

Transforming the IP System

From Competition Towards Collaboration

Abstract

The author was asked by the European Commission to analyze as external consultant the effectiveness of the SME IP Helpdesks, a policy measure which tries to boost the EU knowledge economy. He concludes that China's economic might has undermined the concept of intangible asset protection and has accelerated the natural evolution of the IP system. Accepting the status quo will contribute to the supranational organization's dissolution as it is being challenged by rising nationalism and economic competition. The author suggests a pre-emptive system transformation from competition and profit towards collaboration and purpose.

Table of Content

- I. Executive Summary
- II. Methodology and Evaluation POV
 - a. Logotherapy
 - b. Systems Theory
 - c. Sinology and Far East Asian Studies
- III. Status Quo System
 - a. Policy and Administrative Framework
 - b. Allocated EU Budget
 - c. Policy Teleology
 - d. Competing Knowledge Economies
 - e. Small and Medium Sized Enterprises
 - f. Definition of the Status Quo System
- IV. Challenges to the Status Quo System
 - a. Hampering Innovation
 - b. IPR System Undermined by China
 - c. Shortening Innovation Cycles
 - d. Labor Market Transformation
 - e. Profit Extraction vs Value Added
 - f. Changing Innovation Patterns
- V. Target System
- VI. Conclusions and Recommendations to Initiate a Transformation
 - a. Discontinue IHD
 - b. Combine IPR Policy with Cutting Edge Innovation Studies
 - c. Assess Investments Contributing vs. Protecting Innovation
 - d. Install IPR System Incentives for Innovations Which Serve the General Well-Being Not Only Corporate Interests
- VII. About the Author
- VIII. Sources

Why did modern science, the mathematization of hypotheses about Nature, with all its implications for advanced technology, take its meteoric rise only in the West at the time of Galileo but had not developed in Chinese civilization or Indian civilization?" [Joseph Needham, 1969]

I. Executive Summary

The author was tasked with the evaluation of two reports on the EU IPR SME Helpdesk (IHD), one undertaken by Technopolis Group, the second by DG GROW staff. He believes that the evaluation undertaken by Technopolis Group is a textbook example of analytic rigor, but suffers from two substantial shortcomings: 1. The evaluation focus was set by far too narrow as to be able to arrive at purposeful conclusions; 2. the survey respondents who form the basis of the evaluation are quantitatively and qualitatively not representative as to be able to draw conclusions on the effectiveness of the IHD.

The evaluation prepared by DG GROW (henceforth: Staff Working Document) is much broader in scope and approach, but lacks the analytic expertise and methodology of the Technopolis Group document. The right fundamental questions – like: Is the need to protect IP still relevant? - have been asked, but the author believes that lack of system awareness and conformity to top down ordained policy decisions have caused the Staff Working Document to fall short in corresponding answers and required insight.

Both, the Technopolis Group evaluation and the Staff Working Document arrive at the conclusion that the IHD services should be continued and even extended beyond the currently active territories. The author believes quite on the contrary that the IHD is a service which the EU can't afford to operate any longer. Not only the IHD, but as a matter of fact large parts of its economic policy needs to be reassessed in an era of exponential transformation and existential threats like climate change and mass unemployment. Investments need to be made into purposeful innovation and application of technologies and not today's protection of innovation which will be outdated tomorrow.

China's economic might and the CCP's industrial policies have moreover rendered the IHD services valueless. A government regulating a single domestic market which constitutes in many industries more than half of the global market is capable of undermining the concept of intangible asset protection and has made not only the IHD but the entire WIPO system obsolete respectively has bent its rules in its own favor. Reading policy papers like the [Medium and long-term Program for Science and Technology Development 2006-2020](#), Chinese technocrats have never made a secret about what technology they want and they have proved over the past decade that they have the means to get it, whether through smart JV contracts or simple purchase of foreign assets.

China accelerates as such the natural evolution of the IPR system, a system which was conceived at the onset of the industrial revolution and which has not changed conceptually since the 18th century despite the technological developments which humanity has experienced in the 19th and the 20th century. The 21st century will certainly require a new understanding of how mankind creates and manages intellectual assets and China might well get the credit for making legislators in different jurisdictions eventually arrive at this insight.

DG GROW has the choice between lobbying within the European Commission for a substantial transformation of IPR governance or coopting with the status quo. Accepting the status quo and supporting as such the continuation of the IHD will waste EU resources and eventually contribute to the supranational organization's dissolution as it is being challenged by rising nationalism and economic competition. A transformation will require to sincerely ask questions about the social role the European institutions should

fulfill not only within the union of member states but also as a global actor and responsible role model for developing nations.

The Swedish statistician and public health expert [Hans Rosling](#) gave in 2010 a talk in which he made it quite clear that *the role of the old West in the new world is to become the foundation of the modern world - nothing more, nothing less. It's a very important role, which has to be done well and one to which Europe has to get used.* Doing it well means in the context of this evaluation taking the lead in transforming the existing IPR system, i.e. the creation and management of intangible assets into a system which is value not profit driven, a system, which in the words of the social psychologist Erich Fromm focuses on being instead of having.

II. Methodology and Evaluation POV

The author draws largely on systems theory, logotherapy and sinology for the purpose of this evaluation and approaches this report in a three-step method applying below described evaluation tools. He first looks at the status quo system and tries to define an evaluation focus which might be different than the one assumed in the assignment. He then defines a target system and asks in a last step what a transformation process from the status quo system towards the target system entails.



Methodological Approach



System

- What is the system? What are current issues?
- How are they caused? What are the consequences?



Target

What is the target?



Transformation

What needs to be done to reach the target system? Where are the opportunities? Which are best practices?

1. Logotherapy

If there is anything that can help a person to manage challenges, then it is the knowledge of a purpose, which is waiting for this person to be taken up and being fulfilled. [Viktor E. Frankl]

Logotherapy, also known as the third Viennese school of psychotherapy, was founded by the psychiatrist Viktor Frankl after WWII. It puts man's search for purpose against pleasure and power, the two drives which Freud's psychoanalysis and Adler's individual therapy were centered around. Logotherapy asks in an organizational context whether the pursued vision and mission of a business endeavor or a policy measure

serve a purpose which generates meaning for society at large. The author looks specifically into government policies, business strategies and personal motivation to understand whether organization and empowered individuals are driven by power, pleasure or purpose – looking for intervention methods which set the respective entity on track for purposeful action.

2. Systems Theory

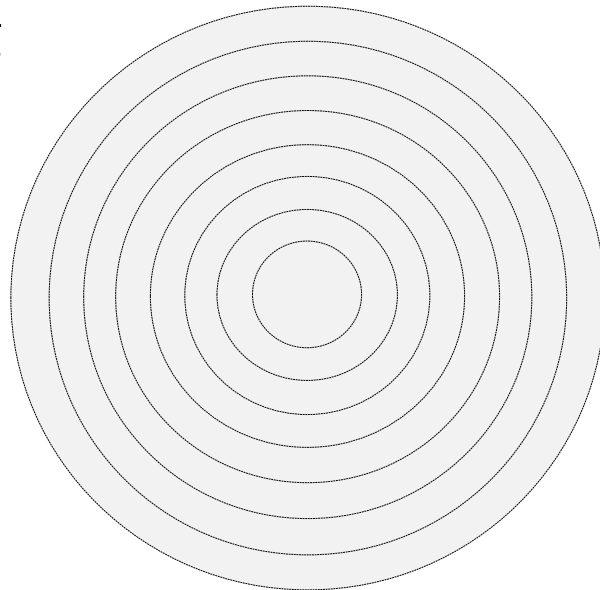
In a system, there are no side effects – just effects, anticipated or not. What we see as “side effects” simply reflects our flawed understanding of the system. Much of the time people attribute what happens to them to events close in time and space, when in reality it’s the result of the dynamics of the larger system within which they are embedded. [Daniel Goleman]

Systems theory looks at different layers of systems, whether in vertical perspective, e.g. from atomic to universal, or horizontal perspective, i.e. different systems on the same systemic level. Systems theory requires us to define the status quo system and a target in order to identify the transformation necessary to reach the target system. The advantage of systems theory over traditional forms of analysis is that it mostly eliminates system blindness by focusing on a particular system only; quite on the contrary does it try to take all relevant stakeholder into account and enables us to understand dynamics which take effect in the focus layer, but are caused in other layers and vice versa. The author uses osmotic modelling to cut through different system layers.



Osmotic Modelling

- Individual Sphere
- Family Sphere
- Organization Sphere
- Education Sphere
- Economic Sphere
- Regime Sphere
- Social Sphere
- Technological Sphere



3. Sinology and Fareast Asian Studies

In a few years, you will not be able to make sense of the world, if you can't make sense of China. [Martin Jacques]

Sinology is a branch of Fareast Asian Studies and entails the academic study of China primarily through Chinese language, literature, Chinese culture and history. While sinology was a marginalized subject up till

the beginning of the 21st century, it did always attract important thinkers who were drawn into understanding China for the sake of understanding bigger questions about human civilization. The probably most important example being the British chemist Joseph Needham, who devoted the second part of his academic career to an encyclopedic research project which continues to be published under the title [Science and Civilization in China](#). His underlying research question grew into such importance that it is amongst sinologists known as “*The Needham Question*”: *why had China and India been overtaken by the West in science and technology, despite their earlier successes?*

One could argue that Needham’s life time research subject has gained a new momentum due to China’s stellar economic rise because the table of luck has seemingly turned against Europe and one could reformulate the Needham Question for the 21st century and ask: Why had Europe and North America been overtaken by China and India in science and technology, despite their earlier successes? Whether one agrees with this vantage point or not, one can’t disagree with the fact that China studies have grown in importance, because it is not anymore possible to comprehend most of humanity’s economic activities without properly analyzing the part China plays. This methodology and evaluation POV does imply that the author gives little or no consideration to the IHD activities in other regions than China.

III. Status Quo System

The Staff Working Document states *that the aim of this evaluation is to check to what extent the IHD services have reached their objectives in terms of relevance, effectiveness, efficiency, coherence and EU value added [...] and determine on an evidence-basis whether the actual performance of the IHD has been at least **relevant** given the needs and its objectives, **effective** and **efficient**, **coherent** both internally and with other EU policy interventions, and has achieved **EU added-value**.*

It would be certainly possible to lock in on the IHD as status quo system (and report subject), set improved services for European SME as a target (report object) and discuss potential measures to achieve this transformation; and indeed, this partly needs to be done, but the narrow focus on the IHD and its declared beneficiaries is per se a futile undertaking. This report will therefore equally check the relevance and efficiency of the IHD, but aims to understand the system layers in which the IHD is embedded.

1. Policy and Administrative Framework

The [IPR SME Helpdesks \(IHD\)](#) are one of many projects which the [European Commission \(EC\)](#) implements in the execution of the European Union’s [business internationalization policies](#). The [European Union \(EU\)](#) is a supranational organization which consists at the time of writing of 28 national member states (MS) comprising more than 500 million inhabitants and forming the world’s largest economic entity with a nominal GDP of USD 17.1 trillion.

The EC is the EU’s main executive and operative institution comparable to a national government, which is headed by 28 commissioners, i.e. supranational ministers. Roughly [32.000 civil servants and contract employees](#) are structured in [31 directorate generals \(DG\)](#) and headed by a director-general who reports to the corresponding commissioner. The EC operates moreover [16 service departments](#) and [6 executive agencies](#) with locations in Brussels, Luxemburg, the EU beyond Belgium as well as non-EU locations and is therefore a truly international organization, but geographically limited to the European continent.

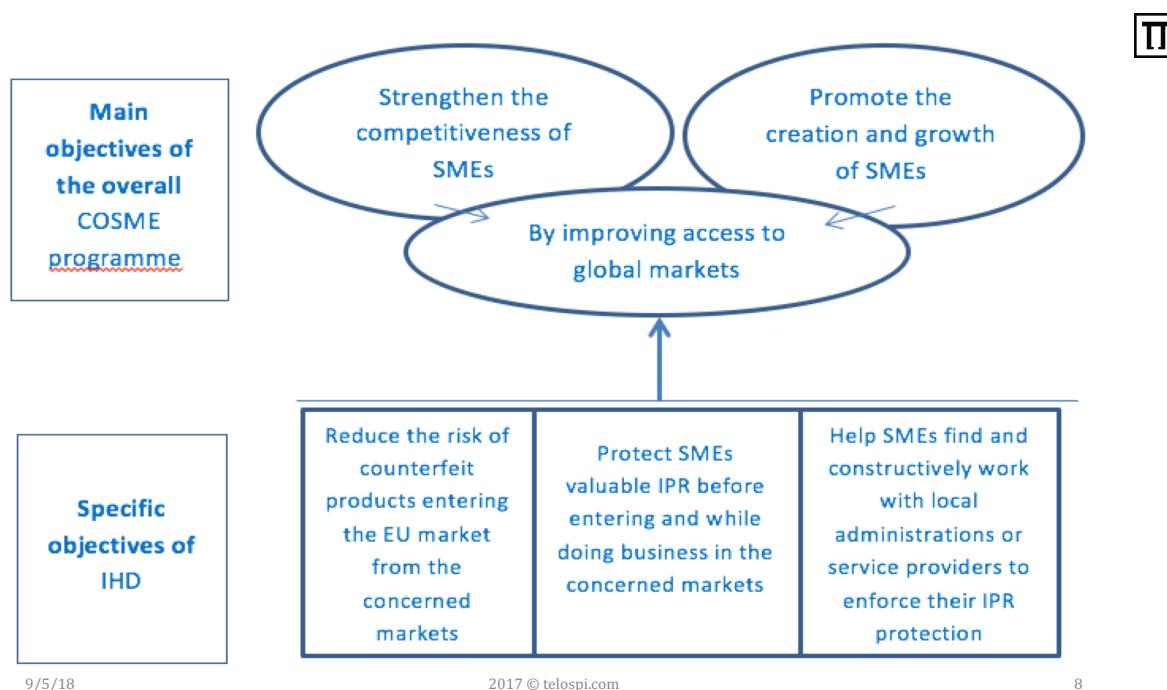
It has set for 2015-2019 [10 policy priorities](#), which include a new boost for jobs, growth and investment; a connected digital single market; a resilient energy union with a forward looking climate change policy; a deeper and fairer internal market with a strengthened industrial base; a deeper and fairer European

monetary union; a reasonable and balanced free trade agreement with the US; justice and fundamental rights based on trust; a new policy of migration; Europe as global actor; Europe as union of democratic change.

DG Internal Market, Industry, Entrepreneurship and SMEs (GROW) has combined the responsibilities of the previous DG Internal Market (MARKT) and DG Enterprise and Industry (ENTR) and develops and executes the EC policies on business; industry and the single market. Its policy objectives are geared towards promoting economic growth within the EU, but do also include the internationalization of EU businesses. It is mainly located in Brussels with more than 1000 employees.

COSME (Competitiveness of Enterprises and Small and Medium-sized Enterprises) is a DG GROW policy program which aims at strengthening the competitiveness and sustainability of small EU enterprises, including their internationalisation. It largely continues the activities started under the previous programme, the Entrepreneurship and Innovation Programme (EIP) and recognizes SMEs as the backbone of Europe's economy, providing 85% of all new jobs. COSME implements the Small Business Act (SBA) with four lines of action: 1. facilitating access to finance, 2. supporting internationalization and access to markets, 3. creating an environment favorable to competitiveness and, 4. encouraging an entrepreneurial culture.

COSME is open to third countries' participation under certain conditions and resembles to a certain extent the Chinese double innovation act | 双创, which was announced by premier Li Keqiang in 2014 and includes the mobilization of the economy through small enterprise innovation | 大众创业 and mass innovation | 万众创新 from micro companies. COSME and 双创 both intend to promote distributed innovation instead of centralized innovation in large corporations and research organizations.



The IHD is one of several EU projects supporting enterprises and SMEs through advice on intellectual property rights in China, ASEAN and MERCOSUR member states. The IHD offers general information on intellectual property, liaison with outside experts and preparation of general and customised training. The IHD aims at improving EU enterprises' competences to protect, exploit and leverage intellectual assets

more efficiently in global markets; and it is as such one of the most detailed measures in an overall policy framework directed at the economic growth of a knowledge based economy.



Policy and Administrative Framework



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4

2. Allocated EU Budget

It seems important to note that there is a coalescence between the abbreviation of DG GROW and the overall EC policy objective smart and inclusive GROWTH, which makes it necessary to look briefly into the EU budget to assess the importance attached to economic growth and the role of the IHD within the policy framework.

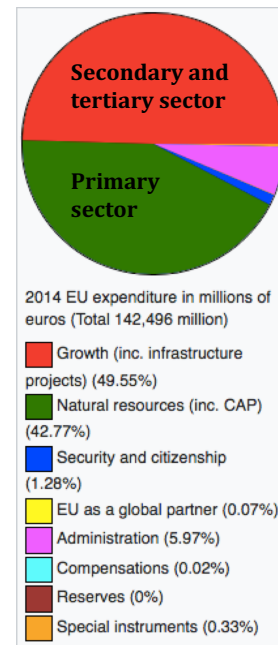
The EU's budget is largely generated by MS contributions which are calculated on the basis of the MS's gross national income (GNI). The multiannual financial framework (MFF) 2014-2020 plans a total annual budget of roughly EUR 140 billion or about one percent of the MS's GNI. The lion share of this budget is allocated to only two of six expenditure categories: "smart and inclusive growth," i.e. economic policies directed mainly at the secondary and tertiary industry sectors and labor markets, and "sustainable growth & natural resources," i.e. policies directed mainly at the primary industry sector and labor market, account for roughly 45% each and together for more than 90% of the annual EU expenditure.

DG GROW appears to be one of the central bureaucratic entities for the execution of the EC top policy priority of "jobs, growth and investment" and administers EUR 16 billion for the current budget period. The COSME program is one of four DG GROW policy programs which is endowed with EUR 2.3 billion from 2014-2020 making it the largest DG GROW program which focuses on strengthening and internationalizing EU businesses; in particular because DG GROW's policy measures are directed towards the internal market rather than towards foreign markets, which are the explicit focus of DG TRADE. COSME is implemented by the EC's Executive Agency for Small and Medium-sized Enterprises (EASME) with about 300 employees under the supervision and guidance of DG GROW.

While more than 60% of the COSME budget go into the [access to finance](#) line of action, only a small fraction of EUR 7 mio is allocated over the budget period to the IHD. This raises the questions, why DG GROW engages Technopolis and in addition 3rd party experts to evaluate such a project of seemingly subordinate policy relevance, and why a DG which focuses on the internal market, business stimulation and SME promotion is in charge of such a project rather than DG TRADE which appears to be a natural contender for all EC activities related to internationalization beyond the internal market.

EU 2014-2020 Budget

- For the period 2014-2020, the EU budget is used for six main categories of expenditure:
- **Growth** (aimed at enhancing competitiveness for growth and jobs and economic, social and territorial cohesion);
- **Natural resources** (covering the common agricultural and common fisheries policies, and rural and environmental measures);
- **Security and citizenship** (covering justice, border protection, immigration and asylum, public health, consumer protection and culture);
- **Foreign policy** (including development assistance or humanitarian aid outside the EU);
- **Administration** (covering all the European institutions, pensions and European schools); and
- **Compensations** (temporary payments to Croatia).



9/5/18

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9

3. Policy Teleology

This contradiction can be explained by looking into the economic principles which underlie EU policy. The [paramount EC policy priority](#) focuses on economic growth, job creation and investments and is as such in line with Keynesian economics of industrial societies: making megasystems of production and distribution successful and manageable. DG GROW focuses on the growth of the internal market and supports European entrepreneurs based on the widely acknowledged assumption that strong exporting companies contribute substantially to a sound domestic economy.

The COSME program does follow to a substantial degree postindustrial economics as defined by E.F. Schumacher by recognizing SMEs as the backbone of Europe's economy which provide 85% of all new jobs. Its designers probably understood that the scale of organization must be treated as an independent and primary problem of economic sustainability, because COSME supports decentralized and small business entities rather than global enterprises and multinational corporations.

The overall policy teleology is nevertheless clearly rooted in an industrial understanding of economics, which defines linear economic growth as its central purpose, without differentiating whether this economic growth is caused by MNOs or SMEs. SMEs become a mean to a single end: more wealth for the EU member state economies. Such a teleology clearly implies a substantial system blindness, because it is ignorant to the policy effects outside of the EU – despite them being addressed in other policy objectives.

4. Competing Knowledge Economies



Competing Knowledge Economies



9/5/18

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10

The overview of EU instruments contributing to the internationalization of enterprises reveals a bigger picture of overlapping policy instruments, which give the IPR Helpdesks at least specific relevance within the EC's overall strategy of promoting "smart and inclusive growth." The HD can thus be seen as one of many policy measures of a supranational knowledge economy which competes in a global rat race against other big players like the US, China and Japan.

China, meanwhile a forerunner in innovation and education policies issued in 2015 a "Made in China 2025" strategy paper, in which it wants to turn into a modern and most powerful manufacturing nation. Japan's education minister called recently upon Japanese universities to close or downsize their humanities faculties in favor of more practical subjects like robotics and automotive engineering: the two strongholds of Japanese industry which he sees threatened by rising China. The US White House released in October 2015 its updated American Strategy for Innovation and explains the need for an innovation strategy therein:

For an advanced economy such as the United States, innovation is a wellspring of economic growth and a powerful tool for addressing our most pressing challenges as a nation – such as enabling more Americans to lead longer, healthier lives, and accelerating the transition to a low-carbon economy. In fact, from 1948-2012 over half of the total increase in U.S. productivity growth, a key driver of economic growth, came from innovation and technological change.

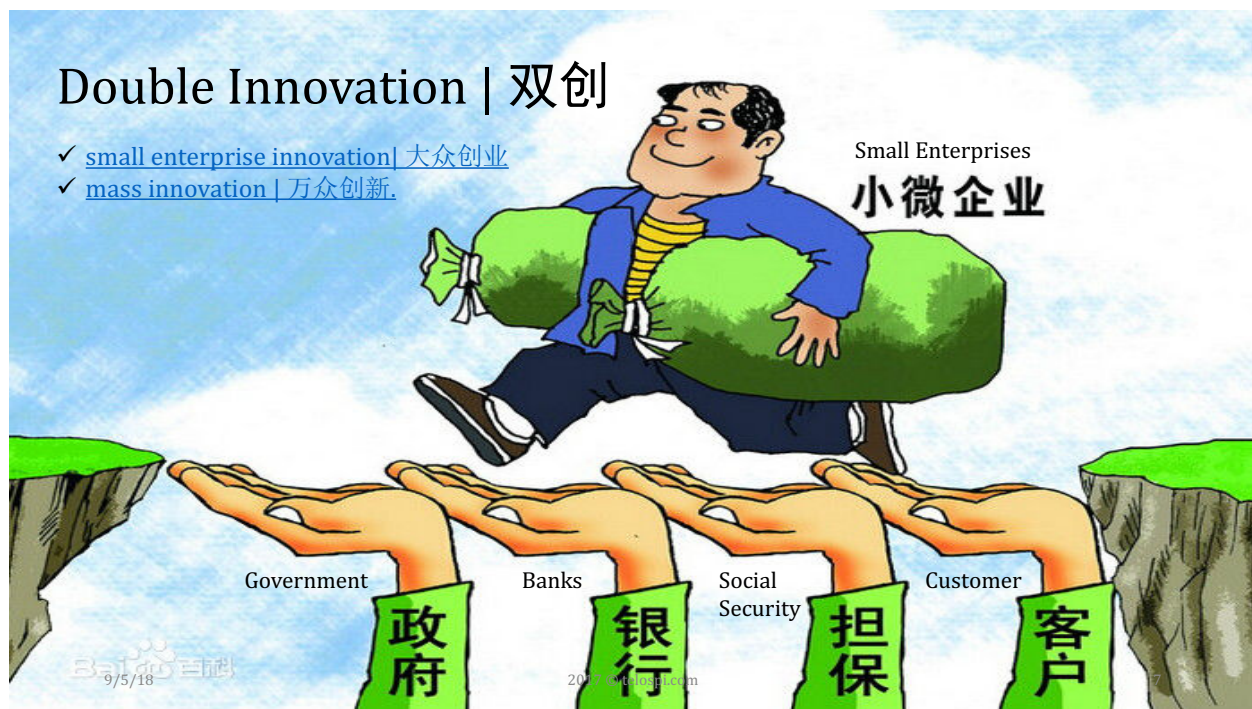
From a global perspective of competing knowledge economies, the entrepreneur becomes in itself a mean to an end, i.e. the maintenance of existing governance structures, as described by [Henry Kissinger in World Order](#), and the IHD merely an auxiliary weapon with which the EU supplies its entrepreneurs in a battle for markets and consumers. What is labeled entrepreneurial competition in the business sphere, is the competition of knowledge economies in the regime sphere.

For the purpose of this evaluation we need to take into account EU and its member state governments on the one side and the governments of IHD target markets, i.e. China, South East Asia and Latin America on the other side. In between we find on an organizational level EU SMEs and their foreign competitors, both aiming to succeed in certain export markets by the application of IPR and other commercial strategies. Last but not least we must take into consideration large corporations which even if headquartered in the same country as an EU SME, present an equally formidable threat to a SME.

5. Small and Medium Sized Enterprises

European SME are implicitly defined by the evaluation assignee as the evaluation object because they are the beneficiaries of the evaluation subject's performance. All efforts invested in the IPR system and thus in the IHD shall in the last extent strengthen European SMEs and thus the overall EU economy. The [EU definition of SME](#) is specific and different from other economic regions like China or the US. It includes all enterprises headquartered in an EU member state which have less than 250 employees, less than EUR 50 million annual turnover and less than EUR 43 million on their total balance sheet.

The author thinks that this definition needs to be reconsidered and adapted on basis of the financial means necessary to engage in IPR management. The continuous globalization of the economy has not only enabled micro enterprises to act internationally, it has also made it more costly to be globally active and thus requires certain resources to create and exploit intangible assets both on domestic and on foreign markets. In the experience of the author even so-called [hidden champions](#) require quite often substantial support to adapt their IPR management to the pressures faced in Fareast Asia. The [Chinese definition of SME](#), which differentiates according to industries, includes companies with up to 2000 employees and seems to be closer to the segment of companies which require global intangible asset management support.



6. Definition of the Status Quo System

The objective of the IHD is risk reduction of counterfeit products entering the European market from the concerned Markets and the protection of SME's valuable IPR before entering and while doing business in the concerned markets. It would be obvious to define the IHD as the primary evaluation subject, but I argue here that Intellectual Property Rights (IPR) or even more widely the management of intangible assets must be the primary evaluation subject and the IHD merely one of many secondary system layers.

The author follows the Staff Working Document's definition of IPR which includes 'formal' means of protecting such rights (e.g. patents, trademarks, designs, geographical indications, copyrights) and 'informal' means (contractual and licensing conditions, management of business operations so as to protect trade secrets, planning business participation in trade fairs, etc.). 'Enforcement' of these rights refers to any applicable means of enforcement such as through the civil or criminal judicial systems, administrative means, customs authorities, or contractual means, as available in the relevant European, Member State, or third countries' jurisdictions.



Status Quo System: IPR



9/5/18

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11

It is though required to broaden this definition and include the creation and application of intangible assets, because these are what knowledge economies are competing for in the first place; the protection of these assets is only a second order concern to enable economies and their business actors to exploit the related intangible assets. The rationale of the IPR System is to 1. Promote innovation, 2. Protect intellectual assets and 3. Strengthen an economy.

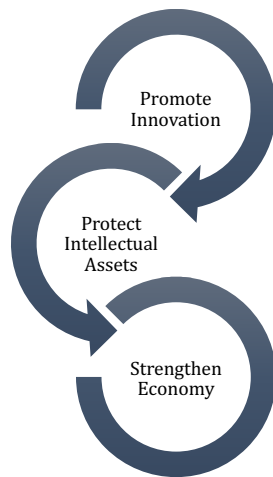
If we define the IPR system as the status quo system and include thereby the creation and management of intangible assets, we observe that global systems spheres like the market or technology intersect with national ones. While the concept of IPR has been spread over the course of the industrial revolution to such an extent that it can be considered a global system, markets, governments and in particular corporations and individuals continue to operate mostly along national and local regulations respectively.

As such we can deduct the operating principles of the status quo system, which are:

1. Competition: both between governments and corporations and as such also between the included individuals
2. Nationalism: despite IPRs being recognized internationally and corresponding laws globally standardized by entities like WIPO or WTO, value added is measured in national budgets and set against national expenditures for the creation of intellectual assets.
3. Linear economy: the status quo system is based on the assumption that economic growth is the panacea for all social problems, because it is associated with job and thus wealth creation.



The Rationale of the Status Quo System



Operating Principles:

1. Competition

2. Nationalism

3. Linear Economy

4. Having over being

9/5/18

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12

IV. Challenges of the Status Quo System

1. Hampering Innovation

There are clear indicators that the status quo system hampers innovation, which implies that the focus on creation of intangible assets has been substituted with a focus on protecting them. Such a shift in focus is like a manual for economic and social stagnation. Patent clusters in the European automotive industry, which consume every year millions of Euro in maintenance, are paradigmatic for this development. Instead of developing new technologies, new energy vehicles turned because of this distorted focus into a black swan. As a result, Asian automotive manufacturers, in particular Chinese, overtake their European competitors.

It is strongly recommended to look at the IPR industry in a separate analysis and weight the amount of resources which are invested into the protection of intangible assets against the amount of resources which are invested into the creation of intangible assets. On the one side of this balance sheet, we will find the entire legal industry and the administrative and judicial institutions which are required to operate the IPR system – including the IHD. On the other side of this balance sheet are investments in human resources

and research entities ranging from general education to high end research grants for both companies and individuals.

Looking at financial streams within a society from this point of view, sincerely asking how much we invest in the creation of intangible assets and how much we invest in the protection of the same, we must come to the conclusion that this system is seriously flawed. My own experience in the legal industry and in government entities tells me that highly educated and expensively trained lawyers, judges, patent examiners and trademark litigators, etc. are a burden for the progress of society. Their increasing paychecks stand against budget cuts in general education and ridiculous paychecks for early childhood education.

It is not the intention of the author to blame single professions or entire industries, but we have an individual and collective responsibility to change things for the good, and as such we are asked to recognize that even highly educated people are being driven into certain roles by the unwritten rules of a system. The great German social psychologist [Erich Fromm](#) described the tendency to embrace the protection rather than the creation of assets as a human dilemma between having and being. We also know from political scientists like [Francis Fukoyama](#) that trust is the social currency which creates lasting prosperity. It is thus the responsibility of governments to find means to increase trust and decrease the likelihood of power abuse. The status quo system was good in its initial intention but has rendered itself into a system which is abused by both corporate and regime power.

2. IPR System Undermined by China



Since the mid 80ies China has opened up its economy and in the course of the following 20 years it has established a well drafted intellectual property framework based on international laws promulgated by bodies like WTO or WIPO and modeled after foreign innovation system like Singapore or Germany. This national legal framework – in spite of poor execution measures - was sold to the Western world as China's acceptance of international law and was one of the entrance tickets to the Western dominated world economy.

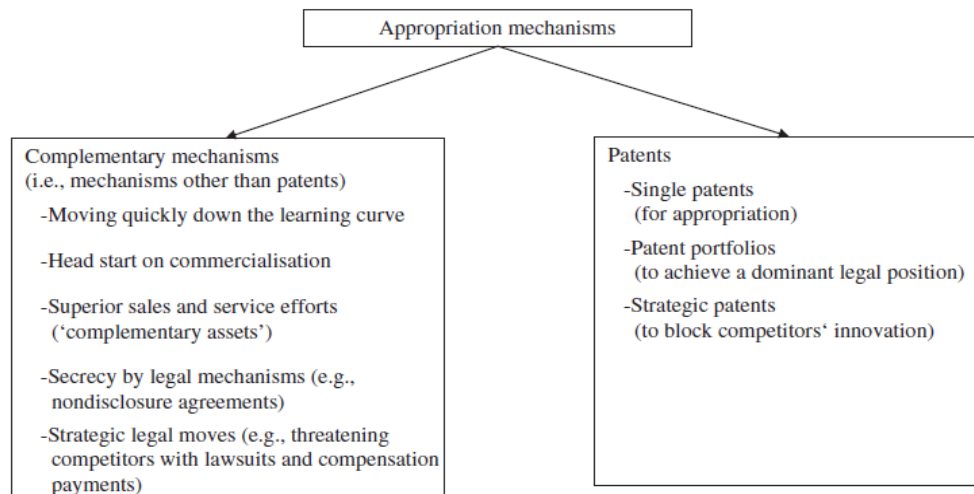
In the tradition of the Chinese proverb 指鹿为马 [pointing at a deer and calling it a horse] China reiterated for years that it had fulfilled all requirements and obligations but actually undermined the IPR framework by industrial policies which force foreign investments to gradually give up technology and knowhow. James

McGregor described these policies in an APCO paper [“China's Drive for Indigenous Innovation”](#). The German author Frank Sieren calls one of the main elements of these industrial policies pointedly [“Concubine Economy”](#).

This reality caused foreign businesses to develop their own protection strategies, which try to circumvent a seemingly not navigable system, i.e. protecting know how without resorting to the legal system. A Swiss research team on technology management analyzed these measures in a paper titled [“How Managers Protect IPRs Using de facto Strategies”](#). The author thinks that such de-facto-strategies can delay knowhow loss, but in the long run a technocrat government executing an outspoken techno-nationalism and ruling the world's largest domestic market will succeed in absorbing what it wants. Considering that China controls in many industries significant global market shares, companies are forced to comply with national regulations and business practices despite negative consequences if they want to remain globally active and competitive.



De Facto Strategies of IP Protection



9/5/18

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15

The author has conducted over the last decade several interviews with executives of European companies which are generally considered either technological or commercial leaders in their industry. The perception of the business climate in China increasingly boils down to a single statement: “We do not want to make business in China, because its complex and there is serious risk of jeopardizing our intellectual assets, but we are forced to engage in the market if we want to continue being considered a global player. There is no way around China.” One practical example are commodity prices for steel or aluminum which are up to 20% lower in China than anywhere else around the globe. China has in other words by sheer economic power undermined the hitherto corporate power balance established through the current IPR system. The Berlin based think tank [Merics](#) reports that this tendency is aggravated by China resorting increasingly to the acquisition of foreign technology as means of “total” competition.

It is only fair though to not only blame China for undermining the post WWII commercial system in general and the IPR system in particular, but also emphasize that Western arrogance and ignorance contributed significantly to the concurrent demise of this system. A clear proof for the system failure is the never-ending discussion about the [European Unitary Patent](#), which has been promulgated in 2013, but does still await

national ratification. If one still believes in the value added of the IPR system in general, one must compare not only legal but also economic efficacy. China has herein clearly outperformed both the US and the EU in granting registered IPRs for the entire domestic market at a fraction of the cost.



Techno-Nationalism as Political Mantra 自主创新 | zizhu chuangxin

1. **domestic innovation:** China must create it's own inventions in science and technology
2. **integrated innovation:** several separate innovations are combined into one new innvoation
3. **Re-innovation:** based on purchased and absorbed foreign technology

More indicators of Techno-Nationalism are:

- Introduction of **autonomous technology standards** (CCC)
- **Nobel awards** targeted by government policies
- **Status projects:** manned space flight
- Increased number of **patent registrations**
- **Protectionism:** e.g. rare earth export restrictions or delays in regard to the GPA ratificaiton

3. Shortening Innovation Cycles

The IPR system is an invention of the 18th century and as such a relic from the beginning of the industrial revolution. Lead times to apply for and obtain patents are for example based on the assumption that inventions will last decades and knowhow spreads slowly. But we know that innovation cycles get shorter and shorter. Accelerated technological progress would require the corresponding legal system to adapt respectively or change entirely.

Innovation does require increasingly permeable markets and it could be argued that a rigid legal framework which is based on outdated economic and social assumptions is contra-productive and effectively limits innovation. Transitory technologies, many of them being e.g. applied in the new sharing economy, require speedy application to move to the next step of development. Innovation requires an environment which allows quick application and quick failure, not overregulation. Recent developments in the fintech industry (wechat pay, alipay) and the new sharing economy (mobike, ofo, etc) are just a few examples of how China has turned into an innovation hot bed.

Let's summarize that the shortening of innovation cycles is the result of multiple factors which merge in an international comparison in contemporary China only, but can be mainly attributed to the fact that the Chinese labor market and the economy at large is in a similar situation like Western European labor markets around WWI, when about half of the population still lived in the countryside and continuous supply of cheap labor contributed to the proliferation of new technologies, in particular in the automotive industry, and a generally positive economic outlook. China uses this momentum to leapfrog stagnating industrialized nations in key industries like robotics, big data, material sciences, new energy vehicles, etc.

4. Labor Market Transformation

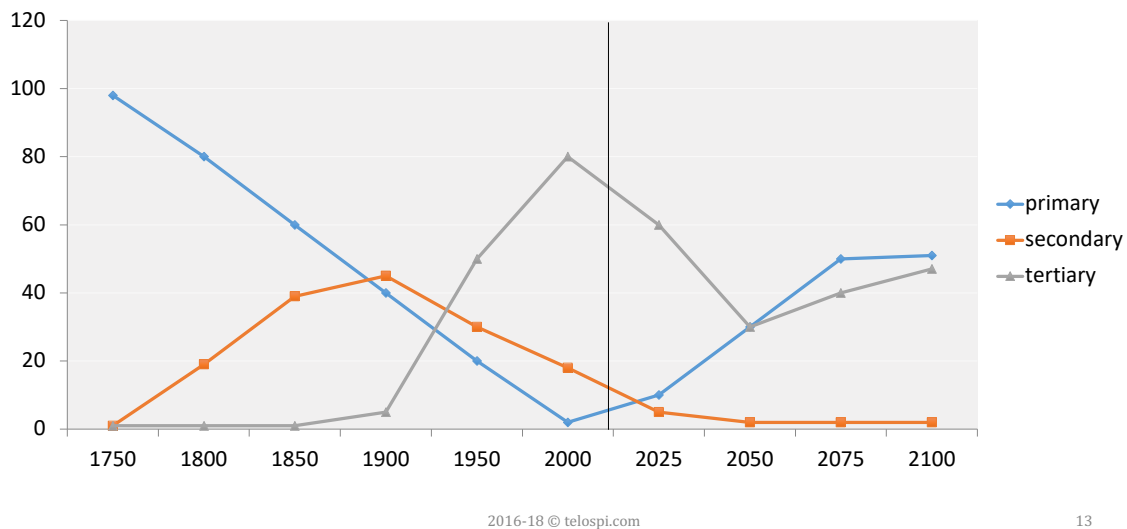
The status quo system is based on the assumption that SME create 85% of new jobs and contribute substantially to economic growth. Recent development in automation and artificial intelligence technologies herald though the advent of a new era: the era of large scale unemployment. Exponential technological change implies that the secondary and the tertiary sector will follow the trajectory of the primary sector.

Advanced economies employ less than two percent of their work force in agriculture. Similar numbers are to be expected for industry and service by 2030 with landslide changes starting in the next few years. It really doesn't matter how one looks at labor markets. Jobs disappear. The human being is being made redundant by intelligent machines. After 200 years of almost full employment, automation will eliminate most jobs for good.



The Past and Future of the Labor Market

Human employment is in direct competition with automation. [Peter Joseph]



13

5. Profit Extraction vs Value Added

The WTO IPR system is the result of corporate lobbying and focuses excessively on profit generation, that is to such an extent that the potential value of created technology is often rendered zero. A good example for such negative developments are patents on pharmaceutical products which make them so expensive that individuals in developing nations can't buy them. If we assume that technology's sole purpose is to make human life better, then we also have to include the protection of the ecosystem Earth. The status quo system does not look into externalities, it rewards products which generate profit without looking at the costs it causes to people and planet. It is as such value neutral and serves only the purpose of profit maximization.

[Nestle's Nespresso coffee capsules](#) are an example of such a product, which increases convenience for the customer, but simultaneously drives up margins on coffee at the expense of third world farmers without taking into consideration the enormous costs to the environment through energy intensive aluminum production and rampant waste generation. Both the production of aluminum capsules as well as the

recycling of them is highly energy intensive and can't be considered by any measurement a sustainable product. The absurdity of what kind of innovation is incentivized by our IPR system and the economic system in which it is embedded reached a new climax in 2017, when the startup [Juicero](#) which had received USD 120 million in VC funding had to close shop after consumer watchers had revealed that one could perform the feat of the machine with bare hands. The Juicero case is paradigmatic for innovations which serve corporations to make consumers dependent on their technology instead of creating added value for individuals and society at large.

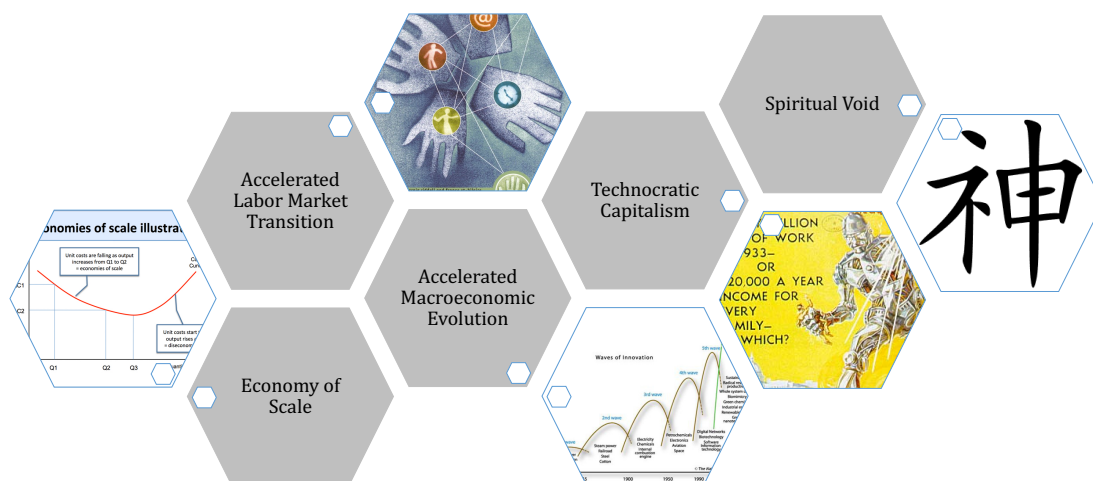
The focus on profit has created within the IPR system pathological conditions which affect main institutions. The president of the European Patent Agency, Benoit Batistelli, had to justify in an interview with the German newspaper [Süddeutsche Zeitung](#) a bonus payment of EUR 4000 per employee based the agency's 2011 excess revenues. If one knows both sides of the system, the entrepreneurial and the governance reality, then one is only surprised that such conditions are sustained.

How is it possible that the European patent authority can generate excess profit when European companies have to pay on an average EUR 35000 for a European Patent valid only in a few member states while their Chinese competitors can get an invention patent valid in all of China for only a few hundred Euros? Shouldn't one assume that there is an obligation for the European authority to create at least a regulatory and administrative environment which gives EU companies the same pole position like Chinese receive from their government?

The degeneration of the system and its focus on profit has also affected the crème de la crème of European knowledge workers. Several thousand highly qualified engineers and scientists prefer well paid patent examiner jobs in Munich and in member state IP agencies to work in private companies where they could put their competencies in the service of society by creating something new and valuable instead of mulling over the ideas of others. It is seriously recommended to look into the collateral damages done to European human resources which are drawn by the system and a prevailing profit mindset into professions which do not anymore add value to society at large.



Breeding Ground for Change



6. Changing Innovation Patterns

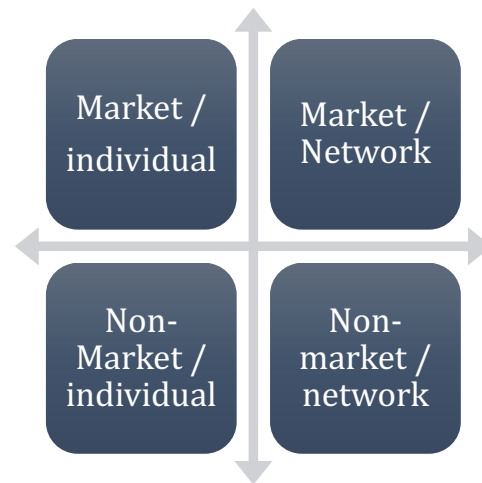
Most importantly though it has to be acknowledged that the entire innovation system is since the onset of the industrial revolution in the process of an accelerated transformation from market based innovations made by individuals to non-market based innovations made by networks. This observation is of particular importance if we understand this phenomenon as part of a general evolution of human activity from small communities, to empires and nation states and understand a global society as the evolution target.

The US author Stephen Johnson has described this phenomenon in his 2013 book [Where Good Ideas Come From – A Natural History of Innovation](#) and has moreover identified seven conditions which are conducive to innovative spaces: *the adjacent possible*, *liquid networks*, *the slow hunch*, *serendipity*, *error*, *exaptation* and *platforms*. The author has compared the EU and China in a separate paper on basis of these seven conditions and has come to the conclusion that China outperforms the EU in most of them mainly because China adapts in times of exponential transformation better to changing frame conditions. A recently published book by Ctrip co-founder [James Liang](#) who is a US trained economist and demographer did specifically look into the correlation between demographics and innovation and predicts China to go even stronger.



Seven Ingredients for Innovative Spaces

- *the adjacent possible*
- *liquid networks*
- *the slow hunch*
- *serendipity*
- *error*
- *exaptation*
- *platforms*



V. Target System

Based on above challenges in the status quo system, the target system is defined herewith as an IPR system which promotes the creation and the management of intangible assets that serve in a global economy as means to two ends: solving the two most pressing challenges humanity has to face in the 21st century, i.e. climate change and wealth distribution. There is an emphasis on global, because climate change and also wealth distribution to a certain extent don't know artificial national boundaries.

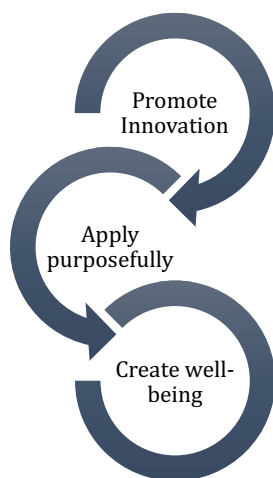
The author is being explicit with these two challenges because he is convinced that they are interrelated. As long as we continue to operate in economic systems which aim at creating abundance for a few, we will

continue to create scarcity for many others. The connection between poverty and environmental degradation has been scientifically confirmed, and at least since 2015, when more than 15000 international scientists signed a [report](#) which confirms that we are as a species heading towards a no return climate change which will cause destruction on a scale never seen before, we can't turn any longer turn a blind eye to this threat.

The target system is thus one which promotes people and companies to be innovative and which gives incentives to apply these innovations purposefully, i.e. not merely based on profit maximization motives, but with the objective of creating well-being for society at large. Such a system is based on the operating principles of cooperation, globalism and a circular economy, which acknowledges the finiteness of natural resources.



The Rationale of the Target System



Operating Principles:

1. Cooperation

2. Globalism

3. Circular Economy

4. Being over having

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22

VI. Conclusions and Recommendations to Initiate a Transformation

Business enterprises – and public-service institutions as well – are organs of society. They do not exist for their own sake, but to fulfill a specific social purpose and to satisfy a specific need of a society, a community, or individuals. They are not ends in themselves, but means. The right question to ask in respect to them is not, What are they? But, What are they supposed to be doing and what are their tasks? [Peter F. Drucker]

It was asked in 3.2. why DG GROW engages Technopolis Group and three external experts to assess a small project like the IHD and it is reasonable to summarize here that the IHD is the negative climax of a policy framework which has lost meaning and fails to reach declared target, which is in a narrow definition supporting SMEs and in a broad definition adding value, i.e. more well-being to EU citizens. It is based on a concept of IPR which was conceived in the 18th century, when nation states were the entities of which the then modern world consisted and has rendered itself in the face of accelerated technological change obsolete.

It is fair to go even so far as to question the [10 policy priorities](#) which the EU has set itself and which serve as the very basis for the EC activities including the IHD. If it is the responsibility of a government to prepare its citizenry for future challenges, then it is rather absurd to list a new boost for jobs as the top policy priority, when [serious economists and technologists](#) discuss globally and widely the dawning age of the machine and unemployment on massive scale.

It is equally problematic to aim for economic growth and more investment when post-industrial economists and [scientists of different disciplines](#) explicitly warn of the linear economy maneuvering humanity into the sixth mass extinction. How can we moreover expect a forward-looking climate change policy when the EU aspires only to a deeper and fairer internal market, but does little to contribute to a deeper and fairer global market?

The author is fully aware that the scope of his considerations exceeds by far what he was asked to do; he is moreover quite realistic about the chances that DG GROW implements any of his far-reaching recommendations. It is believed on the other hand that both the report submitted by Technopolis Group as well as the Staff Working Document suffer from substantial system blindness and fail to see the big picture of cause and effect. How is it actually possible that we continue to apply 18th century industrial policies and expect progress in a 21st century world?

Joseph Needham answered the great question of sinology “Why had China and India been overtaken by the West in science and technology, despite their earlier successes?” with only two words: bureaucratic futilism. The IHD is the consequence of a bureaucratic machinery which has lost touch with the needs of the people it is supposed to serve. The IHD is as such a pinnacle example of bureaucratic futilism, one which reflects a decaying governance system now in Brussels as it did already during Ming Dynasty in Beijing. Self-serving institutions like the European Patent Agency, which are blocked in their evolution by member state interests, confirm this assessment.

Brussels will have to ask itself the very question management philosopher Peter Drucker asks for all organs of society: *What are they supposed to be doing and what are their tasks?* He gives a clear generic answer and the author suggest here a few specific measures:

1. *Establishing the specific purpose and mission of the institution, whether business enterprise, hospital, university or government agency*
2. *Making work productive and workers effective*
3. *Managing social impacts and social responsibilities*

1. Discontinue IHD

The IHD initiative does not serve the target system operation principles. It creates more imbalance between excelling companies and thus adds even within the EU to the widening wealth gap. It moreover reflects the pathological focus on the protection of intangible assets instead of creating them for the sake of bringing them to application in the shortest time possible to solve problems or move to the next step of innovation.

2. Combine IPR Policy with Cutting Edge Innovation Studies

It is recommended to look into novel ways which incentivize creativity and innovation. Experts like [Charles Leadbeater](#) or [Stephen Johnson](#) give quite clear scenarios of how to foster innovation and how to harvest the natural evolution of the innovation system. It is in this context also recommended to resort to a [qualitative](#)

[analysis](#) of which companies engage in the IPR system and why they do so. Are they truly the most innovative or just those who can afford to operate in the system?

3. Assess Investments Contributing to vs. Protecting of Innovation

The author believes that a general assessment of EU and EU member state financial streams is required to understand how much we have become obsessed with protecting what we have over creating what we need to solve the problems which not only Europe but our species at large faces. Such an assessment could be done in a separate expert report looking in a first step at the EC expenditure of core DGs like GROW, TRADE, TAXUD, JUST, COMP and RTD.

4. Install IPR System Incentives for Innovations Which Serve the General Well-Being

The EU could also lead a more radical transformation to an IPR system which only rewards innovation that really adds value to society at large. The current system is largely driven by companies with high end consumer products which build on their brand value and high-tech companies which have the technological prowess to innovate. But do Gucci or GSK really create added value for society apart from more tax revenue wherever they are incorporated? It is necessary to set up an IPR system which asks if a registered design for a hand bag not only spurs shopping as a compensation mechanism for social discontent. It is necessary to ask if both a candy bar manufacturer and the producer of a new diabetes drug do only profit from a broken nutrition system. A value based legal framework could support such a transition.

The EU is the incarnation of [post-nationalism](#) and as such it is the natural contender for reforming a system which has served well during the past 250 years. China on the other hand is on its social trajectory only at the beginning of implementing the nations state concept and most likely even less ready than the EU to start a transformation of how humanity manages intangible assets. The EU is thus under tremendous risk of being overrun within a system it helped to establish; it is under serious threat of being outperformed in a global rat race of knowledge economies by a nation-civilization which by size and structure will prevail.

VII. About the Author

The author helps executive management with organizational development challenges in a Far East Asian context. He founded the Hong Kong incorporated consultancy [Telos Pi](#) in 2016 and focuses his services on civil society and government entities. From 2011 to 2016, he was managing director of [Fronius China](#), a European headquartered technology leader in robotics welding, battery charging and photovoltaics, and helped to build the subsidiary into a CNY 200 million revenue business as of 2015. Earlier stations in his career include a stint as technology attaché at the [Austrian Consulate General Shanghai](#), and two assignments in the technology law industry with a Vienna based [technology transfer agency](#) and an international [law firm](#).

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