 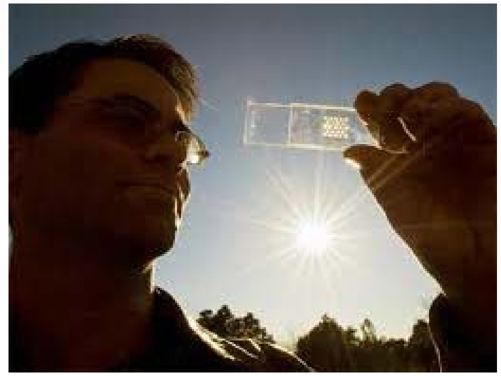 

LABSTART

Accelerating Technology Transitions

www.labstartnm.com www.archventure.com

Fourth Meeting of the Science, Technology and Telecommunications Committee: October 18 & 19, 2012

"Opportunities and Obstacles to Technology Transfer"

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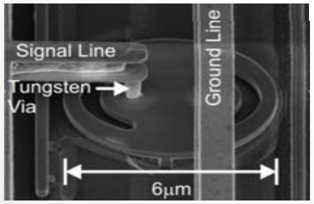
NM Legacy – 1986 to Present

LANL, SNL, UNM, NMSU, NMTech, AFRL, Local

Effort	Year	Sector	Capital/Jobs	Status/Location
SNL Staff	86-96	Research	NA	ELOA/NM
MODE	96-98	Telecom	$5.1M/56	Acquired/NM
Emcore PV	98- pre	Telcom – PV	>$200M/>600	IPO/Active/NM
Kinetisis	00-02	ICs	$1M/6	Failed/NM
Zia Laser	02-06	Telecom	$22M/45	Acquired/NM
DOE EIR	08-10	Tech Transfer	$450K/2	Completed/NM
Sapphire Energy	08 – pre	Biofuels	$350M/150	Active/NM
LabStart	09 – pre	Tech Transfer	$2.2M/5	Active/NM
LI Agrosciences	10 – 11	Agriculture	$16M/45	Failed/NC
ARCH Ventures	93- pres	Venture Capital	NMSIC	Active



FemtoPhotonics – Ultra High Speed, Ultra Low Power Consumption Optical Networks

Structure <u>private sector perspective</u>

- Joint Venture between ARCH Venture Partners and The Verge Fund 2009 to present
- DOE EERE EIR Program (SNL – NREL – ORNL) 2008
- Model of Choice chosen by DOE June 2012 - **
- Argonne National Laboratory – University of Chicago
- $1.6B under management, 200+ Portfolio companies,
- Goal: Increased Commercial Impact of Lab Technology

Transgenic Seed

Synthetic Cognition

Mammalian Visual Cortex Algorithm – Computer Vision

7

LABSTART Process

Venture Capital Network

Corporate Network

1

Investment-ready technology TRL 6

LABSTART

Identify technology with commercial potential
Due diligence
Market assessment
Prototype development

4,5 & 6

- 2 & 3

Laboratory technology -- TRL 3

Obstacles to Technology Transfer

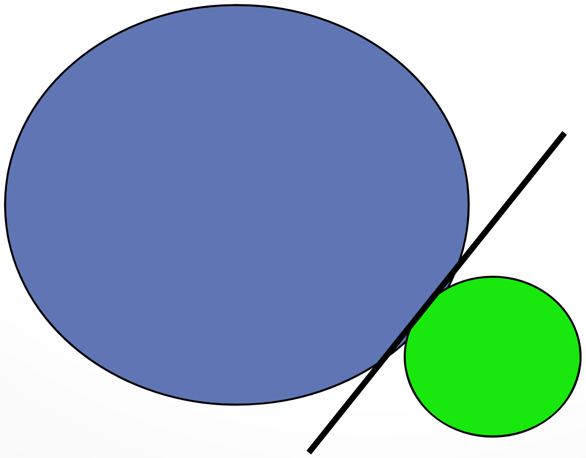
This is a GENERATIONAL problem i.e. 20+ years

1. Technology Pull vs. Market Pull / EXPOSURE
2. Active & Relevant Search and Discovery
3. Limited to no <u>full contact</u> peer to peer interactions
4. Insufficient "opportunity" maturation and value creation
5. Grossly insufficient available capital
6. Insufficient qualified Senior Management
7. Lack of clear mission uptake by parent organization

Microsystems Enabled Photovoltaic's

Proposed Solutions

- LabStart like effort at each national lab and university
- Technology Maturation Fund
- Proof of Concept (POC) Fund



Summary and Goals

“own the valley of death” <u>5x5</u>

- Complimentary catalyst to institution Technology Transfer
- Proven scientific, commercialization and investment experience
- Effort embedded with the technical line organizations
- Full contact process, consistent, peer to peer interactions, value add interactions (DOE Security Clearance)
- Market pull versus technology push process
- Active mentoring, due diligence, technology maturation and opportunity investment
- Management recruitment, project value creation

Ultrasound Tomography

Recruitment – Retention – Revitalization

Jobs – Taxes - Manufacturing

LabStart Results

Metrics:

- 19 companies started
- 3 failed, 11 active, 5 pending
- ~450 technologies evaluated
- ~ 2-5 new technologies/week
- 1.5 years mean time/project
- Extensive database
- Expanded Network (below)
- 6 interim CEO's recruited
- ~50 negative evaluations
- Rate ~2-4 companies/Q

Financial

- o $1.1M in Funding
- o $1.2M in-kind Funding
- o $18M in company funding
- o $2.0M in purchase orders
- o $950K in bank loans
- o No overhead
- o Burn rate ~$40K/month

Corporate Interactions: Boeing, LMC, Raytheon, Dow Chemical, BASF, Verizon, Google, IBM, Monsanto, Bosh, Hitachi, Umicore, Bemis Health, PolyOne, WL Gore, Dupont, 3M, Kimberly Clarke, J&J, P&G, BP, Halliburton, Battelle, Ryan Air. **Federal Interactions**: DOE, DoD, DOC, EDA, CIA. **Venture Capital Interactions**: ARCH Venture Partners. The Verge Fund, NVP, IQT, DFJ, KP, Atlas Ventures, SVB, P&G Ventures, Dow Venture Capital, BASF Venture Capital, Canal Partners, Chart Ventures, The Foundry Group, Graylock, Venrock, Polaris, Welcome Trust. **NM Interactions**: Flywheel Ventures, Village Ventures, Epic Ventures, HD3, The Cottonwood Group, Samitaur, TVC, NMSIC, Sun Mountain Capital, BNSL, SNL, STC - UNM, AFRL, NM Angels, Epic Ventures, LANB

NM Proof of Concept Fund

NM TechAdvance Fund Proposal

- Goal is to significantly increase the number of qualified shots on goal
- A 5 year $50M fund to seed ~20 NM opportunities/year at ~$500K each
- Targeted toward advanced technologies that have the highest probability of generating $M's in revenue and creating high paying jobs defined as ~>$70K/year.
- Works in collaboration with a LabStart like effort to optimize the risk reduction/impact equation.
- Investments offered are on a convertible note basis valued at Series A financing, acquisition or IPO
- Capital allocation through a professional commercially oriented Board of Directors which in addition can provide the necessary complement of assets required post seed funding.
- Sustainability of effort sought after 5-10 years through asset liquidation, improved monetized value creation and or significantly increased "income" to the institution.

Technology Maturation Fund

- "Often there is one key experiment that needs to be performed in order to determine the actual commercial value/viability of an early stage potentially game changing technology" **Steve Jobs**
- A separate but NMSBA like NMGRT credit for both SNL and LANL on the order of $2.5M/year at each laboratory
- Capital to be allocated by a professional commercially oriented Board of Directors to a company or company in preparation which has either licensed or is about to license a technology
- Capital allocated in the same fashion as above except to mature an opportunity for a small business or major corporation
- **L1 Agrosciences, YXO Inc., Deep Look Corporation, The Attolight Group, iBeam Materials Inc., Oligocide Inc., Synthetic Cognition Inc., SuperFit E Inc., FemtoPhotonics Inc., White Nail Inc., Protocell Inc., MIMICRI, VISIBLE……………………………Thank You!**