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Building Back Wiser: Knowledge, Policy and Public in Dialogue

Viewpoints

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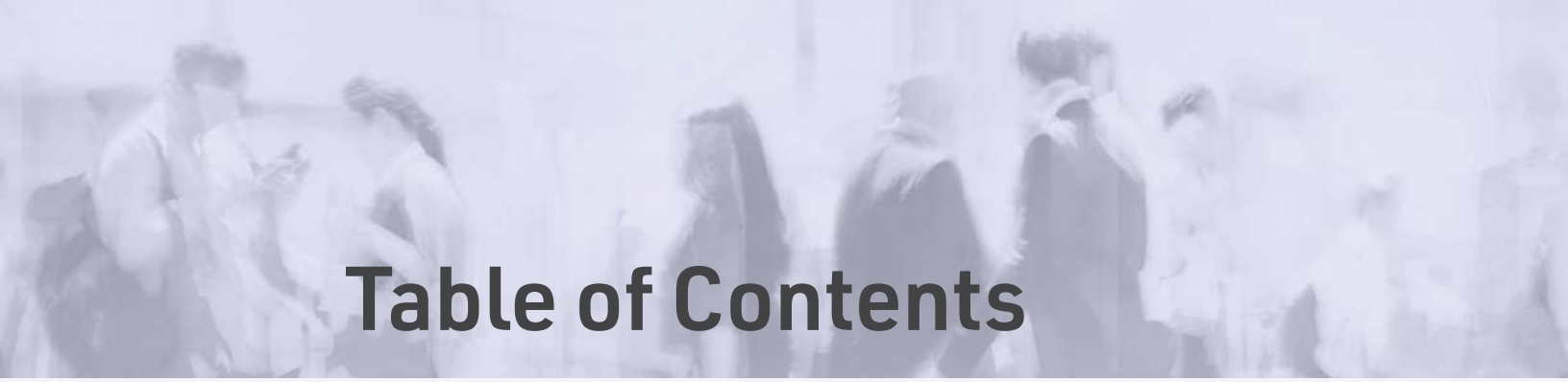

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Pacing, Adaptation and Denial

Marc Saner

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I agree that technology is fundamentally changing the world, physically, socially, and politically – and that regulation is a key tool for governments to address resulting opportunities and challenges.

I further agree that regulatory science is a form of science advice. And it is significant form because most countries employ more regulatory scientists than research scientists.

We must be mindful, however, that this form of science advice is constrained. The environment of regulatory scientists is highly structured because regulations are legal instruments. Regulations are passed by politicians and they can be fought in court. As a result, regulatory scientists do not provide "best known advice"; instead, they provide "best mandated advice". It is unprofessional (and possibly illegal) for a regulatory scientist to comment on issues outside of her mandate.

When product development accelerates, the obvious first concern may be **anticipation**. Nevertheless, I would argue that the biggest issue is the denial of the **pacing problem** (Marchant, Allenby & Herkert, 2011). We must first overcome this denial to achieve proactive, agile, and adaptive regulations.

Gary Marchant and colleagues define the pacing problem as follows (2011): "Our traditional government oversight systems are mired in stagnation, ossification and bureaucratic inertia and are seriously and increasingly lagging behind the new technologies accelerating into the future." In brief, 'pacing problem' denotes the challenge for regulators to stay abreast of the pace of emerging technologies. Legal instruments remain slow while technologies are accelerating. Furthermore, emerging technologies make products that are often hard to assess because of a lack of risk information and because of novel ethical challenges. It is difficult to use the idea of "familiarity" as it is often done in the context of known technologies. On top of that, the economic stakes are often significant: nations do not want to stifle the next block-buster platform.

During my work with on synthetic biology, I observed the following types of denial:

1. **There is no pacing problem:** The technology is evolutionary, not revolutionary, and we must not slow emerging technologies because they are vital for our economic future.
2. **The problem may exist, but we don't really know:** It's not all too clear what's coming down the innovation pipeline. We are not mandated to guess …
3. **Some of us think the problem exists, others don't:** The interpretation of novelty depends on the details of the various affected regulations.
4. **Ok, it exists, but we cannot change:** We don't have the power, nor the time nor the resources, and no-one is listening. Regulation is reactive, not anticipatory. It's a legal instrument.
5. **We may be able to change, but we don't like to:** Why me, why now – we are so busy.
6. **Wait, someone else said they would deal with it:** Oh! Other actors may address it!

The Situation Post-denial: Once there is a will, there is often a way. But change will have to be deep, systemic.

References:

Gary Marchant, Braden Allenby & Joseph Herkert, Eds. (2011). *The Growing Gap. Between Emerging Technologies and Legal-Ethical Oversight: The Pacing Problem*. Dordrecht: Springer.