

Bocconi

ADDRESS FOR THE ACADEMIC YEAR
OPENING CEREMONY 2018-2019

SKILLS AND ENTREPRENEURSHIP, A NEW STARTING LINE FOR ITALY AND EUROPE



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1. INTRODUCTION

I think it's obvious to everyone that we are experiencing a truly singular moment. For the first time in recent history, global economic growth, albeit moderate, is part of a scenario that casts shadows on the prospects for the future. In several countries, the rise of widespread discontent has weakened the institutions that have ensured political, social and economic balance in the seventy years after the Second World War. The meaning of competence is put into question daily in the world of work and science, undermining some of the accepted certainties of public opinion.

As is well known, point and counterpoint are part of the history of humankind, and some of the discussions we are experiencing these days strongly recall what we heard in the divisive period of the Seventies. Regardless of the natural diversity of those involved, what perhaps most confuses us today compared to yesterday is the dismissal of the ideologies that fueled political debate in the past. With its contrasts of values and partisan ideals, often debatable or simplified, the ideological struggle at least provided a framework within which to interpret reality. Today, however, as ideologies fade and the voices of "social media democracy" are amplified, we witness more and more often a debate whose sole purpose seems to be the hunt for votes as an end in itself.

Despite this alarming frame of reference, we are living in an era in which the main parameters show us that the biological and sociological evolution of the species continues to be vivacious.¹ On the one hand, we see the bewildering complexity of an overpopulated, interconnected world with an increasing economic gap within and between countries.² On the other, there are fewer wars and deaths in battle, average lifespans are increasing, per capita income is on the upswing and welfare policies have improved substantially compared to the past. Yet a common perception is that today, the situation of each individual has worsened compared to before. In Italy as well, there is a widespread conviction that today we live worse than in the past, despite all the statistical evidence that indicates the opposite.³

An objective fact that may be a good place to begin is that today we are experiencing a new industrial revolution. Just over a hundred years ago, the arrival of electricity gave rise to the modern economy and industry, and propelled growth and the production of wealth at national

¹ Harari Y.N., 2015. *Sapiens. A Brief History of Mankind*, Harper.

² Piketty T., 2014. *Capital in the Twenty-First Century*, Harvard University Press.

³ See: Poushter J. 2017. Worldwide, People Divided on Whether Life Today Is Better Than in the Past. Pew Research Center, and Ipsos 2017. Perils of Perception, <https://perils.ipsos.com/archive/index.html>

and global levels that was literally unimaginable until the late Nineteenth Century.⁴ Today, thanks to the digital energy that causes structural reconfiguration of all sectors, organizational redesign of the companies in them, and creation of new jobs and business opportunities, we are experiencing a historical moment similar to the advent of electricity.

If Paul Romer, Nobel Laureate for Economics in 2018, is right, knowledge and in particular new ideas determine the long-term growth of countries.⁵ Specifically, in this new situation we need to recall the importance at the microeconomic and social levels of the two fundamental engines in an industrial revolution of new ideas, namely competence and entrepreneurship. If, in fact, we want to produce growth at the macro level, we must not only start from companies, but also from individuals and from the stimuli and incentives to long-term thinking provided to them. In order to successfully tackle the new digital industrial revolution we are experiencing, it is essential to equip ourselves with the practical knowledge and entrepreneurial spirit that allow us to govern it.

2. SKILLS AND ENTREPRENEURSHIP IN A GLOBAL AND INTERCONNECTED WORLD

Competence is a form of assimilated and consolidated knowledge that allows you to tackle complicated tasks.⁶ The skills that comprise competence represent know-how, but they also reflect the deepest root of problems, that is, the one that allows us to understand why a certain thing is done in a given way in a specific space-time context (the “know-why”).

Although there is a dimension of skills innate in individuals (talent, for example), we know that they can be stimulated and above all must constantly be nourished. This is possible thanks to exposure to education and experimentation. Education teaches the individual to understand problems and solve them by analyzing and explaining them. Experimentation tends to stimulate skills through a more complex path of learning by doing, and is essential for the forms of knowledge that are difficult to transfer orally. These forms, the so-called “tacit knowledge,” represent the greater part of each individual’s cognitive baggage.⁷

In both cases, the world of higher education plays a crucial role. Unlike secondary school, university study is characterized by finding solutions to problems through basic research and offering their dissemination through educational interaction with the student. The university must provide students with a transformative experience within the study programs offered. First of all, university education requires high profile human capital: university professors are qualified, first and foremost, as researchers. Their teaching, unlike what usually happens in high school, is aimed at opening the students’ minds, preparing them to face the complexity of the world at the end of the academic process. Rather than finding ready-made solutions in the face of simple problems, the good university professor conveys skills by teaching their charges to ask the right questions in the face of complex problems. And in a world undergoing

⁴ Di Bernardo B. Rullani E. 1990. *Il management e le macchine*. Il Mulino.

⁵ Romer P.M. 1990 Endogenous Technological Change. *Journal of Political Economy* 98 (5); Romer P.M. 1986 Increasing Returns and Long Run Growth. *Journal of Political Economy* 94 (5).

⁶ For a summary analysis and proposal, see: Grant R., Verona G. 2015 “What’s Holding Back Empirical research into Organizational Capabilities? Remedies for Common Problems.” *Strategic Organization* 13 (1): 61–74.

⁷ Polanyi M. 1966 [2009]. *The Tacit Dimension*. University of Chicago Press.

substantial change, both research and teaching become central tools to nurture and consolidate student competencies.

The change now underway requires important adaptations to the path that is historically offered by universities. Firstly, the current global context shows a widening economic gap, generating a problem of access to university education. It is therefore essential to create a fair system that identifies and values talented young people, regardless of their economic conditions or nationality, in order to support them in the educational process. It is also important for the system to encourage those who have the basis, motivation and ambition to contribute actively to social progress. Only a system that guarantees the deserving access to education can be a system capable of promoting the social and economic growth of the country. In Italy, the lack of a concerted strategy contributes to the “brain drain,” of which much is said at the media level, but relatively little is done at the operational level.

Secondly, change also imposes important considerations in terms of the content offered. According to recent analyses, the skills most in demand from today to 2030 in Europe and in the United States will be advanced knowledge of information technology, the ability to program, and digital knowledge.⁸ The driving force generated by the development of artificial intelligence, robotics and advanced analytics will cut across economic sectors, company functions and professions, albeit with different impacts. Although intelligent machines will acquire an increasing role in the organization of work, progressively replacing people in certain roles and tasks, it is also certain that new professions are born due to technological innovation.⁹

To fear the advent of technology means not accepting the challenge that it poses and denying the lessons of history from the first industrial revolution.¹⁰ From the Luddite protest, intended to destroy mechanical looms that replaced the work of craft weavers, to the advent of electricity that allowed industrialization and mass production, we know that humankind has been able to overcome such moments of technological disruption.

In fact, we have done so successfully, focusing on value-added work, thus increasing economic productivity and favoring development and growth in a substantial and structural manner. For example, recent history teaches that a third of the jobs created in the United States over the past 25 years involve roles and tasks that previously barely existed.¹¹ Forecasts for the near future abound, and some even estimate that more than 80% of the jobs to do in 2030 have yet to be invented.¹²

To face this challenge, it is crucial for the educational system to anticipate these new trends and design the work profiles needed to bridge the gap between supply and demand in the future job market. This means, firstly, developing solid basic skills in “traditional” subject

⁸ McKinsey Global Institute, “Skill Shift – Automation and the Future of the Workforce,” Discussion Paper, May 2018

⁹ EY Survey 2018 Alleanza per il lavoro del futuro. Competenze per la trasformazione digitale. See also Il Sole 24ore: Dall'alleanza per il lavoro del futuro 100 mila posti di lavoro per i giovani.

¹⁰ See also: Autor D.H. 2015 Why Are There Still So Many Jobs. The History and Future of Automation. Journal of Economic Perspectives, 29 (3). Colantone I. 2018 Come sopravvivere al lavoro che cambia. Senza vincitori né vinti. Via Sarfatti 25

¹¹ McKinsey Global Institute, “Technology, Jobs, and the Future of Work,” Executive Briefing, May 2017

¹² Institute for the Future, Dell Technologies, “The Next Era of Human|Machine Partnership – Emerging Technologies’ Impact on Society & Work In 2030,” 2017.

areas. The knowledge at the base of any competency is in fact cumulative, and the absence of basics inhibits the ability to grow alongside the growing complexity of a field as it becomes more and more specialized.

The peculiarity of today's changes, which are digital in nature, also requires the transfer of new skills: digital skills represent a new form of language, which requires a different literacy from that to which previous generations have been accustomed. Without digital skills, it will be impossible to govern the technological machine of the future.

In addition to traditional and digital skills, a third fundamental ingredient must be added. In an increasingly complicated world, the challenge, even before the search for solutions, consists more often in correctly identifying the problem, to formulate or re-formulate it in the appropriate way. When faced with totally new situations, human nature leads us to draw on the experience of available skills, replicating familiar and reassuring patterns. However, faced with the new and the need to attribute new meanings, it is often necessary to adopt a different perspective. To follow paths never trodden, we must combine on the one hand resourcefulness, curiosity, and awareness of risk and, on the other, critical thinking. Therefore, the aforementioned knowhow and know-why about getting things done are not enough. Knowing how to bring available skills to bear on new situations, and the ability to connect to third parties to access further skills, will permit a problem to be analyzed and complete the picture of its solution. In fact, in a complex context, no individual is an island,¹³ and must know how to build a position in an archipelago that reflects the solution to the complexity we are facing. The construction of the archipelago requires, in addition to traditional skills, a consistent propensity to entrepreneurship, intended primarily in the sense of readiness to identify and seize new opportunities.¹⁴

The aptitude for entrepreneurship is related to the spirit of initiative, a mental habit that helps students in their career path. It makes them open to the discovery of new opportunities, inclined to look at change with confidence, and willing to consider risk as a variable to govern and not a danger to be avoided. But this aptitude must also be well grounded. Being an entrepreneur requires the act of starting something concrete, transforming an idea into a process of value creation.

The literature abounds with debates on entrepreneurship, and it is not my intention to go into these disquisitions, even if they are fascinating from an intellectual point of view.¹⁵ I would instead like to dwell here on three fundamental areas where entrepreneurship can produce impact, if properly taught and cultivated. The first area concerns the generation of startups, new companies actually created and, hopefully, able to write a success story thanks to today's technological revolution. The most recent report on innovative startups shows that in our country, in December 2017, there were over 8,000 companies of this type.¹⁶ Lombardy leads the ranking with about 1,900 companies, of which more than 60% are located in the City of Milan. More than 70% of startupperes are college graduates and 87% have previous professional experience. But many of these Italian startups struggle to overcome the scale-up

¹³ Merton T. 1955. *No Man's an Island*. Harper.

¹⁴ Kirzner I.M. 1973. *Competition and Entrepreneurship*. University of Chicago Press.

¹⁵ For a comprehensive and analytical review, see: Hisrich, R. D., Peters, M.P., Shepard D.A., 2017 *Entrepreneurship* (10th Edition). McGraw Hill.

¹⁶ Ministero dello Sviluppo Economico, "Relazione Annuale 2017 sullo stato d'attuazione e sull'impatto delle policy per startup e PMI innovative".

phase, let alone the transformation into “unicorns” – companies worth at least \$ 1 billion. This often happens in part due to the lack of adequate skills, which must be learned and developed.

A second impact leads back to corporate entrepreneurship, or entrepreneurship in already existing companies. As was well observed in the Rodolfo Debenedetti Chair’s Lectio 2017, circumscribing entrepreneurship to the contribution of startups would be reductive for Europe and for Italy, two contexts rich in medium-sized companies that can contribute much to innovation of products and processes in the future.¹⁷ This is especially important in a historical moment where companies are changing skin, reducing hierarchical levels, organizing processes that directly link the customer to operations and innovation, and increasingly emphasizing business development opportunities. This entrepreneurial spirit is crucial to foster value creation and change within companies, but requires new stimuli for organizational behavior. Traditional managers have not had the opportunity to experience such stimuli, as they are children of Henry Ford’s assembly line, symbol of a non-entrepreneurial culture with a hierarchical organization and an autocratic management style. Therefore, learning entrepreneurship and the spirit of initiative that characterizes it will be fundamental for the company of today and tomorrow, the post-Ford company.

A third fundamental area of impact is more systemic. Entrepreneurship is the “ability to shift economic resources from a low productivity area to a high productivity area.”¹⁸ Teaching this spirit of initiative can do much to train future policymakers who imagine and design improvements in this direction. For example, in 2017 worldwide venture capital investment in startups exceeded \$140 billion,¹⁹ the highest amount in the last 10 years. The positive trend is driven by the so-called second wave, which sees investments shift progressively from “generic digital” towards robotics and advanced manufacturing, blockchain, data analytics and, above all, artificial intelligence. In this scenario, the reference centers for startups continue to be Anglo-Saxon: Silicon Valley, London and New York. Many of these emerging centers are the children of policies designed and orchestrated at the local and regional level. The tendency towards specialization, among other things, seems to create space for the emergence of new markets, which can guarantee the nascent companies not only a solid and dynamic market, but access to human capital and the research system.

This is the case, for example, in the United States, in Boston for biomedical technologies and, in Europe, in Frankfurt for fintech. Our country continues to struggle with this type of planning. By share of investment in GDP, our venture capital sector is at the bottom of the list in Europe.²⁰ That means not only difficulties in accessing venture capital in the initial phases of the launch of new businesses, but the failure to transfer all the wealth of experience and knowhow that flows from interaction with these subjects in mature markets. This demonstrates a structural decline in under-35 firms, which fell by 19% over the last seven years; in practice, each year for every five new companies that open, two close, as they either fail or expatriate to find resources.²¹ All this highlights the risk of an “entrepreneurship drain” that would be as damaging at this time in history as the brain drain. Therefore teaching the

¹⁷ Foss N.J. 2017 A Key Gap in Entrepreneurship Research: Understanding the Established Entrepreneurial Company. Paper presented at the inauguration of the Rodolfo Debenedetti Chair.

¹⁸ Say, J.-B. 1803. *A Treatise on Political Economy*. 1971 reprint. Augustus M Kelley. Citato in Foss 2017.

¹⁹ Global Startup Ecosystem Report 2018.

²⁰ 2017 European Private Equity Activity, InvestEurope.

²¹ Il Sole 24 ORE 5 November 2018 L’Italia che arretra: sono 134mila le imprese giovani perse in sette anni.

entrepreneurial spirit becomes a fundamental theme, not only at the behavioral (individuals) and microeconomic (companies and sectors) levels, but also at the level of policy and planning of macroeconomic incentives.

3. HOW BOCCONI CONTRIBUTES TO SKILLS TRAINING

As stated above, if talent has an innate component, it must be systematically stimulated and cultivated and everyone must be given the chance to develop it. At Bocconi, skills development is based on two main components: human capital (professors and students) and the educational experience (teaching methods, international exposure and access to the world of employment).

3.1 THE ROLE OF THE FACULTY: EDUCATION AND RESEARCH

At Bocconi, we believe that the starting point of the educational process is the human capital of the faculty. The two-year period that includes the 2016–2017 and 2017–2018 academic years had the highest number of new faculty members in the history of Bocconi, with 52 faculty members who became part of our family. The objectives of the Strategic Plan called for 369 resources as of 2018. The effective number at 1 September 2018 (net of retirements and other departures) is 370 faculty members. It should be noted that on 1 September 2016 the number was 339: that is, the result is equal to 31 more net of departures. The new Bocconi faculty today includes 16 Full Professors, 3 Associate Professors, 27 Assistant Professors, recruited in the annual “academy” fairs of the eight departments, 1 Senior Professor, 1 Adjunct Professor and 4 Lecturers. Of these, there are 24 new colleagues who became part of the Bocconi team starting this year, and we welcome them (the university of origin and the department of affiliation are included in parentheses).

Full Professors include:

- Anthony Bertelli (New York University, Social and Political Sciences)
- Massimiliano Croce (University of North Carolina at Chapel Hill, Finance)
- Giacinto Della Cananea (Università di Roma Tor Vergata, Legal Studies)
- Annita Florou (Queen Mary University of London, Accounting)
- Roger O’Keefe (University College London, Legal Studies)
- Peter Pope (London School of Economics and Political Science, Accounting)
- Eleanor Spaventa (Durham University, Legal Studies)
- Michael Trusov (Smith School of Business, University of Maryland, Marketing)

Associate Professors include:

- Giada Di Stefano (HEC Paris, Management and Technology)
- Dirk Hovy (Copenhagen Business School, Marketing)
- Francesco Patti (Max-Planck Institut-Hamburg, Legal Studies)

Researchers (Assistant Professors) include:

- Pedro Aceves (University of Chicago, Management and Technology)
- Stefano Balbusso (Università degli Studi di Padova, Legal Studies)
- Cassandra Chambers Rae (University of Michigan, Management and Technology)
- Anatoli Colicev (Nazarbayev University Graduate School of Business, Marketing)
- Adam Eric Greenberg (Anderson School of Management, UCLA, Marketing)

- Francesco Giovanni Grossetti (Politecnico di Milano, Accounting)
- Christian Jensen Skov (Copenhagen Business School, Finance)
- Kerim Can Kavakli (Sabanci University, Social and Political Sciences)
- Alexander Kentikelenis (Trinity College, University of Oxford, Social and Political Sciences)
- Thorsten Martin (HEC Paris, Finance)
- Verena Schoenmueller (Columbia Business School, Marketing)
- Daphne The Sook Lian (INSEAD, Management and Technology)
- Carlo Lucibello (Politecnico di Torino, Decision Sciences)

Bocconi's increased attractiveness on an international level is evidenced by the universities of origin of the professors who come to us and the impact they have. As an example, I would like to mention Senior Professor Esping Andersen who, with 68,795 citations on Google Scholar, has become the most cited professor of the Bocconi team.

The productivity of this human capital is underlined by the improvement of the main parameters that describe it. International citations in the Web of Science received during the year by Bocconi faculty publications are constantly increasing, with an acceleration that brings the latest increase to 45% compared to the previous year. Furthermore, the average H-index of our faculty members shows a constantly growing trend over the last ten years.

Our faculty is increasingly present on the editorial committees of leading international journals – compared to the previous year we have gone from 20 to 24 co-editor or associated editor positions of international A+ journals (i.e. the most prestigious in the disciplinary areas where our research is active).

In the area of the faculty, it is also important to remember the new positions of “Professors of practice,” faculty dedicated to dissemination and service both at the University and at the SDA Bocconi School of Management. In particular, SDA Bocconi has hired 3 in this academic year. One of these, Hans Christian Brechbuhl, was hired on the international market from Tuck School of Business, Dartmouth College.

The wealth of this human capital, in addition to the expertise it brings, is also reflected in diversity. In this area, thanks to efforts on the market, concerning international diversity, the number of non-Italian faculty members increased from 49 to 70 between 2016 and 2018 (in relative terms from 14.5% to 19%). The number of international Full Professors has increased from 9 to 17 (in relative terms from 8.7% to 14.4%). From this academic year, three of them contribute to Bocconi governance by being part of the Rectoral Committee and the Academic Council. To stimulate cultural integration, in line with the best practices of other leading universities at a global level, an “International Faculty Office” was set up in September 2018 as part of the other tools within the Faculty and Research Division. The task of this office is to assist the new faculty, its international members in particular, throughout their career, and not just during recruitment or evaluation for promotion or tenure. It promotes initiatives that increase the sense of belonging to the Bocconi community, acting as a tool for retention of talents.

But educational wealth also requires a particular focus on gender. From this point of view, our eight Departments have continued to apply pressure to guarantee quality and diversity. At the

level of statistics, Bocconi maintains a percentage of more than 30% women faculty members, in line with the international benchmarks relating to our subject areas. The number of women Full Professors is significant: the number increased from 8 to 13 between 2016 and 2018. This is a relative increase from 7.8% to 11%. The five additional faculty members have been both promoted internally (three) and recruited on the international market (two). Prof. Eliana La Ferrara today represents the entire Bocconi faculty on the Bocconi University Board (thanks to the votes received from Full Professors and to the choice made by the Javotte Amici della Bocconi Institute).

Notoriously, talented resources have a high market value and are subject to the centrifugal forces related to it. An element of retention of the best faculty members is therefore linked to the overall incentive system designed by the institutions that host them. Over the past two years, a commission of Deans has worked on improving Bocconi faculty members' incentive package, the Bocconi Remuneration Model. It determines the gross annual salary and variable incentives following three-year evaluations of faculty members, analyzing in detail their cumulative performance in teaching, research and university service activities. I thank the Faculty and Research Division in this regard.

Another important distinguishing feature to retain the best faculty – in line with other top universities – is the Named Chairs program of endowments. It allows outstanding faculty members to be rewarded in a visible way. We are pleased to add 3 more to our 13 Chairs and Associate Professorships, reaching a record number of 16 Named Professorships and Chairs.

The BNP Paribas Chair in Marketing and Service Analytics is an endowed chair that has been assigned to Professor Andrea Ordanini of the Department of Marketing. The Achille and Giulia Boroli Foundation Chair in European Studies has been assigned to Professor Gianmarco Ottaviano of the Department of Economics. The Endowed Associate Professorship in Economic Analysis of Crime has been given to Professor Paolo Pinotti of the Department of Social and Political Sciences. On behalf of the leadership of the University, I take this opportunity to sincerely thank BNP Paribas, the Achille and Giulia Boroli Foundation and the donor who has chosen to remain anonymous, who have allowed us to establish these new, prestigious positions. In addition to these new chairs, there has also been a change in the area of the Avvocato Giovanni Agnelli Associate Professorship in Economics, which calls for a changing of the guard every five years with a high profile emerging candidate. After the period in which the professorship was granted to Professor Chiara Fumagalli, whom I thank for her excellent work over these five years, Professor Francesco Decarolis, also from the Department of Economics, was recently appointed. Finally, UniCredit Foundation supported the recruitment of an Assistant Professor in the Department of Finance, Prof. Christian Skov Jensen, with a fellowship of the foundation.

But talented resources also stay on because of the quality of research-related infrastructure. Overall, research funding, both from third parties and made available by Bocconi, grew from €16,837,000 in 2015 to over €23.5m estimated for 2018. It should be noted in particular that the Bocconi research system has become increasingly attractive over these years not only for faculty members, but also for external sponsors, whose contribution rose by 43.4%.

In these years, the work to support applications for competitive funding has continued, both at national levels (PRIN) and at European levels (ERC-European Research Council and Horizon

2020). There has been an excellent level of participation and success, consolidating our role as a European leader in our fields. Project proposals presented in response to competitive calls for external funding from both national and international bodies have grown from 190 in the 2015-2016 two-year period to 214 in the 2017-2018 two-year period. The success rate in results obtained has increased from 28% in the 2015-2016 two-year period to 37% in the 2017-2018 two-year period. With 32 ERC grants hosted since 2007, two of which were awarded in 2018, Bocconi is now ranked second in Europe in the Economy, Management and Finance sector (SH1) and fourth in the Environment and Demographics sector (SH3).

At the same time, Bocconi has also expanded its range of sponsors to new prestigious institutions and companies, including CIFAR, Volkswagen Foundation, IGC, JPAL and Twitter, thus diversifying the funding opportunities for University research. In this regard, an anonymous donor has allowed an entire center on the economics of crime to be funded: the CLEAN – Crime: Law and Economic Analysis – Unit. A new research center was also set up called GREEN (Geography, Resources, Environment, Energy and Networks), merging the activities of the IEFE and CERTeT centers. The formula of research laboratories to carry out fixed-term research on topics of interest common to Bocconi faculty and external sponsors has also been perfected in the wake of the Gucci Research Lab on “The Evolving Organization in the 21st Century” and LEAP, the center on poverty funded by the Invernizzi Foundation. SEE (Space Economy Evolution) was established at SDA Bocconi School of Management in June, the first center on the economics of space. The SEE Lab was founded with the technical and scientific collaboration of organizations such as the Italian Space Agency (ASI), the National Institute of Astrophysics (INAF), the European Space Agency as part of its Esa_Lab@ initiative, the Space Research Committee (COSPAR) and with the active involvement of companies in the sector such as Telespazio, Sitael, e-GEOS, Altec and the American company, Excalibur Almaz. In addition, a memorandum of understanding for research and training activities, particularly in developing countries, was signed a few days ago with the United Nations Office for Outer Space Affairs (OOSA).

3.2. BOCCONI STUDENTS IN 2019

The human capital that Bocconi nurtures on a daily basis is its students. In the past year, special attention has been placed on the growth of our students starting from the moment of their recruitment, their selection and their education, until they enter the job market. A series of changes have been implemented that have allowed Bocconi to increase the ability to define our pedagogical model.

Above all, Bocconi is particularly focused on promoting quality, regardless of the income of the family of origin. In addition to the system of tuition segmentation based on family income, which modulates fees according to the income of the family, in 2018-2019 Bocconi allocated €29.1m in financial aid to needy students (against €28.4m the previous year, with an increase of 2.3%). Considering that the contribution of the State and the Region to the total amount of financial aid was equal to €6.9m (compared to €7.4m in the previous year), Bocconi contributed €22.2m to its own funds, or increased its contribution by 5.5% compared to the previous academic year (equal to €21m).

Further to the purpose of supporting students, the expansion of residence halls also helps us host our students in a way that is more consistent with international campuses. With the Via Castiglioni Residence that we opened at the end of August, we added 300 beds, which allowed

us to reach 2,100 places on or near the Bocconi campus.

Before looking at the innovations introduced in the recruiting and selection phase, I would like to focus on the results. The overall applications for the programs of our 5 schools have gone from 16,837 for the 2016–2017 academic year to 20,043 for the current year with an increase of 19%. Considering the applications of only non-Italian citizens, we went from 3,920 to 5,517, an increase of 40.7%. If total enrollees remain constant at about 14,200, what has increased is the percentage of foreigners, which has changed from 15.2% in 2016–2017 to an estimate of 17.6% for this academic year. It should be noted that the top five countries of origin of our students are, in order of importance: France (14.5%), China (11%), Germany (10.4%), Turkey (7.3%) and the United States (4.3%).

These results have been possible thanks to the development and consolidation of international recruitment tools. A portfolio of activities is being assembled, some traditional and some innovative, that allows Bocconi to make significant strides in attracting quality human capital, improving geographic diversification and choice of timing in the student “life cycle.”

Regarding geographical diversification, wide-ranging campaigns have been developed in the DACH area (German-speaking: Germany, Austria and German-speaking Switzerland) and the East Coast of the United States. The aims are: create long-term relationships with leading high schools; use students and alumni as ambassadors within the related professional communities; participate in the leading higher education fairs; promote ad hoc events (through the successful format of the “Bocconi Meets” events) that involve prospective students and families interested in Bocconi. This strategy led to significant results in the course of 2018 and, compared to the previous year, applications to the Undergraduate School have increased in all the target countries. Overall growth in international undergraduate applications reached 17%. This has resulted in the entire population of the Undergraduate School in 2018–2019 to be composed of more than 17.1% international students (against 13.5% in 2017–2018). Considering only the Bachelor of Science programs offered in English, international students grew from 34% to 39%.

International applications to the Graduate School increased by 24% overall, also here confirming a growth of Bocconi’s main target markets: France, the United Kingdom, the United States and Canada. Also in this case, the international population of the School to date has grown, from 15.3% in 2017–2018 to 18.2% in 2018–2019. Considering only the Master of Science programs offered in English, the number of international students increased from 25% to 29%.

The Master Division of SDA Bocconi, which manages our 18 post-experience programs, increased international applications by 22.7%, reaching a number of international students equal to 43%, with 73 different nationalities. Our Master of Business Administration (MBA) program, founded in 1974 and now in its 42nd edition, has 71% international students from 33 countries.

Three different wide-ranging initiatives have been launched to continue to boost these data:

- the junior summer school (dedicated to high school students) and the senior summer school (for Bachelor of Science students);
- “combined” Double Degrees;
- admissions track for incoming exchange students.

Both the junior and senior summer school aim to offer a unique, engaging and experiential learning context (of Bocconi, Milan and the Italian socio-economic environment) during the summer break. The senior summer school had 215 participants (compared to about 400 applications) in 2018, involving students from 46 countries and 116 universities. The junior summer school had 222 students (compared to 410 applications) in 2018, involving students from 42 countries for a total of 160 high schools.

Combined Double Degrees attract high quality applicants to Master of Science programs from partner schools. They combine their Bachelor programs with Bocconi MSc programs, with a format that creates a 3+2 course. The schools involved are the Chinese University of Hong Kong – Shenzhen, HEC Montreal and Keio Tokyo. In total, for the 2018-2019 intake, we received 22 applicants from DD students and 17 students are currently enrolled. Lastly, the start of promoting Bocconi MSc programs among incoming exchange students (with the launch of a dedicated admissions track) has led demand to grow, with over 30 applications per year (vs. 1 or 2 in previous years), and 10-12 students enrolled.

The structural increase in applications comports adjustments to the selection process. The total number of participants in the selection sessions for the Undergraduate School increased from 9,456 in 2017-2018 to 10,633 in 2018-2019, an increase of 12.5%. In order to align admissions timing with that of leading international competitors, the early selection session for the 2018-2019 academic year (previously reserved to students at the end of the penultimate year of high school studies, with certain GPA requirements), was open to everyone for the first time. The session was renamed the “Early Session” and placed at the end of June, which is consistent with our international benchmarks. The number of participants in the Early Session has grown significantly both for the 2018-2019 academic year intake and for that of the 2019-2020 academic year (which was held last June), confirming the tendency of students and families to choose their university studies increasingly in advance. The total number of participants rose from 1,394 for 2017-2018 to 2,597 for 2018-2019 and 3,225 for 2019-2020, with an increase of 131.3%. For all this, I thank the Student Affairs Division.

3.3 THE “STUDENT EXPERIENCE”

After selecting and promoting human capital, the central element that contributes to skills development is the student experience that the University offers. What we do is also supported by constant improvement in the rankings produced by various publishers. The QS ranking positions Bocconi in fourth place in Europe and eleventh worldwide in our subject areas, namely Social Sciences and Management. Our Master of Science in International Management is ranked sixth in the world by the Financial Times and the Master of Science in Finance is eighth in the world. According to the Financial Times, the SDA Bocconi School of Business is sixth in Europe. Our MBA remains fifth in Europe and has climbed to 24th place worldwide according to The Economist. It is 9th in Europe and 29th worldwide according to the Financial Times, and rose to sixth place in Bloomberg among non-US MBAs.

Again this year we have provided constant stimulus to Bocconi students in three areas:

- innovative teaching;
- international exchanges;
- internships.

3.3.1 INNOVATIVE TEACHING

With the collaboration of the Academic Affairs Division, which I thank, our Bocconi University Innovations in Learning and Teaching (BUILT) center, headed by Prof. Leonardo Caporarello has developed 23 online and blended learning projects within Master of Science programs. Of mention are the launch of the first Bocconi blended courses for a total of 350 students involved (Foundations of Globalization – Graduate School; Path to Entrepreneurship – SDA Bocconi); and the blended Mathematics course, dedicated to the whole Bocconi community, composed of 310 interactive video lessons. Our ninth MOOC, on the subject of Corporate Sustainability, was launched in 2018, positioning and confirming the nine Bocconi MOOCs with an average feedback of 4.74/5 (above the general average of all Coursera platform courses). In the same area, with the aim of strengthening the Center's collaboration and synergies with EGEE, 6 new interactive case studies were produced.

Since the end of 2017, more than 3,000 students have been involved in 14 large-scale projects to adopt online final exams and continuous assessment and six new pilot courses are already scheduled for the next exam session. At the same time, along with the Academic Affairs Division and the ICT, the BUILT team is working on designing a new procedure to integrate the BYOL (Bring Your Own Laptop) policy in exam procedures.

Continuous research and development of new tools on gaming dynamics is also continuing (a serious game project on the topic of job orientation is starting, in partnership with the Career Service), as well as immersive learning experiences with the use virtual reality. These projects, planned for the 2019-2020 two-year period, are possible in part thanks to increasingly consolidated synergy and collaboration with the SDA Bocconi Learning Lab (SDA Bocconi's teaching innovation center).

For the first time, our School of Management has started offering fully online courses (10 at the end of 2018) aimed at the international executive market, in line with the top business schools worldwide. The transformation of 50% of the open offer into a blended format has also started (with a target of 80% in 2019). At the same time, the "paperless" project has been launched for all materials for open and custom courses, with a focus on environmental sustainability.

Innovating teaching in its delivery methodology as well as its content only functions if faculty members are continually encouraged to adopt the new teaching methods at the same time. This is why BUILT has developed Bocconi Excellence in Advanced Teaching: a certified program on the topics of teaching, composed of 6 modules delivered in blended mode and dedicated to Incoming Assistant Professors and the young Faculty of SDA Bocconi. Another project was created with the PhD BEAT program, for Bocconi PhD students. The aim is to improve the teaching skills of the PhD candidates at our University. The project, launched in September 2018, has reached 95 PhD students.

3.3.2 INTERNATIONAL EXPOSURE

Our students' growth this year has also benefited from significant international exposure during their course of study. The overall direction of MSc programs was led by the 2020 target to ensure 50% of students the opportunity to carry out a study abroad experience. This was modulated through a series of actions concerning the consolidation of the existing network, the creation of new mobility opportunities abroad for the new programs launched within the

Undergraduate and Graduate Schools, and the implementation of Double Degree programs for the Law School for the first time, in order to support clear international development. This new Double Degree calls for the cross-exchange of students in different programs: fifth-year Bocconi students take part in an LL.M. program of the partner University and students from the partner University, for example from a JD program, participate in the Bocconi LL.M. program, which was launched last year. For both groups of students, the final result is to obtain two degrees. The first three partners with which the programs will be activated are Fordham Law School, the Indiana School of Law and Maastricht University – Faculty of Law.

An active presence in the main international networks (including recent entry into Yale's GNAM) has contributed to the important development of international mobility opportunities for students over the course of MSc programs. Between 2016 and 2018, the number of the University's partner schools increased from 259 to 275, offering our students a total number of opportunities equal to 1,686 for the 2018-2019 academic year. Among these, 57 schools have been involved for the BIG program, which includes a mandatory exchange for all students. In 2017, the overall coverage level was 45%. In terms of extent and level, our network of partner schools places us in a unique position on the world academic scene.

Double Degree programs, which represent a more intense form of cooperation and ensure exposure that is more pronounced for students, have reached 185 spots available in 2018, for a total of 28 agreements. The new programs activated, which involve several MSc programs, include NHH Bergen, HEC Montreal, Nova Lisboa, Mannheim, ESADE and UCP Lisboa.

Lastly, the design and launch of new international mobility formats aims to test new learning models, but also to support the innovation of the school's programs. In this regard, as part of MSc programs, Study Tours in "country environments" that are particular complex or innovative are experiencing widespread and important acceleration. In 2018, three one-week programs were introduced, with teaching activities integrated with company visits and meetings with local institutions, preceded and followed by a background activity on the country and the development and discussion of specific tasks assigned during the week. Israel, Morocco and South Africa were the first three destinations involving students from the Graduate School and the School of Law. During 2019, these activities will be fully operational with further destinations (also diversified to the US, Asia and Latin America), promoted both during the summer and winter breaks, and to which educational credits will be awarded, becoming a full part of the educational course.

3.3.3 INTERNSHIPS AND ENTERING THE WORLD OF WORK

Internships are certainly the most effective channel to approach the world of work during a study program (in 2017 we activated 4,761 internships, 28.3% abroad) and they represent a powerful accelerator of the skills that students develop during their education. While in the case of Master of Science programs internships are compulsory for the course of study, I am particularly pleased to observe the growing tendency of Bachelor of Science students to incorporate a professional experience into their studies. The percentage of those enrolled in BSc programs who do an internship rose to 38% this year. This has been possible thanks to an ever closer relationship with companies and institutions that choose Bocconi for their recruiting, posting internship and job offers on our portal (11,362 in 2017 with a growth of 16% driven by employers based in Italy and Europe). They also participate in professional orientation, recruiting and employer branding initiatives, and interact with Program Directors

and faculty to help us set profiles that are increasingly in line with the needs of the market. Events this year were also held in London, Paris and Shanghai. I take this opportunity to thank the 65 companies that took part in the Corporate Associate Program in 2017 and the Markets and External Affairs Division, which orchestrates this fundamental process for our students, whom I also thank.

The year coming to an end has been particularly positive in terms of the placement of our students and graduates on the job market. This is witnessed by the employment rate of MSc graduates, which is 95.8% one year after graduation (1% greater compared to 2017 and 1.5% greater compared to 2016). The figure is equal to 72.7% on graduation day (3% greater compared to 2017 and 5.1% greater compared to 2016). This result was achieved thanks to the positive signs that the Italian economy has shown over the past year and to the competitiveness of our profiles on the international market. The percentage of Bocconi graduates who work abroad one year after graduation is 26.4% (0.9% greater compared to 2016). The number goes up to 43.5% if we consider only the international programs in the Graduate School.

3.4. ALUMNI AND PARTNERS AS A FRAME FOR THE EDUCATIONAL ECOSYSTEM

Universities are not only made up of students, faculty and staff. Comparison with university best practices in the Anglo-Saxon world has shown how a fundamental part of a modern university's ecosystem is based on a strong Alumni community that is well established around the world. Being close to the alumni community is fundamental from the perspective of intergenerational exchange for the development of young people's skills, and for the constant contribution of ideas and stimuli that come from alumni to support the Bocconi growth project. But there is a two-way exchange between alma mater and alumni that gives alumni the opportunity to strengthen their networking, support their career development and access lifelong learning. In this regard, I would like to mention a new project launched this year by SDA Bocconi: #MINE brings together all the communities of its course participants, offering the opportunity to participate in livestreamed training seminars. The initiative is carried out in collaboration with the Bocconi Alumni network.

Thanks to the active and generous contribution of the Bocconi Alumni Association (BAA), led by President Riccardo Monti, whom I thank, a transformation process has been put in place over the past two years that allows Bocconi to rely on a community with interests and objectives that are perfectly aligned with those of the University, as happens at the main Ivy League universities. This extensive work of redefining the role of the BAA in a new Bocconi Alumni Community involved multiple steps, involving the academic body, administration and of course the Alumni.

For Bocconi, being able to rely on the support of the Alumni also means looking towards the future more confidently and developing its strategic plan. Time, talent and treasure are the three ways in which each alumnus/a shows their own support of the alma mater. And for Bocconi each alumnus/a counts. This is why, after we presented the Bocconi slogan, Knowledge That Matters, at last year's Opening of the Academic Year, during the Leaders' Conference of the new Bocconi Alumni Community in October it was natural to modulate our motto with Everyone Matters, thinking of all the alumni and what each one represents for the University.

Alumni also represent 80% of Bocconi's more than 650 donors, who with their donations help support the Bocconi2020 strategic plan and fuel the fundraising campaign. Within Our Reach has achieved its objective of raising €10m over the last twelve months, providing resources for scholarships, named spaces on the Campus, academic positions and research funding. I especially thank all the supporters of the Partners for Development Program and the Campaign Board. But I also want to mention, in thanking all alumni donors, Massimo Tononi, Corrado Abbattista and Gilberto Pozzi and three historical supporters, Vittorio Colao, Massimiliano Cagliero and Diego De Giorgi, who have generously acted as ambassadors of the Bocconi cause as a destination for philanthropic contributions.

3.5 BEYOND OUR STUDENTS' SKILLS

Producing new knowledge and knowing how to transfer it to students inside the classroom and outside to a wider audience. If this is the University's mission in short, dissemination is too often squeezed between research and teaching. Yet a greater dissemination of knowledge and skills is a moral duty of universities and an indispensable tool for achieving social and economic progress in any society. Bocconi has decisively taken the path of dissemination, putting in place projects and initiatives aimed at different audiences – including Generation Z and their parents, anyone who wants to read about the phenomena surrounding us with better understanding and anyone who thinks that science and knowledge are a public good that must be continuously nurtured.

We have tried to do this by launching an “omni-channel” strategy, combining the more traditional seminars and events with new formats and new channels. Video and web have therefore become the tool and distribution channels for knowledge. Examples are projects such as SnackNews, in collaboration with Corriere della Sera and Morning Call with Il Sole 24 Ore. The former, which has just started its second edition that will run until May, has already seen the creation of over 100 short videos, for a total of more than 10 million views. It aims to interpret current events under the lens of social sciences and using a language that can be understood by high school students. Morning Call, however, is addressed to an adult audience: to date, 60 video interviews have been conducted with Bocconi faculty to explain the current economic and international situation. There is also a playlist on our YouTube channel dedicated to commenting on current events (with over 350 videos produced), as well as dissemination of basic research, which is more complex but not removed from our everyday life. Videos (30 produced in less than two years), infographics and articles are the main tools we use, collected on Bocconi Knowledge, the research portal, and Via Sarfatti 25, our completely renewed magazine which has made basic research its main focus in the last two years. Sent every month to 80,000 alumni, it has dedicated articles to studies and papers by our researchers over the past year.

Even in an increasingly digital world, dominated by social media that are also central in our strategy of knowledge dissemination (in particular, LinkedIn which has a community of 160,000 followers), for dissemination to be truly capillary, widespread and effective, it must take into account the different needs of its recipients, who do not always find the answer on the internet. For this reason, the web and the more innovative formats must sometimes make room, for example, for books and events. This is the case of the Il Management series designed and produced by SDA Bocconi, Università Bocconi Editore and Corriere della Sera: 20 volumes to stay up-to-date on business. With Corriere della Sera and AIDAF we took to the field to organize the Family Business Festival, whose second edition will be held in 2019. Next April,

with direct involvement of our students, we will organize the second TEDx: after the theme of Intelligence, the common thread will be Connections.

But these are just some of the most recent outreach initiatives that Bocconi has focused on. There have also been media relations (over the last 12 months about 200 articles have been published in the international press which mention Bocconi), the now traditional participation in MEETmeTonight, the events organized by Wired throughout Italy, the activities of EGEA, our publishing house which just celebrated its 30th year, and those of our research centers aimed at selected audiences of professionals and institutions.

4. HOW BOCCONI HELPS TO STIMULATE ENTREPRENEURSHIP

Since its foundation, Bocconi has embodied the entrepreneurial spirit of its founder. Innovative and attentive to the development of skills, Ferdinando Bocconi can be considered a startupper before the term was coined. Starting as a street vendor of fabrics and haberdashery, he continually invested in his business to transform it into a real company, capable of innovating and growing constantly. From shop to department store, following the example of the experiences of London and Paris; from the beginnings in Lodi to development in Milan and then Turin, Genoa, Trieste and Rome; from a family business to a company capable of providing work, in the Milanese area alone, to thousands of people. This growth was often driven by studies and market surveys, which determined new management and technical requirements requiring diversified skills. This led him to send his three children to study in Switzerland and expose them to intense international experiences in Europe and the United States.

We, however, are his biggest and most revolutionary enterprise. For Bocconi, entrepreneurship is at the same time a genetic trait and a mission. Capable of innovating in all its dimensions, from our governance to our educational project, Bocconi is committed to training generations that recognize a competitive advantage in the entrepreneurial spirit. To do this, we act on three closely interrelated factors: scientific research in the field of entrepreneurship, targeted training and new programs, and support for entrepreneurial development. Our commitment on these rapidly growing fronts convinced us to appoint a Dean for Innovation, which will help us manage the many initiatives linked to the theme of entrepreneurship that is increasingly central to the Bocconi ecosystem.

4.1 ENTREPRENEURSHIP AT THE HEART OF RESEARCH

Always a hotbed of thinking on corporate economics, starting from masters such as Gino Zappa, Carlo Masini, Giordano Dell'Amore, Luigi Guatri and Vittorio Coda, today's Bocconi ties the development of its educational project to scientific research. The aim is to ensure depth, modernity, attention to reality, and vision of the future. A company thus becomes the object of analysis, as do its creators and managers, in order to determine the reasons and conditions for the development of entrepreneurship. The methodological approach is always multidisciplinary and pluralistic.

In this context Bocconi can count on consolidated structures such as AIdAF-EY Chair in Strategic Management of Family Business led by Professor Guido Corbetta or the more recent Rodolfo Debenedetti Chair in Entrepreneurship entrusted to Professor Nicolai Foss, inaugurated this year. Research activity in this area is seated in the Department of

Management, headed by Professor Alfonso Gambardella, and ICRIOS, The Invernizzi Center for Research on Innovation, Organization, Strategy and Entrepreneurship, led by Professor Stefano Breschi, where several lines of research are underway. Among these, I would like to mention the recent article published in Management Science by colleagues Camuffo, Gambardella and PhD students Cordova and Spina. In it they demonstrate, over a sample of 116 startups, how the scientific and rational approach to entrepreneurial decision making leads to greater success than the traditional heuristic approach, in which intuition is supposed to lead to better decisions.²²

The tenth edition of the AUB Observatory on Italian Family Businesses will be presented in a few days by the AIdAF-EY chair, which every year draws a complete picture of family entrepreneurship in our country, discussing its evolution and criticality. The inauguration of the ICRIOS Lean Thinking Observatory with the support of BPM Bank and Auxiell and directed by Professor Arnaldo Camuffo was just a few months ago. Lean Thinking is a different productive, organizational and managerial model that intersects not only with industry (lean production) but also innovation and entrepreneurship (lean startup) by hooking up to the issues of environmental and social sustainability and forming a prerequisite for the digitization and adoption of industry technologies 4.0. ICRIOS, in collaboration with the Entrepreneurship and Innovation Center at Politecnico di Torino, has also started a research project that aims to improve the effectiveness of decisions by entrepreneurs. The results of the collaboration can have a positive impact on the creation and growth of entrepreneurial initiatives with high potential and high quality.

In June of this year CatChain was started, a 48-month research project coordinated by Professor Franco Malerba and financed with € 1.6 million from the Marie Skłodowska-Curie Actions program of the European Commission. CatChain stands for “Catching-Up along the Global Value Chain: Models, determinants and policy implications in the era of the Fourth Industrial Revolution.” The project involves 12 international partners based in Europe (Greece, the Netherlands, Estonia, France and Spain) and in some developing countries (India, Brazil, Costa Rica, Malaysia, South Africa, Republic of Korea). The aim is to study how to promote catch-up processes at the national level, based on different sectoral perspectives. Other researchers at the Department of Management are engaged in studies on corporate entrepreneurship, the development of spin-offs and spin-outs, the impact of crowdfunding and the role of accelerators.

Bocconi’s approach to research is multidisciplinary. This is demonstrated, for example, by a research project by Professor Andrea Colli (Department of Social and Political Sciences), which aims to identify the most significant characteristics of European entrepreneurs and the environment in which they thrive through the analysis of thousands of biographies. Professor Diego Ubfal (Department of Economics) is evaluating the effectiveness of entrepreneurial training programs in developing countries, with particular reference to Jamaica and behavioral training. Professor Fernando Vega Redondo (Department of Decision Sciences) is working on the African context, observing the effect of different forms of entrepreneur networking on the quality of their business ideas. Finally, Professor Tamás Vonyó (Department of Social and Political Sciences) won a grant from the European Research Council

²² Camuffo A., Cordova, Gambardella A., Spina C. forthcoming. A Scientific Approach to Entrepreneurial Decision Making: Evidence from a Randomized Control Trial. Management Science.

with a research project on the effects of war on entrepreneurship and the economy. The study will analyze the changes in the entrepreneurial geography of Central Europe following the First World War.

4.2 TEACHING

As we said, the ability to innovate and the entrepreneurial spirit are, first of all, Bocconi's genetic characteristics. This ability to plan its own future and above all to grasp the needs of new professional figures and new approaches to the labor market leads Bocconi to reshape its educational project without betraying its mandate. In recent years, we have therefore taken the road that has led us to redefine our offer of programs by extending it to new areas of the social sciences. Along with traditional economics, management, finance, marketing and legal studies, we have added programs in data science, political science and, from next year on, cyber risk. Specific courses dedicated to the themes of entrepreneurship remain crucial, and are constantly renewed.

4.2.1 NEW PROGRAMS

In the past academic year, the first cohort of BSc students in International Politics and Government (Prof. Vincenzo Galasso, Director) graduated, and in the incoming academic year the first cohort of BSc students in Economics and Management of Computer Science (Prof. Emanuele Borgonovo, Director) will graduate. These two major innovations made to the Undergraduate School's offer of programs were introduced three and two years ago, respectively. I take this opportunity to thank Siemens, who is a contributor to one of the initiatives within the Bachelor of Economics and Management of Computer Science program.

In the Graduate School, we have launched, starting from this academic year, the MSc degree in Data Science and Business Analytics (Prof. Gaia Rubera, Director). The activation of this program was possible thanks to the consolidation of Bocconi's skills in this area. The program is an option primarily to attract students from undergraduate degrees in other disciplines (Mathematics, Physics, Chemistry) but who are interested in a more practically applicable vein of studies. The first edition of the program, which started in September 2018, had a great reception: 236 applications (for a maximum of 60 places), of which 119 were from foreign students. After admissions, the class has an international student presence of 30%.

In this academic year, a graduate program was created that strengthens Bocconi's presence in the field of Political Science: the MSc in Politics and Policy Analysis (Prof. Paola Profeta, Director). The implementation of the program involves cooperation with Sciences Po and the London School of Economics and Political Science, which led to the signing of two Double Degree agreements. The first edition of the program, which began in September 2018, enjoyed a strong response from students (82 applications for 40 places).

Again with reference to innovation in the study programs, for the first time the Politecnico di Milano and Bocconi have developed a common study project. This has resulted in the activation of a Master of Science in Cyber Risk Strategy and Governance program that will benefit from two leading universities in their respective fields. It aims to meet a clear job market need, thanks to basic multidisciplinary training (a feature increasingly sought) that the student can direct towards a more technological or managerial specialization. The strong interdisciplinary setup (which includes: computer science, law, social sciences, project management, risk management, forecasting and soft skills) will provide future graduates with

the tools to understand, catalog and govern the opportunities and threats of existing and emerging technologies. The objective is to identify the related risks and their impact on the performance of every type of organization. The first edition of the MSc program will begin in September 2019 and will be open to 50 students.

4.2.2 NEW COURSES

Apart from these vertical innovations we have also focused on cross-cutting innovations to strengthen the common core among our study programs, in order to provide all our students with the tools and approaches that are indispensable in today's and tomorrow's job market. As you may know, starting from AY 2017-2018, all the students of the Undergraduate School learn the basics of the Python coding language. An optional "Python Programming for Economics, Management and Finance" course was also launched, open to all undergraduate students, as well as an extracurricular course on Python open to all Bocconi students (2 editions per academic year). In parallel to the inclusion of Python in the curricula, training activities were initiated to encourage the use of Python in other compulsory or optional curricular courses.

To stimulate the mental openness of our students, a compulsory course in Critical Thinking was also introduced this academic year, coordinated by Philosophy professor Damiano Canale, whom I thank. Critical reasoning skills are crucial in a data-driven world. These skills are counted among the most important skills to date for employers.

In order to strengthen the behavioral skills of its students, the Undergraduate School has invested in numerous projects to improve teaching aimed at developing these types of skills. The number of classroom hours was also increased for the Leadership and Managerial Skills seminar (common core courses) in order to explore the theme of public presentation techniques, particularly appreciated by employers and requested by students. Similarly, in the Graduate School, 2 credits in each MSc were devoted to the development of behavioral skills.

4.2.3 ENTREPRENEURSHIP IN THE CLASSROOM

At Bocconi, entrepreneurship is a focus of teaching, starting from a specific path in the MSc in Management: the major in Entrepreneurship, SMEs and growth strategies. Within the major, students can choose characterizing courses, such as entrepreneurship and business planning; private equity and venture capital or social entrepreneurship and impact investing, to name a few. The Master of Science in Economics and Management of Innovation and Technology has a strong focus on technology entrepreneurship. Similarly, one of the tracks reserved for students of the World Bachelor in Business who decide to spend their fourth year at Bocconi is that of Strategy and entrepreneurship. I remind you that the WBB is a four-year international program in collaboration with the Marshall School of Business in Los Angeles and the Hong Kong University of Science and Technology, with classes on three continents and a degree recognized by all three partners.

One of the SDA Bocconi School of Management's Specialized Master programs, the MISA or Master in Entrepreneurship and Business Strategy, is focused on entrepreneurial development. The program aims to develop an entrepreneurial mindset in the broad sense, namely the ability to develop new ideas, manage new projects and seize the challenges of the market through understanding of its dynamics. Also for SDA Bocconi Full-Time MBA students, a Path to Entrepreneurship has been designed, which covers, in terms of teaching, all the

initial phases of a startup and requires groups of students to develop business or social entrepreneurship ideas.

In the realm of innovative teaching methods, an important type is exemplified by competitions for the development of entrepreneurial ideas among students. In fact, taking the entrepreneurial point of view helps the student to understand the company and the market in their entirety, and to become familiar with planning tools. This is what many of our students have done for B4DPA, the Bocconi for Digital Public Administration Award, developing innovative projects for the digitization of public administration. Another example in recent weeks is innovative teaching in the Introduction to blockchain course for undergraduate students.

But, as highlighted at the beginning of this report, we must not make the mistake of reducing the concept of entrepreneurship to setting up new businesses. SDA Bocconi School of Management is particularly active in the field of corporate entrepreneurship through targeted training projects. With Prysmian, for example, our teachers provide support to the most promising innovative ideas that emerge from the courses and have participated in the creation of a business accelerator. With Ferrero, we participate in the identification of change management projects. In many other companies, through action research projects, we help to stimulate change and innovation. In addition, initiatives such as the HIT Radar of Devo Lab, which maps and discusses technologies with the greatest impact on companies, falls within the scope of corporate entrepreneurship.

4.3 DEVELOPING ENTREPRENEURSHIP SKILLS

Finally, promotion of the area of entrepreneurship has constituted an element of experimentation in support of startups as a form of enhancement and attraction of human capital within Bocconi, with the prospect of also creating paths of exchange with the main academic partners.

In addition to the consolidation of the Speed MI Up incubator, created with the Chamber of Commerce and with the collaboration of the City of Milan, the main project carried out during the two-year period was the consolidation and development of the Bocconi StartUp Day platform. This is dedicated to students and alumni who wish to launch their own startup: over a hundred teams participated in the initiative, involving more than 300 startupper. They received an ad hoc training course and were connected with a pool of over 50 investors from the world of venture capital, angel investing and incubators. In 2019 the fourth edition will be take place and, as in 2016-2017, it will be financed by Citi Foundation, thanks to a competitive call on a worldwide scale that StartUp Day has won again. Moreover, again thanks to Citi Foundation, in 2018 a competition was launched aimed at the Fintech area, entitled “Fintech-4-Financial-Inclusion,” which involved 400 MSc students with the aim of promoting innovation in the Fintech area, paying close attention to financial inclusion.

As part of our alliance with the Politecnico di Milano, on 26 November 2018, the “BeReady2Fly” initiative will take place at the Italian Stock Exchange. This involves a meeting of the two startup communities with potential investors and business partners, with the aim of promoting a serious and robust scale-up path. So I thank the sponsors Citi Ventures, Deloitte and Tinaba | Sator.

In addition, in order to promote entrepreneurial activities by students, the Undergraduate

School has approved the possibility of recognizing entrepreneurial experiences as curricular internships (and therefore in place of an elective exam). To this end, in coordination with the Graduate School, a procedure has been defined for prior authorization and ongoing monitoring of the activities carried out.

4.4 THE COMMITMENT FOR THE NEXT TWO YEARS

As I mentioned at the outset of my second term on 1 November, for the first time at Bocconi, we have appointed a Dean for Innovation. The task was entrusted to Professor Markus Venzin, whom I thank for accepting the challenge. The University has decided to accelerate its path of consolidation and forward momentum in the field of entrepreneurship, support of which is the most solid foundation on which to build the future of Italy and Europe. A future to which Bocconi wants to make its contribution in terms of skills development and creation of an ecosystem that brings together all the necessary forces: universities, institutions and above all investors.

5. CONCLUSIONS AND ACKNOWLEDGEMENTS

“In the intelligent and scrupulous efforts of our eight hundred workers, in the methodical and incessant study of our fifteen engineers, the certainty of progress is what animates us.” This phrase uttered by Adriano Olivetti, the most visionary of our entrepreneurs, contains the profound meaning of the value of competence and the role of business. It also describes the spirit of Bocconi and its commitment to supporting the entrepreneurial and institutional system and contributing to the growth of European society through education and research. In the words of Olivetti, we thus read the sense of community and teamwork essential to transforming an idea into a business, a plan into best practice.

Therefore, allow me to conclude with a series of acknowledgements of the entire Bocconi community, who, with their expertise, constant commitment and sense of initiative make it possible to implement the Bocconi plan on a daily basis.

The team I have had the privilege of managing over this two-year period is made up of eleven Deans who are in the **Rectoral Committee**. I would like to warmly thank 4 Deans who, for various reasons, completed their activities on 31 October and who I am certain will support the work of the new team indirectly in their roles of researchers, professors and gentlemen dedicated to academic service. I therefore thank the following professors:

- Stefano Liebman, Department of Legal Studies
- Alberto Grando, Department of Management and Technology
- Marco Ottaviani, Department of Economics
- Fausto Panunzi, Department of Economics

I welcome the three new Deans who are now part of the Rectoral team for 2018–2020:

- Prof. Jerome Adda, Dean for Research
- Prof. Pietro Sirena, Dean of the School of Law
- Prof. Markus Venzin, Dean for Innovation

The three new Deans will join the seven Deans who are continuing their terms:
School Deans

- Prof. Annalisa Prencipe, Undergraduate School
- Prof. Antonella Carù, Graduate School
- Prof. Pierpaolo Battigalli, PhD School
- Prof. Giuseppe “Beppe” Soda, SDA Bocconi, School of Management

Rectoral Deans

- Prof. Bruno Busacca, Fundraising and Alumni Engagement
- Prof. Stefano Caselli, International Affairs
- Prof. Francesco Billari, Faculty

I would also like to thank the professors who lead the Departments and who are part of the **Academic Council**:

- Miles Gietzman, Accounting
- Massimo Marinacci, Decision Sciences
- Tommaso Monacelli, Economics
- Carlo Favero, Finance
- Marco Ventoruzzo, Legal Studies
- Alfonso Gambardella, Management and Technology
- Andrea Ordanini, Marketing
- Andrea Colli, Social and Political Sciences

I thank the Professors of the faculty who have played a key role in Bocconi’s academic growth and who serve our institution with respect and passion on a daily basis. I thank the Managers and the Staff, who this year have given me proof of the love they feel for Bocconi and of their constant determination and generosity. On behalf of everyone, I mention the senior figure who until 31 October managed the non-teaching staff, Mr Bruno Pavesi. The relationship I developed with Mr Pavesi over my two years as Rector was both positive in terms of outcomes, and constructive and stimulating in terms of interactions.

I would also like to take this opportunity to officially greet Mr Riccardo Taranto, the new Managing Director, with whom a professional relationship started immediately, thanks perhaps in part to mutual empathy. I feel I can already say our rapport is first-rate and I am sure it will bear fruit very soon. In the next two years of my Rectoral mandate, I will also be able to count on the support of Prof. Andrea Sironi in his new role as Vice President.

I thank our students, whose tenacity and love for Bocconi shines through daily with many ways.

I thank the alumni, who are increasingly important in the Bocconi community.

I would like to extend a special thanks to the people who, more than any others, guide me and provide me with continuous stimulation:

- President Monti, whose constant presence and attention enrich, strengthen and promote the work of the team.
- Honorary President Guatri, for his constant support of Bocconi.
- Professor Francesco Giavazzi, Vice President of our International Advisory Council, full of farsighted advice and support to the activities of the Rectorate.
- Mr Enrico Cucchiani who, as member of the Executive Committee of the University Board and President of the Campaign Board, continues to provide ideas and incentives for support on many fronts to the Bocconi world.

Before declaring the academic year open, I have to make one last thank you. In the course of this report, I have talked about the importance of skills and therefore of human capital. And, as reported, one of the excellent achievements of our University is the number of ERC projects that we host. In the presence of Commissioner Moedas, who will soon speak, and of Professor Jean-Pierre Bourguignon, president of the European Research Council, who has done us the honor of being here today with us, I want to thank the Professors who with their commitment enabled Bocconi to receive the record number of 32 ERC grants. I invite them to stand up after the short video that sums up eleven years of success.

With that, I officially declare the opening of the 2018–2019 academic year, the 116th year of our beloved University.