

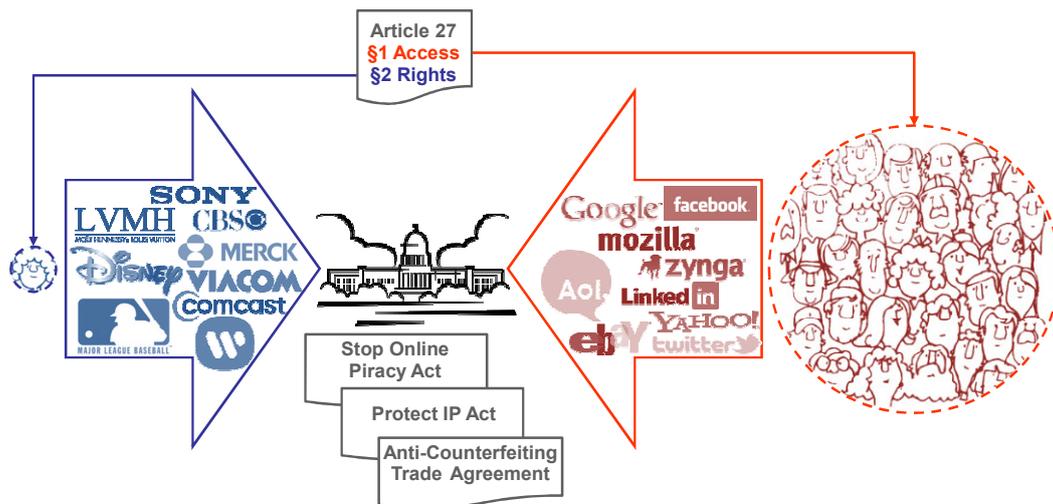
# An innovative approach to the future of copyright in the digital era

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On June 26<sup>th</sup>, 2010, I gave a seminar about copyright in Cambridge, England. The audience included around 30 British and Chinese managers. One of these Chinese managers asked me if laws such as the UK Digital Economy Act or the French Hadopi law – the cousins of the US Stop Online Piracy Act (SOPA) and Protect IP Act (PIPA) – would solve the challenge of copyright in the digital era. Instinctively, I answered “No”. He then asked me “Why not?” I said “Because a technical disruption requests first a technical answer, not a legal one”. This was a spontaneous statement. Intrigued, we started to discuss the matter.

In December 2011, US Senators Cantwell, Moran, Warner and Wyden and US Representatives Chaffetz, Campbell, Doggett, Eshoo, Issa, Lofgren, and Polis drafted a framework to discuss “fighting the unauthorized trade of digital goods while protecting Internet security, commerce and speech”. This political discussion will try to balance the consumers’ interests with the artists and authors’ interests – by extension the interests of Silicon Valley with the interests of Hollywood.



On January 16<sup>th</sup>, 2012, in the midst of the debate about SOPA and PIPA, several hundred people gathered for a rally outside of San Francisco’s city hall. In a speech, Mr. Ron Conway said that the proposed legislation would threaten the ability of Internet companies and start-ups to create jobs. “We cannot censor free expression”, he said. “Why don’t we find a way to make a solution to the piracy problem? Solve problems with technology, not against technology”.

We were very young when John Kennedy said “Ask not what your country can do for you; ask what you can do for your country... ask what you can do for the freedom of man”. But we heard it so many times, that we can feel having been there and listened to the President. My colleagues and I have defined an innovative approach to the future of copyright in the digital era. It could be very useful for citizens and creative industries. Therefore, we must share it; that’s what we can do for the freedom of man.

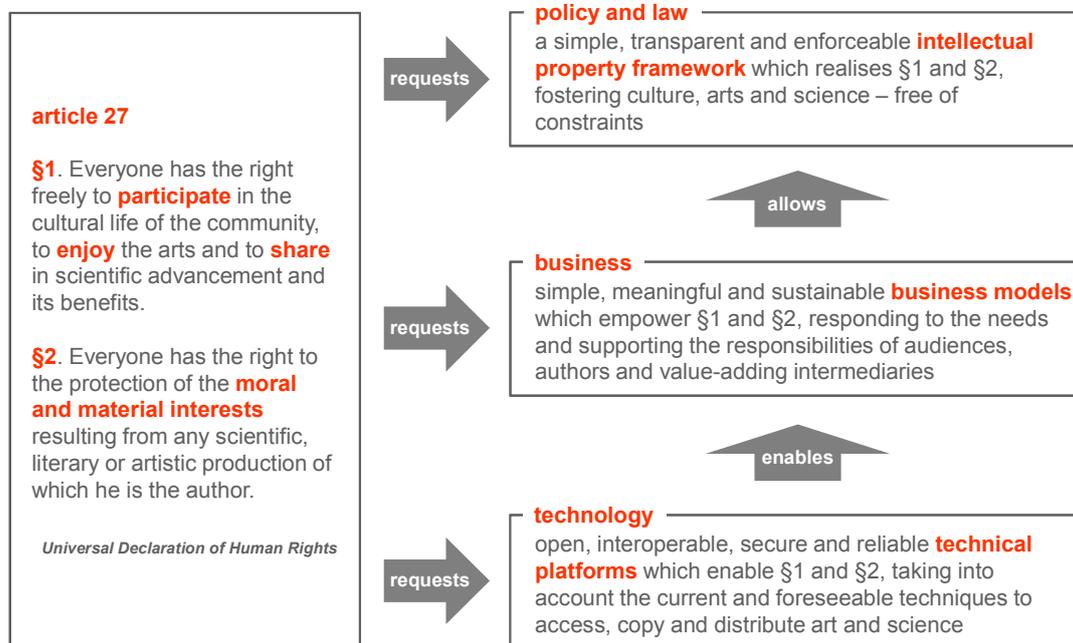


## The triple challenge

Article 27 of the Universal Declaration of Human Rights is the legal base of arts, science and culture. It is binding for the 193 members of the United Nations. It explicitly balances the rights to participate, enjoy and share with the rights to protect moral and material interests. Defending one set of rights against the other can be rhetorically easier, but it does not protect or foster civilisation as we know it.

How do we enable – at the same time – §1 and §2 in the digital era?

First, it has to be feasible, I mean technically feasible. We need an open, interoperable, secure and reliable infrastructure to enable participation and sharing and – at the same time – protect moral and material interests. The digital networks have not been built for this purpose. An adequate transformation of the existing infrastructure will require substantial efforts.



Second, Article 27 requires meaningful and sustainable business models. These business models are enabled by technology, they must be technically feasible. They must respond to the needs and support the responsibilities of audiences, authors and value-adding intermediaries.

Third, Article 27 requires a simple, transparent and enforceable framework for Intellectual Property Rights (IPR). The policy and legal framework is allowed by meaningful business models, which are themselves enabled by technology. It is a triple challenge, at the technology level, at the business level and at the policy and law level. Practically, it can only be solved from the bottom to the top. But it is also a circle. Without some political and business commitments – from the top – the limited resources of capable researchers will not be invested – at the bottom – to solve the challenge.

I suggest to stop speechifying about an article which has been ratified by the assembly of civilised nations, but to implement it for the sake of this civilisation. In the digital era, the implementation must be digital.

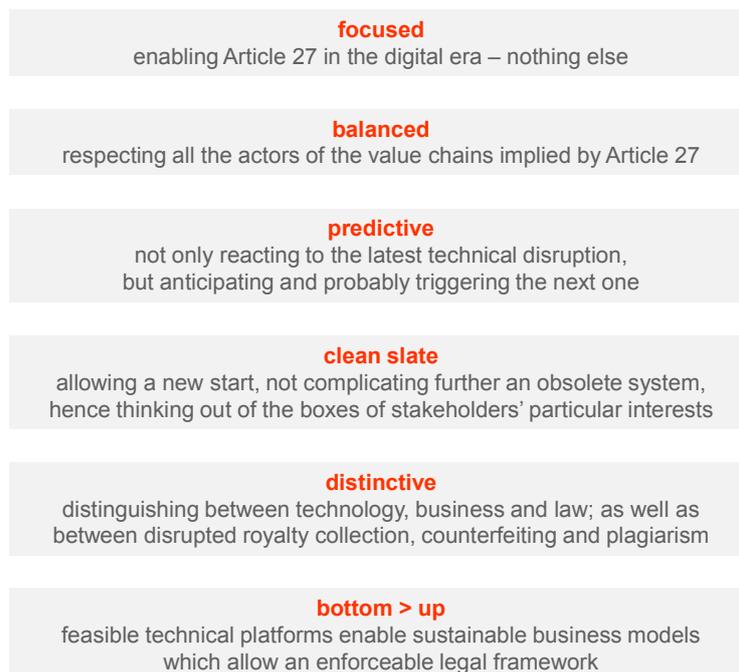


## A six-point methodology for a thrice-iterative approach at three levels

What are the differentiating characteristics of our approach?

The first one is already covered. Bottom-up. It is up to technical platforms to enable business models, which then allow policies.

Distinctive. Reading many articles and documents, we noticed a lot of confusion around copyright. Some people confuse technical, commercial and legal issues. Some people label quickly and speak about piracy when a more thorough observation would uncover a disrupted royalty collection. Some people put in the same bag what they call piracy and what is counterfeiting or plagiarism. We need distinctions instead of confusions.



Clean slate. An English musician needs hours to understand how royalties are collected by the English agencies, and a French author needs hours to understand how SACD, a French agency, works. Some graphics should help them to get it. These graphics look like spaghetti plates. French plays are produced in England. English songs are played in France. Now it gets interesting. Let's connect the threads of the French spaghetti with the threads of the English spaghetti. Besides experts, no one can do that. Let's continue and add the process flows of the UK Digital Economy Act and the French Hadopi law – the cousins of SOPA and PIPA – to our two connected spaghetti plates. Do the experts still understand? Real life looks like this: Les Misérables, a musical written by Frenchmen, originally staged by Englishmen, is produced by Americans in Singapore. Real digital life is when this very production of Les Misérables is streamed in Malaysia and shared with someone living in Thailand. Now, let's collect the royalties!

Some collecting agencies, in some cases, are working very close to absurdity. Absurdity occurs when it costs more than 100 to collect 100. A bit more complication – implied by one new law or the other – and here we are, royalty collection doesn't make sense anymore. Many current attempts to build a future for copyright in the digital era are based on enhancements of the existing complexity. This cannot bring us closer to the solution.



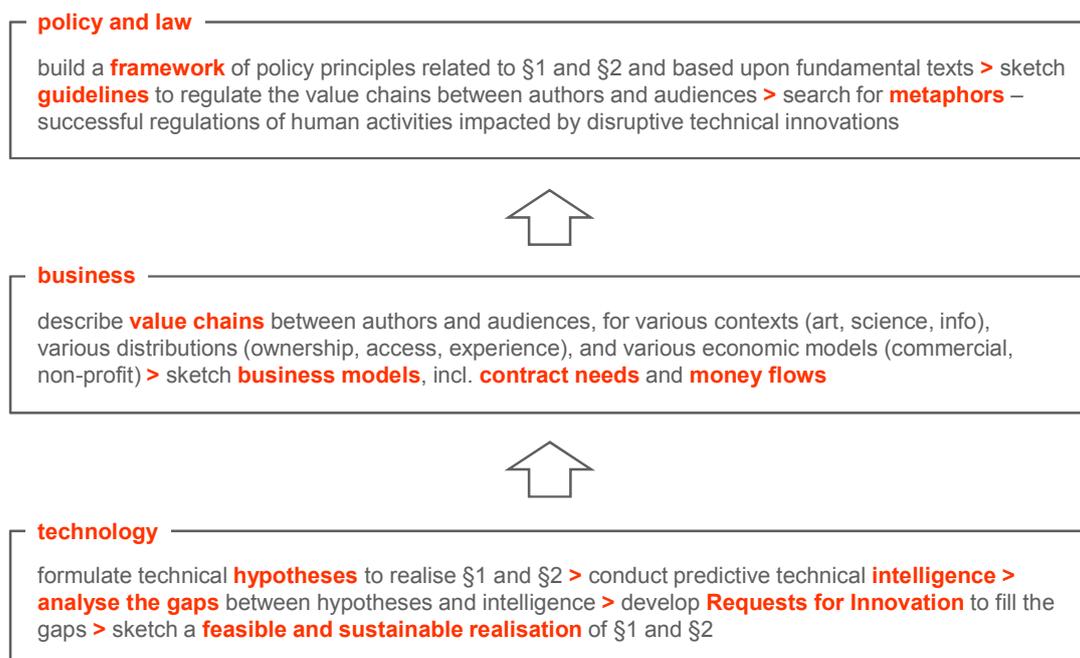
Predictive. If the only technical response we plan is the response to the current state of technology, by the time the response is deployed, it will have become obsolete. This is why the response must predict what the state of the digital networks will be, let's say, in 10 or 15 years from now. The interesting by-product is that by doing so, the responders can take the technological lead of these digital networks.

Balanced – we already touched this.

And finally: focused. Once in a discussion about copyright, I heard the question: what about the place of the artist in society? The question is of course pertinent. But building a future for the copyright in the digital era requires so much skills and so much efforts that I would rather suggest to focus the research and development team on enabling Article 27 – and nothing else.

These six points – if you take them all together – make this approach unique and worth trying. I wrote about the need of a multidisciplinary approach at three levels, technology, business and policy. Let's discover now the three iterations of this approach.

### The first iteration > sketches



The first iteration produces clarity and sketches. It can be done within 12 months.

On the technology level, first, one formulates hypotheses to realise §1 and §2 at the same time. Probably, one focuses on few necessary functions, such as digital fingerprinting, detecting, metering, reporting and billing. The comparison between the hypotheses and a predictive technical intelligence will show gaps – which will call for innovations. Finally, at that level, technologists sketch the realisation of the open, interoperable, secure and reliable infrastructure I mentioned before.

On the business level, one analyses value chains between authors and audiences for various contexts, distributions and economical models. It also means that one describes these value chains under various paradigms, such as legally protected, open source, creative commons,

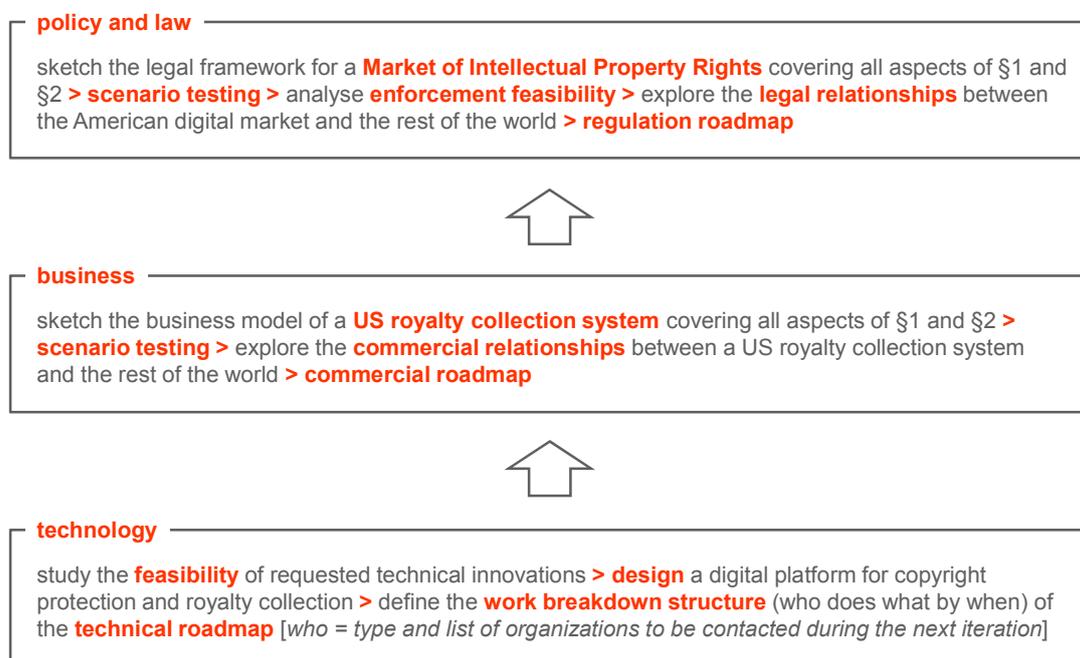


and criminal. In fact, IPR crimes, and the incentives for IPR crimes, must be thoroughly understood if one seriously wants to defuse incentives and reduce crime. When one will have sketched the value chains, one will be able to sketch theoretical business models and simulate the necessary contractual relationships and money flows.

Finally, on the policy and law level, first, one builds a framework of commonly accepted principles necessary to balance access and rights. And then, one applies these principles to the value chains sketched by the team at the business level. I would call this the *clinical* work. But according to me it is not sufficient, and I would suggest a parallel work, which could be called *political*.

It is not the first time that our democracies are facing a major technical disruption. Let's think about the automobile, the airlines or the electricity. At the beginning, these activities were not regulated at all. But – step by step – activities which were *free*, such as driving a car between A and B, became regulated for the common good. Step by step, the citizens accepted that one has to choose to drive on the right side or the left side of the road and stick to that choice, that speed cannot be unlimited, that seatbelts have to be fastened, that a car must not pollute too much and that there is also a choice between driving and drinking. Metaphorically, one can compare the necessary legislation of the World Wide Web to the California Driver Handbook – highways are networks for the common good, they are the results of major technical disruptions. There must be *political* best practices about how to regulate things which were previously not regulated. Searching for appropriate metaphors and borrowing from them should already be done at this stage.

## The second iteration > roadmaps



The second iteration produces roadmaps. It can be done within 18 months.

On the technical level, we were left with Requests for Innovation. Their feasibility must now be studied and lead to the design of a platform for copyright protection and royalty collection. It is also the time to develop a detailed work breakdown structure, to find out the

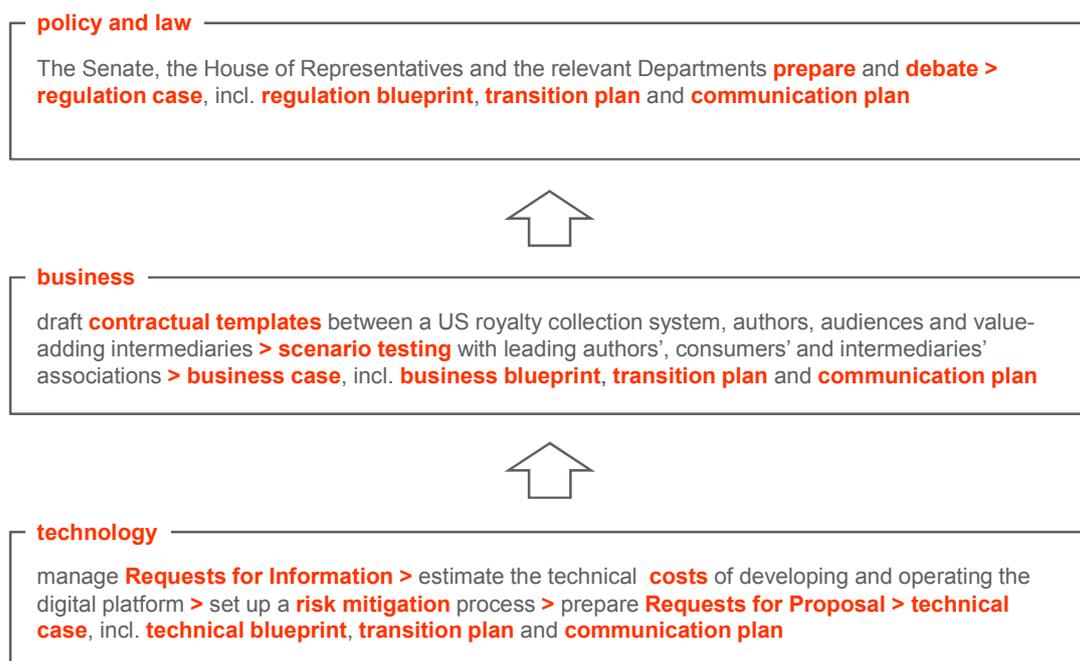
type of organizations to be contacted during the next iteration and to shortlist them. This is another key differentiating factor of our approach. It needs a programme, not a centre. Its resourcing strategy must be open, not closed. Today, before iteration 1, we cannot know who will be needed for iteration 2. And, as just mentioned, it is only during iteration 2 that organizations will be shortlisted to be contacted during iteration 3, and potentially work after the R&D iterations, i.e. on the deployment the solution.

On the business level, based on the value chains and business models of the first iteration and based on the preliminary technical results of the second iteration, one can now sketch the business model of a US royalty collection system, test it with multiple scenarios and explore the relationships between such a US system and the rest of the world. This will define the commercial roadmap.

On the policy and law level, one sketches the legal framework for a market of Intellectual Property Rights. It covers all aspects of §1 and §2. This legal framework is also submitted to rigorous scenario testing. One has to analyse the feasibility of its enforcement and to explore the legal relationships between a US digital market and the rest of the world.

After the second iteration, we have a set of three interrelated roadmaps, on the technology, business and policy levels.

### The third iteration > blueprints



The third iteration produces blueprints. It can also be done within 18 months.

On the technical level, one launches Requests for Information followed by Requests for Proposal. The answers from the organizations which have been shortlisted during the previous iteration are necessary to estimate and then to refine the estimates of the costs of developing and operating the digital platform. It is also the moment to set up a robust risk mitigation process which will permit to deliver the platform on time, on budget and on

specifications. The technical case, result of the three technical iterations includes the technical blueprint of the platform, the transition plan and the communication plan.

On the business level, one drafts the contractual templates between a US royalty collection system, authors, audiences and value-adding intermediaries; just like there are templates for the bye-laws of companies or for leasing contracts. It is the moment to simplify; it is also the moment to remind the Internet its promise and disintermediate. Then, all the results of the three business iterations are submitted to a series of tests with leading authors', consumers' and intermediaries' associations. Finally, the business case includes – besides the economic justification – the business blueprint, a transition plan and a communication plan.

Now is the time, at policy and law level, to organise all required necessary preparations and debates – now, because now these preparations and debates can be *informed*. Now, because impact assessments and evidence-based policy making require first research and then rhetoric. So I assume that the Congress and relevant Departments will prepare a *regulation case*, which – in parallel to the technical and commercial strands – will include a regulation blueprint, a transition plan and a communication plan.

Then there is a vote, then there is a technical, commercial and legal deployment, then everyone participates in the cultural life of the community, enjoys the arts and shares the benefits of science, and the authors' moral and material interests are respected.

### A great success or a little success > no risk

If we complete the third iteration, we get –

- the blueprints for a balanced, technical, commercial and legal enablement of Article 27, which will boost –
  - interactive access to arts, culture and science
  - transferability of knowledge
  - creation of arts, culture and science through protection of creators' moral and material interests
- the knowledge that can confirm our leadership role in a strategically important sector of human activity
- an almost complete blueprint for a technical solution against counterfeiting and plagiarism of textual, musical and audio-visual work, as well as elements to build a technical solution against illegal contents

If the hypotheses are not confirmed, we get –

- fact-based scientific (in)validation of hypotheses
- knowledge for informed further, technical, commercial, legal and political discussions about the enablement of Article 27 in the digital era
- exclusion of culs-de-sac for future technical, commercial, legal and political approaches to the future of copyright in the digital era

The economic principle of iterative research and development is that you launch a next iteration only if the previous one is successful because you need the outputs of the previous one as inputs for the next one. It also means that one can stop the R&D as soon as an iteration doesn't bring enough results. There is no major risk.

Let's assume that we complete successfully the third iteration.



We get the technical, commercial and legal blueprints. A blueprint means that you know what to do, how to do it, who will do it, what it will cost and how long it will take.

Few years after the blueprints, we would have a fundamentally new situation. Everyone would have an interactive access to art, culture and science. Knowledge would be easily transferable. The creation of art, culture and science would be fostered by the protection of creators' moral and material interests. We would have stilled the non-constructive fight which currently opposes the partisans of *§1-only* to the partisans of *§2-only*.

But we would gain more. The technologies and business models which are necessary to assure the balance between access and rights – a base for growth and jobs – would give to their developers a substantial, leadership role in what is probably the most important sector of human activity – intellectual development.

Finally, the technological blueprint for copyright would almost completely cover the technical requirements to fight counterfeiting and plagiarism of textual, musical and audio-visual works. It would also cover elements which would be useful to counter illegal contents.

Now what happens if we cannot confirm during the iterations 2 or 3 the hypotheses formulated during iteration 1?

Well, at least we have a fact-based scientific validation of some hypotheses and invalidation of others. We gain knowledge for *informed*, further, technical, commercial, legal and political discussions of copyright in the digital era. We will be able to avoid some thinking pitfalls and development culs-de-sac.

### **We must innovate not legislate**

This is the outline of our approach for the research which has to precede the deployment of a fundamental revamping – the base of a true and lasting peace between Silicon Valley and Hollywood.

When John Kennedy chose to go to the Moon, he said: "I realise that this is in some measure an act of faith and vision, for we do not now know what benefits await us". In that respect, the situations are not comparable. We know what benefits await us if we reach the objective of balancing access to and rewards from intellectual property. And we know that these benefits can be much larger than the benefits of the space programme – that decreases the risk.

The President also said: "If [we go] to the Moon, and do all this, and do it right, and do it first before this decade is out – then we must be bold". In this respect, the situations are comparable. The sum of the skills and efforts needed are comparable, but the budget probably not – and that increases the return. If we want a future for copyright in the digital era, and do all this, and do it right, and do it first before this decade is out – then we must be bold.



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