

Fonte: il presente documento di reportistica di sostenibilità è stato scaricato dal sito dell'Alma Mater Studiorum – Università di Bologna al seguente link: https://www.unibo.it/it/ateneo/chisiamo/bilancio-di-sostenibilita/reporting-on-united-nations-sustainable-development-goals

REPORT ON U.N. SUSTAINABLE U.N. SUSTAINABLE DEVELOPMENT GOALS

2016



ALMA MATER STUDIORUM Università di Bologna



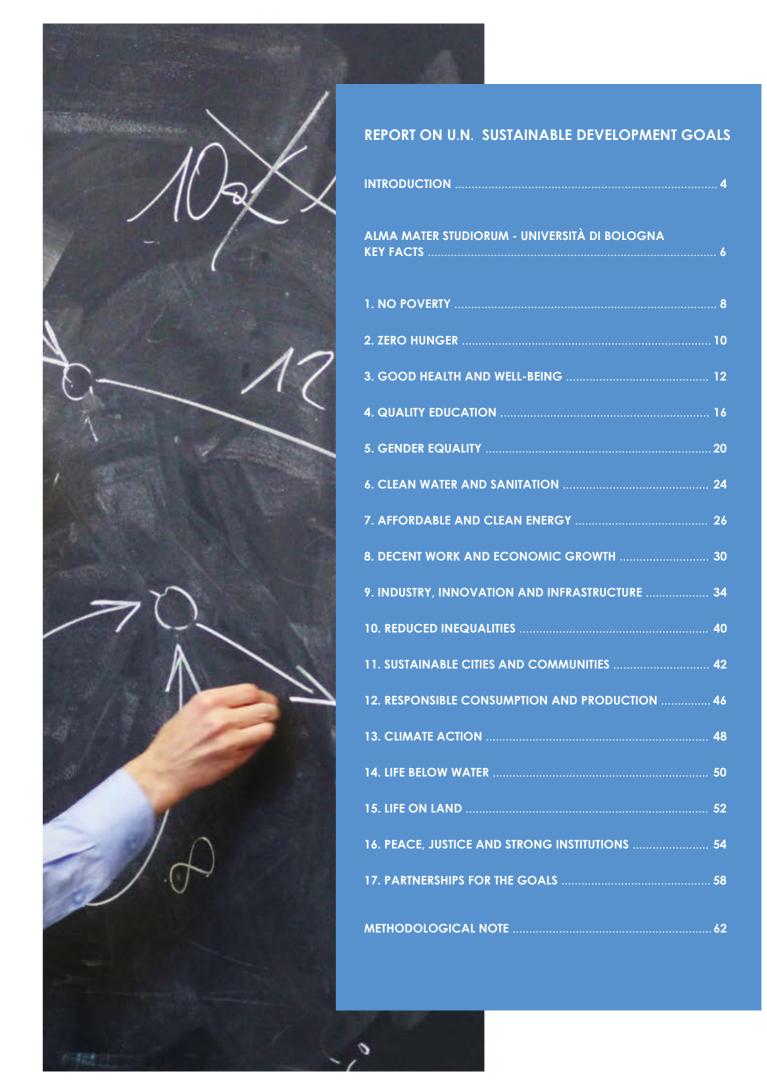
Alma Mater Studiorum - Università di Bologna Finance and Subsidiaries Division - Evaluation and Strategic Planning Unit

Editing and graphic design:

Alma Mater Studiorum - Università di Bologna Executive Support Services - Communication Unit

Photos:

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The efforts of the Alma Mater Studiorum - University of Bologna to report extensively on the results of its activities, which has led to the publication of the Social Report since 2012 and of the Gender Report since 2015, have been renewed today with the decision to publish a new document describing the University's profound commitment to respond to the demands of a constantly evolving society, with continuously changing paradigms.

Consistent with the perspective adopted in the Strategic Plan 2016-2018, the University of Bologna proposes an innovative way to report on the contributions generated by its institutional activities, including training, research and social and public engagement, aimed at the achievement of the 17 Sustainable Development Goals (SDGs) of the U.N. 2030 Agenda.

The 2030 Agenda is an action plan for transforming the world, acting in favour of people, peace, the planet, prosperity and partnerships. This becomes realistically possible the more the values and the communicative and

inspirational power of the SDGs enter into daily life, with real impact on the behaviours of teachers, administrators, executives and auditors within different institutes.

The University of Bologna is committed to the values of sustainability, such as enhancing and safeguarding the territory, improving community wellbeing, promoting a knowledge-based development economy, social equity, and the ability of those involved to work effectively together for the common good.

Faithful to its mission, and thanks to a history that has consolidated over time, the Alma Mater Studiorum is fully aware that its activities can produce significant impact, both direct and indirect, on the community and on the region. Therefore, it continues to invest in the quality of training and in research related to the needs of society, as well as in a valuable organizational, institutional and multicampus structure, allowing their members to operate over a vast territory.

In line with its mission of a large public university and the pursuit of social responsibility, the Alma Mater Studiorum has taken an innovative path based on the careful classification and reporting of its activities in a framework that considers its contribution to the achievement of the sustainable development goals. Along this journey, Alma Mater has highlighted not only the connection between the university and the theme of the quality of education, but also the possible interconnections with the goals of the U.N. 2030 Agenda.

These are the reasons behind this publication, which is also a methodological proposition to be discussed and shared, and a statement of intent and responsibility that can be adopted by universities to achieve the values of the hoped-for future society described in the 2030 Agenda. The work found in this first report is likely to be improved and refined in the future; it is a starting point to be shared with the university system as a whole.

Finally, I would like to thank all the faculty members and the technical and administrative staff members participating to the Scientific and Technical Committee for Social Reporting at the University of Bologna, who have worked intensively during the last few months to propose an innovative reporting approach and to collect and organize the data reported in this publication, which summarizes the daily contribution of a large community of men and women – the Alma Mater Studiorum – working with enthusiasm and great professionalism.

Francesco Ubertini Rector Alma Mater Studiorum - Università di Bologna

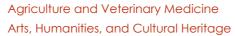




5 CAMPUSES: BOLOGNA, CESENA, FORLÌ, RAVENNA, RIMINI

14 MUSEUMS





Economics, Management, and Statistics

Engineering and Architecture

Foreign Languages and Literatures, Interpreting and Translation

Law

Medicine

Pharmacy, Biotechnology and Sport Science

Political Sciences

Psychology and Education

Science





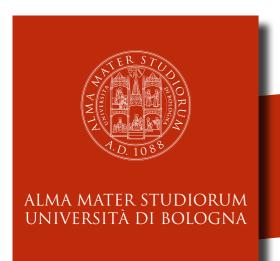


PER YEAR



110 RESEARCH PROJECTS

FP7, H2020 Research Projects.
The projects funded create networks with over 900 partners,
330 of which are private



27 LIBRARIES

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA KEY FACTS

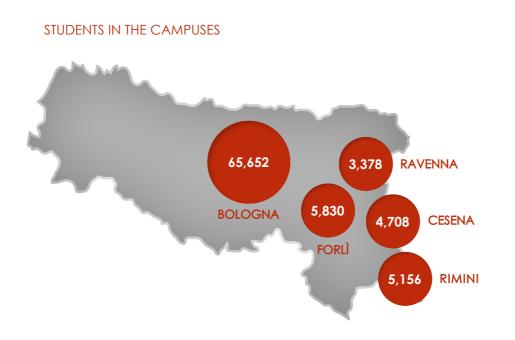


84,724

TOTAL NUMBER OF STUDENTS
ENNROLLED IN: DEGREE PROGRAMMES
OF ALL LEVELS, PHDS, MASTERS, POSTGRADUATE TRAINING AND LIFELONG
LEARNING PROGRAMMES



5,916
INTERNATIONAL
STUDENTS

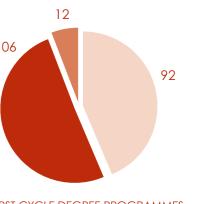


STUDENTS' INTERNATIONAL MOBILITY









FIRST CYCLE DEGREE PROGRAMMES

SECOND CYCLE DEGREE PROGRAMMES

SINGLE CYCLE DEGREE PROGRAMMES





8 COURSE



2,381 STUDENTS WHO COULD CHOOSE THE COURSE UNITS

RESEARCH



911 PUBLICATIONS IN SCOPUS 2007-2016



17,316
"CITED BY" IN SCOPUS



PUBLICATIONS PER CAPITA

INDEX NUMBER: 71

INDEX NUMBER: **71**INTERNATIONAL
BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: **98**

NATIONAL BENCHMARKING = **100**

THIRD MISSION

UNIBO4REFUGEES

The doors of the University of Bologna are now open to refugee students with the **Unibo4Refugees project**.

In orientation interviews, students get the chance to submit their CVs, find out about the opportunities for study and financial aid and draw up an educational plan for rebuilding their future.

Even before obtaining refugee status and without having to pay enrolment fees, students can enrol in single learning activities and attend Italian language courses.

Enrolment in degree programmes is made easier thanks to special procedures for checking academic qualifications and admission requirements, obtaining study grants, getting exemption from fees and access to microcredit.

Through this action 19 asylum seekers from 10 different countries were able to enroll for the Academic year 2015/2016 and 22 in the Academic year 2016/2017.

The main part of these students come from Sub Saharan Africa (Ethiopia, Nigeria, Ghana, Gambia, Guinea, Mali, Somalia, Sudan, Liberia, Uganda).





76 COURSE UNITS



COLLABORATIONS, TEACHING, MOBILITY (EUROPE)





RESEARCH

10 **PUBLICATIONS IN** SCOPUS 2007-2016



147 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (2,494,182 €)

STUDENTS WHO **COULD CHOOSE** THE COURSE UNITS



PUBLICATIONS PER CAPITA INDEX NUMBER: 94

INTERNATIONAL BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 101

NATIONAL BENCHMARKING = **100**

INTEGRATED RESEARCH TEAM - IRT ALMA FOOD

Mission of the IRT:

- To guarantee the safety, quality and healthiness of food, both for enhancing quality of life and for the sustainable development of the agro-food systems.
- To develop the agenda of future research needs in collaboration with political, social, and economic stakeholders.
- To promote knowledge and innovation within food-related areas and to meet the changing social demand and the latter answer to the challenges for a more efficient and productive research activity within the University of Bologna.
- To provide scientific and technological support, as well as specific training, to stakeholders of the food sector.

THIRD MISSION



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 1

SOUTH AMERICA: 1





568 COURSE UNITS



7COLLABORATIONS,
TEACHING, MOBILITY
(EUROPE)



24,735 STUDENTS WHO COULD CHOOSE THE COURSE UNITS

DEGREE PROGRAMME	STUDENTS
Pharmacy and Biotechnology	3,064
Medicine and Surgery	6,134
Psychology	3,248
Medical Specialization	942
Total	13,388

RESEARCH



73
PUBLICATIONS IN SCOPUS 2007-2016



3,315
"CITED BY" IN SCOPUS



24FP7, H2020
RESEARCH PROJECTS
(11,808,504 €)

13



PUBLICATIONS PER CAPITA

INDEX NUMBER: 42

INTERNATIONAL BENCHMARKING = 100



PUBLICATIONS PER CAPITA

INDEX NUMBER: **73**NATIONAL BENCHMARKING = **100**

INTEGRATED RESEARCH TEAM - IRT ALMA SEQUENCING

Alma Sequencing Integrated Research Team (IRT) combines the competences of many of the Alma Mater's research groups, whose fields of activity go from genetics of rare diseases and cancer to evolutionary analysis; from pharmacogenomics to preventive genetic screenings; from the identification of biological markers for the improvement of animal and plant production to systems biology and the study of microbiota.

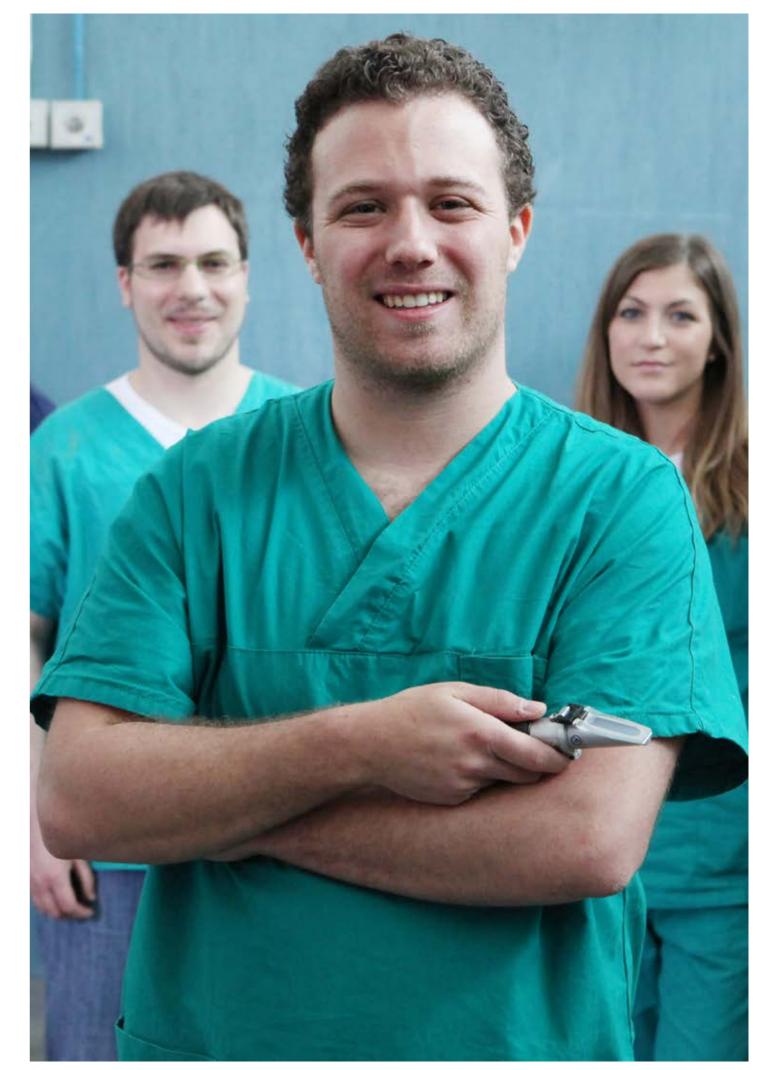
The use of NGS platforms also implies the development of several innovative applications: bioinformatics analysis, generation and storage of large amount of data; cloud computing and elaboration of algorithms for analyzing nucleotide sequences; processing of complex data and protection of sensitive data.

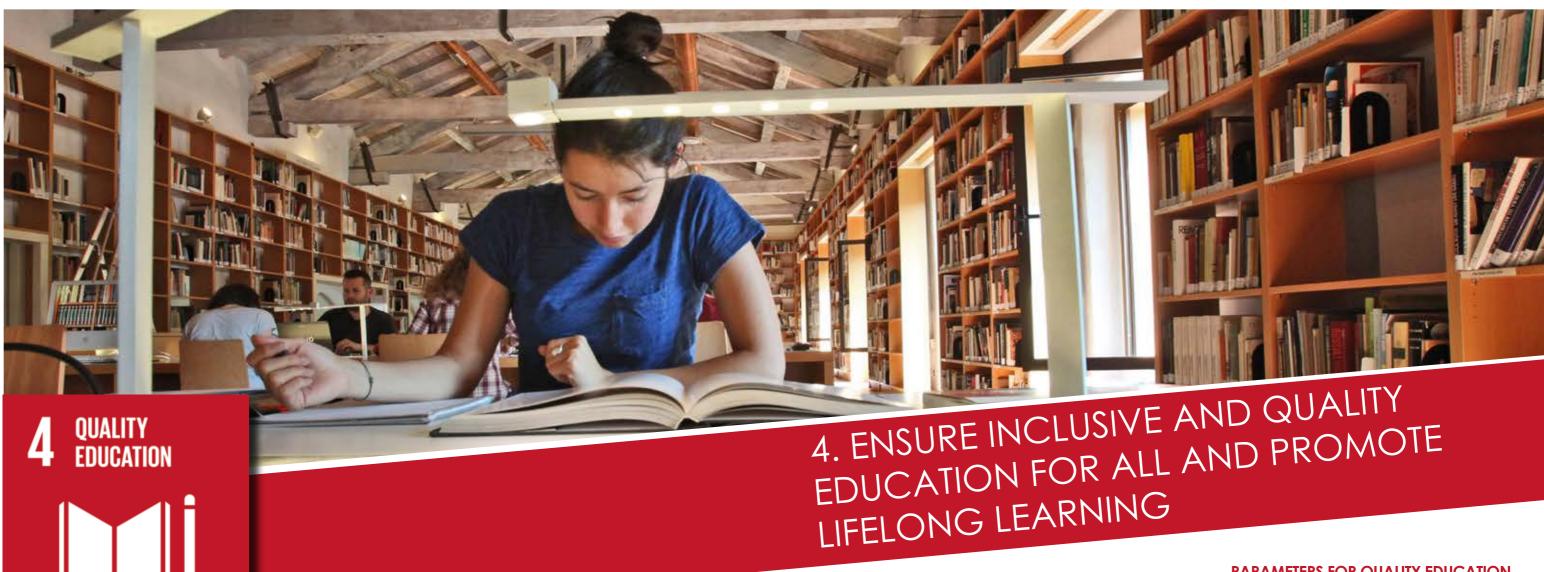
THIRD MISSION



INSTITUTION

UNIBO STAFF WORKING IN HOSPITALS	No.
Teaching staff	283
Technical-admistrative staff	142







4.832 ALL COURSE UNITS



COLLABORATIONS, TEACHING, MOBILITY (15 EUROPE, 6 AFRICA, 3 SOUTH AMERICA, 1 NORTH AMERICA, 9 ASIA)



80,549 ALL STUDENTS

UNIVERSITY QUALITY ASSURANCE

The University of Bologna has an Internal Quality Assurance System involving a self-assessment that allow the University to improve the quality of its study programmes.

This process aims provider an adequate response to the expectations of all actors who have an interest in the offered training service: students, families, companies, institutions, etc.

The system envisages the periodic collection and analysis of significant data (such as the number of graduates in the course, the views of the students and the employment status of the graduates) and the planning of concrete actions for improvement.

The outcome of this analysis is represented by the Report of the course, a document published annually, both in Italian and in English, which contains the information required for Quality Assurance.

PARAMETERS FOR QUALITY EDUCATION

STUDENT ATTRACTIVENESS	
Students enrolled in Second cycle degree programmes (from other universities)	48.4%
Incoming exchange students	2,480
International students (UE and Extra-UE)	6.6%
SOCIAL INCLUSION	
Value of scholarships (merit and status based)	21,797,864
Students followed by the Service for disabled	624
Enrolled students by gender	M 44.5%; F 55.5%
PROGRAMMES OFFERED AND MAIN RESULTS	
Degree programmes	210
Degree programmes taught in English	36
Masters' programmes and post-graduate/lifelong learning programmes	95
Courses with at least three quarters of students satisfied with the course	75%
Graduates	17,289
Graduates within regular enrollment	82.8%

4. QUALITY EDUCATION
4. QUALITY EDUCATION

RESEARCH



PUBLICATIONS IN

SCOPUS 2007-2016



"CITED BY" IN SCOPUS



PUBLICATIONS PER CAPITA

INDEX NUMBER: **53**INTERNATIONAL
BENCHMARKING = **100**



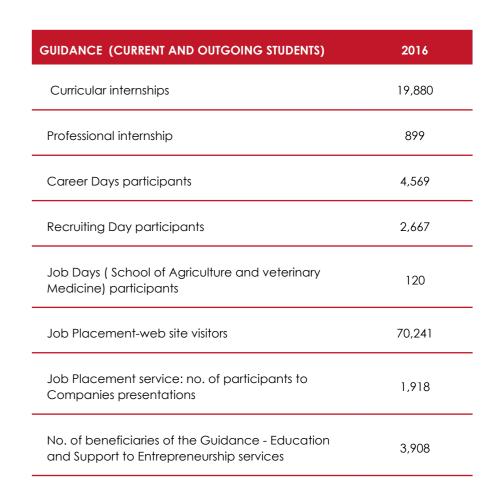
INSTITUTION

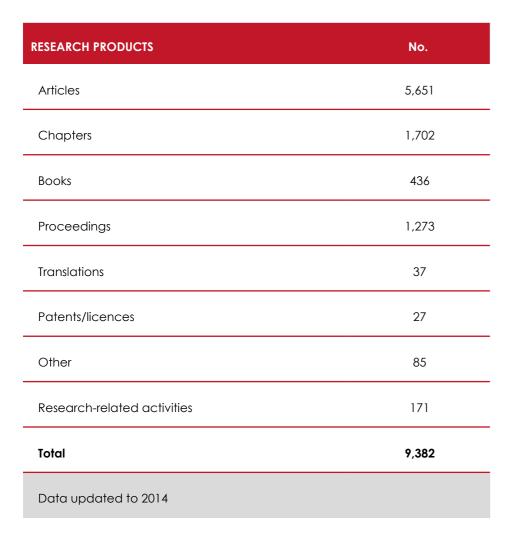
TRAINED PEOPLE IN 2016	% ON UNIBO STAFF
2,135	71%

THIRD MISSION











COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 3 AFRICA: 4

SOUTH AMERICA: 4

ASIA: 4





46 **COURSE** UNITS



COLLABORATIONS, TEACHING, MOBILITY (EUROPE)





RESEARCH

401 PUBLICATIONS IN SCOPUS 2007-2016



5,478 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (981,998 €)



19,534 STUDENTS WHO **COULD CHOOSE** THE COURSE UNITS



PUBLICATIONS PER CAPITA

INDEX NUMBER: 68 INTERNATIONAL BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 94

NATIONAL BENCHMARKING = **100**

INTEGRATED RESEARCH TEAM - IRT ALMA GENDER

Alma Gender IRT promotes research on gender issues, focusing on how societies shape, organize, and innovate gender roles, relations, identities, and representations of gender, and how these interact with other variables such as nationality, ethnicity, sexual orientation, gender identity, disability, age, profession, religion, economic

Alma Gender IRT's main goal is to create a network of scholars from different fields in order to promote research and teaching on gender issues and to advance gender equality within the University of Bologna's community of students, teachers, and workers.

21

THIRD MISSION

EVENTS PROMOTED ON GENDER RELATED ISSUES

The University of Bologna promotes the **valorisation of gender-related issues** through organization, the participation, the patronage, the dissemination of public initiatives (such as presentations, seminars, conferences, etc.) carried out in the Campuses where the University operates, as well as through the dissemination of publications, flyers, brochures, ect. to gender issues.

From an analysis of the events advertised through the online magazine of the University of Bologna - "UniboMagazine" (www.magazine.unibo.it), in 2016 were published 23 articles on gender-related issues.



INSTITUTIONS

BODIES FOR THE PROTECTION OF GENDER EQUALITY AT UNIVERSITY OF BOLOGNA

1) Guarantee Committee for Equal Opportunities, Employee Wellbeing and Non-Discrimination at Work – CUG, the Harassment Adviser;

- 2) Vice-Rector of Human Resources;
- 3) Delegate for Occupational Welfare;
- 4) Delegate for Equal Opportunities;
- 5) Harassment Adviser.



GOVERNING BODIES





3 + 149 = 22

THE GLASS CEILING INDEX (SHE FIGURES, 2015)

The **Glass Ceiling Index (GCI)** is a relative index comparing the proportion of women in academia (grades A, B, and C) with the proportion of women in top academic positions (grade A positions; equivalent to full professors in most countries) in a given year.

The GCI can range from 0 to infinity.

A **GCI of 1** indicates that there is no difference between women and men in terms of their chances of being promoted.

A **score of less than 1** means that women are more represented at the grade A level than in academia generally (grades A, B, and C) and a **GCI score of more than 1** indicates the presence of a glass ceiling effect, meaning that women are less represented in grade A positions than in academia generally (grades A, B, and C).

In other words, the interpretation of the GCI is that the higher the value, the stronger the glass ceiling effect and the more difficult it is for women to move into a higher position.



2014: 1.83 **2015**: 1.80 **2016**: 1.65



THE GENDER EQUALITY PLAN

The **Gender Equality Plan (GEP)** is a flexible tool, comparable to a Positive Action Plan, which is constructed taking into account the characteristics and individual needs of each single Research Performing Organization (University or Research Centre).

The GEP of University of Bologna contains measures developed on the basis of the needs and the context analysis of the University of Bologna, an first assezssment carried out through the valuable collaboration of its researchers, professors, technicians and administrative staff, vice-rectors, delegates, managers and Rector (namely "key actors"), during the Gender Audit phase of the **H2020 PLOTINA project**, coordinated by the University of Bologna, that has been undertaken from February to December 2016.

The measures are mainly, but not exclusively, addressed to specific beneficiaries, being the main target of the GERI 4 call "female researchers".

The individual measures have been specifically foreseen for the years 2017 - 2020 (total duration of the PLOTINA project) and will be verified through the use of indicators, a monitoring system, the annual gender report and by peer-reviewers.

 \sim 22





24 COURSE UNITS



4,133
STUDENTS WHO
COULD CHOOSE
THE COURSE UNITS

RESEARCH



225
PUBLICATIONS IN SCOPUS 2007-2016



3,015
"CITED BY" IN SCOPUS



3 FP7, H2020 RESEARCH PROJECTS (995,778 €)

INSTITUTION

WATER CONSUMPTION /YEAR	M³
2014	1,352,277
2015	1,381,404
2016	824,067

25



PUBLICATIONS PER CAPITA

INDEX NUMBER: **69**

INTERNATIONAL BENCHMARKING: **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 124

NATIONAL BENCHMARKING = **100**







65 COURSE UNITS



10,466 STUDENTS WHO COULD CHOOSE THE COURSE UNITS

RESEARCH



158
PUBLICATIONS IN SCOPUS 2007-2016



2,381
"CITED BY" IN SCOPUS



6FP7, H2020
RESEARCH
PROJECTS
(1,867,349 €)



PUBLICATIONS PER CAPITA

INDEX NUMBER: **86**INTERNATIONAL
BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 134

NATIONAL BENCHMARKING = **100**

INTEGRATED RESEARCH TEAM - IRT ALMA LOW CARBON

The **Alma Low Carbon Integrated Research Team** coordinates the scientific competences of the University of Bologna, its thematic structure based on the European Horizon 2020 priorities for Research and Innovation:

27

- Energy efficiency;
- Competitive low carbon energy;
- Waste: a resource to recycle, reuse and recover raw materials;
- Water Innovation: boosting its value for Europe;
- Growing low carbon, resource efficient economy with sustainable supply of raw materials;
- Social, environmental, and economic aspects of the energy system.

THIRD MISSION



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

AFRICA: 1 ASIA: 1

INSTITUTION

GREEN ROOFS	M²
School of Engineering and Architecture (via Terracini)	120
School of Agriculture and Veterinary Medicine (viale Fanin)	932
Total	1,052



1,343,958 KWH PER YEAR.
SOLAR ENERGY PRODUCED
EQUAL TO 1,000 TONNES OF CO₂
PER YEAR NOT RELEASED
INTO THE ENVIRONMENT.



MORE THAN 80% OF CONVENTIONAL APPLIANCES ARE REPLACED BY ENERGY EFFICIENT ONES







149 **COURSE** UNITS



13 COLLABORATIONS. TEACHING, MOBILITY (EUROPE)



27,380 STUDENTS WHO **COULD CHOOSE** THE COURSE UNITS



69.7% **GRADUATES EMPLOYED**

RESEARCH



65 **PUBLICATIONS IN** SCOPUS 2007-2016



1.117 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (516,123 €)



PUBLICATIONS PER CAPITA INDEX NUMBER: 135





PUBLICATIONS PER CAPITA INDEX NUMBER: 190

NATIONAL BENCHMARKING = **100**

THIRD MISSION

ENGAGEMENT IN ACADEMIC ENTREPRENEURSHIP

Academic entrepreneurship refers to the interaction between university, industry, markets, and society at large and encompasses different channels through which the output of academic research can be conveyed to the market.

These channels include patents, licenses, universityindustry collaborations, academic consulting, and new venture creation.

This latter, among the various mechanisms in support of the commercial exploitation of research, has received increasing attention.

The actions to be implemented at the University of Bologna to support academic entrepreneurship can be grouped according to five main conceptual dimensions, representing five pillars on which the strategy is built:

- · inspiring and raising awareness;
- · scouting of Ideas;
- · pre-incubating services;
- incubating;
- · accellerating and enabling growth.



25 SPIN OFFS AND START UPS



SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 1

8. DECENT WORK AND ECONOMIC GROWTH

8. DECENT WORK AND ECONOMIC GROWTH

INSTITUTION

TEACHING STAFF	2016		
	Women	Men	
Full Professors	163	525	
Associate Professors	452	636	
Assistant Professors	474	532	
Total of teaching staff	1,089	1,693	
Research fellows	585	547	
Total	1,674	2,240	

TECHNICAL-ADMINISTRATIVE STAFF	2016		
TECHNICAL-ADMINISTRATIVE STAFF	Women	Men	
Heads of administrative divisions	6	8	
Technical-Administrative staff	1,925	1,009	
Language assistants	56	17	
Farm workers	0	6	
Total	1,987	1,040	

TRAINING ON HEALTH AND SAFETY IN WORKPLACES	2016
Training initiatives	89
Hours of teaching	738
Participants	1,809
Training hours	9,824

INITIATIVES TO SUPPORT ADMINISTRATIVE STAFF WITH DISABILITIES

Starting from 2009, the University of Bologna has undertaken several actions in order to support staff with disabilities.

The activities are:

- cognitive talks in order to find the link within the skills of staff with disabilities and University of Bologna's requirements;
- the permanent mapping of the state of disability at the University of Bologna;
- the creation of the functional tutor figure for job placement, integration and reduction of discomfort situations for staff with disabilities;
- the establishment of the Inclusion and Protection Office for admnistrative staff with disabilities;
- the presence of the Delegate for Disability;
- the creation of a task force with the purpose of managing and supporting disadvantaged colleagues in discomforts directly at their workplaces;
- the support of civilian volunteers in some situations of particular discomfort;
- the provision of appropriate aids to reduce situations of particular discomfort;
- the presence of a professional interpreter of the Italian Sign Language (LIS) or stenotype for deaf people.

FINANCIAL PERFORMANCE	2015
Expenses for personnel	66.54%, within the limit of 80%
Debt-to-equity ratio	1.08%, within the limit of 15%
Indicator of financial sustainability	1.20 (higher than 1, the legal limit)





404 COURSE UNITS



COLLABORATIONS, TEACHING, MOBILITY (EUROPE)



26,187 STUDENTS WHO COULD CHOOSE THE COURSE UNITS



15,519,551 €TOTAL INVESTMENT FOR PHD STUDENTS (2015)

ENGAGEMENT IN ACADEMIC ENTREPRENEURSHIP: THE PdA _PHASE1 - PdA _PHASE2 - ENTREPRENEURSHIP EDUCATION

The **PdA_phase1** aims at offering students, on a continuous basis, the opportunity to disclose their ideas any time during the year. Students disclose their ideas to a team of experts who will help and assist them to find their way in the initial stages of the generation of an entrepreneurial opportunity and develop a preliminary assessment.

The **PdA _phase2** aims at pushing further those students' ideas showing potential for business development. Students whose ideas are selected in phase 1 are introduced to a training program up to 6/9 months aimed at developing their ideas until they are ready to be submitted to the most appropriate incubators/accelerators.

The **Entrepreneurship education** consists in ad-hoc courses for undergraduate and postgraduate curricula in all of the disciplines/fields offering the basic notions of entrepreneurship (feasibility analysis, business planning, etc.). More advanced courses are available only in specific disciplines (management and engineering) and Master programs are offered by BBS Bologna Business School.

RESEARCH



328
PUBLICATIONS IN SCOPUS 2006-2016



4,224 "CITED BY" IN SCOPUS



29FP7, H2020
RESEARCH PROJECTS
(14,642,760 €)

35



PUBLICATIONS PER CAPITA INDEX NUMBER: 102

INTERNATIONAL BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 134

NATIONAL BENCHMARKING = **100**

FP7, H2020 PROJECTS AT 31/12/2016	NUMBER OF PROJECTS	FUNDED BY UNIVERSITY OF BOLOGNA
FP7	20	13,995,342
H2020	90	30,384,748
Total	110	44,380,090

UNIBO LAUNCH PAD - FABLAB - E-LABS

Unibo Launch Pad is a program targeting PhD students, post-doc scholars and young researchers with a strong focus on science-based venturing ideas.

Students whose entrepreneurial ideas are selected are introduced to a three months intensive acceleration experience.

The program includes a conclusive demo day during which the most promising projects are selected by a panel of VCs and industry experts to participate in a fully funded three weeks immersion program in Silicon Valley and London.

FabLab is a coworking space targeting University of Bologna students and equipped with tools for 'makers' to create their own prototypes and with an array of computer-controlled tools that cover several different length scales and various materials.

This is a brand new project to be open early in 2018.

E-labs are laboratories in proximity of departments with specialized tools and research equipment offering professors, scholars and students a unique maker spaces to develop technologies and prototypes.





33 DEPARTMENTS

- Agricultural and Food Sciences
- Agricultural Sciences
- Architecture
- Biological, Geological, and Environmental Sciences
- Biomedical and Neuromotor Sciences
- Chemistry «Giacomo Ciamician»
- Civil, Chemical, Environmental, and Materials Engineering
- Classical Philology and Italian Studies
- Computer Science and Engineering
- Cultural Heritage
- Economics
- Education Studies «Giovanni Maria Bertin»
- Electrical, Electronic, and Information Engineering «Guglielmo Marconi»
- Experimental, Diagnostic and Specialty Medicine
- For Life Quality Studies
- History and Cultures
- Industrial Chemistry «Toso Montanari»
- Industrial Engineering
- Interpreting and Translation
- Legal Studies
- Management
- Mathematics
- Medical and Surgical Sciences
- Modern Languages, Literatures, and Cultures
- Pharmacy and Biotechnology
- Philosophy and Communication Studies
- Physics and Astronomy
- Political and Social Sciences
- Psychology
- Sociology and Business Law
- Statistical Sciences «Paolo Fortunati»
- The Arts
- Veterinary Medical Sciences

9. INDUSTRY, INNOVATION AND INFRASTRUCTURE 9. INDUSTRY, INNOVATION AND INFRASTRUCTURE



INTERDEPARTMENTAL CENTRES FOR INDUSTRIAL RESEARCH

BOLOGNA

- Interdepartmental Centre for Industrial Research in Building and Construction - CIRI Building and Construction
- Interdepartmental Centre for Industrial Research in Energy and Environment - CIRI Energy and Environment
- Interdepartmental Centre for Industrial ICT Research -CIRI ICT
- Interdepartmental Centre for Industrial Research in Advanced Mechanical Engineering Applications and Materials Technology - CIRI Advanced Mechanics and Materials
- Interdepartmental Centre for Industrial Research in Health Sciences and Technologies - CIRI Health Sciences and Technologies

CESENA

- Interdepartmental Centre for Industrial Agrofood Research - CIRI Agrofood
- Interdepartmental Centre for Industrial ICT Research -CIRI ICT

FORLI'

- Interdepartmental Centre for Industrial Aeronautical Research - CIRI Aeronautics
- Interdepartmental Centre for Industrial ICT Research -CIRI ICT

RAVENNA

- Interdepartmental Centre for Industrial Research in Building and Construction - CIRI Building and Construction
- Interdepartmental Centre for Industrial Research in Energy and Environment - CIRI Energy and Environment
- Interdepartmental Centre for Industrial Research in Advanced Mechanical Engineering Applications and Materials Technology - CIRI Advanced Mechanics and Materials

FAENZA

 Interdepartmental Centre for Industrial Research in Advanced Mechanical Engineering Applications and Materials Technology - CIRI Advanced Mechanics and Materials

RIMINI

- Interdepartmental Centre for Industrial Research in Energy and Environment - CIRI Energy and Environment
- Interdepartmental Centre for Industrial Research in Advanced Mechanical Engineering Applications and Materials Technology - CIRI Advanced Mechanics and Materials



RESEARCH CONTRACTS BETWEEN
CIRI AND COMPANIES





AGREEMENTS BETWEEN CIRI AND OTHER RESEARCH INSTITUTES



53
PARTICIPATIONS IN
RESEARCH PROJECTS

INSTITUTION

ALMAECLUB

The club is an **open community** of the University of Bologna faculty members and scholars from all of the disciplines aimed at **spreading entrepreneurial culture within the Alma Mater**.

The club gathers on a bimonthly basis and provides participants the chance to:

- learn about entrepreneurship (basic courses are offered to those who are not familiar with entrepreneurship and are willing to know more):
- be inspired by speakers (entrepreneurs, outstanding scholars, managers, etc.) sharing their stories, passions and interests in entrepreneurship;
- join a think tank and contribute with ideas and competences to the development of specific projects/actions to support entrepreneurship within Alma Mater.

AlmaEClub was launched early in 2017.

THIRD MISSION



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

ASIA: 2



81PATENTS
(INCLUDING NEW PLANT VARIETIES)

AlmaCube is the incubator jointly founded in March 2013 by the University of Bologna together with Unindustria Bologna to support the generation of highly innovative companies. It serves both spin-offs and start-ups. Networks of incubators (Innovation Square, CesenaLab and Basement) other incubating facilities located within different campus of the University of Bologna offering incubation, preincubation and ideascouting services, on top of spaces. Innovation Square is located in Rimini. CesenaLab is located in Cesena and Basement is located in Forlì.





193 **COURSE** UNITS

20.985

STUDENTS WHO

COULD CHOOSE

THE COURSE UNITS



COLLABORATIONS. TEACHING, MOBILITY



(EUROPE)



PUBLICATIONS PER CAPITA INDEX NUMBER: 48

INTERNATIONAL BENCHMARKING = **100**

RESEARCH



114 **PUBLICATIONS IN** SCOPUS 2007-2016



1,781 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (98,338 €)

THIRD MISSION



2.040 DOWNLOADS OF **SOCIAL RESPONSIBILITY REPORT**



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 4

ISTITUTION

THE GUARANTEE COMMITTEE FOR EQUAL OPPORTUNITIES, EMPLOYEE WELLBEING AND **NON-DISCRIMINATION AT WORK - CUG**

This committee makes proposals, provides consultation and monitors the development of a culture that promotes equal opportunities, enhances employee wellbeing and prevents discrimination, with reference to Italian current legislation and art. 14 of the University Statute.

It avails of the internal services for the promotion of employee wellbeing provided by Alma Mater and works closely with the Harassment Adviser.



NATIONAL BENCHMARKING = **100**





194 UNITS



COLLABORATIONS. TEACHING, MOBILITY



(EUROPE)



106 **PUBLICATIONS IN** SCOPUS 2007-2016

RESEARCH



1.771 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (3,410,921 €)



STUDENTS WHO **COULD CHOOSE** THE COURSE UNITS



83% STUDENTS' SATISFACTION WITH CLASSROOMS (COURSES WITH AT LEAST THREE QUARTERS OF STUDENTS SATISFIED WITH THE CLASSROOMS)



PUBLICATIONS PER CAPITA INDEX NUMBER: 74





PUBLICATIONS PER CAPITA INDEX NUMBER: 120

NATIONAL BENCHMARKING = **100**

INTEGRATED RESEARCH TEAM - IRT ALMA HERITAGE SCIENCE

Mission and Aims of the IRT Alma Heritage Science:

- To use interdisciplinarity as solution to cope with contemporary challenges related to Cultural Heritage conservation, restoration and valorization.
- To give support to the implementation and development of new solutions by covering several scientific sectors and studying the research field from different perspectives.
- To be a main partner for major stakeholders: foundations, associations, industries, policy makers, research centers and institute.

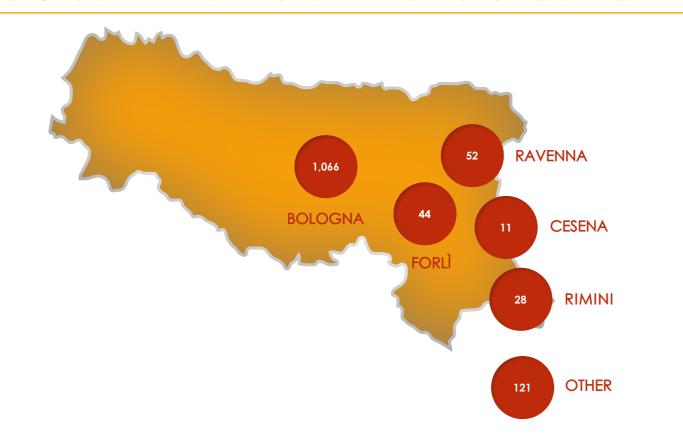
43

- To facilitate multi-disciplinary research.
- To contribute to the strengthening of the European Research Area.
- To develop the agenda of research needs at national and international level.

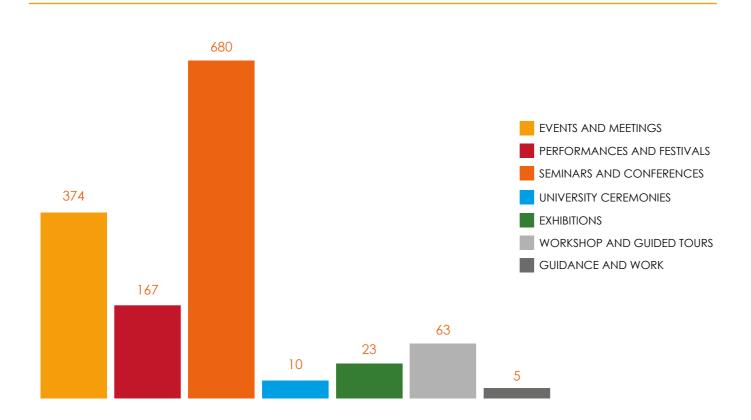
11. SUSTAINABLE CITIES AND COMMUNITIES 11. SUSTAINABLE CITIES AND COMMUNITIES

THIRD MISSION

PUBLIC ENGAGEMENT: EVENTS IN THE TOWNS WHERE THE UNIVERSITY CAMPUSES ARE LOCATED



PUBLIC ENGAGEMENT: EVENTS BY TYPE



UNIVERSITY MUSEUM NETWORK (14 MUSEUMS)

The "G. Ciamician" Chemistry Collection

MeuS – The European Student Museum

The Observatory Museum

The "L. Cattaneo" Anatomical Waxwork Museum

Comparative Anatomy Museum

The Domestic Animal Anatomy Museum

The Museum of Veterinary Pathology and Teratology

The Antropology Museum

The Museum of Physics

The "L. Bombicci" Mineralogy Museum

The Palazzo Poggi Museum

The Zoology Museum

The Giovanni Capellini Geological Museum

The Herbarium and the Botanical Gardens







45





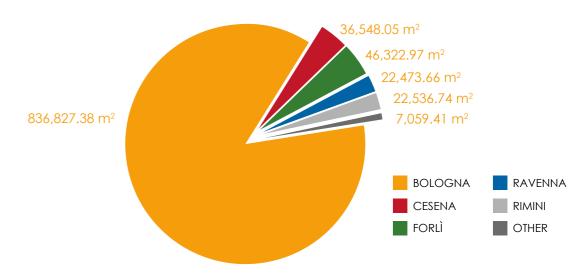
ON 2015 DATA)



INSTITUTION

GEOGRAPHICAL DISTRIBUTION OF BUILDINGS (2016)

Total 971,768.21 m²



Data refer to the indoor surface area of the buildings and do not include outdoor areas.





89 COURSE UNITS



13,477
STUDENTS WHO
COULD CHOOSE
THE COURSE UNITS

RESEARCH



112
PUBLICATIONS IN SCOPUS 2007-2016



1,361
"CITED BY" IN SCOPUS



10 FP7, H2020 RESEARCH PROJECTS (2,793,713 €)

INSTITUTION



RECYCLING PROGRAM FOR UNIVERSITY WASTE (GREEN METRIC 2016 ON 2015 DATA) **EXTENSIVE** (MORE THAN 50%)



INORGANIC WASTE TREATMENT (GREEN METRIC 2016 ON 2015 DATA)

FULLY RECYCLED (MORE THAN 50%)



PUBLICATIONS PER CAPITA

INDEX NUMBER: 112

INTERNATIONAL
BENCHMARKING = 100



PUBLICATIONS PER CAPITA

INDEX NUMBER: 146

NATIONAL
BENCHMARKING = 100





54COURSE
UNITS



4,794
STUDENTS WHO
COULD CHOOSE
THE COURSE UNITS

RESEARCH



PUBLICATIONS IN SCOPUS 2007-2016



164
"CITED BY" IN SCOPUS



FP7, H2020 RESEARCH PROJECTS (495,350 €)

INSTITUTION



2,492
PERSONAL PASSES FOR USE
OF PUBLIC TRANSPORT ON
FAVORABLE TERMS



48.3%
OF ELECTRIC CARS IN THE UNIVERSITY FLEET OF CARS (GREEN METRIC 2016 ON 2015 DATA)



6,333
MEAN NUMBER OF BICYCLE
AROUND THE UNIVERSITY
(GREEN METRIC 2016
ON 2015 DATA)



CO₂ EMISSION OVER THE LAST 12 MONTHS (TONS) (GREEN METRIC 2016 ON 2015 DATA)



PUBLICATIONS PER CAPITA

INDEX NUMBER: 30

INDEX NUMBER: 30

INTERNATIONAL
BENCHMARKING = 100



PUBLICATIONS PER CAPITA

INDEX NUMBER: 131

NATIONAL
BENCHMARKING = 100





31 **COURSE**



COLLABORATIONS. TEACHING, MOBILITY (EUROPE)





62 **PUBLICATIONS IN** SCOPUS 2007-2016

RESEARCH



1.656 "CITED BY" IN SCOPUS



FP7, H2020 RESEARCH **PROJECTS** (459,356 €)



2.096 STUDENTS WHO **COULD CHOOSE** THE COURSE UNITS



PUBLICATIONS PER CAPITA INDEX NUMBER: 103 INTERNATIONAL BENCHMARKING = **100**



PUBLICATIONS PER CAPITA INDEX NUMBER: 235

NATIONAL BENCHMARKING = **100**

BLUE GROWTH @ UNIBO

At the University of Bologna there is different **expertise on topics related** to seas and oceans, in particular with reference to:

- Marine ecosystems, including vulnerabilities and resilience to anthropic impacts;
- Climate change, adaptation and mitigation plans;
- Risks and coastal protection (including erosion, pollution, marine litter and spills);
- Blue & White Biotech for marine environment;
- Fisheries;
- Aquaculture;
- Tourism
- Marine spatial planning and integrated coastal zone manage-
- Maritime transport technologies and infrastructures;
- Observation and oceanographic systems;
- Multi-purposes offshore marine platforms;
- Marine coastal cultural heritage.





78 COURSE UNITS



8,282 STUDENTS WHO COULD CHOOSE THE COURSE UNITS

RESEARCH



PUBLICATIONS IN SCOPUS 2007-2016



251
"CITED BY" IN SCOPUS



FP7, H2020 RESEARCH PROJECTS (1,175,188 €)



PUBLICATIONS PER CAPITA

INDEX NUMBER: **37**

INDEX NUMBER: **37**INTERNATIONAL
BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

INDEX NUMBER: 42

NATIONAL BENCHMARKING = **100**

THIRD MISSION

THE UNIVERSITY OF BOLOGNA EXPERIMENTAL FARM - AUB

The **University of Bologna Experimental Farm - AUB** dates from 1974 and was designed to support research and experiments conducted by departments of the Bologna University School of Agriculture and Veterinary Medicine.

As concerns research, the Farm enables programmes to be devised for the benefit of theoretical and applied studies.

Experimental projects include issues bound up with farm management: defence of the land, fertilizing the land, and improving techniques of herbaceous and tree cultivation.

The Ozzano Centre has a teaching cow-house for dairy cattle, geared to experimentation with different feeds and their yield.

One section of the Farm is applying an ongoing protocol of organic agriculture, a subject of wide topical interest yet controversial in the technical and scientific world.

Today's Farm puts on services to design, implement and maintain areas of greenery throughout the University; it also runs a canteen at the Cadriano Centre for teaching and experiment.

In general, it is an 'observatory' onto agriculture as practised in our country, fielding the kind of questions that consumers and agriculturists expect the academic world to answer. This helps to make experimental and research projects more 'targeted'.

This whole multi-faceted facility forms an important trainingground for students; it is used for guided tours and practical work, and can be profitably harnessed to practical applied internships and above all graduation dissertations.





130 COURSE UNITS



22,787 STUDENTS WHO COULD CHOOSE THE COURSE UNITS

RESEARCH



16
PUBLICATIONS IN SCOPUS 2007-2016



85"CITED BY" IN SCOPUS



FP7, H2020 RESEARCH PROJECTS (1,740,306 €)



PUBLICATIONS PER CAPITA

INDEX NUMBER: 44

INDEX NUMBER: **44**INTERNATIONAL
BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

NATIONAL
BENCHMARKING = 100

INTEGRATED RESEARCH TEAM - IRT SOCIAL ECONOMY AND CIVIL SOCIETY

Mission of the IRT:

Gathering many social researchers, this IRT aims at coping with social problems and contemporary challenges through academic research. Covering several scientific sectors and studying social economy from different perspectives, it gives support to the implementation and development of new solutions.

Its research team strives:

- to be a main partner for major stakeholders: foundations, associations, industrial and cooperative enterprises, policy makers, research centres and institutes;
- to facilitate multi-disciplinary research;
- to contribute to the strengthening of the European Research Area to develop an agenda of scientific research at national and international level;
- to promote the role and culture of social economy in the civil society.

INSTITUTION

ISTITUTIONAL ACCOUNTABILITY AND TRANSPARENCY

At the University of Bologna web site (http://www.unibo.it/en/university/who-we-are/who-we-are)

are available all the istitutional documets and regulations, including planning and reporting documents.

Also, the University of Bologna has signed the Berlin Declaration on open access to knowledge in the Sciences and Humanities.



14,728,053 VISITS UNIBO.IT (ITALIAN VERSION)



33,865,984
VISITED PAGES
UNIBO.IT
(ITALIAN VERSION)



1,174,023 VISITS UNIBOLIT/EN (ENGLISH VERSION)



3,760,107
VISITED PAGES
UNIBO.IT/EN
(ENGLISH VERSION)



THIRD MISSION

PARTICIPATIONS INTO OBSERVATORIES AND EXTERNAL INSTITUTIONS: PARTICIPATION INTO THE MAGNA CHARTA OBSERVATORY

The Magna Charta Observatory of Fundamental Values and Rights (MCO) is the global guardian of fundamental university values and assists universities and higher education systems to operate effectively in accordance with them.

It does this for the benefit of students, staff, society and universities themselves.

Over **800 universities** from **85 countries** have signed its statement of fundamental values since **1988**.

The MCO was founded by the University of Bologna and the European University Association.

It is a non-profit organisation and is based in Bologna. It works with other national, European or international organisations pursuing similar or compatible aims.

It is funded by the Italian government and donations from signatories.



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 4 ASIA: 2





14 COURSE



COLLABORATIONS, TEACHING, MOBILITY (EUROPE)



2,616
STUDENTS WHO
COULD CHOOSE
THE COURSE UNITS

RESEARCH



72
PUBLICATIONS IN SCOPUS 2007-2016



3,239
"CITED BY" IN SCOPUS



3 FP7, H2020 RESEARCH PROJECTS (900,225 €)



PUBLICATIONS PER CAPITA

INDEX NUMBER: **79**INTERNATIONAL
BENCHMARKING = **100**



PUBLICATIONS PER CAPITA

NATIONAL
BENCHMARKING = 100

INTEGRATED RESEARCH TEAM - IRT BRASIL

IRT Brasil connects a large number of researchers of the University of Bologna who are active in scientific projects with and about Brazil, in order to:

- promote an interdisciplinary approach and coordinate a consistent critical mass of researchers, cooperating with Brazilian partners and working on themes linked with Brazilian culture and knowledge production;
- become a recognized stakeholder, qualified for the dimension and quality of knowledge and research on Brazil and with Brazilian, European and Italian partners;
- promote scientific, institutional and economic dialogue with Brazilian, Italian and European partners, by developing and improving multi and trans-disciplinary research initiatives;
- enhance the quality of scientific, cultural, and economic dialogue between Brazil and Italy, Brazil and Europe;
- contribute at different levels to the diffusion of knowledge on Brazil in Italy, so as to promote shared cultural policies.

o o

THIRD MISSION

No. OF DEVELOPMENT COOPERATION INITIATIVES



Western Balkans	4
North Africa	6
Middle East and Gulf region	9
Central and South America	28
Near East	8
Asia	10
Sub-Saharan Africa	8

DEVELOPMENT COOPERATION: ALMAENGAGE

AlmaEngage is the virtual co-ordination structure of development cooperation activities at local and international level of the University of Bologna.

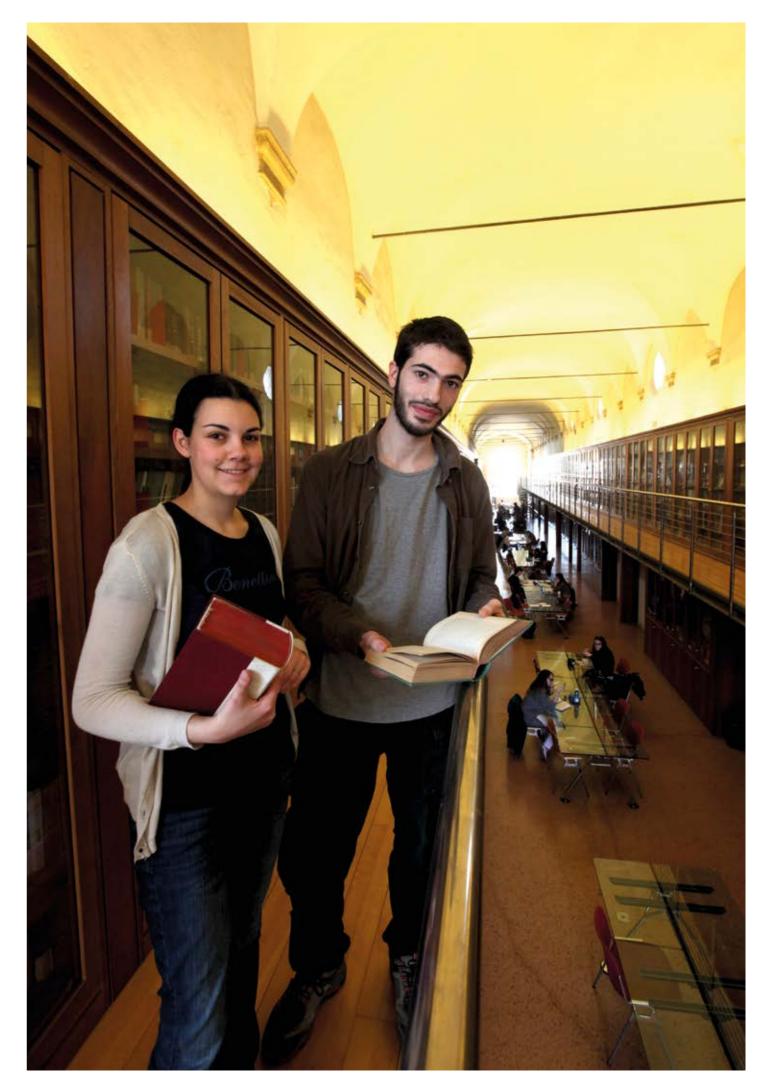
AlmaEngage will handle and promote systematically on the already planned initiatives and to devise and implement new themes to raise awareness and animate an academic and extra academic audience on development cooperation issues.

AlmaEngage is part of a broader process of opening universities to the outside world and sharing and transferring knowledge to the benefit of society, its local, national and international organizations.



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

EUROPE: 1





This document presents the methodological approach used to define the direct and indirect impact of the university's activities in their four dimensions - training, research, third mission and institution - in order to measure their contribution to the advancement of the United Nations 2030 Agenda.

This document was formulated by the Scientific and Technical Committee for Social Reporting at the University of Bologna from October 2016 to May 2017. The data presented herein refers to 2016, as well as A.Y. 2016/17 for training data.

Following the Rector's introduction, the report presents the key figures of the University of Bologna, followed by 17 sections, each one dedicated to a U.N. 2030 Agenda goal, reporting the impact generated by the University of Bologna through its diversified activities. In particular, each goal is reported on in relation to the four dimensions of activities carried out at the University of Bologna (training, research, third mission and institution, where available) using a set of metrics specially formulated to match and integrate with the institutional documents adopted by the University of Bologna.

The data comes mainly from the University Data Warehouse, a database powered by the Alma Mater Studiorum's management systems, also drawing upon ad hoc surveys by the coordinators of the study programme, content analysis of research projects and cooperation programmes, and SCOPUS queries. Below is a description of how certain metrics were quantified in the document.

METHODOLOGICAL NOTE

METHODOLOGICAL NOTE



PUBLICATIONS IN SCOPUS

Research regarding the number of publications was taken from the Scopus database, considering all articles from 2007-2016 which contain a specific sequence of keywords and an author affiliated with University of Bologna. Keywords were chosen for each UN SD goal by considering the general declaration of the goals and all targets of each goal.



"CITED BY" IN SCOPUS

The number of documents that have cited the author for a document's publication in the DB Scopus. Date of extraction: 4th May 2017.



INTERNATIONAL BENCHMARKING

Benchmarking includes universities within the top 50 of the QS World Universities Ranking 2016/2017 comparable to the University of Bologna in terms of:

- Size (XL more than 30,000 students)
- Focus (FC all 5 QS faculty areas, including the school of medicine)
- Research Intensity (Very High more than 13,000 publications in the last 5 years)
- Status (Public)

Using the above parameters, the field was narrowed to 14 universities:

UCL (UNIVERSITY COLLEGE LONDON)	UK
NATIONAL UNIVERSITY OF SINGAPORE (NUS)	\$G
UNIVERSITY OF MICHIGAN	US
TSINGHUA UNIVERSITY	CN
UNIVERSITY OF CALIFORNIA, BERKELEY (UCB)	US
THE UNIVERSITY OF MANCHESTER	UK
UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)	US
UNIVERSITY OF TORONTO	CA
PEKING UNIVERSITY	CN
UNIVERSITY OF CALIFORNIA, SAN DIEGO (UCSD)	US
THE UNIVERSITY OF MELBOURNE	AU
UNIVERSITY OF BRITISH COLUMBIA	CA
THE UNIVERSITY OF SYDNEY	AU
THE UNIVERSITY OF NEW SOUTH WALES (UNSW)	AU

The total number of articles was determined as described in "PUBLICATIONS IN SCOPUS". The total number of articles for each university and each goal was scaled against the number of academic staff as listed by QS for the World University Ranking 2016/2017 and published on www.topunivesities.com. By doing so, we eliminated any dimensional effect caused by simply considering the total number of publications. Finally, for each goal we compared the University of Bologna's ratio with the average of the ratios for the 14 universities in the benchmark group. The result is the index number "benchmark = 100"; an index number higher than 100 means that "per capita publications" by UNIBO academics is higher than the average of the universities in the international benchmark group. If the index is lower than 100, UNIBO academic productivity is lower than the benchmark.



NATIONAL BENCHMARKING

Following the parameters used for the selection of the international benchmarking, three Italian universities were selected from the first 400 in the QS World Universities Ranking 2016/2017.

SAPIENZA - UNIVERSITÀ DI ROMA (UNIROMA1)

UNIVERSITÀ DEGLI STUDI DI PADOVA (UNIPD)

UNIVERSITÀ DEGLI STUDI DI MILANO (UNIMI)

The Scopus research criteria and the index number calculation criteria were the same as that of international benchmarking.



COURSE UNITS

This data came from a survey investigating the link between the single course unit of a study programme and the U.N. Sustainable Development Goals. The survey was sent by email to the coordinators of 216 study programmes at the University of Bologna. The response rate was 84.3% of the study programmes active in A.Y. 2016/2017, covering about 80% of all course units at the University of Bologna. The questionnaire was made with the list of all course units of each programme, and the coordinators indicated, for each course unit, its connection with a SD Goal.



STUDENTS

The number of students enrolled in a study programme containing a course unit "tagged" for that SD Goal in A.Y. 2016/2017.



COLLABORATIONS, TEACHING, MOBILITY

The number of collaboration, teaching and mobility projects which were active as of 31 December 2016.



FP7, H2020 RESEARCH PROJECTS

The number of FP7, H2020 research projects active as of 31 December 2016.



COOPERATION AND SOCIAL ENGAGEMENT RESEARCH PROJECTS

The number of cooperation and social engagement projects active as of 31 December 2016.



PATENTS (INCLUDING NEW PLANT VARIETIES)

The number of active patents and vegetal varieties registered in 2016 by the university (both ownership and co-ownership), including their various international extensions.



REPORT ON U.N. SUSTAINABLE DEVELOPMENT GOALS

Working Group

Francesco Ubertini - Rector

Angelo Paletta - Delegate on Budget

Tullia Gallina Toschi - Delegate on Occupational well-being
Giulio Ecchia - Full Professor on Political Economy

Benedetta Siboni - Associate Professor on Accounting Daniela Sangiorgi - Research Fellow on Accounting

Marco Degli Esposti - Director General

Elisabetta de Toma - Head of Administrative Division - ARAG –

Alice Corradi – Head of Administrative Division - APOS – Personnel

Giuseppe Conti – ARIC – Research and Third Mission Division **Andrea Braschi** – AUTC - Buildings and Works management

Camilla Valentini, Danilo Roberto Cinti, Anna Rita D'Archi, Enrico

Anja Riceputi

ARAG – Evaluation and Strategic Planning Unit

Mirella Cerato, Vincenza Ferraro, Alex Rinaldi, Michela Versari

Alberto Amurri, Anna Muraro, Stefano Piazza, Susi Poli

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ARAG – Finance and Subsidiaries Division Evaluation and Strategic Planning Unit



ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA