strength.

The School would like to reinforce the relevance of the strategic themes also through the **recruitment process**. Together with the other 5 Italian Schools of Excellence in 2020, SSSA presented a strategic document to the Minister Manfredi and to the CRUI committee regarding the role and the mission of the excellence schools within the national university system (Annex n. 9 "Proposta Scuole Superiori a Ordinamento Speciale"). SSSA asked the Minister to be recognized as a pilot Institution where the recruitment process can be led by the selected strategic Research Themes and not by the "SSD" (settori scientifico disciplinari).

At the Institute level, a three-year strategic plan, is prepared by all its members and approved by the Institute Council. This document identifies the objectives in terms of research, training/education (the Institutes are responsible for Joint Master Courses with partner universities and for PhD Programs) and third mission in line with the strategic plan of the School. In the folder attached as Annex n. 10, "Institutes", you can find the presentations that each Institute director made in July 2020 at the IAB meeting related to the results and goals of each Institute for the next years. On the basis of this strategic plan, each director communicates to the Rector the priorities in terms of human resources for its own recruitment plan. Annex n. 11 "Recruitment@SSSA" illustrates the process and responsibilities of the various actors in the process of recruiting of the teaching and research staff, that is promoted and managed by the Institutes even if the proposal to the Senate for its approval is a responsibility of the Rector. The latter ensures that the request is consistent and that a balance is guaranteed between the social sciences and experimental sciences faculties. The path to activate a new position and the approval process is complex and articulated in various steps, also additional to those required by the national legislation, with the goal to guarantee and strengthen the capacity to selecting high merit candidates. An example is the request of at least 10 reference letters for each candidate to associate and full professor, provided by foreign experts and professors with whom the candidate has never published or collaborated in research projects.

Furthermore, the Rector has the possibility to present the **proposal of direct calls** for high reputation candidates. In the last six years, 14 direct calls have been made, with the consequent return of great scholars from abroad Despite having a high component of teachers from Tuscany, calls from abroad were numerous considering our total number of teaching staff. Furthermore, we underline that **the recruitment process has been successful up to now**, and has improved the School's scientific productivity as can be confirmed by the Scopus Database. The ratio "number of Scopus papers published in 2017/academic staff in 2017" is 7.98. The same ratio in 2019 is 8.33. In parallel, the ratio "number of Q1 papers published in 2017/academic staff in 2017" is 3.44. The same ration in 2019 is 3.66. Even if these metrics are not the only way to assess the quality of the recruitment, we hope these figures help to partially answer to the points of page 6 of the present document (Part A).

Areas 12 (Law) and 14 (Political Sciences), that are present in the Dirpolis Institute, are non-bibliometric areas. The evaluation of the research outputs is therefore based on a blind peer-review system and there are no official databases on scientific productivity as in the bibliometric areas.

In order to measure the scientific productivity of its Faculty, Dirpolis Institute adopted the PPS- system (Punti Prodotto Scientifico: scientific productivity point, see Annex n. 12 "Scientific Productivity Evaluation – Dirpolis Institute"), assigning to every type of publication a different score in line with the most important outputs requested by ANVUR to meet the Medians provided by the Ministerial Decree No 589, dated 8 August 2018. Briefly, the average scientific production of the Dirpolis Faculty is measured on the basis of the PPS score of the best 12 scientific publications in the last three years and the minimum score required for the distribution of internal funds ("Fondi d'Ateneo" and "Cofinanziamento Call Assegni di ricerca") is an average of 8,5 PPS for the full professors and associate professors and an average of 4 PPS for researchers. This benchmark has been adopted to guarantee high levels both in quantity and quality. Meeting the aforementioned levels of scientific production Dirpolis Faculty meets and overcomes the ANVUR Medians and is able to provide to VQR high quality products. Last but not least, according to the Dirpolis PPS chart the top scientific outputs are articles published in Scopus/ISI-WoS indexed journals or book/book chapters published with top international publishers, being the Dirpolis Faculty requested to meet not only domestic (e.g. ANVUR/MIUR) standards but also, and above all, international ones impacting the SSSA position in the official University rankings.

Moreover, the most relevant way at Sant'Anna to pass the message on what we value as important and counts in the evaluation process is how we allocate the financial resources coming from the central ministry and internal savings. The new algorithm, which was approved in April 2020 by the Senate, for the distribution of the FUI (budget coming from the

central ministry and internal savings) considers the quality of the scientific publications more relevant (60%) than the volume (40%). Moreover, the impact of the research is also a part of the new algorithm. In fact, we consider both the Educational Impact (number of PhD students, part of them paid on research budget) and the Employment Impact (number of research assistants hired by the School).

The **administrative staff** was involved in defining the strategic plan, by participating in the working groups during the "General Assembly" that took place in September 2019 and by monitoring the plan on the occasion of the "General Assembly " in September 2020, which was an opportunity to take stock of the situation one year later.

The School, then, with the new strategic plan, began in 2020 a project of extensive revision and reorganization of the administrative processes, which started when the new Managing Director took office at the end of April.

The pursuit of the strategic objective of developing the administrative structure was addressed starting from the analysis of the present organization of the School, by listening to the administrative managers, by studying the results of the organizational climate surveys carried out periodically and administered to the technical and administrative staff as well (Annex n. 13a "Indagine Benessere Organizzativo 2019 – PTA", Annex n. 13b "Indagine Benessere Organizzativo 2019 – Docenti, Ricercatori e Assegnisti"), without ever losing sight of the objectives contained in the strategic plan

At the end of September, the first important result was achieved with the adoption of the new organization (Annex n. 14 "Organigramma"), which involved and was shared with the technical and administrative staff, Professors, Institute Directors and the School governance, as well as trade union organizations.

The new organization, compared to the previous one, shows a profound difference in approach, as it puts the three main missions of the School at the centre and focuses on the organization of work by processes rather than by functions.

To accompany this major organizational change, the School has promoted an important training project for the technical and administrative staff based on the "Lean" approach: thanks to this project, the School is mapping and reviewing some crucial processes for its daily activities in collaboration with the teaching staff, students and all members of the School community.

Furthermore, the administrative staff is called to answer to a survey on the satisfaction of the services offered by the administrative structure itself, together with the other components of the School. Finally, the Statute (art. 36) also establishes the "Council of technical and administrative personnel" with advisory functions with respect to the governing bodies, which expresses opinions on issues concerning the technical and administrative staff and may submit proposals on matters related to the School.

Regarding the **School's quality system,** it has evolved over the last year. In December 2018, the Quality Enhancement Committee, jointly with the IUSS, produced the Quality Policies document (Annex n. 15 "Politiche della qualità federazione") which sets out the strategic guidelines for quality management in four key dimensions (teaching, research, third mission, services). The Joint Quality Enhancement Committee was made up of 24 members and was complex to manage from a perspective of operational support to the processes, therefore in February 2020 a much more streamlined Quality Enhancement Committee was created for the School (the same did the IUSS).

In the new configuration, the Committee met on a monthly basis to introduce new surveys (for example on individual PhD courses), to improve the response rate of questionnaires, to strengthen dialogue with other bodies involved in quality assurance (such as the Joint Students and Teachers Board with which, among other things, a survey on the effects of Covid-19 on teaching was prepared) to dialogue with the various components of the School to increase the culture of quality and continuous improvement. A document "Quality System" on quality management processes (Annex n. 16 "Processi AQ_SSSA") was recently approved by the Academic Senate, which sets out the phases of planning, management, verification and corrective actions for each key process in the areas defined by quality policies. The Annex n. 17 is the document "Relazione NdV 2019".

Regarding the **placement services** delivered by SSSA, they include various activities. The Career Service holds a long-time experience mainly focused on "Allievi Ordinari", but in the last few years it has been moving towards all categories of students.

In 2015, SSSA was the first School of Excellence to join the AlmaLaurea consortium, which conducts a yearly survey concerning occupational conditions of graduates. Regarding "Allievi Ordinari", a specific survey model for Schools of Excellence was defined and launched in 2017.

Initiatives carried out by the Career Service also aim to foster and increase the involvement of the Alumni Network.

In the last 4 years, Sant'Anna has launched a special event dedicated to Alumni called "Career Mentoring Meetings", which take place every year in November involving Alumni from a wide range of professional experience. Career Mentoring Meetings are organized with the collaboration of Allievi, who define the "target" of the year and support the Career Service in identifying the best Alumni profiles to be invited at the School to present their experience.

Career Mentoring Meetings intend to favour contacts with Alumni involved in various fields and to provide a range of the professional prospects available at the end of the educational path as representative as possible. Alumni with both long-term professional experience (preferably with diversified career paths) and junior profiles (who can describe their recent job search experience and placement in the workplace) are involved. The 2019 event involved 32 alumni from the Italian and international public and private sector.

"In Company tour - Learning from leaders" is another initiative which involves Alumni, creating qualified opportunities for contact and interaction with the business world and professions in a new way, especially designed for Sant'Anna Students. Unlike the usual meetings with experts and professionals at Universities, in this initiative Allievi go on site in the company and meet top managers of excellent organizations to directly compare and draw inspiration from those who successfully and passionately carry out leadership roles through a broad overview of the different working contexts and corporate cultures. In the last 2 years, the Career Service organized "In Company Tour" twice a year, visiting companies or law firms where Students met Alumni now employed in important and qualified realities with a rich and intense exchange of experience and emotions.

JobFair, established in 2014, is an initiative of the SSSA Career Service: it's an annual event with the aim of creating a link between the academic world and the job market. Since the first edition, the event has had remarkable results and has been growing and enlarging throughout the years not only in the number of companies and students involved but also under the institutional point of view. In 2015, Scuola Normale Superiore, IUSS Pavia and IMT Lucca joined JobFair, and from 2017 onwards it involves all six "Scuole Universitarie Superiori" (Scuola Normale Superiore, Scuola IMT Alti Studi Lucca, IUSS Pavia, SISSA from Trieste, Gran Sasso Science Institute from L'Aquila, and SSSA), and can be presented and recognised as the first job meeting of the Italian Schools of Excellence.

In the 2019 JobFair edition, 51 leading companies participated, representing numerous sectors, from consulting to the high-tech industry: more than 200 students from the six Schools (Honors students, Master and PhD students) met in Sant'Anna premises and carried out over 950 one-to-one interviews. About 80 of these were PhD students that carried out one-to-one interviews. The 7th Edition of JobFair took place on October 21st and 22nd 2020, and ran entirely online, registering the participation of more than 340 students. For the first time, NGOs were involved together with companies, in order to broaden opportunities. 45 organizations attended the event, conducting more than 700 one-to-one interviews.

The School has a long tradition in **intellectual property management and exploitation of research results**; in fact, the unit for the exploitation of research (U.O. Valorizzazione Ricerca) was established in 2005 as a support structure to undergraduates, PhD students, researchers and Professors, with the aim of promoting the results of the research carried out in the laboratories, mainly through three different channels: 1. third parties contract research, 2. protection and licensing or assignment of intellectual property, or in general technology transfer agreements and 3. spin-off companies creation. Recently, a Third Mission Area has been settled, including the unit for the exploitation of research results, the innovation ecosystems unit and the placement unit, in order to concentrate the administrative efforts in respect to the commercialization of research results and the involvement of the system stakeholders.

In addition to the long experience of the School in interacting with big companies, SMEs and spin-offs for research collaborations, placement opportunities and specialized training (e.g. JoTTO FAIR https://jottofair-2019.b2match.io/ and JobFair), further tools and structures are in progress: the Science Park in San Giuliano Terme will include a building dedicated to the development of spin-off companies and to research collaborations.

Nowadays, three more tools are already in place: the ARTES competence centre (www.artes4.it), a network, led by the School, including universities, research centres and more than 100 companies, aimed to develop joint research projects; the JoTTO (Joint Technology Transfer Office, www.jointto.it); and the regional office for technology transfer (URTT), that helps Tuscan Universities to bring their research results to the market, and that also trains the junior staff of the TTOs of each university in defining contract agreement templates for intellectual property management and exploitation. In addition to these collaborative opportunities, co-working spaces specifically dedicated to developing joint projects will favour the "Student Entrepreneurship", as it's the case in the main research campus in Europe: EPFL (https://epfl-innovationpark.ch/laforge/), K2M (https://www.upc.edu/parcupc/ca/espais/k2m-knowledge-to-market) or IMEC (https://www.imec-int.com/en/home).

Final evaluation – Section B

(to be completed by the CEVS after the on-site visit, max 2500 words)

Despite being a relatively young institution, SSSA has a defined and strong niche in the Italian Higher Education sector and its research prowess is evident. Although the school pays close attention to both fields, TM and research, SSSA is clearly "research" oriented, and together with the small size of the classes, it creates the appropriate environment for students to learn and grow. That environment undoubtedly promotes student satisfaction and the final results of their academic education. The development of a philanthropic foundation is part of the Scuola's emerging work to diversify its income. SSSA shows a broad and remarkable commitment to Third Mission and a clear interim strategy adopted while it awaits the realisation of the Science Park.

However, in terms of strategic vision of the future, the question that could increase awareness and clearness to the activated strategies of research could be: "am I producing something that is useful for the next challenges?" This question could lead every Institute and also guide their interdisciplinary work. It could lead the strategic vision of the School in the next few years and guide it in finding and locating not only the research partners but also the strong partners for the teaching. CalTech provides a long-term reference point for the Scuola's growth ambitions, while SSSA has struggled to find an appropriate, equivalent intermediate reference point. It needs a more developed medium-term strategy.
Also it needs to review and constantly upgrade the balance between central and devolved administrative units (for instance grants and communications) to ensure the Scuola is as efficient as possible.

SSSA's contribution to broad strategic priorities (climate change, health, innovation ecosystem etc.) would benefit from an internal discussion with definition of priorities. Along the same line, several senior colleagues indicated one of the key objectives as "we want to grow".

Indications towards these directions will have to be formalized after internal debate. The CEVS panel identifies some broad characteristics: 1) SSSA has one very strong, world-leading area, i.e. biorobotics; while with some other areas are relatively underdeveloped. 2) Each area is concentrated in some sub-areas: this is not *per se* a problem, provided they achieve critical mass, which robotics seem to do, with the possible exception of infrastructure support (lab, technology transfer, etc). The internal discussion should address how to define the strategic directions the SSSA wants to follow in the medium term. Should only the stronger groups grow, or does SSSA expect them to "carry" the rest, until they reach the level of success of the strongest areas? While the latter is a plausible strategy, it entails the potential for resentment among academics, with the risk of consequent "poaching" by international competing institutions. Within areas, should SSSA concentrate on sub-areas (the existing ones, or selected new ones), or try to extend the breadth of the offering? As an example, in the specific case of economics, the wisdom of concentrating on marginalised sub-areas (old style IO, and post-Keynesian economics) might be questionable. In a different field, the idea of splitting the life and health science in two separate Institutes, which was mentioned during the discussion, might prove a successful possible strategy, provided the caveats highlighted above are recognised and addressed. Working on this direction could be desirable also for other institutes that might not have the same experience and then drive outstanding results regarding the connection between some particular institutes and the industrial sector.

Especially in regards to the TM, SSSA (as a school of excellence) should not only respond to the requests of MIUR about this issue, but also lead and promote these policies further onward. Improving the internationalization in order to exchange "new fertilizing ideas" could help to accomplish this task. An important aspect is the connection between society and the school, since not everything is the economical component; tracking the social, political and economic achievements of alumni might be an addition to the TM. Activities such as the European Research Night or other similar initiatives are also great opportunities to connect and influence society. The school should look for events and scientific dissemination strategies that already work at other institutions and try to implement them. More orientation for students in terms of personal skills to success in the placement events and new innovative teaching methodologies or new courses could also help to reach that kind of competences.

Attraction of increasing amounts of international research funds is a priority for all the institutions that want to compete internationally and achieve a top level recognition. Looking at some European experiences could help the strategic vision of the School in order to improve the integration of its different fields. It is absolutely strategic that the different fields of the School can grow jointly so that they decide how to invest in a project or in another, in order to improve the strategic plan for the next future.

Regarding the choice and the evaluation of the partnership with the universities, this relationship is a problem that SSSA has clear in mind but it less clear how it would like to face it. A goal of SSSA could be to identify this partnership not only in relation to the objectives that the "MIUR" requires from Italian Universities. The School has the "freedom" to determine more independently both the goals and the projects it considers as more competitive at a European level. In this sense, it could also evaluate the relationships with the different partner Universities. The double degree with Trento is an important project, which is already going along this direction and it proves that it is possible, for the School, widening its relationships beyond the regional borders in order to create a strong teaching strategies. This experience could lead SSSA to a strategic vision aimed at strengthening the relationships both with the Universities of Tuscany and with other Italian Universities in order to build a strong network in education and research programs.

In comparison with other Italian institutions, the policy regarding the AP is starting to be targeted and tailored to the needs of the Scuola. An example is the Research grant assistance and PhD office. However, SSSA sill needs identifying new strategic AP figures in order to improve both research and spin-off actions. More technicians for laboratories could be a

direction to work on if the internal research activity will expand, as desirable. Also a budget and a recruitment plan for the next years could be defined to balance the need of cost reduction with centralized offices and the specialization required for the specific needs of the Institutes.

With respect to QA, SSSA has a strong QA strategy and is aware of the importance of the QA process. For the development of these activities, it should identify the personnel that could favour their development. Also internal monitoring seems not yet and internal mechanism to assess properly the quality of research.

The School introduced the three pillars of QA "knowledge- research -transfer". These three pillars are suitably considered and some excellent results are reached in some fields. Nevertheless, not all the Institutes and the fields of research are at the same level. There is a strengthening anyhow, also some spin-off, Biorobotics for example, but the School has other fields, for example Economics, Medical, in which the transfer of knowledge is not at the same level. So far, the Knowledge Databank as an accessible and effective management information platform for the staff should be further implemented, for example by adding data about the researchers of the SSSA.

During the visit the CEVS listened to some excellences in the spin-off and in the transfer of knowledge. These excellences could be the core and the pivotal point of the design for the future of SSSA. This could also enable SSSA to decide in which projects it can invest for the growth of all the School.

For the future, the School should bear in mind the differences and discuss about how to invest the resources and become competitive at a European level, while placing itself as the leader of the Universities in Tuscany.

The target of the QA "Innovative teaching" should concern not only the use of digital tools but also the knowledge of the implications and consequences that the different fields have (for instance, ethics is a typical "philosophical" teaching but it also concerns the implications of every scientific research). The students told CEVS that the teachers encourage them to follow different courses but the actual weight and the asset in their education of this interdisciplinary crossing should always be clearly monitored and assessed.

Developing systems to ensure the accuracy and completeness of the website is maintained, in particular bilingual content.

SECTION C. FURTHER COMMENTS, OBSERVATIONS AND RECOMMENDATIONS TO BE CONSIDERED FOR THE NEXT PERIODIC ACCREDITATION *

Section C
(to be completed by the CEVS after the on-site visit)

The CEVS provides in this section some suggestions for reflection and improvement in view of next periodic accreditation.

Students and services provided
- Improving and monitoring the education of students (in all the areas of the SSSA) in order that they become competitive both in national and international contexts. Considering that SSSA attracts the best candidates, the outcomes are expected to be superior to the "top students" in generalist universities; these parameters would allow the institution to weigh the added value of the Scuola in the formation/education process.
- Establish monitoring policies to assess and evaluate the selection process as well as the professional and scientific achievements of the SSSA students at the medium-long term.
- Honour students: try to negotiate with the University of Pisa the provision of English language only degrees. Many Italian universities already do so, and this would give the SSSA the possibility to expand the pool of applicants outside Italy and recruit additional talents worldwide.
- Strengthen the alumni network. Students appear to be strongly loyal to SSSA, and would constitute a valuable resource in recruitment, advising current students, providing research links, and generally establishing an international network. The example of alumni relations in Oxbridge colleges would be both natural and straightforward to emulate.
- The support for students next step (further education and/or the appropriate job market) are susceptible to improvement. While the employment record is very good, it is also the case that the SSSA's students (both honours and PhD) are very good, and so would be very sought after by employers. The quality of placements, rather their quantity should be the metric of success.

Teaching, Research and Third Mission
- Working on strategies that "compensate for" less competitive research areas thanks to the contribution of more competitive areas of research (e.g., the creation of Institutes gives them greatest independence but they are not all competitive in the same way, even though they belong to the same school of excellence).
- Drive a process to assess, over time and in a reproducible format, the products of the researches from different institutions and from the students and their relative relevance in an international landscape.
- Being the leader of the translation research and technological transfer, at least at the Tuscany level.

- Approach SNS and make a stronger environment that can assure the scientific development from fundamental to applied sciences.
- Working towards establishing SSSA's master degree, maybe in collaboration/federation with SNS.
- Realise the Science Park project, thus geographically integrating the different disciplines.
- Organise and coordinate an organic vision on the different research activities and Institutes.

Strategic vision and organization

- The Scuola should ask itself the reason for the very low percentage of foreign born academics in its staff complement. Salaries cannot be the only reason: as an example from economics, some School of Economics in institutions like Toulouse, Pompeu Fabra in Barcelona or Carlos III in Madrid, where salary is lower than Italy, are exceptionally successful at junior and senior recruitment. Pisa and Tuscany are locations that are attractive to many foreign academics, and the different nature of the teaching and the high quality of PhD students may compensate, for some people, for lower pay to be obtained elsewhere. In addition, there might be ways to exploit an increase in salaries even within the Italian mechanism constraints (in the UK prior to their full liberalisation, LSE used to ask junior staff to deliver executive training in the summer or week-ends, which was generously paid as extra).
- Internal Monitoring. Competition should be international and hence SSSA should not just look at international ranking, which are designed for traditional institutions (e.g. 3,000 academics and 20,000 students), but exploit additional strategies. For example, many institutions that are growing/intend to grow would ask external assessors to evaluate their progress. Asking international experts for a confidential assessment could be a possible solution; a small fee or an invited, paid lecture, if bureaucratic constraints make it difficult to pay explicitly for this service, could be sufficient.
- Make clear priorities on which sector of the administration should be strengthen.
- Need to cooperate with administrative and technical staff supporting the Professors. Concerning the Third Mission, the frame outlined by SSSA is absolutely clear. However, the pillars the School identifies (Education/Teaching-Knowledge-research transfer of knowledge) will be even more successful if a strategy is identified to recruit and select the personnel employed at an administrative and technical level working at Third Mission. Does the technical and administrative staff have the necessary skills to face the challenges of innovation? What skills does the School need for its future objectives? These are some of the questions SSSA should address.

To be noted that the initial accreditation concerns Schools that have already been operating for a long time. The data obtained so far permits an evaluation of the extent to which Schools comply with periodic accreditation requirements. The CEVS is thus invited to suggest and issue recommendations to the School's governing bodies on how to improve policies and performance in order to meet periodic accreditation requirements.

FINAL EVALUATION OF THE CEVS – INITIAL ACCREDITATION

- ☐ X RECOMMENDATION FOR ACCREDITATION
- ☐ RECOMMENDATION FOR NON-ACCREDITATION