

IP Policies in Practice Perspective from startup involvement

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History

- 1984 – 1997: Basic research into laser-solid interactions, especially applied to semiconductors
 - Patents issued: 0
- 1998: Sabbatical leave to Lawrence Livermore National Laboratory.
 - “Stars Wars” funding - laser processing to novel electronics
 - Patents issued: 2
- 1998: Startup FlexICs Inc. with 3 collaborators at LLNL
 - Key IP licensed from LLNL
- 1998: Joined tech advisory board for TFE ASA
 - Key technical consultant for development of polymer memory
 - Startup in joint project with Intel
- 1999: LTP critical path for VLSI. Verdant/Ultratech effort.
 - Small company competing against Applied Materials



Patent issues at FlexICs

- Original IP from LLNL (managed by UCB)
 - LLNL patent goals to enable US industry. Relatively good terms.
 - “Even handedness” → joint exclusive license with Rolltronics
 - Worked to establish conditions favorable to startup efforts.
 - Joint research programs established to continue effort at LLNL
- VC funding issues
 - Uncertainty from the joint exclusive license. This remains an issue – likely must buy-out Rolltronics license eventually
- Continuing board issues
 - Risk of Prof. Thompson at Cornell.
 - Frozen out of technical development for fear of “tainting” IP
 - Horror stories abound (urban legends?) of University negotiations
 - Unable to fund research activities under similar conditions
- Extreme pressure as a founder to terminate all ties with the University to enable full participation in startup.



Key issues at FlexICs

- Risk and uncertainty
 - Unable to ensure investors and board that joint IP will not become a liability
 - Fear of CU license – where joint – being offered to Rolltronics as leverage for conditions with FlexICs
 - “If we fund it, why don't we own it?”
- Open research and students
 - Students potentially being employed elsewhere is secondary issue.
 - Patents need to exist in technologically developing industries to minimize impact of student technology transfer
- Consulting agreements do not remove risk with faculty when area is associated with existing research activities.



View from other companies

Verdant / Ultratech VLSI TFE ASA / Intel project

- Open exchange of ideas
 - Industry understands real issues facing a technology
 - Advancement comes when fundamental understanding is linked to these real issues
- IP risk restricts willingness to share partial concepts
 - Applied Materials
 - Micron or TI
- Consulting difficult – how to make university research relevant and encourage increased interactions?

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- Opposite side of the issue
 - Technology to be almost fully developed within Cornell context
- One founder still has concerns about “benevolence” of CRF to startup. Will technology be transferred to higher bidder?
 - Examples from MIT and Stanford
 - Need clear counter examples with strong message of partnership.



IP realities in Cornell Engineering Research

- Primary research should enable commercialization 20 years in the future. We risk losing this mission as focus toward “for profit” IP management
 - The closer technology is to realistic commercialization, the less likely the university can be an effective partner. Even a 2 year postdoc is 18 months longer than startups can tolerate.
- Protect IP with goal of enabling others to move it forward
 - Key issues protected so VC funding possible to startups
- Recognize difficulty of CU faculty becoming directly involved in startup companies
 - Isolation of Ithaca.
 - Lack of VC resources (FlexICs was \$25M)
 - Absence of infrastructure to support high tech development
- Develop IP policy that encourages and enables participation of faculty and students in outside ventures.



Conclusions

- Increased emphasis on IP may not be in best interest of the university system
 - Bias of research away from scientifically challenging and long-term important issues to near-term commercialization
 - Avoidance of research topics with near term interest to avoid conflict of interest issues
- Startup view (necessarily so) any non-exclusive IP as a major risk limiting fund raising and commercialization
- Uncertainty reigns as king ...

