



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

# Social and Sustainability Report 2022





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## Table of Contents

<b>Introduction</b> .....	3
<b>1   Identity and strategies</b> .....	5
<b>1.1 The background and the context</b> .....	5
<b>1.2 The mission, vision, and values</b> .....	8
<b>1.3 Policies and strategies</b> .....	9
<b>1.3.1 Policies for the quality of teaching, research and third mission</b> .....	10
<b>1.3.2 Policies for inclusion</b> .....	11
<b>1.3.3 Policies for legality</b> .....	13
<b>1.3.4 Work environment health and safety policies</b> .....	14
<b>1.3.5 Policies for technological innovation and digital transition</b> .....	14
<b>1.3.6 Policies for environmental sustainability</b> .....	15
<b>1.4 The University's contribution to sustainable development goals</b> .....	17
<b>2   The governance system and organizational structure</b> .....	21
<b>2.1 University Governing Bodies</b> .....	21
<b>2.2 Teaching and research facilities</b> .....	23
<b>2.3 Service Centers</b> .....	23
<b>2.4 The technical administrative structure</b> .....	26
<b>2.5 The university hospitals</b> .....	28
<b>2.6 The shareholdings</b> .....	29
<b>3   The relationship with stakeholders</b> .....	30
<b>3.1 The Ministry, institutions, and other public administrations</b> .....	30
<b>3.2 The teaching and research staff</b> .....	31
<b>3.3 The technical and administrative staff</b> .....	33
<b>3.4 Students and families</b> .....	34
<b>3.5 The territory: entities, citizenry and businesses</b> .....	38
<b>4   Activities and results</b> .....	40
<b>4.1 Teaching, training, and student services</b> .....	40
<b>4.1.1 First and second-level study programs</b> .....	40
<b>4.1.2 Postgraduate Courses</b> .....	42
<b>4.2 Research</b> .....	43
<b>4.2.1 Scientific output and research quality</b> .....	44
<b>4.2.2 The research projects</b> .....	45
<b>4.3 Technology transfer</b> .....	50
<b>4.3.1 Collaborations with institutions and businesses</b> .....	50

<b>4.3.2 Protection and valorization of industrial and intellectual property</b> .....	54
<b>4.3.3 Innovative start-ups, spin-offs and youth entrepreneurship</b> .....	55
<b>4.4 Public engagement</b> .....	56
<b>4.5 International Relations</b> .....	57
<b>4.6 Cultural heritage</b> .....	58
<b>4.6.1 Libraries</b> .....	58
<b>4.6.2 Museums</b> .....	61
<b>4.6.3 Fine and performing arts</b> .....	63
<b>5   Environment and Resources</b> .....	64
<b>5.1 Infrastructure</b> .....	64
<b>5.2 Procurement policies</b> .....	66
<b>5.3 Energy consumption</b> .....	67
<b>5.3.1 The building stock and emission inventory</b> .....	68
<b>5.3.2 Consumption by energy source and renewable energy production</b> .....	70
<b>5.3.3 CO<sub>2</sub> emissions by energy source and globally</b> .....	71
<b>5.3.4 Supplies</b> .....	72
<b>5.3.5 Energy efficiency interventions</b> .....	73
<b>5.4 Waste management</b> .....	74
<b>5.5 Water and food management</b> .....	77
<b>5.6 Sustainable mobility</b> .....	78
<b>5.7 Biodiversity</b> .....	80
<b>5.8 Communicating sustainability</b> .....	80
<b>6   Reclassification of income statement</b> .....	83
<b>Appendix</b> .....	85
<b>A.1 Composition of the University Bodies as of 31/12/2022</b> .....	85
<b>A.2 Personnel numbers as of 31/12/2022</b> .....	88
<b>A.3 Number of students enrolled as of 31/12/2022</b> .....	89
<b>A.4 Energy consumption and waste disposal</b> .....	90
<b>A.5 Reporting index according to GRI standards</b> .....	97

## Introduction

In the social and sustainability report, the University of Florence presents its value system and presents the economic, social, and environmental results and impacts generated in the pursuit of its institutional missions: teaching, research, and third mission/social impact.

The document adopts an integrated interpretation key between the perspectives of social reporting, gender reporting, and institutional and organizational performance reporting. It is constructed following national and international reference standards for sustainability reporting in the public sector. In particular, this report is prepared with reference to the Global Reporting Initiative (GRI) Standards in effect since January 1, and the 2021 standard "The Sustainability Report of Universities," which is the result of the collaboration between the Universities Network for Sustainable Development (RUS) and the Social Reporting Study Group (GBS). An index of reporting according to GRI Standards is presented in the appendix to the document, which defines the connection between the contents of the social report and GRI indicators deemed "material," i.e., significant and relevant.

In compliance with the above standards, the social report adheres to the following principles:

➤ **stakeholder inclusiveness:** the University systematically collects the observations and expectations of key stakeholders through structured surveys and other forms of detection, incorporating them into the planning and evaluation of activities (see § 3);

➤ **materiality:** the materiality analysis was conducted internally, involving the main responsible persons for the reporting issues. In the representation of performance, issues that reflect the University's significant economic, environmental, and social impacts and that fall within the spheres of interest of stakeholders, as detectable by the surveys in which they were involved (see §§ 3, 4, 5), were considered material, i.e., significant, and relevant;

➤ **quality of the report:** the information being reported is consistent with GRI Standards and complies with the principles of accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness, and verifiability. The data used to measure results come from documentary evidence, University databases, or other certified sources; the source, reporting period, and indicator trends are indicated in the text or figure captions (images, tables, and graphs).

The 2022 Social and Sustainability Report consolidates and extends the participatory approach to reporting, continuing the process already implemented last year by the large Working Group that involved all areas of the University, with the coordination of the Delegate for the Budget, the Delegate for Inclusion and Diversity, and the Delegate for Labor Relations and Personnel Planning. The document's drafting followed a coordinated and shared path of construction at every stage of its development.

Starting from the observations and the structure developed by the Working Group for the 2021 Report, the governance system and the management areas have been involved from the beginning, through formal moments of discussion, in the choices regarding the reading perspectives, contents, and selection of information to be reported in the 2022 Report, which therefore benefits from the fruitful interventions (just to name a few) of the Deputy Rectors, the Joint Committee for Equal Opportunity (CUG), the members of the University who are part of the RUS working groups, and all the offices of the administration, which have always responded promptly and comprehensively to the prompts for participation. Especially relevant was the contribution of the Green Office, the Energy Manager, and the Energy Commission regarding the section on issues reported under "Environment and Resources."

The composite version of the document was finally submitted for final review by all stakeholders before its approval by the Governing Bodies.

As a confirmation and reinforcement of our University's cultural and organizational identity, a meeting was also planned to present the Social and Sustainability Report to the entire academic community following its publication.

The use of the masculine grammatical gender, when unavoidable, solely for the purpose of simplification, is intended to refer to all persons working within the academic community.

# 1 | Identity and strategies

The University of Florence, one of the largest organizations for research and higher education in Italy, has [campuses](#) in various parts of the city and even beyond the urban area, with the establishment of the Science Campus in Sesto Fiorentino and decentralized campuses in Empoli, Calenzano, Prato and Pistoia. The University integrates its missions with the healthcare activities of the Careggi and Meyer (children's) University Hospitals.

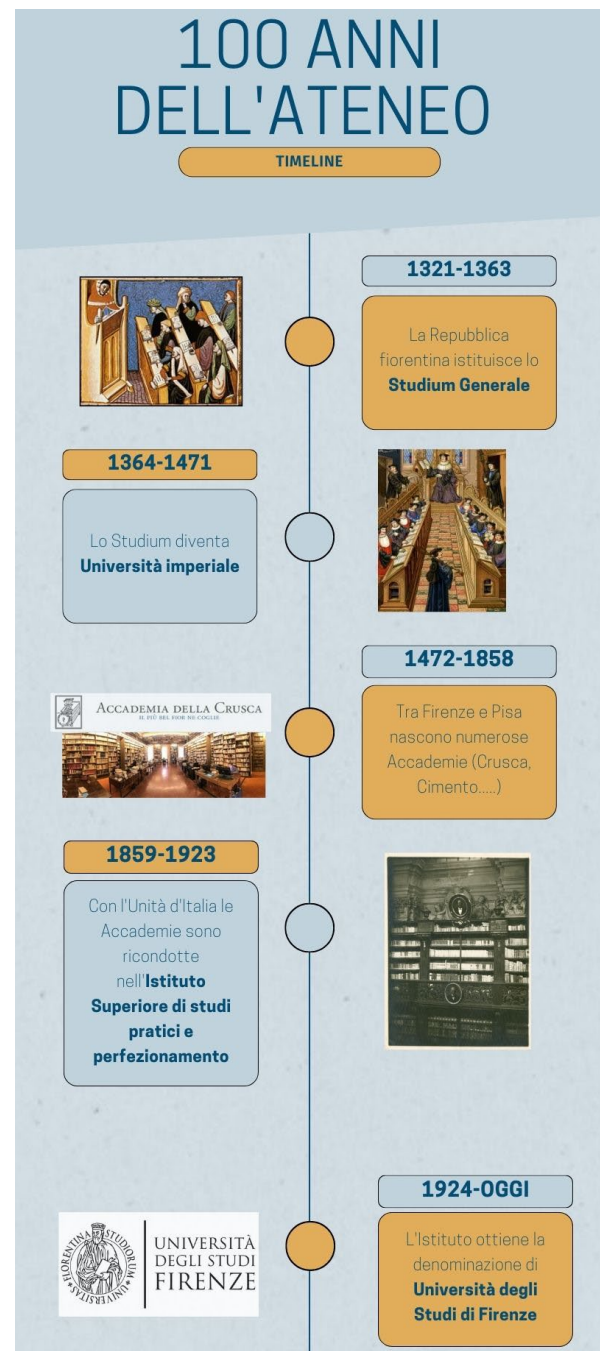
## 1.1 The background and the context

The **complex regulatory, social, and economic environment** in which the University operates affects the determination of strategies and the implementation of goals. In the text, the most significant contextual aspects of the various issues covered in the Report will be recalled from time to time for a glance at what is happening in the territory and Italy with respect to phenomena on which, at least in part, universities can have an impact, some of the [ISTAT indicators of Equitable and Sustainable Wellbeing](#) (BES - see fig. 1.3).

The **goals of the national and international agendas**, including those of the National Research Plan, the National Recovery and Resilience Plan, Horizon Europe, and the Sustainable Development Goals, mobilize the contribution of the University and the articulated network of which it is a part in the scientific community and the global marketplace, calling it to take action on the most topical issues.

Among the most relevant events of **2022**, the slow **exit from the emergency period** due to the SARS-Cov-2 pandemic and the outbreak of a tragic **war** in the heart of Europe have generated inevitable difficulties, but also opportunities for change and new challenges. Just by way of example, the sharp rise in **energy costs** has made the focus on energy efficiency and rationalization of consumption even more pressing; the projects and constraints related to the implementation of the **National Recovery and Resilience Plan** have given impetus, including in our University, to a large number of innovation projects, both on the research and technology transfer level and in administration.

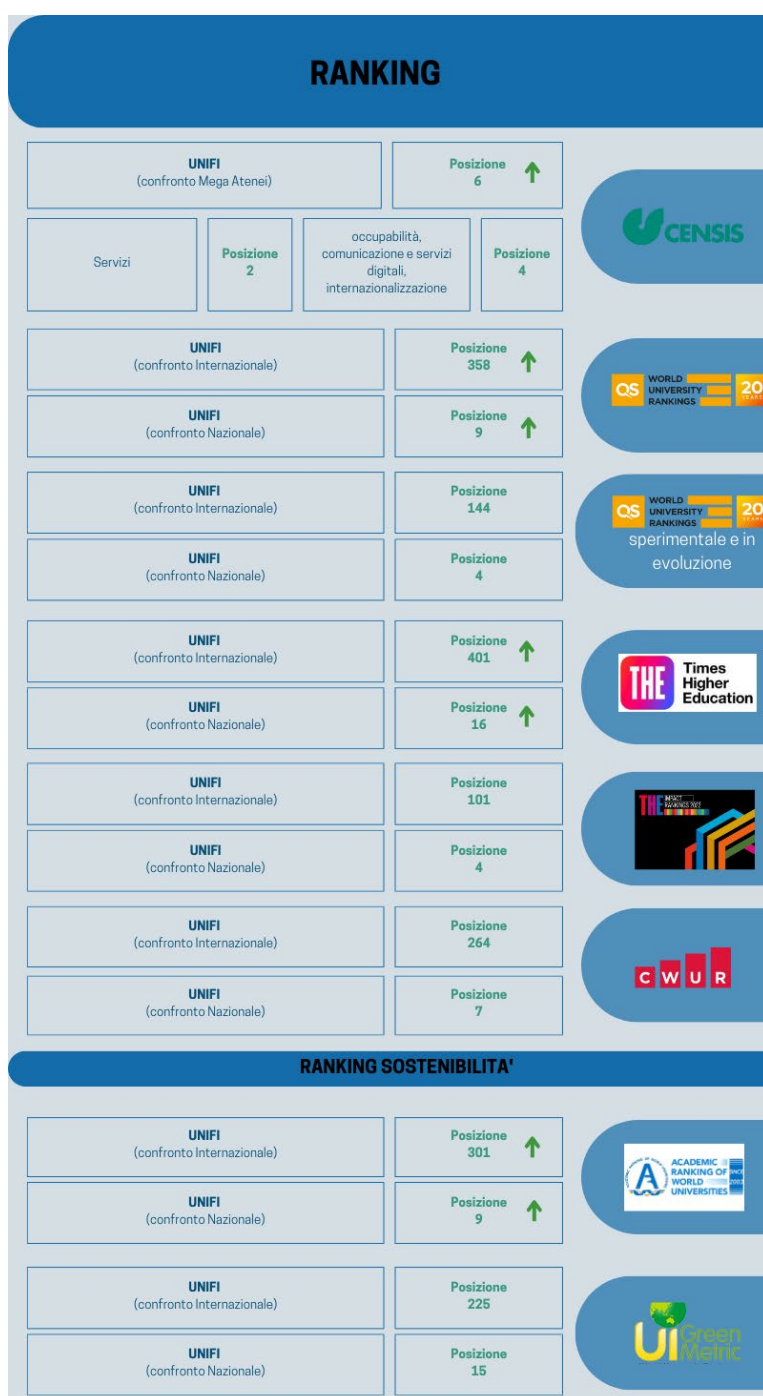
On the internal front, with the **appointment of the new General Manager** Dr. Marco Degli



▲Fig. 1.1 - University of Florence's history.

Esposti, who took office on 1 March 2022, a phase of restructuring of some organizational institutions has begun.

**Looking forward**, it is foreseeable that the University's choices will have to deal with **changes in some aspects of the university system** (e.g., access to faculty roles, redefinition of competition classes and degree classes), also in light of the first applications of the new accreditation model (so-called **AVA3**). The experience gained in recent years with distance education, and the increasing demand for **open and innovative educational services** drives experiments for evolved forms of e-learning. The near completion of the process related to adopting the **new Public Procurement Code** will also change some aspects of public works planning and procurement of goods and services.

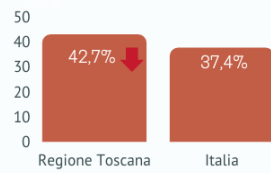


◀Fig. 1.2 - Unifi ranking in major national and international rankings published in 2023. Sources indicated in the infographics.



### Consumi energetici

Energia elettrica da fonti rinnovabili  
(anno 2020)

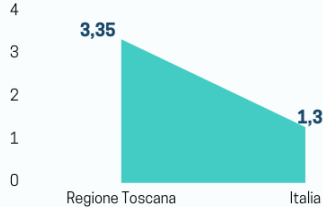


### Patrimonio culturale

Distanti i livelli di fruizione delle  
biblioteche pre-pandemia  
(anno 2021)



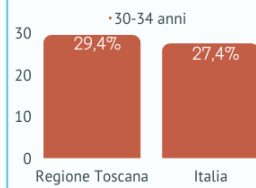
Densità e rilevanza del patrimonio museale  
per 100 km<sup>2</sup>  
(anno 2020)



▲Fig. 1.3 - Istat Indicators of Wellbeing and Sustainability 2023, national data and Tuscany.  
Source: Istat, BES Report 2023.

### Didattica, Formazione e Servizi

Proporzione di laureati e altri titoli  
terziari  
(anno 2022)



Uscita precoce dal sistema di istruzione  
e formazione altri titoli terziari  
(anno 2022)



20-29 anni



Livelli di  
conseguimento dei  
titoli terziari STEM  
ogni 1000 residenti  
(anno 2020)

### Ricerca scientifica



Propensione alla  
brevettazione  
per milione di abitanti  
(anno 2019)

Mobilità dei laureati 25-39 anni  
per 1.000 laureati residenti  
(anno 2021)



Intensità di ricerca  
(anno 2020)



### Trasferimento delle conoscenze

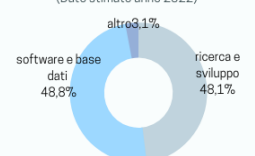
Partecipazione culturale fuori casa  
(anno 2020)



Riduzione del gap negli investimenti nei  
prodotti di proprietà intellettuale (PPI)  
(Dato stimato anno 2022)



Distribuzione ammontare degli  
investimenti nei prodotti di proprietà  
intellettuale (PPI)  
(Dato stimato anno 2022)



## 1.2 The mission, vision, and values

The University of Florence is a public institution that inspires its action by **secular, pluralist, and free from all conditioning principles**. Acknowledging itself fully in the values of the Constitution of the Republic, it operates the dissemination of knowledge, the promotion of research, and the development of culture, guaranteeing the right to education to all those animated by the desire for knowledge in a context of equal opportunity. In this sense, the **Code of Ethics** commits the members of the university community to behave in such a way as to realize and spread the fundamental values of legality, solidarity, and the rejection of all discrimination by ensuring respect for and application of the general principles outlined in the **Statute** and, in particular, the principles of **fairness, impartiality and protection of the freedom and dignity of the person, freedom of teaching, research, and study**.



▲ Fig. 1.4 - Unifi's values in the 2022-2024 Strategic Plan.

▼ Fig. 1.5 - Unifi's mission and vision in the 2022-2024 Strategic Plan.



### La missione: promuovere e sviluppare la ricerca e l'alta formazione

- Operare per una didattica innovativa e inclusiva
- Contribuire al progresso tecnologico, alle sfide della società e alla crescita sociale, culturale ed economica del territorio, del Paese e della comunità internazionale

### La visione: consolidare la propria dimensione di eccellenza nelle aree di intervento

- dare valore alla didattica per rispondere alle nuove sfide della società, del lavoro e della tecnologia
- sviluppare ricerca di elevata qualità internazionale dialogando con le istituzioni, le imprese e la società civile
- promuovere il benessere e la democrazia attraverso il trasferimento dei risultati della ricerca, la divulgazione scientifica e le iniziative culturali, il potenziamento delle politiche di inclusione e favorendo la crescita sostenibile

### 1.3 Policies and strategies

The values and vision expressed in the Strategic Plan inform the **University's policies for institutional mission quality** (see §§ 1.3.1-1.3.6), which are then translated into the University's strategic goals.

In 2022, the **2022-24 Strategic Plan** initiated a new planning cycle, mapping out the **development goals of institutional missions (teaching, research, third mission)** through **responsible, inclusive, and sustainable management** (see Fig. 1.7). The plan defines actions, indicators and targets for each area, which are consistently put into practice in Departmental Development Plans and in various and additional planning documents and acts (see fig. 1.6).

The Strategic Plan explicitly refers to the **University's contribution to the Sustainable Development Goals (or SDGs) of the UN 2030 Agenda**, through which representatives of more than 150 countries have signed their commitment to promote global development and human well-being and protect the environment. The University of Florence participates in these goals **through its teaching, research and third mission activities** (see § 1.4) and **conscious management choices**. In the Strategic Plan, the University has focused on 11 SDGs.

▼Fig. 1.6 – The University's Main strategic and operational guidance and planning documents.



▲Fig. 1.7 - Goals of the 2022-2024 Strategic Plan.



### 1.3.1 Policies for the quality of teaching, research and third mission

The **University's policies on educational offerings** promote:

- the demand for training expressed by the social stakeholders, in order to update and expand **training offerings in accordance with emerging economic, social and professional needs** so as to promote the professional integration of graduates and contribute to the growth of the country;
- the **centrality of students**, to provide educational pathways functional to learning needs and appropriate accompanying services;
- the **interaction between levels of education and between teaching and research**, enhancing the scientific qualification of the academic body;
- **sustainability**, in terms of human resources (teaching load of academic fields), economic (contracted teaching, standard cost indexes per current student), and infrastructural (space occupancy);
- **constant monitoring of the real and perceived effectiveness of educational pathways** (attractiveness, regularity of student careers, employability, student satisfaction).

**Research quality and third mission/social impact policies** are geared toward maintaining and raising the high levels achieved in the quality of scientific production, ability to attract funding, and transfer of results to the socioeconomic system:

- creating **an attractive and inclusive environment for researchers**, capable of stimulating productivity and competitiveness and supporting career development, in compliance with the criteria of the European Certification "[HRS4R - Human Resources Strategy for Researchers](#)", under which the University has obtained "Excellence in Research" accreditation from the European Commission;
- promoting the provision of state-of-the-art **research infrastructure** and appropriate support services;
- enhancing **research training** and **research integrity education**;
- expanding **collaborations with the business community, the public sector and civil society** through technology transfer and public engagement.

### 1.3.2 Policies for inclusion

The University of Florence has made a **strong commitment to promoting the values of equality and inclusion, and combating all forms of discrimination** (gender, sexual orientation, age, disability, religious denomination, ethnic and social background, language, political and ideological beliefs), envisaging an integrated organizational approach to inclusion issues. With this in mind, a **Scientific Technical Committee to support actions on inclusion and diversity** and the [Unifi Include](#) desk have been recently established.

In addition, the University acknowledges the solicitations of the **Committee for Equal Opportunity, Non-Discrimination and Workers' Welfare (CUG)**, a university body with propositional, consultative, and verification tasks in policies for work well-being, equal opportunities, and non-discrimination. In particular, the CUG prepares the [Three-year Positive Action Plan](#) (PAP<sup>1</sup>; the latest edition of the Plan (to which we refer directly for details of interventions) defines three main areas of intervention (see Fig. 1.8).

The following is a brief presentation of the University's policies on some of the dimensions concerning the concept of inclusion.



▲Fig. 1.8 - Scope of action of the 2022-2024 PAP.

### Right to university education

In addition to what is guaranteed by the [Regional Board for the Right to University Education](#) (mainly through the provision of scholarships, accommodation, and canteens), the University has equipped itself with a [fair and progressive contribution system](#), which protects the less affluent classes, takes into account situations of potential disadvantage and values merit.

The [Tuscan Penitentiary University Campus \(PUC\) project](#) aims to implement the constitutional principles of the right to university study and the re-educative purpose of jail sentences. It is the only one in Italy that allows people in detention to access any degree course offered by Tuscan universities, with the support of an intense and widespread in progress and outgoing orientation and support activity. Since 2003, the University has enrolled and tutored more than 270 detained students. Overall, in the last three years, Tuscany's PUC enrollees were more than 400, and students overall took nearly 850 exams; 15 students graduated.

<sup>1</sup> Provided by Art. 48 of Legislative Decree 198/2006, now reabsorbed by the Plan for Activities and Organization (PIAO) under Art. 6 of Legislative Decree 80/2021 (converted with amendments by Law 113/2021).

To support students' personal and professional choices and growth, the University implements **guidance, placement, care and support services for students with disabilities and special categories of students** (see § 3.4).



## Gender Equal Opportunity

### Piano di uguaglianza di genere



#### Conciliazione vita-lavoro

Consolidare degli strumenti conciliativi destinati al personale tecnico-amministrativo (telelavoro, lavoro agile, flessibilità oraria), progettare nuovi servizi dedicati a tutta la comunità accademica (es. ludoteca, babysitting).



#### Equilibrio di genere nelle posizioni di vertice e negli organi decisionali

Iniziative formative e di revisione regolamentare per favorire una rappresentanza più equilibrata a tutti i livelli organizzativi.



#### Integrazione della dimensione di genere nella ricerca e nei programmi degli insegnamenti

Sensibilizzare la comunità accademica sul tema, promuovere atteggiamenti inclusivi, rilevare gli aspetti legati al genere nei gruppi di ricerca e nei contenuti delle ricerche.



#### Contrasto delle violenze di genere

Aggiornare il codice di comportamento, aprire sportelli per l'accoglienza e la segnalazione di molestie.

Measures to promote equal opportunities between genders are defined in the [2021-2024 Gender Equality Plan \(GEP\)](#), as well as in the [Three-year plan of positive actions 2022-2024](#) promoted by the Committee for Equal Opportunities (CUG). The GEP's objectives, aimed at facilitating the realization of equitable and inclusive learning and working environments, in which all talents can be free to flourish, are broken down into four priority areas, each accompanied by actions, indicators, targets, and allocated resources (see Fig. 1.9). For further details, please refer to the [Gender Report](#) and the [documents produced by the CUG](#).

◀Fig. 1.9 - Scope of action of the 2021-2024 GEP.

## Accessibility

To improve the accessibility of environments and services, particularly for users with functional limitations, the University is implementing the following:

- progressive interventions, programmed in the Building Plan, for the **removal of architectural barriers**;
- **signage** affixed in all facilities to facilitate orientation, *wayfinding*, and recognition of sources of danger; creation of **accessible documents and websites**; expansion of **access to documents and educational content, including through the use of new technologies** (e-learning systems and specific aids for blind, visually impaired, and learning disabilities students: speech synthesis programs, book readers, big keyboards, video magnifiers, etc.);
- **simplification and dematerialization of procedures**.



## Development cooperation and international protection

The University makes its **contribution to stabilization and democracy processes in developing countries**, including through concerted actions with other relevant actors, such as the Ministry of Foreign Affairs and International Cooperation, the University Development Cooperation Coordination Network ([CUCS](#)), the Italian Agency for Development Cooperation ([AICS](#)), the Italian Inter-University Consortium for Argentina ([CUIA](#)), the Italian Higher

Education with Africa Foundation (IHEA). Various initiatives are carried out in cooperation with these institutions (scholarships for students from the countries covered by the agreements, mobility, joint research projects, etc.).

Along with 52 other Italian universities, in January 2020 the University of Florence joined the [Inclusive University Manifesto](#) promoted by UNHCR, the UN Refugee Agency. It is also part of the "[Scholars at Risk](#)" network, comprised of more than 650 universities in 43 countries. It provides temporary refuge for faculty and researchers from countries where academic freedom is not guaranteed, and their personal safety is threatened.

Initiatives taken to facilitate refugees' access to university education and research and promote their social integration and active participation in academic life include:

➤ **humanitarian corridors for refugee students** ([Project Unicore 5.0](#), University Corridors for Refugees): aimed at including young refugees who intend to complete their education by attending a master's degree program in English at our University. The Ministry of Foreign Affairs and International Cooperation, Caritas Italiana, Diaconia Valdese, Centro Astalli, and Gandhi Charity are collaborating on the project.

➤ **qualification assessment of international protection holders**: the University provides a service for the certification of qualifications of refugees who intend to resume their studies, even in the absence of official documentation from the country of origin from which they fled (National Coordination for the Assessment of Refugee Qualifications, CNVQR).

➤ **support for students waiting for international protection**: thanks to the collaboration with the Giorgio La Pira International Students Center, scholarships are available for students waiting for recognition of international protection who intend to start a university course of study.

➤ **multicultural tutors**: to guide and facilitate the inclusion and participation of refugee students in the education and training system and society.

➤ entering into **agreements with universities in developing countries** (see the [interactive map](#)).

The University of Florence is also the coordinator of the project "**Being an inclusive university for refugee students: concepts, methods and tools**," funded by the European university consortium EUniWell (see § 4.5).



### 1.3.3 Policies for legality

The University of Florence believes in the participatory construction of a shared culture of legality, based on the concept of social responsibility. The relevant strategic objectives are set out in the [Three-Year Plan for the Prevention of Corruption and Transparency](#), which is an integral part of the [PIAO](#), to which reference is made for general and specific risk treatment measures.

Anti-corruption and transparency policies are aimed at **ensuring and holding stakeholders accountable that the University's processes are carried out in accordance with the values of fairness, equity and efficiency**:

- strengthening the **risk analysis** and forecasting of preventive measures;
- improving **the efficiency** of decision-making processes and internal procedures by revising and updating internal regulations and digitizing procedures;
- promoting **equal opportunities**;

- improving information flows and **increasing levels of transparency and accessibility** of information by stakeholders, both internal and external;
- promoting **stakeholder participation in the development of corruption prevention strategies** and increasing **training in corruption prevention and transparency**, to strengthen the culture of legality and act against the root causes that foster crime, conditioning the economic-financial and social dynamics of the territory and opening spaces for strategies to attack healthy business realities.



### 1.3.4 Work environment health and safety policies

The University of Florence embraces the concept of health as defined by the World Health Organization: a state of "physical, mental, and social well-being." **The University contributes to the health promotion of the academic and local community:**

- ensuring the **health and safety of the study and work environment** and the health monitoring of workers. The Safety Management System of the University of Florence is defined in the [University Regulations for the Safety and Health of Workers in the Workplace](#), in compliance with the relevant legislation in force (Legislative Decree 81/2008). The **web portal [Ateneo sicuro](#)** publishes information content to promote the safety of activities carried out on the University premises and useful documentation for those directly involved in its assurance.
- promoting the **organizational well-being** of staff through work-life balance institutes and monitoring the organizational climate with special surveys;
- offering **services of [primary health care for off-campus students](#) and [psychological counseling](#)**, aimed at managing personal and relational distress or related to learning difficulties and cognitive and neuropsychological problems;
- putting its expertise and resources at the service of the Regional Health System, through the **Careggi and Meyer Hospital Boards**, which integrate the functions of research, training and care, according to the principles of Legislative Decree 517/1999 (see § 2.5). On this front, significant are the caring activities provided by University staff, active health-related research projects, clinical trials, and initiatives to protect health and promote healthy behaviors.

The University of Florence is the proposing entity of the only **innovation ecosystem** dedicated to Life Sciences, funded under the PNRR, called **THE - Tuscany Health Ecosystem**.

The goals of the 2022-2024 Strategic Plan also include the **Wellness and Sports project**, aimed at raising community awareness of the importance of a healthy lifestyle and improving mental and physical health and well-being in work and study environments.

### 1.3.5 Policies for technological innovation and digital transition

With the Code of Digital Administration (CAD, Legislative Decree 82/2005 and s.a.a.m.), every public administration is involved in the realization of the objectives of the Italian and European digital agenda, which aim to **spread the use of information and communication technologies** in order to **simplify access to services aimed at people, make public administration processes more efficient, and foster innovation and economic growth**. The University implements these strategies, pursuing:

- the coordinated and unified management of the **development of the University's information systems architecture and infrastructure endowments**, in terms of technological and procedural modernization, process reengineering, dematerialization of document flows, development and management standards, and procurement planning and coordination;



- **increasing cybersecurity**, in light of the worrying escalation of cyber-attacks even on public infrastructure, by acting both on the user awareness front and on strengthening defense mechanisms;
  - the **accessibility and usability of IT tools** to all citizens and users with disabilities;
  - the **integration of technological aspects in the organization of services** and the implementation of **remote work** in order to improve user satisfaction and reduce administrative time and costs.

The action program, in continuity with what has already been initiated and implemented, is set out in detail in the 2021-2023 Three-Year Plan for Information Technology, approved by the Governing Bodies at their meetings in September 2022, and includes the following objectives:

- increase the number and quality of services offered digitally, with special attention to accessibility aspects;
  - increase the adoption of enabling platforms and the services offered through them;
  - improve the provision of connectivity services;
  - provide increasingly interoperable services;
  - continue dematerializing processes already in place;
  - increase Cyber Security Awareness in the Public Administration;
  - raise the digital skills level of its employees and students.

The three-year expenditure in the ICT area includes the cost of application solutions used in SAAS (including evolutionary and regulatory maintenance), management of the network infrastructure, purchase and maintenance of devices provided to staff or placed in classrooms, purchase of licenses dedicated to teaching activities, and management of server systems dedicated to research and technology transfer.

### 1.3.6 Policies for environmental sustainability

The University's commitment to the sustainable management of its activities and infrastructure and to reducing its environmental impact takes place on several levels (see § 5):



- **procurement policies:** the University of Florence chooses suppliers of goods and services in compliance with European directives and current national legislation, integrating **environmental and social sustainability criteria at all stages of the purchasing process**.

- **waste management and reduction:** the University operates careful waste management (**sorting, recovery, disposal** of organic waste, plastic, paper and other types of waste such as WEEE, spent toner, spent batteries, expired medicines and others) and promotes a responsible and sustainable attitude when purchasing goods or substances, giving preference to those equipment that at the end of their life cycle, except for reuse, are separable, decomposable and with the maximum possibility of starting to recovery; it should be pointed out, however, that sometimes the costs of sending waste for recovery are greater than for processes directed toward destruction.

- **energy saving: energy efficiency measures** (building insulation, photovoltaics, transportation, lighting, heating and air conditioning systems, consumption of computers and other electronic equipment) are of particular importance, **from the perspective of both environmental and economic sustainability**, in the current economic phase, in which the rising cost of energy services has led to the need for a substantial spending commitment in the 2023 budget. In addition to the **containment of consumption** for thermal management (reduction

of degree days/hours per day of ignition, scheduled closures of locations), the major planned infrastructure upgrading/expansion projects include the use of **renewable energy sources** in a share of no less than 50 percent of the total energy needs. Studies for the energy efficiency of indoor lighting using LED technology, for which economic resources have already been allocated in the planning, are being investigated.

➤ **city mobility:** the organization of urban transportation and university activities condition each other, generating the demand for mobility in the Florence area by staff and students. Therefore, The University liaises with relevant institutions and works to limit the need for travel between different locations to steer the community toward less individual use of private cars and encourage public transportation, cycling and micro-mobility. In December 2022, the [Home-Work Commute Plan](#), has been approved and talks are underway with companies that operate public transportation and shared mobility services to obtain fare concessions for students and staff.

➤ **rational use of water:** actions in this regard include maintenance of water systems, careful management of irrigation of green areas including through recovery and storage of rain-water, and installation of drinking water fountains on all premises.

➤ **agricultural and green management:** contributing to a sustainable approach in this area are the activities of the Botanical Garden, bioactive university gardens (for the management of which a call for proposals open to students will be issued), and the activities of the Montepaldi Farm.

➤ **promotion of the culture of sustainability:** in order to share with the entire academic community and the public the reasons, methods and aims of sustainable action, the University implements numerous communication, awareness, and participation initiatives on these issues.

➤ **research and technology transfer in support of the ecological transition:** numerous publications and field projects testify to the focus of Unifi's scientific community in this area (see § 1.4). In addition, the [Science and Sustainability Desk](#) welcomes suggestions from civil society that may involve a research or study phase, the results of which are returned to citizens in public events in a typical "*citizen science*" approach.

The University of Florence is part of an extensive [network](#) that includes Italian and foreign universities, research institutes, and companies committed to environmental sustainability and social responsibility, including the University Network for Sustainable Development (RUS), the Italian Alliance for Sustainable Development (ASVIS), the European University for Well-Being (EUniWell - see § 4.5), the European University Alliance, New European Bauhaus (NEB), European School of Sustainability Science and Research (ESSSR).



Actions and measurements related to sustainability are promoted and managed by the **Green Office** of the University; the **web portal Ateneo Sostenibile** contains extensive information content on activities aimed at promoting environmental sustainability.

## 1.4 The University's contribution to sustainable development goals



While the goals of the Strategic Plan focus specifically on 11 SDGs, the teaching, research, and third mission/social impact activities carried out at the University cover virtually all of the UN Sustainable Development Goals. The dissemination of these values is also recognized and appreciated in the main international rankings dedicated to sustainability, in which Unifi always obtains very positive ratings (see Fig. 1.2).

### Education on sustainability issues

The educational offerings of the University of Florence pertain to almost all disciplines, and **issues - including interdisciplinary ones - related to sustainability** are increasingly **present at all levels of education**. For about one-third of the subjects offered in A.Y. 2022/23 programs, faculty members showed direct relevance to the Sustainable Development Goals (1,572 out of 4,758 courses analyzed). Goal 4, "Quality Education," is the one most represented, but equally significant appears to be the data on the commitment of study programs to all the SDGs of Agenda 2030 (see Fig. 1.10). Without claiming to be exhaustive, some of the pertaining courses are represented below (see Fig. 1.11).



◀Fig. 1.10 - Affinity of Unifi CdSs with SDGs: distribution on 2022/23 subjects for which SDGs fields on Syllabus were filled in. Aggregation by School. Source: Green Office

<b>1 NO POVERTY</b> 	Agriculture, Development and Poverty, Energy Poverty and International Policies, Ingegneria delle Macchine per l'Agricoltura, Measurement and Causes of Poverty	<b>10 REDUCED INEQUALITIES</b> 	Diritto degli Stranieri e dell'Immigrazione, Linguaggi della Diversità nelle Società Complesse, Psicologia Sociale, Tolleranza e Alterità nell'Europa Moderna
<b>2 ZERO HUNGER</b> 	Alimentazione e Nutrizione Umana, Colture Arboree per Matrici Alimentari, Patologia Vegetale Molecolare e Controllo Ecosostenibile, Scienze Tecniche Dietetiche Applicate	<b>11 SUSTAINABLE CITIES AND COMMUNITIES</b> 	Analisi del Territorio e degli Insediamenti, Analisi, Recupero e Valorizzazione del Giardino Storico, Architettura del Paesaggio, Costruzioni in Zona Sismica
<b>3 GOOD HEALTH AND WELL-BEING</b> 	Counseling Psicologico Clinico, Health and Education Economics, Igiene e Promozione della Salute, Psicologia Sociale della Salute e Promozione del Benessere	<b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b> 	Biotecnologie per le Produzioni Animali Ecosostenibili, Chimica e Analisi degli Alimenti, Food Quality and Culture for Tourism, Ottimizzazione e Innovazione dei Processi Produttivi
<b>4 QUALITY EDUCATION</b> 	Abilità informatiche per gli Studi Umanistici, Didattica Generale per la Formazione Docente, Sociologia dei Processi Culturali, Pedagogia Sociale ed Educazione alla Pace, Teoria del Conflitto e della Mediazione	<b>13 CLIMATE ACTION</b> 	Ecosystem Services and Climate Change, Politica dell'Ambiente, Psicologia Ambientale, Valutazione di Impatto Ambientale
<b>5 GENDER EQUALITY</b> 	Gender and Citizenship, Labour Economics and Gender, Pedagogia di Genere, Storia di Genere	<b>14 LIFE BELOW WATER</b> 	Biologia Generale e Zoologia I, Gestione e Riqualficazione dei Sistemi Fluviali, Microbiologia Ambientale, Sostenibilità e Crisi Biologiche
<b>6 CLEAN WATER AND SANITATION</b> 	Acqua ed Energia, Gestione Sostenibile delle Acque e dei Rifiuti in Ambiente Urbano, Impianti di Trattamento delle Acque, Watershed Hydrology	<b>15 LIFE ON LAND</b> 	Diversità Vegetale Regionale, Interazioni Funghi, Piante, Ambiente, Protezione delle Colture Ornamentali dai Fitofagi, Suoli Forestali
<b>7 AFFORDABLE AND CLEAN ENERGY</b> 	Energia Sostenibile per l'Ambiente, Gestione Industriale dell'Energia, Sistemi Energetici Avanzati, Systems and Solutions for energy Transition	<b>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</b> 	Diritto dell'Unione Europea, Human Rights: the Catholic Perspective, Difesa dei Diritti Attraverso il Diritto: Introduzione allo Studio Clinico del Diritto, Sociologia dei Processi Culturali, Teoria del Conflitto e della Mediazione
<b>8 DECENT WORK AND ECONOMIC GROWTH</b> 	Bank Management and Sustainable Finance, Diritto del Lavoro, Psicologia del Lavoro, Sicurezza Industriale	<b>17 PARTNERSHIPS FOR THE GOALS</b> 	Diritto Internazionale (Lingua Inglese), Economics and Management of Complex Humanitarian Emergencies, Geoeconomia e Geopolitica dello Sviluppo Sostenibile, Pedagogia Sociale e Educazione alla Pace
<b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b> 	Disegno Tecnico Industriale, Droni per il Rilievo Georeferenziato Urbano e Territoriale e Analisi di Dati Spaziali, Gestione degli Impianti Industriali, Ingegneria Sismica		

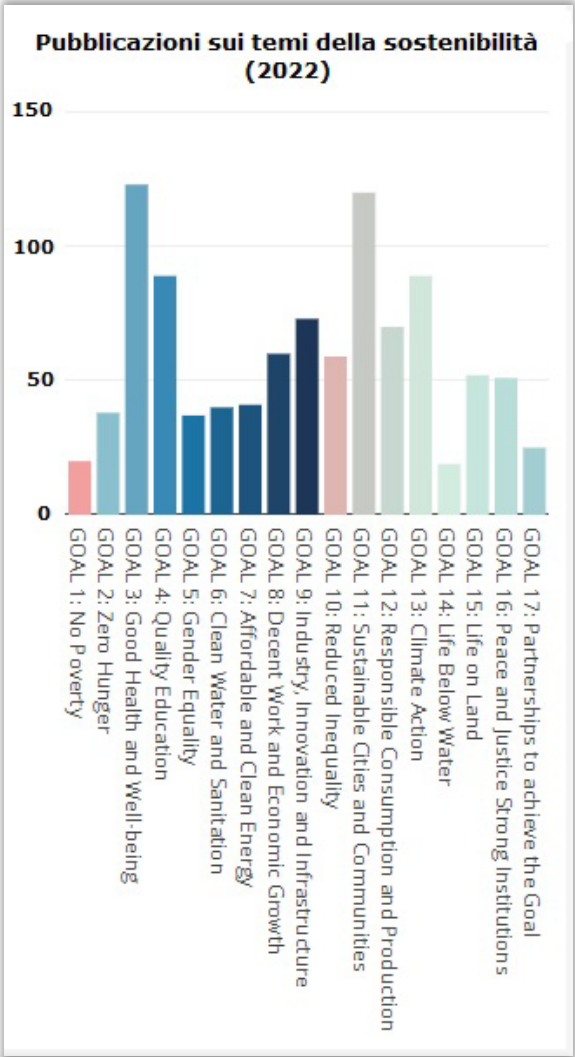
◀Fig. 1.11 - Some of the subjects provided in the SDGs-relevant degree programs. Source: Green Office

**Research and the third mission on sustainability issues**

Research contributes to sustainable development goals by addressing pressing global challenges in areas such as health, security, ecological and digital transition. It fosters long-term productivity and competitiveness and supports the creation of new jobs and the development of knowledge-intensive activities, which account for more than 33 percent of total employment in the EU.

The University is **active in research on sustainability issues** and participates in a variety of local, national, European, and international projects, covering, to name a few, land use, geological and environmental safety, sustainable agriculture and food supply chains, human health, pollutant tracking and removal, renewable energy generation, climate, ethics and bioethics, educational models, economic models, transportation, and many others. The classification of **publications and research projects** submitted in 2022 by SDGs testifies to the vibrancy of the University's research on these subjects (see Fig. 1.12-1.13).

The University of Florence is also participating in the **Frontiers Planet Prize 2022**, an initiative of the **Frontiers Research Foundation**, founded in 2006 to accelerate scientific solutions to living a healthy life on a healthy planet. Following selection by an international jury of 100 scientists, the Foundation will award three prizes of 1 million CHF each for scientific discoveries that have the greatest potential to stabilize our planet's ecosystem.



► Fig. 1.12 - 2022 Publications on the SDGs. Source: CRUI-Unibas system and Research Observatory-Data extracted on 31/1/2023).



▲ Fig. 1.13 - 2022 research projects on the SDGs. Source: Research Registry (data extracted on ...)

**Technology transfer** activities related to sustainability include:

➤ **Patents and plant varieties:** numerous rights in environmental sustainability, with a consequent reflection in enhancement actions to create a positive impact on territories, communities, and the environment. In the medical field, worthy of mention are several patents with international outreach that implement *green healthcare* policies. In particular, some titles use materials derived from the waste products or by-products of agriculture or forestry to create next-generation pharmaceutical compounds. In the area of technology, we find patents capable of implementing and fostering circular economies that enhance agricultural territories, for example, in the area of bioplastics production or building materials with certified/certifiable sustainability, as well as patents aimed at the efficiency of industrial activity with positive, even substantial, spin-offs in terms of emissions abatement, reduction of raw material waste and rationalization of water use. Mention ought to be made of those technologies and patents that contribute to the improvement of natural or heavily human-made settings and thus aimed at making noisy places and environments sustainable, as well as those that are potentially unsafe because of the activities that take place there or because of the natural or human-made conditions that characterize them. In addition to patents, the University also owns the rights to some plant varieties that enable the production of goods normally imported from abroad, resulting in reduced transportation needs.

➤ **Spin Offs:** Ecodrone s.r.l, products and services for the monitoring of marine and lake basins and freshwater; Ecolgene s.r.l, services to support companies and public agencies operating in the forensic, livestock and agri-food sectors through genetic and genomic analysis, microbiological analysis and bacterial strain production; FloNext s.r.l, repurposing of drugs already in use for new indications in degenerative diseases; Moca Future Designers cooperative, consulting services to organizations operating in the socio-educational-cultural sector; Morfo Design s.r.l, research and experimental development in the field of natural sciences and engineering; Urban Life, on urban complexity; BlueBiloba, on support for viticulture; Insect Pharma Entomotherapy, on the use of insects and other arthropods as drugs; Mapping Hyperlocal Communities, urban and landscape planning, joined by many other spin-offs such as Carbon Sink Group (reducing environmental impact, sustainability strategies and offsetting CO<sub>2</sub> emissions) and Food-MicroTeam (fermentation control and management).

➤ **National technology clusters:** Agrifood - CL.A.N (partnership of companies, research centers, territorial representations and relevant stakeholders in the agrifood supply chain), CTN Blue Italian Growth - BI" (sea economy), *Energia* (coordination in the energy field), *Sustainable Processes and Resources for Innovation and National Growth - SPRING* (Green Chemistry), *Trasporti Italia 2020* (mobility by road, rail, waterways and intermodality).

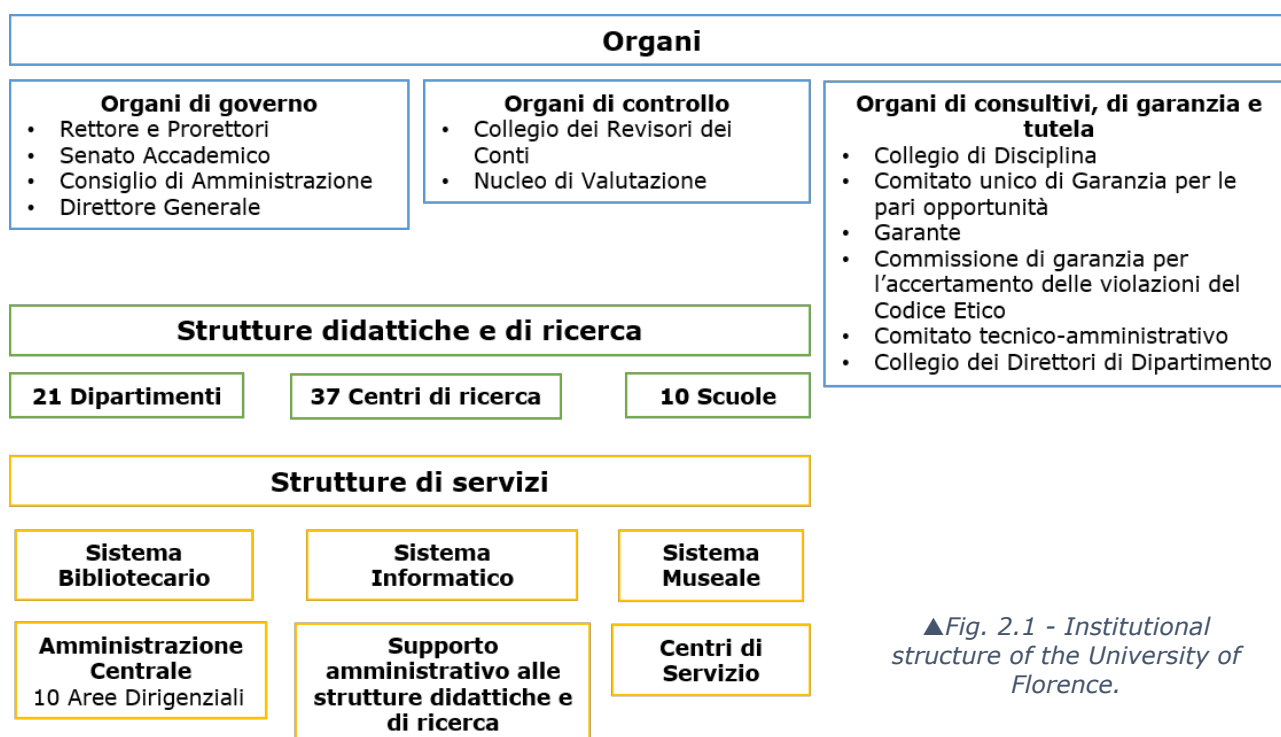
➤ The University participates in all **National Research Centers** promoted under the **NRRP**, four of which were established to develop frontier research on topics strongly related to sustainability goals: Agricultural Technologies (Agritech), RNA technology drug development and gene therapy, Sustainable mobility, and Biodiversity.

Also of note is the University's role in **preserving cultural heritage, including intangible heritage** (oral traditions, languages, and knowledge) and **public access to green spaces** (botanical garden), mainly through the contribution of the Museum System and some Departments.

## 2 | The governance system and organizational structure

The organizational framework of the Bodies and structures placed to guard the University's institutional missions, strategies, and services, as outlined by statutory and regulatory provisions, is represented below.

Central and peripheral governing bodies provide for all components of the academic community, including the student community, to have their own elected representation.



▲Fig. 2.1 - Institutional structure of the University of Florence.

### 2.1 University Governing Bodies

The institutional structure of the University of Florence, described in the [Statute](#), includes the following bodies:

➤ The **Rector** represents the University and performs the general functions of direction, initiative, and coordination of activities. She is responsible for pursuing the goals according to quality criteria and in accordance with the principles of effectiveness, efficiency, transparency, and promotion of merit (Art. 11 of the Statute).

➤ The **Vice Rectors** assist the Rector in carrying out specific functions and duties. There are also Delegates of the Rectors on specific matters (Art. 12 of the Statute).

➤ The **Academic Senate**, composed of 30 members, is the representative body of the University's various components with planning, regulatory, and coordinating duties. It has liaison functions with institutional figures and other bodies of the University; collaborates with the Rector in functions related to scientific and educational activities; collaborates with the Board of Administrators in the functions of strategic direction and annual and three-year financial and personnel planning (Art. 13 of the Statute).

➤ The **Board of Administrators**, consisting of 11 members, is the governing, strategic direction, and control body. It exercises its functions in order to pursue efficiency and quality of the University's institutional activities in accordance with the criteria of effectiveness, cost-

effectiveness, and merit protection; it also supervises financial sustainability (Art. 14 of the Statute).

➤ The **General Manager** is responsible for the overall management and organization of services, instrumental resources, and technical and administrative personnel. Works for rationalization of processes and expenses, optimization and enhancement of human resources, promotion of accounting and information transparency, performance evaluation and support services for the quality of teaching and research (Art. 19 of the Statute).

➤ The **Board of Auditors**, composed of three full members and three alternate members, is the body in charge of administrative control of accounting regularity in accordance with the principles laid down in current legal provisions and in accordance with the rules of the Regulations for Administration, Finance and Accounting (Article 16 of the Statute).

➤ The **Assessment Unit**, composed of 9 members, is the body in charge of the evaluation of teaching and research, administrative and management activities; it also performs the functions of the Independent Evaluation Body (OIV) (Art. 17 of the Statute).

Additional University bodies are:

➤ The **Disciplinary Committee**: conducts the preliminary stage of disciplinary proceedings and expresses a binding opinion on the merits of the disciplinary action and the possible sanction to be imposed. It operates according to the principle of peer judgment, respecting the adversarial process (Art. 20 of the Statute).

➤ The **Committee for Equal Opportunities**, non-discrimination, and welfare of those at work (CUG): has propositional, advisory, and verification duties in ensuring the welfare at work and equal opportunities related to gender, age, disability, religion, ethnicity, sexual orientation, and gender identity (Art. 22 of the Statute).

➤ The **Ombudsman**: intervenes in cases of violations of the freedom of teaching and research and the rights of students, teaching and technical-administrative staff, impartiality, transparency and fairness of the activities carried out by the University. Chairs the Rights Commission for the investigation of violations of the Code of Ethics (Art. 23 of the Statute).

➤ The **Rights Commission for the investigation of violations of the Code of Ethics** aims to ensure that the conduct of members of the university community, consisting of teaching and research staff, technical and administrative personnel and students, conforms to the principles that govern the University's activities, and is not otherwise conditioned by interests unrelated to institutional ones.

➤ The **Technical-Administrative Committee** expresses compulsory opinions on regulatory acts, complaints against administrative measures taken by the University Bodies, building interventions, expropriation procedures and estimative evaluations (Art. 24 of the Statute).

➤ The **College of Department Directors** operates alongside the Rector with advisory and proposal duties to the Academic Senate and the Board of Administrators on general research and teaching issues (Art. 29 of the Statute).

To accompany the Quality Assurance processes related to the University Self-Assessment, Evaluation, and Accreditation model, the University Quality Presidium was also established.

Appendix (A.1) shows the composition of the Bodies in 2022.



## 2.2 Teaching and research facilities

The University of Florence is divided into **21 Departments**, key organizational structures for the planning and exercising of education, research, and technology transfer activities. Seven departments of the University of Florence have been selected by ANVUR for the allocation of the Ministry of University and Research-MUR Fund for "**Departments of Excellence**," earmarked for research facilities of excellence in Italy for the years 2023-2027. These are the Departments of Chemistry "Ugo Schiff"; Neuroscience, Psychology, Drug Research and Child Health (Neurofarba); Experimental and Clinical Biomedical Sciences "Mario Serio"; Earth Sciences; Legal Sciences; Statistics, Computer Science and Applications "G. Parenti"; and History, Archaeology, Geography, Fine and Performing Arts (Sagas). The funds made available (more than 56 million euros, to be invested over the period 2023-2027) will be used for infrastructure, highly qualified teaching and scientific activities, and recruitment and rewarding of staff.

**Coordination of teaching activities** taught in undergraduate degree programs, master's degree programs, graduate schools, and the management of related services it is carried out by the **10 Schools**, each consisting of one or more Departments. To carry out research activities of significant commitment on multi-year projects involving multiple departments or other entities, **37 Research Centers** are currently established, 17 of which are inter-university.

## 2.3 Service Centers

The University includes numerous **Service Centers**, structures endowed with managerial autonomy, established also in collaboration with other universities and with public and private entities for the provision of support services for teaching, research and knowledge transfer activities, the enhancement of cultural heritage and the promotion and dissemination of research products and teaching tools, including through publishing activities. Among them, the Museum System, Library System and University Information System have statutory significance.



▲ Fig. 2.2 - Teaching, research and service facilities.

## The Museum System (SMA)

The **University Museum System** (SMA) originates from the Museum of Natural History of the University of Florence, whose tangible and intangible tradition, more than four centuries long, it preserves. It ensures the preservation, enhancement, promotion and public enjoyment of the scientific, historical-scientific and historical-artistic collections it houses, at the service of the community and scientific and museology-related research; promotes its collections and holdings through coordinated actions with other national and international institutions, entities and subjects; carries out educational and didactic activities, establishes ongoing collaborations with schools of all levels for the development of joint projects aimed at the dissemination of culture, enters into agreements with voluntary associations that carry out activities for the preservation and dissemination of cultural heritage. The Museum conducts research and edits the production of scientific and popular publications.

The venues that make up the Museum of Natural History (fig. 2.3) hold **naturalistic collections of more than eight million specimens**. The Museum System also includes the two **historic mansions, Villa La Quiete and Villa Galileo**, in the hills north and south of Florence, respectively.

The Statute of the University of Florence gives the SMA the status of a Center of Responsibility with management autonomy. The organizational structure includes a Scientific Council (consisting of the President, the Technical Director, and academic and management representatives) and a Technical Committee (consisting of the Area Manager, the Technical Director, Headquarters Managers, Villas Referents, and the Head of Administrative-Accounting Management).

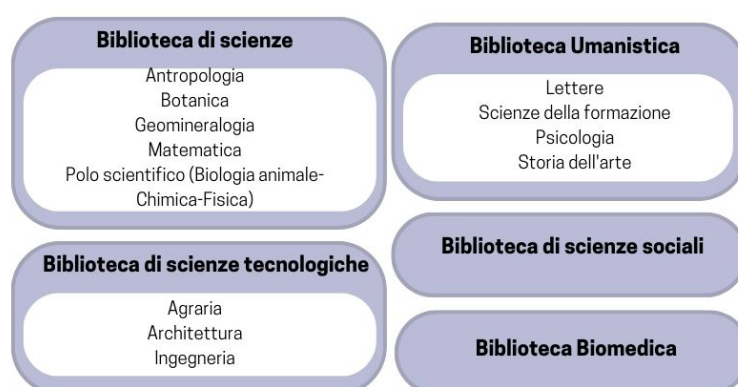
The activities of the Museum System are reported in section 4.6.2.



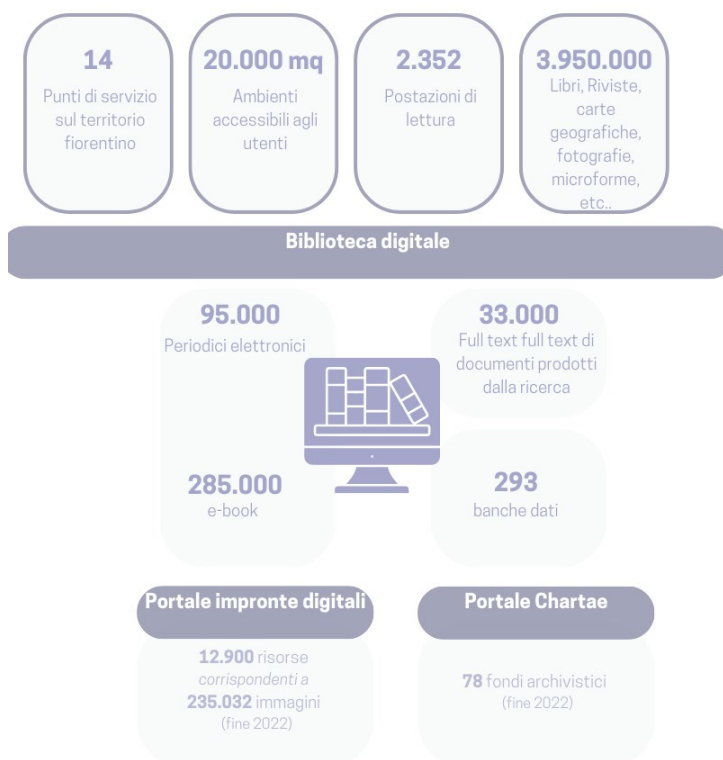
▲Fig. 2.3 - Locations of the University Museum System.

## The Library System (SBA)

The **University Library System** provides a qualified set of services for the processing and disseminating bibliographic information supporting teaching and research. It ensures the growth, preservation and use of the University's library and documentary heritage, in print and digital format. It allows its holdings and services to be enjoyed beyond the university community through interlibrary loans, the online service *Ask a Librarian* and the free content of the Digital Library. It offers specific services for disadvantaged users, such as lending to the University Prison Campus, resources, and tools for people with disabilities, the visually impaired, and blind people.



▲Fig. 2.4 - Service points of the University Library System.



▲Fig. 2.5 - Library Holdings.

The University Library System, a center endowed with management autonomy by the Statute, comprises **five subject area libraries** and a Coordination Center, which organizes cross-curricular activities for the five libraries, conducts monitoring and evaluation activities on resources and services, and provides training and professional development for library staff. The Center is attached to the Digital Library, which maintains and promotes the development of services related to electronic and digital resources and technological innovation, and the Administrative Secretariat, which handles administrative, financial and accounting management. Also coordinating with the **University Library System** is the **library of the Prato University Campus** (PIN), which serves courses held at PIN and students residing in the Prato area, and whose management is entrusted to a cooperative outside the University.

Area libraries deliver their services at **14 service points scattered throughout the Florence metro area** and have **bibliographic holdings of more than 3.95 million documents**, mainly books and journals but also maps, photographs, microforms, audiovisuals and more. **Digital library** resources are also numerous. Constant study and digitization work feed the portal [Impronte digitali](#), which offers online access to valuable specimens, guaranteeing their usability while preserving the originals from possible damage resulting from direct consultation. The Chartae portal, the result of the ongoing work of reorganization, inventorying, description, and digitization of the archives of the Library System, from 2020 welcomes the archival collections of the entire University, including the documents described by the Historical Archives and Villa La Quiete. Impronte digitali and Chartae make specimens and documents accessible online to researchers, scholars, and enthusiasts around the world.

In addition to the traditional services of reference, lending, interlibrary loans and document delivery, the Library System provides **advanced services** such as research assistance, and training courses on bibliographic research tools and methods, some of them with recognition of educational credits in study programs, and assistance in the valorization of research products and quality assessment procedures. **Specific services are designed for disadvantaged users**: home and audiobook lending for people with disabilities, tools for the visually impaired and blind, and lending to students at the Tuscan University Prison Campus.

The activities of the Library System are reported in section 4.6.1.

## The Information System (SIAF)

The [University of Florence Information System](#) (SIAF) provides **integrated information technology products and services** to meet the needs of internal and external users in terms of utility, quality, reliability, and cost-effectiveness. It ensures the operation, management,

adjustment and unitary coordination of the University's IT and telephone system (assets, infrastructures and services), both from a functional and managerial, contractual and maintenance point of view. It assists the University Bodies in the exercise of their functions, providing them with the necessary tools and information and providing for the development of new services for students, faculty and technical and administrative staff. It provides support services for distance learning, promoting its development and innovation; provides assistance and advice with regard to the educational and scientific activities of the University on issues inherent to its purposes; promotes and takes care of training on issues related to computer, telematic and multimedia services; promotes and participates in experimental, application, as well as research and training projects, also in collaboration with other components of the University or with other entities; makes operational the standards and rules to ensure adequate levels of security and interoperability for all the Units and personnel of the University.

## 2.4 The technical administrative structure

The technical, administrative, financial and asset management of the University is entrusted to the **Administrative Structure**, which, under the coordination of the **General Manager**, helps to ensure the functionality of the institutional activities of the governing bodies and structures. The organization includes the **management areas**, which interact with the Bodies and the teaching and research structures through the professional networks with the **administrative component** functionally affiliated to **Departments, Schools, and Centers**. Due to specific organizational needs, the structure of the areas of central administration and departments provides for **further sub-divisions** into second and third-level organizational units.

The administrative structure participates in the University's overall objectives through its articulation in the **performance planning and evaluation system**. To progressively improve service levels, adapting them to the needs of its stakeholders, the services provided are systematically subjected to a **survey of user satisfaction** (see § 3).

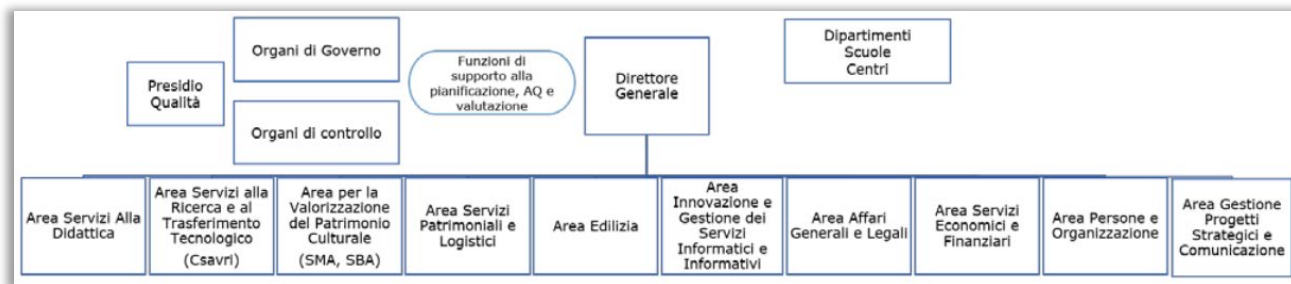
In **2022**, with the turnover of the University's governance, a **review phase of the administrative organization** was initiated, with the aim of ensuring consistency with the University's strategies and the AVA 3.0 accreditation model, clearly redefining the missions, competencies, and responsibilities assigned to the Areas, and pursuing the simplification and streamlining of the management structure, overcoming existing fragmentations and overlaps. The first measures in this regard included:

➤ **interventions on the macro-organizational structure**, with the **redesign of the competencies of some management areas**, including in particular the creation of the Strategic Project Management and Communication Area (created to support the intense and strategic activity in support of the design and reporting of the PNRR projects), the integration of the attributions of the Area now called People and Organization (which reabsorbs the functions in the areas of planning and organization of contracted personnel, labor relations, presiding over relations with the National Health Service), the General and Legal Affairs Area (Central Purchasing, Academic Bodies) and the Building Area (presiding over energy consumption, due to the link with efficiency measures through interventions on buildings and facilities). Further action was taken during 2023 and is still ongoing.

➤ **interventions on the micro-organizational structure**: still limited in 2022 (mention should be made of the establishment, within the Management Functions, of the Planning, Quality Assurance and Evaluation Support Unit and the Green Office), subordinating the reorganization of positions to the re-functionalization of processes managed by second- and third-level units,

with an investment also in career progressions, to encourage the empowerment of the existing professional skills.

➤ **interventions on organizational culture:** necessary to support and accompany organizational change, carried out through the evolution of the recruitment and job placement model, the enhancement of the evaluation system as a lever for professional growth, training, the integration of planning and control levels, and the consolidation of work-life balance institutions.



▲Fig. 2.6 - Functional chart of the University Administrative Structure as of 31/12/2022.

## 2.5 The university hospitals

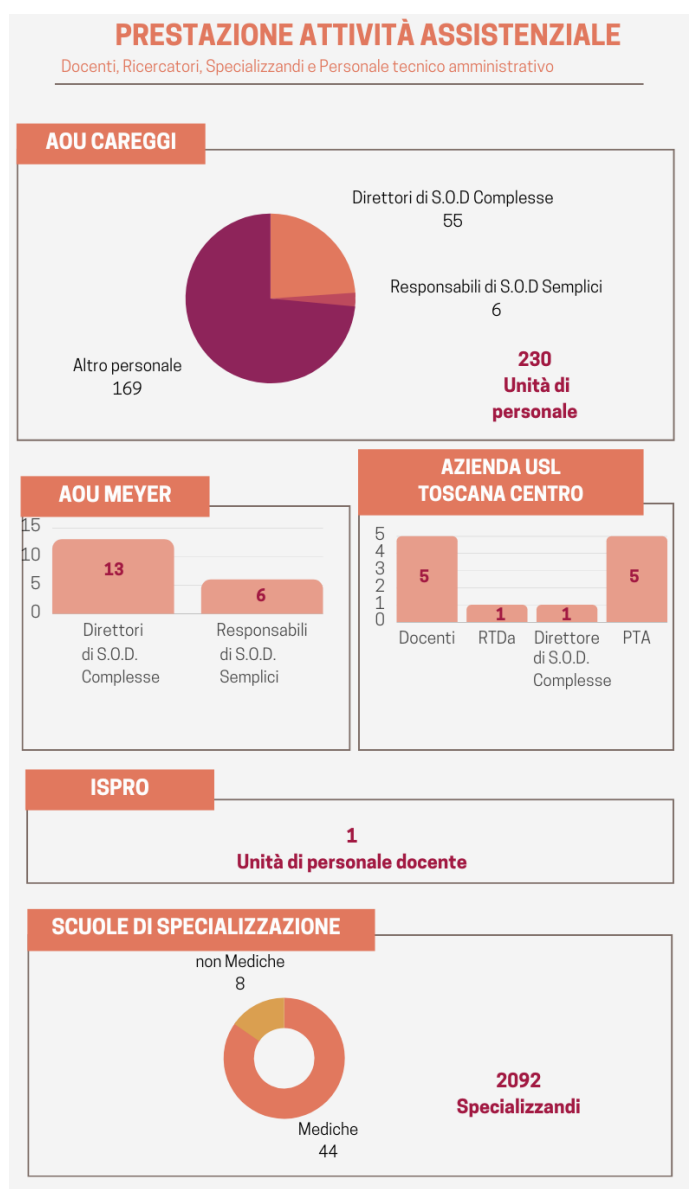
In order to "promote and regulate the **integration of care, training and research activities between the National Health Service and universities**" (Legislative Decree 517/1999), **memoranda of understanding** were drawn up **between the Region of Tuscany and three of Tuscany's universities**. Collaboration and sharing of economic-equity, personnel and performance resources between the University and the Regional Health Service enhances the quality of teaching and research and enables better allocation of resources, with benefits to the health and well-being of the entire community. In particular, the relationships are realized through:

- **Healthcare activities** provided by faculty, researchers, residents, and university technical staff;

- **Participation in teaching activities:** part of the teaching given in the Study Programs of health professions and the Specialization Schools is entrusted to staff of the regional health system;

- **Research and third mission:** in a great many cases, research groups in the healthcare field see the collaboration of university and hospital personnel; the products of research and technology transfer in this field range from publications in prestigious journals in the field, to funded research projects on specific topics, to clinical trial activities;

- **Joint programming** between UNIFI and the Careggi and Meyer Hospitals and UNIFI and the Central Tuscany Healthcare Unit to promote the **recruitment and enhancement of human resources to be dedicated to integrated care, research and teaching activities**. The local healthcare units co-finance up to 50 percent of university salary costs.



▲Fig. 2.7 - Healthcare activities of Unifi staff in local health care units. Source: People and Organization Area.

## 2.6 The shareholdings



▲Fig. 2.8 UNIFI-controlled entities as of 2022. Source: Transparent Management.

The University is involved in various capacities in **about 60 private entities**, of which it holds shares of different entities, or in which it is present through the power to appoint top management or members of the bodies. Of these, the legal entities that fall within the consolidation area of the University of Florence's financial statements are:

➤ **Azienda Agricola Montepaldi S.r.l.**, a wholly owned subsidiary of the University. The main purposes of the farming estate are research, study and experimentation and technical assistance, as well as education, training, and extension activities in the fields of agriculture, forestry, and environment. The farm has been experiencing an administrative and financial crisis for some years; in 2022, to safeguard the value of the farm complex and the investments already made, given the failure of the alienation procedures initiated in 2020 and 2021, the University promoted a different approach, which led to the appointment of a sole administrator of Azienda Agricola Montepaldi through the signing of a service contract with Agriconsulting S.p.A (BoA of 29 April 2022). The new sole administrator, following the University's guidelines,

during 2022 developed a plan to contain operating costs and to identify an industrial partner to counter the main risk factors.

➤ **Foundation for Research and Innovation (FRI)**, in which the University of Florence exercises the majority of votes in the members' meeting. The Foundation is also participated in and supported by the Metropolitan City of Florence and the Fondazione Cassa di Risparmio di Firenze, and acts as an instrument of liaison, connection, and synergy between the University and the institutions of the Tuscan territory, with regard to the area of Florence, Prato, and Pistoia, to carry out activities to support scientific and technological research and advanced training. The main areas in which the Foundation worked in 2021 were tourism, sustainability, new entrepreneurship (stimulation, start-up, incubation, acceleration, and scale-up), cultural and natural heritage, environment/energy, training, development, and innovation. In the approximately 14 years of its existence, FRI has grown and strengthened and has always achieved positive economic and financial results, with an equally positive impact in terms of innovation and research in the target area.

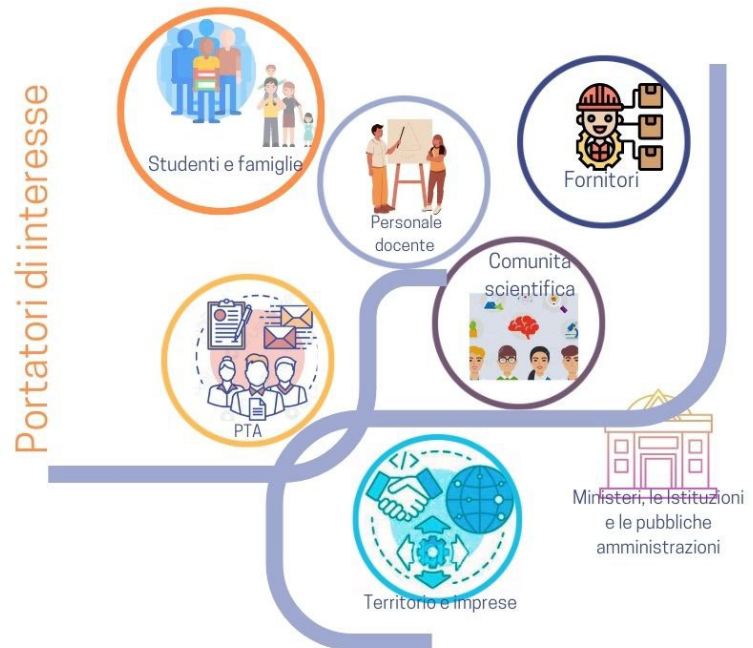
### 3 | The relationship with stakeholders

The University interacts with various **internal and external actors in the academic community**. University **stakeholders** are defined as all those individuals who condition the action and management methods of the University of Florence or whose evaluations and decisions, conversely, are substantially influenced by the activities and results of the University.

**Stakeholder involvement in the University's decisions** takes place in various ways: through **representatives on the governing and supervisory bodies, customer satisfaction surveys**, and other forms of surveying on needs, as well as the **dense network of relationships** that the University maintains with entities and institutions. Solicitations from all social partners become an element of planning and evaluation of results.

The following paragraphs briefly describe the main stakeholder categories according to which material, i.e., most significant, issues were identified for sustainability reporting, presented in the next chapter.

Time series for teaching, research, and administrative technical staff are provided in Appendix (A2); a more detailed characterization by gender is presented in the [2022 Gender Report](#). All data on top management remuneration and personnel costs are published in the [Transparent Administration](#) section of the University's website.



#### 3.1 The Ministry, institutions, and other public administrations

Some of the main public entities that influence the activities of the University of Florence include:

- the **Ministry of University and Research (MUR)**, the public body of reference for universities, whose decisions and funding significantly affect the organization and operation of universities.
- the **National University Council (CUN)**, an advisory and propositional body of the MUR. As an elective body representing the university system, it expresses opinions, makes proposals, adopts motions and recommendations, and conducts study and analysis activities on any matter of interest to the university system.
- the **National Agency for the Evaluation of the University System and Research (ANVUR)**, a public body overseen by the MUR, is responsible for evaluating the activities of universities in Italy.

In addition, the **Conference of Rectors of Italian Universities (CRUI)**, established in 1964 as a private association of Rectors and now an association of accredited state and non-state



universities, and the **National Council of University Students** (CNSU), have over time acquired a recognized representative role and the ability to influence the development of the university system.

The University of Florence's stakeholders also include **the European Union, national public bodies**, and local authorities, entities that, at various levels of competence, issue standards and rules that directly or indirectly influence the activities of universities.

**At the regional and local levels**, the Region of Tuscany and the municipalities in the metropolitan area are particularly important. The **University intervenes as a stakeholder in local policy decisions on issues of social and environmental relevance** (e.g., mobility, housing...).

Also important and ongoing, is the relationship with companies in the **National and Regional Health System**, particularly the Careggi and Meyer University Hospitals and the Central Tuscany Healthcare Unit (see § 2.5).

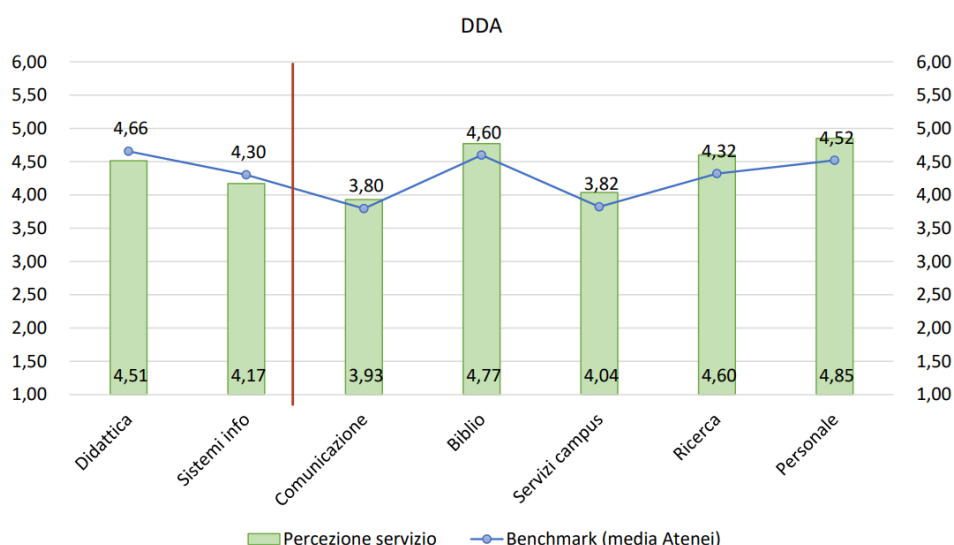
### 3.2 The teaching and research staff

After the sharp contraction in staffing that had characterized the decade 2008-2017, in the last five years, the numbers of teaching staff have gradually risen again, settling at **about 1,800** in 2022, a share that appears overall adequate to support the University's educational offerings and research and third mission/social impact activities.

The allocation of resources for recruitment (Staff Points and financial resources) is based on medium-term forecasts of staffing arrangements (roles, seniority, terminations), training needs of scientific-disciplinary areas, and performance in research and technology transfer. The increased resources made available by the Ministry for the next three years through the Extra Recruitment Plans, incorporated in the Three-Year Plan of Personnel Needs 2023-2025 (approved by the Board of Administrators on 23 December 2022 and an integral part of the PIAO), open up a prospect of workforce development, guaranteeing in the medium term the economic-financial sustainability of recruitment, which, however, will have to be supported over time by internal resources, to cover salary increases.

From a socio-demographic perspective, the proportion of women remains almost stable over the medium term, with smaller values among full professors (for details on gender dynamics, see

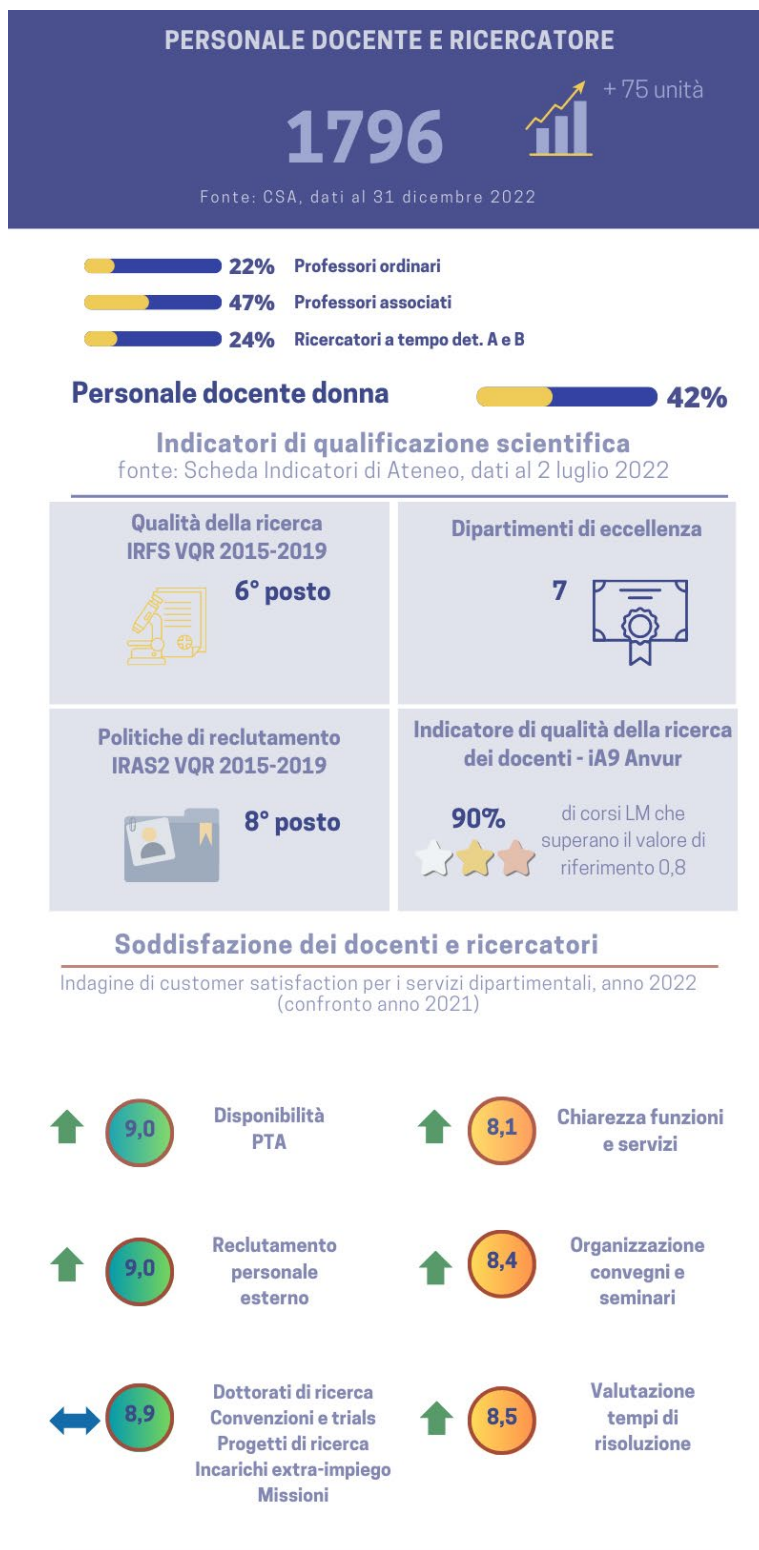
►Fig. 3.2: Good Practice Survey 2022 - Lecturers, doctoral students and fellows: overall satisfaction with indicated services, scale 1-6. Source: MIP Final report



the [Gender Report](#)). The average age is lowered by about 7 months compared to last year due to new recruits, mostly made to replace intervening terminations. It is stable of low magnitude, the share of personnel with foreign citizenship.

The University's faculty members are major players in the scientific community, as evidenced by the research results (see § 4.2). The latest available indicators referring to the **scientific qualification** of teaching staff show largely positive values (see Fig. 3.3). **Initiatives activated by the University to promote the scientific upgrading and teaching skills** of faculty members include mobility programs, the granting of study leave, and training activities, particularly those implemented by the Digital Learning and Computer Training Unit and the recently established University Teaching and Learning Center.

The **satisfaction of teaching and research staff with the services provided to them** by the University is measured primarily through two customer satisfaction surveys: one designed by the University, with specific questions about departmental administrative services (see fig. 3.2), and one in adherence to the Good Practice Project promoted by the Politecnico di Milano (see fig. 3.3). Both sources indicate a **high level of satisfaction** with most of the services used, which has been steadily increasing over time; however, the need for greater clarity in communication and organizational structure is acknowledged. There was also very high satisfaction with the training events dedicated to Digital Learning and innovative teaching tools.



▲Fig. 3.3: Numbers, scientific qualification and satisfaction with administrative services (scale 1-10) of UNIFI faculty. Sources indicated in the infographics.

### 3.3 The technical and administrative staff

Over the past three years, the technical and administrative staff remained essentially stable at around **1,500**. Most of the staff reside within the boundaries of the Florence metropolitan area; the gender distribution sees a predominance of women, except in the Executives tier (for further details see the [Gender Report](#)).

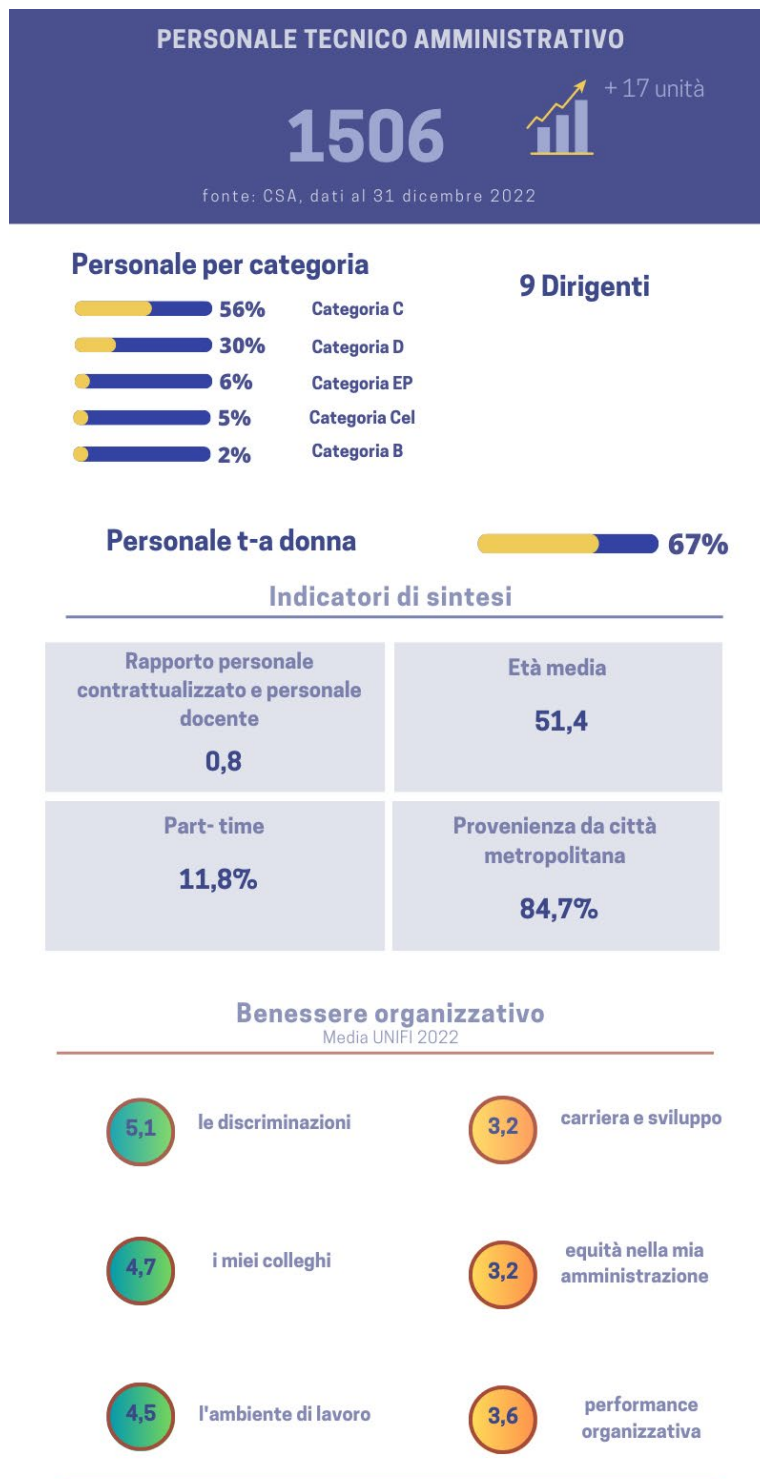
Technical and administrative staff **also** participate in the strategies and **contribute to the results of the University through the [Performance](#)** system, which is used to measure, evaluate and enhance - also in economic terms - staff work, with a view to planning and achieving set goals.

**Working conditions, satisfaction with the services used, and the organizational well-being** of technical and administrative staff are constantly monitored through **various forms of surveys**: the efficiency and customer satisfaction surveys within the Good Practice project, the survey on organizational well-being, the degree to which the evaluation system is shared and the evaluation of the hierarchical superior, the [remote work monitoring dashboard](#) allow the collection of useful information on both the needs of this category of stakeholders and the organizational needs of the University.

The annual survey on **organizational well-being** shows the internal climate is good overall. However, the lowest scores are in the areas of perceived fairness of the administration and career and professional development opportunities. On the other hand, **satisfaction with services used by staff** was good (see Figs. 3.4-3.5).

The **University's actions to support technical and administrative staff** include:

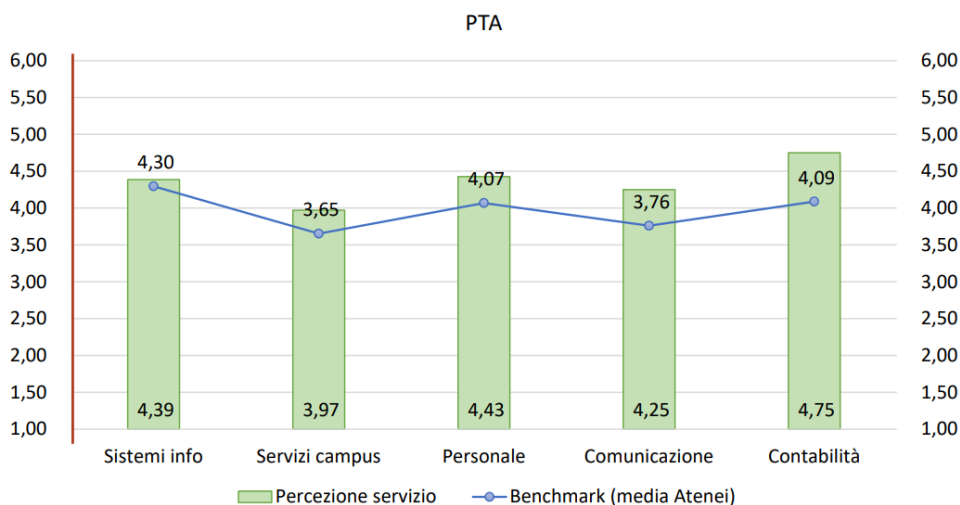
- financial **subsidies** for expenses related to special family and health situations;



▲Fig. 3.4: Numbers, demographic and contractual information, organizational well-being (scale 1-6) of Unifi technical and administrative staff. Sources indicated in the infographics.

- the **division in installments** of employee tuition fees and the cost of urban mobility service subscriptions;
- **agreements with commercial establishments** with favorable conditions;
- the activation of **working arrangements for reconciling work-life time with the personal sphere**. On this front in particular, the University has recently consolidated the institutes of **teleworking, partial work from home** and **hourly flexibility**;
- the design, planning and delivery of **training** interventions to combine the professional development needs of individuals with the management orientations and priorities of the Administration.

Some membership, cultural, recreational and sports measures are promoted by the [Employees' Circle](#).

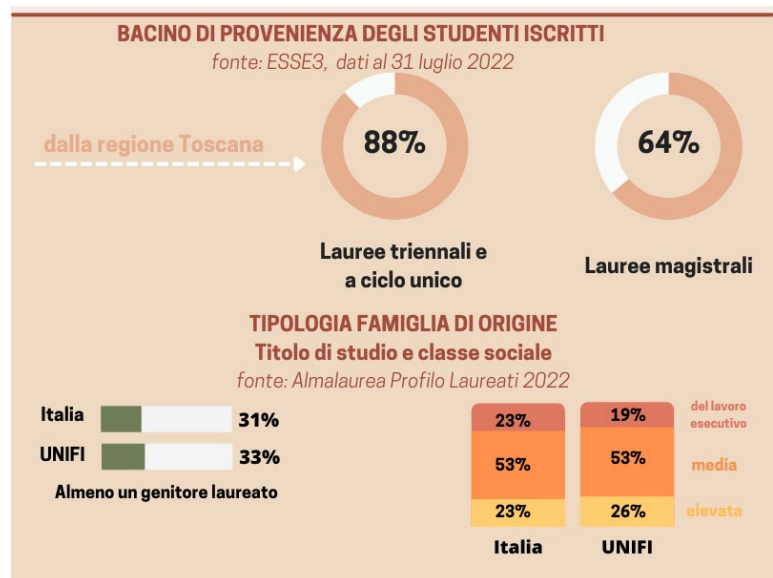


◀ Fig. 3.5 - Good Practice Survey 2022 - Technical and administrative staff: overall satisfaction with indicated services, scale 1-6. Source: MIP Final report

### 3.4 Students and families

The **geographical catchment** area of students enrolling at the University of Florence is **predominantly regional**. The families of origin belong mostly to the **middle class**, and the percentage of **first-generation college graduates** with no college-educated parents in the family is the majority (see Fig. 3.6). International students make up about 2 percent of enrolled students.

**About 50 percent** of students have an **ISEE value below 34,000 euros**. Consistent with its policies for inclusion (see § 1.3.2), to guarantee the right to education and promote access to the highest levels of education, the University has established a **balanced and progressive fee system**, which protects less affluent students, takes into account situations of potential disadvantage and values merit. In fact, the total contribution exemption threshold for regular and



▲ Fig. 3.6 - Sociodemographic information on students enrolled at Unifi. Sources indicated in the infographics.

productive students has been set at €24,000. For A.Y. 22/23, economic benefits have been granted to students with disabilities between 5 percent and 34 percent (partial exemption of 25 percent), extending the pool of beneficiaries that for the previous year was limited to disabilities above 34 percent. Tuition fees are graded in 73 brackets of increasing amounts, established based on students' income, regularity in studies and productivity. Contributions are excluded or reduced in the cases indicated in the Manifesto degli Studi (students' regulations) (see Fig. 3.7). Consequently, **the fees charged for enrollment at the University of Florence are among the lowest of comparable Italian universities** (see Fig. 3.8).

**DIRITTO ALLO STUDIO- TASSE UNIVERSITARIE**  
*fonte: Manifesto degli Studi A.A. 2022/23*

**FASCIAZIONE CONTRIBUTI:** 73 fasce ISEE, da 13.000 a 125.000 € contributi da 200 a 2.600 €



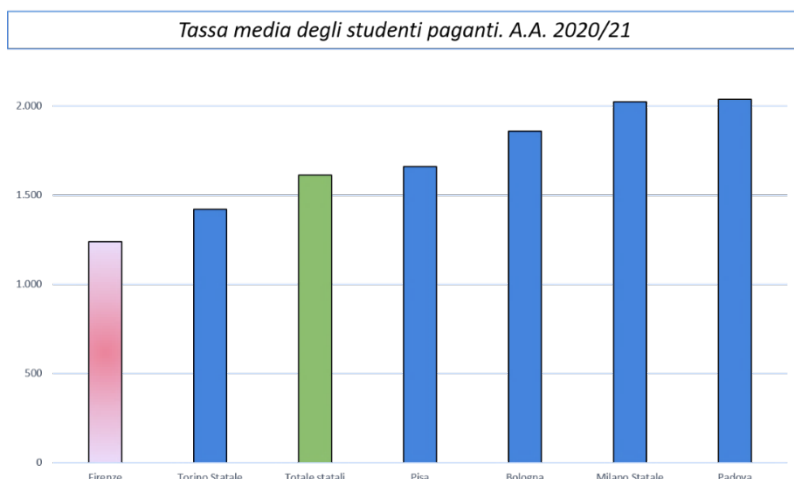
**ESONERI TOTALI PER STUDENTI:**

**ESONERI PARZIALI e RIDUZIONI PER STUDENTI:**

**ISEE fino a 24.000 €, regolari e attivi vincitori e idonei borsa di studio ARDSU figli di titolari pensione inabilità invalidità/disabilità > 66% residenti luoghi sisma 2016 in stato di detenzione provenienti da paesi in via di sviluppo stranieri con borsa di studio Italia programmi e accordi intergovernativi meriti sportivi voto di maturità 110 e lode**

**uno o più fratelli iscritti ricongiungimento di carriera rifugiati politici, protezione sussidiaria e apolidi invalidità < 66% iscrizioni particolari aree disciplinari**

▼Fig. 3.8 - Average amount of fees paid by non-exempt students in Italian mega universities, year 2020 and A.Y. 2020/21. Source: elaboration on *ustat.miur.it* data.



▼Fig. 3.9 - University initiatives for incoming (blue) and ongoing orientation.

**Iniziative di orientamento e tutorato**

Raccordo con le scuole Formazione insegnanti e Dirigenti Scolastici	Comunicare Unifi: promozione attraverso canali istituzionali e social
Eventi informativi e di contatto con la vita universitaria	Percorsi per le competenze trasversali e l'orientamento
Tutor disciplinari Tutor di orientamento	Centro di consulenza psicologica

To facilitate the meeting with students and families, the University ensures the integrated provision of **information, management, and career support services**. Among these are:

➤ **Incoming and ongoing orientation**: in order to direct students to choose study paths consistent with their aptitudes and expectations, rebalance gender representation in Study Programs, reduce dropout and support the university experience, the University conducts diversified orientation and tutoring actions, with special care to the methodological aspects and focused on students. The goal is to foster informed and motivated access of secondary school students to educational pathways and support career continuation. The numerous and diverse initiatives (see Fig. 3.9) are promoted, coordinated and monitored through an organizationally integrated system within the University and articulated throughout the community (schools, institutions, businesses), and benefit from resources from various forms of public funding. Of particular note in this regard is the **NRRP Active Orientation Project**, activated following the approval of Ministerial Decree 934/2022, which has already seen the initiation of the first contacts with high schools where courses will be held, the programs for which are being prepared. Active guidance pathways will involve 27 educational institutions, with the activation of 224 courses and the participation of 4482 students.

➤ **Student Administration Offices**: located on three campuses (Capponi and Postgraduate Student Office, Morgagni Student Office, and the Novoli Student Office), are responsible for the administrative management of student careers through direct contact with students and their families and active participation in centralized Call and Mail center services. The **International Desk** is expressly dedicated to non-EU national students interested in applying to the University of Florence.

➤ **Unifi Include Desk**: the service (inaugurated in the new spaces at the Novoli Campus in July 2022) implements policies for the social integration of students to ensure equity, gender equality, and equal opportunities by providing diversified resources and services for particular categories of students in fragile conditions (students with disabilities, affected by gender issues, in detention, from third countries). For example, support allows for the identification and agreement of compensatory measures and aids (including technological aids) necessary for achieving educational objectives, individualized tutoring, facilitation and coaching in class, mediation with teachers, teaching materials in a suitable format, interpreting, and communication assistance.

➤ **Center for Psychological Counseling, Psychotherapy, and Clinical Psychology Services (CeCoPs)**: offers **psychological counseling and intervention** programs aimed at managing personal and relational distress.

Type of students	Number
Disability	176
SpLD	319
Dual diagnosis	14
Alias career (requests)	12
Inmate status	55
From third countries	10
Athletes	12
Other	4
Total	<b>602</b>

▲Fig. 3.10 - No. and type of interventions delivered by the Unifi Include desk in A.Y. 2022/23.

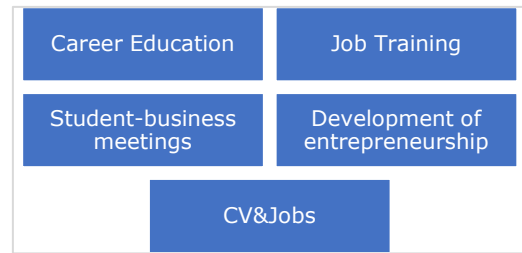
Services provided by the psychological counseling center	No.
Individual counseling	184
Group interventions	154
Psychotherapy	7
Pending	18
Cancelled	39
No-show	206

▲Fig. 3.11 - No. of services carried out to students in 2022 by the University Psychological Counseling Center.

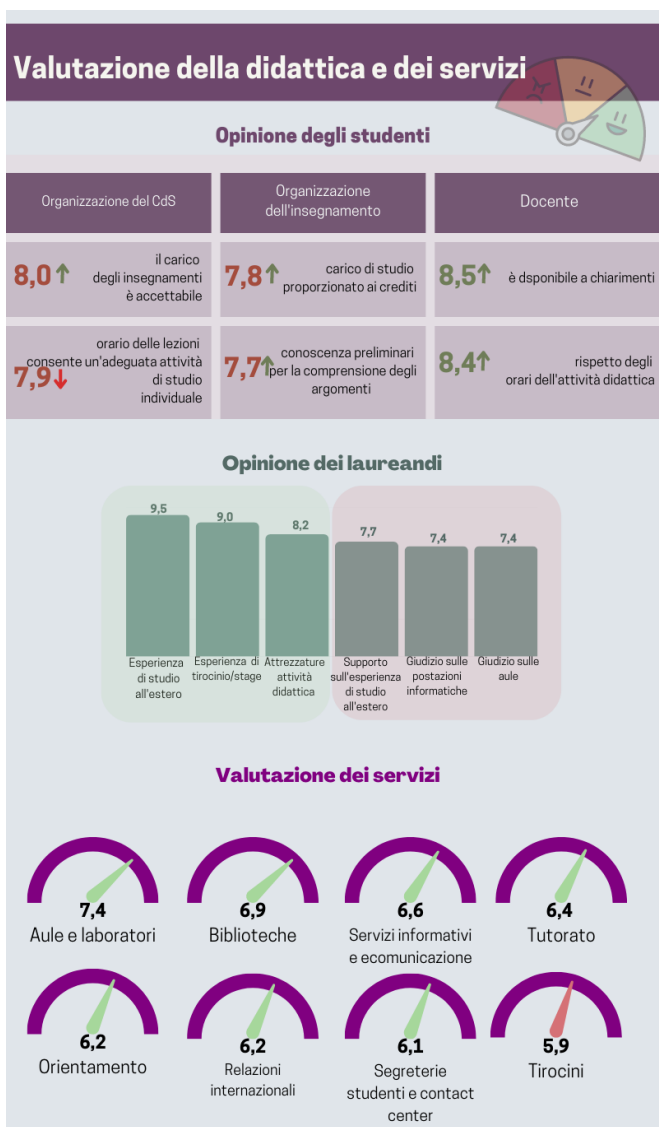
➤ **Job orientation and placement:** facilitates matching job supply and demand by integrating services for students and services for the industry.

The end of 2022 saw the **launch of a project aimed at redesigning student services** to make them more responsive to the needs and requirements of users and to optimize their organization through simplification and homogenization of procedures, digitization, and increased levels of accessibility and transparency.

The University recognizes the right of students to carry out self-directed educational and cultural activities within university facilities, and therefore promotes and finances **cultural, social, sports and recreational initiatives proposed by students**. In A.Y. 2021/2022, the allocation of €140,000 annually made available by the University has been confirmed.



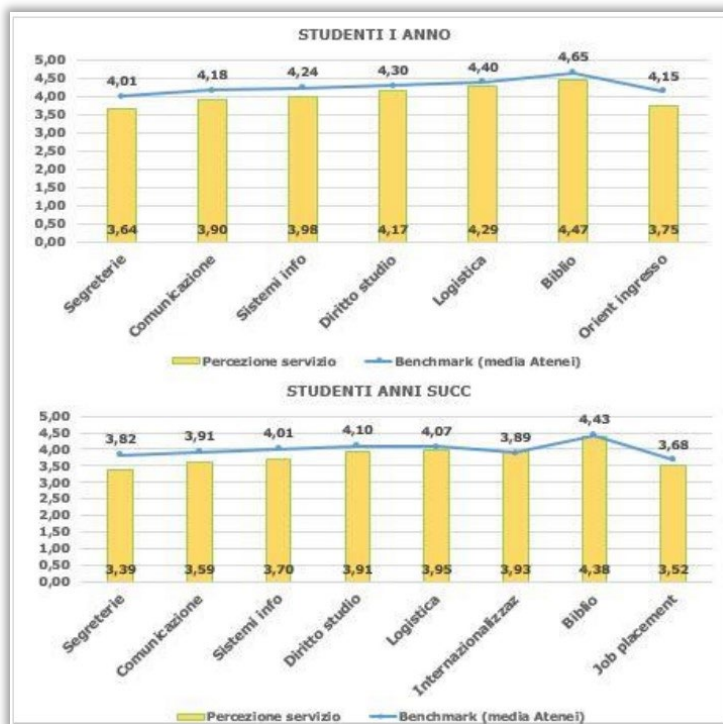
▲Fig. 3.12 - Outbound orientation activities.



The University collects **students' and doctoral candidates' opinions on their educational background and support services** through several structured surveys (evaluation of teaching and internships, Almalaurea Surveys on the profile of graduates, doctoral students and employment status, evaluation of support services, and Good Practice Survey). As pointed out by the Assessment Unit in its [Annual Report](#), the survey results show **high levels of satisfaction with teaching and internship activities, and some room for improvement with respect to satisfaction with infrastructure and support services** (see Figs. 3.14-3.15).

◀Fig. 3.14 - Evaluation of teaching and services A.Y. 2021/22 (attending and non-attending students): University averages by demand (source: SIS-Validat).

► Fig. 3.15 - Good Practice Survey 2021/22 - 1st year and later years students: overall satisfaction with indicated services, scale 1-6. Source: MIP Final report.



### 3.5 The territory: entities, citizenry and businesses

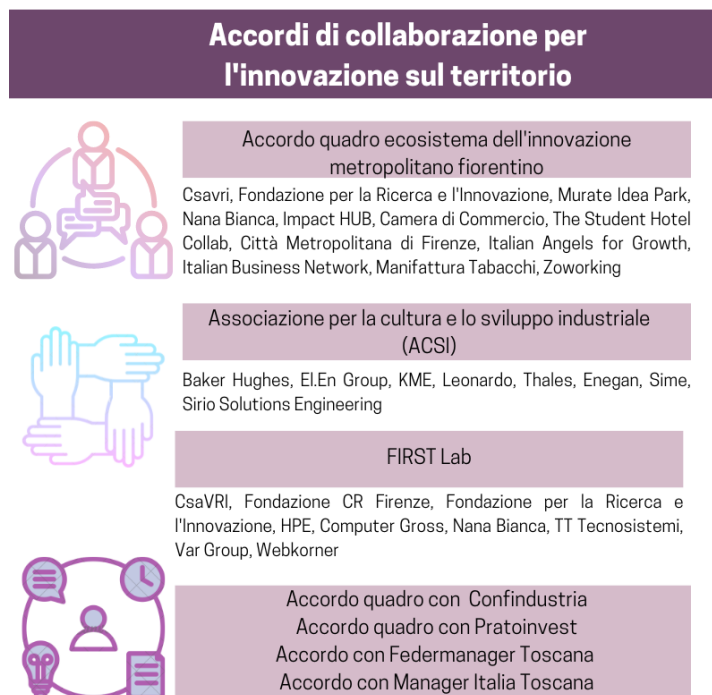
The University of Florence constantly interacts with the productive, cultural, and social world of reference for the various areas of teaching and research, both to **adapt its educational offerings to the demand for training and emerging employment prospects**, to **facilitate processes of technology transfer and support for innovation** (see § 4.3) and to promote **initiatives of openness to the citizenry, dialogue, and dissemination** (see § 4.4).

Close and fruitful **relations** are maintained **with the Region and other Tuscan universities** to identify useful synergies and optimize measures for the benefit of the territory. Just to name a few virtuous examples in this regard, the [Regional Technology Transfer Office \(URTT\)](#) was established in 2019 through a Collaboration Agreement with the Region of Tuscany, the University of Pisa, the University of Siena, the Scuola Normale Superiore, the Scuola Superiore Sant'Anna, the IMT of Lucca, and the Toscana Life Sciences Foundation, for the purpose of enhancing technologies, innovations, ideas, and patent applications; the Library Systems of the Tuscany's Universities (SBART), of which Florence, Pisa, Siena are members, was created in order to facilitate the circulation of users among the Tuscan universities thanks to common rules for access and use of bibliographic material, homogeneous costs, simplified and uniform procedures.



Exchanges with the productive, cultural and social realities of the area are intensified and concretized through **intense networking activities**, promoted by an organizational network that includes, in addition to the structures of the University, the [Technology Transfer Observatory](#), the [University Service Center for the Enhancement of Research Results and the Management of the University Incubator \(CsaVRI\)](#), [University of Florence Incubator \(IUF\)](#), [FIRenzeSmarTworking Lab](#), [Foundation for Research and Innovation](#).

Numerous **collaboration agreements** have been created to facilitate meeting supply and demand for innovation, **develop joint projects, including multi-disciplinary ones, and create opportunities for training and professional development**. Special attention is given to **business creation and entrepreneurship support** within the metropolitan area, with some digressions to the national and international levels as well. Also of particular note is the focus on the themes of innovative manufacturing, social innovation, and tourism. Among the galaxy of collaborations that give rise to various activities, some of which are accounted for in the next chapter of this report, we highlight here only those of particular importance in establishing a true innovation ecosystem in the Metropolitan City of Florence (see Fig. 3.16).



▲Fig. 3.16 - Main framework agreements between Unifi and players in the innovation ecosystem of the Metropolitan City of Florence

As a testament to the University's close cooperation with the city administration and other entities in the area, the University has organized major **academic ceremonies in public form in prestigious city venues** such as Palazzo Vecchio and Teatro dell'Opera. Several **framework agreements** have also been signed **with Florentine cultural institutions** (including Superintendencies, Museums, Theaters, Conservatories, and Academies) as indicators of our University's strong rootedness in the city's cultural fabric.

A different and special category of businesses interested in the University's activities is **suppliers of goods and services**. The University awards orders (**contracts and concessions**) in compliance with the complex legislation on the subject, fully adhering to the principles of free competition, non-discrimination, transparency, proportionality, and publicity, and paying attention to enterprises' environmental and social sustainability (see § 5.2). The indicators of **timeliness of payments** related to supplies are consistently positive.

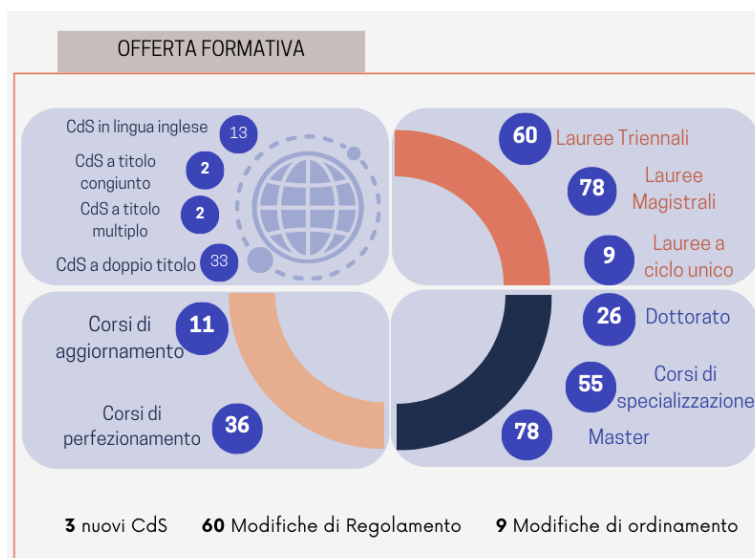
## 4 | Activities and results

The main activities and achievements of the University in 2022 in the areas of institutional missions are described below.

### 4.1 Teaching, training, and student services

The University's educational offerings (see Fig. 4.1) include Bachelor's degree programs, single-cycle degrees, master's degrees, PhDs, and Specialization Schools, as well as a wide range of postgraduate courses designed for in-depth and continuous enrichment of skills: 1st and 2nd level professional Master Courses, Advanced Training Courses, Continuing Education Courses, Teachers and educators' training. Constant is **the commitment to ensure consistency between the demand for training expressed by students, the world of work and the innovation ecosystem and educational paths**, through:

- **the expansion and updating of study programs** following changing cultural, social, and professional needs and enhancing the organic connection of the three cycles of education;
- **the internationalization of teaching** by promoting the activation of international courses and student mobility;
- **innovation in teaching methods:** new Guidelines for blended teaching were produced and released in 2022, and actions to support experimentation were implemented. In March 2022, the Bodies approved the establishment of the "Teaching and Learning Center - [TLC](#)," which is engaged in the promotion, planning, and implementation of training and research activities for the qualification of university teaching and teacher training. The Center, in line with the University's Strategic Plan, supports with its own initiatives the training, development and scientific-methodological updating of teaching staff and tutors in support of student-centered, innovative and inclusive teaching, based on the most advanced research in the educational and didactic-disciplinary field.



▲Fig. 4.1 - UNIFI's 2022/23 educational offerings.

#### 4.1.1 First and second-level study programs

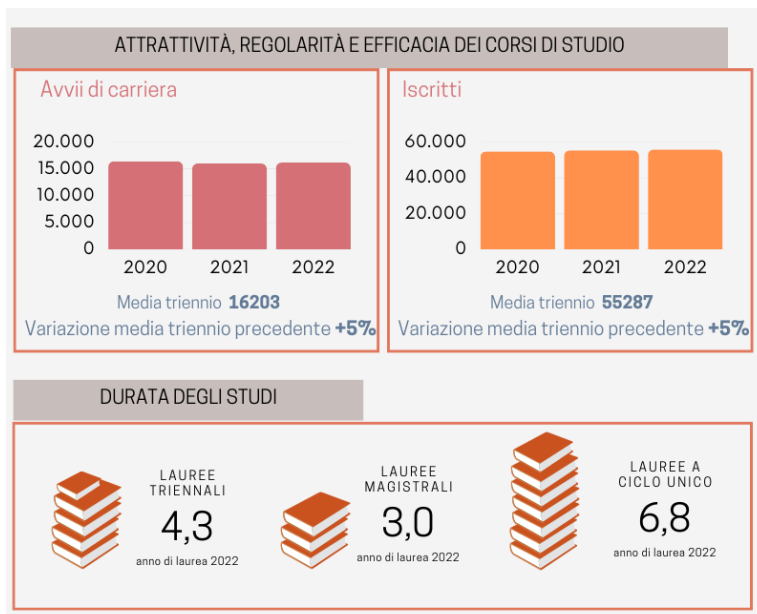
Commitment to varied and quality educational offerings, the inclusive choices made on the student contribution system and the extensive inbound and outbound orientation activities (see §

3.4) have made it possible to record **good growth in career starts and in the number of total enrollments** in the Bachelor's and Master's degree programs in the last three years compared to the previous three years (see fig. 4.2).

Although **the proportion of regular graduates is growing, delays** are still observed **in the career progression** of students enrolled in study programs, for whom it appears important to provide targeted reorientation and support actions for the purpose of completing their studies.

Approximately 11,500 **curricular internships** are activated each year based on the more than 1,000 agreements entered into under Ministerial Decree 142/1998, to which must be added the internships activated in the medical-health area Boards on the basis of collaboration protocols with the regional health system.

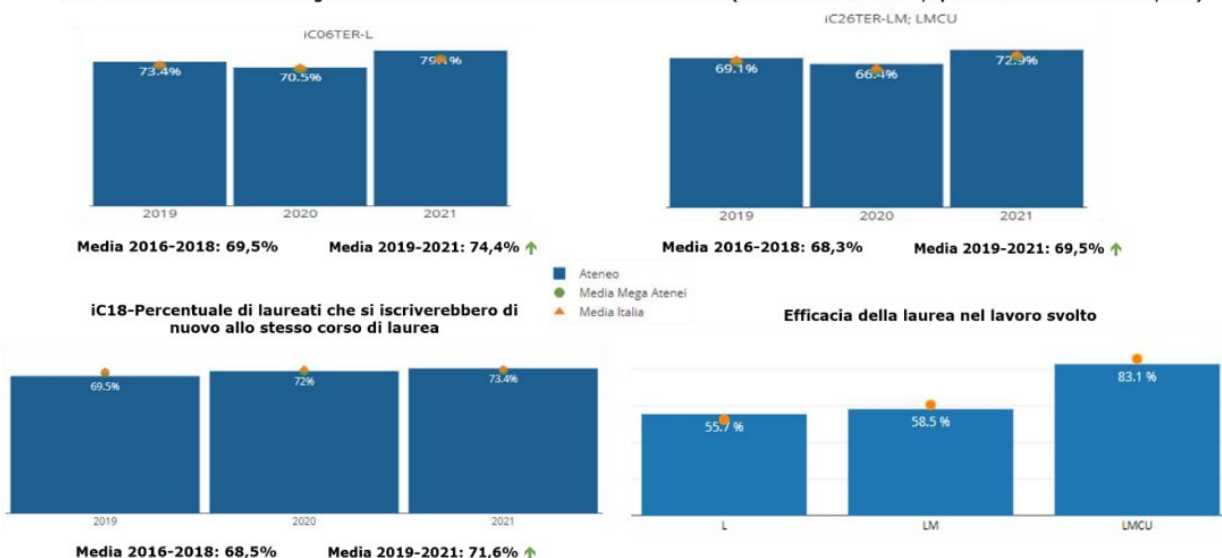
The **employment status** of Florence University graduates is in **line with the national average** (around 70 percent). 65 percent of bachelor's degree graduates enroll in a master's degree. Graduates **mostly evaluate positively** the educational experience and effectiveness of the degree, the use of skills acquired at the university in relation to the work they did, and the adequacy of the professional training they acquired.



▲ Fig. 4.2 - Indicators of attractiveness and productivity of Unifi's 1st and 2nd Level programs. Sources: ANVUR indicators.

▼ Fig. 4.3 - ANVUR indicators (via Almalaurea) of employment status and Satisfaction with training received. Source: SMA - December 2022; Almalaurea Occupational Condition Survey 2022.

iC06TER-iC26TER Percentuale di Laureati occupati a un anno dal Titolo non impegnati in formazione non retribuita - Laureati non impegnati in formazione non retribuita che dichiarano di svolgere un'attività lavorativa o di formazione retribuita (es. dottorato con borsa, specializzazione in medicina, ecc.)



## 4.1.2 Postgraduate Courses

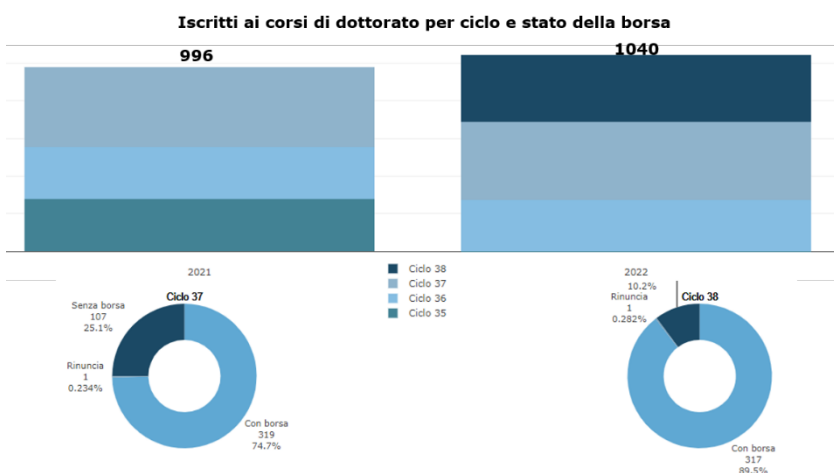
The University presents a rich and articulated proposal of second- and third-level courses, consistent with the profiles of research excellence in the Departments and in the University and aimed at professional training and updating.

Type of course	Enrollees	
	A.Y. 2020/21	A.Y. 2021/22
Continuing Education Courses	174	171
Advanced training courses	433	1,058
Professional Master Courses Level I	663	541
Professional Master Courses Level II	459	436
Specialization schools (medical area)	1,980	2,092
Specialization schools (non-medical area)	182	154

There are more than 50 **Specialization Schools** in the medical-health area and 3 in the cultural heritage area.

▲Fig. 4.4 - Enrolled in postgraduate courses. Source: ESSE 3 (Data as of 31 March of each year).

2022 was the first year of **doctoral** programs for cycle 37. Cycle 38 began on November 1 of the same year with an offering of 26 doctoral programs, participation in 15 doctoral programs of national interest, and 11 in consortium or convention. For cycle 37, the number of titles of innovativeness (international, interdisciplinary, inter-sectoral doctorates) recognized by the Ministry for the University's doctorates increased from 40 for cycle 35 to 43 for cycle 36 to 62 for cycle 37, confirming the upward trend of recent years. There was also definite growth in doctoral programs in collaboration with the world of production and business, considering there were 17 industrial doctorates for cycle 37, compared to 11 in the previous year, also involving humanities fields. The number of places without scholarships remained unchanged (31). Still, the number of those with scholarships increased significantly from 204 in the 36th cycle to 329 in the 37th cycle (including 105 PON scholarships), while the total number of places increased from 235 to 437. There were 24 thesis co-tutorships, of which 8 were incoming and 16 were outgoing. The number of Doctor Europaeus titles remains almost stable (27), while the number of foreign doctoral students is growing (20 in 35th, 27 in 36th, 44 in 37th).



▲Fig. 4.5 - No. enrollment in Unifi administratively based doctoral programs in 2021 and 2022 and percentage of doctoral students with scholarships. Source: ESSE3.

In 2022, the **24 CFU Teacher Education Pathway** was completed, and the organization of the new teaching qualification pathways required by the regulations (60 CFU pathway and 5 CFU supplementary pathway) was started. Cycle VII of the **Specialization Pathway for Supporting Pupils with Disabilities** in Kindergarten and Primary School and Grade I and II Secondary Schools is underway, with a growing number of enrolled and affiliated schools (see Fig. 4.6).

► Fig. 4.6 - Enrolled in the Specialization Pathway for Supporting Pupils with Disabilities - Cycle VI and VII.

<i>School</i>	<i>Enrolled a.y. 2021/2022 (Cycle VI)</i>	<i>Enrollees, a.y. 2022/2023 (Cycle VII)</i>
Kindergarten	55	37
Primary	100	90
Secondary (Lower)	106	124
Secondary (Upper)	124	155
<b>Total</b>	<b>385</b>	<b>406</b>

## 4.2 Research

The interventions by which the University promotes and supports ethical, inclusive, innovative, and high-quality international research are varied.

The University allocates substantial **resources to fund researchers' projects**, paying special attention to **gender balance**; in the calls issued in 2022, adequate representation of both genders in proposals and evaluation committees has been provided for, as well as including the gender dimension in research content among the ranking criteria, incorporating the indications of the Gender Equality Plan 2022-2024 (GEP).

Also important are **investments in strengthening** cutting-edge **research infrastructure** of widespread interest and interdisciplinary vocation for research and higher education and supporting technology transfer activities and business incubation in the area. To this end, the University has issued Calls for Proposals in 2021 and 2022 to purchase scientific equipment, hardware products, software licenses, databases, and digital book collections, making €400,000 per year available to departments. In addition, 2022, the joint call of the University and Fondazione Cassa di Risparmio di Firenze for strengthening research infrastructures under the themes of the NRP 2021- 2027 - IR@UNIFI was issued. With a budget of €2.25 million (of which €1.25 million arising from Ministerial Decree 737/2021 and €1 million made available by the Fondazione Cassa di Risparmio di Firenze), it finances the purchase of large scientific equipment, facilities or complexes of scientific instruments, infrastructure based on information and communication technologies.

The University takes part in important **partnerships to enhance the international dimension of research**: these include the following [Tour4EU](#) (Tuscan Organization of Universities and Research for Europe), whose mission is to promote the interests of the Tuscan research system to the EU, and [New European Bauhaus](#) (aimed at promoting sustainable urban development).



783 research grants activated/renewed by the Departments

28 research grants for higher education projects under the GiovaniSi program of the Region of Tuscany (€1,680 mln received)

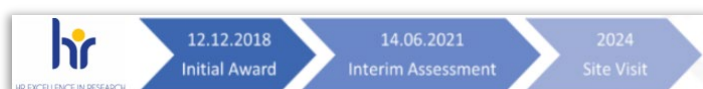
Among initiatives to **attract and promote top talent** special attention is paid to young scholars in training or at the beginning of their research work, through the funding of **research grants**, **young investigator funding** with DM 737/2021 funds, and services such as the [ERC Task Force](#) and the **Desk** dedicated to assistance and advice for **Marie Skłodowska Curie Actions** ([MSCA](#)).

◄ Fig. 4.7 - Research grants activated at Unifi in 2022. Source: Research Services and TT Area.



◀Fig. 4.8 - Unifi's participation in ERC and MSCA 2022 actions. Source: Research Services and TT Area.

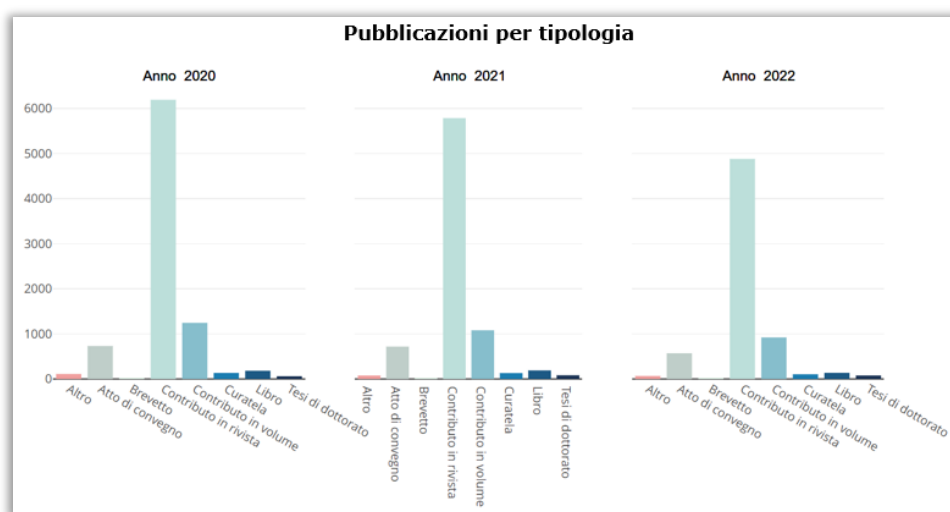
In 2018, the University obtained the [European certification "HRS4R - Human Resources Strategy for Researchers"](#), the accreditation granted by the European Commission to institutions that adopt the principles of the European Charter for Researchers and Code of Conduct for their recruitment. The next follow-up visit is scheduled for 2024.



The Research **Ethics Commission** (active since 2016) and the **Animal Research Commission** (established in 2022) are responsible for giving opinions on research ethics and integrity.

#### 4.2.1 Scientific output and research quality

Lecturers, researchers, doctoral students, research fellows and any other accredited staff, who contribute to the scientific production of the University's Departments and Research Facilities, enter in [FLORE](#) (the open-access institutional repository of the University of Florence) the publications of which they are authors or co-authors. As of 2022 there are 6,760 publications, 1,016 of which have foreign co-authors (see Fig. 4.9).



◀Fig. 4.9 - Amount and type of scientific publications with authors pertaining to UNIFI (years 2020, 2021, 2022). Source: FLORE, data extracted on 31 January 2023.

**Research evaluation** is a strategic tool for determining the quality of universities and proportionately affects the distribution of resources by the Ministry. Every five years, the National Agency for the Evaluation of Universities and Research (ANVUR) conducts the evaluation of the results of scientific research and third mission activities of state and non-state universities, public research institutions supervised by the MUR, and other public and private entities carrying out research activities.

In July 2022 ANVUR published the final report of the Research Quality Assessment procedure (**VQR 2015-2019**). Among state universities Florence **ranks seventh in terms of quality and quantity of research products from the entire staff**, sixth considering quality alone. The University is also sixth in Italy for the quality and quantity of the products of PhDs who have become researchers and **eighth for the quality and quantity of the third mission**, that is, the activities of interaction with territorial contexts and society (dissemination, technology transfer, production of public goods, inclusion, etc.).



▲Fig. 4.10 - Unifi outcomes in VQR 2015-2019. Source: ANVUR Final Report.

In-depth **monitoring of the quality and relevance of research activities** is conducted by **the Research Observatory** of the University. It uses as reference models used in the most qualified national and international scientific circles, and it offers useful cognitive elements to improve strategies for the development of scientific production. In addition, during 2022 a proposal for indicators and metrics functional to measure the processes and results of national and European research was developed.



As part of the international reflection initiated by the European Commission on the progressive redefinition of the research assessment system, the University of Florence participates in "**CoARA - Coalition for Advancing Research Assessment**," an association bringing together more than 350 research organizations from 40 countries, and which in 2022 drew up a

shared agreement for the reform of research assessment, based primarily on qualitative judgment supported by the responsible use of quantitative indicators.

#### 4.2.2 The research projects

By filling gaps in our knowledge and reflecting on complex problems and ever-changing needs, research projects help find answers to pressing challenges and produce progress and development in society.

Also thanks to the enhanced **information service on national and international [funding opportunities](#)** (based on the research interests declared by faculty and researchers), information days and euro-planning courses, in the last four years **the number of research projects submitted** annually in response to national, regional, European and international competitive calls has steadily **increased** (+75 percent from 976 in 2019 to 1,712 in 2022); in total **in 2022 the University received more than €68 million in funding for research projects**, including more than 40 from competitive calls. The following summarizes the University's achievements in major Research funding programs.

## University Funding

As part of the **funds made available by DM 737/2021**, the University has allocated about 5 million euros to various actions to support the design of its researchers, through the activation of internal competitive calls with external evaluators, both Italian and foreign, selected from the REPRISE database:

➤ **Call for Young Researchers:** with a budget of €900,000, UNIFI has promoted the funding of two-year research projects worth between €180,000 and €300,000 proposed by teams of at least 3 researchers, including at least one international component.

➤ **RTD Call 2022-2023:** With a budget of € 1 million, half funded by the Fondazione Cassa di Risparmio di Firenze, UNIFI has promoted in 2021 the funding of two-year research projects submitted by University RTDs (fixed-term researchers) worth between € 60,000 and € 70,000 proposed by groups of at least 2 researchers, preferably belonging to different Departments, and, in any case, from different academic fields among them. The projects started on 1 January 2022 and will end on 31 December 2023.

➤ **RTD Call 2023-2024:** With a budget of €800,000, UNIFI promoted in 2022 an additional call for funding of two-year research projects submitted by University RTDs, worth between €85,000 and €100,000, proposed by groups of at least 2 researchers, preferably belonging to different Departments, and, in any case, from different academic fields among them. The projects started on 1 March 2023 and will end on 28 February 2025.

➤ **University Call for Competitive 30-month Research Projects:** with a budget of €2.9 million, UNIFI has promoted the funding of 30-month research projects worth between €250,000 and €500,000 proposed by groups composed of 1 coordinator and at least 2 members of the scientific community, belonging to different Departments and at least two different areas, to promote basic interdisciplinary research in all areas of knowledge. The funded projects started on 1 December 2022 and will end on 31 May 2025.

In addition, through the **University Incentive Call** (with an allocation of €350,000) a grant is given to professors or researchers who have submitted under European funding programs a proposal as coordinators that has passed the minimum evaluation threshold without obtaining funding.



▲Fig. 4.11 - Unifi measures on MUR funds of DM 737/2021. Source: Research Services and TT Area.

## National funding

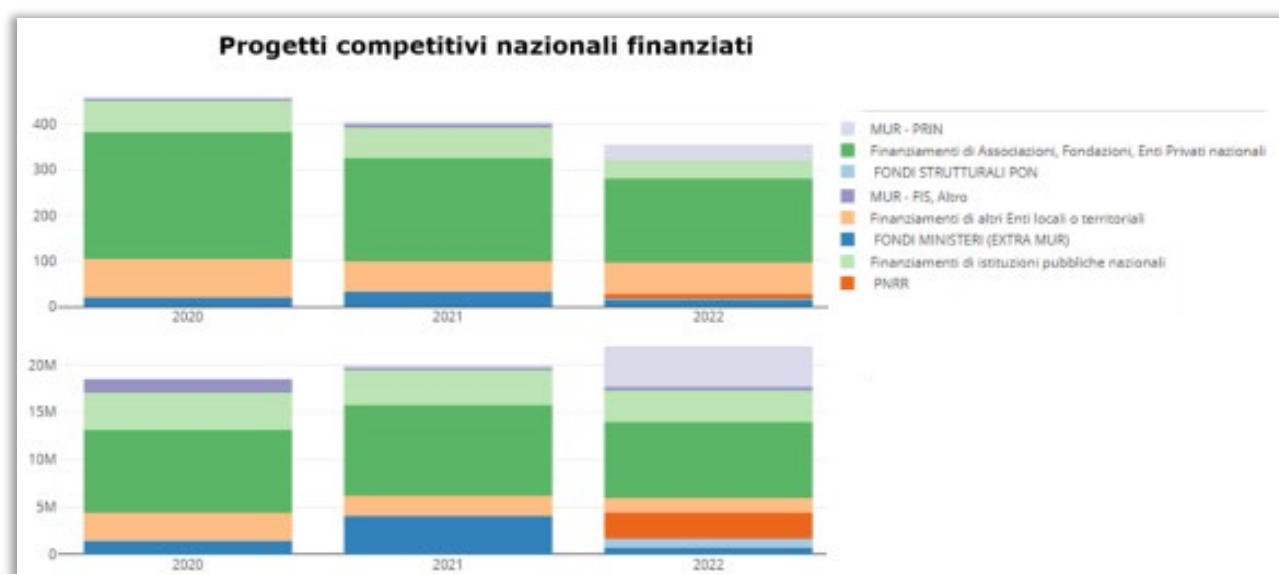
The University participates in calls issued by the Ministry of University and Research (MUR), always ranking high in the number of projects funded. Additional funding comes from other Italian ministries, agencies and associations (see Fig. 4.12).



➤ **PRIN - Projects of Significant National Interest:** 905 projects submitted in response to PRIN 2022 calls (DD MUR 104/2022: 597 projects submitted) and PRIN 2022 NRRP (DD MUR 1409/2022, reserved for projects addressing one of the emerging strategic themes related to the objectives of a cluster of the European Framework Program for Research and Innovation 2021-2027: 308 projects submitted). The 34 projects funded under the PRIN 2020 call for proposals, with a MUR contribution of about €4.5 million, also started during 2022.

➤ **FIS - Fondo Italiano per la Scienza:** 46 project proposals were submitted by faculty and researchers from our University, 22 for the Starting Grant scheme (led by emerging researchers) and 24 for the Advanced Grant scheme (led by established researchers), mostly referring to the scientific area. The evaluation phase, conducted by the MUR, ended in July 2023. Our University was awarded funding for 1 project (Advanced Grant scheme) that ranked first in the PE Physical Sciences and Engineering sector with a contribution of €1.5 million.

➤ **Calls from other ministries, banking foundations and associations:** as of 30 November 2022, 292 research projects have been submitted in response to competitive calls from ministries and national private associations and foundations.



▲Fig. 4.12 - Number and amount of research projects funded by national competitive calls by source of funding (years 2020, 2021, 2022). Source: Unifi research registry (data extracted on 14 March 2023)

## European and international funding

EU-coordinated research funding programs promote excellence through transnational competition, strengthening impact through a collaborative approach and providing the necessary critical mass to address global challenges.

The funds allocated by the EU fall into two categories:

➤ **directly managed funds**, where EU resources are disbursed directly **by the European Commission**, mainly through the Research and Innovation **Framework Programs (RFPs)**.

➤ **shared-management funds**, managed **in collaboration with national and regional governments** through a system of shared responsibility. For example, European Structural and Investment Funds (ESIFs), in which the relationship with the European Commission is "mediated" by the Region of Tuscany as the managing authority, are particularly relevant for the University. The ESIFs include the ERDF (European Regional Development Fund), ESF (European

Social Fund), EAFRD (European Agricultural Fund for Rural Development) and EMFF (European Maritime and Fisheries Fund).

**European projects won in 2022** resulted in the University obtaining **about €15.5 million in funding**. The portfolio of direct and indirect European projects currently under management has 356 projects under negotiation or reporting for total funding that amounts to about €82 million.

Overall, the **results achieved in the various funding programs** show **continuous advancement of the University's research groups** (see Fig. 4.13):

- **Horizon Europe 2021-2027: 145 projects** were submitted in 2022, in line with the previous year, and mainly related to the First and Second Pillars of the Framework Program (42 proposals under "Excellent Science" and 80 proposals under "Global Challenges and Industrial Competitiveness," respectively).

- **Other European funds:** the Horizon Europe proposals are complemented by some **130 other projects** submitted under other major European programming programs, such as Erasmus+, LIFE and the New European Partnerships. There are also **54 proposals** submitted under the indirectly managed EAFRD, EMFF, ERDF and ESF.

- **European partnerships:** the MUR has provided specific rewards for the participation of Italian universities in co-financed and institutionalized European partnerships; as a result of the various initiatives to promote the opportunities launched under these funding schemes, **20 proposals** were submitted by researchers from the University.

► Fig. 4.13 - Number and amount of research projects funded by European competitive calls by funding program (years 2020, 2021, 2022). Source: Unifi research registry (data extracted on 14 March 2023)





**Piano Nazionale di Ripresa e Resilienza (PNRR)**

**170 MILIONI DI FINANZIAMENTI**

**109 Ricercatori in ingresso**

**100 nuovi posti per i giovani in formazione per la ricerca**



**Partecipazione ai 5 centri nazionali**

Iniziativa	Soggetto proponente	Partecipazione UNIFI	Finanziamento UNIFI
1 - HPC, Big data e Quantum Computing	Istituto Nazionale di Fisica Nucleare (INFN)	partecipa all'Hub ed è soggetto affiliato agli Spoke 2, 5, 6 e 7.	2.879.125,33
2 - Tecnologie dell'Agricoltura (Agritech)	Università di Napoli Federico II	partecipa all'Hub ed è soggetto affiliato agli Spoke 7 e 9.	3.604.392,00
3 - Sviluppo di terapia genica e farmaci con tecnologia a RNA	Università di Padova	partecipa all'Hub ed è soggetto affiliato agli Spoke 2, 3 e 5.	4.804.438,80
4 - Mobilità Sostenibile	Politecnico di Milano	partecipa all'Hub ed è soggetto affiliato agli Spoke 4, 5, 9 e 12.	6.026.244,68
5 - National Biodiversity Future Center (NBFC)	Consiglio Nazionale delle Ricerche	partecipa all'Hub ed è soggetto affiliato agli Spoke 3, 5 e 7.	7.200.002,00

**Partecipazione all' Ecosistema dell'innovazione**

THE - Tuscany Health Ecosystem	UNIFI	partecipa all'Hub ed è leader degli Spoke 2,3 e 5 ed è soggetto affiliato a tutti gli altri Spoke.	47.633.416,06
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**Creazione di Infrastrutture di ricerca**

EBRAINS-Italy (European Brain ReseArch InfrastructureS-Italy)	Consiglio Nazionale delle Ricerche	partecipa come co-proponente	697.200,00
ITACA.SB (Potentiating the ITAlian CApacity for Structural Biology Services in Instruct-ERIC)	Consiglio Nazionale delle Ricerche	partecipa come co-proponente	9.388.657,28
ITINERIS (ITalian INtegrated Environmental Research Infrastructures System)	Consiglio Nazionale delle Ricerche	partecipa come co-proponente	5.356.254,15
SEE-LIFE (StrEngthEning the ItAlian Infrastructure of Euro-bioimaging)	Consiglio Nazionale delle Ricerche	partecipa come co-proponente	1.938.350,00

In 2022, the University was heavily involved in participating in the calls issued under the NRRP, which produced nearly **170 million euros in total funding, 109 new incoming researchers, and more than 100 new positions for young people in research training**. The main programs involving the University of Florence as a proposing or participating entity are: **participation in the 5 national centers** established for the bolstering of research facilities and creation of National Champions of R&D on some Key Enabling Technologies; realization, as a proposing entity, of an **Ecosystem of Innovation** in Life Sciences, called **THE - Tuscany Health Ecosystem**; and creation and enhancement of **research infrastructures**; participation in **8 Partnerships extended** to universities, research centers, companies for the funding of basic research projects; funding (€2.7 million) of **11 RTD positions** activated as of 20 December 2022 for the **return to Italy** of researchers who have won ERC Starting Grants, MSCA Individual Grants or Seal of Excellence recognition (MUR Notice 247/2022).

As part of the initiative to fund research projects for innovative technologies and pathways in healthcare through the National Plan for Complementary Investments to the NRRP, the MUR, has approved funding the project "Fit for Medical Robotics - Fit4MedRob" with the National Research Council as the implementing entity/hub and the University of Florence as "spoke".

The Ministry of Health, as part of the "Innovative Health Ecosystem" initiative of the National Plan Complementary to the NRRP, has approved for funding the project INNOVA - Life Science Hub Advanced Diagnostics, with Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico in Milan as the implementing entity/hub and the University of Florence, as "spoke."

The Italian Space Agency ASI, under the initiative for "Space Activities" (Theme 15) for Extended Partnerships, has approved funding the SPACE IT UP project, with the Polytechnic University of Turin as the implementing entity/hub and the University of Florence as "spoke."

Partecipazione a Partenariati estesi			
Partenariati estesi	Soggetto proponente	Partecipazione UNIFI	Finanziamento UNIFI
3 - RETURN	Università di Napoli Federico II	partecipa all'Hub ed è leader dello Spoke TS3 Communities' resilience to risks: social, economic, legal and cultural dimensions.	6.351.928,10
4 - NQSTI	Università di Camerino	partecipa all'Hub ed è affiliato agli Spoke 1, 3, 4, 5, 8 e 9.	4.405.397,00
5 - CHANGES	La Sapienza Università di Roma	partecipa all'Hub ed è leader dello Spoke Protection And Conservation Of Cultural Heritage Against Climate Changes, Natural And Anthropic Risks.	7.837.484,68
7 - SERICS	Università di Salerno	partecipa all'Hub ed è affiliato agli Spoke 1, 6 e 8.	1.144.262,89
8 - AGE-IT	Università di Firenze	partecipa all' Hub ed è leader degli Spoke 1 e 9 e soggetto affiliato agli Spoke 2 e 3.	11.931.712,50
11 - 3AITALY	Politecnico di Milano	partecipa all'Hub ed è leader dello Spoke 2 Design driven strategies for sustainable and circular made in Italy (products, services and processes).	3.050.705,75
12 - MNESYS	Università di Genova	partecipa all'Hub ed è affiliata a tutti gli Spoke.	4.381.350,00
14 - RESTART	Università di Roma Tor Vergata	è membro fondatore dell'Hub ed è affiliato agli Spoke.	2.980.745,00

◀Fig. 4.15 -NRPP-funded partnerships. Source: Research Services and TT Area.

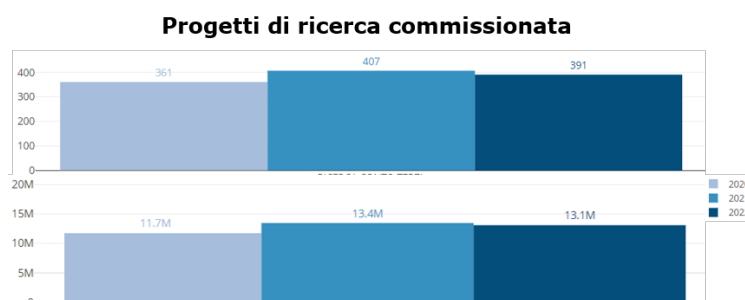
### 4.3 Technology transfer

Numerous and diverse are the ways in which the University promotes knowledge transfer and cooperation with the business world to enhance the impact of research in productive, cultural, and social realities. The main results generated by matching research and innovation demand expressed by stakeholders are presented below.

#### 4.3.1 Collaborations with institutions and businesses

The University promotes and participates in numerous forms of aggregation with public and private entities to share *know-how* and human, economic, and instrumental resources, and transfer research results to society. Major activities in 2022 include:

- **Research commissioned by public and private entities** (see fig.

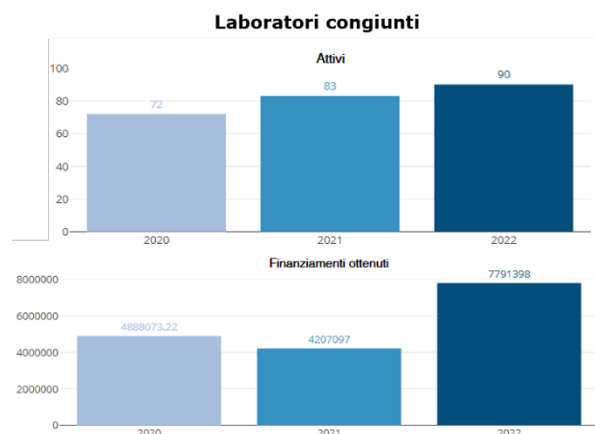


▲Fig. 4.16 - No. contract research projects and funding amount 2020-2022. Source: Unifi research registry (data extracted on 14 March 2023)

4.16): in 2022, there are 391 active agreements for third-party research activities, amounting to approximately €13 million in revenue, essentially stable from the previous year and mainly distributed between the biomedical and technology areas.

➤ **Competence Centers and Industrial Development Associations:** these public-private facilities were established to bridge the gap between demand and supply of qualified innovation services for enterprises. Currently, the University of Florence participates in 6 competence centers active on various topics and in the Association for Industrial Culture and Development (ACSI), formed with 8 major international companies operating in Tuscany (see § 3.5).

➤ **Joint University-Business Laboratories** (see Fig. 4.17): steadily growing in number and funding obtained, the 90 **active laboratories** predominantly involve the technology area (56 percent), followed by the biomedical area (19 percent) and the science area (11 percent). 8 new laboratories are being established. Twenty-three percent of active laboratories are established with spin-offs from our University.



period 2020-2022. Source: Research Services Area and TT (data as of 31/12/2022).

➤ **National Technology Clusters:** The University participates in 8 national clusters to date; during 2022, it exited the "Made in Italy" cluster due to conflict with the association's scientific goals.



➤ **"Extend National Technology Transfer Cluster - Early Drug Discovery":** launched by the National Innovation Fund - CDP Venture Capital - in partnership with Evotec and Angelini Ventures, includes, in addition to the University of Florence, San Raffaele Hospital in Milan, the Universities of Milan, Modena and Reggio Emilia, Padua and Sapienza in Rome, the regional research district of Puglia through H-Bio and Human Technopole. Extend will be able to invest more than 30 million euros to create a platform where biotech research players, and industrial and financial partners will collaborate to support the development of innovative solutions in the biopharmaceutical sector. The cooperation agreement between our University and Cassa Depositi e Prestiti was signed in June 2022, and scouting in the Departments began.

➤ **Public-private partnerships for problem-driven research projects:** with a budget of €500,000, the University has promoted a call for proposals to co-finance research projects lasting 30 months, consistent with the research and innovation areas of the PNR 2021-2027 (implementation of the programmatic lines as per DM 737/2021) and with the 17 Sustainable Development Goals of Agenda 2030, proposed by public-private partnerships involving one or more Departments of the University and at least one entity located in at least one Region other than Tuscany. Five projects were eligible for funding, starting on 1 November 2022, and partnerships were formed with external stakeholders (see Fig. 4.18).

Project proposal title	Dept	External entity(ies)	Financing
Microbiota-immunity axis: Functional food for modulation of inflammation in gastrointestinal pathologies	DMSC	Synbiotec srl	€85,000
BIM-to-Digital Twin. Information management to support decision making in the building life cycle	DIDA	Descor Ltd	€125,000
Heritage - Ground Penetrating Radar	DST	Boviar srl IDS Georadar srl Opificio delle Pietre Dure	€98,500
Targeting Schwann cells for chronic gender pain	DSS	Diatech Pharmacogenetics srl	€ 100,000
Fluorinated pharmacological chaperones for Parkinson's disease in drug-delivery studies	DICUS	Nanomia srl Meyer Hospital INO-CNR UNIVR	€ 75,000

◀Fig. 4.18 - Partnerships on NRP 2021-2027 research lines co-funded by Unifi.

In continuity with previous years, **relationships with the innovation ecosystem of the Metropolitan City of Florence** have been **consolidated and increased**; numerous projects are representative of scouting/auditing/matching and tutoring/coaching/mentoring activities aimed at facilitating the matching of innovation supply and demand, supporting local businesses and public stakeholders, promoting innovative manufacturing, social innovation and tourism, digital and ecological transition. Several European projects have also been developed on these themes.

Some sample projects of the various activities developed by the innovation ecosystem include:

➤ **Hubble:** an acceleration program sponsored by Fondazione Cassa di Risparmio di Firenze, Foundation for Research and Innovation and Nana Bianca, aims to create new companies and accelerate existing startups operating specifically in the digital market. Now in its seventh year in 2022, it has received over 2,000 applications, awarded 44 start-ups, more than 300 hours a year provided, including training, tutoring, coaching, and mentoring, as well as seminars and workshops, more than 200 jobs created and more than €2 million raised in the market.

➤ **Faber:** a three-year project, supported by Fondazione CR Firenze, Confindustria Firenze and Foundation for Research and Innovation, which aims to bring the world of research closer to the world of micro, small and medium-sized enterprises in the area, introducing highly specialized researchers within those companies that want to innovate their processes, products and/or organization. The researcher is hired by the company thanks to the financial contribution made

#### Agreements and Projects implemented by the innovation ecosystem Unifi-Metropolitan City

Florentine metropolitan innovation ecosystem framework agreement, Confindustria-Unifi framework agreement, Agreement with Federmanager Toscana and ManagerItalia Toscana, Association for industrial culture and development - ACSI, Framework agreement with Pratoinvest Hubble, Faber (third and fourth editions), Rinascimento Firenze, Italian Lifestyle

Projects hosted at FirstLab: Ge.Co, iCare (CESVOT), Sarò matricola, Giotto, Legal ClinicCResDET - CRISIS-RESISTANT DIGITAL EDUCATION AND TRAINING, Multiplier Event, ETour.Net - Employment in Tourism Using the New Technologies, SME Green Skill Hub - Supporting the implementation of the Sustainable Development Goals in small and medium-sized enterprises through VET, Impact - Building values-based innovation cultures for sustainable business impact

▲Fig. 4.19 - Some agreements and projects implemented by the Unifi-Metropolitan City of Florence innovation ecosystem

available by the program, with the possibility of pursuing a doctoral degree. The third edition (2020-2023), in which 8 companies were awarded and 6 doctoral degrees activated, is ending, and the fourth edition (2022-2025), in which 8 companies, including three Unifi spinoffs, were awarded with as many doctoral degrees activated, has just begun.

➤ **Rinascimento Firenze:** a project that aims to distribute financial resources to restore the city's micro-economic fabric that holds together the most typically Florentine vocations with new or renewed functions. The initiative will provide a grant to companies under the mixed formula of grant multiplier (Fondazione CR Firenze) and credit facility (Intesa Sanpaolo), focusing on the following areas/departments: Tourism, Artistic Crafts, Fashion, Startup/Industry 4.0 and Agritech/Agribusiness. The grant will be used to give all-round support to the businesses, provided they set project goals of a social nature. Foundation for Research and Innovation (FRI) is involved in the role of implementer for the areas: Start-ups, Industry 4.0 and Agribusiness. The two FRI-responsible implementations see 40 companies awarded, with total funding of around €10 million.

➤ **Valore Digitale:** The project, in collaboration between Fondazione CR Firenze, Nana Bianca and the Foundation for Research and Innovation, aims to support and enable micro and small businesses in the Florence area through a path aimed at learning digital skills and implementing new technologies.

➤ **Italian Life Style:** an acceleration program financed by Intesa Sanpaolo Innovation Center, Fondazione CR Firenze, Nana Bianca and Foundation for Research and Innovation to promote the liaison between local companies and new realities able to offer digital solutions in the tourism, fashion and food sectors, excellences for which Italy is famous worldwide, to create synergies and collaborations with a view to open innovation. Italian Lifestyle offers each startup a grant of €20,000, training and mentoring services in the attractive spaces of the Fondazione CR's Innovation Center in Florence. In 2022, 311 applications were submitted, and the 6 awarded companies have completed their journey. The second call closed in January 2023.

➤ The multidisciplinary lab [FIRenzeSmarTworking Lab \(FIRST Lab\)](#) is home to projects aimed at producing added value and social impact for the benefit of citizens, public administrations and businesses, including, for example, the i-Care project of the CESVOT association, the Giotto project, carried out in collaboration with Federmanager Toscana and ManagerItalia Toscana, aimed at promoting and facilitating the liaison between young graduates/undergraduates and the business world, the Legal Clinic project with its activities focused on training in mediation. Some European projects and some activities of the Impresa Campus program were also hosted.

### 4.3.2 Protection and valorization of industrial and intellectual property

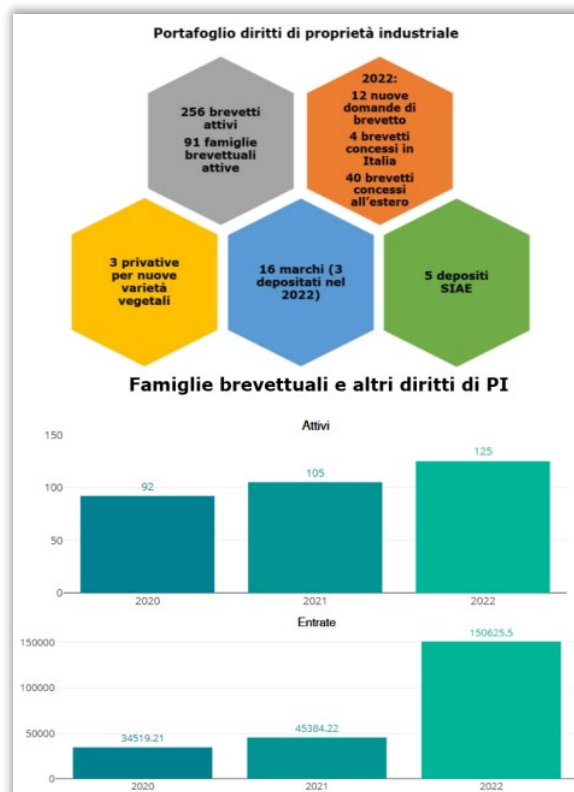
The University of Florence protects its intellectual property as a strategic element in transferring knowledge and supporting innovation and community progress. The **Industrial Property Rights Portfolio** of the University includes **industrial inventions and utility models - patents, new plant varieties, models and designs, trademarks, software and databases** (see fig. 4.20).

The number of active patents (most of which belong to the area of "Health" with 40 percent and "Food, bioeconomy, natural resources, agriculture and environment with 28 percent) is higher than the national average, and many of them are granted not only in Italy but also abroad. **39% of published intellectual property rights are valorized** (licensing or assignments); the volume of **active licensing revenue** in 2022 shows a significant increase compared to the average of the previous period.

During the year, the University participated in numerous **events promoting** and enhancing intellectual property (*Toscana Inventors Day 3 - TID 3*, *Biovaria 2022*, *Meet in Italy for Life Science 2022*, *Intellectual Property Award 2022*, *Techshare Day 2022*).

The POC-ARNO project, developed in collaboration with the Universities of Pisa and Siena and financed in 2020 by the MISE with €325,000, aimed at facilitating the direct application in the industrial field of inventions and their economic valorization, through **Proof-of-Concept** projects, ended in September 2022. Four patents submitted by Unifi received an allocation of €120,000 to improve their level of technological maturity. UNIFI also participated in the presentation of the new edition of the project - POC-ARNO2022 - with the same partnership, winning funding of €480,000.

To raise the academic community's awareness of the implementation of technology transfer, the University, as part of its courses for doctoral and postdoctoral students on *soft and complementary skills*, offers informative events on the culture of industrial and cultural property. In addition, in 2022, to promote the culture of design protection and monetization, the University issued a notice to bring to legal protection the most deserving designs and models made by Unifi faculty and students. Aimed at all faculty and researchers is the legal advice and support service for negotiation and conclusion of confidentiality agreements, material transfer agreements, and intellectual property articles in agreements/contracts/projects.



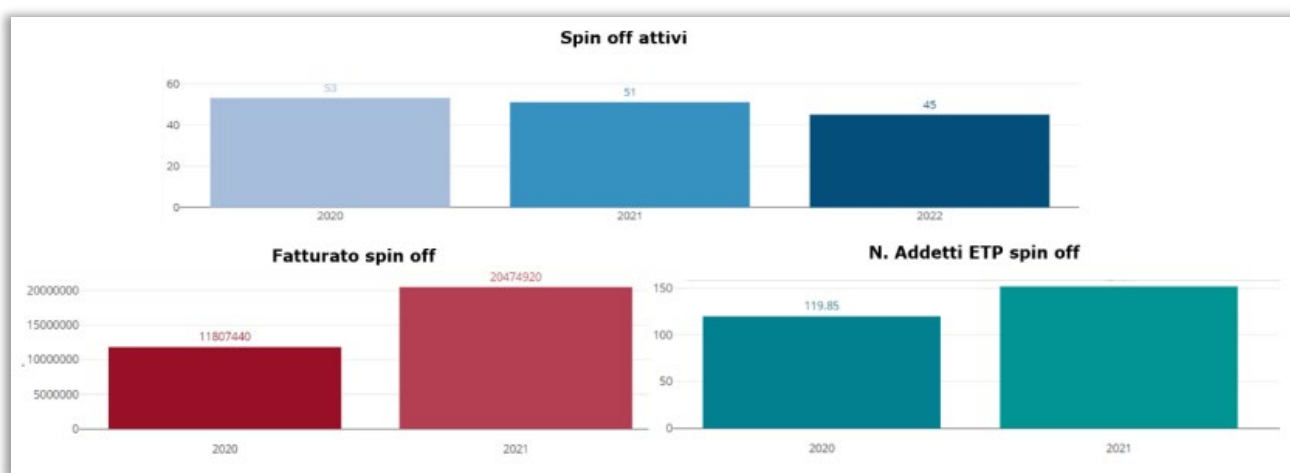
▲ Fig. 4.20 - Unifi's Industrial Property Rights Portfolio. Source: Research and TT Area (data as of 31/12/2022).



### 4.3.3 Innovative start-ups, spin-offs and youth entrepreneurship

The University of Florence also encourages the transfer of knowledge acquired in research activities through the establishment of innovative enterprises (start-ups), possibly recognized as **spin-offs** of the University, having as their purpose the economic and entrepreneurial use of research results and the development of new products and services related to innovation.

Since 2010, there have been 68 spin-offs born from the pre-incubation process and recognized by the University of Florence, 45 of which are still recognized in 2022, with 34 percent registered in the innovative startup register. In terms of the **area of origin** of research ideas and entrepreneurial teams, 59 percent of spin-offs come from the technology area, 15 percent from the science area, 13 percent from the biomedical area, 12 percent from the humanities and education area, and 1 percent from the social sciences area. Regarding the **performance of spin-offs**, we report the trend regarding the number of FTE employees and cumulative production value from 2017 to 2021 (latest available budget data - see Fig. 4.21).



▲Fig. 4.21 - No. of active Unifi spin-offs, turnover and no. of FTE employees 2020-2022. Source: Research Services Area and TT (data as of 31/12/2022).

**Three new academic spin-offs were recognized in 2022** (AgriZapp Srl, Feel Solutions Srl and Wedge Engineering Srl) and **two Unifi spin-offs were subject to acquisition**, retaining the historical legal entity under Italian law, spin-off recognition and fully absorbing collaborators and employees (Carbonsink Srl was acquired by South Pole, the world's largest group for climate emission reduction solutions and projects; SmartOperations Srl was acquired by the financial consulting company DIGITAL360 S.p.A., listed since 2017 on the Euronext Growth Milan "EGM" market of the Italian Stock Exchange).

The **awards and projects won** during 2022 by Unifi spin-offs, include: CoAImed (winner of the provincial stage of CNA's *Premio Cambiamenti* and selected among the 4 startups at the regional level that will represent Tuscany at the national final); AgriZapp (receiver of the "Green and Blue climate change" mention for the project with the greatest potential for climate change sponsored by the GEDI group at the regional final of StartCup Toscana 2022); Ergon Research, FoodMicro Team and Meccanica42 (winner of Faber 4 and placing a young researcher in the company who will do doctoral work developing an innovation project within the spin-offs); Probiomedica (winner of the 2022 edition of the Spring Enterprise Prize); CoAImed and Small Pixels were selected among the 9 finalists in the WMF Italian roadshow startup competition.

To **foster entrepreneurial culture**, the University accompanies research groups in the transition from idea to its transformation into business (enterprises and university spin-offs) with **pre-**

**incubation paths** (from 2010 to 2022, a total of 193 projects admitted to the path, from all 5 disciplinary areas of the University, and 1,105 researchers were involved) and in the **acceleration** phase (through the creation of favorable conditions within the innovation ecosystem and by making available the spaces of the University Incubator). To promote youth entrepreneurship, the University Incubator implements the **Impresa Campus Unifi project** (in its 14th edition in 2022. From 2013 to date it has collected 560 applications, implemented 338 projects and involved 931 young people).

#### 4.4 Public engagement

The University is a founding member of **APEnet**, the "Italian Network of Universities and Research Institutions for Public Engagement" Association. The main purpose of the association, whose members include 41 institutions including Universities, Polytechnics, High Schools and Research Institutions and a growing number of other institutions, is to disseminate, promote and enhance the culture and experiences of Public Engagement, understood as a set of values and institutional actions directed at generating social, cultural and economic growth, to overcome the distance between research and society and nurture new challenges that take into account territorial identities and know how to recognize the contribution of the different protagonists who work in them, amplifying their impact.

The many **and varied dissemination activities and exchange opportunities of high educational and cultural value** promoted in 2022 to foster **knowledge transfer to non-academic audiences and inclusive societal growth** include:

➤ **Unifi-organized events:** among the approximately 1,000 initiatives reported in the recently released Public Engagement database by all Departments, special emphasis is given here to two historic University initiatives, which gathered a total of approximately 3,300 participants: Bright Night - The European Night of Researchers (the University, a recipient of funding from the European Commission through the Horizon Europe/MSCA Actions call, is project leader and coordinator for all universities and schools of higher education in Tuscany) and ScienzEstate (the 2022 edition, having as its central theme "From Rosetta Stone to DNA: natural and artificial codes as media" has seen an increase in the number of venues involved and activities carried out).

➤ **Participation in city events:** the collaboration with the MUSART festival (music, dance, exhibitions, and visits to art locations) was renewed, granting the spaces of the East Cloister of the Humanities Library; about 400 people attended the evenings. The Museum System joined the well-known city event "L'eredità delle donne" (The Legacy of Women), directed by Serena Dandini, with about 700 attendees. With a 50-square-meter booth at the Fortezza da Basso, Unifi participated in the annual exhibition on technologies for the sustainable present and future, "Earth Technology Expo," which was visited by about 10,000 people.

➤ **Framework agreements with local entities:** with the aim of increasing collaboration and co-design of research, qualified training and public engagement initiatives in the area, the University has entered into partnership agreements with the Fondazione Sistema Toscana - for La Compagnia Cinema, the Istituto and Museo degli Innocenti and the Museo del Calcio.

➤ **Communication campaigns** to strengthen the University's identity and increase involvement and visibility in public opinion (reporting of events of interest to the media, "5xmille to the University of Florence" campaign, a coordinated project to communicate the University's commitment to sustainability).

## 4.5 International Relations

The University promotes international relations to foster research with qualified foreign partners, boost student and staff mobility, and strengthen the international dimension of teaching and cooperation with emerging and developing countries. Useful information and services for internationalization are described in special [web pages](#), in [Italian](#) and [English](#).

The University of Florence is one of the founding universities of the European University Alliance [EUniWell](#) (the European University for Well-Being). The European University for Well-Being, funded by the European Commission under the Erasmus+ and Horizon 2020 programs and whose main mission is to understand, improve, measure, and rebalance the well-being of individuals, the community and society as a whole. The University of Florence leads the working groups on teaching, environment and urbanity and teacher education and training and co-leads the one on identity creation.



By 2022 there were 576 **bilateral agreements on cultural and scientific collaboration** with foreign academic institutions qualified to grant academic degrees (surveyed in the University database [ATLAS](#) and in the national database [CINECA](#)), within the framework of which there have been numerous joint teaching and research activities and international exchanges of faculty, researchers, and students (see Fig. 4.22).

The University **promotes** student and faculty participation in the [Erasmus+](#), the overall objective of which is to support the educational, professional and personal development of individuals in the fields of education, training, youth and sport, in Europe and the rest of the world, thereby contributing to sustainable growth, quality jobs and social cohesion, as well as to the promotion of innovation and the strengthening of European identity and active citizenship. The most recent consolidated exchange data (related to the 2021 call, with mobility



▲Fig. 4.22 - Activities under cultural and scientific collaboration agreements. Source: Atlas (data as of 19/06/2023).

carried out during 2022) report **1,340 incoming and about 1,000 outgoing students**, in line with the flows normally recorded.

The University of Florence is accredited with the MUR as an institution qualified to host **non-EU researchers**. The University may also confer the title of **Visiting Professor** to scholars of outstanding qualifications, invited to carry out educational activities as part of a course of study and research activities; in 2022, the title was conferred on 64 professors, and financial contributions were awarded to departments for the stay of 8 scholars. To facilitate the hosting of international guests, dedicated services have been developed ([Welcome service](#)).

Regarding **international cooperation** activities, the relationships already activated within the framework of joint projects continue with the Italian Agency for Development Cooperation (AICS), the Italian Interuniversity Consortium for Argentina (CUIA), the Italian Higher Education with Africa Foundation (IHEA). Following the start of the conflict between Ukraine and Russia, in March 2022, the University has planned **measures to support Ukrainian, Russian, and Moldovan students and researchers** (see Fig. 4.23). As part of solidarity with students from at-risk areas, the University of Florence also activated four scholarships for students from **Myanmar** and five scholarships for students with **Afghan citizenship**. In addition, through Erasmus Action KA107 "International Credit Mobility", renamed **KA171 - International mobility involving third countries not associated** with the program in the new 2021-2027 programming, the University has expanded the offer of possible destinations, through the opening to countries of the rest of the world. For the year 2022 the project received a total budget of € 286,095 and involved four partner countries.

Data on the collaborations carried out by the University of Florence during 2021 on its own funds with Developing Countries will go into MAECI's "Annual Report on the Implementation of Development Cooperation Policy in 2021" (art.12, paragraph 4 L.125/2014).

## 4.6 Cultural heritage

The University has a substantial cultural heritage, consisting of those assets with special interest and economic value, at the artistic, historical, bibliographic, ethno-anthropological, or archival level. Its preservation, expansion, and valorization are the main mandates of the University Library System and Museum System (see 4.6.1-4.6.2).

### 4.6.1 Libraries

The University libraries guarantee extensive opening hours to the public (including evening opening from 7 p.m. to 11:30 p.m. and Saturday mornings from 8:30 a.m. to 1:30 p.m. in the Social Sciences and Humanities Libraries - Humanities Branch). As of 1 April 2022, with the end of the

### MISURE A SOSTEGNO DEGLI STUDENTI E RICERCATORI COINVOLTI NEL CONFLITTO RUSSIA-UCRAINA



▲ Fig. 4.23 - Measures to support Ukrainian, Russian and Moldovan students and researchers.

state of emergency, access is reservation-free, and all available seats can be filled. Attendance has hence quickly returned to the pre-Covid levels.

The services offered are varied and consistently record high activity volumes (see Fig. 4.24 - for more details, see the Report of the University Library System 2022).

Ongoing is the implementation of [Impronte digitali](#), the portal of the Library system's **digitized collections**, the result of years of work on the digital conversion of rare and valuable historical materials held by the various libraries, and of [Chartae](#), the portal of the Florentine University's archival collections. A new virtual exhibition was also released in 2022, [Archi-tè: cross meetings](#), nine years of cultural events around architecture, art, and books, produced by Luca De Silva and the Architecture Library.

When the contract for photocopying service expired, it became necessary to organize a new reproduction service for users. **Digital reproduction** was chosen, which meets the needs of **eco-sustainability**, energy conservation, accessibility, usability and ease of use.

In 2022, the University Libraries provided 99 **training courses on tools and methods for bibliographic research**, to foster the ability to determine the nature of the information one needs, access information and documents efficiently and effectively, critically evaluate information and its sources, and use information effectively and in an ethical and legally correct manner. They also participated in about 70 orientation events.

To enrich the catalog and the services offered, there are active **collaborations with other Tuscan universities (SBART project), prestigious Florentine institutions** (Accademia della Crusca, Franceschini Foundation, International Society for the Study of Medieval Latin, Galileo Museum Library), and **library networks of local authorities** (SDIAF). The ongoing project to renovate the **Brunelleschi Complex**, the main headquarters of the Humanities Library, aims to create **a large library open to citizens**, integrated with the cultural institutions of the historic center. The Humanities Library houses and manages the Luigi Crocetti Regional Library, which specializes in bibliography, library science, and archival studies; it is also home to CEDAF, the Florence Flood Documentation Center, which includes several prestigious city institutions on its scientific committee. The Biomedical Library provides Careggi and Meyer hospitals with access from their networks to electronic periodicals; it also offers them document delivery services (electronic delivery of articles not available at their own sites or network), lending, information literacy courses, and bibliographic assistance.

Libraries organize **numerous** research **dissemination events** and actively participate in other public engagement activities promoted by the University; here we mention only the **19 virtual exhibitions** set up by the Library System, the lively collaborations with the Musart Festival, the Salvatore Ferragamo Museum, the participation in *ScienzEstate* by proposing playful/dissemination activities, the cycles of *Agristories* and *Archistories*, bibliographic exhibitions and

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#### UNIFI Libraries Activities

71,306 traditional loans of physical volumes and documents

85,920 e-books downloaded

24,503 e-book chapters downloaded

5,333 digitization of articles or parts of monographs made for Unifi users

5,331 documents, including articles and volumes, brought in from external libraries for Unifi users

8,555 documents, including articles and volumes, provided to external libraries for their users

1,523,257 downloads from electronic periodicals

579,396 database searches (Counter and no Counter)

993 information delivered online through the Ask a Librarian service (asynchronous reference)

883 bibliographic information transactions via videoconference or in-person (synchronous reference)

73 courses taught in person and/or in streaming (2,086 participants, 112.5 credits given)

26 courses via Moodle (4,085 participants, 3,324 credits delivered)

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▲Fig. 4.24 - Volumes of activity of UNIFI Libraries in 2022. Source: SBA.

architectural walks, and the photo contest *Shots in the library* aimed at all students. Worthy of recall is the "In the meantime ... a book" campaign, which concluded on 27 April 2022 with a meeting in the Aula Magna with the Rector and the Councilor for Education of the City of Florence. Within it, the Library System enriched the Florence and Prato prison library collections by inviting citizens to purchase a book for them at one of the independent bookstores in Florence, Scandicci, and Prato that joined the initiative.

A brilliant animator of cultural initiatives is the Center for European Documentation ([CDE](#)), located in the Social Sciences Library and open to any interested EU citizen. The library provides reserved workstations for consulting documents, databases, and EU institutional websites, as well as a specific research assistance service. The 2022 CDE events focused on the *Caffè Europa* series of events, which took place in three different venues with topics related to sustainability, energy communities, and the relationship between humans and the environment from a European perspective. Also of significant importance was the project *The European Year of Youth. A greener, more digital and more inclusive future*, produced by the Network of Italian EDCs with the contribution of the European Commission Representation in Italy. Two seminars were held as part of this project: *International protection and migration for environmental reasons: the difficult construction of a normative frame of reference*, and *The European Union to come: perspectives on the environment, protection of values and common defense*.

Also important is the libraries' commitment to fostering cultural accessibility and **open source** in the University, both through communication initiatives such as the campaign conducted on the Libraires' social channels on the occasion of the annual *International Open Access Week*, whose theme in 2022 was *Open for Climate Justice* (October 23-29, 2022), with content on the possible contribution of Open Science to issues such as climate change and climate justice; both through the assistance provided to Unifi staff in managing publications in the Flore institutional repository; and through the activation and management of transformative contracts that allow Open Access (OA) publication at no expense to authors. The Portal [Publishing in Open Access](#) lists signed contracts and related instructions; contracts with the Institute of Electrical and Electronics Engineers (IEEE) and Royal Society of Chemistry (RSC) became transformative in 2022. Also to be noted is the work of **Firenze University Press (FUP)** in this regard.

The institutional activities of the Library System are **financed mainly by the University's annual endowment**, supplemented by additional, minor income from interlibrary loans and photo-film reproductions, third-party activities, and resources from targeted projects. In particular, it is reported that after two years of decline, spending on bibliographic materials started to rise again in 2022. The largest costs (89% of total expenditure) are incurred precisely for bibliographic materials and, specifically, for maintaining and augmenting electronic resources. The **operating result is positive** (see Fig. 4.25).

► Fig. 4.25 - Management results of the University Library System (SBA). Source: SBA.

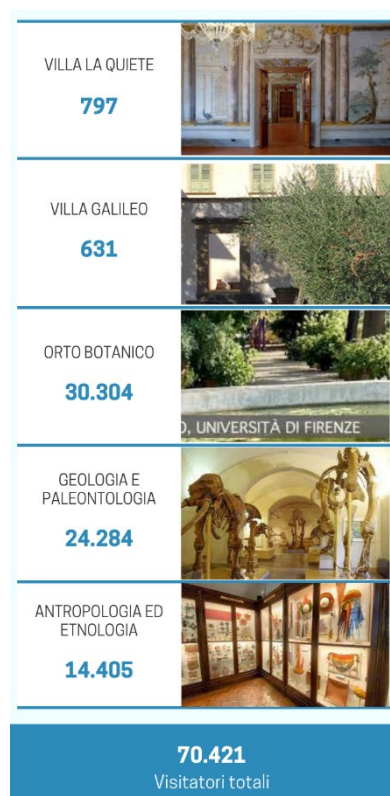
<b>SBA PROCEEDS 2022</b>	<b>€ 5,856,983</b>
<i>Annual funding from the University</i>	€ 5,665,000
<i>Reimbursements from ILL/DD and photo-film reproductions</i>	€ 2,758
<i>Third-party activities</i>	€ 16,225
<i>Specific projects</i>	€ 173,000
<b>SBA COSTS 2022 (on regular funding)</b>	<b>€ 5,337,355</b>
<i>Purchase of monographs</i>	€ 296,806
<i>Print magazine subscriptions</i>	€ 456,563
<i>Electronic resources</i>	€ 3,991,060
<i>Bindings</i>	€ 17,460
<i>Furniture, fixtures, computer equipment</i>	€ 129,289
<i>HW and SW leases</i>	€ 35,118
<i>Consumables</i>	€ 40,846
<i>Maintenance</i>	€ 124,970
<i>Other expenses</i>	€ 245,243

## 4.6.2 Museums

The University Museum System (SMA) plays a valued cultural, educational and social role in the city, national and international community.

The collections kept at the Anthropology and Ethnology, Geology and Paleontology, and Botanical Garden sections are open to the public; Villa La Quiete and Villa Galileo are available for guided tours by appointment. In 2022, after the pandemic emergency phase, there was a definite **upswing in public influx**, comparable with the trends observed in the pre-pandemic years (see Fig. 4.26).

The Mineralogy and Lithology collection remains closed to the public in preparation for its imminent move to the new exhibition spaces at La Specola (under renovation). The Museum of Anthropology and the Botanical Garden are mainly visited by adult audiences; the Museum of Geology and Paleontology also registers a significant presence of young audiences, particularly school-age children (6-14 years old); in fact, many educational workshops for schools and families have also been activated at the three locations of the Museum of Natural History. The survey of public opinion is conducted by administering questionnaires in digital format. From the 1,037 completed questionnaires, an important component of **public loyalty** emerges for returning visitors to the collections, particularly for the Botanical Garden. Overall, about 90 percent of the visitors who filled out the questionnaire were satisfied with their visit; **the quality of the displays, the information materials provided, and the courtesy of the staff are rated particularly** highly.



▲Fig. 4.26 - Visitors to the University Museum System in 2022. Source: SMA.

The **cultural itinerary** "*Natura Collecta, Natura Exhibita*" continued until 30 September 2022. Established in December 2019 from the collaboration between the University of Florence, Opera Medicea Laurenziana and the Basilica of San Lorenzo, it was set up in the Donatello Hall of the Basilica of San Lorenzo with 172 works from the Museum of Natural History and dedicated to the history of nature collecting from the Medici origins to the present day. After the pandemic, it has seen a crescendo in visitor numbers, which reached 110,827 during 2022. The Museum System also participated in the project of the Museo Galileo and the Museo della Grafica in Pisa that led to the creation of the exhibition set up in two locations (Florence and Pisa) "*The Eye of Science: Giorgio Roster and Odoardo Beccari, explorers of places and images,*" with exhibits from the Museum System on display at the Stibbert Museum.

SMA collections are cataloged in print and digital form. In 2022, 4,486 new digital records were compiled, and 1,320 were sent to the Central Institute for Catalogue and Documentation (ICCD) for inclusion in the SigecWeb cataloguing system. As part of the **digitization of collections**, the Museum of Natural History is participating as a lead partner for Italy in the European project DiSSCo-Prepare (Distributed System of Scientific Collections), a European research infrastructure. An important contribution to digitization activities was initiated through participation in NRRP projects focused on the massive digitization of naturalistic artifacts.

In view of the forthcoming reopening of the La Specola Museum, **restoration work** continued on the holdings that will be included in the exhibition itinerary, which involved specimens of wax plants in exclusive vases of Ginori manufacture belonging to the precious and unique collection of botanical waxes, specimens from the wax collection of Comparative Anatomy, polychrome wax

botanical teaching plates on wooden boards from the Botanical Collections. The conservation-restoration of some fossil vertebrates from the Paleontological Collections was also completed. A pest control service has been activated at La Specola in the Exhibition Rooms, Palazzo Nonfinito for the South American Plumaria Art Collections, and Villa La Quiete against woodworms on furniture and wooden structures. In addition, at Villa La Quiete, there is a routine maintenance service for the Historic Monumental Garden with reduced environmental impact.

The Natural History Museum's naturalistic collections are the subject of **study and research** by curators and scholars from around the world:

➤ 49 **loan queries** were fulfilled in 2022, including 40 for research and 9 for exhibition purposes, for 1,985 specimens loaned. The requests came from Universities and Museums in Italy and abroad and partly from private individuals. Loan requests from entomological collections are confirmed to be the most numerous, followed by malacological and herbarium collections requests. Anatomical waxes and still-life paintings by Bartolomeo Bimbi also appear among the loans, highlighting a growing focus on the artistic narrative of science in exhibition itineraries.

➤ 28 **outreach, heritage protection, and conservation projects** are underway in cooperation with both public institutions and private foundations or associations. The **scholarly research** conducted by the curators resulted in the publication of 74 papers in scientific and popular journals and 18 contributions in conference proceedings. It contributed to 19 monographs on scientific or museology-related topics, including the Guides to Anthropological and Paleontological Collections. Seven dissertations focused on the study of artifacts preserved in museum collections, confirming the importance of these materials in the education of tomorrow's scientists.

The Museum's financial management shows a positive result (see Fig. 4.27).

<b>SMA PROCEEDS 2022</b>	<b>€ 1,188,972</b>
<i>Annual funding from the University</i>	€ 350,000
<i>Revenues from targeted projects</i>	€ 323,168
<i>Tickets</i>	€ 230,674
<i>Revenues from EU research projects</i>	€ 125,484
<i>Revenues from research projects</i>	€ 90,369
<i>SMA Shop</i>	€ 45,535
<i>Educational activities</i>	€ 16,494
<i>Fees and royalties</i>	€ 5,251
<b>SMA COSTS 2022</b>	<b>€ 988,484</b>
<i>General operating expenses</i>	€ 267,900
<i>Works restoration, collections maintenance</i>	€ 241,502
<i>Grants, fellowships, and research collaborations</i>	€ 3,135,289
<i>Ticketing services, surveillance</i>	€ 110,773
<i>Inventory material</i>	€ 80,012
<i>Membership fees</i>	€ 43,150
<i>Missions for teaching and research</i>	€ 38,018
<i>Dues to the budget and sinking fund</i>	€ 23,320
<i>Machinery maintenance</i>	€ 19,790
<i>Cultural event supplies and services</i>	€ 14,585
<i>Taxes and charges</i>	€ 8,504
<i>Other costs</i>	€ 5,632

▲Fig. 4.27 - SMA 2022 Financial Management. Source: SMA.



### 4.6.3 Fine and performing arts

The University of Florence promotes the dissemination and enhancement of the performing arts throughout the academic community and also for the benefit of external audiences through:

➤ the **Theater Company** "Binario di Scambio" follows all aspects concerning live performance, from concept to performance, artistic invention to production and distribution stages, and communication to documentation. Led over the years by renowned directors, with numerous events on the bill since its inception in 2013, *Binario di Scambio* has generated much interest in the Tuscan and national territory. Nominated to participate in various events, it collaborates with Teatro della Pergola, Teatro Metastasio, the International Festival of the Roman Theater of Volterra, the Museum of Natural History of the University of Florence, the Museum of Palazzo Pretorio in Prato, Officina Giovani - Cantieri Culturali of the City of Prato, Fondazione Toscana Spettacolo, Festival of Creativity, Firenze dei Teatri, Rai-Radio 3. In 2021-2022, it gives birth to "*Officina delle voci Atelier della creazione giovanile*," a project aimed at protecting and promoting the oral historical memory of the city of Prato in collaboration with the City of Prato and a network of Tuscan and national cultural institutions and associations. In 2022, it made its national debut with the play "*Group photo with the Queen*." for the two hundredth anniversary of the birth of actress Adelaide Ristori.

➤ the **University Choir**: mixed-voice choir, with mainly a cappella repertoire drawn from the European learned tradition, organizes and participates in concerts, competitions, and festivals at home and abroad. In December 2011, it received special recognition as a Choir of National Interest for the quality and excellence of its activities from the Ministry of Cultural Heritage and Activities. It collaborates regularly with Italian and foreign university choirs.

➤ the **University Orchestra**: allows the university community to experience ensemble music practice and enrich individual musical-technical knowledge. In the 20 years of its activity, pursuing the continuous exchange of knowledge with other symphonies, numerous international soloists have performed with the University Orchestra.

Participation in the activities, free of charge, is open to students, faculty, and technical and administrative staff; in addition to regularly participating in official ceremonies and initiatives promoted by the University, the choir, orchestra, and theater group offer various performance events to the community.

## 5 | Environment and Resources

The University is a large community, and its activities can generate significant environmental impact in terms of mobility, water consumption, energy consumption, and waste generation. The choices made by the University and the behaviors followed by all members of the academic community can, therefore, take on broad significance in these areas. The [Green Office](#) coordinates initiatives to engage and raise awareness of environmental sustainability issues throughout the academic community.

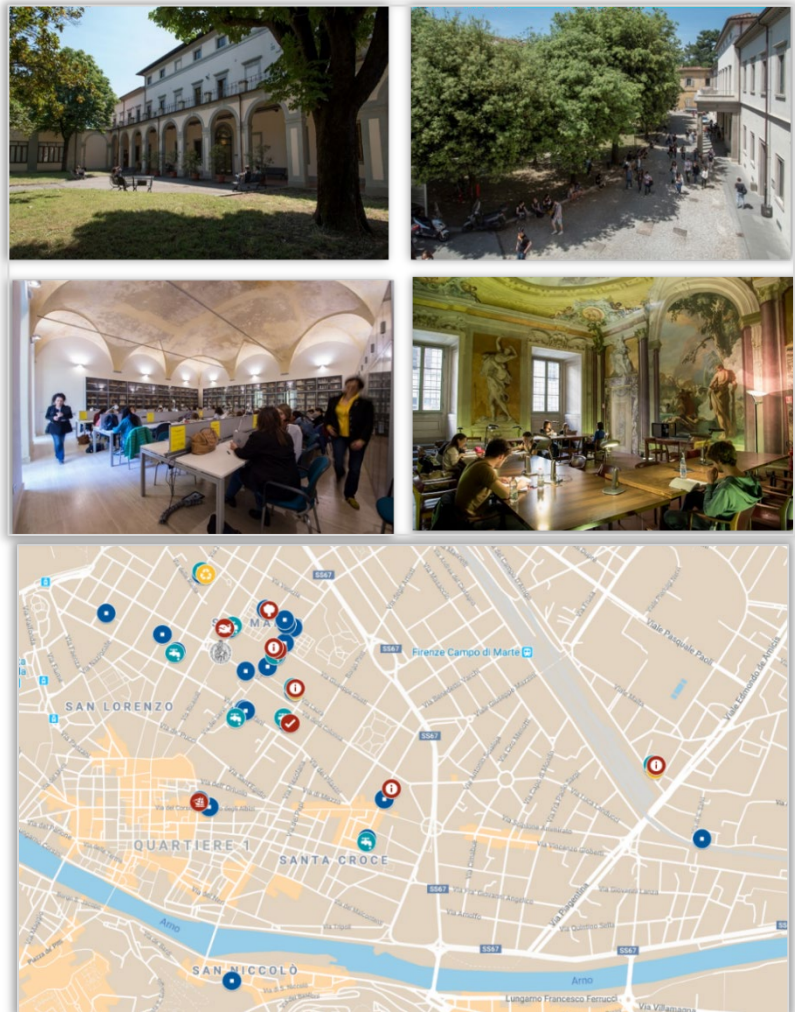
In September 2022, the University established the Energy Commission to coordinate activities to monitor energy consumption on time and set energy efficiency goals.

In the **international** sustainability rankings (see Fig. 1.2), for the fourth year in a row, the University of Florence is on a **positive trend** and is ranked 225th in the world by [UI Green Metric](#) (advancing ninety-seven places). It moved from the 201-300 range to the 101-200 range in the new ranking of [The Impact Rankings](#), and in the 2023 sustainability rankings of the [QS World University Rankings](#) scored 144, placing itself 147th in the international ranking.

### 5.1 Infrastructure

In the city and neighboring municipalities, the University has 90 buildings owned or in use and land covering more than 140 hectares.

There are several locations in the **Historic Center** of Florence: Philosophy, Italian Literature, Foreign Languages, Psychology, Architecture, Arts, History, Geology, and Education (Fig. 5.1). In addition, the Rectorate is located in this area. Most facilities occupy historic buildings, such as convents, internally characterized by the green cloister where students can hang out and socialize. The opportunity to experience the city center is unique, a true inspiration for arts and architecture students, but also for Erasmus students who come to study in Florence every year.



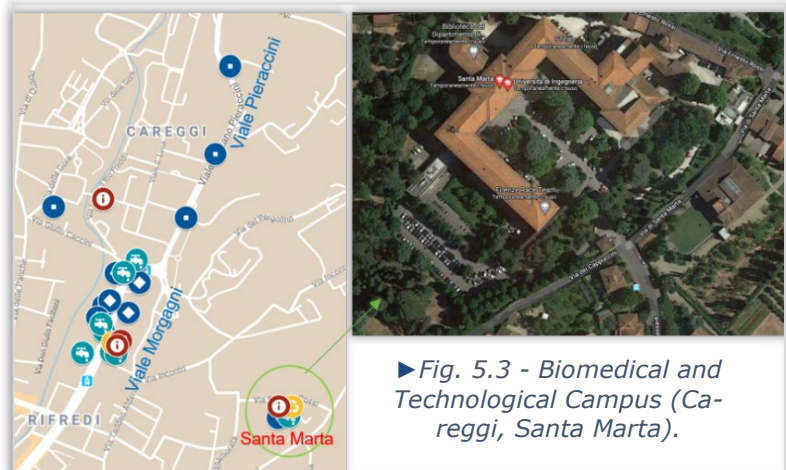
► Fig. 5.1 - Historic Center Campus.

The **Social Science Campus**, more recently built and located in the Novoli neighborhood near the Palace of Justice and San Donato Park, is mainly occupied by the Schools of Economics and Management, Law, and Political Science (Fig. 5.2). The campus includes classrooms and laboratories (buildings D4, D5, D6, D15), offices and studios (D1, D6), the library (D10), cafeterias and reading rooms (D14), as well as the canteen and student housing (Caponnetto Residence, buildings E2, E3), owned by the Regional Board for the Right to University Study (DSU).



► Fig. 5.2 – Novoli Social Sciences Campus

The **Biomedical and Technological Campus** (Fig. 5.3) houses several departments: in the locations closest to the hospital complexes of Careggi, Meyer (the children’s hospital) and CTO (Orthopedic Trauma Center) are the sections of Medicine, Mathematics, Pathology, Hygiene, Statistics, Pharmacology; the Morgagni Campus is also located in this area, at which classes are mainly held for the degree programs of Engineering, Mathematical, Physical and Natural Sciences, and Human Health Sciences. The Departments and School of Engineering are based at the Santa Marta Campus; the main building, called Villa Cristina, was built in the 15th century and, between 1938 and 1972, housed the Seminary of the Florentine Archdiocese until the Church ceded it to the University of Florence.



► Fig. 5.3 - Biomedical and Technological Campus (Careggi, Santa Marta).

The **Science Campus** (Fig. 5.4) is located in Sesto Fiorentino, 10 km from Florence; the buildings were constructed between 1990 and 2000 and house the departments, laboratories, and Chemistry, Biology, Physics, and Astronomy students. The campus site (772,481 sqm) also features a wooded area, the “Ideas Park,” where trees have been replanted thanks to a donation from the Salvatore Ferragamo company. In addition, the 160,892 sqm of the WWF Oasis is also to be comprised in this area.

The **Agriculture Campus** is located near the Cascine Park. Within the park estate created by Alessandro de' Medici, who ruled Florence from 1531 to 1537, the main building was founded in 1791. The City of Florence has owned the property since 1868 and has transferred its use to the University of Florence since 1912. A new Agriculture Campus (Fig. 5.5), an icon of the nZEB (nearly Zero Energy Building), will be built in the coming years: the intervention consists of the



new construction of ten buildings connected by a series of suspended walkways and pedestrian walkways on the ground floor. The project involves using components designed to contain energy consumption, adopting technical measures to minimize nonrenewable energy sources with targeted design, researching systems to rationalize water and materials with low environmental impact, and oriented toward recycling and reuse of resources. The project was developed to comply with the LEED® BD + C v.4 for New Construction (Campus Program-Group Approach) standard to achieve the PLATINUM level certification.

◀Fig. 5.4 - Science Campus (Sesto Fiorentino).



▲Fig. 5.5 - Rendering of the design for the new Agriculture Campus.

Campus	Ground floor net area	Patio/Cloister/Portico area	Car park	Garden area	Wooded area
Historic center	35,664	12,056	7,030	7,916	30,057
Novoli Campus	21,427	2,055	9,461	-	-
Biomedical and Technological Campus	25,553	19,708	17,305	30,316	6,953
Science Campus	34,099	13,830	77,950	571,141	30,069
Agriculture Campus	10,587	1,080	2,085	9,529	4,120

▲Fig. 5.6: Net area occupied by buildings and outdoor areas usable by staff and students. Source: Green Office.

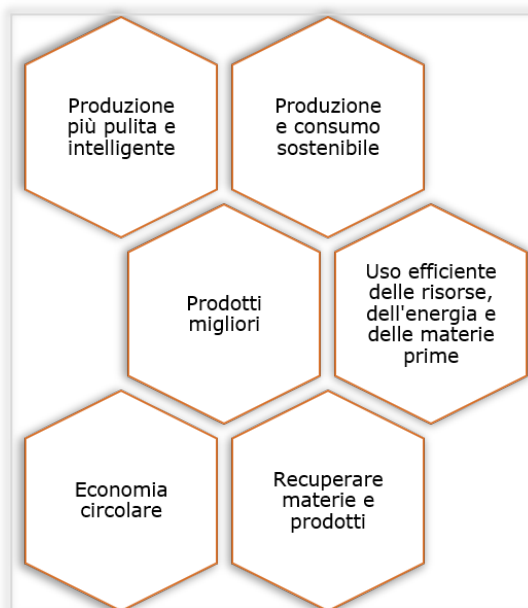
## 5.2 Procurement policies

The University of Florence chooses suppliers of goods services **in compliance with European directives and current national implementing legislation** (which on 31 March 2023 saw the entry into force of d. lgs 31/3/2023 no. 36 that from 1 July will replace d lgs 18/4/2016 no.

50), **paying attention to social and environmental sustainability**, in the logics of Green Public Procurement (GPP), the approach under which Public Administrations integrate environmental and social criteria at all stages of the purchasing process. The Procurement Code enshrines the mandatory *green procurement* and the application by all contracting stations of the [Minimum Environmental Criteria](#) (CAM), which establish, for different product categories, energy, environmental, and social criteria (employment opportunities, decent work, compliance with social and labor rights, inclusion). Where the Administration does not provide by means of self-procurement modules, the procedures for selecting contractors are therefore in line with the European Sustainable Production and Consumption strategy, the Public Administration's procurement rationalization program, the rules of the public administration's e-procurement system, and the expressions in the [State General Accounting Office's memo](#) on "Public Bodies and Entities - budget for the year 2023" and its subsequent [amendments and additions](#).

In addition to the enhancement of environmental quality and compliance with social criteria, the application of the Minimum Environmental Criteria also responds to the public administration's need to rationalize its consumption, reducing its spending wherever possible, particularly with regard to, among larger consistencies of items, the supply and rental service of interior furnishings, purchase of items for street furniture, purchase of copy paper, supply and rental of multifunctional equipment for office uses, cleaning and sanitization of buildings and environments for civil, sanitary and cleaning products (see Fig. 5.7).

For **energy procurement** (electricity, natural gas), conventions stipulated by the **Regional Purchasing Center** (established as an aggregating entity according to Article 1, Paragraph 455 of Law No. 296 of 27 December 2006) are used. In the Region of Tuscany, the Aggregating Body is the Regional Council, which uses **CET Scrl** (which is among the University's investee companies) to carry out the bidding procedures related to the supply of electricity and natural gas and the in-house design of energy efficiency interventions (Regional Council Resolution No. 1480 of 02.12.2019).



▲Fig. 5.7 - European Sustainable Production and Consumption Strategy.

### 5.3 Energy consumption

From the perspective of energy sustainability, it is of fundamental importance to pay attention to the analysis of energy resources used by the University in order to better understand what actions and plant renovation interventions can be undertaken and to increase the share of electric and thermal energy use produced from renewable sources.

For this, the Laboratory of Environmental Physics for Building Quality (LabFAQE), in collaboration with the Tuscan Energy Consortium (CET), prepares an annual **report on electricity, gas, and diesel fuel consumption**. Specifically, the CET, having the position of **Energy Manager, manages on behalf of UniFi the energy (electricity and gas) supply contracts for the various real estate complexes constituting the university building stock**, except for those included in the Energy Service PLUS contract awarded to the company ENGIE, those related to the

university complex of Careggi served by the trigeneration plant and those related to Design Campus of Via Pertini 93 in Calenzano, served by district heating managed by Estra Clima Srl.

The report, which follows the Operational Guidelines issued by the Climate Change Working Group of the Sustainable Universities Network (RUS), aims to gain an understanding of energy consumption, which, correlated with the quality of the University's building stock, is the necessary premise for identifying priority actions for intervention to reach the nZEB (ultra-low energy buildings and powered by renewable sources) legislative target in force from January 2019 for public buildings (for Florence it is about 60 kWh/sqm-year).

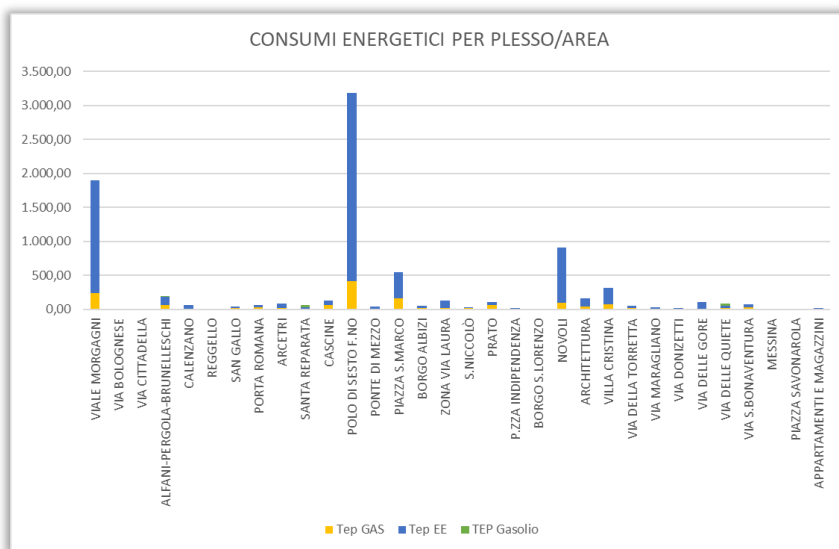
In a university's emissions inventory, CO<sub>2</sub> emissions are largely dominant over emissions of other pollutants usually considered (CH<sub>4</sub>, N<sub>2</sub>O, F-gas), constituting more than 99% of total emissions. Thermal consumption, mainly gas, refers almost exclusively to the winter period, while electrical consumption, although present throughout the year, duplicates in the summer period. Emission factors are estimated based on data provided by ISPRA.

### 5.3.1 The building stock and emission inventory

In constructing the emissions inventory, all activities carried out by the University within its geographical boundaries, in buildings in its possession or under its direct control, and in buildings for which it pays electricity bills are considered.

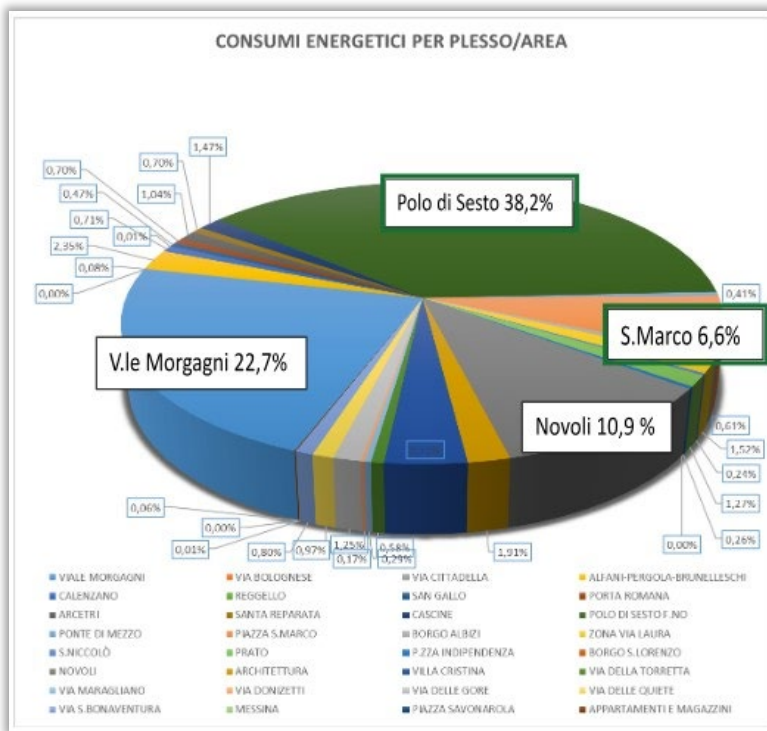
The University's real estate consists of buildings constructed in completely different historical periods from the point of view of technology and the attention given to the subject under consideration. To this diversity must be added the variety of functions performed in the various buildings that are often not directly comparable in energy intensity (e.g., laboratories compared with classrooms or offices). Recently, the Sustainable Universities Network's Metrics and Indicators Working Group (RUS) has listed useful indicators for a more nuanced reading of energy consumption and a more in-depth analysis at the level of both individual utilities and teaching/administrative/research halls. In particular, we see the possibility of highlighting consumption (especially electrical consumption) in relation to Winter Day Degrees (SDDs) and Summer Day Degrees (SDD) when consumption due to the operation of refrigeration units' peaks. Other benchmarks may be the energy consumption ratio to the users consisting of staff (teaching and administrative) in various capacities in the buildings

and consequently to pollution in terms of CO<sub>2</sub> emitted per person (tCO<sub>2</sub> eq/person) in general and to individual buildings in particular. Regarding the use of monitoring parameters capable of appropriately and effectively interpreting energy consumption, the University has activated a collaboration with the Departments of Industrial Engineering and Information Engineering,



► Fig. 5.8 - Energy consumption 2022 in TOE (gas, electricity, diesel) by complex/block of Unifi buildings. Source: Energy Manager.

which, as of the end of 2022, have produced preliminary reports with respect to the characterization of energy consumption on the campuses of main interest, using parameters such as WDDs and SDDs associated with predictive monitoring techniques (COSUM).



► Fig. 5.9 - Energy consumption 2022 (gas, electricity, diesel) in percentage values by complex/block of UniFi buildings. Source: Energy Manager.

The 2022 consumption surveys by zones/complexes (see Figs. 5.8-9) highlight the **predominant weight of electricity consumption over gas and oil consumption**, especially due to summer air conditioning. The **most energy-consuming facilities** are those of the **Sesto Fiorentino Campus** (with 3,185.05 TOE, or 38.2 percent of total consumption, it is the largest consumer of energy), which alone exceeds the energy consumption of **Viale Morgagni, Piazza San Marco and Novoli**; in turn, the consumption of these four complexes exceeds 78 percent of total consumption, in particular, about 64 percent of gas and 82 percent of electricity consumption. To be effective, any action aimed at reducing energy consumption cannot be separated from a comprehensive review and careful analysis of

the management of these complexes and that of Sesto Fiorentino.

A broad comparison of electrical consumption in terms of primary energy with respect to the benchmark value ( $122 \text{ kWh/m}^2/\text{year} \cong 40 \text{ kWh/m}^3/\text{year}$ ) can be made from the total air-conditioned volume of the building stock of about  $1,170,000 \text{ m}^3$ , deduced from building energy certificates, with an energy conversion factor  $1 \text{ TEP} = 11,630 \text{ thermal kWh}$ . It shows that in 2022, there is a specific consumption reduced to 82.8 compared to  $87 \text{ kWh/m}^3/\text{year}$  in 2019, and yet still 50% higher than the value estimated for the tertiary sector in Florence; if the incidence of artificial lighting, estimated for Florence at 24% of overall consumption, were similarly respected, it can be estimated that this sector could absorb about  $19.89 \text{ kWh/m}^3/\text{year}$ . With the data assumed and due distinctions in terms of typology, these values, while susceptible to wide variation, provide an initial indication from which to begin subsequent analyses aimed at defining the University's CO<sub>2</sub> Emission Reduction Plans.

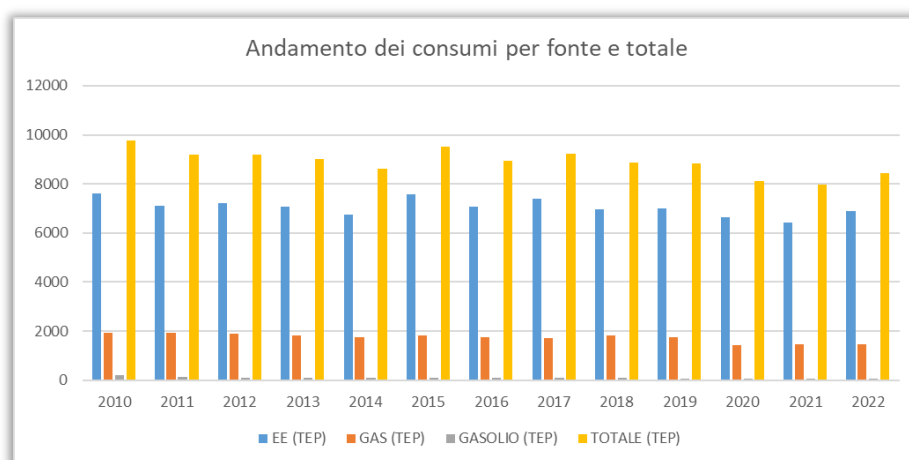
### 5.3.2 Consumption by energy source and renewable energy production

The main nonrenewable energy sources serving the University, unchanged from previous years, are electricity and gas: by 2022 they account for 81.1 percent and 17.1 percent, respectively, of the energy supplied expressed in TOE (tons of oil equivalent) and thus, in total, more than 98 percent of annual energy consumption, while the more polluting diesel fuel, at less than 1 percent, is now a negligible energy source in terms of emissions, and present in only three thermal power plants (see Fig. 5.10). The total annual energy demand is 8,520.4 TOE, up from the years 2020 and 2021 (COVID 19 years).

Energy source or carrier	Quantity to convert	Units	Quantity converted to TOE
Diesel fuel (including automotive)	80,606	Liters	69.3
Automotive gasoline	45,000	liters	34.4
Natural gas	1,747,223	Sm <sup>3</sup>	1,460.7
Electricity supplied from the power grid	36,953.2	MWh	6,910.2
Electricity generated on-site by hydraulic, wind, and photovoltaic	5.4	MWh	1.0
Heat consumed by purchased heat transfer fluid	434.7	MWh	44.8
<b>Total consumption expressed in TOE</b>			<b>8,520.4</b>

▲Fig. 5.10 - 2022 Unifi Energy consumption by source. Source: Energy Manager.

The overall trend in **historical consumption by energy source** (see Fig. 5.11, values in TOE) shows **that consumption of both electricity (EE) and gas and diesel have been declining** net of systemic fluctuations due to climatic conditions: this seems to be confirmed by the fact that heating consumption is steadily and slightly decreasing, while electricity consumption is increasing in 2017 compared to 2016, both due to climatic factors and the greater number of buildings served, and then declining again from 2018 until 2021, also for the reasons given. **Electricity** consumption has always been percentage-wise significant, with an average of 7,060 TOE or about 79% of total average consumption. This confirms that this is **the energy source on which priority action needs to be taken for an effective greenhouse gas reduction policy**.



►Fig. 5.11 - 2010-2022 Unifi Energy consumption by source (diesel consumption includes automotive). Source: Energy Manager.

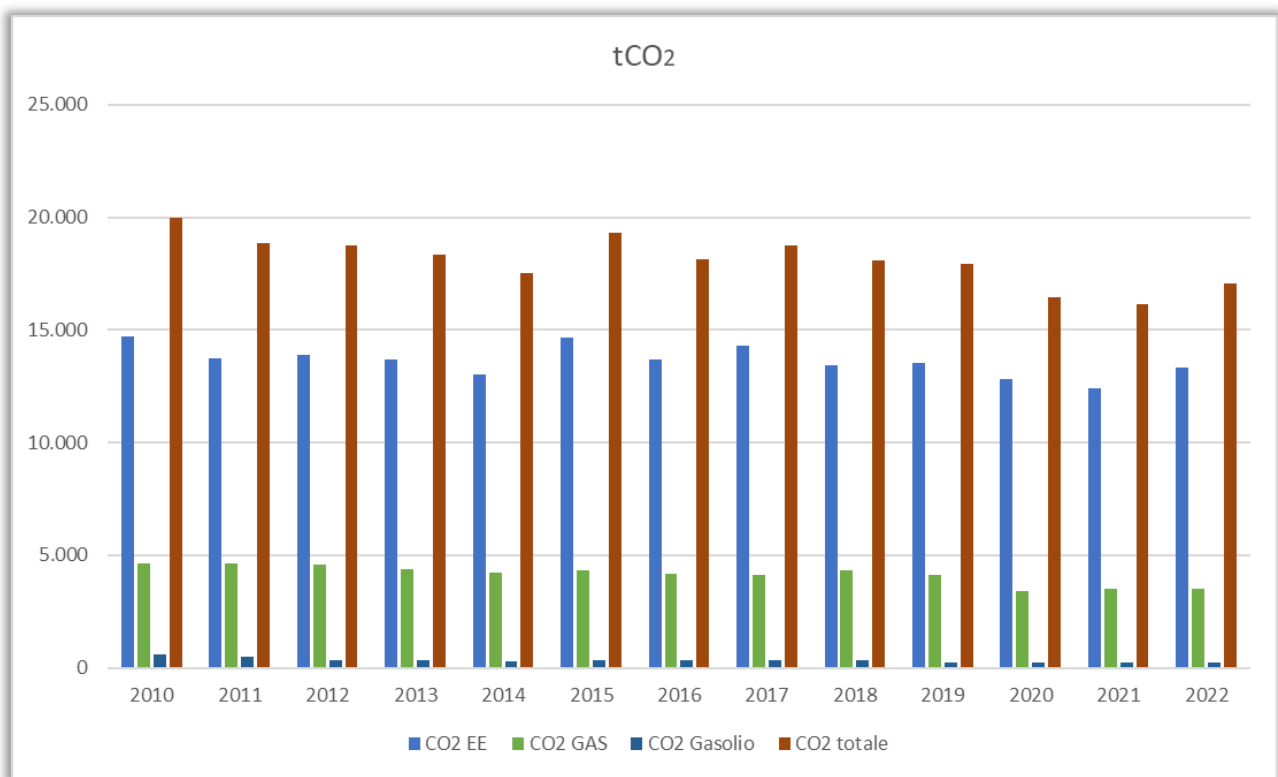
The parameter of **energy consumption related to net air-conditioned volume and degree days** [ $\text{kWh}_t / (\text{m}^3 \cdot \text{DD})$ ] makes it possible to evaluate (overall and for each building) the heat consumption trend, normalized with respect to the external factor of temperature variation (i.e., independent of climatic differences in different seasons and between



different locations). In 2022, the value of this indicator, referring to the entire air-conditioned volume of buildings forming part of the University, is 0.011298019 (kWh/DDm<sup>3</sup>) in the winter period and 0.087531553 (kWh/DDm<sup>3</sup>) in the summer period. Thus, although with broad maximum data, the summer regime is characterized by a much higher specific indicator than the winter regime.

### 5.3.3 CO<sub>2</sub> emissions by energy source and globally

In order to bring the energy sources back to a more consistent emission value in relation to the reference years, we referred to the transformation factors given by ISPRA (Istituto Superiore per la Protezione e la Ricerca Ambientale. Atmospheric emission factors of CO<sub>2</sub> and development of renewable sources - Reports 112/2015): Gas 2.384 tCO<sub>2</sub>/TOE; Diesel 3.197 tCO<sub>2</sub>/TOE; Electricity 0.361 tCO<sub>2</sub>/MWh.



▲Fig. 5.12 - 2010-2022 trends in tCO<sub>2</sub> emissions by source and globally. Source: Energy Manager.

With the transformation factors used, **emissions in tons of CO<sub>2</sub> from 2010 to 2022 were calculated by energy sources and globally** (see Fig. 5.12). The contribution of **electricity in CO<sub>2</sub> emissions**, averaging 13,629 tCO<sub>2</sub>/year, **is more than three times that of gas**, averaging 4,142 tCO<sub>2</sub>/year, while the contribution of diesel emissions, averaging 327 tCO<sub>2</sub>/year, is now almost negligible.

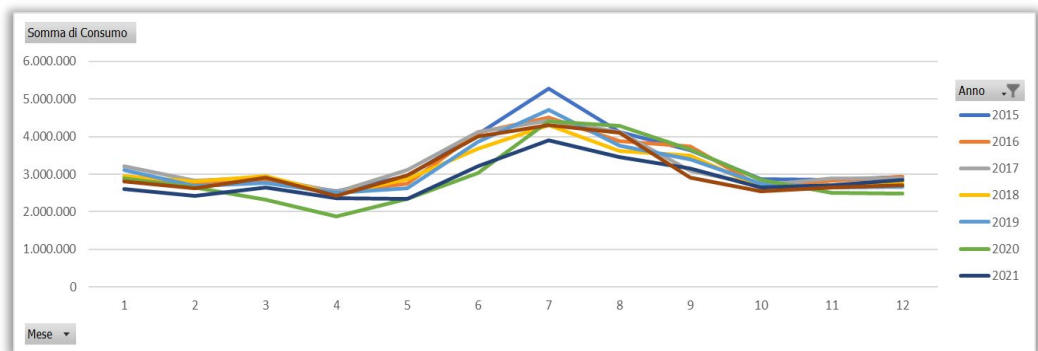
The parameter referring to **CO<sub>2</sub> emitted per person** (tCO<sub>2</sub> eq/person) in 2022, considering only the permanent staff, is 5.01 tCO<sub>2</sub> eq/person, in line with national average emissions; however, also considering doctoral students and fellows, the value drops to 3.41 tCO<sub>2</sub> eq/person, well below the national average.

### 5.3.4 Supplies

Trends in consumption by source and reporting period are presented below.

➤ **Electricity.** In 2022, the total consumption was about 36.9 million kWh, while peaks of about 40 million kWh were reached in the past. At present, it is impossible to know the amount of energy broken down by the different uses (air conditioning, lighting, office equipment, etc.). However, it can be assumed that the largest share of consumption is in the case of air conditioning systems for summer air conditioning and in rooms used as laboratories. In fact, the monthly trend of electricity consumption over the 2015-2022 period (see Fig. 5.13) highlights the impact of the summer use of refrigeration units to ensure occupants' well-being: from June through September, the increase reaches peaks of about 70 percent, from an average value in the June-September period of 3.8 million kWh to 2.7 million kWh in the remaining period. The month of July, moreover, is confirmed to be particularly hot for the Florentine climatic area with the absolute highest peaks in electricity consumption: the analysis suggests that to significantly reduce electric-

ity consumption, the typical heat loads of summer air conditioning need to be reduced, while also promoting correct behavior by occupants. Finally, it should be noted that in 2022,

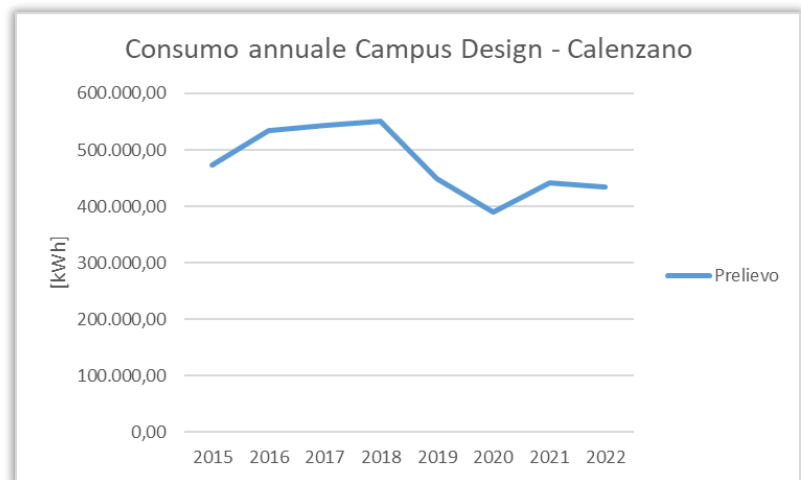


▲Fig. 5.13 - Monthly trend of electricity consumption in Kwh 2015-2022. Source: Energy Manager.

there was a sharp increase in electricity spending (a 254% increase from average spending in the 2015-2019 period - thus excluding the Covid pandemic years - of about 5.5 million euros to more than 14 million euros in 2022) due to the Energy Crisis generated by the post-Covid recovery and the Ukraine-Russia conflict. It clearly emerges, however, that the introduction of real-time consumption monitoring systems (including taking advantage of hourly readings made available by the electricity distributor) is an indispensable tool for consumption reduction and timely detection of inefficiency and waste; the data obtained from monitoring would also enable reliable forecasts of the expected consumption trend.

➤ **Gas for air conditioning and domestic hot water.** The approximately 1,700,000 sm<sup>3</sup> of methane gas meets the energy demand for air conditioning and domestic hot water (DHW) production, which, similar to electricity, makes it impossible to know the respective shares. However, it should be mentioned that in most cases, the production of DHW is carried out using electric boilers, and, therefore, it can be said that almost all-natural gas consumption can be attributed to winter air conditioning. In energy terms (TOE), it went from 1,941 TOE in 2010 to 1,739 in 2019, reduced to 1,420 in 2020, and finally to 1,461 in 2022. Twelve percent of the annual natural gas consumption is purchased on the free market through the tenders of the Region of Tuscany Aggregating Entity. At the same time, the remaining share is covered by the Energy Plus Service contract entered into with the company ENGIE and refers to the most energy-relevant university campuses. The natural gas consumption from May to October is zero. Still, the thermal energy requirements for air conditioning are met by electricity (heat pumps, electric terminals, stoves, mini-split systems, etc.) and, to a lesser extent, by the trigeneration plant of the Careggi University Hospital.

➤ **Biomass district heating.** In the municipality of Calenzano, Estra Clima operates the Biogenera plant, a woody biomass cogeneration system for producing electricity, thermal energy, and localized cooling energy. The district heating network, combined with the plant, which stretches more than 5 km, feeds public utilities, schools, sports grounds, and more than 1,300 residential units that can count on savings of more than 20 percent compared to traditional thermal energy production systems. The network feeds the university's Design Campus at Via Pertini 93 Calenzano (see Fig. 5.14).



▲Fig. 5.14 - Annual trend of thermal energy taken from the district heating network produced from biomass (kWh) 2015-2022. Source: Energy Manager.

### 5.3.5 Energy efficiency interventions

Among the various interventions put in place in 2022 to advance the University's energy efficiency path are:

➤ The **new Agriculture Campus** has been designed to achieve nZEB qualification under Directive 2010/31/EU. It involves relocating to the Science Campus in Sesto Fiorentino, the Department of Agriculture, Food, Environment and Forestry (DAGRI), and the School of Agriculture, currently located in Piazzale delle Cascine in Florence. The intervention consists of constructing multiple buildings interconnected by a series of suspended walkways and pedestrian paths on the ground floor. The project involves using components designed to contain energy consumption, adopting technical measures to minimize nonrenewable energy sources with targeted design, researching systems to rationalize water and materials with low environmental impact, and oriented toward recycling and reuse of resources. The project was developed to comply with the LEED® BD+C v.4 for New Construction (Campus Program - Group Approach) standard to achieve the PLATINUM level of certification.

➤ In 2022, the Buildings Area commissioned the construction of a **technical registry** (Plant and Architectural) with the spatial arrangement of **technological systems and electrical fittings** (light fixtures, etc.). The establishment of the plant registry, in particular, also involved the timely survey of all plant components in individual buildings, noting, for example, the number, type, state of preservation, and, above all, the power absorbed by each individual light point (ceiling light, spotlight, etc.). All detected plant components are clearly indicated in each floor's plans and summarized in an Excel table from which it is possible to quantify the powers of the installed equipment.

➤ Coordinated actions are underway by the Buildings Area to **manage** both indoor and outdoor **lighting** serving university buildings through automation of systems.

➤ A **bicycle path within the Sesto Fiorentino Science Campus**, to be networked with the path built by the City of Sesto Fiorentino toward Florence and Campi Bisenzio, is in the executive design phase.

➤ The **air-conditioning system** (heating and cooling) of the rooms on the Ground Floor of **Villa Ruspoli** (headquarters of the Department of Legal Sciences) has been updated. The building was equipped with a winter heating-only system of the centralized type, with cast-iron

radiators and "column" distribution for both floors into which it is divided. The new air-conditioning system consisting of a VRV heat pump system with outdoor units and indoor units (fan-coils) allows it to fulfill the dual function of winter heating and summer cooling.

In addition, the following projects have been submitted for co-funding by the MUR, which can bring additional benefits in terms of energy efficiency:

- New teaching complex inside the Careggi Campus (which has already obtained co-funding from the MUR).
- Construction of a new building with a modular structure for CETECS and CRIST in the area of the Sesto Fiorentino Science Campus, aimed at addressing the shortage of research space.
- New building resulting from expansion of the "Rise B" building in the Sesto Fiorentino Science Campus.
- Redevelopment of Santa Marta Engineering complex to meet the needs of Engineering Departments: preliminary design for facade rearrangement, replacement of 2,400 m<sup>2</sup> of transparent windows and doors with  $U_w \leq 1.30 \text{ W/m}^2\text{K}$  in glulam with metal elements. A new refrigeration plant, installed at the back between the library and the left body on a pad already prepared for the purpose of ensuring a total power of 1,800.00 kW, is divided into two twin 900 kW machines that can run in parallel.
- Construction of a photovoltaic system within the Med EcoSuRe Pilot Project in the Santa Verdiana University Complex.
- The photovoltaic system of 30 kWp power on the flat roof of the "Old CERM" building.
- 1.3 MWp carport photovoltaic system at the Sesto Fiorentino Science Campus for an annual production of about 1,564,037 kWh, equal to 292 TOE and 565 tCO<sub>2</sub> (4.2% of the University's total electricity needs). Possible implementation of an ERC.
- Design and carry out energy efficiency work on the interior lighting of the Multipurpose Learning Center in Viale Morgagni using LED technology based on the lighting analysis carried out (intervention included in planning). From the analysis, it is possible to estimate a reduction in energy consumption related to lighting service of about 50% equal to 65 TOE and 125 tCO<sub>2</sub>.
- An additional activity being considered by the University concerns the acquisition of Guarantee of Origin (GO) Certification from renewable sources for electricity drawn from the University of Florence's grid.
- A call for tenders has been issued in the Region of Tuscany for constructing and operating electric vehicle charging infrastructure with related charging services in public access areas. Collaborations with public administrations in the Florence metropolitan area will be possible, primarily with the City of Florence, which has expressed interest in the regional initiative to install 129 new electric vehicle charging stations and 173 stations to be retrofitted/upgraded.

## 5.4 Waste management

To combat pollution of water sources and natural habitats, careful waste management (sorting, recovery, disposal) is necessary, according to regulatory, ethical and sustainability criteria.

The proper management of waste is preceded, also by virtue of general principles expressed in European and national law (Legislative Decree 152/2006), by a preventive action, namely that of "reuse," which would eliminate a good portion of accumulated waste and not produce new waste by reserving the process of disposal only for not reusable or recyclable items. A waste ceases to be a waste when it has undergone a recovery operation, including recycling and preparation for reuse. It meets specific criteria to be adopted subject to certain conditions.

Reducing waste generation requires, above all, a responsible and sustainable attitude at the stage of purchasing goods or substances, giving preference to that equipment that, at the end

of their life cycle, except for reuse, is separable, decomposable, and with the maximum possibility of being sent for recovery. Consequently, it would be necessary to compare from the beginning the costs, economic and environmental, to be incurred for destruction. Among the many initiatives implemented by the University to support careful waste management are:

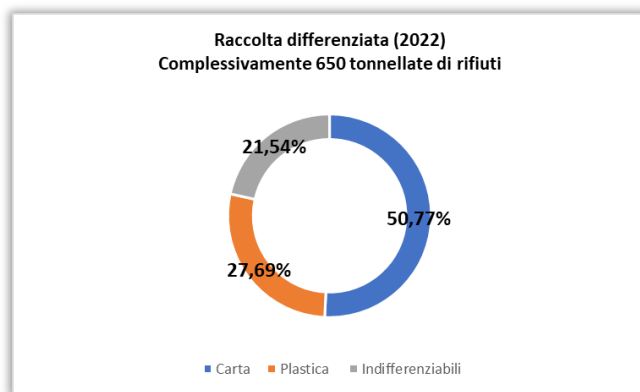
➤ **Management of waste from households:** the university offers citizens, staff, and students the opportunity to dispose of waste from households for materials that cannot be disposed of in the normal collection circuit and takes care of their management and disposal. At some university sites, "Eco-stops" collection points dedicated to small, limited-quantity waste from households are active through a collaboration between the Green Office and Alia. There, one can deposit certain materials that cannot be disposed of in the normal waste collection circuit.

➤ **Eco-stops:** the sorting and separating of commodity components from the collection stage is key to optimizing and maximizing recovery. It is a key step in proper waste management because it allows less environmental impact on the management cycle: the waste can be sent directly to the most suitable sorting, treatment, and disposal operations, reducing the quantity and hazardousness of waste. At the Eco-stops ([map](#)) one can bring waste such as spray cans, expired medicines, small electrical and electronic equipment, spent batteries, toners, and cartridges.

➤ **Participation in the RUS Resources and Waste Working Group:** the University of Florence participates with its contact persons in the Resources and Waste Working Group formed within the RUS (Network of Universities for Sustainable Development), which works on the methods of management (collection, temporary storage, transport, and treatment) of all types of waste produced by universities, in implementation of legislative and technical standards. It also collects and disseminates, from the perspective of the "circular economy," practices aimed at raising awareness on the issue of proper waste management and directing toward behaviors to prevent its production from the very beginning. From the non-use or limited/shared use of certain objects or substances to the virtuous management of goods and materials to extend their useful life as much as possible. The working group has developed the **Format and Reference Guidelines** for drafting documentation related to the transfer of movable property. Resulting from the sharing of best practices of the Italian Universities that are part of the RUS, to facilitate the procedures for the disposal of assets, which represent effective waste prevention actions, a draft regulation was prepared based on the regulatory references that make it possible to dispose of assets in public administrations as an alternative to disposal. Along with the regulation outline, which each university can adapt to its own internal regulations, three annexes have been prepared: the Application Outline for the acquisition of movable property/material by free transfer; the Minutes of Delivery of Movable Property/Material for Free Transfer Outline; and the Transportation Document Outline.

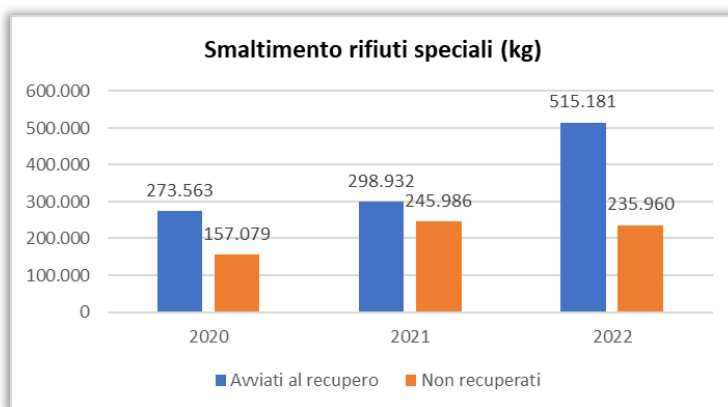
➤ **Waste reduction:** the Green Office has activated programs to reduce paper and plastic use and recycle furniture. Specifically, the projects initiated involved **flasks** (from 2016 to 2022, more than 20 thousand flasks were distributed to avoid water waste and single-use plastic consumption), **cutlery** (in one university cafeteria, disposable plastic cutlery was replaced with washable plastic cutlery), **furniture** (the University implemented actions, primarily to preventively reduce the amount of waste and bulky items to be treated, through initiating new use of redundant items, especially with regard to furniture).

➤ **Recycling within Unifi:** The university offers staff and students the option of disposing of plastic, paper, and glass in recycling containers. Appropriate containers for plastic, paper, and glass are distributed in the various locations of the University, particularly in the [Science](#), [Social Sciences](#), [Biomedical](#), and [Historical Center](#) Campuses. From the assessment made in 2022 on the recycling collection within the University buildings, it is estimated that in the same year, 330 tons of paper, 180 tons of plastic, and 140 tons of unsorted waste (see Fig. 5.15).



▲ Fig. 5.15 - Quantity in tons and percentage by type of waste sorted by UNIFI. Source: Green Office.

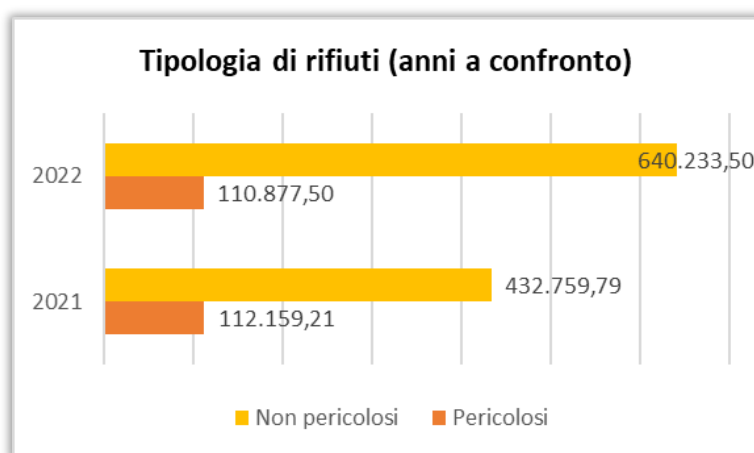
➤ **Special waste:** the University has activated an on-demand service to dispose of special and hazardous waste. The disposal of hazardous and non-hazardous special waste for the year 2022 **totaled 751,111 kg**. The amount of waste **sent for recovery amounts to 515,181 kg, or 68.59%** of the total (in 2021, this percentage had been 55%, although the total amount of waste generated was significantly lower than in 2022) (see Fig. 5.16). In this regard, it



▲ Fig. 5.16 - Quantity in kg, type and destination of special waste generated by UNIFI. Source: Green Office.

should be considered that waste management recovery activities have been carried out in accordance with regulatory principles, that is, by initiating materials into revalorization as much as possible. As for the materials destined for "destruction," these were mainly laboratory waste, i.e., chemical, biological, and other wastes for which it was impossible to trigger the virtuous recovery cycle. Appendix (A.4) shows the possibility of recovery in column D for both categories of waste.

➤ **Metal waste. 13,415 kilograms of metal materials** were sent for **recovery** thanks to the collection and management services of scrap metal, as well as WEEE and other minor services. This is part of a high ethical, social, and environmental impact project entrusted to Il Cerro Social Cooperative, an operator engaged in activities directed at the social reintegration of disadvantaged and fragile individuals.



▲ Fig. 5.17 - Quantities in kg of hazardous and non-hazardous waste generated by UNIFI, years 2021-2022. Source: Green Office.

## 5.5 Water and food management

The rational use, recovery, and saving of water resources is one of the greatest challenges facing us due to the current climate crisis, in which there is an obligation to make choices about how to intervene even in the systems currently in use.

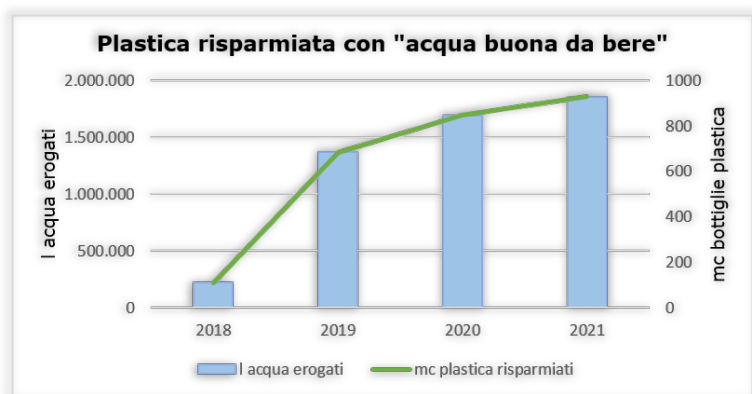
The University has long been active in the careful management of **irrigation of green areas**; for example, a rainwater harvesting system is included in the design of new departmental buildings. In addition, to ensure that the management of living botanical collections does not negatively impact the balance of the ecosystem in which they are embedded, the Botanical Garden has restored a well approximately 10 meters deep to irrigate various tree species. It is now engaged in re-commissioning a large underground cistern to store rainwater collected from the roofs of the buildings (greenhouses and offices) inside the Botanical Garden. This would allow water resources to be stored when rainfall is abundant and place less of a burden on waterworks withdrawal during the spring-summer period.

To reduce disposable plastic and all those processes inherent in the use of water packaged in plastic bottles, the University has installed 35 (8 more than in 2021) **drinking water fountains** ("good drinking water") on its premises. Three additional fountains were provided on loan for use to DSU canteens. The installation of fountains at the Unifi locations is taking place gradually, assessing both the influx of students and the inherent usefulness for locations detached from urban settings or more isolated. In compliance with the extensive regulations on water for human consumption, *good drinking water* taken from our University's distribution facilities is subjected to quality control by laboratory analysis and regulatory requirements.

From the meter readings of the dispensing systems (drinking fountains) installed in the University's buildings, it appears that **from 01.01.2022 to 31.12.2022, 644,776 liters of water were dispensed**, which students, faculty, and technical administrative staff consumed using water bottles (mostly distributed free of charge by the University itself), cups or glasses, thus avoiding the use of plastic bottles. In detail, 644,776 liters of water correspond to about **1,289,552 disposable** half-liter **bottles**, which equals about **644 cubic meters** of plastic. The increase over the past year is about **64 percent**, confirming the University's policies toward reducing the use of plastic bottles, which, moreover, have been eliminated, as far as mineral water is concerned, from all *vending machines* on the various sites.

Regarding food and cafeteria management, the Green Office, together with the activities of the liaisons in the RUS Food Working Group, is also working to **reduce the use of disposable plastic cutlery and tableware in university** cafeterias (which has led to the use of metal cutlery in one cafeteria) and to encourage the appreciation of **sustainable catering** that makes use of non-disposable or at least compostable containers, tableware, cutlery, and glasses.

The Department of Economics and Management (DISEI) research unit is engaged in a project sponsored by the Regional Board for the Right to University Study (DSU), which introduces **more plant-based dishes** to university cafeteria menus than in the past. The goal is to propose health- and environmentally-friendly choices and to calculate, through careful monitoring carried



▲Fig. 5.18 - Total incremental consumption of water delivered by drinking fountains and estimated plastic saved. Source: Green Office.

out by Unifi, the **benefits of CO<sub>2</sub> emission reduction** by comparing the emissions produced by the menu chain from 2019 onward with the trend in the coming years. Given that the Region of Tuscany offers the most extensive student catering service (4 million meals provided annually, of which 1,800.000 directly from the DSU), expanding the plant-based choice represents significant savings in resources, as well as greenhouse gas emissions, as demonstrated in a single evening of experimentation at the Novoli canteen in the summer of 2022 (in collaboration with the MenoPerPiù and EUniWell project): with the introduction of three plant-based dishes, a savings of 439 kg of CO<sub>2</sub> was calculated, **a 75 percent decrease in greenhouse gas emissions compared to that produced by offering standard menus.**

## 5.6 Sustainable mobility

Transportation is considered one of the main levers for the transition of urban systems to sustainable patterns. The European Green Deal has set a goal for member countries to achieve climate neutrality by the end of 2050: by that date, at least 90 percent of transportation must be carbon neutral.

Since 2019, the University of Florence has participated in the activities of the Sustainable Universities Network (RUS) "Mobility" Group, particularly those of the "Innovation and Technology" and "Conventions and Agreements" subgroups. As part of the first subgroup, it collaborated in drafting the Guidelines on Electrification for University Motorized Mobility. It is currently involved in a study on developing MAAS (Mobility as a service) services.

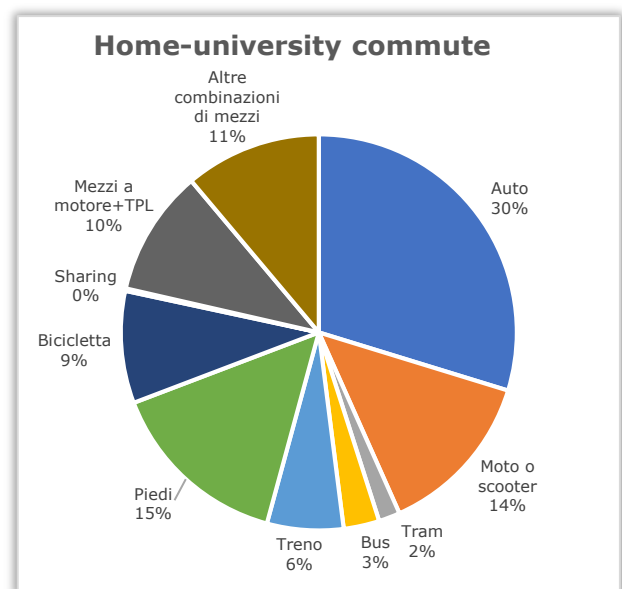
In order to encourage the use of public transportation, since 2018, the University of Florence has been offering students **an annual season ticket to all urban public transportation** for a fee payable at the time of enrollment. Following the takeover of Autolinee Toscane Spa (AT) as the sole LPT operator in Tuscany and the consequent reshaping of fares established in the regional contract, in 2022, the contribution required of all members has been differentiated on an ISEE basis from a minimum of €48 to a maximum of €75, compared to the full cost of the student season ticket, which, in the Florence urban area, is €252. Disabled and lower-income students were issued season tickets free of charge. In addition to the entire urban bus network, which extends from Florence to neighboring municipalities (thus including the campuses of Sesto Fiorentino and Calenzano), the season ticket includes tram lines operated by Gest, on which there are dedicated stops at the university campuses of Novoli, Morgagni and the Careggi polyclinic, as well as regional trains that provide service within the municipality of Florence (10 stations). The cost to support this benefit (one million euros) was equally divided between the University and the Regional Board for the Right to University Education. In 2022, an agreement was also signed between Unifi and AT (active from April 2023) that allows the cost of the season ticket (modulated on an ISEE basis) to be deducted in installments from the paycheck with a discount of 10% for urban and 5% for the suburban one.

In the same year, initiatives were also taken that led to the signing **additional agreements between Unifi and operators of sharing services** (cars and scooters) related to reduced rates for students and employees, which will also be activated in 2023.

To enhance the connection from Florence to the Science Campus in Sesto Fiorentino and the Design Campus in Calenzano, the University has provided a **free shuttle service** (50 seats) for students, faculty, and technical and administrative staff.



In late 2022, the University drafted its third "[Home-Work Travel Plan](#)" (PSCL), the drafting of which was preceded by a **fact-finding survey aimed at understanding the mobility habits in home-university travel** of faculty and researchers, administrative staff, and doctoral and post-doctoral students and fellows, **and the possible propensity to change them in a sustainable direction**. The survey was answered by 60.23% of the 4,951 addressees. The survey (see Fig. 5.19) showed that 78.6 percent of respondents use one mode of travel to work, and the remaining 21.4 percent use a combination of several modes. Preferences vary considerably depending on the locations of affiliation (which for 13.2 percent -mostly faculty/researchers- include one main and one secondary location). On average, for locations in the Municipality of Florence, trips are made using a private motor vehicle by 39 percent of respondents (25 percent car, 14 percent motorcycle/scooter), active forms of mobility by 27.2 percent (17.3 percent walking, 9.9 percent bicycles, and electric micro-vehicles), and public transportation by 33.8 percent (12 percent one vehicle, 5 percent multiple vehicles, 16.8 percent in combination with private vehicles). The locations of Engineering in Santa Marta (51.2 percent) and Medicine in Careggi (52 percent), in particular, are raising the average of car use. This is probably due, especially in the latter case, to the wide availability of parking spaces for staff than to the lack of viable alternatives to reach the location. If we then consider the decentralized locations of Sesto Fiorentino and Calenzano (of which, by the way, the university has not failed to formally point out to the relevant subjects the insufficient coverage and frequent disruptions in LPT services), the percentages are as follows: private motor vehicle 43.3 percent (29.7 percent cars, 13.6 percent motorcycles/scooters), active mobility 24.2 percent (15 percent feet, 9.2 percent bicycles and electric micro-vehicles); LPT 29.5 percent (10.9 percent one vehicle, 5.3 percent multiple vehicles, 13.3 percent combined with private vehicles).



▲Fig. 5.19 - Home-work commute. Source: PSCL 2023.

Another important variable in the transportation mode choice is the distance between home and workplace. The data collected shows that up to 5 km, active modes prevail; between 5 and 40 km, private motor vehicles (car+motorbike) prevail; up to 10 km LPT+active mobility prevails over car travel; over 40 km travel by public transport (alone or in combination with other means) prevails.

Among respondents, the highest degree of satisfaction with the mode routinely used in home-university travel is for motorcycles, followed by active mobility, trams, and, just above sufficiency, cars. On average, regular users of other public transportation (train and, especially, bus) are dissatisfied. However, the responses indicate a very high willingness (85.2 percent) for those who habitually use cars to switch--under certain conditions, including the possibility of taking a season ticket with subsidized fares--to public transportation. Decidedly lower, however (31 percent), is the willingness to switch to bicycles. The survey made it possible to set a **strategy of actions to be implemented in 2023** articulated, as required by the inter-ministerial guidelines for LSPs, on 4 "axes": **disincentivize private car use, favor LPT, favor bicycle mobility and micromobility, and reduce mobility demand**.

An additional questionnaire was administered to students as part of a sample survey conducted in 2022 by LaGeS - Laboratory of Social Geography of the Department of History, Archaeology,

Geography, Fine and Performing Arts (SAGAS). Based on the data collected, it will be possible to move from the Home-Work Travel Plan, referring, by law, to staff travel, to a more articulated Home-University Travel Plan extended to the student component.

The systematic collection of data on the university community's travel patterns, services, and infrastructure facilities at Unifi sites (parking lots, pedestrian paths, etc.) has helped measure **the University's performance in terms of sustainable mobility**, with a **score in the international "GreenMetric" ranking** in 2022 confirming the positive impact of mobility on the University's overall assessment (1250 points obtained in the "Transportation" section out of a total of 7,485 points).

## 5.7 Biodiversity

The Botanical Garden is an actor in multiple sustainability practices, especially related to the area of agronomic management of collections:

- **control** of plant **pathogens** and **pests** and insects harmful to humans by integrating physical, chemical, and biological control methods using predatory and parasitoid antagonist insects and microbiological preparations based on bacteria and nematodes;
- **weeding of graveled driveways** by a combination of physical (mechanical scraping of surfaces) and chemical methods with molecules of natural origin (pelargonic acid) and not harmful to entomofauna;
- **reducing the number of mowing** of grassland areas to ensure the continued presence of feeding areas for pollinating insects and useful entomofauna, and **selective mowing** of grassland areas to ensure the survival and spread of wild orchids and other floristic species of high conservation value.

It also participates in the **research project "OBA.NUTRA.FOOD. Ortobioattivo: agroecology for the sustainable production of nutraceutical vegetables,"** funded by the call to the Support for the implementation of Strategic Plans and the establishment and management of PEI-AGRI Operational Groups under the European Partnership for Innovation in Agricultural Productivity and Sustainability - Rural Development Plan 2014/2020 of the Region of Tuscany. The project has developed a replicable production model that bans the use of chemical inputs and aims to maintain soil organic matter and microbial biodiversity. This knowledge was transferred to more than 600 people and 80 farms in Tuscany in dissemination activities related to food quality and field production, organic-regenerative farming techniques, and sustainable lifestyles.

## 5.8 Communicating sustainability

The University implements various communication and engagement initiatives to promote the reasons, ways, and means of sustainable action. Information on these issues is disseminated through the portal [Sustainable University](#), the [Sustainable University Facebook page](#), related social media, and [UnifiMagazine](#), the University's online magazine.

As part of the 8th International (Virtual) Workshop on UI GreenMetric World University Rankings (IGWM 2022), National Pingtung University of Science & Technology, Chinese Taipei, the proceeding entitled "University and Environmental Health: Green Advancement at the University of Florence Revealed by UI GreenMetric Ranking" has been published.

In 2022, the University participated in the following **sustainability issues forums**, "*11th International Workshop, Advances in Cleaner Production. Roundtable: Plastics and Bioplastics. Benefits, Impacts, Perspectives*"; "*Plastic Waste: Instruction for a Sustainable Future*"; "*Summer School World Environmental Education Congress (WEEC)*"; "*Unifi's Actions for Sustainability*";

*"Moving Toward an Education for Sustainability (or based on SDGs): a Green Advancement at the University of Florence Revealed by UI GreenMetric Ranking."*

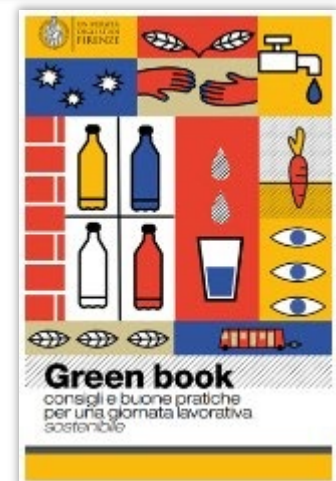
Various **events** involved both students and staff. Specifically:

- the trek titled "Water and nature: two heritages to safeguard," held as part of the national "Climbing for Climate 4" event;
- "Games for a sustainable future," the game as a tool to raise awareness of sustainability issues, at the Festival for Sustainable Development;
- the "Waste Reduction for Green Health" seminar, where the topic of waste management in operating rooms was discussed as part of the European Waste Management Week;
- the workshop "Good Practices for Energy Savings and Well-Being in Universities" at the RUS Energy Working Group meeting, the training course for technical and administrative staff "Corporate Sustainability and Ecological Transition," and participation in the "Firenze cum laude" orientation event, during which 500 insulated water bottles were handed out to students and a sustainability questionnaire was administered.

**Moments of discussion with citizens** on environmental and social sustainability issues are promoted during the [European Research Night](#), and [ScienzEstate](#), an event directed to elementary, middle, and high school students. Other initiatives were carried out in collaboration with student or cultural associations, including in particular [the Caffè-Scienza Association](#). As part of the European Inspires Project, the book, "Waste: instructions for a sustainable future," was presented. In December, a **full day dedicated to energy saving** and researching solutions in the field of renewable energy and consumption reduction was held at Strozzi Hall. In the same month, the **One-Day International Conference "Psychology of Sustainability and Sustainable Development: A Current Research Area,"** during which experts presented various aspects of the Psychology of Sustainability and Sustainable Development as a new and current research area.

The [Green Book](#), is a small online handbook to remind and suggest **good daily habits** to reduce environmental impact.

To make the University of Florence's commitment to environmental sustainability recognizable, the University has adopted a clear **visual identity**. On the Novoli Campus (Building C9), an entire wall houses a mosaic of panels that give back to the university community the overview of Agenda 2030 and the University's good practices. The set-up was made from 60% recycled cardboard and printed film. At university sites with at least one drinking fountain, recognizable panels have been placed at each device. Dialoguing with the entire community, not just the academic one, the University has promoted the use of the seven eco-stops - micro recycling collection zones - with the installation of signage mostly outside the buildings (in the Morgagni, Santa Marta, Sesto Fiorentino, La Torretta, Via Laura, Via Santa Reparata, Calenzano - Design Campus locations). Drinking fountains and eco-stop panels are made of weatherproof aluminum composite material. Finally, to raise awareness of the correct use of resources among users of university spaces, different types of stickers have been designed to be placed in specific locations to remind users to turn off lights and faucets, not waste water unnecessarily, use recycling properly, print as little as possible, and shut off air conditioners. The design of the products, production of the panels, and their posting, in compliance with the Superintendence's constraints on outdoor postings, was entirely financed with university funds.



▲Fig. 5.20 - Visual identity graphic design for the University's commitment to sustainability.

## 6 | Reclassification of income statement

Value added (VA) represents the difference between the value of goods and services and the costs incurred by individual production units in purchasing inputs from other companies. It represents, therefore, the value that the inputs used by the enterprise, capital, and labor, have 'added' to the inputs purchased from outside to obtain a given output. In the case of the University of Florence Financial Statements, Value Added is the wealth produced by the University net of intermediate production costs. It is an economic-social value in that it considers the remuneration of the complex of stakeholders who cooperate in the results of the University.

The determination of VA (see Fig. 6.1) was done by reclassifying the values in the income statement, and in the proposed representation, the two tables indicate its determination and distribution. In the "determination" table, it is possible to grasp the figure of the overall value added generated by the system, with the detail of characteristic operations and extraordinary components. The table also parameterizes the incidence of individual components of the value of production as well as that of intermediate costs.

The VA distribution table (Fig. 6.2) shows the remuneration in financial terms of the various categories of stakeholders (students, staff, public administration, creditors, etc.), in particular, for human resources -typically the entity that absorbs most of the resources for the universities- the value for staff dedicated to research and teaching and that for managerial and technical-administrative staff are shown separately.

<b>I. Own income</b>	106,283,044.70	
<b>II. Contributions</b>	336,472,247.00	
<b>V. Other miscellaneous income and revenues</b>	16,722,995.62	
<b>A) Value produced</b>	<b>459,478,287.32</b>	<b>100.0%</b>
Consumption	9,136,723.28	2.2%
Services	65,681,327.84	15.5%
Use of third-party assets	2,305,482.15	0.5%
Provisions for liabilities and charges	11,468,500.85	2.7%
Sundry operating expenses	514,067.74	0.1%
<b>B) Intermediate production costs</b>	<b>89,106,101.86</b>	<b>21.0%</b>
<b>C) Characteristic value added (A-B)</b>	<b>370,372,185.46</b>	<b>87.4%</b>
<b>D) Below-the-line income and expenses</b>	<b>1,841,784.09</b>	<b>0.4%</b>
<b>E) Overall value added created (C+D)</b>	<b>372,213,969.55</b>	<b>87.8%</b>

▲ Fig. 6.1 - Value Added determination table, year 2022.

<b>A) Staffing Costs</b>	<b>237,567,494.41</b>	<b>63.83%</b>
1) Cost of personnel dedicated to research and teaching	179,632,699.78	48.26%
2) Costs of managerial and technical administrative personnel	57,934,794.63	15.56%
<b>B) Student support</b>	<b>66,019,598.61</b>	<b>17.74%</b>

<b>C) Research and publishing costs</b>	<b>238,599.43</b>	<b>0.06%</b>
<b>D) Transfers to partners of coordinated projects</b>	<b>10,176,259.86</b>	<b>2.73%</b>
<b>E) Contributions to organizations and membership fees</b>	<b>11,336,256.38</b>	<b>3.05%</b>
<b>F) Public Administration Costs</b>	<b>15,692,947.93</b>	<b>4.22%</b>
1) Direct Taxes	13,691,830.98	3.68%
2) Indirect taxes	2,001,116.95	0.54%
<b>G) Cost of Credit Capital (net of financial income)</b>	<b>3,360.60</b>	<b>0.00%</b>
<b>H) Structure costs (depreciation and amortization)</b>	<b>18,728,946.56</b>	<b>5.03%</b>
<b>I) Increase in Net Equity</b>	<b>12,450,505.77</b>	<b>3.34%</b>
<b>J) Overall distributed value added (A+B+C+D+E)</b>	<b>372,213,969.55</b>	<b>100.00%</b>

▲Fig. 6.2 - Value Added distribution table, year 2022.

## A.1 Composition of the University Bodies as of 31/12/2022

### Rector, Vice Rectors, and Delegates

Rector	Alessandra Petrucci
Deputy Vice Rector with responsibility for coordinating regulatory activities	Giovanni Tarli Barbieri
Vice Rector of Research	Debora Berti
Vice Rector of Teaching, Orientation and Student Services	Ersilia Menesini
Vice Rector of Technology Transfer, Cultural Activities and Social Impact	Marco Pierini
Delegate of the valorization of the University's real estate assets and building development planning	Frida Bazzocchi
Delegate of labor relations and teaching staff planning	Luigi Burroni
Delegate of Doctorates and activities of the University Institute for Advanced Studies of the University of Florence	Stefano Cannicci
Delegate of International relations and multilateral agreements	Giorgia Giovannetti
Delegate of Legality and transparency	Erik Longo
Delegate of Budget	Enrico Marone
Delegate of Inclusion and diversity	Maria Paola Monaco
Delegate of organization of sustainable mobility initiatives ( <i>Mobility Manager</i> )	Francesco Alberti
Delegate of Teacher Training	Francesco Ademollo
Delegate of Support to the Organization of Educational Offerings and Course Logistics	Gianni Cardini
Delegate of Job Placement	Francesco Grasso
Delegate of coordination of external relations	Donatella Lippi
Delegate of Performing arts	Teresa Megale
Delegate of educational innovation	Maria Ranieri

### Board of Administrators

President	prof. Alessandra Petrucci
Internal Members	prof. Marco Biffi, Marta Billo, prof. Elisabetta Cerbai, prof. Giovanni Ferrara, prof. Andrea Lippi
External members	prof. Ada Carlesi, Gloria Manghetti, prof. Marco Moretti
Student representatives	Lucrezia Berretti, Niccolò Masiero

### General Manager

General Manager	Marco Degli Esposti
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## Academic Senate

President	prof. Alessandra Petrucci
Biomedical Area Representatives	prof. Francesco Annunziato, prof. Paolo Bonanni, prof. Luca Massacesi, prof. Linda Vignozzi
Social Sciences Area Representatives	prof. Maria Elvira Mancino, prof. Andrea Simoncini, prof. Marco Bontempi, prof. Roberto Bartoli
Science Area Representatives	prof. David Caramelli, prof. Barbara Valtancoli, prof. Riccardo Fanti, prof. Graziano Gentili
Technology Area Representatives	prof. Giuseppe De Luca, prof. Claudio Lubello, prof. Michele Basso, prof. Francesco Ferrini
Humanities and Education Area Representatives	prof. Pierluigi Minari, prof. Paolo Liverani, prof. Fulvio Cervini, prof. Vanna Boffo
Representatives of fixed-term researchers	dr. Alessandra Adessi, dr. Valeria Piano
Representatives of technical and administrative staff	Francesca Di Cosmo, Francesco Oriolo, Lucia Picariello
Student representatives	Eleonora Baldi, Costanza Gasparo, Leopoldo Pizzetti, Jasmine Raffaelli, Jacopo Terralavoro

## Assessment Unit

President	prof. Francesco Giunta
Internal Members	prof. Adelina Adinolfi, prof. Giovanna Del Gobbo
External members	prof. Antonella Paolini, Salvatore Romanazzi, Emanuela Stefani, prof. Nicola Torelli
Student representatives	Mirko Brogi, Anna Renzi

## Board of Auditors

President	Giovanni Natali
MUR representative	Gianluigi Cicolani (full member) Fabio Ciampo (alternate member)
MEF representative	Anita Frateschi (full member), Paolo Novaselich (alternate member)

## Ombudsman

Ombudsman	avv. Alessandra Dapas
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## College of Department Directors

President, Director of the Department of Agriculture, Food, Environment and Forestry (DAGRI)	Simone Orlandini
Director of the Department of Experimental and Clinical Medicine (DMSC)	Francesco Annunziato
Director of the Department of Earth Sciences (DST)	Luca Bindi
Director of the Department of Education, Languages, Interculture, Literatures, and Psychology (FORLILPSI)	Vanna Boffo
Director of the Department of Health Sciences (DSS)	Paolo Bonanni
Director of the Department of Political and Social Sciences (DSPS)	Marco Bontempi
Director of the Department of Biology	David Caramelli
Department of Neuroscience, Psychology, Drug Research and Child Health (NEUROFARBA)	Carlo Dani
Director of the Department of Architecture (DIDA)	Giuseppe De Luca
Director of the Department of Industrial Engineering (DIEF)	Bruno Facchini
Director of the Department of Physics and Astronomy	Duccio Fanelli
Director of the Department of Biomedical, Experimental and Clinical Sciences	Andrea Galli
Director of the Department of History, Archaeology, Geography, Performing and Fine Arts (SAGAS)	Paolo Liverani
Director of the Department of Civil and Environmental Engineering (DICEA)	Claudio Lubello
Director of the Department of Economics and Management (DISEI)	Maria Elvira Mancino
Director of the Department of Humanities (DILEF)	Pierluigi Minari
Director of the Department of Statistics, Computer Science, Applications "G. Parenti" (DISIA)	Carla Rampichini
Director of the Department of Mathematics and Computer Science "Ulisse Dini" (DIMAI)	Luigi Barletti
Director of the Department of Legal Sciences (DSG)	Andrea Simoncini
Director of the Department of Chemistry "Ugo Schiff" (DICUS)	Barbara Valtancoli
Director of the Department of Information Engineering (DINFO).	Enrico Vicario

## Technical Administrative Committee

President	prof. Cecilia Corsi
Full members	prof. Chiara Cudia, prof. Chiara Rapallini, prof. Federigo Bambi, prof. Laura Bini
Adjunct members	prof. Claudio Piferi, prof. Leonardo Casini

## Rights Commission

President	Alessandra Dapas
Members	Gabriella Caminati, Caterina Con- tini, Silvia Ferrini, Micaela Frulli

## Guarantee Act Committee (CUG)

President	Chiara Adembri
Full members, Admin Representatives	Francesca Bucci, Irene Biemmi, Silvia D'Addario, Giacomo Massiach
Full members Trade union representatives	Salvina Di Gangi, Alessandra Pantani, Laura Velatta, Brunella Bandinelli, Priscilla Cioni

## A.2 Personnel numbers as of 31/12/2022

### Teaching and research staff time series

Tenure	2016	2017	2018	2019	2020	2021	2022
<b>Full professors</b>	<b>403</b>	<b>389</b>	<b>387</b>	<b>371</b>	<b>372</b>	<b>384</b>	<b>393</b>
<i>of which full-time</i>	377	365	361	346	347	358	366
<i>of which fixed-term</i>	26	24	26	25	25	26	27
<b>Associate professors</b>	<b>702</b>	<b>697</b>	<b>754</b>	<b>780</b>	<b>800</b>	<b>841</b>	<b>843</b>
<i>of which full-time</i>	671	667	721	743	759	805	804
<i>of which fixed term</i>	31	30	33	37	41	36	39
<b>Permanent researchers</b>	<b>369</b>	<b>343</b>	<b>261</b>	<b>239</b>	<b>184</b>	<b>165</b>	<b>126</b>
<i>of which full-time</i>	346	320	244	224	173	153	116
<i>of which fixed term</i>	23	23	17	15	11	12	10
<b>Fixed-term researchers</b>	<b>193</b>	<b>219</b>	<b>282</b>	<b>277</b>	<b>309</b>	<b>332</b>	<b>434</b>
<i>of which full-time</i>	186	215	277	273	305	328	429
<i>of which fixed term</i>	7	4	5	4	4	4	5
<b>Total</b>	<b>1,667</b>	<b>1,648</b>	<b>1,684</b>	<b>1,667</b>	<b>1,665</b>	<b>1,722</b>	<b>1,796</b>

Source: CSA, data as of 31/12 of each year

### Hires (H) and terminations (T) in the teaching and research staff

Function	2018		2019		2020		2021		2022	
	H	T	H	T	H	T	H	T	H	T
<b>Full profes- sors</b>	38	41	14	30	36	35	43	31	38	28
<b>Associate professors</b>	120	30	67	41	82	62	99	58	60	59
<b>Permanent researchers</b>	0	10	1	23	0	55	0	19	0	39
<b>Fixed-term researchers</b>	150	91	58	63	43	11	108	85	140	38

Source: Proper, data as of 31/12 of each year Both hires and terminations include tenure transitions.

### Technical and administrative staff time series

Function	2016	2017	2018	2019	2020	2021	2022
<b>Executives</b>	<b>9</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>11</b>
<i>of which fixed term</i>	3	3	3	2	2	2	3
<b>Technical and administrative staff</b>	<b>1,512</b>	<b>1,526</b>	<b>1,477</b>	<b>1,463</b>	<b>1,448</b>	<b>1,465</b>	<b>1,436</b>
<i>of which fixed term</i>	49	73	69	68	38	56	75
<i>of which permanent</i>	1,463	1,453	1,408	1,395	1,410	1,409	1,361
<i>of which permanent and full-time</i>	1,218	1,195	1,171	1,183	1,207	1,225	1,208
<i>of which permanent and part-time</i>	245	258	237	212	203	184	153
<b>Readers and Language Collaborators</b>	<b>80</b>	<b>79</b>	<b>79</b>	<b>79</b>	<b>77</b>	<b>74</b>	<b>70</b>
<i>of which fixed term</i>	2	-	-	-	-	-	-
<b>Total</b>	<b>1,601</b>	<b>1,615</b>	<b>1,566</b>	<b>1,552</b>	<b>1,535</b>	<b>1,549</b>	<b>1,506</b>

Source: CSA, data as of 31/12 of each year

### Technical and administrative staff and managers by facility of affiliation and functional area

	Administrative area		Technical Area		Libraries		Social-Healthcare Area		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>General Administration</b>	403	50.4	263	32.9	133	16.6	-	-	799	100.0
<b>Departments</b>	252	47.2	257	48.1	1	0.2	24	4.5	534	100.0
<b>Schools</b>	66	85.7	11	14.3	-	-	-	-	77	100.0
<b>Other autonomous facilities (CLA, LENS)</b>	12	46.2	13	50.0	1	3.8	-	-	26	100.0
<b>Total</b>	<b>733</b>	<b>51.0</b>	<b>544</b>	<b>37.9</b>	<b>135</b>	<b>9.4</b>	<b>24</b>	<b>1.7</b>	<b>1,436</b>	<b>100.0</b>

Source: CSA, data as of 31/12/2022

### Technical and administrative staff and managers by contract type and age group

Type of contract	Age group				Total
	up to 39	40 - 49	50 - 59	60 and over	
<b>Permanent contract</b>	190	349	493	329	<b>1,361</b>
<b>Fixed term</b>	39	24		12	<b>75</b>
<b>Total</b>	<b>229</b>	<b>373</b>	<b>505</b>	<b>329</b>	<b>1,436</b>

Source: CSA, data as of 31/12/2022

## A.3 Number of students enrolled as of 31/12/2022

### Student time series

Enrollees by study programs		F	M	Overall total
<b>Bachelor's degree</b>	2019/2020	16,356	13,649	30,005
	2020/2021	17,068	13,982	31,050
	2021/2022	17,492	13,917	31,409
<b>Master's Degree</b>	2019/2020	5,415	3,856	9,271
	2020/2021	5,845	4,173	10,018
	2021/2022	5,804	4,092	9,896
<b>Single-cycle Master's Degree</b>	2019/2020	6,497	3,041	9,538
	2020/2021	6,626	2,971	9,597
	2021/2022	6,683	2,893	9,576
<b>Former system (4 or 5-year degree)</b>	2019/2020	387	231	618
	2020/2021	352	223	575
	2021/2022	314	200	514

Source: University Statistics Bulletin, n. 11 of 2022

## A.4 Energy consumption and waste disposal

### Energy consumption by complex/block for 2022

Complex/block	Gas	En. El.	Diesel	GAS TOE	TOE EE	Diesel fuel TOE	Total TOEs
	(sm <sup>3</sup> )	(kWh)	(liters)				
VIALE MORGAGNI	286,171	8,871,930	0	234.66	1,659.05	0.00	1,893.71
VIA CITTADELLA	0	37,501	0	0.00	7.01	0.00	7.01
ALFANI-PERGOLA-BRUNELLESCHI	75,610	668,183	8,506	62.00	124.95	9.19	196.14
CALENZANO	0	315,506	0	0.00	59.00	0.00	59.00
REGGELLO	0	3,160	0	0.00	0.59	0.00	0.59
SAN GALLO	24,045	103,379	0	19.72	19.33	0.00	39.05
PORTA ROMANA	38,441	141,522	0	31.52	26.46	0.00	57.99
ARCETRI	20,952	370,980	0	17.18	69.37	0.00	86.55
SANTA REPARATA	4,314	141,454	26,400	3.54	26.45	28.51	58.50
CASCINE	75,275	327,132	0	61.76	61.17	0.00	122.90
SESTO F.NO CAMPUS	504,285	14,821,075	0	413.51	2,771.54	0.00	3,185.05
PONTE DI MEZZO	48	184,230	0	0.04	64.45	0.00	34.49
PIAZZA S. MARCO	190,690	2,095,673	0	156.37	391.89	0.00	548.26
BORGIO ALBIZI	22,730	173,533	0	18.64	32.45	0.00	51.09
VIA LAURA	26,730	559,524	0	21.92	104.63	0.00	126.55
S. NICCOLÒ	16,762	33,652	0	13.74	6.29	0.00	20.04
PRATO	67,452	269,653	0	55.31	50.43	0.00	105.74
P.ZZA INDIPENDENZA	5,680	89,889	0	4.66	16.81	0.00	21.47
NOVOLI	117,107	4,358,033	0	96.03	814.95	0.00	910.98
ARCHITECTURE	53,155	620,335	0	43.59	116.00	0.00	159.59
VILLA CRISTINA	88,873	1,264,800	0	72.88	236.52	0.00	309.39
VIA DELLA TORRETTA	21,475	162,545	0	17.61	30.40	0.00	48.01
VIA MARAGLIANO	10,279	82,456	0	8.43	15.42	0.00	23.85
VIA DONIZETTI	5,504	52,572	0	4.51	9.83	0.00	14.34
VIA DELLE GORE	0	557,976	0	0.00	104.34	0.00	104.34
VIA DELLE QUIETE	17,934	183,265	29,700	14.71	34.27	32.08	81.05
VIA S. BONAVENTURA	35,578	201,011	0	29.17	37.59	0.00	66.76
MESSINA	0	2,383	0	0.00	0.45	0.00	0.45
APARTMENTS AND WAREHOUSES	4,560	6,787	0	3.74	1.27	0.00	5.01
<b>TOTALS</b>	<b>1,713,652</b>	<b>36,700,139</b>	<b>64,606</b>	<b>1,405</b>	<b>6,863</b>	<b>70</b>	<b>8,338</b>

<sup>1</sup> sm<sup>3</sup> to TOE conversion factor 0.00082

<sup>2</sup> kWh to TOE conversion factor 0.000187

<sup>3</sup> liters to TOE conversion factor 0.00108

### University energy consumption by source and related CO<sub>2</sub> emissions (2010-2022)

Anno	EE (Tep)	Gas (Tep)	Gasolio (Tep)	Totale anno (Tep)	CO2 EE	CO2 GAS	CO2 Gasolio	CO2 totale
2010	7.626	1.941	191	9.758	14.722	4.627	611	19.960
2011	7.120	1.940	145	9.205	13.745	4.625	464	18.834
2012	7.199	1.912	98	9.209	13.898	4.558	313	18.769
2013	7.077	1.829	98	9.004	13.662	4.360	313	18.336
2014	6.753	1.763	89	8.605	13.037	4.203	285	17.524
2015	7.583	1.818	103	9.504	14.638	4.334	330	19.303
2016	7.082	1.745	101	8.928	13.672	4.161	322	18.155
2017	7.405	1.725	103	9.233	14.295	4.113	329	18.736
2018	6.965	1.816	101	8.883	13.445	4.331	324	18.100
2019	7.007	1.739	76	8.822	13.528	4.145	244	17.917
2020	6.636	1.421	74	8.132	12.811	3.388	237	16.437
2021	6.415	1.477	80	7.972	12.384	3.521	257	16.162
2022	6.910	1.461	69	8.440	13.340	3.482	222	17.044

### Summary of special waste sent for destruction or recovery for the year 2022

EWC code	Materials and equipment consisting of hazardous and non-hazardous waste, reference year 2022	CT	SF	Total materials collected in kg	Eligibility of even partial recovery	Mass of materials sent for recovery kg	Percentage incidence to Recovery %
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07	N	2	1,030	NO	0	0
02 03 04	waste unsuitable for consumption or processing	N	2	290	YES	290	100%
04 02 22	waste from processed textile fibers	N	2	88	YES	88	100%
06 04 04	waste containing mercury	P	2	58.5	NO	0	0
07 07 01	aqueous washing liquids and mother liquors	P	4	329	NO	0	0
08 01 11	waste paint and varnish containing organic solvents or other dangerous substances	P	2	419	NO	0	0
08 01 21	residual waste paints or varnish removers	P	2	20	NO	0	0
08 03 17	waste printing toner containing dangerous substances	P	2	1,589	NO	0	0
08 04 09	waste adhesives and sealants containing organic solvents or other dangerous substances	P	2	102	NO	0	0
09 01 01	water based developer and activator solutions	P	4	86	NO	0	0
09 01 04	fixer solutions	P	4	36	NO	0	0

11 01 06	acids not otherwise specified	P	4	1	YES	1	100.00
11 01 07	pickling bases	P	4	155	NO	0	0
11 01 16	saturated or spent ion exchange resins	P	2	88	NO	0	0
12 01 01	ferrous metal filings and shavings	N	2	780	NO	0	0
12 01 03	filings, flakes, and dust of nonferrous materials	N	2	460	NO	0	0
12 01 05	plastics filings and shavings	N	2	10	NO	0	0
12 01 09	halogen-free emulsions and solutions for machinery	P	4	317	YES	167	33.67
13 02 04	mineral-based chlorinated engine, gear and lubricating discarded oils	P	4	10	NO	0	0
13 02 05	mineral-based non-chlorinated engine, gear and lubricating discarded oils	P	4	2	NO	0	0
13 02 06	synthetic engine, gear and lubricating discarded oils	P	4	132	NO	0	0
13 02 08	other engine, gear, and lubrication oils	P	4	161	NO	0	0
14 06 02	Other halogenated solvents and solvent mixtures	P	4	4,915	NO	0	0
14 06 03	other solvents and solvent mixes	P	4	5,016	NO	0	0
15 01 01	paper and cardboard packaging	N	2	400	YES	20	100.00
15 01 02	plastic packaging	N	2	394	YES	15	3.81
15 01 03	wooden packaging	N	2	551	YES	551	100.00
15 01 04	metallic packaging	N	2	113	NO	0	0
15 01 06	mixed material packaging	N	2	32,975	YES	31,575	95.75
15 01 07	glass packaging	N	2	10	NO	0	0
15 01 10	packaging containing residues of or contaminated by dangerous substances	P	2	11,015.5	YES	723	6.56
15 01 11	Metallic packaging containing a hazardous solid porous matrix (e.g. asbestos), including empty pressure containers	P	2	40	YES	40	100.00
15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	P	2	5,751	YES	390	6.78
16 01 03	end-of-life tyres	N	2	450	YES	450	100.00
16 01 17	ferrous metal	N	2	26	YES	26	100.00
16 02 11	end-of-life equipment, containing chlorofluorocarbons, HCFCs, HFCs	P	2	4,764	YES	4,764	100.00
16 02 12	discarded equipment containing free asbestos	P	2	133	YES	133	100.00

16 02 13	Discarded equipment containing hazardous components (1) other than those mentioned in 16 02 09 and 16 02 12	P	2	11,469	YES	11,469	100.00
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	N	2	56,219	YES	56,219	100.00
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	N	2	164	YES	164	100.00
16 03 04	inorganic wastes other than those mentioned in 16 03 03	N	2	630	NO	0	0
16 03 05	organic waste containing dangerous substances	P	2	1,349	NO	0	0
16 03 05	organic waste containing dangerous substances	P	3	1,068	NO	0	0
16 03 06	Organic waste other than those mentioned in 16 03 05	N	2	80	NO	0	0
16 05 04	gases in pressure containers (including halons) containing hazardous substances	P	2	42	YES	42	100.00
16 05 05	gases in pressure vessels other than those mentioned in 16 05 04	P	2	220	YES	220	100.00
16 05 06	laboratory chemicals containing or consisting of hazardous substances, including mixtures of laboratory chemicals	P	2	1,481.5	NO	0	0
16 05 06	laboratory chemicals containing or consisting of hazardous substances, including mixtures of laboratory chemicals	P	4	10,152	NO	0	0
16 06 01	lead batteries	P	2	407	YES	407	100.00
16 06 02	nickel cadmium batteries	P	2	23	YES	23	100.00
16 06 04	alkaline batteries (except 16 06 03)	N	2	63	YES	63	100.00
16 06 05	other batteries and accumulators	N	2	253	YES	19	100.00
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	N	4	120	NO	0	0
17 02 01	wood	N	2	52,675	YES	52,675	100.00
17 02 03	plastic	N	2	661	NO	0	0
17 03 01	bituminous mixtures containing coal tar	P	2	220	YES	220	100.00
17 04 05	iron and steel	N	2	78,123	YES	78,123	100.00
17 04 07	mixed metals	N	2	40	YES	40	100.00
17 04 11	cables other than those mentioned in 17 04 10	N	2	93	YES	93	100.00
17 05 03	soil and stones containing dangerous substances	P	2	310	NO	0	0
17 05 04	soil and stones other than those mentioned in 17 05 03	N	2	3,574	YES	2,059	57.61

17 06 01	insulation materials containing asbestos	P	2	5	NO	0	0
17 06 03	other insulation materials consisting of or containing hazardous substances	P	2	555	NO	0	0
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	N	2	250	YES	200	80.00
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01	N	2	1,120	YES	1,120	100.00
17 09 04	mixed construction and demolition waste other than that mentioned in 17 09 01, 17 09 02 and 17 09 03	N	2	15,905	YES	14,905	93.71
18 01 03	waste whose collection and disposal is subject to special requirements in order to prevent infection	P	2	3,9527	NO	0	0
18 01 03	waste whose collection and disposal is subject to special requirements in order to prevent infection	P	4	5,963	NO	0	0
18 02 02	waste whose collection and disposal is subject to special requirements in order to prevent infection	P	2	2,354	NO	0	0
19 09 05	saturated or spent ion exchange resins	N	2	10	NO	0	0
20 01 01	paper and cardboard	N	2	199,178	YES	199,178	100.00
20 01 02	glass	N	2	37	NO	0	0
20 01 10	clothing	N	2	40	NO	0	0
20 01 19	pesticides	P	2	55	NO	0	0
20 01 21	fluorescent tubes and other mercury-containing waste	P	2	421	YES	421	100.00
20 01 25	edible oils and fats	N	4	24	YES	24	100.00
20 01 29	detergents containing dangerous substances	P	3	1	NO	0	0
20 01 31	cytotoxic and cytostatic medicines	P	2	115	YES	115	100.00
20 01 38	wood other than that mentioned in 20 01 37	N	2	600	YES	600	100.00
20 02 01	biodegradable waste	N	2	31,660	YES	6,020	100.00
20 03 07	bulky waste	N	2	161,138	YES	51,529	31.98%
<b>Number of disposals made for hazardous and non-hazardous waste</b>							<b>751,111</b>
<b>Quantity of waste sent for recovery for the year 2021</b>							<b>515,181</b>
<b>Percentage of waste sent for recovery in %</b>							<b>68.59</b>



**Consumption of drinking water dispensers (consumption readings in liters on the dates indicated)**

<b>Location</b>	<b>30.11.18</b>	<b>10.12.19</b>	<b>30.08.20</b>	<b>01.09.21</b>	<b>31.12.21</b>	<b>01.04.22</b>	<b>31.12.22</b>
Via Capponi, 9	5,055	22,000	25,000	25,264	26,870	28,650	41,993
Forlilpsi, Via Laura, 48	5,500	77,000	84,000	84,000	85800	87605	105,369
Dida, Piazza Ghiberti, 27	7,400	48,000	56,000	56,000	60,170	64,948	89,562
Humanities Library, Piazza Brunelleschi, 4	3,611	45,000	58,000	58,148	64,580	72,419	109,556
Via Santa Reparata, 93	7,643	7,000	9,000	9,000	9,480	10,895	12,073
Science Library, Via Sansone, Sesto Fiorentino	10,500	38,000	49,000	49,057	53,444	57,549	84,341
Via della Torretta, 16 complex	7,054	24,000	28,000	28,100	28,740	31,843	50,545
Viale Morgagni Complex, ground floor	4,300	49,000	56,000	58,365	61,220	64,119	94,039
Viale Morgagni Complex, first floor	11,450	79,000	94,000	94,000	102,620	111,645	164,090
Biomedical Library - Largo Brambilla, 3	7,400	36,500	44,000	44,249	48,279	51,923	68,382
Dept. of Statistics, Viale Morgagni, 59	7,190	21,000	27,000	27,000	29,100	31,200	102,689
Novoli D4 Campus	6,600	20,000	25,000	25,000	27,077	29950	52,633
Novoli D5 Campus	6,177	17,000	23,000	23,000	23,400	25,350	32,257
Novoli D6 Campus	5,200	33,000	38,000	41,592	43,415	46,250	72,096
Social Sciences Library, Novoli Campus - Via Pandette, 2	2,200 (Sept-Nov 2018)	78,000	94,000	96,282	104,520	113,904	176,759
Rector's Headquarters Piazza San Marco, 4	5,700	24,000	33,000	33,660	36,463	39,213	53,364
School of Engineering, Santa Marta, 3	7,800	62,000	75,000	75,386	82,440	90,855	126,348
Dept. of Mathematics, Viale Morgagni, 67A	-	1,800	8,000	8,036	10,893	13,491	29,385
Neurofarba, Viale Morgagni, 57	-	100	1,000	1,020	1,150	1,359	2,666

Agriculture, Piazzale delle Cascine, 18	-	900	7,000	7,570	10,822	13,527	25,663
Via della Pergola, 58 Complex	-	1,000	3,000	3,207	4,655	6,146	11,594
Via San Gallo, 10 Complex	-	-	1,000	1,426	2,376	3,266	8,129
Agriculture, Quaracchi	-	-	1,500	2,460	3,853	6,160	15,642
Via la Pira, 4 Complex	-	-	2,000	2,220	7,017	11,517	32,135
Dida's Design Campus, Via S. Pertini, Calenzano	-	-	-	-	-	-	12,152
Lab. Of Thermophysics, Ind. Engineering, Via Vittorio Emanuele 32, Calenzano	-	-	-	-	-	-	5,872
Cubo, Pieraccini Avenue, 6	-	-	-	-	-	-	14,334
Dida, Via della Mattonaia, 8	-	-	-	-	-	-	10,868
SIAF, Via delle Gore, 2	-	-	-	-	-	-	2,540
Via della Lastruccia, 3-13, Sesto F.no	-	-	-	-	-	-	15,836
Agraria Novoli Campus C9	-	-	-	-	-	-	6,194
Piazza Indipendenza, 8	-	-	-	-	-	-	758
CERM Via L. Sacconi, 6, Sesto F.no	-	-	-	-	-	-	1,000
CTF Via della Lastruccia, 3, Sesto F.no	-	-	-	-	-	-	842
Incubator Via Madonna del Piano, 6 Sesto F.no	-	-	-	-	-	-	134
Botanical Garden, Via Micheli, 3	-	-	-	-	-	-	502
Dida, Via P.A. Micheli, 2	-	-	-	-	-	-	1,502
<b>Total consumption</b>	<b>110,780</b>	<b>684,300</b>	<b>846,500</b>	<b>854,042</b>	<b>928,384</b>	<b>1,013,784</b>	<b>1,633,844</b>
<b>Total consumption per period</b>	<b>110,780 through 30/11/18</b>	<b>573,520 from 30/11/18 to 10/12/19</b>	<b>157,200 from 10/12/19 to 30/08/20</b>	<b>12,902 from 30/08/20 to 01/09/21</b>	<b>73,982 from 01/09/21 to 31/12/21</b>	<b>85,400 from 01/09/21 to 31/12/21</b>	<b>620,060 from 01/04/22 to 31/12/22</b>

## A.5 Reporting index according to GRI standards

Statement of Use	The University of Florence has reported the information cited in this GRI content index for the period from 1 January 2022 to 31 December 2022 with reference to the GRI Standards				
Using GRI1, GRI2, GRI3	GRI1: Core Principles 2021 GRI2: General Disclosures 2021 GRI3: Material Issues 2021				
Relevant Industry GRI Standards	GRI 201: Economic performance - 2016 version GRI 202: Market presence - 2016 version GRI 203: Indirect economic impacts - 2016 version GRI 204: Procurement practice - 2016 version GRI 205: Anti-corruption - 2016 version GRI 207: Taxes - 2019 version GRI 301: Materials - 2016 version GRI 302: Energy - 2016 version GRI 303: Water and effluents - 2018 version GRI 304: Biodiversity - 2016 version GRI 305: Emissions - 2016 version GRI 306: Waste - 2020 version GRI 308: Environmental assessment of suppliers - 2016 version GRI 401: Employment - 2016 version GRI 402: Labor and union relations management - 2016 version GRI 403: Occupational health and safety - 2018 version GRI 404: Training and education - 2016 version GRI 405: Diversity and Equal Opportunities - 2016 version GRI 406: Non-discrimination - 2016 version GRI 407: Freedom of association and collective bargaining - 2016 version GRI 410: Security practices - 2016 version GRI 413: Local communities - 2016 version GRI 414: Social evaluation of suppliers - 2016 version GRI 415: Public policy - 2016 version GRI 416: Customer health and safety - 2016 version GRI 417: Marketing and labeling - 2016 version GRI 418: Customer privacy - 2016 version				
STANDARD GRI/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		REF. No.: GRI INDUSTRY STANDARD
			OMITTED REQUIREMENTS	REASON	EXPLANATION
General disclosures					
GRI 2 - General Disclosures - version 2021	2-1 Organizational details	Section 1			
	2-2 Entities included in the organization's sustainability reporting	Section 2, specifically 2.6			
	2-3 Reporting period, frequency and contact person	Cover and Introduction			<a href="#">Budget Delegate Delegate for inclusion and diversity policies</a>
	2-4 Restatement of information	Introduction			

	2-5 External Assurance	Introduction				
	2-6 Activities, value chain and other business relationships	Section 4				
	2-7 Employees	3.2, 3.3				
	2-8 Non-employee workers				There are a number of interns and staff from outside firms for doorkeeping and maintenance, with whom service contracts have been concluded (found in <a href="#">Transparent Administration</a> )	
	2-9 Governance structure and composition	Section 2, specifically 2.1				
	2-10 Appointment and selection of the highest governing body	2.1			<a href="#">Statute Title II, Chapter I</a>	
	2-11 President of the highest governing body	2.1			<a href="#">Statute Title II, Chapter I</a>	
	2-12 Role of the highest governing body in impact management control	2.1			<a href="#">Statute Title II, Chapter I</a>	
	2-13 Delegation of responsibility for impact management	2.1			<a href="#">Statute Title II, Chapter I</a>	
	2-14 Role of the highest governing body in sustainability reporting				The Social Report is approved by the <a href="#">Academic Senate</a> and by the <a href="#">Board of Administrators</a>	
	2-15 Conflicts of Interest	1.3.3				
	2-16 Communication of critical issues	2.1			Specifically, the requested information can be found in the section <a href="#">Ombudsman</a> and <a href="#">Public Relations Office</a> on the organization's website	
	2-17 Collective knowledge of the highest governing body	Section 1			Constant updating on sustainability issues is ensured through specific <a href="#">delegations</a> and participation in national and international collaborative networks ( <a href="#">Sustainable University</a> )	
	2-18 Performance evaluation of the highest governing body				<a href="#">Performance Report</a> , <a href="#">Evaluation proposal General Manager</a>	

	2-19 Rules concerning pay	Section 3			Separate national standards for contracted personnel and personnel under public law and collective agreements	
	2-20 Pay determination procedure	Section 3			Information can be found in the section <a href="#">Transparent Administration</a> on the organization's website.	
GRI 2 - General Disclosures - version 2021	2-21 Annual total pay ratio	Section 3		Incomplete information	As indicated, the data requested here are public and included in the appropriate section <a href="#">Transparent Administration</a> e <a href="#">Economic Treatment</a> , of the organization's website. We believe that the calculation of ratios suggested in this disclosure does not add value to the social report for an organization of our type	
	2-22 Sustainable development strategy statement	1.3			<a href="#">Integrated Plan of Activities and Organization</a> and <a href="#">Strategic Plan</a>	
	2-23 Policy Commitment	1.3			<a href="#">Integrated Plan of Activities and Organization</a> and <a href="#">Strategic Plan</a>	
	2-24 Integration of policy commitments	1.3, Section 3				
	2-25 Processes to remedy negative impacts	2.1, Section 3			Specifically, the requested information can be found in the section <a href="#">Ombudsman</a> and <a href="#">Public Relations Office</a> on the organization's website	
	2-26 Mechanisms for requesting clarification and raising concerns				Specifically, the requested information can be found in the section <a href="#">Ombudsman</a> and <a href="#">Public Relations Office</a> on the organization's website	
	2-27 Compliance with laws and regulations		2-27	Not applicable	There were no significant cases of noncompliance, and no penalties were paid during the reporting period	
	2-28 Membership in associations	4.3.1				
	2-29 Approach to stakeholder engagement	Section 3				
	2-30 Collective bargaining agreements		2-30	Not applicable	All PA employees (permanent and fixed term) are framed in the Collective Bargaining National Contract, University and Research sector	
	Material issues					

GRI 3 - Material Issues - 2021	3-1 Process of determining material themes	Introduction		Incomplete information	Material themes were determined through internal analysis.	
	3-2 List of material issues	This table				
TOPIC	ECONOMIC PERFORMANCE					
GRI 3 - Material Issues - 2021	3-3 Management of material issues	Introduction				
GRI 201: Economic Performance - 2016	201-1 Direct economic value generated and distributed				<a href="#">Joint operating budget 2022</a>	
	201-2 Financial implications and other risks and opportunities resulting from climate change	5.2, 5.3, 5.4, 5.5, 5.6				
GRI 201: Economic Performance - 2016	201-3 Obligations regarding defined benefit and other plans			Not applicable	We are dependent on national regulations from which we do not differ	
	201-4 Financial support received from the government				<a href="#">Joint operating budget 2022</a>	
TOPIC	MARKET PRESENCE					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	Introduction				
GRI 202: Market Presence - 2016	202-1 Ratio of standard basic wages by gender to local minimum wage			Not applicable	For reasons related to national regulations (non-existence of a minimum wage), it is not possible to calculate the ratio	
	202-2 Percentage of senior management hired by drawing from the local community			Not applicable	For reasons related to hiring regulations, discrimination in personnel selection based on geography is not possible	
TOPIC	INDIRECT ECONOMIC IMPACTS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.1 Introduction				
GRI 203: Indirect economic impacts - 2016	203-1 Investment in infrastructure and supported services	4.3, 5.1				
	203-2 Significant indirect economic impacts	4.3				
TOPIC	PROCUREMENT PRACTICES					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	5.3, Introduction				

GRI 204: Procurement practice - 2016	204-1 Proportion of expenditure made to local suppliers		204-1	Not applicable	For reasons related to procurement regulations, it does not appear possible to discriminate in the selection of suppliers on a geographical basis	
TOPIC	ANTI-CORRUPTION					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.2, 1.3.3, Introduction			<a href="#">Three-Year Plan for the Prevention of Corruption and Transparency</a>	
GRI 205: Anti-corruption - 2016	205-1 Operations assessed to determine corruption-related risks				Information can be found in the <a href="#">Three-Year Plan for the Prevention of Corruption and Transparency</a> and in the <a href="#">Report of the Head of Corruption Prevention and Transparency</a>	
	205-2 Communication and training on anti-corruption regulations and procedures				Information can be found in the <a href="#">Code of Ethics</a> , in the <a href="#">Code of Conduct</a> and the <a href="#">Report of the Head of Prevention of Corruption and Transparency</a>	
	205-3 Confirmed incidents of corruption and measures taken		205-3	Not applicable	There were no confirmed incidents of corruption during the reporting period	
TOPIC	TAXES					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	Introduction				
GRI 207: Taxes - 2019	207-1 Approach to taxes			Not applicable	The university institution cannot set an autonomous policy and strategy related to taxes	
	207-2 Governance related to tax, control, and risk management			Not applicable	The university institution cannot set an autonomous policy and strategy related to taxes	
	207-3 Stakeholder engagement and management of tax-related concerns			Not applicable	The university institution cannot set an autonomous policy and strategy related to taxes	
	207-4 Reporting by Country			Not applicable	The academic institution does not have any foreign branches and is therefore subject only to domestic tax jurisdiction	
TOPIC	MATERIALS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.2, Introduction				
GRI 301: Materials - 2016	301-1 Materials used by weight or volume	5.4			Section 5.4 of the SR details the waste management policies. There is currently	

					insufficient additional data to complete this entry.	
	301-2 Recycled input materials used	5.4			Section 5.4 of the SR details the waste management policies. There is currently insufficient additional data to complete this entry.	
	301-3 Recovered products and their packaging materials			Not applicable	Not related to institutional activities	
TOPIC	ENERGY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.2, Introduction				
GRI 302: Energy - 2016	302-1 Internal energy consumption within the organization	5.3, 5.3.1, 5.3.2, 5.3.4				
	302-2 Energy consumption external to the organization			Not available	No such surveys have been carried out	
	302-3 Energy Intensity	5.3		Incomplete information	Section 5.3 of the SR details energy consumption management policies. There is currently insufficient additional data to complete this entry.	
	302-4 Reduction in energy consumption	5.3.5				
	302-5 Reductions in the energy requirements of products and services	5.3.5				
TOPIC	WATER AND EFFLUENTS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, Introduction				
GRI 303: Water and Effluents - 2018	303-1 Interactions with water as a shared resource	5.5				
	303-2 Management of impacts related to water discharge			Not applicable	The drains comply to the extent that we are in the public water supply	
	303-3 Water collection			Not available	The figure is calculated but is not in any public document	
	303-4 Water Drainage			Not available	The drains comply to the extent that we are in the public water supply	
	303-5 Water consumption			Not available	The figure is calculated but is not in any public document	
TOPIC	BIODIVERSITY					



GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, Introduction				
GRI 304: Biodiversity - 2016	304-1 Operational sites owned, leased, or managed in protected areas and areas of high biodiversity value outside protected areas or near such areas	5.7			<a href="#">Val di Rose Oasis Botanical Garden</a> <a href="#">Montepaldi Farm</a>	
	304-2 Significant impacts of activities, products, and services on biodiversity	4.6.2, 5				
	304-3 Protected or restored habitats	4.6.2, 5				
	304-4 National Preservation List and IUCN Red List species with habitats in areas affected by operations	5.7			<a href="#">Index Seminum 2020-21</a>	
TOPIC	EMISSIONS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.3, Introduction				
GRI 305: Emissions - 2016	305-1 Direct greenhouse gas (GHG) emissions (Scope 1)	5.3, 5.3.3 Appendix A.4		Incomplete information	The data refer to CO <sub>2</sub> emissions only since, as detailed in section 5.3, they make up more than 99% of total emissions	
	305-2 indirect from energy consumption greenhouse gas (GHG) emissions (Scope 2)			Incomplete information	The data refer to CO <sub>2</sub> emissions only since, as detailed in section 5.3, they make up more than 99% of total emissions	
	305-3 Other indirect greenhouse gas (GHG) emissions (Scope 3)			Incomplete information	The data refer to CO <sub>2</sub> emissions only since, as detailed in section 5.3, they make up more than 99% of total emissions	
	305-4 Intensity of greenhouse gas (GHG) emissions			Not available	We do not currently have the data needed for this calculation	
	305-5 Reduction of greenhouse gas (GHG) emissions	5.3.5				
	305-6 Emissions of ozone-depleting substances (ODS)				Not available	We do not currently have the data needed for this calculation

	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other relevant air emissions			Not available	We do not currently have the data needed for this calculation	
TOPIC	WASTE					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.4, Introduction				
GRI 306: Waste - 2020	306-1 Waste generation and significant waste-related impacts	5.4, Appendix A.4				
	306-2 Management of significant waste-related impacts	5.4, Appendix A.4				
	306-3 Waste generated	5.4, Appendix A.4				
	306-4 Waste not landfilled	5.4, Appendix A.4				
	306-5 Waste sent to landfills	5.4, Appendix A.4				
TOPIC	ENVIRONMENTAL ASSESSMENT OF SUPPLIERS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.2, Introduction				
GRI 308: Environmental assessment of suppliers - 2016	308-1 New suppliers that were selected using environmental criteria	5.2				
	308-2 Negative environmental impacts in the supply chain and measures taken		308-2	Not applicable	There were no manifest cases of negative environmental impact in the supply chain during the reporting period	
TOPIC	EMPLOYMENT					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	3.2, 3.3, Introduction				
GRI 401: Employment - 2016	401-1 Recruitment of new employees and employee turnover	3.2, 3.3, 4.2.1			Human Resources Strategy for Researchers ( <a href="#">HRS4R</a> )	
	401-2 Benefits for full-time employees that are not available to temporary or part-time employees				Information to this effect is posted on the page related to <a href="#">Staff</a> and <a href="#">Economic Benefits</a>	
	401-3 Parental leave				Specific information posted on the page related to the <a href="#">Parental Leave</a> and to the <a href="#">Employment Contract</a>	
TOPIC	LABOR AND UNION RELATIONS MANAGEMENT					

GRI 3 - Material Issues - 2016	3-3 Management of material issues	3.2, 3.3, Introduction				
GRI 402: Labor and labor relations management - 2016	402-1 Minimum notice periods regarding operational changes				The notice period and provisions for consultation and negotiation are always specified in the agreements, specifically you can refer to the page <a href="#">Labor Relations</a>	
TOPIC	OCCUPATIONAL HEALTH AND SAFETY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.4, Introduction				
GRI 403: Occupational health and safety - 2018	403-1 Occupational Health and Safety management system				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-2 Hazard identification, risk assessment and accident investigation				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-3 Occupational health services	1.3.4			Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-4 Worker participation and consultation on occupational health and safety programs and related communication				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-5 Worker training on occupational health and safety				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-6 Workers' health promotion	1.3.4			Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-7 Prevention and mitigation of occupational health and safety impacts directly related by business relationships				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-8 Workers covered by an occupational health and safety management system				Detailed information can be found at the <a href="#">Ateneo Sicuro</a>	
	403-9 Work-related injuries				Not applicable	Data not available
	403-10 Occupational Illness				Not applicable	Data not available
TOPIC	TRAINING AND EDUCATION					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, Introduction				

GRI 404: Training and education - 2016	404-1 Average number of training hours per year per employee				The data is monitored and reported to the relevant public entities	
	404-2 Employee skills upgrading and transition assistance programs	3.2, 3.3			More information can be found at the pages of the <a href="#">Training Office</a>	
	404-3 Percentage of employees who receive periodic evaluations of their performance and professional development	The entire body of employees is constantly evaluated			The entire body of employees is constantly evaluated	
TOPIC	DIVERSITY AND EQUAL OPPORTUNITY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.2, Introduction			More information in the <a href="#">Gender Equality Plan</a>	
GRI 405: Diversity and equal opportunity - 2016	405-1 Diversity in governing bodies and among employees	3.2, 3.3			More information in the <a href="#">Gender Report</a>	
	405-2 Ratio of basic wage and salary of women to men		405-2	Not applicable	There are no wage differentials by gender	
TOPIC	NON-DISCRIMINATION					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.2, 1.3, 1.3.2, Introduction			More information in the <a href="#">Positive Action Plan</a>	
GRI 406: Non-discrimination - 2016	Incidents of discrimination and corrective measures taken		406-1	Not applicable	No episodes were detected	
TOPIC	FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	3.3, 3.4, Introduction				
GRI 407: Freedom of association and collective bargaining - 2016	407-1 Activities and suppliers at which the right to freedom of association and collective bargaining may be at risk		407-1	Not applicable	No evidence of activities and suppliers that respond to the issue at hand	
TOPIC	SAFETY PRACTICES					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.4, Introduction				
GRI 410: Security Practices - 2016	410-1 Security personnel who have been trained in human rights practices or procedures				The figure is monitored but not reported; the data available are in <a href="#">Ateneo Sicuro</a>	
TOPIC	LOCAL COMMUNITIES					

GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.1, 3.5, 4.3, 4.4, Introduction				
GRI 413: Local Communities - 2016	413-1 Operations with local community involvement, impact assessments, and development programs	4.4, 5.8				
	413-2 Operations with significant actual and potential impacts on local communities	2.5, 2.6, Section 4, Section 5				
TOPIC	SOCIAL EVALUATION OF SUPPLIERS					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.6, 5.2, Introduction				
GRI 414: Social assessment of suppliers - 2016	414-1 New suppliers that were selected using social criteria	5.2				
	414-2 Negative social impacts in the supply chain and actions taken		414-2	Not applicable	No evidence of negative social impacts on the supply chain	
TOPIC	PUBLIC POLICY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	Introduction				
GRI 415: Public Policy - 2016	415-1 Political Contributions		415-1	Not applicable	The institution is apolitical	
TOPIC	CUSTOMER HEALTH AND SAFETY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	1.3.4, Introduction				
GRI 416: Customer health and safety - 2016	416-1 Assessment of health and safety impacts of categories of products and services	1.3.4			More information can be found in <a href="#">Ateneo Seguro</a>	
	416-2 Incidents of noncompliance regarding health and safety impacts of products and services		416-2	Not applicable	No incidents were detected	
TOPIC	MARKETING AND LABELING					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	Introduction				
GRI 417: Marketing and labeling - 2016	417-1 Labeling requirements and information on products and services		417-1	Not applicable	The institution's products and services are not subject to labeling	

	417-2 Incidents of noncompliance concerning labeling and information on products and services		417-2	Not applicable	The institution's products and services are not subject to labeling	
	417-3 Incidents of noncompliance concerning marketing communications		417-3	Not applicable	The institution's products and services are not subject to labeling	
TOPIC	CUSTOMER PRIVACY					
GRI 3 - Material Issues - 2016	3-3 Management of material issues	Introduction			Information on the <a href="#">Privacy Policy</a> page and in the <a href="#">Personal Data Protection Regulation</a>	
GRI 418: Customer Privacy - 2016	418-1 Founded complaints regarding breaches of customer privacy and loss of customer data		418-1	Not applicable	The institution did not find any complaints or violations on the subject	

