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MANIFEST

On the (pressing) need to create today the European universities of the future

Introduction

(1) In this article we will make the case for a European university program. Europe needs, as will be shown in these pages, universities of excellence leading the world in the scientific and technological fields, the so-called STEM disciplines.

(2) This need is given, in the short term, by the dismantling of external trade tariffs since the 90s versus countries with lower wages and social protection. Adding insult to injury, at the same time Europe had a negative demographic evolution. To preserve its social model, Europe needs a productivity differential, provided by a better technology, that can restore the lost competitiveness.

(3) In the longer term, the need to invest today to produce tomorrow's technology is noy only pressing but existential. If the future will be won in the battlefield of the double tech-bio triangle and its interactions, it is clear that Europe lags far behind the main economic blocks, at least, in the tech triangle.[1]

(4) The triangles tech (AI, Big Data, IT) and bio (genetics, medicine, bioengineering) and the interrelations between both[2] will dominate the social and economic development in the coming decades thus culminating the substitution of human by artificial inputs[3] that started three centuries ago.

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[1] In this article we limit ourselves to a brief mention of the long-term reasons since developing them in full goes beyond the scope of this article.

[2] So, for example, the next big breakthroughs in medicine will come from the combination of genetics, artificial intelligence and big data. This combination will deliver personalized treatments with high added value which will translate into high prices and the super-profitability of investment in medical research. These high prices will pose ethical problems about ensuring widespread access to healthcare and the sustainability of public health systems (Lamata & Oñorbe, 2014).

[3] Machines and automatic processes progressively displaced human physical in the industrial revolution. This process is about to culminate as AI, artificial intelligence, replaces human knowledge and human thought in areas where it seems unthinkable even today. New software and machines will not be designed by human programmers but by artificial intelligence. In a similar vein, there are currently algorithms capable not only of appreciating works of art but of creating them in a way that no critic can tell the difference with art works produced by human artists.

This does not mean that it will no longer be necessary to invest in education. Quite the opposite, to manage these machines humans will need more knowledge and creativity than ever.

(5) It is clear that Europe is the last pupil of the three major world economic blocs - Europe, America and China- in all fields of the tech triangle[4] and, arguably with the exception of medicine, in the bio triangle. Both are needed, however, to prosper in the future.

(6) For the reasons above, Europe needs to invest in knowledge and to create first-class scientific universities that will generate the technology we need in the short and long term to maintain our current social model and quality of life.

(7) The ideas set out in this introduction are discussed in more detail in the following sections. Next is a brief summary of the historical background and how we got to the current situation. After that, we will show the economic reasons why we need network of scientific-technological universities of excellence and why it must be a European effort. Finally, the conclusions and our petition to the European institutions.

Recent history

(8) After the creation of the European Communities after the disasters of World War II, Europe lived thirty glorious years. They were the most prosperous, peaceful and fruitful decades in our contemporary history.

(9) After those three decades, some pro-Europeans began to perceive that Europe was stagnating in the economic and social spheres. This perception motivated the impetus of a unique initiative: The White Paper "*Growth, competitiveness, employment. Challenges and clues to enter the XXI century*".

[4] The situation is dramatically summarized in the following anecdote. The main search engines presented their vision of the future at a conference on the digital economy. Google explained that, considering the search engine an already mature business, they were investing with a horizon that ranged from 7 to 50 years in virtual reality, autonomous cars and life and the medicine of the future. Baidu, the main Chinese search engine, on how to transplant features of social media to the search engine. And when someone asked what the main European search engines were investing in, the answer was that "Europe does not have its own search engine".

(10) This strategy for the twenty-first century, promoted in 1993 by Jacques Delors, was not adequately implemented by European policymakers despite memorable successes like the launch of the €uro at the dawn of the millennium.

(11) In view of the appalling path followed by the ship *Europe*, without a clear steer and with little energy to move forward, the Heads of State and Government launched the *Lisbon Strategy*, with the intention of turning Europe '*into the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*."

(12) The diagnosis by the European Council in Lisbon (23rd and 24th of March 2000) which called for this radical change of course, is summarised in the conclusions published by the Presidency:

> "*1. The European Union is facing enormous changes as a result of globalisation and the imperatives of a new knowledge-based economy. These changes affect all areas of people's lives and require a radical transformation of the European economy. The Union should identify such changes in coherence with the values and concepts of society and also with a view to the forthcoming enlargement.*
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> *2. The increasing pace of change means that it is urgent for the Union to act now to take full advantage of the benefits and opportunities present. Hence the need for the Union to set a clear strategic objective and agree on an ambitious programme for the creation of knowledge infrastructures, for increased innovation and economic reform and for the modernisation of social welfare and education systems*. "

The current situation

(13) After another two decades, Europe finds itself in a worse situation. We lack cutting-edge hardware and software companies. We lack cutting-edge telecommunication companies. We lack e-commerce companies. We are gregarious laggards in the development of the Internet and quantum computing. We remain helpless in the field of defense. We simply follow the inertia from those initial thirty glorious years and we limit ourselves to react passively and uncoordinated to phenomena like ageing, the crisis in Syria and Libya, Brexit, the dependence on vital supplies that the COVID-19 pandemic uncovered (and that

caused the death of more than a million Europeans but less than fifty thousand in the Chinese epicentre), the collapse of Afghanistan or the invasion of Ukraine, an invasion only contained thanks to the strength and determination of the United States of America.

(14) We Europeans want to keep our way of life: our pensions, our public and first-class healthcare, our social protection from cradle to grave. However, as the proportion of elderly and dependent citizens increases, an uncomfortable truth is unfolding: our way of life demands world-class economic success. Without it, it is impossible to raise the taxes needed to sustain our public services. And the **basis of that economic success can be no other than first class scientific research**. **It is therefore essential that Europe equips itself with a world-leading integrated university system. Europe needs European universities and it needs them now, so that they can bear fruit before the next generation**.

The economy behind it all

(15) Indeed, as any economist knows, the only way to preserve a system with high social protection after dismantling your trade tariffs to countries with lower social and labor standards is a higher productivity that compensates for the higher labour and social protection costs.

(16) To increase productivity above that of our competitors we need superior human capital and technology. Human capital is produced by the education system and the most qualified, the one which can make a difference, in universities. This would allow to compensate for our higher labour and social costs. The creation of genuine European universities is *a sine qua non* for the scientific and technological success that will preserve our European way of life.

The situation in greater detail

(17) The Treaty on the Functioning of the EU (TFEU) does not include anything like this and not even in Articles 179 to 190. It just promotes some simple university coordination with a small budget. The results are obvious. According to various international classifications, not a single EU university is among the world´s top ten, top twenty or top thirty in terms of basic scientific research, applied science or engineering. But the worst is evidenced by the evolution of results published by the *World Intellectual Property Organization* (*WIPO*) since 2,000: Asian universities are constantly accelerating and increasing the number of industrial patents in areas of great competition, American universities barely keep their leadership and European universities rest in a sterile conservatism anchored in the past, limited to fields that do not generate the technological advances needed to be competitive and, hence, to maintain our way of life.

(18) According to WIPO, in 2019 China overtook the United States of America as the top country in international patent applications. With 58,990 applications filed in 2019 through the *Patent Cooperation Treaty* (*PCT*) system, China ended the reign of the US (57,840 applications in 2019) as the largest user of the PCT System, a position that the US has held since the PCT became operational in 1978. Moreover, the acceleration of this dynamic underlines how far below our European Union is falling. The rapid growth experienced by China, which has become the country with the most international patent applications filed through WIPO, highlights the gradual **shift of innovation to the East. Thus, applicants in Asia currently account for more than half of all PCT applications**. In 1999 WIPO received 276 applications from China, in 2019 58,990, a 200-fold increase in 20 years. In 2019 the top five PCT users were: China (58,990 PCT applications), the US (57,840), Japan (52,660), Germany (19,353) and the Republic of Korea (19,085).

(19) In the industrial field, *Huawei Technologies*, the Chinese communications giant, was the company that filed most applications in WIPO in 2019, for the third consecutive year, with 4,411 PCT applications. It was followed by *Mitsubishi Electric Corp.* of Japan (2,661), *Samsung Electronics* of the Republic of South Korea (2,334), *Qualcomm Inc.* from the US (2,127) *and Guang Dong Oppo Mobile Telecommunications* from China (1,927).

(20) The above findings evidence the dramatic position in which our European Union finds itself regarding the avant-garde economy. WIPO also shows that, among the education institutions, the University of California, with 470 applications published in 2019, maintained its leading position; **Tsinghua University** (265) ranked second, followed by **Shenzhen University** (247), Massachusetts Institute of Technology (230) and **South China University of Technology** (164). In short, **the list of the top ten universities in industrial patent applications includes five universities in the US, four in China and one in Korea. Not one European university features in this group,** the genesis of the scientific and technical knowledge that fathers economic success.

(21) Furthermore, we also lag behind in sectors which are key for European industries. According to OMPI-WIPO, '*between 2016 and 2020, the filing of patent applications in the hydrogen fuel cell sector increased by nearly a quarter (23.4%). In 2020, innovators located in China were the top filers with 7,261 applications, 69% of the total, followed by Japan (1,186 applications, 11.3% of the total), Germany (646, 6.2%), Republic of South Korea (583, 5.6%) and the United States (403, 3.8%)*'.

(22) The list of the top ten applicants includes four companies from China, two from the Republic of Korea and one from Germany, one from Japan, one from

Sweden and one from the USA. Of the top ten applicants, six submitted applications mainly in the field of digital communication, namely Ericsson, Guang Dong Oppo Mobile Telecommunications, Huawei Technologies, LG Electronics, Samsung Electronics and Qualcomm.

(23) According to WIPO´s most recent report, published in 2022:

> *'With 69,540 PCT applications, applicants residing in China filed the most applications in 2021. They were followed by applicants from the United States of America (U.S.) (59,570) and Japan (50,260) (figure A7). Combined with applicants from Germany and the Republic of Korea, the top five countries accounted for 78.3% of all PCT applications filed in 2021. Driven mainly by a rapid increase in filings by applicants from China, Japan, the U.S. and the Republic of Korea, the combined share of the top five users of the PCT System has increased by 4.3 percentage points over the past decade.'*
>
> *'Countries located in Asia accounted for 54.1% of all PCT applications filed in 2021. Asia's share grew from 38.5% in 2011 to 54.1% in 2021, primarily due to increased filings from China.'*
>
> *'China-based telecoms giant Huawei Technologies topped the ranking of PCT applicants for a fifth consecutive year, with 6,952 PCT applications published in 2021 (table A15). Qualcomm Inc. of the U.S. ranked in second position, followed by Samsung Electronics of the Republic of Korea, LG Electronics Inc. of the Republic of South Korea and Mitsubishi Electric Corp. of Japan.*
>
> *Among the top 10 PCT applicants, three companies registered a particularly sharp growth. Qualcomm Inc. reported an increase of 80.9% in the number of published applications in 2021 and, as a result, moving up three positions to occupy the second place. Huawei Technologies (+27.2%) and Oppo Mobile Telecommunications (+22.6%) also experienced double-digit growth, which allowed the latter to move up to the sixth position.'*
>
> *'Among educational institutions, with 551 published applications, the University of California remained the biggest user of the PCT System in 2021 (table A17). Zhejiang University ranked second, followed by the Massachusetts Institute of Technology, Tsinghua University and Stanford University.*
>
> *Four of the five top 50 universities that more than doubled their published applications in 2021 were from China. These were Shanghai Jiaotong University (+383.3%), Suzhou University (+232.6%), Huazhong University of Science (+117.5%) and the Technology and Qingdao Technological University (+101.4%). The fifth university was Tokai National Higher Education and Research System (+153.3%) of Japan.*

With 19 universities, China became the country with the most institutions within the top 50 PCT universities in 2021. Eighteen were located in the US, six in the Republic of Korea, four in Japan, and one each in Saudi Arabia, Singapore and the UK. In 2011, by taking the 43rd position, Tsinghua University became the first Chinese university to rank among the top 50 PCT applicants list in the educational institutions sector.

With 396 published applications, the Shenzhen Institute of Advanced Technology of China became the top government and PRO applicant in 2021.'

(24) In other words, we are not only not making the progress needed to maintain our high standards of labour and social protection that we currently enjoy but we are lagging further and further behind. However, we, the European federalists, refuse to accept the mistakes born of Eurocentric pride and politics, such as the failed *Lisbon Strategy of* 2000, a mere empty slogan without a solid plan supporting such ambitious objectives.

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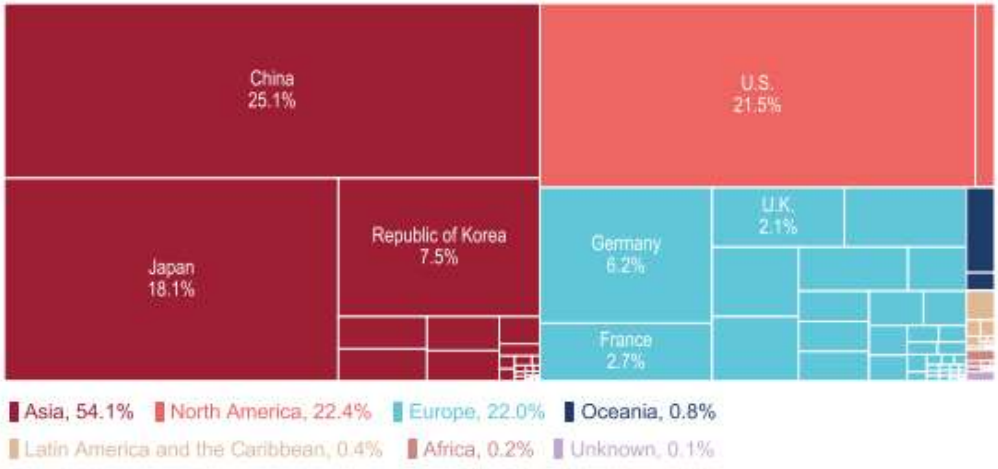
PCT applications by origin

PCT applications are highly concentrated in just a few origins.

A6. Distribution of PCT applications by region and origin, 2021



Note: Data for 2021 are WIPO estimates.

Source: WIPO Statistics Database, March 2022.

Top PCT applicants

For a fifth consecutive year, Huawei Technologies ranked top PCT applicant in 2021.

A15. Top 50 business PCT applicants, 2019–2021

Overall ranking	Change in position from 2020	Applicant	Origin	Published PCT applications		
				2019	2020	2021
1	0	HUAWEI TECHNOLOGIES CO., LTD.	China	4,411	5,464	6,952
2	3	QUALCOMM INCORPORATED	U.S.	2,127	2,173	3,931
3	–1	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	2,334	3,093	3,041
4	0	LG ELECTRONICS INC.	Republic of Korea	1,646	2,759	2,885
5	–2	MITSUBISHI ELECTRIC CORPORATION	Japan	2,681	2,810	2,673
6	2	GUANG DONG OPPO MOBILE TELECOMMUNICATIONS CORP., LTD	China	1,927	1,801	2,208
7	0	BOE TECHNOLOGY GROUP CO.,LTD	China	1,864	1,892	1,980
8	–2	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,698	1,989	1,877
9	0	SONY GROUP CORPORATION	Japan	1,566	1,793	1,789
10	0	PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.	Japan	1,567	1,611	1,741
11	6	PING AN TECHNOLOGY (SHENZHEN) CO., LTD.	China	1,691	1,304	1,564
12	3	NIPPON TELEGRAPH AND TELEPHONE CORPORATION	Japan	703	1,372	1,508
13	3	ZTE CORPORATION	China	1,085	1,318	1,493
14	–3	HEWLETT-PACKARD DEVELOPMENT COMPANY, L. P.	U.S.	1,510	1,595	1,485
15	5	NEC CORPORATION	Japan	1,024	1,121	1,350
16	7	VIVO MOBILE COMMUNICATION CO., LTD.	China	603	955	1,336
17	–5	MICROSOFT TECHNOLOGY LICENSING, LLC	U.S.	1,370	1,529	1,303
18	–5	ROBERT BOSCH CORPORATION	Germany	1,687	1,375	1,213
19	0	FUJIFILM CORPORATION	Japan	1,158	1,128	1,095
20	1	SZ DJI TECHNOLOGY CO., LTD	China	875	1,075	1,042
21	1	DENSO CORPORATION	Japan	1,026	1,062	915
22	12	MURATA MANUFACTURING CO., LTD.	Japan	701	698	882
23	37	SAUDI ARABIAN OIL CO.	Saudi Arabia	439	435	838
24	–10	LG CHEM, LTD.	Republic of Korea	1,624	1,374	824
25	3	GOOGLE INC.	U.S.	777	781	763
26	0	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	982	846	758
27	6	SONY SEMICONDUCTOR SOLUTIONS CORPORATION	Japan	517	703	732
28	2	NTT DOCOMO, INC.	Japan	624	767	713
29	58	AAC ACOUSTIC TECHNOLOGIES (SHENZHEN) CO., LTD.	China	1	298	679
30	–3	3M INNOVATIVE PROPERTIES COMPANY	U.S.	662	789	660
31	8	NOKIA TECHNOLOGIES OY	Finland	579	618	655
32	–8	WUHAN CHINA STAR OPTOELECTRONICS SEMICONDUCTOR DISPLAY TECHNOLOGY CO., LTD.	China	506	872	648
33	–9	SHENZHEN CHINA STAR OPTOELECTRONICS SEMICONDUCTOR DISPLAY TECHNOLOGY CO., LTD.	China	654	872	647
34	–16	SIEMENS AKTIENGESELLSCHAFT	Germany	1,153	1,202	623
35	38	INTERNATIONAL BUSINESS MACHINES CORPORATION	U.S.	477	359	576
36	0	APPLIED MATERIALS, INC.	U.S.	467	638	571
37	0	KYOCERA CORPORATION	Japan	432	626	562
38	9	BASF SE	Germany	573	542	552
40	n.a.	LG ENERGY SOLUTION, LTD.	Republic of Korea	0	0	548
41	–10	SHARP KABUSHIKI KAISHA	Japan	928	745	543
42	11	TENCENT TECHNOLOGY (SHENZHEN) COMPANY LIMITED	China	485	470	511
43	5	SCHAEFFLER TECHNOLOGIES AG & CO. KG	Germany	442	529	505
44	6	MICRON TECHNOLOGY, INC.	U.S.	451	524	504
45	17	NITTO DENKO CORPORATION	Japan	334	425	497
46	–14	BEIJING BYTEDANCE NETWORK TECHNOLOGY CO., LTD.	China	70	719	485
47	12	HITACHI, LTD.	Japan	564	441	474
48	8	BEIJING XIAOMI MOBILE SOFTWARE CO., LTD.	China	362	457	473
49	6	DAIKIN INDUSTRIES, LTD.	Japan	400	458	449
49	–3	HALLIBURTON ENERGY SERVICES, INC.	U.S.	372	559	449
51	–11	APPLE INC.	U.S.	306	615	428

Note: For confidentiality reasons, data are based on published applications and on the publication date.

n.a. indicates not applicable.

Source: WIPO Statistics Database, March 2022

Since 1993, the University of California has been the top PCT applicant from the university sector.

A17. Top 50 university PCT applicants, 2019–2021

Overall ranking	Change in position from 2020	Applicant	Origin	Published PCT applications		
				2019	2020	2021
39	5	UNIVERSITY OF CALIFORNIA	U.S.	470	559	551
72	64	ZHEJIANG UNIVERSITY	China	69	209	306
103	–4	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	U.S.	230	269	227
125	–7	TSINGHUA UNIVERSITY	China	265	231	201
132	58	LELAND STANFORD JUNIOR UNIVERSITY	U.S.	132	154	194
149	5	BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM	U.S.	161	184	177
161	22	SOUTH CHINA UNIVERSITY OF TECHNOLOGY	China	165	157	169
170	138	NATIONAL UNIVERSITY OF SINGAPORE	Singapore	79	96	163
185	420	SUZHOU UNIVERSITY	China	33	46	153
187	15	UNIVERSITY OF TOKYO	Japan	119	149	150
192	–15	DALIAN UNIVERSITY OF TECHNOLOGY	China	141	159	146
202	–95	SHENZHEN UNIVERSITY	China	247	252	142
207	224	QINGDAO TECHNOLOGICAL UNIVERSITY	China	14	89	139
211	37	KOREA UNIVERSITY	Republic of Korea	93	118	138
224	22	JOHNS HOPKINS UNIVERSITY	U.S.	87	121	129
239	27	YONSEI UNIVERSITY	Republic of Korea	48	109	122
242	–17	JIANGNAN UNIVERSITY	China	118	131	121
242	–2	HANYANG UNIVERSITY	Republic of Korea	113	124	121
255	53	UNIVERSITY OF MICHIGAN	U.S.	107	96	113
265	–33	OSAKA UNIVERSITY	Japan	105	128	111
267	67	UNIVERSITY OF FLORIDA	U.S.	94	86	110
267	–61	SEOUL NATIONAL UNIVERSITY	Republic of Korea	136	146	110
283	78	SHANDONG UNIVERSITY	China	71	80	105
284	–36	HARVARD UNIVERSITY	U.S.	140	118	104
288	96	KYOTO UNIVERSITY	Japan	76	76	103
293	159	WUYI UNIVERSITY	China	18	65	102
312	14	PEKING UNIVERSITY	China	75	90	95
312	32	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	97	84	95
326	177	JIANGSU UNIVERSITY	China	61	59	92
328	–68	SHANDONG UNIVERSITY OF SCIENCE AND TECHNOLOGY	China	64	111	91
337	–57	COLUMBIA UNIVERSITY	U.S.	84	104	89
343	347	HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY	China	50	40	87
343	1191	SHANGHAI JIAOTONG UNIVERISTY	China	41	18	87
348	–109	SOUTHEAST UNIVERSITY	China	89	125	86
354	170	DUKE UNIVERSITY	U.S.	73	56	84
354	–14	UNIVERSITY OF ARIZONA	U.S.	80	85	84
354	–83	NORTHWESTERN UNIVERSITY	U.S.	98	109	84
362	–60	KING ABDULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY	Saudi Arabia	123	97	83
373	111	UNIVERSITY OF PITTSBURGH	U.S.	66	61	81
373	–55	OXFORD UNIVERSITY INNOVATION LIMITED	U.K.	98	93	81
389	526	NATIONAL UNIVERSITY CORPORATION TOKAI NATIONAL HIGHER EDUCATION AND RESEARCH SYSTEM	Japan	0	30	76
391	281	CATHOLIC UNIVERSITY	Republic of Korea	23	41	75
400	–177	NORTHEASTERN UNIVERSITY	China	83	170	72
415	–48	CORNELL UNIVERSITY	U.S.	83	79	70
440	–60	UNIVERSITY OF COLORADO	U.S.	85	77	66
459	–45	UNIVERSITY OF WASHINGTON	U.S.	48	72	63
459	381	SUN YAT-SEN UNIVERSITY	China	48	33	63
459	–75	UNIVERSITY OF PENNSYLVANIA	U.S.	64	76	63
459	–255	CHINA UNIVERSITY OF MINING AND TECHNOLOGY	China	100	148	63
466	128	PURDUE UNIVERSITY	U.S.	45	47	62

Note: The university sector includes all types of educational institutions. For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2022.

The economy again, why should the effort be European?

(25) We have the talent that is needed. European universities were once the best in the world and can be back to the top with the right regulations and support. We need a change of approach, more openness and more investment. The EU Commission is the key institution to achieve this. The only one capable of undertaking the reforms so urgently needed and to select and support those universities most likely to become world leaders in the STEM fields.

(26) Whether we like it or not, the European state framework has got to small to compete in the world of cutting-edge knowledge and technology. Europe still has enough human capital to boost European universities to compete with the best Asian and American in patents. **With a strong commitment, the EU can have five universities in the top ten by 2050**.

(27) The economic situation could not be more pressing. The numbers shown earlier speak clearly and there are also powerful economic reasons for a European initiative. The positive externalities[5] in knowledge and information make public intervention necessary to avoid a suboptimal under-provision which, as has already been shown, is what is actually happening in Europe.

(28) On top to the usual economic problems related to the provision of knowledge, human capital and technology, there is another one which is specifically European. The university space is fragmented across member states and, at present, there is no genuine European university space. This leads to a duplication of efforts or, in other words, to public resources wasted. It is not the language or cultural barriers since most countries have STEM schools where teaching takes place in English. It is the administrative and legal barriers, the sterilizing inbreeding and tiny budgets that have prevented the birth of a European university so much needed.

(29) Economics show that technical universities contribute more to regional innovation (Toner 2010). Even more, Schlegel (Schlegel, Pfster, Harhof, & Backes-Gellner, 2022) found that technical universities have a greater effect on innovation in areas with a sufficiently large and dense labour market or with a strong experience in high tech. This proves both the need to approach this problem at European level and to be selective when choosing which universities

[5] A positive externality occurs when consumption by an individual benefits others, in this case the whole society.

will be supported. The reason is that agglomeration economies, the externalities generated in the grouping of companies into *clusters*, reinforce the effects on innovation (Glaeser 2010).

(30) Although not all universities, and not all places, have the same effect on technological development or productivity, it is clear that whenever there is an effect the relationship is two-way thus creating a virtuous circle. Companies accelerate their technological development but also scientific and technical research in universities improves (Wang, Pan, Zhu, & Liao, 2022).

(31) It should be clear, after what has been said, that not all universities can benefit from this European support as this would reduce its effects on Europe's innovative capacity, productivity growth and the preservation of our social model. Moreover, being selective and open to include and exclude universities from this group at different moments are key for success. McLeod and Urquiola proved that the key factor why American universities became the best was competition in a large university space (MacLeod, & Urquiola, 2021). However, there can be no such competition if all or a large group of universities are assured support every year. This doesn´t mean that the universities selected cannot collaborate with other universities, as this would improve the overall European innovation system as in America or China(Jason & Yuhao, 2022).

(32) Not all willing European universities can make it to the world top ten. Not even all big European countries can have a university there. Europe needs to be selective and supportive, ensuring the mobility of the brightest minds among the best universities. This will obviously make negotiations more difficult and politically risky. However, waiting for all our industries to be competed out of the market is something we cannot afford.

Conclusions, what do we ask (demand) of our institutions?

(33) **For all these reasons, the EU urgently needs to create the a legal framework for the development of European universities, public, private and/or public-private, capable of producing the human capital and the technology needed to maintain our social and labour standards. A framework compatible with Article 352 TFEU or even a provision for an additional ad hoc Treaty.**

(34) **Therefore we ask the EU Commission to launch this initiative as soon as possible because without universities with European dimension, Europe will not be able to maintain our *modus vivendi* and our European social model.**

Europe, June 2022

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