



Recruiting and Retaining New Members at NSF ERCs

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Outline

- ▶ Needs/Value Analysis
- ▶ Benchmarking /Landscaping
- ▶ Contact
- ▶ Resonance

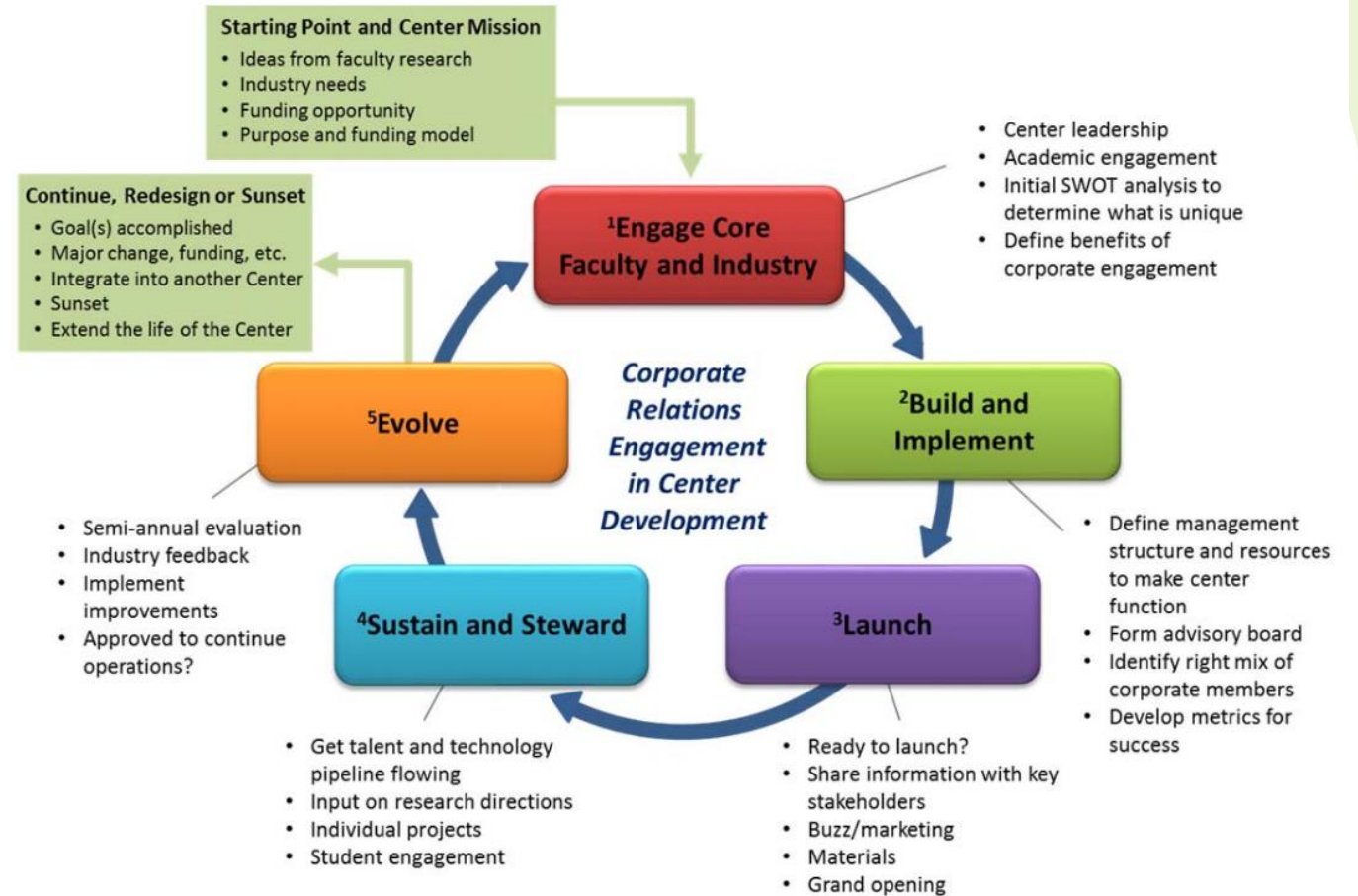


Figure 1 - Center Development Cycle

ASSIST Industry Members in 2017

Full Members



MERCK



Associate Members



HANES
Brands Inc



JSR Corporation



NOVEN
PHARMACEUTICALS, INC.



muRata
INNOVATOR IN ELECTRONICS

EASTMAN



MAS
CHANGE IS COURAGE

Affiliate Members



profusa



VALENCELL

psikick
Ultra-Low-Power Wireless



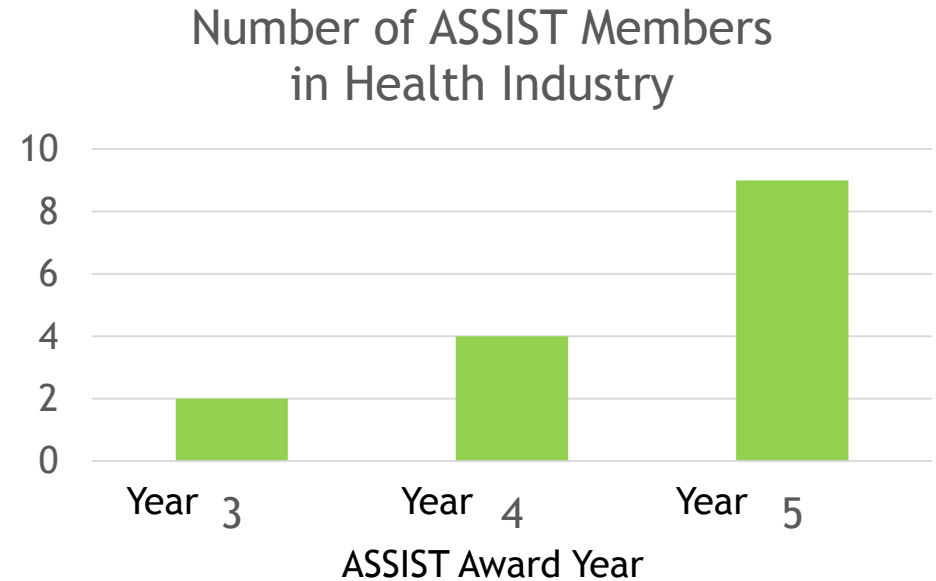
GLOBAL
COMM WEAR, INC.



ASSIST

Industry Membership

- ▶ Growth in health sector
 - ▶ Pharmaceuticals
 - ▶ Medical Devices
 - ▶ Systems
- ▶ Evaluation
- ▶ Engagement
- ▶ Advocates for ASSIST



8/21/201



Active Membership Recruitment

- Seeking companies to help support growth
- ASSIST's needs change as our technologies develop
- Flexible electronics, IoMT, and medication adherence
- Target members:



Needs/Value Analysis

- ▶ High level needs analysis of ERC
 - ▶ Next level of growth for ERC (research or development-wise) (CEO)
 - ▶ Site Visit Team key questions (CSO)
 - ▶ Input of new stakeholders, rounding out technology offerings (CCO)
 - ▶ Testbed development and broader deployment (COO)
- ▶ Skill/values analysis of faculty/leadership
 - ▶ Development capabilities and interests
 - ▶ Laboratory tools, throughput volume, student skills/development

Benchmarking/Landscaping

- ▶ Characterization of the ERC value chain (where do research products go?)
 - ▶ What innovation or materials lead the Center's use?
 - ▶ Who is the next natural owner of the Center's research product outputs?
 - ▶ Who else captures value in the supply chain as Center outputs progress towards the end user?
- ▶ Landscape analysis of main industry sector(s)
 - ▶ What firms are leading in your sectors? What firms have a **growth mentality**?
 - ▶ Big cash rich companies (sponsored research)
 - ▶ Mid-size companies with high press coverage and rapid growth (research and development)
 - ▶ Small companies with VC backing and experienced teams (co-development on specific projects)
- ▶ Identifying the right member firm

Contact

- ▶ Identifying the right contact

- ▶ ILO needs bizdev/exec/director contact
- ▶ PI needs engineering contact



- ▶ Expanding the contacts (finding engineering and business leads who know each other)

- ▶ ILO pitches to bizdev team
- ▶ ILO hosts call with engineering lead and key PIs
- ▶ Host Center visit for both technical and business contacts

Resonance

- ▶ Keeping the relationship growing, stakeholder weigh-in/buy-in
- ▶ Incorporation on larger projects/responsibilities ASAP (more in IAB Role)
- ▶ Building metrics for success:
 - ▶ In-person visits
 - ▶ Joint calls
 - ▶ Papers/presentations emailed
 - ▶ IP disclosed in field
 - ▶ Press coverage
 - ▶ Students/faculty hired
 - ▶ Connections to other members/customers
 - ▶ Private presentations/visits by students/faculty
- ▶ Circle back frequently for check-up, happy with engagement, new needs/opportunities?

Examples

- ▶ **Noven Pharmaceuticals:** ILO identified lead, pitched business teams, built support top-down
- ▶ **Profusa Inc:** PIs identified lead, pitched co-development projects, awarded shared grants, built support bottom-up
- ▶ **Bluedoor:** Partnership/community identified, active in shared goals, supporting Center growth
- ▶ **VitalFlo Inc:** Commercialization identified, supporting specific individual growth/license



Group Dialogue

- ▶ How many members do you each have?
- ▶ How many members gained/left last year?
 - ▶ Do you see this trend continuing?
- ▶ Who is your greatest internal advocate?
- ▶ Who is your greatest external advocate?



The Role of the Industrial Advisory Board at NSF ERCs

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Outline

- ▶ Step 0: ASSIST's IAB in Bylaws
- ▶ Motivation of the IAB (Philosophy)
 - ▶ Diversity, Advisement, Engagement
- ▶ Objectives for the IAB (Strategy)
 - ▶ Capabilities, Contributions, Advocacy
- ▶ Examples of Strategies (Execution)

Step 0: How is ASSIST's IAB structured?

- ▶ Full and Associate Members (3 vs 1 vote each)
- ▶ Advise
 - ▶ Commercialization strategy, core/non-core mix
- ▶ Review
 - ▶ Reports, budgets, proposals, IP
- ▶ Votes
 - ▶ Membership-pool-funded projects, IP decisions

- ▶ ASSIST has 17 IAB Members, 5 Full and 12 Associate 5

ASSIST Industry Members in 2017

Full Members



Associate Members



Affiliate Members



IAB Philosophy

- ▶ Diverse boards build a broad bench with deep expertise
 - ▶ 5 large, 10 medium, 1 small company
 - ▶ European, Asian, American headquarters
 - ▶ Textiles, Electronics, Pharmaceuticals, Materials, Data Analytics
 - ▶ General research vs specific projects



IAB Philosophy

▶ Advisement

- ▶ Reviewing and providing context for project selection
- ▶ Answering strategic questions (Proj. X or Y? What after Proj. X? etc.)
- ▶ Clarifying ASSIST's place in the value chain for our field (who do we support, who supports us?)

▶ Engagement

- ▶ Finding new engineering contacts to support key PIs and key projects
- ▶ Supporting projects inside firm (for bizdev attention, partnerships, or intern selection)
- ▶ Challenging PIs and students (for relevance of work, for further funding, etc.)

Strategies for the IAB

- ▶ Identifying capabilities of individual board members or firms (and recruiting missing needs, previous talk)
- ▶ Translating capabilities to contributions
- ▶ Mechanisms for inclusion:
 - ▶ Sub-chairs based on ERC needs
 - ▶ Taskforces for high priority projects
 - ▶ Technical calls with high performing PIs
 - ▶ Engagement with non-team players
 - ▶ Strategy calls with key IAB members
 - ▶ Advocacy for membership drive events

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NOVEN
PHARMACEUTICALS, INC.

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EASTMAN

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Expanding IAB Leadership

- ▶ 3 sub-chairs: Data, Health, Self-sufficiency
 - ▶ Go-to connection for strategic questions
 - ▶ IAB Chair:
 - ▶ Anna Kravets
 - ▶ Director of Business Consulting
 - ▶ Merck & Co. - Pharmaceuticals
 - ▶ Health Adviser:
 - ▶ Anita Watkins
 - ▶ Director Rex Strategic Innovations
 - ▶ UNC Rex Healthcare – Healthcare Provider Network
 - ▶ Data Adviser:
 - ▶ Dr. Deva Kumar
 - ▶ Distinguished Systems Architect
 - ▶ SAS Institute – Data Analytics and Intelligence
 - ▶ Self-sufficiency Adviser
 - ▶ Currently open



Examples: IAB Engagement at ASSIST

▶ External Advocacy

- ▶ New membership: target members respect existing member opinions, existing members invite target members to events
- ▶ To the NSF: explain realistic commercialization and IP objectives, describe useable outputs of research projects



▶ Internal Advocacy:

- ▶ Helps direct attention to areas ILOs feel of greatest need (great asset)
- ▶ Connect member engineering teams with holistic needs of Center, not just on their projects (benefits of systems center)
- ▶ General examples: commercialization, IP, partnerships, testbed development
- ▶ Specific examples: MDs, insurance companies, investors



Examples: IAB Engagement at ASSIST

- ▶ Testbed level taskforces
 - ▶ Provides domain expertise, market intelligence, and engineering engagement
 - ▶ Grows multiple relations between members and PIs (stronger mesh)
 - ▶ Increases membership value for members and engagement value for PIs
- ▶ Hosting showcase and membership drive:
 - ▶ Profusa hosted ASSIST in SF, invited 40 companies to PI pitch rounds and demo review (gained two new members)
 - ▶ Analog Devices hosting similar event in September in Boston

The role of the IAB at ASSIST

- ▶ The role of the IAB is to advise the Center Leadership.
- ▶ Advice and engagement is for research objectives supporting commercially relevant goals.

Group Dialogue

- ▶ How many members are in your IABs?
- ▶ How is your IAB structured?
- ▶ What would you like to get out of your current IAB?
- ▶ What is the best-performing IAB we could create?
- ▶ What external stakeholders can we tap to help create this structure?

- ▶ Advocates for the Center, to the NSF, faculty, students
- ▶ Advising director and d.dir
- ▶ Task forces on center needs (data, health, sustainability, testbeds)
- ▶ Ask targeting questions:
 - ▶ “how do we leverage results of proj. x to be more effective and attractive to particular sectors or companies”
 - ▶ “should we focus more on data infrastructure in our research or can we leave that to industry as a solved problem (to just plug and play in the future)?”

- ▶ Help find technical contacts for scientific advisory board, closely ties member to center.
- ▶ Providing material for incorporation in testbeds and research prototypes (benefits member and team)
- ▶ Supports ILO in membership searches externally for connecting to internships
- ▶ Supports ILO mission internally to advocate for industry focus and specific IP strategy,