CONSULTATION ON THE FUTURE "EU 2020" STRATEGY
Comments and suggestions

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Creating value by basing growth on knowledge
Education

Educational matters are long term economic and social matters. They are of utmost importance for the Union. A well-driven education policy is a condition for our long-term economic development and, beyond, it's probably a survival stake for Europe.

The Commission Working Document is right about the general need of strengthening education in order to fight inequality and poverty and improve the practical creativity. However, education should play a more supporting role in the European project itself. For many Europeans, Europe is presently either a "geographical expression" or a faceless bureaucracy. On the other hand, there is no example of successful economic and social project without a minimum level of people's confidence in the project structure and without basic knowledge of the project background by the participants. So, basic skills should include the basic European culture, in order to allow a larger part of the future citizens to understand that this Union is not an arbitrary construct elaborated by a bunch of technocrats in a bunker. Without hiding the dark side of our past and the sufferings inflicted by Europeans to European and non-European people, without falling in "euro-chauvinism", and without neglecting the various local sensibilities, we must teach our common values and our common achievements in a more assertive and consistent way across the Member States.

Up to now, the European integration used to be simplistically regarded like an integration of monolithic Member States with relatively stable cultural backgrounds approximately matching the national borders. Of course, the reality has never been so simple. Since the birth of Nation-States, Europe has always known at least two strata of divisions : nations and so-called "communities". Community (in the current political sense) is a vague concept related to any kind of human group that doesn't match the borders of a sovereign state (or, at least, the borders of a federated state or an autonomous region), but whose membership (like nationality) comes more often from birth than from deliberate choice. The community phenomenon is not a new issue in Europe and, just like the

nation phenomenon, it has always been both a generator of conflicts and a contributor of our culture. However it becomes more and more complex, due to the large-scale immigration from non-European countries and, as a consequence, the appearance and/or expansion of communities whose people had not been involved in the historical set up of the common European values. This situation creates a new challenge for the EU. Turning discordant and conflicting national interests into a common ambition is just a part of the challenge ; turning a patchwork of communities into collaborative diversity (and avoiding the build up of entrenched ghettos) is another one. This issue should not be handled separately and without EU-scale cooperation by the Member States. It's a common European educational challenge.

By legacy, by necessity and by design, EU is a place for diversity and open-mindedness. It's an unprecedented peaceful integration project. It's the only way to preserve the best of our history and, in the same time, to seize the best opportunities of the future world. All that should be more regularly taught and learnt.

So, besides technology and science, the education policy should actively promote the European history (from a transverse point of view), as well as the current European geography, economy and institutional context. European topics and "national" topics should be given equal importance among the basic skills in every Member State. Such an attitude should not harm personal and local sensibilities knowing that, in any case and whatever the opinions about the EU (and we know that opinions may strongly diverge in such a matter), transversal skills open the minds, make the people more aware of the global issues, and improve their adaptiveness in a fast changing environment.

In addition, fluency in at least three European languages (including the native one) should be a common target for every new graduate by 2020 and beyond.

Such educational dispositions could bring a more effective content to the 5th freedom, because they would ensure that a future EU citizen who will cross the border from her/his home Member State to a neighbouring Member State will not feel like a foreigner and will feel more comfortable.

Creating value by basing growth on knowledge
Intellectual property

The classical IP-related concepts were mainly elaborated during the first industrial revolution. In the information society, they gained both a pivotal role and a far from optimal implementation. Paradoxically, these concepts, designed for a material economy, are now less and less in touch with the exploding immaterial economy. An appropriate IP system for the 21st century is needed, but not invented yet.

Intellectual property is an attempt to find the right balance between two contradictory requirements : protecting the innovation through a temporary monopoly or other special privileges for the innovator, and promoting the largest possible use of the innovation (including the cumulative reuse of existing inventions in order to produce new inventions) in an open and competitive environment. This is a definitely moving target and one should not wait for a stable consensus in this area.

The respective roles of patents and other protection systems (such as copyright) have been in discussion for years. The patent offices, whose human resources are constrained, are crowded by a growing number of applications waiting for a rubber-stamp, so it's more and more difficult to maintain a high and consistent quality in the reviews, and to look for prior art in order to check the originality of every invention. According to the World Intellectual Property Organization (WIPO), it's the applicant's responsibility to do the prior art search efforts in order to check the patentability of the invention, and it's not a job for the patent office. Unfortunately, the competition doesn't wait and, due to the sky-rocketing growth of worldwide patent production in the hottest topics of the information society, it's very difficult, if not impossible, to drive an exhaustive prior art search before filing an application in reasonable time frames and at reasonable costs. In other words, a patent may be requested and granted without knowledge of the patentability of the invention. Such constraints make patent protection unaffordable for a lot of small but very innovative businesses. As a consequence, the efficiency of the patent system as a help for innovation (in Europe like elsewhere) becomes more and more questionable. Instead of providing security to the creator, intellectual property sometimes provides insecurity to everybody, not to say that, in the worst but hopefully exceptional cases, it may even play the role of a trade barrier.

Reflecting this weakness, patent-related conflicts have been exploding during the last decade in the USA courts. This costly consequence of a long lasting inappropriate IP policy may be partly avoided for simple quantitative reasons in the EU, where the area of the patentable inventions have less extension. According to the European Patent Convention (EPC), "*schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers*", like "*discoveries, scientific theories and mathematical methods*", "*aesthetic creations*", "*presentations of informations*", "*methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practised on the human or animal body*", are not patentable inventions. However, our patent system is not out of risk. It's an open secret that patents are granted too easily, due to various factors including, at first place, the funding of the patent system. The European Patent Office (EPO) and the national patent offices of the EU Member States are financed through procedural and renewal fees, and such a situation is an incentive for volume more than quality. We need other kinds of incentives in order to get less, but stronger patents.

On the other hand, the European Patent Organization is by no mean in automatic alignment with any EU strategy, knowing that it includes a larger number of countries and has not been set up on the basis of the EU treaties. As a consequence, there is presently no formal EU patent-granting authority, and the EPO may just be regarded as a partner. This is a potential weakness that should be corrected as soon as the EU want to build up an efficient IP policy.

So, EU should actively promote a very selective patent policy, in order to ensure and sustain a high level of quality and legal security. A clear distinction between patentable inventions and other intellectual creations (covered or not by other IP management tools) must be maintained in accordance with the EPC and really put in practice. Non implemented patents should never be used by their owners in order to block implementation by other people or to grab economically undue profits from other people's industrial risks and efforts. In addition, the volume of granted patents must be consistent with the available resources of the national patent offices and the EPO, which could be reinforced if really needed, but which should never validate an application without full review by experts with appropriate skills. Whatever the right answer, the question is of utmost importance and should not be overlooked at the political level.

The IP system should not be regarded as a real part of the "basic common European values" (such as human rights). It's a matter of strategic and pragmatic choices in a competitive and changing environment. The IP should be used as a way to ensure the best possible protection and development opportunities for the European industries without breaking our external commitments and the global trade rules. Our IP policy should not be an attempt to find and implement universal

rules that will never really exist ; it should promote a by-industry approach, make a strong distinction between the "material" and "immaterial" areas (avoiding inappropriate analogies and concept transpositions from the first one to the second one), and consider the whole matter according to the particular European strengths and weaknesses.

The software is a good example of complexity and specificity that requires a real ad hoc European policy. The EU traditionally lacks world-class commercial software vendors ; on the other hand, it's a leading provider of software research & development projects that don't generate products for immediate sale but that provide near-term business opportunities for a larger ecosystem. The flourishing market of so-called "open source software" is the best illustration of this phenomenon. Typically, the most popular provider of on-line services in the world, that is an American company, has equipped its powerful servers with an open source operating software that was initially created as an academic project in Finland, then adopted worldwide and improved by a lot of contributors. So, a really euro-aware IP policy should both promote a safe legal environment for open source software development and ensure that this development benefits to European businesses, governments and citizens.

Because it's a trade-off between free market competition and inventor protection, IP is "exception law" that must be handled with care and reflect conscious and deliberate high-level industrial strategies. Its legitimate purpose is always to promote innovation ; it's never to dispose anti-competitive mine fields and time bombs in order to protect established positions. On the other hand, it can't be managed without care of the common European values and legal systems. So, it's not just a "technical detail" and it should be driven at the highest level of the EU institutions, which have to invent European solutions, not just reproduce old models.

A recent kind of IP issue, that could now directly affect everybody's private life beyond the business area, looks more and more worrying and requires a common, long term EU strategy, with clear implementation guidelines and not general principles only. Up to and including the 19ᵗʰ century, image and music authors used to be directly and individually paid for their production, either once for all or on the basis of each public performance. During the 20ᵗʰ century, the first multimedia revolution introduced a new artistic economic model, whose gravity centre was no longer the content creation, but was the content reproduction and mass retail distribution system. As a consequence, at the end of the cycle, the so-called "culture" industry was for a large part a copy industry. Then the information society, thanks to a pervasive hi-speed internet and low-cost digital storage devices, triggered a second multimedia revolution where the copy-based business models are no longer relevant. Like any economic paradigm shift, this new one produced a crisis. The major operators of the first multimedia age, faced with deep changes in their economic environment, are looking for non-economic workarounds in order to protect the value of their historical assets and to avoid the costs of drastic operational changes. As usual each time a social group feels uncomfortable with an industrial change, they are actively pressing for more legal protection and various forms of tax-based subsidies. European governments can neither ignore the claims of this "gramophone generation", nor block the second multimedia revolution. Some governments are attempting to set up reactive policies whose main characteristics are an extension of old IP rules and new ways of legal enforcement. These national (and uncoordinated) policies reflect an over-reaction against anecdotal symptoms and they miss the real thing. They will be outdated before the end of the decade, just because courts and police stations are not the best places to manage a historical turn. However, in the meantime, they could harm both the taxpayer's wallet and the individual privacy without real profit for anybody. EU should be more guiding in this area that strongly matters for citizens as well as for businesses and where the issues can't be dealt with in discordant ways at national level.

A standard is an attempt to reduce the total cost of ownership of a particular kind of goods, by the mean of commonly accepted formats, protocols and interfaces. On the other hand, the definition and the recognition of a standard in a critical economic area is often the result of a fierce battle between competing vendors. Such battles should take place, at least in the EU, under a stronger European institutional control.

The world-class "*de jure*" standards are officially defined by a few international standardization bodies (SBs) such as ISO and IEC, whose industrial scope is very large and whose technical work takes place in specialized committees, subcommittees an work groups. Work groups are made of delegates, each one representing a national SB. As a consequence, every Member State in the EU can participate in the definition or the maintenance of any international standard of its choice, but the EU itself is not directly involved.

The EU is formally linked with official European standardization bodies, mainly the European Committee for Standardization (CEN) and the European Committee for Electro-technical Standardization (CENELEC), whose national members represent the respective national SBs of the EU (and EFTA) Member States. These committees accomplish an undoubtedly useful job in a huge set of industrial areas, from nanotechnologies, petroleum products, and printer cartridges, to air traffic control, consumer goods packaging, biometrics and energy performance of buildings (just to quote a few random examples). CEN recently turned international thanks to a new, so-called "*Partner Standardization Body*" status, that allows non-European national SBs to have direct and effective operational liaisons with it. However, neither CEN nor CENELEC play the game of a clear European leadership in the standardization area, and they don't represent a united European voice in the global standardization debates. While they drive projects in partnership with ISO, they can't be regarded as an intermediate level between ISO and Member States' SBs.

The standardization agency of each Member State discusses (or chooses not to discuss) every topic directly at the international level without real European coordination. This "one country, one voice" principle brings apparent good news : it provides the Union with 27 voices. Unfortunately, the reality is not so shiny. Due to the lack of strong coordination level, the European voices are discordant and don't reflect common interests. And, above all, due to the real nature of the standardization process, the choice of a particular national SB doesn't automatically reflect the choice of the country's government and the national interests. In a typical national standardization agency, the real work is accomplished by experts who represent the interested companies ; the government representatives sometimes remain in the background and check the formal regularity of the debates (just like the permanent representatives of international standardization bodies at their respective levels).

The present situation is not worrying for a large part of the standardization works. As long as there is a consensus in the industry about a projected standard, the permanent staff of national and global SBs have just to arrange the logistics of the meetings, check the process and deliver a code number for the final document. But when rival vendors are entrenched in incompatible positions, and/or when the covered industrial matters are very sensitive, an arbitration should be made by the political authority according to the national or, preferentially, European interests. Unfortunately, there is no common and explicit rule in this area ; sometimes the process is just frozen, sometimes a strange outcome suddenly pops up, without explanation, as the result of opaque negotiations between a subset of technology providers behind the scene. Due to the global economy, the major commercial actors that participate in each national committee are the same. Thanks to its local subsidiaries spread everywhere, a global, non-European company may legally look like a "national" economic actor in almost every national SB in Europe. Of course, all the "national"

representatives of a global company strictly implement the policy of their international headquarters (mainly out of Europe in such strategic business sectors such as computing hardware and software). As a consequence, an important part of the European standardization is the almost unchecked result of off-shore decisions. It doesn't matter when everything goes fine, but it's a structural weakness, because the control of the international standardization is obviously an instrument of economic power and competitive intelligence.

For years, EU had felt the necessity to ensure that *"due account is taken of European interests during the establishment of universally applicable standards and that the development of separate European standards is avoided"*. In addition, it had a long time ago expressed reservations about *"the possibility of the market position of individual suppliers being unduly protected by standards"* (EU Parliament, A4-0248/96). Such matters of concern should be followed by a more positive and proactive steering.

The funding of national and international SBs comes for a large part from service fees paid by commercial entities that express their views through the technical committees. As a consequence, the income of a SB depends on the volume of standards under development or maintenance. It's an incentive for standard inflation, not quality. As an example, in the previous decade, ISO (backed by most European SBs acting separately and almost without mutual consultation) has successively "sold" two redundant and conflicting standardizations projects related to the office software file formats, so, at the end of a costly and controversial process, we got two rival standards whose, obviously, none can be regarded as "the" standard.

Ironically, the standardization processes themselves are not driven according to any standard.

The issue is very similar to the patent quality one. We need less standards and stronger standards.

So, in this area, too, much more coordination between national SBs is needed and, for every hot topic, the CEN and/or the CENELEC should help to define a common European position (or consciously decide not do so) before each decisive meeting or final vote at the international level. And more generally, the European SBs need more support and more control from the EU political level.

Empowering people in inclusive societies
Employment and flexibility

LIFE LONG EDUCATION

Many people in Europe was born in a time where "one job for life" was a common credo, and this prejudice is often more or less transmitted by capillarity to the later generations. Developing a pervasive life long learning infrastructure, backed on the new tools of the information society, is a good idea, but it's not enough. There is presently no right balance between the "initial" academic education and the "life long" education. The first one is supposed to provide the essential skills for life, and is of prominent importance as a social selection factor. The second one is perceived as second-class education for small and occasional improvements or disaster recovery after professional failures. The "be graduate, then build your career" precept, that belongs to the same

good old world as the "one job for life" claim, is dying hard. That should change : ideally, any motivated worker should be allowed to start a new career at any age.

SELF-EMPLOYMENT

Individual entrepreneurship is another way of personal and social improvement. It's more and more formally encouraged in Europe but, unfortunately, the current policies are essentially focused on the legal issues of small business creation and, in some situations, on various forms of launch subsidies and tax reductions. They miss the main point, namely the long term sustainability of the individual venture in the marketplace.

Almost all the large organizations, including central government agencies, use to deal with big players for their service contracts. As a consequence, self-employed worker can't get an easy access to the large customers' procurement systems, so they generally can't rely on long term contracts.

As an example, an independent computer programmer looking for a mission with a bank or a motor manufacturer is generally forced to become a subcontractor of a large IT services company whose "added value", in such a situation, just consists of producing the invoices for the customer... and retaining 20% or more of the price. Such situations (which are too much common) are economically irrational, and they artificially put self-employed workers in the same subordination as waged workers, without providing them with equal social protection.

For a first step, EU, through its own requests for proposals, should largely open its procurement policy to small or individual businesses for every contract that doesn't require large assets. Then it should encourage the same kind of policy in the Member State governments at the Union scale. Such an attitude would not be relief for a particular category of businesses ; it would be economically justified, knowing that, for a well-defined and limited task, a light structure is much more cost-efficient than a giant international workforce reseller.

Due to the legacy of the old industrial culture, a large part of European citizens use to regard "worker" as a synonym of "wage earner", and crossing the border from the wage system to the self-employment if often perceived like a jump into the wild. In this area, education have a great role to play. The basics of micro management is not rocket science, so it should be taught sooner and more systematically in order to demystify this topic.

The set up of an individual business should not automatically imply full or partial loss of unemployment compensations. On the other hand, independent workers should have a choice between the same social protection as a typical corporate employee and a less expensive, but more risky protection.

LIFE LONG EMPLOYMENT

The European society is faced to a potentially disastrous contradiction regarding the duration of the professional life. On one hand, due to the lengthening of the human life, the working life will inevitably be lengthened too. On the other hand, due to semi-conscious cultural prejudices that everybody condemns but that remain heavily present, a worker who gets off business for any reason after his 50th birthday or so is often professionally dead, whatever his skills, health, goodwill and ambition. This contradiction is not sustainable in the long run. The EU should help to promote appropriate solutions. Of course, self-employment is a possible way, knowing that, for an aged but efficient worker, it's more easy to claim fees than wages. However, such an option doesn't fit for everybody and every job.

TELECOMMUTING

In the new economic era, more and more workers are mainly *information* workers. On the other hand, the world is more and more connected. As a consequence, the *technical* conditions of large-scale telecommuting are met.

Knowing that the daily bidirectional migrations represent a major environmental fingerprint and huge other cumulative direct and indirect costs, a sustainable and green economy should be more open for remote working.

Unfortunately, such practice remains marginal and unorthodox in most industries. It works efficiently in a few young businesses, but, up to now, did not take off in the pre-internet corporations.

Anyway, telecommuting is one of the various possible life improvements for the European future. Up to now, it's negatively perceived by some workers who want a clear border between the professional and private spheres, and some managers who need to keep their troops at hand. For many people, who forget that the saved daily transit time could be employed in more constructive social activities, telecommuting is a synonymous of isolation. In a few words, telecommuting is a social innovation, a change in old habits, so it's much more difficult to adopt than just a new technology. However, paradoxically, a few corporations that dislike individual telecommuting within their ranks, are looking for more and more service outsourcing and subcontracting, including off-shore relocation of entire production units.

EU should encourage the use of this new opportunity of the information society and help providing more legitimacy to this new pattern of professional behaviour. Of course, internal teleworking in a Member State is not directly in the EU scope. But intra-EU, cross-border telecommuting, that would be a good way to use the 5th freedom and would promote new kinds of professional relationships, should be legally facilitated through EU-level multilateral conventions. Of course, a good policy should encourage true telecommuting, not disguised job relocations.

Creating a competitive, connected and greener economy
Telecommunication infrastructure

Due to very heterogeneous local infrastructures, the common European policy should be reinforced.

Because, up to now, some Member States had benefited from high density and high quality legacy wired networks and an effective GSM coverage, the EU could quickly become a laggard in the wireless internet area. Such a situation could be convenient during the last decade, knowing that the most part of the communicating devices (computers, phones, etc.) were hard-connected. However, due to the increasing pressure of the mobility, the expansion of various hand-held and embedded connected devices of all kinds, and the upcoming merger between communication and geolocalization technologies, the wireless segment will undoubtedly capture the fastest growing part of the telecommunication market in the next decade. According to the recent Morgan-Stanley's "*Mobile Internet Report*" (Dec. 15, 2009), "*more users may connect to the internet via mobile devices than desktop PCs within 5 years*". The slow and functionally limited legacy GSM cellular networks will become to vanish during this decade, because they are less and less able to

compete against the broadband wireless internet and its unmatched ability to integrate all kinds of communication services.

The Europeans don't lack ideas, and the technology is here. The LTE technology is now open for the Stockholm urban area and should quickly cover the most part of the Nordic countries. However, a coordinated initiative is needed at the Union's scale. Covering more than 80% of the EU territory before 2020 with an efficient hi-speed wireless communication network may sound an ambitious aim ; but it's a necessary one. And, of course, our long term development requires that this strategic piece of infrastructure will not exclusively depend on non-European operators or technology providers.

So there is an urgent need for a strong and consistent European policy about the mobile internet issues.

Creating a competitive, connected and greener economy
Remote information services

During the last years, a bunch of on-line companies, apparently coming from nowhere and leaning upon new business models, suddenly popped up in the landscape and appeared as the top winners of the internet economy. Some of these new service providers have quickly captured a customer base that is larger, by several orders of magnitude, than the subscriber base of the larger traditional telecommunication operator in the world. According to the most common perception, these on-line services looked "consumer-oriented" only. This perception is no longer valid.

The leading on-line operator, followed by its competitors, is now offering more and more business-oriented services. The proposed services began with remote hosting of electronic mail, calendars, conferencing, document management and other applications at the "edge" of the corporate information systems. In the same time, so-called "social networks", initially intended for hobbying, are now diluting the border between the business and private areas, and are about to become mandatory professional relationship management tools. A growing number of companies already rely on remote services for all their sales force automation, customer relationship management or provisioning applications. In the long run, on-line services will cover almost all the function of a typical corporation in almost any business sector.

While its real impact is presently under-estimated, we are the (passive) witnesses of a decisive transition from the "information technology" age to the "information industry" age. During the three last decades, the IT/Telecom sector was dominated by separated operators, namely computer manufacturers, software vendors, network operators and service providers, knowing that every large company or government department used to build and host (at huge cost) its own information systems. At the end of the new decade, a typical corporation or government agency will rely on a global "information industry" operator for its business-critical information systems as easily as it relies on a global banking operator to host its money today.

This trend is generally associated with volatile and meaningless marketing buzzwords (the most a la mode is presently the "cloud computing"). However it's a real trend.

In a competitive world, almost nobody will resist it, because the new "information industry" is able to provide the same effective value as the legacy in-house information systems at a fraction of

the operating cost, without fixed assets on the user's side. In addition, the "information industry", unlike the internal IT services, provides a full integration between voice communications, instant messaging, collaborative office services, document management and core-business applications, and fully covers mobility and commuting needs by design. Due to its fundamental ability to improve the capacity utilization rate, the remote and concentrated IT services may allow huge economies of scale and drastically reduce the needs in electrical power, computer hardware, and capital assets, for a given data storage and processing power. As a consequence, both the cost-effectiveness and the "green" issues will plead in favour of this new way of IT management.

While Europe can rely on a perfectible but relatively mature and well-regulated banking system for money deposits, it will lack an equivalent level of confidence for its current and critical remote information deposits. As a consequence, European organizations could be faced, before 2020, to a painful choice between costly, old-fashioned and inefficient in-house information systems, and off-shore services that are presently under control of non-European companies (mainly based in North America), so out of control of the European regulation and security watchdogs. While such a limitation could not worry a small business operating in a non-sensitive area for a local market, it could severely harm the global European competitiveness and/or create critical security concerns. Just like banks, on-line data services may suffer accidental dysfunction, are potential targets for malicious practices, and may occasionally fall under wrong management. Our dependency in this area is much more worrying than the traditional lack of European IT vendors, because our critical data and processes (and not only our hardware and software provisioning) will be at stake. Our privacy, too.

Due to the global nature of the issue, pure national policies (if any) would fail. A well-informed and assertive European policy should cover the on-line services, presently overlooked in the political sphere.

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