Regulating (Network) Experiments - Design of 'Regulatory Holidays' to Foster Innovation in Telecommunication and Energy Infrastructures

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1. Introductory remarks (concern & scope)

The concern for dynamic efficiency, through securing and, if possible, fostering technological innovation in infrastructures and infrastructure-based services poses a wicked regulatory challenge.[1]

At the very least, regulation should be *flexible* in the sense of keeping pace with technological advancement and *ergonomic*, by not posing obsolete constraints.[2] To truly *foster* innovation, regulators should reach beyond mere *relief* from administrative burden or regulatory hassle (i.e. by 'dumb regulation', rigidly restricting innovation),[3] by lifting regulatory constraints through a *relaxation* of standards on the basis of a greater priority on innovation (and tolerance of risk-taking) as against protecting other public interests.[4] Furthermore, the challenge would be to reach beyond removing deliberate *constraints* to innovation, and deploy types of regulation that *facilitate* innovation, by (also) securing and providing legal(ly arranged) resources or legal access to them– such as by legal powers, legal monopolies (e.g. concessions, (intellectual) property rights), through public procurement, (public) rights of access to and/or use of information, expertise, space, people, and capital.[5]

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[1] For the original typology of tame and wicked policy problems see: Rittel, H. and M. Webber, Dilemmas in a General Theory of Planning, *Policy Sciences* (1973) Vol. 4, pp. 155-169, Elsevier Scientific Publishing Company, Inc.: Amsterdam.
[2] Ensuring to be up to the 'technological state of the art' or avoiding 'regulatory gaps' from arising. As with very general
[2] Ensuring to be up to the 'technological state of the art' or avoiding 'regulatory gaps' from arising. As with very general and open clauses, such as the command to apply BAT-standards or provisions that order adherence to technical standards that are formulated by epistemic communities. (For the latter, see: Peter M. Haas, Introduction: Epistemic Communities and International Policy Coordination, *International Organization*, Vol. 46:, nr. 1 (1992), pp. 1-35. "An epistemic community is a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area.", p. 3.)
[3] See the January 2011 statement by US-President Obama: http://online.wsj.com/news/articles/SB10001424052748703396604576088272112103698 relating to http://www.whitehouse.gov/the-press-office/2011/01/18/fact-sheet-presidents-regulatory-strategy [Both sites accessed 08-08-2014].
[4] Which, admittedly, amounts to either a different 'trade-off'; one which increases the relative importance of innovation (or the freedom to innovate) as against other public interests (as something we would be willing to take or tolerate more risks for and/or that may be left to dealt with through private interest/market transactions), or the policy-view that 'taking a chance' at technological innovation will ultimately (upon a 'Pareto-or Hicks-Kaldor-utilitarian balance') be to the benefit of other public interests (so in fact there is no change in trade-off, but a more dynamic way of 'trading off').
[5] About the challenge, see: Heldeweg, M.A., Legal Design of Smart Rules and Regimes: Regulating Innovation, In: Heldeweg, M.A. & Kica, E. (2011), *Regulating Technological Innovation. A Multidisciplinary Approach*. Hershey: Palgrave MacMillan, pp. 37-52. (Parts of the book are accessible through Google books.]

While these ambitions may already challenge the capacity of 'evidence-based or -informed regulation',[6] the issue of regulatory 'validity' (in the legal sense) or of regulatory 'legitimacy' (in the informal sense of acceptance' by regulatees, third parties and the general public) calls for attention to the 'institutional regulatory context'.[7] When introducing regulation fostering technological innovation ('*exploration*' – by, broadly speaking, new inventions) and its uptake ('*exploitation*' – by, broadly speaking, new applications),[8] regulators operate in particular institutional environments with given empirically established and normatively prescribed patterns of interaction.[9]

Regarding *exploration*, concern should especially go out to general (non-)legal standards as regards generally acceptability of (the burdens and benefits of) risks concerning all stakeholders, and reasonable measures of risk-management, reflecting a default *social* and the *legal* licence to operate,[10] as matters of, *inter alia*, due care, duty of care, precaution and distributive justice, when allowing and performing experiments towards technological breakthroughs.

As regards *exploitation*, concern for the institutional context relates to the proper fit of new technological applications (as production techniques or processes, or as products or services) involving interactions and transactions in different (ideal type) governance environments (with specific social and legal norms): those of 'competition & exchange' in the *market*, 'hierarchy & orders' under *government* and 'cooperation & reciprocity' in *civil society*.[11] Fostering innovative exploitation by regulation may clash with, for example, legal demands of fair competition and of public service in the hybrid setting of regulated competition in liberalized infrastructures and infrastructure-bound services. Such would be the case if, for example, requirements of universal access would be relaxed (to allow *niche* innovation) or when legal rules concerning fair competition would be set aside by (temporary) 'monopoly regimes' of intellectual property, cooperation, or network exploitation.[12] In exploitation the issue is that of (smart) governance innovation.

From this it follows that our general focus is on freedom to engage in undertakings of exploration and/or of exploitation, as a matter of 'innovative

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[6] See, *inter alia*, PM. For example literature on 'Evidence-based legislation'(EBL): http://en.wikipedia.org/wiki/Evidence-based_legislation The point being that to reach the 3 ambitions requires knowledge about effects/effectiveness (next to understanding (legal) norms. See also the work done under the EU-Regulatory Impact Assessment approach (see work by Claudio Radaelli et al.).

[7] The concept of a 'wicked policy challenge' (as opposed to a tame problem) often combines to challenges: uncertainty about knowledge and uncertainty about support/acceptance – see footnote 1.

[8] See, *inter alia*, The Netherlands Scientific Council for Government Policy (WRR: *Innovatie vernieuwd. Opening in viervoud*, Amsterdam: Amsterdam University Press 2008, p. 18 (further references to be added)

[9] See Ruiter, D.W.P., (2004), Types of institutions as patterns of regulated behavior. *Res Publica* 10 (3).

[10] See, on the concept of the 'social licence to operate' (possibly being more stringent than the legal license), Gunningham, N., Kagan, R. and Thornton, D., Social License and Environmental Protection: Why Businesses Go beyond Compliance, *Law & Social Inquiry*, Vol. 29 (2004), No. 2, pp. 307-341. The default 'legal license to operate' refers to non-specific guidelines, such as Learned Hand's 'calculus of negligence' (see: http://en.wikipedia.org/wiki/Calculus_of_negligence [Accessed 11-09-2014]) or, somewhat more 'remote', the precautionary principle' (see: Andy Stirling, Science, Precaution, and the Politics of Technological Risk. Converging Implications in Evolutionary and Social Scientific Perspectives (2008) *Annals of the New York Academy of Sciences*, pp. 95-110).

[11] See Powell, W.W., Neither Market nor Hierarchy: Network forms of organization, *Research in Organizational Behavior*, 12, pp. 295-336 1990 and Thompson, G, J. Frances, R. Levačić and J. Mitchell (eds.), *Markets, Hierarchies and Networks: The Coordination of Social Life*, London: Sage 1991.

[12] The '*Deutsche Telekom-case*' being an example that was not accepted by the ECJ (C-424/07 Commission v. Germany, 3 December 2009). Germany granted its then recently (and still partly state-owned) telecom-company a 'regulatory holiday' from mandatory access of third parties on its yet to be realized new infrastructure for VDSL – a relaxation of competition rules. It was cautioned in 2007 by the European Commission and subsequently brought before the ECJ.

entrepreneurship', whether with a commercial or a non-commercial objective or whether by public or private actors, but with a promise of societal benefits. More specifically, our focus is on situations where regulation provides (or can provide) an experimental setting for such innovative entrepreneurship, which otherwise would be hampered either by regulatory constraints or by lack of facilitation of (access to) resources.

As the magnitude of such a challenge calls for modesty, in this paper we look at regulation fostering technological innovation with a fivefold focus:

1. firstly, a focus on seeking new *applications* of technological innovation, considered primarily as a concern for smart governance regarding implementation of new technologies (rather than of high tech research settings);[13]
2. secondly, a focus on fostering technological innovation through regulatory *relaxation* and regulatory *facilitation*, rather than 'merely' to keep pace (avoiding 'regulatory gaps'), or to provide relief from burdensome/dumb regulation;
3. thirdly, a focus on *exceptional regimes* towards fostering technological innovation, possibly with a general scope but always as an 'case-related' *and* 'temporary' deviation from 'normal' regimes – as already indicated by the above remarks on our general focus. To be more precise; we look at dedicated regulatory arrangements for particular *experimental* activities (as intentionally organised isolated cases, situations, events or as a (first and vulnerable) stage of a successive ('normal') activity (under normal regulation), [14] which are expected to (probably) result in a *disruptive* innovation with a promise of societal benefits.[15]
4. fourthly, a focus on infrastructure based services, especially in the liberalized energy and telecommunication sectors, which implies that we take into account specific *network* characteristics concerning both technological innovation, economic transactions and regulation.
   Given that this paper reflects work in progress, it does not include a further elaboration of specific aspects that come with experimentation in networks. In as much as experimentation and competition can sometimes clash, clearly

[13] This choice of priority is fuelled by OECD concerns ('i.e. The Dutch Paradox'), that the Netherlands are doing fine on exploration, but rather badly at exploitation – OECD Economic Surveys, Netherlands 2006, 2, Paris: OECD, p. 104. Meanwhile we prefer to speak of 'application' rather than of exploitation, firstly because exploitation is often understood as 'commercialized', secondly because, as will be discussed later exploration and exploitation (increasingly?) coincide or iterate, and are relevant to both technological and governance innovation. Application is taken here to be about valorisation of new technology through new processes, machines, products and services, whether through market, government or civil society channels, or hybrid forms of these and without excluding further technological/exploratory innovation refinement.

[14] More on this terminology later. The essential element about an experiment (Oxford dictionary: 'A course of action tentatively adopted without being sure of the outcome' – see: http://www.oxforddictionaries.com/definition/english/experiment) is that there is considerable risk of activities not to yield the desired outcome (e.g. the technology does not work in practice or not in a viable or otherwise acceptable way), but even so it would be worthwhile finding out, given that there is (a) a promise that it will work, (b) a promise that if it works it brings if it brings societal benefits, and (c) a promise that whatever the outcome, we will learn from the results. This does exclude a general scope of regulation (temporarily) allowing incidental projects merely for a particular interest (e.g. economic growth) that is considered of such (almost 'self-evident') magnitude that other concerns are set aside.

[15] Again, more later, but 'disruptive' describes (the opposite of 'sustaining innovation' as) a situation of an innovation that, due to the unexpected new technology, products or services that it brings, disrupts (an) existing market(s) and value chains or networks (having existed with some permanence; of years or decades). See Bower, Joseph L. and Christensen, Clayton M., Disruptive Technologies: Catching the Wave, *Harvard Business Review* 73, no. 1 (January-February 1995), pp. 43-53.

the tendency of networks towards natural monopolies is a factor to count with.

5. fifthly, a focus on *legal* aspects, or slightly more specific of *legal governance* so as to include the perspective of legal *design* (as a method of well-considered rule-making)[16] of smart rules and regimes (fostering innovation).

We do not want to go into the discussion about economic or policy effectiveness or efficiency of exceptional legal regimes for application of technological innovation on (esp. energy and telecommunication) networks. We assume that under certain conditions a case can be made for such a promise, as seems to be, for example, the premise under an example that is limited to exemption from obligatory rules, included in Article 101(3) TFEU. This Article states that the prohibition of cartels (of Article 101(1) TFEU) may be declared inapplicable in a case of undertakings (that normally amount to a prohibited cartel), "*which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit,…*'.[17]

It is our objective to map and compare possible designs of (models of) experimental regimes, as a basis for a better understanding of, *inter alia*, relevant exceptional entitlements (as rights & obligations) following from applicable (dedicated) legal relations, so that an economic or policy-effectiveness analysis and assessment may (then) be made (by others) upon a proper and sufficiently nuanced basis.

In the following sections we will first offer some further delineation of our object of design, in four steps: par. 2., looking at practice; par. 3., looking at legal theory; par. 4. looking at experimentation; par 5., looking at networks; par 6., considering legal design for practice. Next we will address 2 main examples of network related regimes for experimentation: in par. 7, looking at Dutch telecommunication legislation; in par. 8, looking at Dutch electricity and natural gas legislation. We then, in par. 9., attempt at some comparisons between examples and between examples and theory, to conclude this paper, in par. 10, with our conclusions and suggestions.

2. Some Practice

A first concern of delineating our focus of attention is to avoid a narrowing down of the concept of regulating experimentation[18] to mere regulatory *relaxation* in the form of 'regulatory holidays'.
In this respect Monti's description of regulatory holidays, offers an interesting scope:[19]

[16] See Heldeweg, *supra*, footnote 5. Also see Heldeweg & Ruiter, Types of Legal Channelling and their design, forthcoming (2015).
[17] Antoni J.P. Brack, Regulation for Innovation: A Comparative Inquiry into a regulatory Pair of Twins, In: M.A. Heldeweg & E. Kica, *Regulating Technological Innovation. A Multidisciplinary Approach*, Houndmills: Palgrave MacMillan 2011, pp. 17-35.
[18] The theme of 'Legal Design of Regulating & Organising Experimentation' is the new research topic of the Chair of *Law, Governance & Technology*, University of Twente, the Netherlands.

"…. a mechanism that could be used by a regulator to prioritise dynamic over allocative efficiency is a 'regulatory holiday' that suspends regulatory obligations when a regulated firm develops a new product. The idea behind a regulatory holiday is akin to granting an IP right: the holder is free from competition for a particular time period, and the prospects of this holiday are an incentive to innovate."

His definition relates to the context of competition law in telecommunication. Monti notes that in this field the European Commission takes a critical stance:

"…. the (European) Commission thinks that competitive markets are the best way to encourage investment and is against regulatory holidays."

This quote relates to the run-up to the 2009 ECJ-decision in the Deutsche Telkom case (as the European Commission informed the German government of its criticism),[20] but anecdotally also fits the more recent rejection, in March 2012, by mrs. Kroes, then vice-president of the European Commission and commissioner for the Digital Agenda, of calls for regulatory holidays (especially for telecom operators):

"*They (the proponents of such holidays – LB/MH/MH) claim we should grant operators a regulatory holiday… They want a holiday from the stress of innovating in a competitive market and a return to an 'idyllic' business environment sheltered from real competition*".[21]

Interestingly, in the same year, in a different area, that of car manufacturing, the European Commission seemed to take an opposite position.[22] An online article under the caption "*EU Commission plans regulatory holiday for auto sector*" relates of how mr. Tajani, the then EU commissioner for Enterprise and Industry, faced with threats from the car-manufacturing industry of closing down European plants, made the announcement of having instructed his directorate-general:

"*… to implement a regulatory moratorium to avoid new costs and limit relocations*", and also to "*… propose to my colleagues to examine the possibilities of similar initiatives in their areas of expertise.*"

The online caption implicitly suggests a broader definition of a regulatory holiday as it extends to regulatory *moderation*, by not readily introducing new and burdensome regulation. Clearly, this reaches beyond Monti's definition ("... *suspends regulatory obligations*"), and beyond our focus, as both this definition and our focus are limited to creating temporary *exceptions* to existing obligating rules.

Furthermore, mr. Tajani's approach holds no explicit reference to any prospect or, at least promise, of innovation, which also is vital to both Monti's

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[19] Giorgio Monti, Managing the intersection of Utilities Regulation and EC Competition Law, *The Competition Law Review* Vol. 4 Issue 2 (2008) pp. 123-145 (also available online: http://www.clasf.org/CompLRev/Issues/Vol4Iss2Art2Monti.pdf [Accessed 08-08-2014]. Monti's article relates to the issue of the Deutsche Telekom-case, *supra*, footnote 12.
[20] See footnote 12.
[21] See: http://www.computing.co.uk/ctg/news/2158268/european-commission-regulatory-holidays [Last accessed 07-08-2014].
[22] See: http://www.reuters.com/article/2012/03/08/eu-auto-regulations-idUSL5E8E8ALJ20120308 [Last accessed 07-08-2014].

definition (*"… when a regulated firm develops a new product"*; "*… and the prospects of this holiday are an incentive to innovate.*") and to our focus on *experimentation* with a view on possible *disruptive innovation*.

We consider mr. Tajani's proposals not to be about a regulatory holiday, as we choose to follow Monti's more specific definition of that concept. Nor is it about a form of regulating specified forms of *experimentation* – whether or not one chooses to regard this as a strict and/or necessary element of a regulatory holiday. Finally, we find no indication of mr. Tajani's proposal displaying, beyond mere regulatory permissiveness, a hint of a facilitative regulatory function. In the next paragraphs (3-5) we will focus on these aspects.

3. Some Legal Theory

Legal theory can provide us with insights by which we can formulate basic definitions of permissiveness and facilitation, which we can then apply to the field of regulating experimentation. We will first (in 3.1) look at basic normative positions in general, then (in 3.2) at aspects of permissiveness, next (in 3.3) at forms of permissiveness, and (in 3.4) at legal facilitation, and finally (in 3.5) at powers to permit and facilitate.

3.1 – Basic normative positions

From a perspective of legal design, regulatory permissiveness (to experiment) should be understood against the backdrop of basic positions of legal regulation of an activity (say 'A'). These positions are:[23]

A. a regulated *order* or *command* of an activity ('shall do A'; also known as 'green channelling' of behaviour);

B. a regulated *prohibition* of an activity ('shall *not* do A'; also known as 'red channelling' of behaviour);

C. a regulated *permissiveness* regarding an activity, either as *permission* (*C1* - as 'may do A') in logical opposition to a prohibition, or *dispensation* (*C2* - as 'shall *not* do A') in logical opposition to a command; together also known as 'amber channelling' of behaviour);

Furthermore, we should consider the possibility of there not being any regulation creating obligations concerning a particular act type ('A'):

D. an *un*regulated *permissiveness* regarding an activity ('may *and* may not do A';[24] resulting in 'amber channelling' of behaviour by absence of channelling in obligating forms *A.* and *B.*).[25]

So, in all there are six normative positions, as shown in the following table (1.).

[See next page]

[23] As will become clear, we build here on the distinction used by Roger Brownsword, *Rights, Regulation and the Technological Revolution*, Oxford University Press: Oxford 2008, p. 19, and Roger Brownsword & Han Somsen, Law, innovation and technology: before we fast forward – a forum for debate, in: *Law, Innovation and Technology* (2009), p. 15-16, and also on that of Heldeweg & Ruiter, *supra* footnote 16.

[24] This combined position is logically possible as the relation between permission and dispensation is *subcontrary* (i.e. the type of relation between x and y where x and y can be the case at the same time (e.g. a permit and a dispensation; bilaterally), but it cannot be that none of both is the case at any particular time (e.g. a permit nor a dispensation).

[25] We apply the logical rule that absence of obligations implies presence of permissions and we look at single regulation of a single type of activity – of course in reality a type of activity may be a subtype/-set of other categories/types that are encompassed by other regulations.

Table 1. Six normative positions following basic types of (non-)regulation

Table 1 - Six normative positions			
Regulated Obligation to (*A.* or *B.*)	*A.* Command ('Green') 'Shall do A'		*B.* Prohibition('Red') 'Shall not do A
Regulated Permissiveness to (*C1. or C2.*)	*C1.* Permission('Amber') 'May do A'	or	*C2.* Dispensation ('Amber') 'May not do A'
Unregulated Permissiveness to (*D1 and D2.*)	*D1.* Permission('Amber') 'May do A'	and	*D2.* Dispensation ('Amber') 'May not do A'

3.2 – Aspects of permissiveness: unilateral and bilateral

When permissiveness has a 'double aspect', including both permission and dispensation, we call this *bilateral* permissiveness; if there is only one aspect at play, we speak of *unilateral* permissiveness (permission or dispensation). Unilateral and bilateral permissiveness become manifest in various situations:

1. Permission is unavoidably *unilateral* when it is merely logically *implicated* as permission in the existence of a Command (*A.*), or as dispensation in a Prohibition (*B.*). Clearly, these unilateral types of permissiveness are mere implicitly *regulated* forms of permissiveness, following a regulated obligation.[26]
2. In permissiveness type *D.*, there is no regulator; or the regulator is not regulating. Permissiveness follows merely from absence of (regulation prescribing) obligations; prohibition and command – *A*. and *B*. Hence, this permissiveness is *not* unilateral but unavoidably *bilateral*.[27] This situation is also known as '*freedom*', or, from a regulatory standpoint, '*indifference*': the 'regulatee'[28] can do as he or she pleases: act ('may do') or refrain ('may not act').
3. Type *C.* regulated permissiveness can also be *bilateral*, but only if and when a norm is introduced prescribing that some act may be performed or refrained from, as desired by the regulatee.[29] An example would be the explicit permissiveness of a human right: this could include both the right to voice opinions through telecommunication and to refrain from doing so by using telecommunication; a right to, no duty. Often the norm itself is formulated as permission, but is understood to include dispensation. This type of regulated permissiveness co-exists with bilateral unregulated permissiveness, as this follows logically from the absence of obligations.
4. In a rather theoretical sense, there is room for regulated *unilateral* permissiveness, outside implicated unilateral permission (see the above no.

[26] Following the previous footnote, obligations always come in regulated form. The underlying relationship with permissiveness is *subaltern*: a command implicates permission, but permission may exist without a command, and a prohibition implicates dispensation but a dispensation may exist outside a prohibition. Of course in practice regulators should make sure that this logic is adhered to in practice so no normative inconsistencies arise (e.g. prohibited but not allowed to refrain; i.e. without dispensation).

[27] If we think of an unregulated unilateral dispensation, we need absence of a command (hence dispensation), in presence of a prohibition, to exclude permission (for else the permissiveness would be bilateral). Such a prohibition would, however, as a regulated obligating norm, logically implicate dispensation. As this latter dispensation would be implicitly unilaterally regulated: a dispensation following a regulator's explicit desire to regulate. Unregulated permissiveness exists by virtue of regulatory silence.

[28] Between quotation marks, as in a state of absence of regulations, there are no regulatees.

[29] Logically this would have to be without there being any obligation to (not) perform the act, as this would clash with contradictory permissiveness: permit against prohibition or dispensation against command.

1.).[30] In the human rights example (in the above no. *3*) a description as permission is understood to include regulated dispensation. Unilateral regulated permissiveness would occur when there is no basis for the assumption that the regulator implicitly regulated the matching subcontrary permissiveness. Such situations unavoidably come with matching unregulated bilateral permissiveness, as they cannot exist other than in absence of obligations (see the above *2*).[31] Again, this seems rather theoretical, but as regulated and unregulated permissions differ (more on which in the below) it seems proper to make the distinction.[32]

Table 2. Aspects of (un)regulated permissiveness: bilateral or unilateral

Table 2 – Aspects of (un)regulated permissiveness		
Permissiveness *C.* (regulated) or *D.*(unregulated)	Unilateral 'may do' *or* 'may not do'	Bilateral 'may do' *and* 'may not do'
Regulated (*C.*) *Permissiveness following regulatory act*	*By subaltern implication* (*1*) - command => permission - prohibition => dispensation *By absence of obligations* (*4*) - matched by bilateral unregulated permission (*2*)	*Only as freedom* (*3*) - e.g. human rights
Unregulated (*D.*) *Permissiveness following absence of a regulatory act*	*Impossible* Would implicate a corresponding *regulated* obligation, which would implicate a *regulated* subaltern permission	*Always* (*2*) In absence of any obligation (A contrario from case explained in box to the left

Piecemeal Permissiveness

Normative positions have so far been discussed as *general* norms, for some generic norm-*object* (or act-type),[33] under some norm-operator (or prescriptive mode of ought),[34] directed at a set of norm-*subjects* (or regulatees),[35] perhaps under particular norm-*conditions* of time, place or circumstance.[36] In practice, there are many cases where specific norms purport exceptions to some general obligating norm, so to exclude a subset of norm-subjects and/or act-types from that obligation – thus reclaiming permissiveness. Permit systems operate this way as they hold a general norm of prohibition (e.g. to generate electricity or transmit cell-phone signals), followed by an exception to this prohibition in case a permit is granted (e.g. to a limited number of companies) – and similar arrangements exist with commands followed by dispensation. A permissive

[30] Perhaps regulated only for reasons of providing legal certainty, or as a regulatory device that allows other rights and duties to be connected to it (see later) – but not as a distinct form of permissiveness.
[31] Note that regulated unilateral permissiveness by explicit exclusion of the complementary permissiveness would turn the expressly regulated permissiveness into no more than explicit formulation of implicated permissiveness (e.g. permission following command – see *1*.). See previous footnote.
[32] The norm, "All natural persons are allowed to refrain from therapeutic cloning.", could merely be about providing (protective) legal certainty, without the regulator wanting to suggest permission to such cloning. Still, by lack of a prohibition (which would make the dispensation implicated), such permission would ensue in unregulated form.
[33] Or category - a plain example: '(not) generating electricity'; a subset could be '… (not) using coal', '…. (not) using natural gas' etc.
[34] Such as the above named: 'shall' and 'may'.
[35] Also a class of abstractly described norm-subjects: e.g. all persons or any person, but also, for example, all Internet providers, all grid-operators, all private persons involved in household energy-generation.
[36] E.g. an imminent threat to life, power-shortage, public uproar, internet-disturbance.

exception is made to the general norm, for a *subset* of regulatees, and/or of conditions under which the (more) general obligation applies.[37]

Logically speaking, it seems strange to separate piecemeal permissiveness as an exception to a general obligating norm. After all, one can always regard the exception as the further delineation of the existing general norm, as regards the almost always-applicable specifications of norm-subjects and norm-conditions.[38] Thus every permit or dispensation would merely be understood as a specification by which the scope of application of a general prohibition or command becomes more narrow (in respect of '(some) subjects in (some) cases') than it was before the permissiveness was granted. We believe that it makes sense to regard such a (subject/condition-subset) piecemeal permissiveness as a separate norm, given that we ultimately aim to relate norms to the brute facts of reality, rather than to merely regard them as prescriptive logic outside time and space. Thus specification of 'subjects in particular cases' can have exceptional relevance in two distinct ways:[39]

a. in placing the relevant (subjects-cases) subset under a separate expressly regulated norm of permissiveness (so 'shall (not) do' becomes 'may (not) do'; contradictory to the obligating direction of ought that applies to the superset), with its very own specifications in terms of norm-objects, -operators, -subjects and/or –conditions – rather than merely placing this subset outside the realm of obligation into unregulated permissiveness (merely redrawing boundaries of regulation).
b. by doing so through the performance of a separate legal act (as an announced or unannounced possibility), with distinct conditions of validity (relating to power of its introduction, change or termination) which allowing for the possibility that at some point the piecemeal permissiveness ends and the general obligation regains its hold over the once excepted subset.

Clearly the distinctness of a permissive exception is most manifest when brought about by a power that is not included in the same legal rule that holds the general obligating rule. The latter is generally the case in permits systems (allowing exceptions in individual cases or as general permissive norms for subsets), so that the permissions do not come unannounced.[40] The former applies when a permissive legal rule is introduced that has priority over the rule that holds the prohibitive norm - such as on the basis of the '*lex specialis* rule'.[41]

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[37] Alternative, frequently used, terminology for (sub)set would be (sub)category or (sub)class. The term 'piecemeal' is used to underscore the difference to 'general' permissiveness. Keep in mind that the latter would –*logically*– not allow for existence of a prohibition or a command alongside permissiveness. The former (i.e. piecemeal/for a subset) is an arrangement that is 'illogically' bound by subject's/regulatee(s)'s or case- (including time- and place-)constraints (being a non-general exception).

[38] Only a limited number of norms apply to all persons at all times, in all places and under any circumstances – such as the prohibition of genocide and slavery. Even to prohibition of discrimination there are conditions – excepting positive discrimination.

[39] It should be kept in mind that often a general prohibition or command is primarily intended to function as a regulatory 'rule of closure': it is predominantly a means to enable granting piecemeal permissions under piecemeal conditions, not so much to actually result in a de general state of prohibition or command – so not intent exists to extinguish type *D*. unregulated permissiveness.

[40] Of course an obligating general norm may be phrased as such that it only obligates as regards 'acts x, when performed outside of permits or dispensation'. As this amounts to the same as prohibiting or commanding the full range of 'acts x' while elsewhere in the same legal rule it reads that there are exceptions when permits or dispensations apply, we do not elaborate on this.

[41] '*Lex specialis derogat legi generali*': the more specialized norm/rule overrides the norm/act with a more general arrangement.

Exceptional or piecemeal permissive norms have the peculiarity that as a regulated exception to an obligating norm (i.e. permission from prohibition and dispensation from command), they disable the contradictory obligating norm for that particular (subject-case) subset, which constitutes an absence of obligations (as the disabled obligating norm would not allow for the existence of a contrary obligating norm – command and prohibition cannot coexist), resulting in a subset-realm of bilateral unregulated permissiveness. So, it would depend on the regulators intent and perhaps express regulation, if the piecemeal permissive exception is to be understood as regulated bilateral permissiveness (no. *3.* in the above list) or as a 'hybrid' overlap of a unilateral regulated permissiveness with a bilateral unregulated permissiveness (no. *4*. in the same list).

Logically bilateral *piecemeal* permissiveness is impossible if it is understood to hold that the complementary permissiveness is also piecemeal, as this would suggest that it exempts only from some contradictory obligating norm – which could not exist, as said in the above. So, bilateralism can only exist logically as a conjunction of one piecemeal type of permissiveness and one subcontrary, general type of permissiveness. For all practical purposes, however, the nature of the subcontrary permissiveness may be considered as regulated (so, in all bilateral – see no. *3*) if the regulator has considered its desirability and perhaps even given hitherto specifications.

In any case, clearly these situations of bilateral or complementary (piecemeal) permissiveness stand well apart from the seemingly piecemeal-regulated unilateral permissiveness that is actually 'only' permissiveness implicated in an obligation. Concessions are a fine example,[42] which amount to a permit ('May generate electricity') within a command ('Shall generate electricity').

Finally, there is *no* such thing as *piecemeal-unregulated* permissiveness, as the concept of a subset arrangement is that of an exception to a (super)set. The exception would come with two problems: 1. it assumes (prior) existence of an in fact absent general obligating norm, from which to except; 2. it is exceptional only to the extend of confirming an already existing unregulated permissiveness, but this confirmation implicates regulation (if only to make permissiveness explicit for the specific (sub)category (of norm-objects, -subjects, or –conditions).

Table 3. Aspects of piecemeal (un)regulated permissiveness

Table 3 – Aspects of piecemeal (un)regulated permissiveness		
Piecemeal Permissiveness *C.* (regulated) or *D.*(unregulated)	Unilateral 'may do' *or* 'may not do'	Bilateral 'may do' *and* 'may not do'
Regulated subset (*C.*) *Permissiveness in exception to opposing obligation*	*Explicit exception* - permission from prohibition - dispensation from command	*Not as pure form* - exception to contrary obligations?! *As hybrid form* - matched with bilateral unregulated permission

[42] In some legal systems the term 'concession' is reserved for acts, which both grant permission and command to perform the permitted activity, as there is a public need involved, such as in establishing public service networks. Often these concessions are granted in competition, set-up to select the best party to secure the involved public work or service.

Unregulated subset (*D.*) *Permission following absence of a regulatory act*	*Impossible* See table 2	*Impossible* Cannot be framed without regulation

3.3 – Forms of permissiveness - regulated or unregulated[43]

The above elaboration underscores the importance of the underlying distinction at play between regulated normative positions (*A.*, *B.* and *C.*), where the regulator is taking explicit action in the form of legal acts with legal effects for the concerned regulatees (e.g. car-manufacturers, telecommunication-providers, energy-providers), and unregulated normative positions (*D.*), where the regulator remains 'silent'. While obligations (*A.* and *B.*) can only exist in regulated form (as 'red' or 'green' channelling of behaviour), permissiveness (*C.* and *D.*) exists either in regulated or in unregulated form (as 'amber' channelling of behaviour) – either bilaterally or unilaterally.

From our focus on *experimentation*, in terms of removing regulatory constraints, permissions (*C.* and *D.*) are clearly the most interesting options. Their choice, however, calls for a further elaboration to clarify both possible shades of being unregulated and the possibility of permissiveness. This is relevant not only as a matter of absence of constraints,[44] but also as regards options of facilitation related to explicit or even implicit permission. The latter, of course, includes the possibility of facilitation (with implied permission) related to obligating regulation, e.g. a command ('shall do A') matched with a supporting facility (e.g. a subsidy to enable 'doing A').

Two forms of unregulated permissiveness

Absence of regulation can take two forms, that of 'mere regulatory silence' (where no regulator has considered the regulatory option),[45] or that of 'eloquent regulatory silence' (where a regulator has taken the considered decision not to regulate).[46] The difference between the two is that, whereas the former has no normative content at all (as it is merely a matter of absence of regulation – permissiveness is a matter of 'can', rather than of 'may)', the latter, eloquent silence, does not hold norms of conduct for regulatees, but may, as a matter of distribution of legal powers, pose conditions to norms of power,[47] such as restricting powers of lower legal authorities in regulating.[48]

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[43] The distinction between regulated and unregulated permissions goes back to Von Wright's distinction between 'weak' and 'strong' permissions; see: G.H. von Wright, *Norm and Action: A logical enquiry*, London: Routledge & Kegan Paul (1963), esp. pp. 85 ff.

[44] We recognize that, certainly in piecemeal permissions, regulated permits and exemptions may be accompanied by many (prohibitive and/or commanding) conditions.

[45] Which need not be a matter of ignorance in a pejorative way. Take the acts of cloning and hacking, which simply were not in the 'regulatory picture' before DNA was discovered and computers/internet invented. See also Heldeweg & Ruiter, *supra*, footnote 16.

[46] We use the distinction made by Soeteman. A. Soeteman, Legal Gaps, Lemma in: *IVR Encyclopedia of Jurisprudence, Legal Theory and Philosophy of Law*, http://ivr-enc.info/index.php?title=Legal_gaps [Accessed August 19, 2014], but we replaced his 'explicit silence' by (the oxymoron of) 'eloquent silence'. A choice inspired by Michal Ephratt, The functions of silence, *Journal of Pragmatics* 40 (2008), pp. 1009-1938, where it is presented as a listener-oriented, deliberate *choice* (p. 1914) of a means of communication. We do, however, feel that Soeteman over extends the normative impact of eloquent silence when he concludes that these may also purport norms that courts should consider as rules of conduct.

[47] A distinction made by Hart, between primary rules (of conduct) and secondary rules (inter alia of power): H.L.A. Hart, *The Concept of Law*, 3rd edition, Oxford: Oxford University Press 2012, p. 91-99.

[48] Different views exist on this issue, such as the more stringent one which holds that even eloquent silence is silent only when no normative message ensues from this silence, so only absence of obligations remains. We hold the view that if a court is confronted with eloquent silence, I could conclude invalidity of subordinate legal acts (by lower authorities) for reason of no-power, but in terms of conduct it cannot but conclude that no obligations apply.

Three forms of regulated permissiveness

Aside from these two variations of unregulated permissiveness, there are three variations in regulated permissiveness. These variations display that the underlying difference between unregulated and regulated permissiveness lies with the fact that only regulated permissiveness has a *relational* dimension, derived from applicable rules of conduct.[49] At both opposite sides of these relations we find various types of rights.

In a most sophisticated way, Hohfeld categorised these types of relations and related types of rights.[50] *First order* relations concern given legal relations following norms of conduct , whereas *second order* relations concern given legal relations following norms of power (concerning the ability to introduce, alter or terminate legal relations). In both types of relations there is a party as 'right-holder', having a legal advantage by virtue of his right, and an opposite, 'burdened-party', who suffers a legal burden, resulting from the right holder's ability to exercise his right.[51]

In first order relations there are two types of rights' relations: rights as *claims* of the right-holder against a *duty* of the burdened-party (e.g. a claim upon a contract); rights as *privileges* of the right-holder against an burdened-party with *no-claim* to keep the right holder from acting upon his privilege (e.g. a privilege to act upon a permit or upon ownership).

In second order relations again there are two types of rights' relations: rights as *power* of the right-holder to introduce (etc.) first (and second) order relations, against the *liability* of the burdened-party (e.g. the power to introduce obligating regulation); rights as *immunity* of the right-holder against the burdened-party's *disability* to introduce (etc.) first (and second) order relations.

Table 4. Hohfeld's two orders of rights relations and 4 types of rights

Table 3 - Hohfeld's two orders of rights relations and 4 types of rights	
1st order 'given legal relations'	Claim ⇔ duty
	Privilege/Liberty ⇔ No-claim
2nd order 'changing legal relations'	Power ⇔ Liability
	Immunity ⇔ Disability (No-power)

We will find that many of these types of rights and underlying relations are included in relational variations in regulated permissiveness are of increasing 'strength':[52]

1. permissiveness as '*tolerance*' are legal relations in which the regulator promises *not* to interfere with the permitted conduct. In Hohfeldian terminology, the right-holder has a *privilege* to (not) act and the regulator, as the burdened-party, has *no-claim* to keep the right-holder from acting or

[49] As we saw in the above, eloquent regulatory silence has a possible effect on 'others', but not as a matter of rules of conduct and only as regards rules of power (constraining discretion to use a legal power).
[50] W.N. Hohfeld, *Fundamental Legal Conceptions as Applied to Judicial Reasoning*, ed. By W.W. Cook, Westport: Greenwood Press, 1964 (Yale University Press 1919).
[51] We speak of these relations as between one party at the one side of the relation and one party at the other side of the relation, but of course both positions can be held by one, by a group and by all. Hohfeld addressed this in terms of unital and paucital (one/group: 'in personam') and multital (all: 'in rem') relations'. Hohfeld, op. cit., pp. 712-.
[52] Atienza, Manuel, and J. Ruiz Manero, *A Theory of Legal Sentences*, Dordrecht/Boston/London: Kluwer Academic Publishers 1998, p. 96 (with quotes from Von Wright, *supra* footnote 35, p. 88 f.).

refraining. An example of 'tolerance' would be a regulator allowing (passively, not by separate legal act) an energy grid operator to also experiment with telecommunication services via this energy grid. Permissiveness as a tolerance merely affects the relation between the regulator and the regulatee, not the relation between the regulatee and third parties (as a protection (by the regulator) against actions by third parties to keep the right-holder from exercising his privilege).

2. permissiveness with '*rights*' is permissiveness as tolerance (see above) with the extended prohibition of third parties to hinder or prevent the right-holder from (not) acting upon his permissiveness.[53] Somewhat confusingly, perhaps, we could say that permissiveness as a right, amounts to a *claim* by the right-holder against the *duty* of the regulator, as burdened-party, to make sure that third parties do not interfere with the right-holder's permission. An example of permissiveness as a right would be that a regulator will take actions against third parties trying to make it impossible to perform a permitted high-tech experiment (e.g. by shutting of power or communication) or that protection can be call for in court.
3. permissiveness with *enabling* rights is permissiveness with rights (see above) together with a command upon third parties to (apart from the prohibition to hinder) enable the right-holder to exercise his permissiveness. Not only does the regulator promise tolerance towards the permission-holder, and is the regulator obligated to be *in*tolerant to those third parties that are hindering the exercise of permission, but the regulator also provides the permission-holder with a *claim* against those under command to enable the permit holder.[54] An example would be if third parties would be commanded, and thus be under duty, to support an experimental activity by providing necessary resources, such as high energy-voltages or special telecommunication options.

It will be clear in this sequence of three types of regulated permissiveness that the increasing 'strength' comes with inclusions: an enabling permissiveness, includes permissiveness as a right and a permissiveness as a right, includes permissiveness as a tolerance.[55]

When we compare regulated permissiveness as a tolerance with the unregulated permissiveness by eloquent silence, such rule of inclusion does not apply. Tolerance does not relate to a limitation of powers of lower authorities (to regulate the matter) as may follow from eloquent silence (which basically creates an *immunity* of right-holders against which these authorities have *no-power*). Other than eloquent silence, toleration purports a rule of conduct which relates to the position of the regulator itself, self-restricting its own permissiveness of obstructing the right-holder in his right to act or refrain.[56] It purports a *no-claim* (against a *privilege*) and does not include *immunity* (against *no-power*) and thus eloquent silence stands apart, as a matter of 'absence of

[53] Ibidem.
[54] Von Wright, p. 88; Atienza and Ruiz Manero, p. 97
[55] We believe that the case can be made that enabling permissiveness does not necessarily need to encompass rights permissiveness, but leave this point aside for now.
[56] Not to be confused with the regulators right (as power) to at a later stage introduce constraining regulation on the issue or act type that it first decided to be permissive on and tolerate. Creating permissiveness (as tolerance) does not alter 2nd order (power) relations!

ought' (or the presence of mere 'can'),[57] from tolerance as a relational 'presence of ought' (in the form of a tolerated privilege to 'may (not) do' – as norm of conduct).

This tells us that unregulated ('weak'; type *D.*) permissions do not involve legal relations of conduct, with opposing positions at both sides, that can be expressed in terms of Hohfeldian rights, whereas this is exactly what is the case in regulated ('strong'; type *C.*) permissions.[58]

Together with the earlier discussed implicated permissions (and while leaving aside the exceptional, piecemeal permissions), we may now list several distinct types of permissions.

Table 5. Five types of permissions across regulated and unregulated realms

Table 4 - Five types of permissions across unregulated and regulated realms					
Unregulated ('weak'; type *D.*) permissions		Regulated ('strong'; type *C.*) permissions			
Mere silence	Eloquent Silence	Tolerance	Right	Enabling	Implicated
Mere can: 'Indifference'/'Freedom'		Promise Privilege⇔No claim	Claim⇔Duty (3rd party non interference)	Claim⇔Duty (3rd party assistance)	Privilege upon duty from obligation
------	Restriction upon other authorities	Prohibition regulator	Prohibition upon 3rd parties	Command upon 3rd parties	From Prohibition or Command

3.4 – Facilitation by Permission or by Command

Now that we have mapped the possible 'permutations' of permission, relevant (also) to possible choices of legal regimes for experimentation, we still have two issues, raised in the above, to tackle. These issues relate to the basic premise that *experimentation* calls for legal regimes that lift constraints (to create a greater realm of permissiveness – to foster innovative entrepreneurship), but also regimes that *facilitate* experimentation (by providing basic legal and other resources). So, how can we relate facilitation to permissiveness and how can facilitation follow from command?[59] This will be dealt with next. In subparagraph 2.5 we will further define and delineate the meaning of experiment.

Permissiveness with Facilitation

[57] A term often attributed to Immanuel Kant. See: Stern, Robert, Does Ought Imply Can? And did Kant think it does? *Utilitas* (2004), 16:1, pp 42-61. Stern emphasizes that blameworthiness is key to this implication (actor before act: 'blame implies can'), given that the negation 'cannot implies ought not' (as in P~a): it is wrong to blame someone for what he or she is incapable of changing (e.g. for not being taller, not lengthening time of daylight).

[58] Which goes against Joseph Raz' scepticism on the distinction between strong and weak permissions: Joseph Raz, *Practical Reason and Norms*, OUP (1999), p. 88-. Note that strong permissions are weak permissions but not vice versa – as regulated permissions exist without opposing obligations, weak permission exists due to such absent obligations, but a weak permission cannot in itself be strong, as this requires regulatory form.

[59] Prohibition can foster innovation (see: Heldeweg, *supra*, footnote 5), by compelling regulatees to move away from 'outdated practices' and, through innovation, move to alternative activities. In terms of experimentation we consider the benefits of prohibition to be of accessory importance only: setting limits, a norm to be excepted from, obligating others to tolerate.

Relating facilitation to permissiveness was already included in the above in the 'strongest' conceptualisation of permissiveness: 'enabling'. The focus was on 3rd parties being obligated, by command, to assist the right-holder, with the regulator being in the position of the 'burdened party', being under duty to secure 3rd party assistance.
It goes almost without saying that this concept can be elaborated upon, at least in two directions: (a.) the possibility of assistance by regulators themselves; (b.) the types of facilitation either by 3rd parties or regulators.

The abovementioned explicitly regulated forms of permissiveness did not place the regulator in the position of direct facilitator. At most the regulator was indirectly facilitating, through commanding 3rd parties to assist the right-holder. This was presented as a claim-duty relationship between the right-holder and the third parties involved. The position of the regulator would be one of issuing the command and perhaps also of securing that violation of this command would be sanctioned.[60] Of course the regulator could include other, subordinate, regulators in the category of third parties, compelling them to facilitate (e.g. by providing information, expert advice, subsidies and grants – which would also require proper legal powers). There is no reason why a permitting regulator would not itself also provide facilitation, by similar means, thus creating a duty-claim relation between itself and the right-holder, complementary to the already existing privilege-no-claim relation (following from the promise of toleration). It is a matter of legal dogmatism whether such facilitation would be included in the same legislative or administrative act as that of granting permissiveness, or whether facilitation is provided by a separate act.[61]

Legal facilitation (as such)
This is not the place to explore and systematize all possible types of legal facilitation, but a basic understanding is necessary.

In *negative* terms, legal facilitation is *not* about merely lifting constraints to (not) acting, circumventing or liberating from prohibitions or commands directed at the relevant acts. Facilitation reaches beyond 'freedom *from*'. In a *positive* sense it amounts to 'freedom *to*', in the sense of making resources available, so that permitted acts, whether unregulated or regulated, not only '*may* (not) be' performed, but also *can* be performed or refrained from,[62] because the necessary resources (other than 'may (not)' are made available) – all of which towards enhancing innovative entrepreneurship.

In the above we listed resources such as legal powers, legal monopolies (e.g. concessions, (intellectual) property rights), public procurement, public rights of use, to information, expertise, space, people, subsidies and grants. We do, however, need to be more accurate considering the distinction we make between legal permission and legal facilitation (through the above terns 'may' and 'can').

[60] This is a matter of secondary norms (of adjudication – and sanctioning), whereas the Duty-Claim and Privilege-No-claim relations are about primary norms (of conduct).
[61] Existing legal systems (i.e. legal orders) have many and varying categorisations of types of legislative and administrative legal acts, as single or as bundles of legal relations.
[62] The ability to 'refrain from' will often be a mere matter of 'not doing', but conditions may require the use of resources to avoid a natural course … or avoid undesirable consequences from not acting. PM.

To be granted a permit so that available resources may be used, or indeed to be granted an exemption from fair competition rules (with specification to the use of an infrastructure, as resource, perhaps as a monopoly of use), are 'merely' about permissiveness to 'unleash' already available resources or those resources that lie within the ambit of already available legal power to be acquired. Lifting constraints, perhaps as a piecemeal exception to a prohibition of command, *allows* a regulatee to use resources that otherwise could not be used (optimally). Although this 'freedom from' constraints may be regarded as crucial step towards any undertaking of innovative entrepreneurship, to 'may (not) do' still begs the question if the regulatee 'can (not) do', because the necessary resources may be absent or may lie outside the regulatee's legal power of acquisition.

Legal facilitation is about enabling through legally *securing* resources towards '*can* (not) do', and does so in a twofold way.

1. facilitation by allocation of *legal powers*. This involves bestowment *as such* of powers onto one or more *regulatees*, so that they may engage in performing *legal acts*, which create rights and obligations (nested in prohibitions, commands and permissions), necessary to make resources available. Such legal acts may be multilateral and unilateral legal undertakings, as with contracting and managing (intellectual) property, but we take them to also include procedural powers, to take *legal action* against others. Allocation should also involve a reflection on whether powers to decide about access to, and use or alienation of resources, is organised in an efficient and effective way – regardless of whether powers or empowered parties are public or private. The underlying concern is to avoid transaction costs as a result of an unnecessary (or at least inefficient) dispersion of powers, but also through a lacking alignment of public objectives (causing risks of undesirable 'veto-decisions' – a possible '*Tragedy of Anti-commons*').[63]
2. facilitation by creation of *legal obligations* onto burdened parties, through legal acts by the regulator, which create *duties* of these parties against claims of the facilitated party. A first category would consist of legal acts that create a *claim* against the, or a (subordinate) regulator (e.g. to get subsidies or grants, to get or use facilities, advice, information). A second category would consist of legal act creating obligations of others, as *duties* to assist by performance or by refraining from some action, thus making a resource available to the regulatee (e.g. allowing access or use, giving advice or information, performing tasks).
   A third category would consist of creating possibilities for undertaking entrepreneurial innovation involving legal obligations that enable possibilities for deployment of necessary resources, either as a matter of public utilities (e.g. buildings, roads, bridges, infrastructures), as a necessary backbone to some or any entrepreneurial initiative (although these utilities in themselves may not be innovative),[64] or as a matter of (public)

[63] M. Heller, The Tragedy of the Anti-commons: Property in the Transition from Marx to Markets, *Harvard Law Review* 111, No. 3 (1998), pp. 621-688. Whether it is about private law (property) rules or rules of public law (administrative) powers, the issue is how to avoid inefficiency due to fragmentation of veto-powers, leading to underuse of resources. This is a general concern, but may be particularly relevant to cases of experimentation

[64] A facilitation that, generally, does not create a duty-claim relation between government and those many beneficiaries, but will involve public legal acts and legal acts concerning implementation, and future use, which do come with duty-claim and perhaps also privilege (of use)-no-claim relations.

procurement (the facilitation being an opportunity to engage in a government tender and possibly 'win the bid' for a contract or concession) with a set-up that (explicitly) calls for innovative entrepreneurship (and/or innovative results).

Table 6. Legal Permission and Legal Facilitation - May & Can

Table 5. Legal permission and Legal Facilitation - May & Can		
May	Weak	Non-legal can; possibly as 'eloquent regulatory silence
	Strong	Permission (with tolerance, rights enabling)
Can	Competence	Power of regulatee to perform legal acts
	Obligations	Regulators legal acts creating obligations that facilitate

Again, sometimes facilitation can be joined-up with permission, perhaps even in one legal act, depending on legal system dogmatism (and on the distribution and delineation of powers). Applicability of the *legality* and *speciality* principles,[65] generally leads to a specificity of powers and consequently to administration by specialized legal acts.[66] As a matter of the aforementioned 'Tragedy of Anti-commons', creative legislators may find ways to cluster these administrative powers into bundles of legal rules, as legal regimes, perhaps even as legal institutions (e.g. ownership, which comprises of various legal relations and legal act types at the same time).[67]

Whether connected or separate from creating permissiveness, facilitation will often involve a command being given to perform a particular act (as a matter of 'shall do A'). The above examples of a regulator's legal act by which it commands itself, a subordinate regulator or a private regulatee to provide monetary, informational, expert and other resources, are forms of commanding legal facilitation. Such command may well result in a duty-claim relation, when the duty to perform is as explicit that the right-holder can enforce the command by claim. Again, prohibition as facilitation is a less obvious construct. Prohibition creates an obligation to refrain from a particular act ('A'), which may either amount to a duty ('shall not do A') against a claim of a right-holder (to not be hindered by the burdened-party 'doing A'), or it creates a privilege of the right-holder, against the absence of a no-claim position of the burdened-party, as the prohibition places the latter outside a position of making a claim. Both forms of prohibitions effectively amount to implicated, unilateral permissiveness (of access to or use of resources), rather than to facilitation.

3.5 – Legal Powers

To bring about permissive norms or norms that underpin facilitation, legal powers are necessary, embedded in power-conferring legal norms. Norms of powers should not be confused with permissive norms. Permissions are not about introducing, altering or terminating legal norms, but 'merely' about the

[65] Also known, by the French legal terminology, as '*detournement de pouvoir*': powers shall not be used for other purposes than following its objective.
[66] If only because specialized legal powers are allocated to specialized public offices, with specific interests.
[67] A legal regime is understood here as a coherent set of legal rules. Coherence may be about a particular societal interest or issue (e.g. energy provision, proper telecommunication), or about a legal institution (e.g. marriage, contract, ownership, state). See MacCormick and Ruiter PM. For the concept(ulization) of and bundling of (Hohfeldian) legal relations within 'ownership', see: Jeremy Waldron, What Is Private Property?, *Oxford Journal for Legal Studies*, Vol. 5, No. 3 (1985), pp. 313-349.

(non-)performance of brute operative acts. Further, norms of powers are subaltern to commands nor contradictory to prohibitions (although the doctrinal perspective that some powers, especially unilateral powers, exists only when explicitly granted, may be understood as 'forbidden, unless' – similar to piecemeal permissions). Finally, some powers are everything but noncommittal, as upon fulfilment of set conditions, they obligate the empowered party to perform a particular legal act and/or in a particular way. More generally norms of power come with their own norm-conditions (as even the sovereign powers of parliaments have their limits), which have more objective (even numerical) or more subjective (e.g. 'to advance innovation') descriptions, whilst the norm-object may be a mandatory or a discretionary power, dependent on whether the empowered regulator has a say in whether to apply and/or how to apply the power.

The power conditions regarding the introduction of permissive and/or facilitative rules for experimentation could on the one hand be expected to be 'more subjective' as passing judgment on the promise of such an experiment calls for a difficult assessment, the legal impact of singling an experimental activity out in terms of permissiveness or facilitation that others do not enjoy, will call for 'more objective' criteria. Upon fulfilment of conditions one may similarly expect a mixed picture as regards the norm-object of performing a legal act allowing permissive and/or facilitative benefits, again because on the one hand the innovative nature of experimental activities will call for an *ad hoc* weighing of interests, by a 'more discretionary' power. Meanwhile, on the other hand, norm-subjects will need some (in advance) certainty as regards the chances and kinds of exceptional benefits, whereas third parties will need some safeguards that such benefits are proportional to the public interest involved and their private equality, which a 'more mandatory' power may provide.

The norm-objects (and matching norm-operators) of powers regarding innovative entrepreneurship have been discussed in the above. They do not relate to leaving matters unregulated (as 'weak permissions'), or only in the sense that this, and especially eloquent silence presupposes the existence of power that could have been deployed towards obligations or (regulated) permissiveness. Furthermore, it may be argued that if a power exists but the relevant power-holder remains *eloquently* silent on the issue, this can be taken to mean that existing lower regulators are considered not to be at liberty (i.e. not to have power – given unwritten conditions of power in a hierarchical relationship between regulators) to make their own arrangements.[68] Otherwise, powers relate to regulating permissiveness with toleration, with rights or, in a facilitatory twist, with enabling provisions, and furthermore, whether or not connected to permissiveness but surely with a commanding force, facilitations by norms of conduct or norms of power. In all cases, permissive or facilitative, powers will differ in whether they have a general or a piecemeal scope of application.

[68] But of course it may be that the superior regulator deliberately wants to let subordinate regulators make their own arrangements if they see fit… so eloquent indications (as a positive or negative tilt towards use of lower powers) are clearly in place (and/or inter-regulator communications).

Especially as regards piecemeal permissiveness or facilitation, clearly the positioning of relevant powers is of great interest. From the typology in the above it became clear that we need to carefully distinguish between 'embedded powers', that are part of a rule that holds a general obligating norm, and 'announce' the possibility of separate legal acts (for individual 'subjects in cases', or for general categories of 'subjects in cases'). Aside from these there is the possibility of piecemeal permissiveness or facilitation on the same legal power basis (whether applied *ex officio* or upon request). Not only does this allow for alteration or termination of an existing norm, but also for repetition regarding new situations or cases, either is with upon request issuing of permits or subsidies, or with ex officio new, specified rules for subset 'subjects in cases', that have priority over the preceding norm as '*lex specialis*' and/or as '*lex posterior*'.[69] This includes the possibility of introducing general rules for exceptional measures, usually with a temporary scope, that may be relevant for several sectors and so may cross through existing norms within these sectors, making exceptions where this is deemed necessary or most desirable. In the Netherlands the Crisis and Recovery Act does exactly this – not only for experimentation, but especially as an urgent response to the present economic crisis. In theory one can image that a regulator with superior legal powers can interfere by providing overriding exceptions to existing lower rules – a case of applying the 'lex superior' principle.[70] However, in practice and for reasons of legal certainty this mostly leads to an overhaul in which lower rules are terminated and a new set of norms is introduced at a higher regulator level, perhaps with some delegated powers for the subordinate regulator.

4. Concerning Experimentation

We now turn to the delineation of our field of application. Already in our introduction, we alluded to our 'innovative entrepreneurship' scope in terms of a cumulative, three-step focus:

1. of *exceptional* regimes, as a case-related and temporary deviation from normal regulatory regimes;
2. dedicated to arrange for the possibility of performing an *experiment* (type), as an intentionally organised isolated case, situation, event or first and vulnerable stage of a successive novel but normalized activity (which according to 1. would be subject to a new and 'normal regime')
3. purported to hold the promise of a *disruptive* innovation.

In the next subparagraphs (4.1-3) we will consecutively discuss each of these elements of focus.

4.1 – Exceptionality

The first element (i.e. *exceptional* regimes) shifts our attention from general ways of how regulation can foster innovation, such as by proper property and contract law, legal certainty (especially, but not only, concerning acts of government) and proper working of (financial) markets. These are most

[69] In case of clashes between norms, the more recent norm on the same matter has priority over the earlier norm: '*Lex posterior derogat legi priori.*'

[70] '*Lex superior derogat legi inferiori*'. In case of conflict in application, the hierarchically higher regulator/norm prevails over the lower (which is set aside).

relevant, in fact crucial, but we are looking at legal arrangements with a special focus, one of an exceptional dedication of rules to address experimentation with purported disruptive innovative impact (more on which in the below).

While on the subject of piecemeal permissiveness (in par. 3.2), we already provide some insight in the logic of 'exceptional norms'. In doing so we applied relevant internal *norm-components*, as parameters that determine the subset to which a regulatory exception is applicable. Our simple point of departure is that of: a norm-*authority* (i.e. the competent regulator) addressing a set of norm-subjects (i.e. a (class of) regulatee(s)), mostly upon fulfilment of a norm-condition (i.e. a requirement that limits applicability of the norm(-operator) to particular cases),[71] regarding a norm-*object* (i.e. an act-type, 'A', that these regulatees can perform or refrain from), being connected to a *norm-operator* (i.e. a channelling by ought: obligating or permitting)[72] Brought together, the conjunction of these components is a normative sentence as may be expressed by a rule – summarized in table 7.[73]

Table 7. Conjunction of five basic components of prescriptive norms

Table 6. Conjunction five basic components of prescriptive norms
$N_{auth}\ [(N_{subj} \times N_{cond})(N_{obj} \times N_{oper})]$
$(N_{obj} \times N_{oper})$= 'normative positions' (i.e. a command, or prohibition, or permission or dispensation – see Table 1; par 2.2)

Three types of exceptional arrangements

Setting aside, for now, the option of exceptions to unregulated permissiveness, leaves us with the possibilities of exceptions made to a given, regulated 'normative position', of a norm-operator applicable to a particular norm-object ($N_{obj} \times N_{oper}$), applicable to given norm-subjects and under given (absence of) norm-conditions ($N_{subj} \times N_{cond}$). This is the 'normal norm', to which exceptions can be made in various arrangements:

1. by limiting the applicability of the normal norm, by adding norm-conditions, possibly in conjunction with subsets of norm-subjects, thus creating exceptional subsets to the 'normal norm' in terms of applicability. To those subsets the 'normal norm' does not apply (fully) and as such they remain or, if excepted later in time, they become unregulated; cancelling a command, a prohibition or a regulated form of permissiveness purported in the 'normal norm'. In essence there are three varieties of such '*exceptional freedom*': (a) some norm-subjects are excepted, (b) some cases are excepted, or (c) some subjects are excepted in some cases.

[71] A situation, as a static state of affairs being the case, or an event, as a dynamic state of something happening (involving change; e.g. the sun setting, a demonstration); with possible specifications in time and/or place.
[72] Of course, norm-components apply only to situations of regulation; (eloquent) regulatory silence exists only as a 'mere can' (see par. 2.3).
[73] For readers not acquainted with legal theory, see, *inter alia*, G.H. von Wright, *Norm and Action. A Logical Enquiry*, 1963, Gifford Lectures 1958-1960, St. Andrews, online version: http://www.giffordlectures.org/Browse.asp?PubID=TPNORM&Cover=TRUE (Accessed 13-10-2014). See especially Ch. V, no. 1- 11.

2. by changing the normative position in a regulated way, for an excepted category of subjects and/or of conditions. Not an exception which cancels regulation, but '*exceptional reregulation*', either from permissiveness to obligation, from one to another permissiveness or obligation, or from a unilateral to bilateral permissiveness or obligation. The exceptions (a), (b) and (c) apply as possible delineations of such subset exceptions.

So, in all we have six possible types of exceptional norms, three of which as an (no. 1) unregulated subset, and three as a (no. 2.) reregulated subset – regardless of whether the subset concerns one, few, some, many, most or all-but-one norm-subjects; which seems relevant when the exception in practice functions as the 'real rule' (more on which later).

As discussed earlier, these (six types of) exceptional norms can be included in the same rule or regulation as the 'normal' or regular norm (e.g. as a separate section or chapter, or as a legal power to be arranged by dedicated delegated regulation), or they can be exceptional norms by separate, perhaps more specialized legal acts.[74]

Can something that is unregulated(ly permitted) also be regulated by exception? From the imaginary point of departure of a 'clean slate', of there not being regulation of any kind for anyone regarding a particular act-type, we can picture the introduction of four types of regulation, by varying of norm-*subjects* (simply from '*all* to *some(one)*') and/or of norm-*conditions* (from '*none* to *some cases*'). Four options ensue from this mix:

a. regulation for *all in any* case (e.g. all energy companies have to adhere to a maximum price for consumer kW);
b. regulation for *all in some* cases (e.g. all energy companies must provide free electricity in case of national emergency);
c. regulation for *some in any* case (e.g. as in a. but only commanding state-owned energy companies);
d. regulation for *some in some* cases (e.g. as in b, but only for state-owned electricity companies).

Clearly the first category (a. - '*all in any*') does not constitute an exception, unless we care to regard any introduction in unregulated territory, as regards some possible norm-*object* x -*operator* (such as the delivery of electricity), as exceptional.[75] The same logic applies to all three others (b-d.), unless we reason from the idea that, given a possible norm-*object* x –*operator*, they hold latent exceptions as they do not fulfill their full potential (as in a.), so : (b.) *all in some* – excepting from any (e.g. only in cases of national emergency); (c.) *some in any* – excepting from all (e.g. only for state-owned companies); (d) *some in some* – excepting from all and any (e.g. only for state-owned companies and only in cases of national emergency).

Our proposition is to *not* regard these latent exceptions to a potential full scope of application as *real* exceptions, except for when the arrangement in question is one of a temporary nature, limiting the duration of the norm being in force. In doing so, we may also include a. (*all in any*), with the same temporal

[74] In the latter case the abovementioned '*lex specialis derogat lege generali*' principle of priority of application) applies.
[75] If not then we have no rule or norm of reference, from which to look for or make exceptions.

condition. When this temporal norm-condition applies,[76] it may be said that indeed absence of regulation is, as a matter of eloquent silence, considered the 'normal (absent) norm', and that indeed the temporary norm is considered an arrangement by exception to that: an *exceptional unregulatedness*. So, to the two above arrangements we may add a third exceptional arrangement:

3. by introducing a normative position in a regulated way, for an excepted period of time, as specified in a temporal norm-condition, against the backdrop of eloquent regulatory silence on the act-type concerned.[77]

Meanwhile, the temporary rule need not hold a prohibition or command. From the above we know that a transformation from unregulated 'weak permissiveness' to regulated 'strong permissiveness' may come with benefits relevant to the right-holder (and with obligating consequences for others) – possibly with facilitation (perhaps relevant to experimentation). Such a transformation may also be relevant to change an existing bilateral permission into one of a implicated unilateral kind (see par. 3.2, no. *1*), combined with the obligation to perform (for instance the permitted experiment, which shall be performed following a command upon the right-holder).

Of course temporal norm-conditions may also play a role in the above no. 1. and 2. exceptional regimes. To be '*free by exception*' or under a regime of '*exceptional reregulation*', may well be a temporary state. This could be most relevant to situations where the exceptional norm is meant to only be applicable to persons doing experiments and/or to activities in experimental cases.[78]

It is not only a technical matter if regulating by temporary exception (in forms 1-2-3) is arranged by (internal) norm-condition (concerning applicability of the norm), or as a matter of the (external) *validity* of the norm itself. In the former case, upon expiration the rule itself remains in force but the exceptional norm is no longer applicable (or binding) – which comes with a return to some sort of obligation. In the latter case, upon expiration, the rule that holds the norm becomes invalid as a whole – may come with a return to an unregulated state of permissive affairs, unless the exceptional norm was part of a separate legal act superseding a general obligating rule, which now regains its full application.

Two forms of temporary exceptions

A temporal norm-condition can come in two forms; one 'negative, one 'positive'.

To the 'positive' the so-called '*sunset-clause*', as part of legal rule, stipulates that this rule, or a norm included in it, shall cease to have legal effect from a particular date. This provides an upfront notice by which regulatees know when the (existing; 'positive') norm included in the regulation will expire. An example would be a special, facilitative arrangement temporarily providing subsidies for experimental activities.

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[76] Keep in mind that there are various temporal conditions, such as 'from t=x'; until t=y; (always/never) when t=x; (always/never) between t=x and t=y.

[77] Of course, a temporal norm-condition can also apply to forms 1. and 2. In the above, but only in from 3. do we consider this the *only* way of 'being exceptional'. We assume that any decision to regulate temporarily implies that the regulator has considered that outside this time-slot there is no regulation, so this regulator silence is eloquent.

[78] As we will, however, argue in the below, temporariness is one of the key elements of experimentation (and more than being free to do as one pleases).

To the 'negative', the abovementioned term '*regulatory holiday*' applies. An exemption from existing competition rules is a good example.[79] Whereas a sunset clause limits the period of time during which certain regulation will be in force (as a 'positive' temporary applicability), a regulatory holiday limits the period of time during which certain constraining standards will not be in force (as a 'negative' temporary suspension).

Clearly, a regulatory holiday is only possible given a regulated state of affairs;[80] hence only as an exceptional regime of arrangement 1. and not of 2 and 3. As regards form 2., to speak of a regulatory holiday if 'exceptional reregulation' would follow from relaxing (some) existing obligations, while retaining some or introducing some other constraints. All of this may well be perceived as relaxation, but perhaps not as a fully-fledged regulatory *holiday*, but rather as a 'regulatory *summer*'. Nonetheless, such a summer would be characterised not only by at least some specific, exceptional obligations, but also by their temporary nature (after which the previous state of normative affairs relives): typically a matter of a sunset-clause. As regards form 3., to suspend from regulatory obligations cannot apply to an unregulated state of affairs.

Clearly then, the regulatory holiday only fits form 1. (i.e. *freedom by exception*). Forms 2. (i.e. *exceptional reregulation*) and 3. (i.e. *exceptional unregulatedness*) only fit with the sunset-clause. The sunset-clause arrangement includes the possibility of (temporary) obligations, but also that of (temporary) regulated permissiveness. Regulatory holidays amount to a return to unregulatedness,[81] although, of course, in practice other norms regarding the same act-type may still remain in existence.[82][83]

Table 8. Exceptional regulation

Table 7. Exceptional regulation			
Form	Elaboration	Temporal?	Exceptional?
1. Exceptional freedom	(a.) some norm-subjects are excepted, (b.) some (norm-conditional) cases are excepted, or (c.) some subjects are excepted in some (norm-conditional) case(s)	Possible condition; only as *regulatory holiday*	As bilateral permissiveness
2. Exceptional reregulation	a-d; as in 1. (perhaps a '*regulatory summer*')	Possible condition; only as *sunset clause*	As obligation and/or possible facilitation
3. Exceptional unregulatedness	(a.) all in any; (b.) all in some; (c.) some in all; (d.) some in some (backdrop of eloquent silence)	Only/necessary condition, but only as *sunset*	As unilateral and/or possible facilitation

[79] As within the context of network industries a regulatory holiday to the effect that owners of infrastructures are temporarily free from the obligation to allow competitors access to their infrastructure (i.e. a freedom from service-based competition). This is also known as: 'competition holiday' or '*terme de grace*'.
[80] See the definition by Monti, in par. 2.1: 'suspension from regulatory obligations'.
[81] We do not believe that it makes sense to separate between a 'silent regulatory holiday' and an 'eloquent regulatory holiday'. A silent regulatory holiday is merely a state of unregulatedness resulting from the fact that a regulator has not (even) considered regulation. A return to unregulatedness is always eloquent.
[82] It is possible that one and the same act-type is norm-object in different coinciding norms, related subalternly. For example: norm A, that permits energy companies to supply electricity to any consumer, coinciding with norm B, which commands the same companies to, in case of emergency, supply public services with electricity. Should norm B be revoked (temporarily or otherwise), then norm A can stay in force.
[83] Of course, more complex temporal arrangements than the one discussed here are possible, such as making exceptions only during certain times (for instance for experiments only when average electricity-use is low, e.g. during night-time).

		clause	

Exceptional exceptions?
In piecemeal arrangements exceptions may apply to a subset of 'one, a few, some, many, most, or all-but-one'. What theoretically should be understood as a formal exception to a 'normal norm' ('all for any' or 'some for some'), could in practice function substantially as the 'real rule', with permissiveness perhaps being applicable to the subset of 'all but one', in actual fact and paradoxically, of 'all'. This is especially noticeable in the above exception forms 1. and 2. (i.e. '*exceptional freedom*' and '*exceptional reregulation*'). In practice it is not unusual to have a general norm designed only to allow (very) many exceptional, piecemeal regimes, whether on an individual basis (such as building permits), or for a substantial class (such as general rules for environmental establishments, excepting from a general prohibition to operate).

The general rule, to which many exceptions are or may be made, is not so much a substantive norm, but mostly a formal norm. As a 'rule of closure', it is the necessary regulatory device to create a regime for (generally more flexible) piecemeal regulations.[84] One may argue that behind such a rule of closure there is always a more general rule, by regulated norm or by norm of eloquent regulatory silence, which provides the substantive normative backdrop to the rule of closure. The norm of closure merely serves as a device to allow justifiable exceptions to the general (un)regulated norm, such as to ensure, by piecemeal regulation (or 'control of use'), effective, efficient and/or equal access to or use of certain resources, or to protect (other) public interests.[85]

Clearly, such a rule of closure stands out from a substantive general norm that is substantively meant to only come with few exceptions, such as with fundamental rights (e.g. the right to demonstrate may be constrained but only when there is, for example, a serious threat of considerable public unrest and/or violence), but also with certain prohibitions, such as to kill other human beings.[86]

So, exceptional subsets may be a 'normal' device for delegated regulation by exception, whilst our and our interest lies only with a subset of exceptional regulation: exceptional regulation for experimental purposes, with a potential of disruptive innovation.[87]

4.2 – Experimentality
The second element narrows the focus in terms of dedication to an *experimental* activity. The Oxford Dictionary defines the noun 'experiment' as: '*A course of*

[84] Flexible as a matter of a lower authority being able to more quickly than the original regulator being able to make adjustments (so the norm of conduct will come with a norm of delegated power), and/or as a matter of dealing with individual cases.
[85] Such as in human rights, compare Article 1 of the first protocol to the ECRM and Article 17 of the EU Charter of Fundamental Rights (on the right to property), and the acknowledgement of the unwritten right to build, derived from the right to property, as expressed in ECHR 25 October 1989, Allan Jacobsson v. Sweden, appl. No. 10842/84. Furthermore, the Explanatory Memorandum to a statute or regulation introducing a rule of closure may provide an eloquent regulatory expression of a silent underlying norm. For the term 'control of use', see *inter alia*: ECHR 18 February 1991, Fredin v. Sweden, appl. No. 12033/86 and ECHR 29 November 1991, Pine Valley Development Ltd. v. Ireland, appl. No. 12742/87.
[86] This may, by exception be allowed in legitimate combat or in self-defence to an unlawful life-threatening attack by someone else – in most cases these exceptions are not visible as the applied legislative technique is to only prohibit manslaughter ('murder'), which is intrinsically only about unlawful killing of other human beings.
[87] We also stated that we would focus on facilitation, but for now we will not exclude the above 'exceptional freedom' option from the analysis.

action tentatively adopted without being sure of the outcome'; given the Latin roots of '*experimentum*', from '*experiri*' (to try).[88]

The 'course of action', suggests an action or activities with some measure of 'organisation', with the intent of some result or effect (i.e. a causally related change). Uncertainty about whether the action will indeed bring the intended effects, places experimental action outside action following a proven, repetitively applied method, procedure or technology, with predictable results.
Thus, beyond (calculable) risk, there is (considerable) uncertainty about how and or if the experimental activity will yield certain hypothesized and perhaps desired, effects. Perhaps there will be no effects, other effects or whatever effects in an unexpected way.

Given such uncertainty, to perform the experiment must be for reason of some compelling consideration to, despite costs and considerable chance at results that where not hypothesized and/or desired, push ahead. Whatever variety of specific public and/or private motives is at play, more basically experiments are performed to acquire relevant knowledge.[89] In that sense only a non-informative experiment is a failing experiment, otherwise, any outcome (that is telling) will do – although, again, we recognise that some information will fit better with certain hopes than other (especially when business, economic, or reputational interests are at stake).

Furthermore, the desired information is generally of a 'deterministic' nature. About what effects are caused how by what actions, thus surmounting existing uncertainty, if only with stochastic knowledge (moving from uncertainty to probability as a calculable risk). This relates to the Oxford Dictionary definition of the verb 'experiment': '*Perform a scientific procedure, (...) to determine something.*' Without suggesting that elaborate or sophisticated methods of scientific research need necessarily be applied to speak of experimentation, some measure of a well-considered course of action, some recordable method of action, which can be explained to others (so to allow for repetition), needs to be involved to speak of a *true* experiment. The '(…)' element deleted in the latter quote defining the verb experiment reads, '*especially in a laboratory*'. This fits with the above element of creating an exceptional (regulatory) arrangement, to create an exceptional setting (similar to '*in vitro*' as opposed to '*in vivo*' or '*in situ*') to perform a course of action as a controlled, practical test, to establish (i.e. determine) an empirical fact, state of affairs, process or causal relationship, against the backdrop of a well-reasoned expectation, hypothesis, theory or model – i.e. to support or disprove, or to test these.[90] An experimental situation is one different from normal or random, contingent circumstances, because a specific setting is needed to optimize conditions for proper fact or truth finding (as empirical determination), in avoidance of disturbing factors, and to enhance desired manipulation (when

[88] See: http://www.oxforddictionaries.com/definition/english/experiment [Accessed 02-09-2014].
[89] We understand that experimentation may also relate to building trust with stakeholders, but regard this as an ancillary motive at best.
[90] To relate to the exceptional or artificial setting of a laboratory also associates with 'labour' and with being oppressed, at risk or in danger (perhaps of those experimenting, or merely the experiment going wrong), as the Latin '*Laborare*' points at both meanings.

varying certain variables), accurate observation and safe and decent procedures also considering third party interests.[91]

Regulating experiments

It is exactly this specific setting that may call for exceptional regulation and would then fall within our scope of interest. To allow such regulatory exception, would mean that the trade-off between public interests that lie behind existing regulation (or eloquent silence), and consideration for private interest impacts, need to be reconsidered in the light of the public interest behind doing, allowing and perhaps facilitating the experiment. As a simple example: to allow a regulatory holiday to experiment on a monopolistic-basis with certain uses of telecom or energy-networks, would mean that the public interest behind competition law restrictions (i.e. of securing fair trade) is to give way to the public interest behind doing the experiment – as a matter of an exceptional trade-off applied *ad hoc*. The information that the experiment is expected to yield should be of a public interest significance which legitimizes that such an exception is made to general (or normal) rules. Such public interests in the experiment may be very general, such as in the interest of science at large, but also of a more specific nature, concerning (expected) general-purpose technologies (e.g. ICT, Nano; with expected benefit to overall economic growth and general wellbeing) or to improve specific public utilities and services (e.g. transport, communication, energy efficiency, drinking water, defense).[92]

The Dutch General Guidelines for Rulemaking[93] holds some provisions, in Articles 10a and 10b, about experimenting in rulemaking, in relation to which an experiment is defined as: ".. *the empirical determination (from controlled experience) whether a particular instrument can contribute to solving a societal problem.*[94] Again we see (in a context that we will discuss further in the below), references to both the empirical determination and to the need for a distinct societal interest, which may motivate government (as a matter of public interest) to make exception to existing rules. As shows from our further focus, on experiments with a 'promise of disruptive innovation' (to be discussed next), we wish to limit our scope to those experiments that are particularly compelling, not merely as a matter of societal interest, but as a matter of a, so to speak, promise of a disruptive or 'game-changing' outcome, which legitimizes experimentation due to its serious character and expectation of changing the ways in technological and/or governance realms, with societal benefits (or to avoid societal disadvantage). What complicates things is, that in the above we discussed experiments as demanding exceptional regulation, and now we find that regulation itself may also be the object of experimentation, with the aforementioned guidelines being meta-rules to rules that may allow

[91] Safe relates to some experiments possibly involving danger; decent is about ethical dimensions, as in experimenting with people as objects of study.

[92] Again, such exceptional arrangements relate to piecemeal or subset provisions, but these need not merely be by individual act ('allowing one person or closed group to by exception do one thing'), as a general rule could also allow a particular range of norm-subjects to, under certain conditions, do things that are otherwise prohibited – such as cooperating within the remit of Article 101(3) TFEU.

[93] A Circular (not as legally binding regulation) by the Prime-Minister ('*Aanwijzingen voor regelgeving*') issued by Official Journal (*Staatscourant* 1992, 230 – most recently amended 2011, 6602).

[94] This is our own translation from: "*Bij een experiment gaat het om het proefondervindelijk vaststellen of een bepaald instrument een bijdrage kan leveren aan het oplossen van een maatschappelijk probleem*", which is a definition in the Explanatory Memorandum to Article 10b of the Guidelines.

experimenting with rules. This is not something essentially different to our general ambition of mapping legal design guidelines for exceptional legal rules concerning experiments, but may easily confuse.

Table 9. Logic of guidelines for exceptional regulation for experimentation

Logic of this paper's objective		
legal design guidelines	Exceptional legal rules concerning experiments	Performance of experiments
As guidelines for rule-making ⇨	Especially making rules that allow experimentation ⇨	Performance of experiments under exceptional rules for experimentation

In this vein we need to reconsider the distinction made in the introduction (par. 1.), between *technological exploration*, with the issue of experiments concerning general risk (burden/benefit) acceptance, and that of *governance-based exploitation* (with the issue of experiments concerning institutional fit). We already pointed out that the distinction between exploration and exploitation would (in some cases) not be a strict one and that we focus on application (also in avoidance of the connotation that exploitation is about commercial use of new inventions). What we should add is that the blurring of distinctions works both across *technological innovation* and *across innovation* of governance.

Clearly, *technological innovation* is not merely a matter of exploration, as many technological issues of application to, for example, production processes, products and services, need to be solved in the context of such usage (commercially or otherwise): at the point where attempts are made to test and/or implement and thus valorize technological breakthroughs (e.g. early projects with cell phones).

Similarly, *governance innovation* may initially be a matter of exploration in theoretical design of new environments, processes, organizational forms and rules, to only then perform a test and/or implementation to see if and how such designs can work or be made to work (e.g. tradable public rights experiments, meta-oversight mechanisms, regulatory negotiations) as a matter of application. Interestingly, the latter may also include testing regulation, as experimental regulation. This, however, should be separated from regulation that is not the *object* of experimentation but a *condition* to properly performing experiments concerning innovation of technology or of governance possible (or supporting these), either in the stage of exploration or of exploitation/application.

Although the terminology of 'fundamental' versus applied' science also comes with blurring, and cannot be regarded as providing taxonomic categories, we have chosen to apply this terminology as it helps to better understand the complexity that we have encountered. From heron out we take 'applied science' to be about finding or developing specific problem-solving functionalities (i.e. with focused and expected societal relevance; public or private – most typically as 'knowing-for-use', as in 'applications') and 'fundamental science' to be about increasing general and systemic knowledge about natural, social or other phenomena (with unfocused and uncertain societal relevance, of whatever kind – most typically as 'knowing-for-knowing', as in 'curiosity').

Table 10. Mixing exploration and exploitation

Mixing exploration and exploitation in technological and governance innovation		
⇩ Innovation ⇨	Exploration ('new knowledge')	Exploitation/application ('new uses')
Technological ('hi-tech')	1. fundamental nat.science research experiments	2. applied nat.science R&D experimental projects
Governance ('smart governance')	3. fundamental soc.science research experiments	4. applied soc.science experimental implementation
Setting & improving conditions ⇨	Regulating experimentation in 1-4	

Altogether our focus is about *technology driven innovation* (especially in networks), which concerns both the innovation of technology (both in exploration and in exploitation) and the innovation of governance (again, both in exploration and in exploitation) while responding to exploring and exploiting new technological possibilities. In the course of this, 'regulating experimentation' may, broadly speaking, be about (while relating to the numbers in the above table), creating optimal conditions through:

- 1. regulating natural science research facilities and programs;
- 2. regulating projects to allow technological fine-tuning (e.g. business and other R&D);
- 3. regulating social science research facilities and programs relating to emerging technologies;
- 4. regulating projects to allow smart governance experiments on implementing emerging technologies.

The latter case (4.) may involve regulating 'experimental regulation', so to create conditions for experimenting with new regulation. This would be part of our object of study only if somehow related to innovation of technology. As such, the challenge of regulating experimentation is about setting optimal experimental conditions for all four cases (1. to 4.), with this contribution being about 3., to provide a theoretical basis for applied work in 4., that provides regulation for experimentation in, again, 1. to 4..

With our focus on natural science advancement and its uptake in (daily) practice, we emphasize empirical determination in experiments. Given our legal take, it is important to add that theoretical work in social science, also concerns normative aspects, which begin with normative theories (such as in this paragraph) and normative designs and finally normative artifacts (such as in paragraph 7 and 8), which may then also be studied empirically on their functioning in practice.[95]

We have narrowed our focus from mere exceptional regulation, to exceptional regulation concerning experimentation. This added focus on experimentation has emphasized (1.) the element of uncertainty of knowledge (about what works how empirically), (2.) the need to create a special/protected experimental setting (concerning suitable and safe conditions of experimentation), and (3) the need for a public interest in these experiments if

[95] Heldeweg & Ruiter, *supra*, footnote 16.

they call for regulatory exceptions (legitimizing an exceptional regulatory trade-off).

Broadly speaking we see two types of uncertainty (1.): uncertainty about technological possibilities as a matter of natural science (giving cause to experimentation) and uncertainty about governance response to technological change as a matter of social science (giving cause to experimentation).[96] Combining the two yields 4 situations (see A-D in the below table 11.) of causal states of affairs combining (un)certainties on technological possibilities and on governance response.

Table 11. (Un)certain possibility and responses' relations between technology and governance

4 (un)certain possibility and responses' relations of technology and governance		
Technological Possibility ⇨ ⇩ Governance Response	Certain	Uncertain
Certain	(A.) Tp + ⇨ Gr +	(B.) Tp + ⇨ Gr –
Uncertain	(C.) Tp – ⇨ Gr +	(D.) Tp – ⇨ Gr –
Tp= Technological possibility		Gr = Governance response

Clearly, the combination under A in the above table is irrelevant to our study, as it does not call for any experimentation because all possibilities and responses are clear (e.g. bike riding).[97] Certainly combination D seems to have a high potential of disruptiveness as uncertainty reigns in both domains (i.e. 'bilaterally'): we do not know (exactly) what new technological possibilities to expect, nor do we know (exactly) how (e.g. teleportation). Type B. and C. are in-between 'unilateral uncertainty' settings both with possible relevance: B. is still about a technology-driven issue, where only social science uncertainties remain (which possibly do call for experiments – e.g. use of drones and fire-works); C. is perhaps somewhat paradoxical, as not knowing what new technology to expect, already it seems sufficiently clear what (if any) governance impacts will ensue (e.g. human reproductive cloning and its non-acceptance). In a less exotic way, however, there may also in C. be a call for regulatory optimization of conditions for technological experiments; a call that may be answered to positively when some public interest merit is involved.

Uncertainty (in either or both domains; situations B.-C.-D.) should not stand in the way of being able to assess if a public interest is involved. We propose to assume strength of possibility through magnitude of effects. Similar to the precautionary principle, where a serious possibility (i.e. chance) of serious harm

[96] We will not separate here the situation of governance as regards the mere fear of technological change, but it is well possible that in creating trust governments seek new modes of governance, with which they first experiment. This is interesting only if sufficiently clearly related to particular technological advancement. Furthermore Governance response may be of a twofold kind: a. spontaneous effects (or absence of these) when a new technological possibility does arise; b. regulated effects If any) when a new technological possibility does arise (and conduct is to be influenced either for reasons of risks or of opportunities – or perhaps both). For now we will not elaborate on this difference.

[97] We recognize that with every product, service or process there is a change of renewed technological and societal 'volatility' in possibilities and appreciation of related activities) – this and the following are no more that 'here-and-now' examples.

(i.e. effects) entitles constraining action, here a serious possibility of serious harm or benefit (as both may trigger experimentation), seems a sensible requirement. So alike 'precaution' seriousness of harm or benefit (i.e. the magnitude of effects) is leading in responsiveness.

Before further addressing the public interest element, let us first look at the element of an experimental setting (2.) as this adds a vital general characteristic to the focus on exceptionality: *temporariness*. In the above we already pointed at temporariness as being a possible (and as regards exceptions to eloquent silence, a necessary) characteristic of exceptional regulation. In experimentation the temporal aspect becomes an imperative characteristic as recordings of findings (in the determination of facts or events) call for pauses, stops or time-slots amounting to 't=x' or 't+x' moments in time. These are crucial 'stops' to allow for the results, following a certain period of experimentation, to be monitored and evaluated, and to draw conclusions as regard possible consequences for continuation. This is not to say that regulation that provides conditions for performing experiments is itself necessarily temporary regulation (although this is certainly possible), but that the scope of its application (in terms of norm-objects or norm-conditions) is explicitly or implicitly limited in time.[98]

It is the element of public interest (3.) that calls for one more step in narrowing our focus, as we do *not* want to include experimentation which may have some public interest merit, but: (a.) can be performed within existing rules (though perhaps not optimally or at higher cost), and (b.) is not expected to have a major influence on patterns of social interactions (and so does not come with or call for major social change and adaptation, such as in formal and informal rules). When both of these situations are the case we speak of *sustainable* innovation, without need for changes in existing rules (informal or formal), but our interest lies with the 'game-changing' disruptive pathways.

4.3 – Disruptiveness

Our third focal element leads our regulatory scope to the potential (as serious possibility or promise) of a *disruptive* innovation, given that we are interested only in experimentation (with public interest merit) that is 'disruptive' to the extent that: [99]

a. it cannot be successfully performed within existing rules. This is about the *temporary* disruptiveness of performing the experiment, as for reasons of technological and/or social/governance requirements it requires contextual changes that normally do not exist (as facilitation; e.g. 'disproportional' financial investments) or are not allowed (as permissiveness; 'disproportional' (distribution of) risks and benefits);
b. it is expected to have a major influence on patterns of social interactions (as a matter of major social change and adaptation, as in forma land informal rules). This is about the possible disruptive *structural* outcomes of the experiments, and relates to technological and/or societal/governance

[98] See our earlier remark on this in par. 4.1 (first related to 'Exceptional unregulatedness', then also to other arrangements), also see the remarks in the immediately above section.
[99] The term 'disruptive' is taken from a Business Administration background, but applied more broadly here. See, *inter alia*, Bower, Joseph L. and Christensen, Clayton M., Disruptive Technologies: Catching the Wave, *Harvard Business Review* 73, no. 1 (January-February 1995), pp. 43-53.

ramifications along similar lines of disproportionality as under a., but now as a matter of accommodating or channelling these outcomes.

While using proportionality as an expression of a deviation from existing proportions that apply to experimentation and day-to-day activities in technological and governance realms, what is key to our interest is that regulators need to determine if to allow and perhaps even facilitate the disruption of an unusual experiment (a. - one that cannot take place under existing rules) is in proportion to the societal interest that is involved in being able to properly decide about making changes in future day-to-day business of technological and governance activities (b. – when the experiments present knowledge that displays a compelling reason of societal interest – e.g. growth of welfare and wellbeing – to make such changes); as 'innovation' is believed to be a 'change for the better',[100] or a move away from a more dismal alternative if nothing is done.

It should be kept in mind that both of these disruptive dimensions (a. and b.) may apply to temporary technological experimentation and its structural consequences and/or to temporary governance experimentation and its structural consequences. As we leave temporary disruptive experimentation out of our picture, as it is a given point of departure in our study, we may distinguish four innovation narratives combining technology and governance perspective in terms of whether structural changes are expected to be of a sustainable or a disruptive nature, while our interest lies only with structural disruption through: (1.) unilateral technological innovation (only); (2.) bilateral technological and governance innovation; (3.) unilateral governance innovation (only). The latter would fit our focus only if the particular type of governance innovation ensues from a technological innovation, albeit not a technologically disruptive one (i.e. a sustained innovation, of a radical kind).[101]

What this means is that out of the four abovementioned 'technological possibilities and governance response'-situations, situations B-C-D in Table 11. (of bilateral or unilateral uncertainty), would go through a 'disruptiveness filter', selecting only those cases where given uncertainty is combined with the (perhaps precautionary) expectation of *structural* disruption (in consequences that are drawn from the information taken from *temporary* disruptive technological and/or governance experiments).

Table 12. Disruptiveness….

Disruptiveness in possibility and responses' relations of technology and governance		
Technological Possibility ⇨ ⇩ Governance Response	Sustained innovation *Si*	Disruptive innovation *Di*
Sustained innovation - *Si*	(A.) Tp *Si* ⇨ Gr *Si*	(B.) Tp *Di*+ ⇨ Gr *Si*
Disruptive innovation - *Di*	(C.) Tp *Si* ⇨ Gr *Di*	(D.) Tp *Di* ⇨ Gr *Di*
A-D as expectation awaiting proof through temporary disruptive experimentation (if so desired)		

[100] See L.C.P. Broos, *Publieksvriendelijk versnellen van innovatie in netwerksectoren, Een exploratie van wetstechnische mogelijkheden ter bevordering van innovatie in de telecomsector, met behoud van de bescherming van publieke belangen*, NGInfra PhD Series on Infrastructures, no. 67, University of Twente., p. 9-11 (with many references).

[101] Evolutionary technological innovations by definition do not cause social disruption; hence do not call for social experimentation.

Tp= Technological possibility	Gr = Governance response

Only cases B-C-D (of bilateral or unilateral disruptive potential; as also pointed out as 1., 2., and 3. in the text above the table) may fit our focus (A. has no disruptive potential), but again, they are relevant only if (a.) experiments with *temporary* exceptional disruptiveness are indeed considered necessary, and if (b.) the potential *structural* disruptive innovations that the outcomes of related experiments may bring or demonstrate, are relevant to the *public interest* agenda in terms of possible future developments that, if their potential proves real, need to be promoted or avoided, thus legitimizing exceptional regulation (deviating from existing public interest trade-offs) to make experimentation possible.

From this it follows that our primary focus is on (temporary) experimentation given a potential of (structural) disruptive innovation.

When disruption is expected to be *bilateral* (D. – 'full structural disruption'), then the case is clear and the 'narrative' presents a twofold regulatory challenge, to accommodate both technological and governance experimentation.

When the expectation is limited to *unilateral* disruptive *technological* innovation (B. – 'mere structural technology disruption'), regulatory governance repercussions lie only in securing a temporary experimental setting. As we said in the introduction, we want to focus here on application, there are no relevant structural governance concerns, so we will not consider this option any further (here).

When the expectation is limited to *unilateral* disruptive innovation in *governance* (C. – 'mere structural governance disruption'), regulatory governance repercussions lie only in securing a temporary experimental setting – but only in as much as this experimentation is necessary due to no more than sustained technological innovation (else this case would fit under D.). Of course there may be experimental regimes for reasons following 'mere' political, economic, social or cultural reasons, but our scope lies with fostering technological innovation. When the afore sustained technological innovations create the expectancy that innovations of governance will ensue or are necessary, and that experiments in governance are necessary to properly channel this innovation, then they are likely to be of a presumed radical kind as otherwise such experimentation is probably not considered necessary.[102]

Ultimately, the structural uni- or bilateral disruptive innovation does have to carry in itself some public interest relevance in:

1. a need to know about technological or governance innovations of an expected disruptive kind, which cannot be fulfilled without controlled disruption by

[102] On that latter point, it will be clear that we exclude cases of experimentation, even if bilateral, concerning expected radical sustained innovation, as we want to draw the line delineating the separation between 'real experiments', that call for and may lead to disruption as 'game-changers', and 'quasi-experiments' within the realm of known risks and performable within existing patterns of scientific or governance interaction. Nonetheless we need to keep in mind that it may well be a thin line between expecting radical sustainable and disruptive innovations. Thus it will be a matter of risk-averseness or risk-seeking attitude ('precautionariness) whether expectation yields an *ex ante* broad or a narrow spectrum of experimental settings.

exceptional rule to allow an experiment that is impossible under normal rules;
2. a 'need to know' that may ensue from the potential advantage that disruptive consequences may bring to securing (in the wake of certain threats) or the (improved) realisation of public interests, based upon the (certain) information that the experiment is expected to provide.

So, while firstly focusing on exceptional regulation, we secondly focused on such regulation where uncertain results and responses call for experimentation, to now, thirdly, focus on such latter regulation where the outcomes of experimentation have the potential of providing certainty about an (*ex ante* of experimentation) uncertain future given the expected potential of structurally disruptive technological and/or governance innovation.

Ultimately, regulating for temporary experimentation[103] is about considering the need of a temporary exceptional change of institutional rules (of the game - concerning crucial transactions or balancing benefits/opportunities and burdens/risks and opportunities) relevant to enable the performance of experiments, of which the outcome is expected to disruptively cause structural innovation in technological and/or in governance realms, relevant as a matter of public interest and of with governance innovation may lead to a structural change of rules following the outcomes of the experiment.

5. Concerning Networks

In par. 1 we presented our focus of interest also by referring to the relevance of network sector characteristics:
"*… fourthly, a focus on infrastructure based services, especially in the liberalized energy and telecommunication sectors, which implies that we take into account specific network characteristics concerning both technological innovation, economic transactions and regulation.*
Given that this paper reflects work in progress, it does not include a further elaboration of specific aspects that come with experimentation in networks. In as much as experimentation and competition can sometimes clash, clearly the tendency of networks towards natural monopolies is a factor to count with."

A further elaboration on specific characteristics of experimenting in the context of networks will be added later, in some alternative outlet of the main 'message' included in this paper.

6. Concerning Legal Design for Practice

After all these general theoretical explorations, inescapably abstract by nature, it is time to look at practice. We use some examples from Dutch Law, simply as we have to begin somewhere and we know most about examples in that national domain. One cases concern Telecommunication Law, with a specific regime for

[103] As stated in the above, we consider temporariness as one of the key characteristics of experimentation and although rules on performing experiments may have an indefinite character, the instances of experimentation are those of a temporary occurrence – which, of course, go beyond mere freedom seeking innovation by random 'trial and error'.

experimentation with use of radio-frequencies and one unregulated regime for experimentation with equipment, and that of regimes for experiments in the energy-sectors of gas and electricity, concerning experimentation towards technological and governance innovations, although not yet fully in force and already about to be succeed by a new statutory regime.
These cases are presented to provide a first map of actual exceptional experimental arrangements and an initial test of applying notions from the above theoretical framework with the objective of improving the framework – should it not fail completely – and foster its use in *ex ante* design of experimental regimes and *ex post* evaluation of existing regimes (also as a backbone to empirical assessments and input).

7. Example no. 1: Experimenting in Telecommunication

As examples to the framework set out in the above, we first look (in par. 7.1 – and more elaborately) at two regulations to create arrangements for experimenting with the use of radio-frequencies, one past and one present, and then (in par. 7.2 – and more concisely) at an unregulated permissive regime as regards the use of telecommunication equipment outside of commercial usage.

7.1 – Experimentation in the Telecommunications Act – an exception retracted and replaced

Supporting innovation is one of the statutory tasks of the Dutch National Regulatory Authority (NRA) in Telecommunication affairs,[104] in order to achieve the European policy objectives (in particular promoting competition) as set out in Article 8 of the Framework directive.[105] At the introduction of the Telecommunications Act (T_A) in 1998 the explanatory memorandum already stressed the importance of enabling '*contra legem*' experimentation to foster innovation.[106] It stated that telecommunication technologies develop at high speed and that telecom providers need pilot experiences to justify high investments in networks and services. This regulatory view was implemented in paragraph 1 of the experimentation clause 18.1 T_A:

> *"Rules may be set by or pursuant to a Crown Decree in order to investigate whether certain developments can contribute significantly to achieving the objectives of the present Act. Said rules may deviate from what is provided by or pursuant to the present Act."*

By delegating the legal power to deviate from the Telecommunications Act in order to investigate potentially significant (perhaps disruptive) innovations to the Minister, flexibility was created to quickly respond to technological developments.[107] At the same time, procedural safeguards were

[104] Article 1.3 sub 1a Telecommunications Act.
[105] Directive No. 2002/21/EC.
[106] *Kamerstukken II* 1996/97, 25 533, nr. 3.
[107] Paragraph 6 of Article 18.1 even contains 'sub-delegating' by stating that the rules within the meaning of paragraph 1 may assign tasks and powers to the NRA.

built-in to prevent disadvantages of the experiments for third parties by organizing broad participation in the making of the 'deviant' rules (paragraph 2) and enabling such third parties to submit comments within four weeks after publication of the draft Crown Decree (paragraph 3):

> *"The persons or parties most concerned as regards the matters dealt with in the Crown Decree shall be involved in preparation of said rules. (…)."*
> *"The draft of rules set pursuant to the provisions of paragraph 1 shall be announced in the Government Gazette. Any person shall be given the opportunity to submit comments on said draft to Our Minister, in writing, within a period of at least four weeks set in such announcement."*

Furthermore, measures have been taken to prevent deviant rules to diminish legal certainty by prevailing too long. Paragraph 4 limits the lifecycle of such rules and ensures that these rules can be terminated any time:

> *"Said rules shall expire no more than two years after having entered into force. A Crown Decree as specified paragraph 1 may be withdrawn by Royal Decree at a point set in such decree that lies within the period within the meaning of the first sentence."*

Finally, to achieve a smooth and quick transition from the temporary regime to a new regular regime, paragraph 5 desires the Minister to act resolutely – if desirable – by initiating a new regime within a limited period:

> *"Our Minister shall ensure replacement of said rules should he consider that a definitive provision is desirable. If said replacement requires an statute (i.e. formal legislation) to be passed, a legislative proposal shall be submitted to Parliament (i.e. 'Staten-Generaal') within two years of the rules entering into force. If said replacement requires a Crown Decree, a proposal for such Decree shall be submitted (…) within two years of the rules entering into force."*

This strict requirement to replace exploration enabling temporary rules by 'normal' rules enabling exploitation of innovation is easy to understand against the background of trying to breach the "Dutch paradox", i.e. the phenomenon of arduous commercialization of new knowledge by Dutch businesses.[108]

All in all, this experimental regime may be regarded as an example of how to regulate experimental permissiveness and is most relevant to our study as it concerns regulatory relaxation / facilitation by defining a (legal) exceptional regime with a focus on (temporary) experiments in infrastructure-based services. Clearly, the regime's aim is to enable experiments with an emerging or new technology and not in the first place innovating governance – technological innovation is the driver behind experimentation. Nevertheless a need to

[108] Described, *inter alia*, by the Netherlands Scientific Council for Government Policy (WRR: *Innovatie vernieuwd. Opening in viervoud*, Amsterdam: Amsterdam University Press 2008, p. 27) and the Dutch Ministry of Economic Affairs (*Analysis of the Dutch innovation position. Part II of Innovation letter*, Den Haag: Ministerie van EZ 2004, p. 15). Also see footnote 12.

innovate 'normal' rules can arise from the lessons learned during the experiment ('uncertain governance response'), indicating potential disruptiveness of the technologies investigated and a need to also experiment with new governance approaches.

Given the very general characteristics of this exceptional regime – it merely enables the set-up of such a regime by additional (*contra legem*) rules – it's not possible to classify this regime as *Unilateral* or *Bilateral*. Moreover, these derivative rules may have a general character (for example *Dispensation* to all Voice-over-IP-providers from the obligation to enable accessibility of emergency calls) and may include *Piecemeal exceptions* (for example the NRA issuing an individual permit to use certain spectrum frequencies for certain applications contrary to the national frequency plan).

To more precisely determine the nature of this exceptional regime, we should look at the Crown Decree grounded in Article 18.1 T_A. Unfortunately, both for this study and perhaps for the innovativeness of the Dutch telecommunication industry, such a Crown Decree was never enacted. Instead, in 2013 article 18.1 was retracted,[109] and replaced by a new article 3.12 T_A:

> "*1. Upon request, our Minister can issue a permit for undertaking experiments with a maximum duration of 1 year. Articles 3.13, par. 2, and 3.18, par. 1, under a. are not applicable to these permits.*
> *2. Permits as described in par. 1 will be issued in order of entry.*
> *3. Out Minister can attach provisions and reservations to the permit."*

The non-applicability of Article 3.13 paragraph 2 T_A creates an exception to the general rule that frequency permits are only issued in accordance with the National Frequency Plan (NFP). The general norm-*condition* to granting regular frequency permits – only when not in conflict with NFP – does not apply to granting frequency permits of an experimental nature. The non-applicability of Article 3.18 paragraph 1 sub a T_A creates an exception to the obligation of the Minister to refuse frequency permits in as much as they are not in accordance with the NFP – which is a specification of the norm-*object*, which holds the substantive mandatory element that in granting permits, elements of a permit request that are not in keeping with the NFP cannot be included. So, to cut a long story short, the NFP can temporary be ignored in order to allow experiments that otherwise could not be undertaken. The second paragraph announces a 'first come first serve' principle regarding experimental frequencies, and the third paragraph entitles the Minister to impose additional conditions to such experimental permits, such as technical restrictions and reporting obligations regarding the progress and results of the experiments.[110] In keeping with this third paragraph, the Radio-communications Agency[111] published its

[109] Unfortunately, the explanatory memorandum accompanying this amendment (Kamerstukken II, 2007/2008, 31 412, nr. 3) does not make clear *why* the old experimentation regime was never used, except for the statement that there's no need any more to conserve the old article now that a new article is introduced... Nevertheless the explanatory memorandum again stresses that the new experimentation clause 3.12 is essential as a legal basis for experimentation in order to develop innovative telecommunication services.
[110] Kamerstukken II, 2007/2008, 31 412, nr. 3, page 21.
[111] The 'Agentschap Telecom', an Agency of the Ministry of Economic affairs, agriculture and innovation, responsible for obtaining and allocating frequency space and monitoring its use.
(http://www.agentschaptelecom.nl/radiocommunications-agency).

'implementation policy',[112] providing fifteen pages of detailed information on requesting and conditioning these experimental licenses and on associated costs. Important elements in this policy are:

- that experiments will be allowed as much as legally possible;
- that experiments may not cause harmful interference;
- that experiments should have a certain probability of success, as frequencies are scarce;
- that (geographical) scale and duration of the requested license should be in accordance with the characteristics of the intended experiment, (again) as frequencies are scarce.[113]

It is obvious that this new experimental regime has a more concrete and also a more narrow focus. More narrow, as the types of possible regulatory relaxations are limited to the issuing of permits for experimental frequency usage (while the old experimentation clause allowed any undefined type of 'deviant rules' as long as they promised to facilitate innovative developments). More concrete, as the rules on this specific exception type can be implemented without additional regulation by Crown Decree. For the purpose of this study, this level of concreteness is perhaps the most relevant aspect,[114] as it enables us to look at 'on the ground' characteristics of this exceptional regime.

Alike the former exceptional regime, the new regime is relevant for our study as it concerns regulatory relaxation / facilitation by defining a (legal) exceptional regime with a focus on (temporary) experiments in infrastructure based services. Interestingly, the regime focuses on applied innovation other than exploitation with commercial intent, as it only allows experiments (during no more than one year and) that are *not* for commercial usage.[115] Furthermore, it does not provide a mechanism for possibly transferring the newly acquired knowledge, resulting from the experiment, into adjustment of existing regular rules,[116] so to enable commercial exploitation. This does not exclude this from happening, but no arrangement was made to foster such uptake.

The regime contains a temporary exception during which regulated permissiveness applies. In the perspective of norm-subjects or regulatees (i.e. service providers) this amounts to a broader scope for *Permissions* (C1). For the Minister as norm-authority, Article 3.12 paragraph 1 T_A concerns an expansion of his power to grant frequency permits. It adds a category of 'permits for experimentation'. The usual norm-condition of Article 3.13 paragraph 2 T_A, applicable to granting non-experimental permits (i.e. the Minister shall not issue a license contrary to the NFP) and the usual limitation of non-experimental grants of Article 3.13 paragraph 1 under a T_A (i.e. the permit can only be granted in as much as in keeping with the NFP) are excluded (Article 3.12 paragraph 1 *in*

[112] Agentschap Telecom, 'Uitvoeringsbeleid Experimenteervergunningen. Ruimte voor innovatie' versie 0.2 d.d. 4-4-2013 (http://www.agentschaptelecom.nl/sites/default/files/uitvoeringsbeleid-experimenteervergunningen.pdf (Accessed 05-10-2014).
[113] See previous footnote, pages 7-8.
[114] Although, from a perspective of enhancing innovation, the aspect of narrowing has relevance in the sense of excluding experimental options.
[115] Kamerstukken II, 2007/2008, 31 412, nr. 3, page 21.
[116] For example a duty to change the frequency plan accordingly within a limited period of time if such a change turns out to be desirable.

fine T_A: the Minister may issue a permit contrary to the NFP and its scope may be in conflict with the NFP).

From the perspective of a provider requesting an experimental license, the narrowing of norm-conditions and the broadening of the norm-object as regards permits for experimentation compared to regular frequency permits, opens up a perspective of potential piecemeal permissions (C1. – as '*exceptional reregulation*')[117] – against the backdrop of the existing prohibition (*B.* – you shall not use frequencies without ministerial permission) of frequency use with more limited exceptions for frequency permits. A potential on the basis of a shift from a *Prohibition* (the afore *B.*) to a 'piecemeal' *Permission* ('with toleration and, according to general Dutch Law doctrine, 'with rights'; the afore *C1*.).[118]

The statutory power of the Minister to grant permission to experiment is mostly of a *discretionary* nature, as Article 3.12 paragraph only broadly describes the norm-object in that the Minister can attach reservations and provisions to the permit and there is no obligation of granting the permit upon fulfillment of power-conditions – but some general provisions to permits, such as regarding the use of reservations (in Article 3.14 T_A) and financial charges (in Article 3.15 T_A) remain in place. These limitations are matched with *subjective* norm-conditions, to the extend that there are no specific hypothetical requirements to the existence of the power to grant these permits – with the implicated specific exception that a request has to be about experimental use of frequencies (but a definition of experimentation does not exist),[119] the explicit specific procedural exception of the 'first in, first served' principle (in Article 3.12 paragraph 2 T_A) and the remaining (not excluded) general norm-conditions in Article 3.18 T_A (such as effective use of frequency space).[120]

7.2 – Unregulated experimentation with telecommunications equipment

We conclude this paragraph on telecommunication law examples with another 'principle' in the Dutch telecommunications regime that contains a (less explicit) element of regulating experiments. Article 10.1 paragraph 1 T_A contains a beautiful example of implicated unregulated permissiveness:

> *"Equipment that does not comply with the rules pursuant to Article 10.3(a), (b), (c), and (e) shall not be marketed or traded."*

[117] Considering that the Minister may attach conditions of use to the experimental permit – see Article 3.12 paragraph 3 T_A – so no 'exceptional freedom'(and given the general prohibition to use frequencies without permit: no 'exceptional unregulatedness').
[118] Third parties cannot start a liability case on the basis of tort as a matter of infringement of legal duties (i.e. adherence to the prohibition) as there is permission. There may be room for such a claim based upon infringement of third party interests, but as a rule this action cannot lead to an injunction to cessation of the frequency use and will thus be limited to some compensation.
[119] The 'Implementation Policy' of the Radio-communications Agency does offer some elements of description, but ontological characteristics clearly mix with legal and policy considerations relevant to granting a permit. See par. 3.2 (p. 7-9). The same Policy points (in par. 1.2, on p. 4) at the two key objectives behind allowing experiments: enhancing innovation and fostering economic progress.
[120] 'Largely' is used in reference to the fact that there is a procedural requirement of deciding on requests on a 'first in, first served basis'.

Article 10.3 T_A contains all kinds of conformity requirements with which telecommunications equipment must comply. The interesting part of clause 10.1 paragraph 1 T_A is the *unwritten* part, i.e. the rule applying to equipment being developed and used for telecommunication experiments, by then *not* being marketed or traded. One might conclude that such equipment does not have to (but may) comply with the 10.3 T_A requirements. Neither Article 10.1 T_A nor the explanatory memorandum makes clear whether this *Bilateral permissiveness* exists by means of absence of regulation. This suggests *mere regulatory silence*, as perhaps the option of regulating the scenario of developing and using equipment for experimentation purposes, not being marketed or traded (i.e. application other than as commercial exploitation) simply has not been considered, but it may (yet) be that it does concern a conscious decision to not regulate this scenario – as a matter of *eloquent silence*.
The recent version of the 'Implementation Policy' of the Radio-communications Agency explicitly confirms the interpretation suggested above:[121]

> *"(…) an experiment can involve the use of equipment that is not yet commercially traded. (…) In that case such equipment need not (yet) comply with provisions listed in chapter 10 T_A and pursuant regulations."*

Does this governmental interpretation strengthen the confidence that this permissiveness is of the 'eloquent' type? Or should this 'executive interpretation' (issued by an executive power instead of by the actual norm-authority, the formal legislator) be regarded as a shift from unregulated permissiveness to regulated permissiveness (i.e. *C2 - Dispensation*), as the uttering in the Implementation Policy does constitute a legal norm (albeit one of a policy-guideline)?[122] And if not, does the unregulated permission (implicitly) limit the use of existing legal powers of lower public office to introduce obligating regulation? Article 10.1 T_A could, in its current shape and interpretation, be favorable to experimentation and, on the longer term, to innovation, but legal certainty could be improved by explicitly addressing eloquent silence, for example in an explanatory memorandum.[123] Further and finally, the type of permissiveness may be relevant to experimentation, the element of temporariness does not apply, at least not in regulatory terms. Thus the experiments may, as brute facts, be temporary events, but strictly speaking the absence of a constraining legal arrangement places this example outside of our scope – but sufficiently relevant to present.

8. Example no. 2: Experimenting in Gas & Electricity

As regards our examples from the energy sector we focus on existing and future arrangements, in as much as these are clear, for experimentation with gas and

[121] Agentschap Telecom, 'Uitvoeringsbeleid Experimenteervergunningen. Ruimte voor innovatie' versie 0.2 d.d. 4-4-2013 (see footnote 112), pages 6-7.
[122] According to the Dutch General Administrative Law Code (Awb) policy-guidelines are obligating legal norms, which place the first party regulator/regulatee under Command to adhere to the guidelines it has enacted and promulgated: Article 4:84 *ab initio* Awb.
[123] Although, in that way, it may become 'a bit noisy'. It remains a thin line to delineate mere silence from eloquent silence (What 'signs' do we consider relevant?), but also eloquent silence from regulation (When does a clear statement in an Explanatory Memorandum beget the force of a regulated norm?).

electricity. The first part of our analysis (in par. 8.1) concerns an integrated analysis of statutory arrangements that enable the making of legal arrangements for such experimentation in present. The second part (par. 8.2) concerns some specificities of a draft Crown decree that presents such a legal arrangement, albeit only for the electricity sector. As a third part we very briefly point at an example of legal arrangements to subsidize innovation through 'beauty contests'.

8.1 Experimentation under the Electricity and Gas Act – general scope

Presently a proposal is on the table for an integrated Electricity and Gas Act (hereafter EG_A), replacing the existing separate Electricity Act and natural Gas Act. The proposal comes with a (new) Article 11.1 EG_A concerning a delegated power (to central government: the 'Crown') to by Crown Decree provide an exceptional legal arrangement for undertaking experiments. The text of the proposal provides a more encompassing basis for experimentation than the current provisions in Article 7a of the Electricity Act and Article 1i of the Gas Act, so we have chosen to take this proposal as our point of reference. The Crown Decrees necessary for 'activating' the existing provisions is expected to enter into force in 2015, and will most likely also fit the provisions of the integrated act.

The Explanatory Memorandum to EG_A states[124] that developments in the energy system are difficult to predict and that by and large practice will, within the broad boundaries of energy policy, determine the future. Changes in legislation and regulation are considered necessary to accommodate future developments that at some point will establish themselves in practice, such as developments in energy-storage and demand-side management. For that reason it is indispensible to gain experience with such new developments, such as with the use of flexible tariffs and demand-side management support. Hence a broadly formulated provision for experimentation is proposed, so that lessons can be learned by innovations in practice – to later properly adjust legislation and regulation to these innovations. The Memorandum pays special attention to local energy initiatives and experiments. It signals that on the basis of stakeholder consultations it is believed that many innovations can take place under existing rules, but some, especially when related to the present model of the energy-market (e.g. in relation to 'prosumers' and local smart grids) do require that legislative changes are made, and to that end a broadly formulated provision for experimentation is deemed most desirable.[125]

Paragraph 1 of Chapter 11 of EG_A is called 'Experimental space and exemptions' ('*Experimenteerruimte en ontheffingen*') and Article 11.1 is named 'Delegation experimentation Crown Decree' ('*Delegatie experimenteer AMvB*'). While respecting EU-legislation and regulations, the first paragraph of this Article allows for deviating from the provisions of EG_A or of delegated acts based upon it, where it concerns: (a) an experiment in the area of renewable energy, energy-economies or an efficient use of the energy system, or (b) an experiment

[124] See General Part, section I.2.
[125] *Supra,* section I.3 and also the reference in I.4 to Chapter 11 of EG_A.

undertaken with the objective of acquiring practical knowledge about new 'market models' or new systems of regulating energy tariffs.

In this typology we readily recognise a difference with respect to experiments in applied technology and applied modes of governance, which in practice may be undertaken separately but also jointly. As said in the above, the proposed scope is indeed somewhat broader than the previous arrangements, which were limited to support decentralized production, transport and delivery of gas or electricity decentrally generated in installations using renewable resources (also see par. 7.2). On the basis of this paragraph it is not yet possible to tell if deviations will only be of a permissive nature or whether they will also involve facilitation – which would then have to come through separate regulatory channels. Clearly though, exception is made in terms of deviating from existing obligating rules, so not an as arrangement of '*exceptional unregulateness*' (see par. 4.1), brought about by a separate legal act by a subordinate authority (i.e. the Crown, which is, according to Constitutional Law, positioned immediately below the Formal Legislator).[126] Presumably permissiveness will be of a *bilateral* kind in that users or managers of the energy system to whom the deviations apply are not under command to undertake experiments.

Paragraph 2 goes on to state that by Crown Decree or regulations based thereupon, further rules will be provided that are applicable to the allowed experiments. These rules will at least concern the following issues:

a. the exact deviations from EG_A (or rules based upon EG_A) which will be allowed;
b. the categories of users or managers of the energy system to which these deviations will apply and the volume of these categories;
c. the maximum duration of these deviations;
d. the number or the kinds of situations for which a deviation is allowed;
e. the way in which an assessment is made as to whether a deviation has served its objective and whether the duration of the deviation should be prolonged.

Again we recognize elements from the above analysis in terms of a piecemeal exception (linked, according to paragraph 1.) to experiments, with specifications relating to a particular 'subjects-in case' scope of the arrangement, with a temporal condition and, as experiments are exceptional activities that we hope to learn from, a clause about evaluating the results of deviations for the sake of these experiments. With all of the provisions 'a. to e.' it is clear that to deviate (permissively or through facilitation) is by no means a simple freedom – at least not in a regulatory perspective; considering the provisions that need to be in the Crown Decree. To what extend this also leads to undesirable administrative burdens or regulatory hassle for those wanting to experiment remains to be seen. Only upon the more specific provisions of the Crown Decree will it become clear whether the experimental arrangement is one of '*exceptional freedom*' or '*exceptional reregulation*' (again, see par. 4.1). The latter seems more likely than the former, considering the concern for public interests as expressed implicitly through the limitations under a.-e.;

[126] According to Article 81 of the Dutch Constitution, Statutes ('Formal Legislation') are enacted jointly by the Crown/Central Government ('de Regering') and both chambers of Parliament (de 'Eerste Kamer' en 'Tweede Kamer'van de 'Staten-Generaal').

The element of keeping tabs on what is happening is also reflected in paragraph 3 of Article 11.1 EG_A, which prescribes that the minister of energy shall send a report on the experiment, its effects and efficacy, as well as a position on the continuations of the activities other than as an experiment, to Parliament ('de Staten-Generaal') within 3 months after termination of the experiment. This element is typical of *ex ante* concerns over the possibility that experimentation will produce results that call for *disruptive* measures as regards existing regulations concerning energy generation, supply and use.

Much related to the concerns that Parliament may have, having co-legislated in making of EG_A (from the provisions of which the experiments deviate), is the final provision, in paragraph 4 of Article 11.1 EG_A, that a proposal for a Crown Decree as described in the previous paragraph 1, is not brought out before a period of 4 weeks has gone by during which the (draft-)proposal could be inspected by MP's.

Clearly, the co-legislative involvement of Parliament, impacts on the discretionary power of the Crown to introduce a Decree by which deviations from the EG_A are possible. Parliament favours experimentation (if the bill does become a statute) but will not want the Crown to light-heartedly allow experimentation. The ability, following the provision of paragraph 4, to *ex-ante* inspect the draft-proposal opens the possibility of parliamentary debate and a political change of plans. To require an *ex-post* report on experiments that have been performed under the Crown Decree, provides an extra impulse to political reflection on experimentation. Not only to learn for future decisions, but also because the outcomes may call for changes in policies (and in the law) or for an extension of a promising experiment.

8.2 - Experimental arrangements for decentralized production of renewable energy according to the proposed Crown Decree following current experimental provisions

As said, Article 7a of the current Electricity Act, and Article 1i of the current Gas Act provide for experimental arrangements, which aim to contribute to developments in the production, the transport and the distribution of locally produced energy or electricity which is generated in an installation for cogeneration. Both provisions stipulate that, on the basis of the aforementioned Crown Decree (expected to enter into force in 2015), a deviation from statutory provisions is possible in service of experiments.

According to the accompanying Explanatory Memorandum of the draft Crown Decree,[127] these exceptional arrangements are intended to determine whether these experiments actually lead to a wider application of decentralized energy production or cogeneration, efficient use of the available energy infrastructure and more user involvement in their energy supply. The information these experiments will bring, will be used to consider in what respect and to what extent structural (*disruptive*) changes in the Electricity Act 1998 and the Gas Act could be realized in order to stimulate local production of renewable electricity and gas. It is believed, still according to the Memorandum, that the current legislation applicable to large-scale forms of energy production

[127] P. pm.

is not necessarily fit to regulate the production of local renewable energy. For at this moment, it is *uncertain* which new provisions will be needed, so experiments will be allowed in order to explore to what extent cooperations and associations of owners will be effective in producing renewable energy and what will be the (*disruptive*) effects on the reliability of electricity supply and transport.[128]

Ensuing the results of an Internet consultation among interest groups and experts, the Dutch government has decided to currently allow experiments under the Electricity Act only; the said interest groups and experts did not propose initiatives as regards experiments relating to the current Gas Act.

A Crown Decree has now been drafted, and it is expected to enter into force in 2015. Because the Crown believes technical developments make it increasingly more attractive for energy consumers at the local level to produce (sustainable) electricity by themselves and mix roles of being consumers and of being producers (into 'prosumers'), which in turn is believed to benefit the achievement of energy objectives (through greater energy awareness and lower grid losses), the decision was taken to focus the draft Crown Decree on small consumers in particular.

The aforementioned Internet-consultation showed that the consulted interest groups and experts expect a stimulus from integral business operations at the decentralized level. This however, is prohibited under the current Electricity Act, as production and supply on the one hand and transport and network management of energy on the other, shall be assigned to different parties. Furthermore, the current statutory requirement of a license for energy supply to small-scale consumers (which comes with many regulatory provisions – e.g. as regards rates and terms of sale – under control of the Consumer and Market Authority) hampers the uptake of self-supplying local energy production. The current Electricity Act also blocks the possibility of a locally organized tariff and billing system for recharging and returning costs and benefits related to the local electricity grid – a constraint that should be lifted for and during experimentation. Finally, the current legislation requires the appointment of a grid operator, which has to comply with a number of statutory duties.

The draft Crown Decree distinguishes between two types of experimental projects:

a. 'Small' experiments with respect to a Project-Grid ('*projectnet*'), containing no more than 500 consumers with one connection to the grid of a grid manager. Within this Project-Grid integral business is allowed, combining production, supply and grid management. However, the grid manager has to ensure consumer's free choice of suppliers by other vendors to provide third party access.
b. 'Big' experiments: projects for consumers mainly (80%) with a maximum of 10,000. On this scale, it is believed that the pro's and con's of a local energy supply will reveal, which is relevant for the assessment of desirable changes of the current Electricity legislation. The volume-scope of the 'Big

[128] Explanatory Memorandum, *supra*, p. pm.

experiments' has been determined in order to realize matching of supply and demand of electricity in an experiment, in which the usage of various sustainable production techniques is conceivable (such as solar PV, wind, CHP).

The experiments, in 'small' and in 'big' projects, are allowed only when embedded in the legal form of a 'cooperation' or of an 'association of owners' – as permissive norm-conditions. These types of 'juridical persons' enable the participants to exercise joint control over rates and conditions, as a result of which controls by the supervisory authority could be reduced.

Article 2, paragraph 1, of the draft Crown Decree authorizes the Minister of Economic Affairs to grant an exemption to carry out a project that, by way of an experiment, may deviate from the provisions pursuant to the Electricity Act. These exemptions may be granted for technical provisions and specific rate-systems under the current Electricity legislation, the construction of a grid by a regional grid operator, statutory provisions concerning tariffs, the statutory provision with regards to the supply of electricity, and the statutory prohibition for anyone but the grid operator to carry out grid management tasks. The draft Crown Decree also provides in powers to include further provisions to the exemptions granted. Last but not least, Article 7 of the draft presents 25 (sic!) different grounds for the rejection of a requested exemption. In all it is clear that the involved power indeed leads to arrangements of '*exceptional reregulation*', with permissive tilt, to make experimentation attractive while meanwhile avoiding 'misuse'. The norm-object of the ministerial power has some *discretionary* elements, and similarly the power norm-conditions have *subjective* elements. Having said this, there are clearly mandatory and objective elements involved and. Last but not least, many conditions that allow for refusing permissiveness to experiment.

8.3 – Facilitative arrangements for decentralized experimentation in renewable energy

Without going into details, we finally point at the existence of legal arrangements provide a temporary possibility of subsidies for temporary applied experimentation in the field of (*inter alia*) renewable energy.[129] An example is a scheme by the Dutch province of Overijssel, which has invited municipalities and local communities to submit proposals for decentralised experiments in renewable energy generation, storage and efficient use (especially through 'smart grids'). The scheme is organised as a 'beauty contest', with a jury of experts deciding which proposal will be subsidized. The winning proposals get a subsidy to implement their project within the time-frame that the envisaged in their proposal.

Not only does this example fit the element of facilitation, but this facilitation (as a matter of securing funds for undertaking the experiment) is presented as an arrangement of '*exceptional unregulatedness*', seeing as it

[129] For more detail see: Sanders, Maurits P.T. and Heldeweg, Michiel A. and Straatman, Elly G.P. and Wempe, Johan F.D.B. (2014), Energy policy by beauty contests: the legitimacy of interactive sustainability policies at regional levels of the regulatory state, *Energy, sustainability and society*, 4 (1). 4 -. ISSN 2192-0567.

presents a temporary arrangement opposite to no structural subsidy funds being available for this purpose, applicable to temporary activities as experiments which aim to (not only enhance citizen involvement in the renewable energy endeavour but to also) provide information on possible changes in existing rules to structurally allow for such types of decentralized undertakings. Due to the facilitation, experiments may be considered implicitly permitted by eloquent silence.[130] The involved administrative power of providing government subsidy for individual projects is based upon the discretionary object and subjective conditionality of the provincial power of introducing general administrative regulations – which comes with a democratic mandate. The administrative power within this regulation, to subsidize individual projects based upon expert-jury advice, involves a norm-object and norm-conditions that have a mixed profile in terms of being discretionary/mandated and subjective/objective – which is sensitive given, *inter alia*, concerns over distributive justice, and fall within the possibility of judicial review. Once a subsidy is granted, the legal act introduces a (hypothetical/conditional) *command* for payment by the public office concerned and a *duty-claim* relationship between this office and the entity that is rewarded the subsidy.

9. Comparing Findings: in practice and with theory

Beyond examples, this contribution is of course about trying to understand general characteristics and typologies that may make the issue of regulation experimentation for innovation suitable for legal design. Through design general lessons may be better in corporate in making rules for experimentation in specific (contingent) cases.

On the basis of the theoretical framework our interest goes out to how existing legislative and regulative arrangements for experimentation relate to the following aspects.

a. The existence of clearly described 'normative positions'(i.e. *A*., *B*., *C*(*1/2*). and *D*. (*1/2*), as described in par. 3.1) and, if the option exists, whether these are regulated or unregulated.
   Of course obligating positions are regulated. In the realm of experimentation we find examples mostly in general prohibitions (A.) with a possibility for making exceptions (see b. and c.). General command related to experiments we did not find; only a command following facilitation (in par. 8.3). With relevance to experimentation we found only one example of unregulated permissiveness in the use of telecommunication equipment outside of commercial usage (see par. 7.2; without temporariness). All other forms of permissiveness (to experiment) were of a regulated form.

b. Upon permissiveness, its characterization in terms of bilateral or unilateral aspects.
   The examples we found have a bilateral nature, generally because the norm-subjects were not under command to perform the experiment. A further

[130] Although they may fall within the realm of unregulated permissiveness, or come with having to request for regulated permissiveness, dependent on the exact nature of the experiment. As such the state of 'unregulatedness' only applies to the facilitative aspects of the arrangement..

analysis would be needed to determine if some cases concern hybrid bilateralism, of unilateral permission paired by unregulated bilateral permission. This could be relevant in relation to the question if possible tolerations, rights or enabling facilities also related to the complementary permissiveness.

c. As regards both permissiveness and facilitation, their characterization as general or piecemeal.
All arrangements were piecemeal, as they are all positioned as exceptional arrangements suited for experimentation. The one exception to a piecemeal scope is that of unregulated permission (as eloquent silence) in the case of equipment used in telecom experimentation – which concerned a non-temporary permission (see par. 7.2).
As said, we did not find examples of permissiveness with a command to actually perform the experiment (i.e. implicated unilateral permissiveness). In general we consider this to be a less likely variant, unless facilitation is also included. Of course it is possible that information from experiments is considered most useful in view of possible structural disruption, and so command, even without facilitation may be desired, but it remains less likely if no facilitation is simultaneously offered (possibly by monopoly rights to exploitation). Otherwise, in cases of mere (and non-urgent) experimentation the possibility of non-usus through non-performance does not bring information but nether des it infringe on the interests of third parties protected as rights under existing regulation. If and when facilitated then it is likely that permission is unilaterally implicated as command to undertake. In cases of subsidies sometimes contracts are signed to this effect, or the there is a clear stipulation that upon non-performance the subsidy is withdrawn and/or reclaimed (in as much as already paid out).

d. When exceptional arrangements exist, their characterization in terms of 'freedom', 'reregulation' or 'unregulatedness'
Clearly 'exceptional reregulation' is dominant. The mere existence of regulations for experimentation expresses the presumption of disruptiveness of the experiment and this comes with sensitivities that translate in considerable conditions for allowing deviation from existing rules, both in such a decision in principle and in terms of the provisions that come with the permission.
The example of eloquent silence in the case of equipment used in telecom experimentation (par. 7.2) comes close to 'exceptional unregulatedness', but does not carry the necessary element of temporariness. Further elaboration is needed as regards the qualification of facilitation upon energy beauty-contests (in par. 8.3) as 'exceptional unregulatedness' – this label certainly seems apt considering the facilitative aspect, but may not fit the underlying permissiveness.

e. When reference is made to exception for the sake of experimentation, the nature of these experiments in terms of:
   1. being about technology or governance;
   2. whether their disruptiveness is a relevant criterion.

   To begin with, hardly anything is said about what experiments are. It seems as if legislators and regulators do not want to upfront ex- or include undertakings

that they wish to in- or exclude at a later stage. The more discretionary nature of involved norm-objects and more subjective norm-conditions fit with this assumption – while it is meanwhile clear that considerable regard is taken to avoid unnecessary disruptions of existing rules of the game.
No references were found to Guideline no. 10a or 10b of the Dutch General Guidelines for Rulemaking (discussed in par. 4.2).
In the examples found usually elements of applied technology and applied governance seemed to come and go together. The sometimes complex nature of legal arrangements underpin the disruptive potential of undertaking experiments. The energy examples (at least in par. 8.1 and 8.3; less so in 8.3) were more explicit in their consideration of possible disruptive structural governance consequences – by calling for explicit reflection upon possible need for regulatory changes. In telecommunications experiments this element was less obvious although relevant references were made – such as in the Implementation Policy' of the Radio-communications Agency (see par. 7.1).
Both sectors clearly show an acknowledgement of how on the ground innovation and regulation go hand in hand, rather as a matter of co-evolution than as one of both taking the lead.

f. When exceptionality follows from specific legal acts, the nature of relevant regulatory powers in terms of the nature of their norm-object and norm-conditions.
On the one hand the subject matter of experimentation suggests that appropriate regulatory exceptions require subjective norm-conditions and discretionary norm-objects – so as to allow tailor-made arrangements. On the other hand the sensitivity of making exceptions and moving away from existing rules concerning risk and benefits and modes of interaction (providing some legal certainty to all stakeholders involved) calls for rather strict conditions and carefully prescribed norm-objects. It is no wonder that the examples show that in practice regulators have come up with a mix of both. From a perspective of 'innovative entrepreneurship' this may be disappointing, while from a position of legal certainty this is reassuring. If we take innovation to be a public interest than surely, considering the complex arrangements that we did find, there lies a challenge ahead as regards balancing these two interests in innovation in the most effective and efficient way, while ensuring that this balance is seen as legitimate and just.

10. In conclusion

What we take from our attempt at mapping instances of 'regulating experimentation' is that we need far more examples than we could and have considered in this paper and that a more in-depth analysis is required to reveal the true meaning of arrangements, also in the light of our theoretical framework and its potential of use for design and evaluation of such arrangements.
Clearly the aspect of facilitation is one that was underexposed in this paper – which is partly due to getting the 'permissive picture' right, but also due to an (admittedly unspoken) hesitance to analyse intricacies of facilitative arrangements (of an exceptional nature), given their enormous range. A follow-up on this is much needed.

While further and deeper 'case-studies' will be entertained, this study will also need to be extended by: 1. Looking more closely into EU-legislation and regulation (if only to enhance suitability of analysis to general design purposes); 2. the regulatory aspects specific to network industries as a particular area of application; 3. and, finally, an elaboration of the parameters of legal design, so that mapping can actually support the formulation of design-guidelines.

As authors of course we welcome constructive comments and criticisms!
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