Dear Dr. Silverthorn and other members of the ROI project team,

Thank you for the opportunity to comment on this important topic, and for the excellent webcast on June 14.  I came to the office early and joined it at 6:00 AM west coast time, thinking I might be a bit crazy, but stayed to the end, very pleased by both the questions and the audience responses.  I agreed partially or vehemently with everything that was said, except for the suggestion that peer/expert review for research funding be eliminated (because I didn’t hear, and couldn’t envision, a better approach).

Since the audience input was so good, I’ll limit my comments to things I did not hear on the webcast, organized according to the four questions on pp. 5-6 of the RFI:

1. Under Bayh Dole (and I presume Stevenson-Wydler), performers have a duty to disclose, protect and pursue commercialization of inventions (and report on these).  I don’t sense that most researchers know or think about this, so perhaps there is a way to increase the volume on this requirement so that researchers can’t ignore it (i.e. leave it to contracts offices to perfunctorily report).
2. This is the most important question.  I suggest three important and related reasons that I did not hear discussed on the webcast:
   1. Researchers and their employers (labs, universities) are professional scientists, but not “business people” except in the sense that they are in the business of selling research.  Developing products and services for sale to users and customers is a very different activity, and one that requires different skills and years of “R&D runway” funding from other (mostly private) sources before such sales are possible. Further, efforts spent on such things will take a long time to pay off (if they pay off at all), and in the meantime subtract from essential efforts to keep laboratories, laboratory personnel and institutional functions funded.  Institutions prioritizing their own financial survival is sometimes derided as “feeding the beast”, but it is an essential problem.
   2. Professional scientists and scholars took many years to earn PhDs and land tenured/secure positions, and most understandably don’t want to pivot into business careers.  Running a startup (especially raising money for it) is a consuming task that is mostly different from R&D, and largely outside the main skill set and comfort zone of scientists (of course there are excellent exceptions), especially tenure-line faculty without industry backgrounds.  This is not a criticism, but it should suggest that expecting  more than a small fraction of inventors - scientists and faculty - to cross-train as entrepreneurs is misguided. Conversely, it is a reasonable and necessary expectation of graduate students and postdocs, who are unlikely to win academic positions.
   3. Most labs and universities have limited funds for IP protection, and are particularly reluctant to spend them on foreign patent rights unless they think they have a licensee or buyer in sight.  This is unlikely for cutting edge research/inventions growing out of basic science, because even corporations with large R&D budgets (potential licensees) expect significant de-risking of technology AND demonstration of market interest (usually measured in terms of sales).  Startup companies remain the best way to meet these expectations.
3. Solution possibilities (brainstorm)
   1. Funding supplements (on the order of $25-$75K) for IP protection and commercialization activity (more on this in b)) that are available to labs and universities that have gone at least as far as filing a provisional patent application and developing a commercialization plan.  These proposals can be simple, but would need to be reviewed/vetted by appropriately skilled and experienced funding agency personnel. I am well aware of SBIR/STTR (in fact I am an advisor to the NSF SBIR program), but think it would still be better to do things like this first (later SBIR proposals will be much better), as many companies are hastily and poorly formed for the reason of getting additional research funding via SBIR.
   2. Accept that most researchers are not going to become CEOs or even skilled company founders.  EIR (entrepreneur-in-residence) programs and similar efforts to pair them with opportunity spotters (what entrepreneurs do), appropriately qualified technology domain experts, and target industry ‘insiders’ (contacts, ‘ins’) who understand running and funding startups are necessary.  Such teams can accomplish technical and business goals together, as well as recruit the right management team and employees (many of whom will be grad students). Consider requiring that a small fraction of a research award be used for suitable efforts (that have been appropriately vetted), and accept the possibility that the federal overhead rate may need to increase by a percentage point or two as a result. Note: corporate/industry experience is not the same as startup/entrepreneurial experience.  It can be very helpful for marketing and networking, but usually not helpful for startup leadership or financing.  You must have EIRs who are really entrepreneurs for these.
   3. See answer for a).  Allowing foreign rights to lapse would be an unfortunate thing for really important inventions.
4. Nothing to add beyond 3) above, summarized: Recognize that startups are necessary, that they consume cash (and therefore can’t make up-front payments, etc.) and that someone has to pay for the necessary IP protection and 1-3  years of pre-investment R&D runway or many commercialization opportunities won’t be exploited.

Robert D. "Skip" Rung

President and Executive Director

541.713.1331

541.231.4883 mobile

[skip@onami.us](mailto:skip@onami.us)

[www.onami.us](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.onami.us%2F&data=02%7C01%7Ccourtney.silverthorn%40nist.gov%7C109c72f530aa4fae72e008d5ec474a5d%7C2ab5d82fd8fa4797a93e054655c61dec%7C1%7C1%7C636674713300248162&sdata=FSy2cqfrsTOJG4yAiZoD4%2BiHeAzhbA%2FgWeETwKN9x%2F4%3D&reserved=0)



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