



Virginia Economic Development Partnership

Business & Ally Services

November 6, 2012

a NIST | Network
MEP | Affiliate



Agenda

1. GENEDGE ALLIANCE Background
2. NIST MEP
3. GENEDGE ALLIANCE Services
4. E3
5. Innovation
6. Exportech
7. Questions

GENEDGE ALLIANCE

Background

In 1992 the Virginia General Assembly created the A. L. Philpott Manufacturing Center (PMC).

In 1997 the Virginia General Assembly redesignated PMC as the A. L. Philpott Manufacturing Extension Partnership.

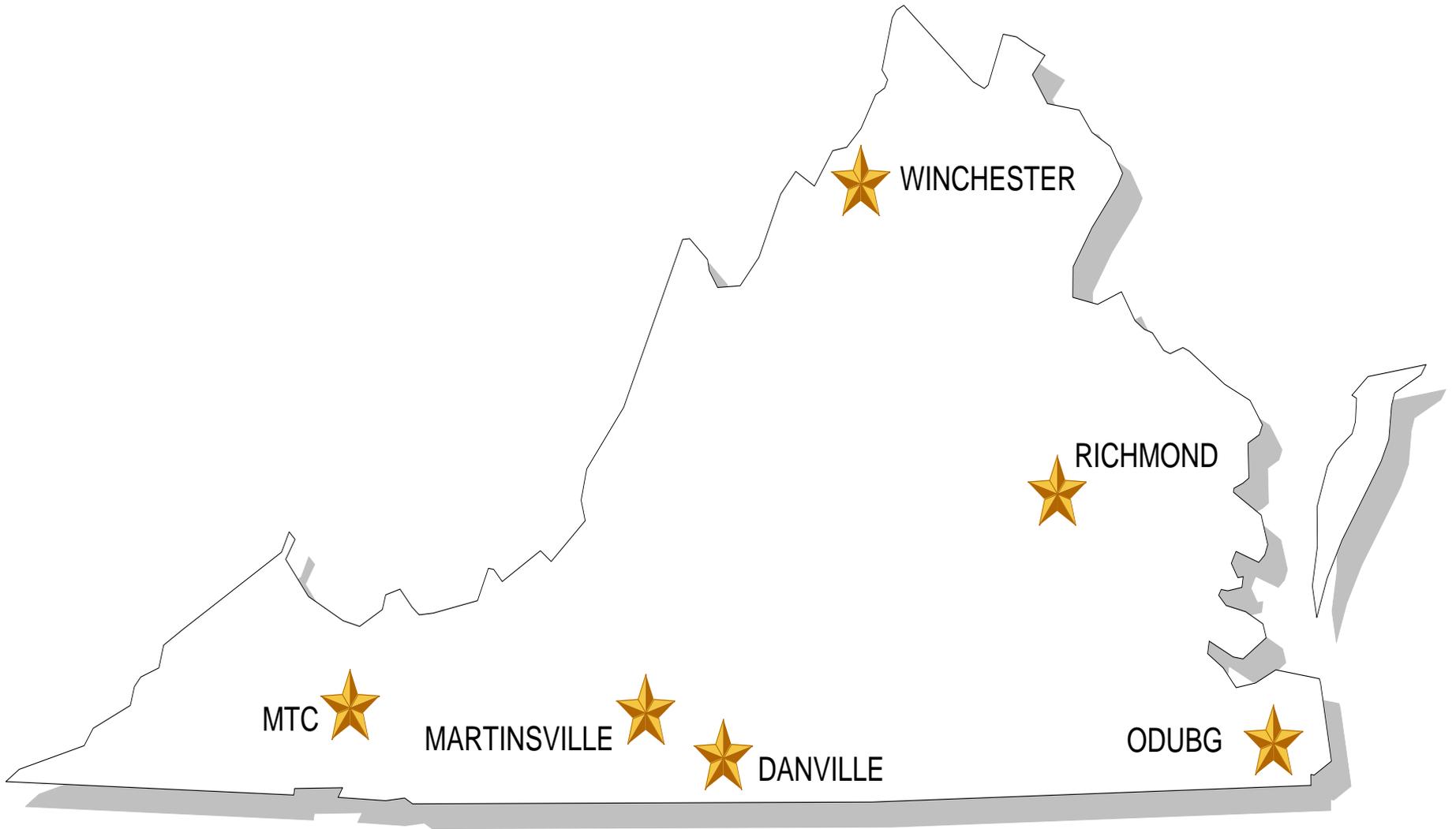
Our dba became VPMEP.

We engaged two sub-recipients:

The Manufacturing Technology Center

The Old Dominion University Business
Gateway

In 2011 our dba became GENEDGE
ALLIANCE.



MTC

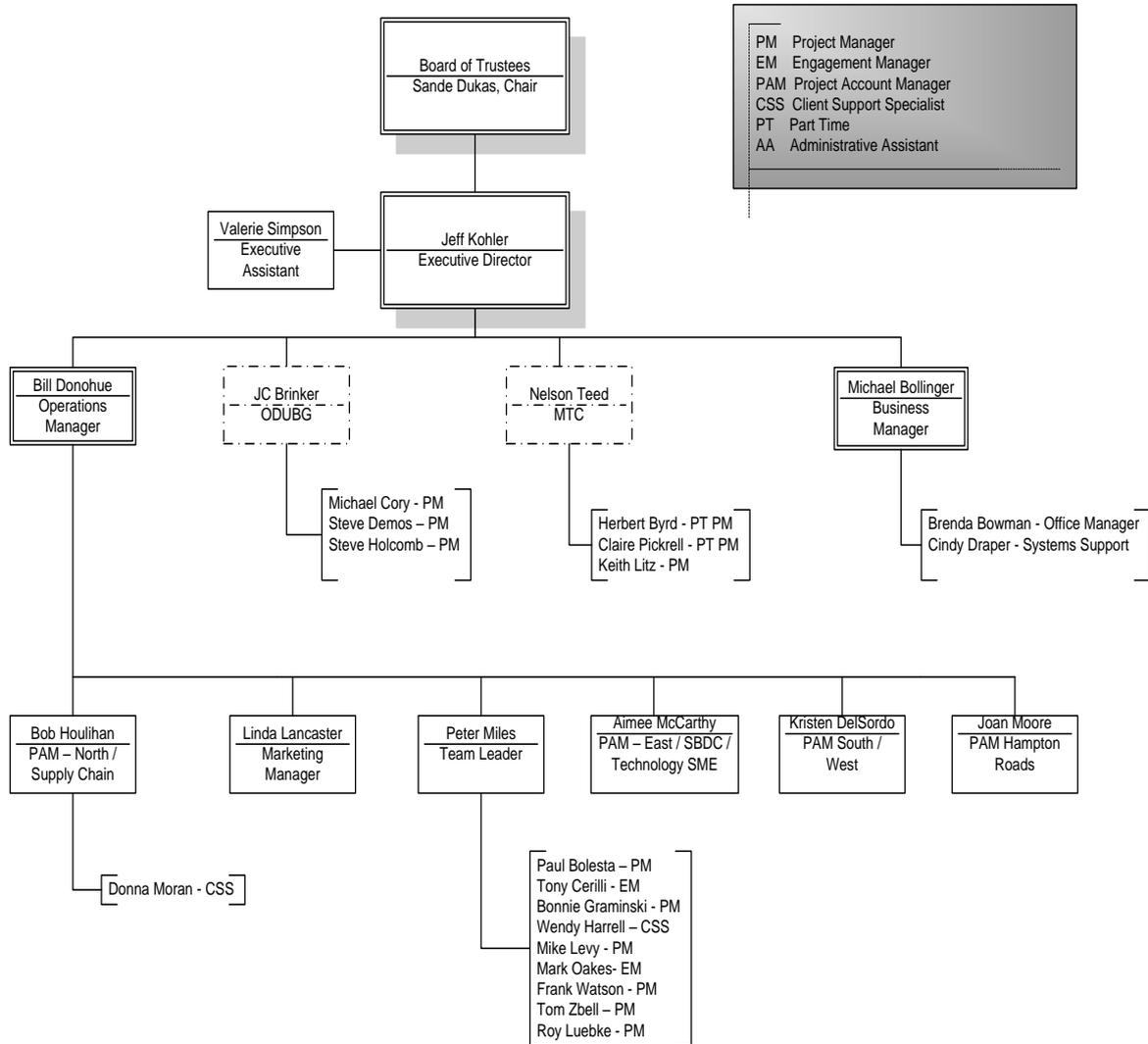
MARTINSVILLE

DANVILLE

WINCHESTER

RICHMOND

ODUBG



VISION

GENEDGE ALLIANCE will be the best public resource helping Virginia industry innovate, compete, and grow.

MISSION

GENEDGE ALLIANCE helps create and maintain jobs in industry and manufacturing.

NIST MEP



**MEP • MANUFACTURING
EXTENSION PARTNERSHIP**

VISION

NIST MEP is a catalyst for strengthening American manufacturing – accelerating its ongoing transformation into a more efficient and powerful engine of innovation driving economic growth and job creation.

MISSION

To act as a strategic advisor to promote business growth and connect manufacturers to public and private resources essential for increased competitiveness and profitability.

Key Legislation

- **Omnibus Trade Act of 1988 (P.L. 100-418)**
 - Created the Regional Centers for the Transfer of Manufacturing Technology (a.k.a NIST MEP)
- **America COMPETES Act of 2007 (P.L. 110-69)**
 - Creates the MEP Competitive Grant Program to fund projects focused on solving new or emerging manufacturing problems
- **The America COMPETES Reauthorization Act of 2010 (P.L. 11-358)**
 - Creates an innovative services initiative within MEP to assist small- and medium-sized manufacturers in: (1) reducing energy usage, greenhouse gas emissions, and environmental waste; (2) accelerating the domestic commercialization of new product technologies; and (3) identifying and diversifying new markets.

The NIST MEP Program in Short . . .

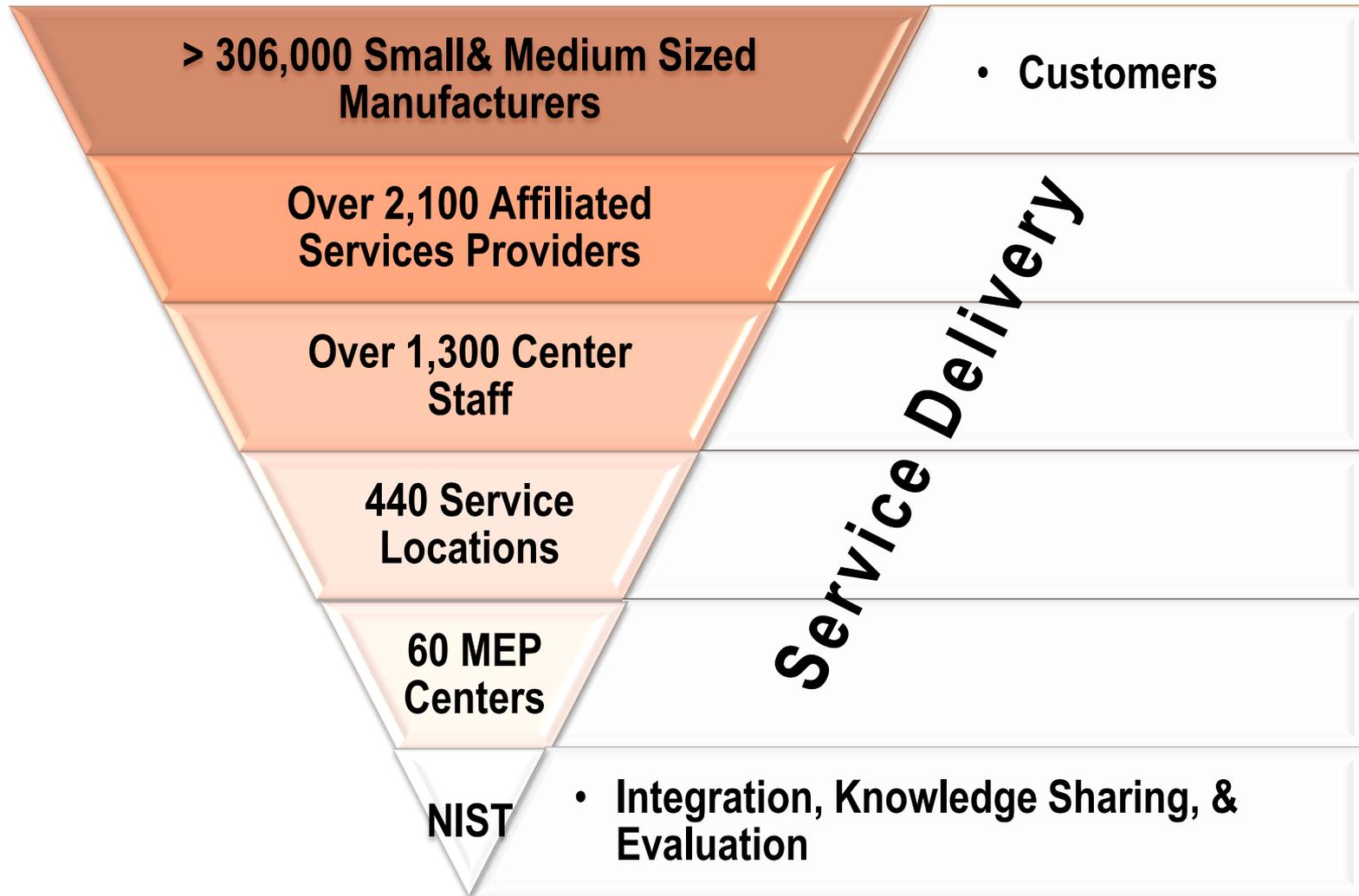
- Program started in 1988, with at least one center in all 50 states and Puerto Rico by 1996
- 60 centers with nearly 400 field locations
 - System wide, Non-Federal staff is over 1,300
 - **All Centers have Boards of manufacturing leaders providing guidance to the Center**
- Partnership Model – Federal/State/Industry



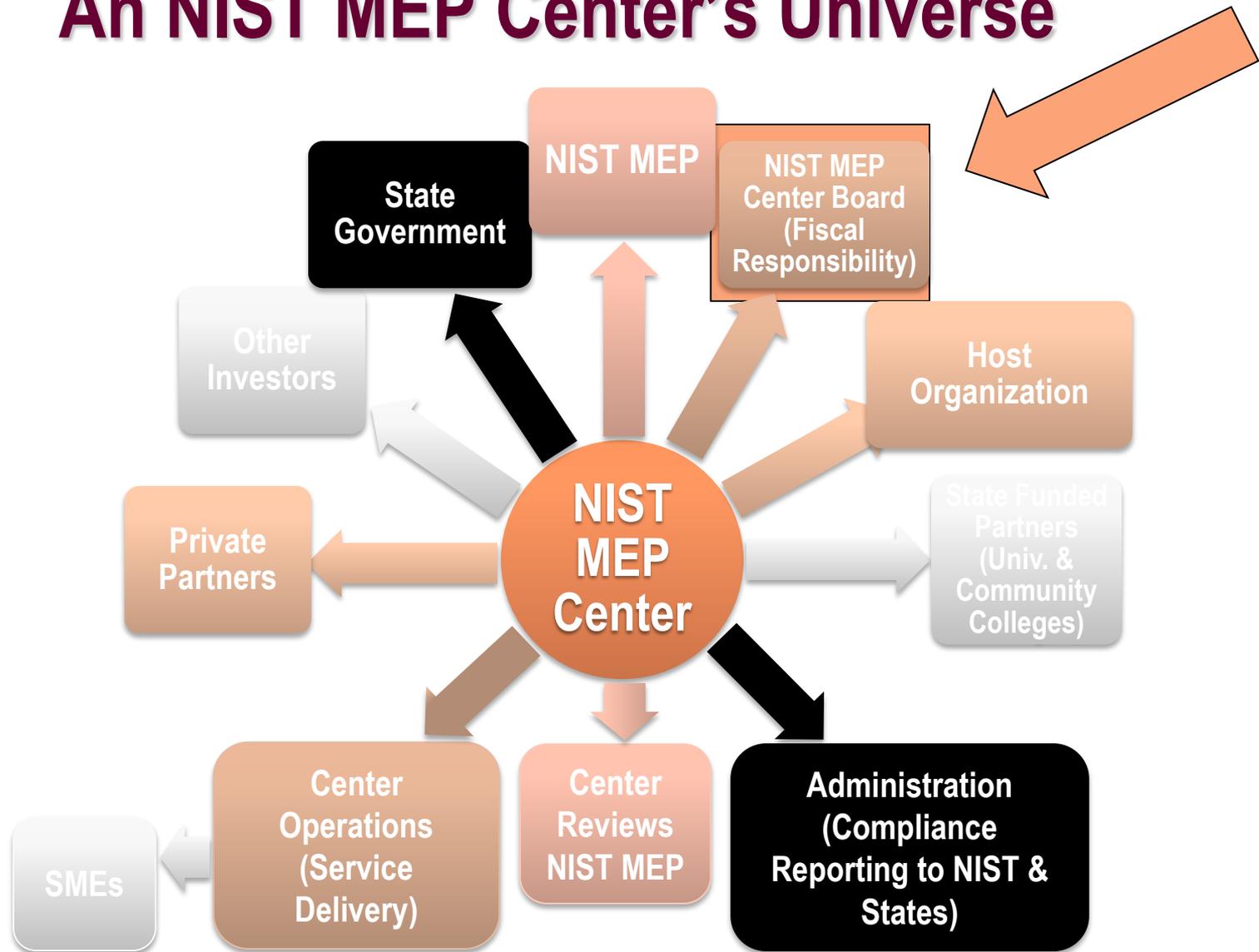
The NIST MEP Program in Short . . .

- **NIST MEP System budget ~ \$300M**
 - 1/3 Federal, 2/3 State and Industry (fees for services)
- **Program started because of “market failures” in terms of access to information, technical expertise and cost.**
- **Emphasis on performance – program and center – measured based upon impact of center services on client firms.**

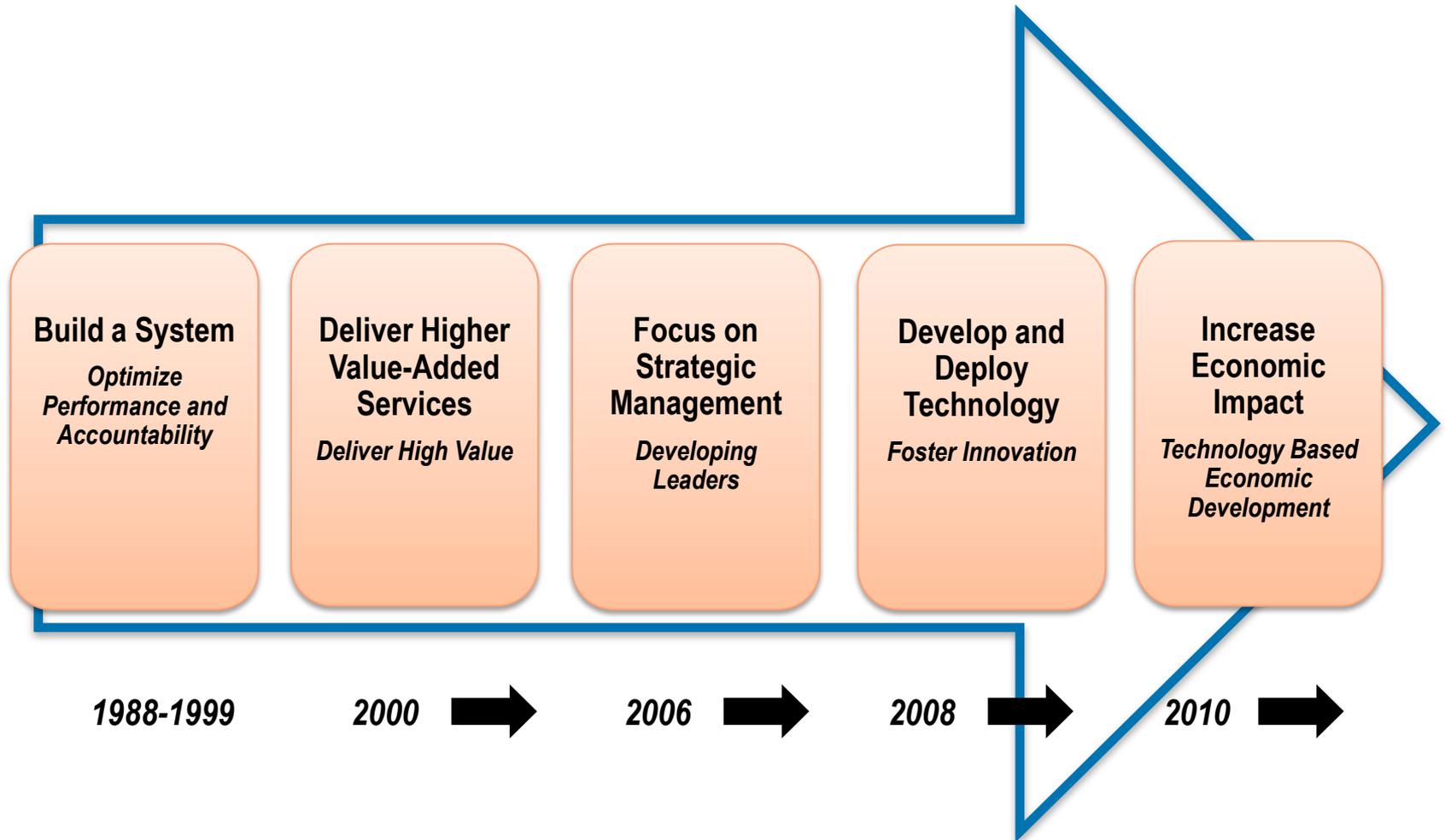
Partnering to Drive a National Program



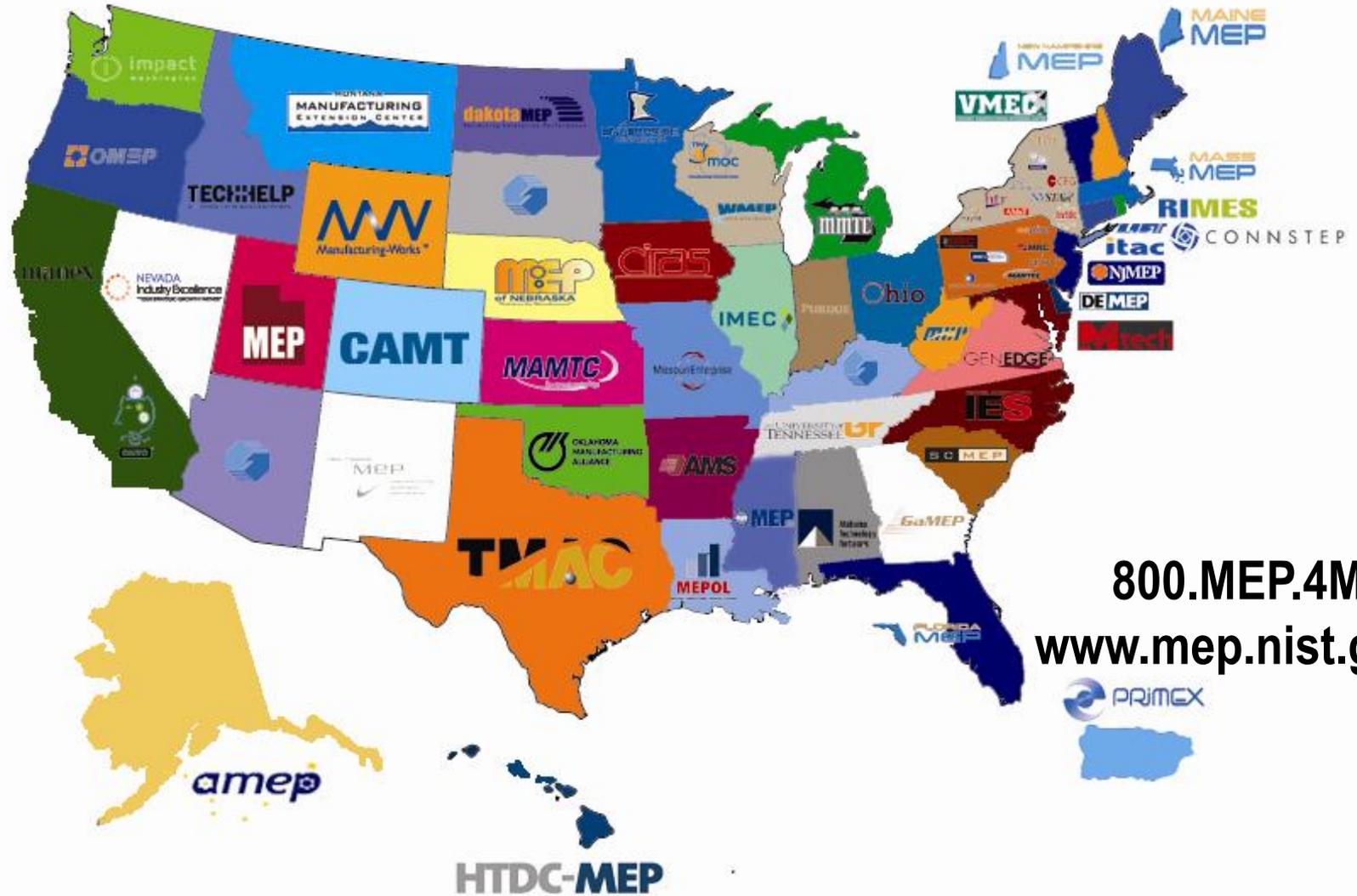
An NIST MEP Center's Universe



MEP Program Evolution



MEP Centers Across the U.S.

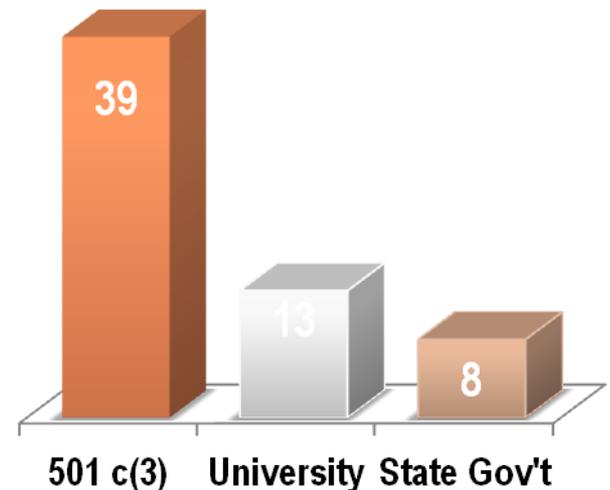


800.MEP.4MFG
www.mep.nist.gov



Center Operating Structure Diversity

- Utilizes existing local resources to provide services - ***relies heavily on partnerships***
- Staff are employees of the Center and its partners – ***not*** the Federal Government
- Geography: urban → rural – ***never more than 2 hours away!***
- Organization Type:



Next Generation MEP Strategy

- Increasing manufacturers' capacity for innovation resulting in profitable sales growth is the overarching strategy for the MEP.
- The approach is to provide a framework for manufacturers that:
 - Reduces bottom line expenses through lean, quality, & other programs targeting plant efficiencies – which frees up capacity for business growth.
 - Adds to top line sales through business growth services focused on the development of new sales, new markets, and new products.

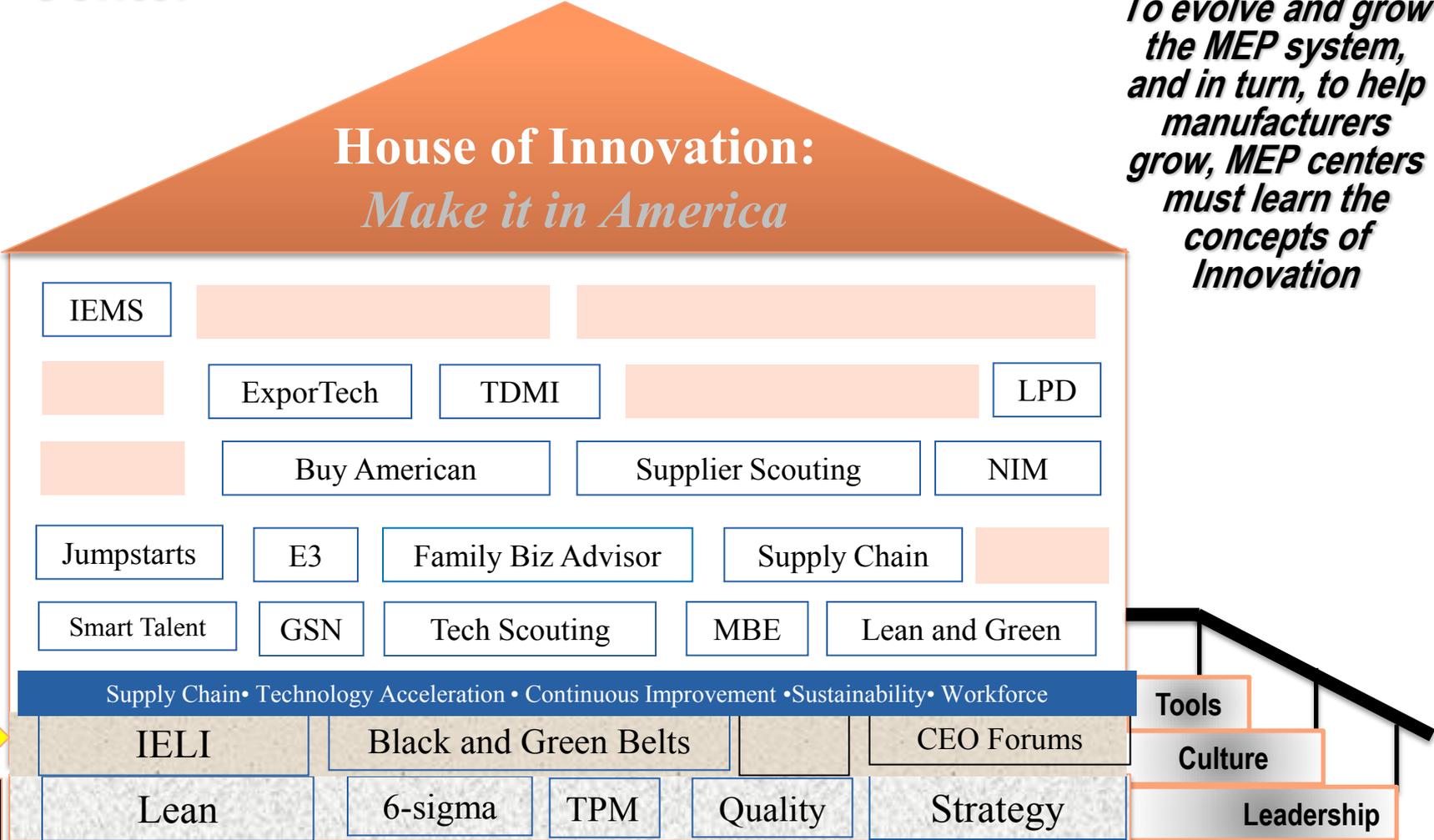
- **Next Generation Strategies (NGS) – 5 key areas:**

- **Continuous Improvement**
- **Technology Acceleration**
- **Supply Chain**
- **Sustainability**
- **Workforce**

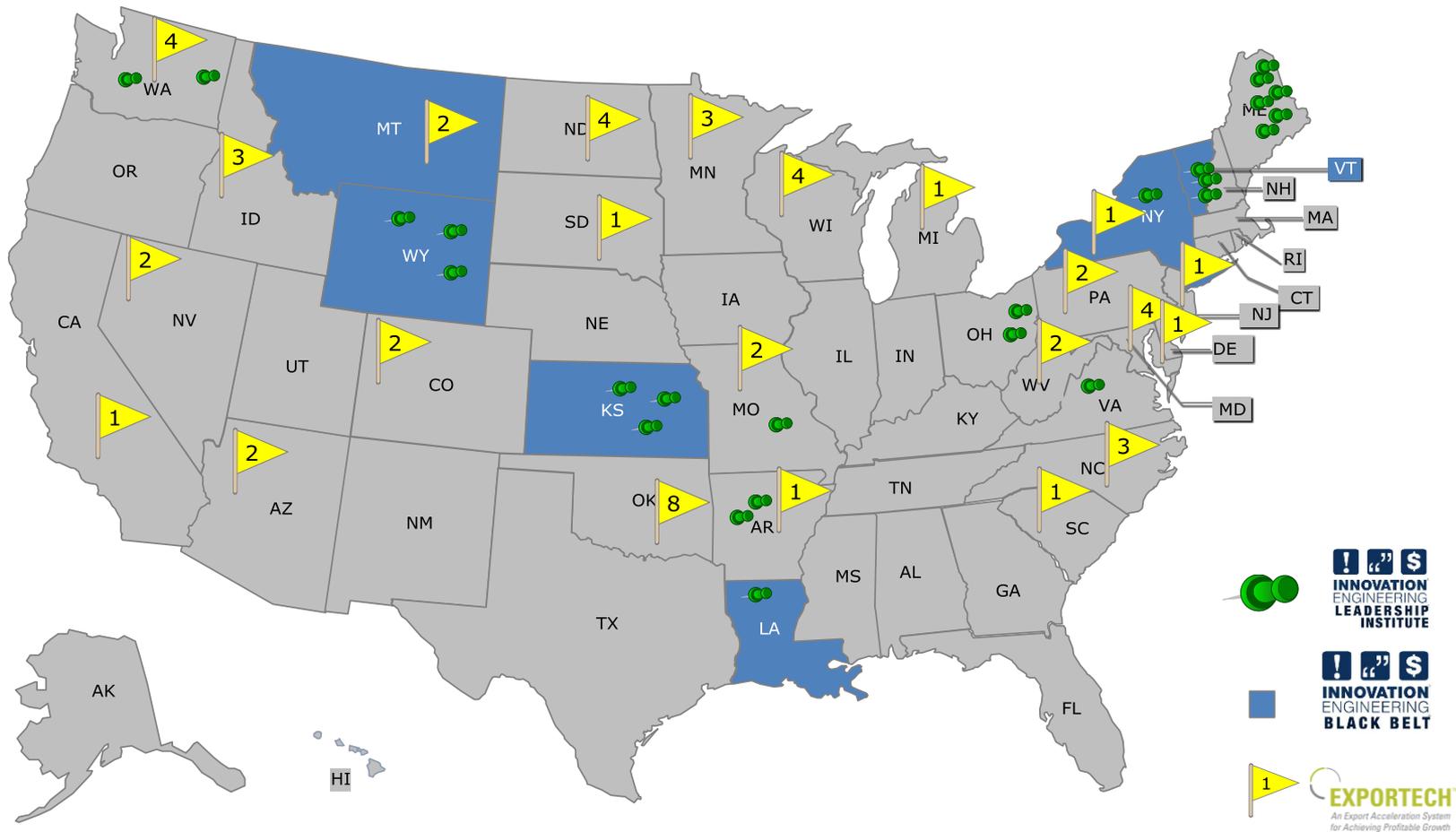


Tools used for a Continuous Innovation Practice at a Center

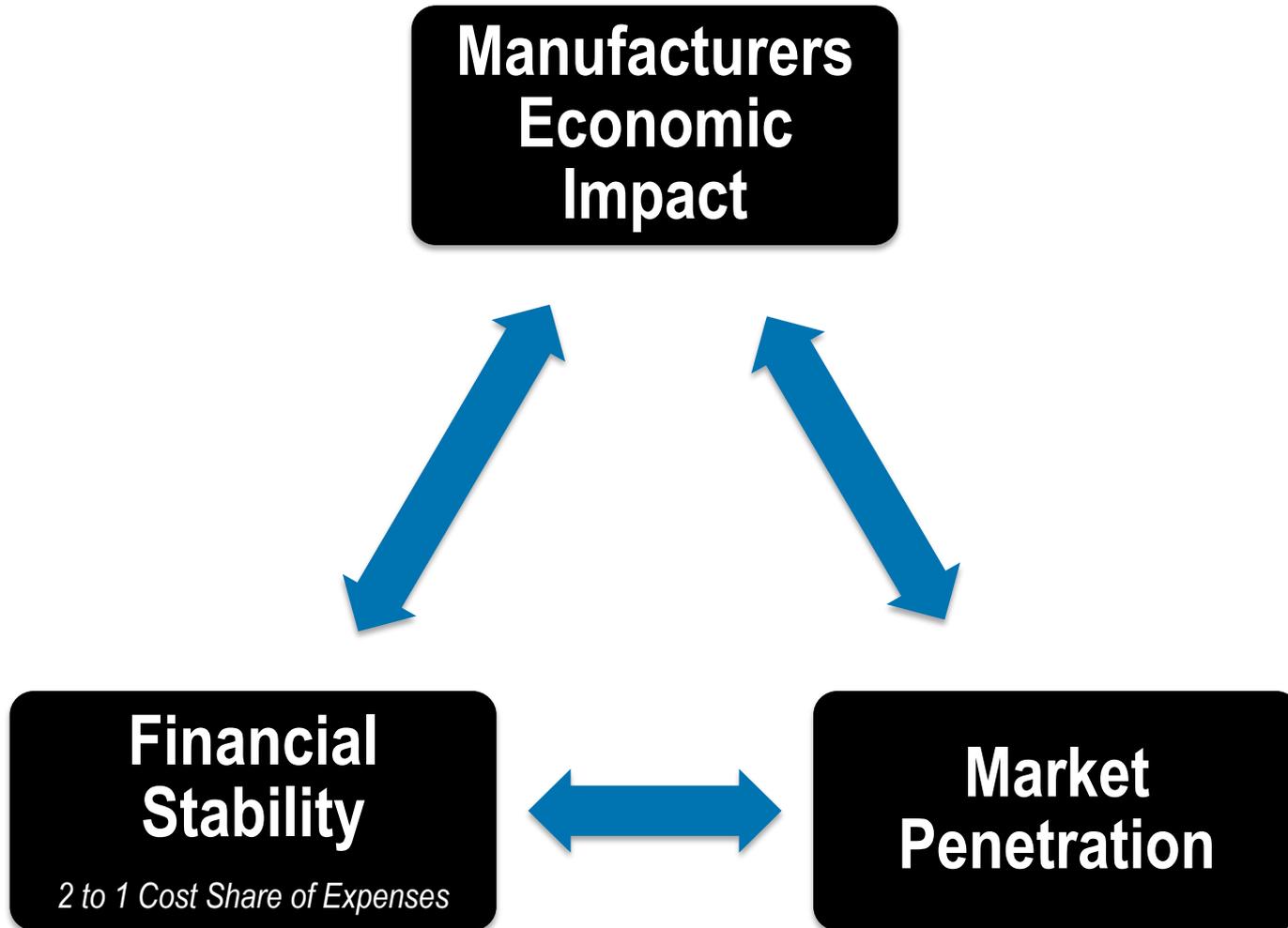
To evolve and grow the MEP system, and in turn, to help manufacturers grow, MEP centers must learn the concepts of Innovation



Growing the National Innovation Practice



The Center Balancing Act



GENEDGE ALLIANCE

Services

Continuous Process Improvement Services

Lean Six Sigma

- LSS Introduction
- LSS Overview
- LSS Champion / Sponsor Training
- LSS Accelerated Green Belt
- LSS Black Belt
- LSS Mentoring and Facilitation Services

Problem Solving

- A3 Problem Solving
- 8D Problem Solving

Lean Services

- Lean 101 for High Volume Industries
- Lean 101 for Job Shops
- High Impact Lean and Theory of Constraints
- Lean 101 for Process Industries
- Workspace Organization 5S
- VSM – Manufacturing
- VSM – Administrative / Service
- Set Up Reduction
- Total Productive Maintenance (TPM)
- Kaizen Training and Facilitation

Quality Certification Assistance

- ISO 9001
- AS 9100
- TS 16949
- ISO 13485
- ISO 50001
- ISO 14001
- OHSAS 18001
- Management System Assessment
- Internal Auditor Training

Innovation and Growth Services

Definition

- Market Research and Insight
- Innovation Jumpstart

Discover and Validate

- Concept Success Screening
- Business Simulation

Develop

- Lean Product Development
- Market Planning

Delivery

- Commercialization Services
- 510(k) Support Services

Transformation

- Innovation Engineering Management System (IEMS)
- Small Business Innovation Research (SBIR) Commercialization System

Value and Supply Chain Development Services

Value Chain Strategy

→ Value Chain Strategy Workshop (Prime)

Value Chain: Planning

→ Making ERP / MRP /Systems Work for you and
Business

→ Risk Management Analysis Support Services

Supply Chain: Supplier Alignment and Sourcing

→ Collaborative Workshop for Supply Chain Partners

→ Total Cost of Ownership Decision Support Services

Value Chain: New Product Development

- Technology Supplier Scouting Services
- Value Chain Collaborative Product Development

Sustainability and Energy Services

- Walk-Through Energy Assessment
- Specific Focus Environment Assessment
- Energy / Environmental Value Stream Mapping
- E3 Program Management

Environmental Services

- Facility on-site Environmental Assessment
- Specific Focus Environmental Assessment
- On-site Environmental Assistance
- Energy / Environmental Value Stream Mapping

Technology Acceleration Services

Technology Intelligence

→ Technology Driven Marketing Intelligence (TDM)

Technology Concept Scouting

→ Technology Supplier Scouting Services

Custom Technical and Production Support

→ Custom Technical / Production / Production
Development Services

Workforce Development Services

Training Within Industry (TWI)

- Job Relations (JR)
- Job Instruction (JI)
- Job Methods (JM)

Projects

- 510 K FDA Approval
 - Innovation Coaching
 - Lean Six Sigma Initiative
 - Commercialization Using TDMI
 - Lean Six Sigma Greenbelt
 - E3 Assessment
 - TIC Innovation and Growth
 - ISO 9001 Assistance
 - Marketing Support
 - Lean Six Sigma Black Belt
 - Lean Transformation
 - Supply Chain Management Services
 - Innovation Commercialization
 - ISO 14001 EMS
 - A3, Lean, DMAIC
 - ISO 9001 QMS
 - Kaizen
 - Accelerated Lean Six Sigma Green Belt
 - Business Process Improvement
 - TPM Implementation TEMCI
 - Supply Chain Optimization Workshops
- Reston Mfr
 - Martinsville Mfr
 - New Jersey Mfr
 - Richmond R&D Co
 - Lynchburg Mfr
 - Danville Mfr
 - Bristol Mfr
 - Alexandria Tech Services Provider
 - Chantilly Mfr
 - Charlottesville Mfr
 - Richmond Mfr
 - Newport News Mfr
 - Forest Mfr
 - Martinsville Mfr
 - South Boston Mfr
 - Richmond Mfr
 - Harrisonburg Mfr
 - Winchester Mfr
 - Richmond VDEQ
 - Roanoke Mfr
 - Dublin Mfr

E3 – Energy, Environment, Economy

Several counties and municipalities in Virginia are eligible to benefit from Virginia's E3 program through GENEDGE ALLIANCE and our partner, the Manufacturing Technology Center.

What is E3?

Nationally, E3 – “Energy, Environment, Economy” – is a combined effort of the United States Department of Commerce, Department of Labor, Department of Labor, Department of Agriculture, Department of Energy, Environmental Protection Agency, and the United States Small Business Administration. Its goal is to promote sustainable manufacturing and economic growth throughout the United States.



How can I benefit from E3 in Virginia?

In Virginia, E3 provides for comprehensive on-site assessments of manufacturing facilities covering the three subject areas and follow-up assistance, provided through GENEDGE ALLIANCE.

The eligible Virginia locations are:

- City of Danville
- Pittsylvania County
- Bland County
- Smyth County
- Washington County
- Wythe County
- Scott County
- Tazewell County
- Russell County

How much does it cost to participate?

E3 assessments and assistance are **free** to organizations in eligible locations. E3 in Danville and Pittsylvania County is made possible by a grant from the Tobacco Indemnification and Community Revitalization Commission and the Danville Regional Foundation. E3 activities in southwest Virginia are funded by the Appalachian Regional Commission and the Virginia Tobacco Commission.

What exactly does an E3 assessment involve?

An on-site assessment typically spans two days, usually with two or three GENEDGE assessors participating. Where possible, GENEDGE will involve representative of the appropriate utility company. Assessors need to be accompanied by local personnel but other than that, the assessment does not intrude on operations. Temporary installation of data logging equipment will require an electrician.

This on-site assessment will be followed up by a timely detailed written report, outlining all recommendations. Where possible, the report provides projected savings and costs.

Innovation

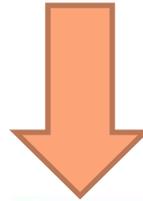


**MEP • MANUFACTURING
EXTENSION PARTNERSHIP**

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE



Systematic Approach to Innovation



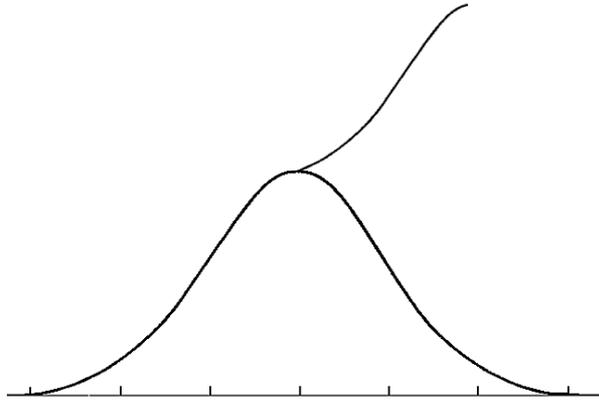


INNOVATION[®]
ENGINEERING

Management System



Flow of Ideas -> Concepts -> Cash



*Change Your
Growth Curve*

Define



Clarity on
Raw Concept

Discover



Fail FAST
Fail CHEAP on
Key DEATH Threats

Develop



Make it REAL

Deliver



Go to Market

Focus on “Fuzzy Front End”

Define



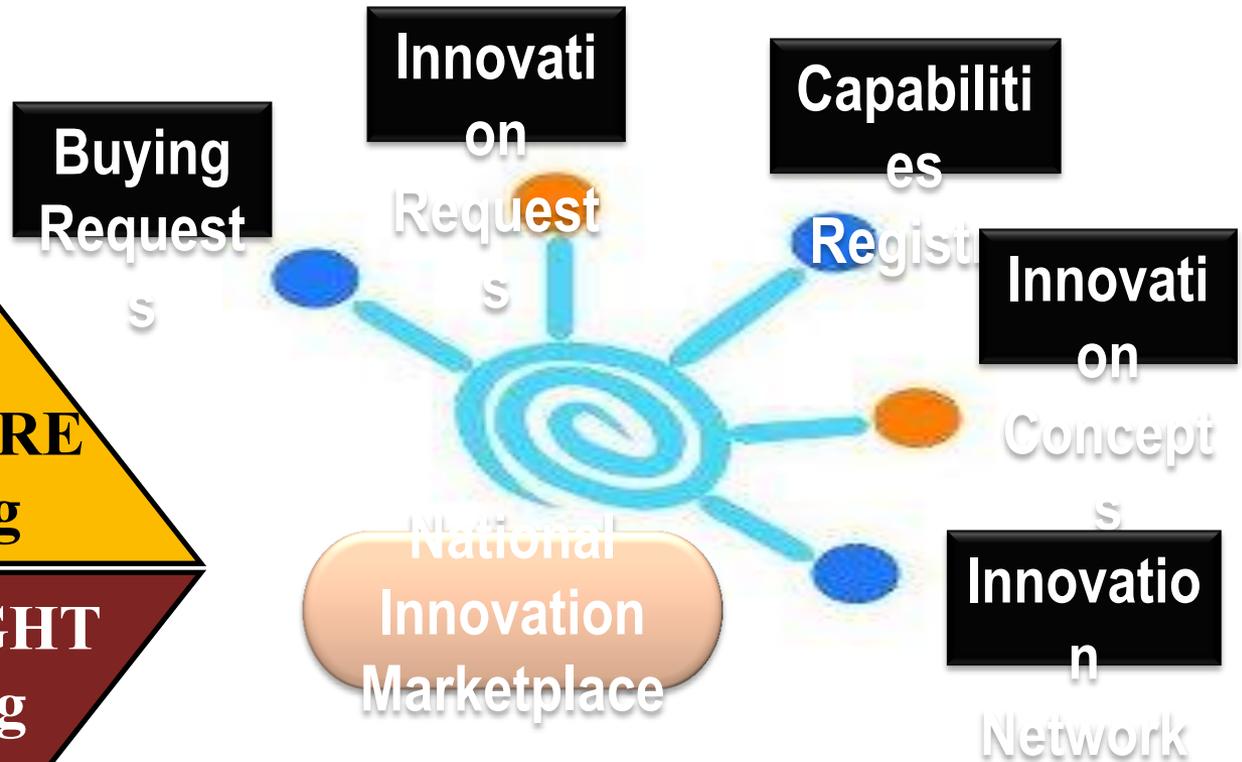
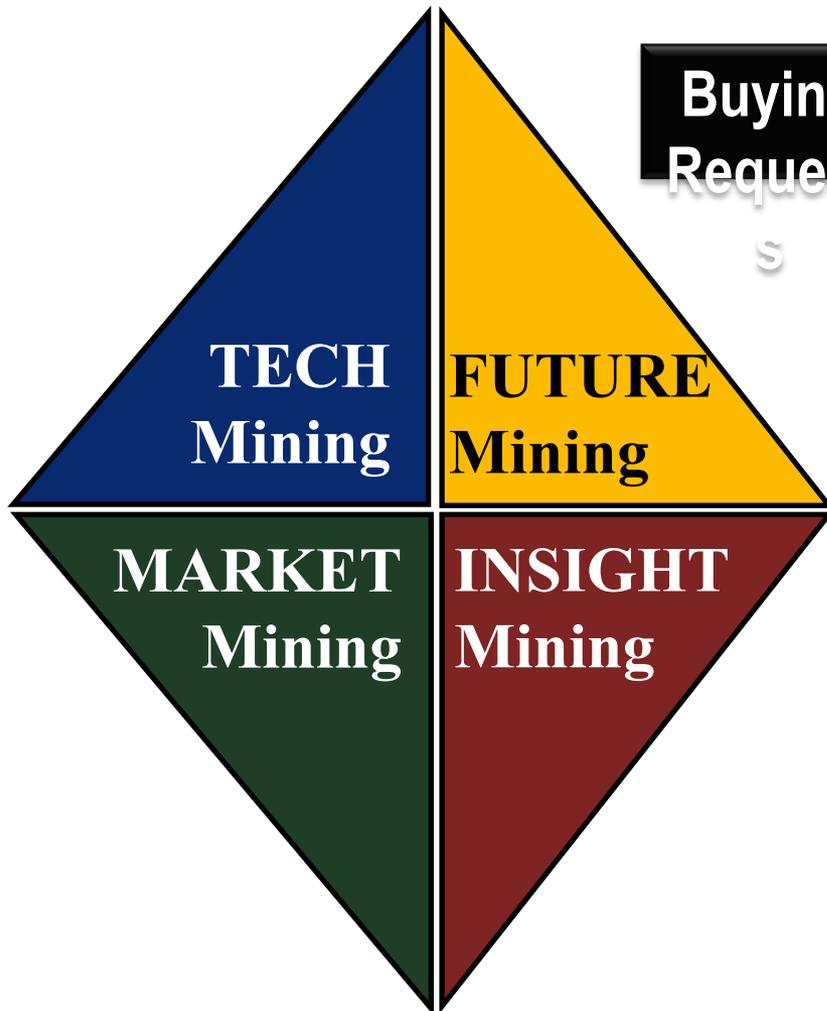
**Clarity on
Raw Concept**

Discover



**Fail FAST
Fail CHEAP on
Key DEATH Threats**

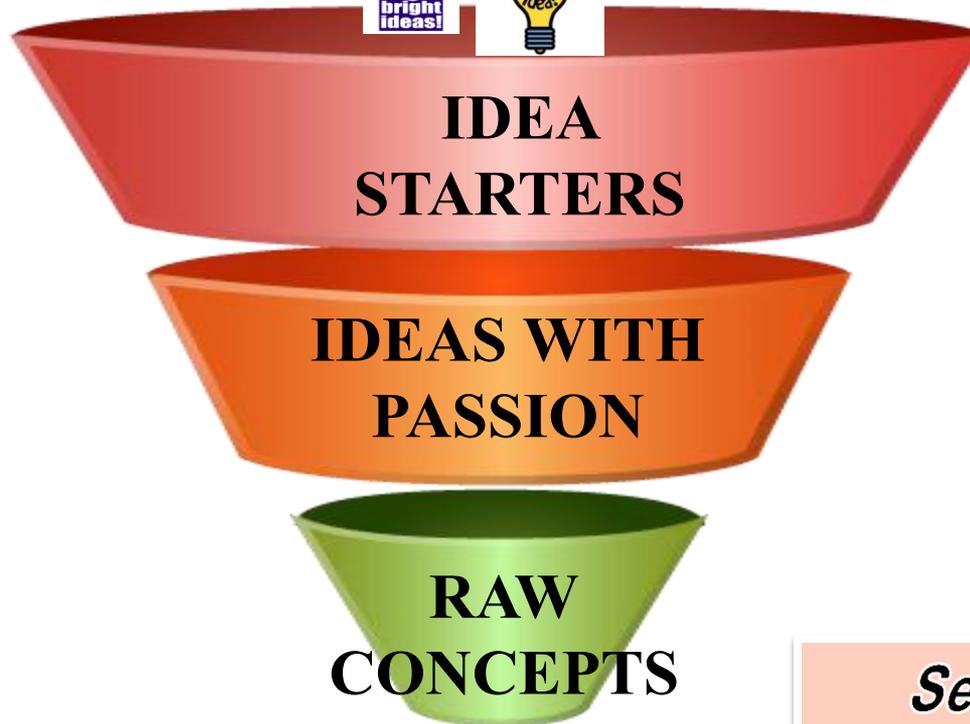
Open Innovation



Benefit, Effort, Risk, Reward

	CURRENT Capabilities	NEW Products & Services
NEW Customers & Markets	<u>ADAPT</u> Services & Products for Mutual Profits	NEW + NEW START-UP
CURRENT Customers & Markets	<u>IMPROVE</u> Continuously	<u>LEAD</u> Ideally a WOW

Concept Selection



*Secure, Web
Based Project
Acceleration Portal*

DEFINE

Customer & their **PROBLEM**

Meaningfully
Unique

Benefit **PROMISE**

Meaningfully
Unique

Product/Service & **PROOF**

98% of Innovations Solve Problems

DISCOVER

Define

Discover

Develop

Deliver

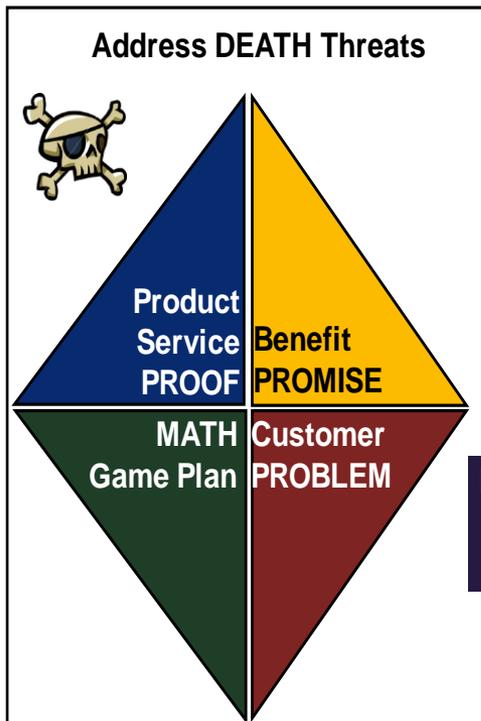


Clarity on
Raw Concept

Fail FAST
Fail CHEAP on
Key DEATH Threats

Make it REAL

Go to Market



Document ALL
Existing
ideas to



DEFINE
All ideas that
someone has
PASSION for

Customer Concept

Math Game Plan

Math Game Plan Summary

Learning Plan

Learning Cycle	Start Date	End Date	Status
PLAN			
DO			
STUDY			
ACT			

Next to Action Items

Rapid Learning Cycles.....

Profit Formula

Can we make money?



Reality Check

Customer
Promise

Do customers care?



Product
Reality

Is it feasible,
Does it work?



Passion

Do I love it?

Two Choices

Merwyn Business Simulation



Mobile Wood-Fired Pizza Cart
mobile wood-fired pizzas for professional chefs

A mobile wood-fired oven, incorporated as part of a self-contained cart that provides fast throughput, unique cooking versatility and easy operation.

Annual Sales Forecast for USA *				Innovation Status		Idea
Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling	Development Status	Proprietary Protection Status	Concept Score
Ultra Low	\$1	\$130,000	\$730,000	5 of 5 Shipping & Selling	5 of 5 Granted Patent Claims	37 28 is Average
Low Support	\$1.7 M	\$3.6 M	\$6.6 M			
Medium Support	\$14.6 M	\$24.5 M	\$39.9 M			
High Support	\$41.9 M	\$68.5 M	\$105.5 M	Remaining Time & Cost to First Sale		
Ultra High	\$76.3 M	\$125.8 M	\$194.1 M	< 6 months	< \$10k	

Mobile Wood-Fired Pizza Cart - mobile wood-fired pizzas for professional chefs

Final Decision Maker: Caterers, Resorts and Food Service Entrepreneurs

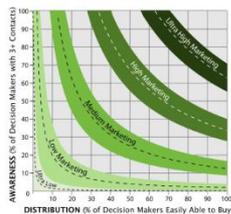
The Vengo! SOLO Mobile Wood-Fired Pizza Cart is the only patented, mobile wood-burning oven on the market. The cart is designed for ease-of-use in transportation, set-up and operation, allowing maximum flexibility in the ability to locate (on-site) at many diverse venue and event locations.

Inventor(s) Assumptions	Most Likely Estimate	Confidence	Inventor(s) Commentary Data Source or Basis for Assumptions
# of Possible Final Purchasers	100,000	40%	based on what Cookshack estimates is the number of pizza places and caterers
Revenue per First Purchase	\$19,700.00	70%	First time purchasers have historically purchased one unit however the opportunity to market to larger distributors could develop first-time purchasers of multiple carts
% that will Repeat	10%	20%	our market has been the chef or food service employee that has tired of 80 hour weeks in traditional restaurant setting. As of now, those entrepreneurs have needed one
Number of Annual Repeats	1	50%	No independent operator has yet purchased multiple units, though many have become very successful and considering expanding their market and territories by operating multiple units
Revenue per Repeat Purchase	\$34,900.00	50%	A distributor that purchases multiple units would provide for repeat revenue on a going forward basis. Restaurant chains/ large regional caterers could profit from multiple units
Reseller (Trade) Margin	N.A.	N.A.	
Producer Profit (EBITD)	15%	40%	Based on average Mobile food service and metal manufacturing from the

Innovation Status	Fair Market Royalty (%)		
	Conservative - 80% Odds Royalty Percentage	Most Likely - 50% Odds Royalty Percentage	Aggressive - 20% Odds Royalty Percentage
Development Status	2.3%	3.1%	4%
Cost to First Sale (remaining)	< \$10k		
Time to First Sale (remaining)	< 6 months		
Confidence in Concept Claims made in description			
Proprietary Protection Status			

Merwyn Concept Score With Confidence Bands				
Sample Numbers	% Awareness	% Assure (Aware & Able)	Inventor Estimate of Odds	
Ultra Low Support (Word of Mouth)	5%	3%	0.2%	90%
Low Support (Small Company)	20%	10%	2%	80%
Medium Support (Medium Sized Company)	50%	25%	13%	50%
High Support (Large Company)	75%	45%	34%	10%
Ultra High Support (Mega or Niche)	90%	70%	63%	10%

Graph of EQUIVALENT (Awareness x Distribution) Combinations



NAICS Industry Codes For This Invention	Patent Numbers that apply to this Project/Service	Inventor(s) PEDIGREE
7223 - Mobile Food Services	5196549	Years EXPERIENCE in related industry
31199 - All Other Food Manufacturing	D 308 432	GRANTED Patents
		Licensing Deals SIGNED
		Innovations that have SHIPPED



ISLAND WINDS' CHIMES

Our handcrafted wind chimes have been ringing all over North America since 1980.

Mellow and compelling harmonies will ring out from your house because each of our bells is tuned by ear using a silver flute, rather than being tuned electronically.

This pleasing, natural scale of notes gives a sound that is superior in quality to electronically tuned bells.

We make our chimes in two-converted hilltop 19th century barns overlooking the rolling hills of Queen's Country, Prince Edward Island.

The tubes or bells of our chimes are finished from steel alloy designed to resist rust. We also offer the chimes in a rust resistant aluminum alloy, and copper. The striker is made from the same wood as the support. The bells, striker and hangers are hung with fine braided steel wire.

Overall Rating

EUREKA! RANCH Technology Ltd.

3 4 %

Average Score = 33

RED: OVERT BENEFIT
YELLOW: REAL REASON TO BELIEVE
GREEN: DRAMATIC DIFFERENCE

Bottom 40% | Next 40% | Top 20%



Merwyn Concept Test

Input – Selecting Concepts to DEVELOP



Purposely **EXTREMELY TOUGH** Standard
(Prevent "False Positives" is priority)

Label/Color	Probability of Success	% of ideas
Wow!	70%+	3%
Go	50 to 69%	20%
Think	30 to 49%	35%
No	0 to 29%	42%

← Average = 29%

??????

*DEVELOP, or Fail Fast - Fail Cheap
& Move on to Next Idea / Concept*



EXPORTECH™

*An Export Acceleration System
for Achieving Profitable Growth*

Program Overview



MEP • MANUFACTURING
EXTENSION PARTNERSHIP

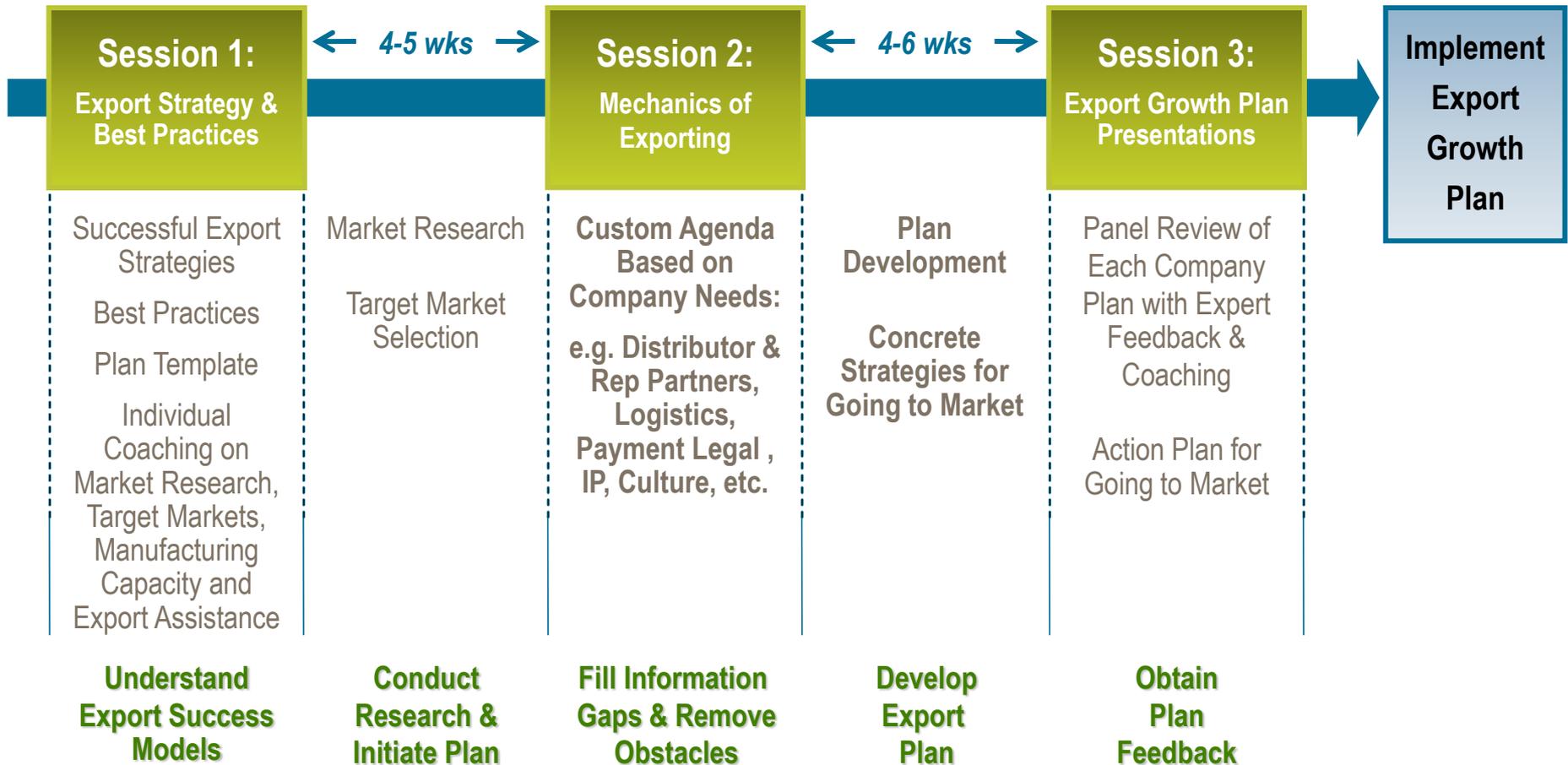
STONE
& ASSOCIATES



What is ExporTech?

- **An Export Acceleration System for Achieving Profitable Growth**
 - System/Process versus Training
- **Helps Companies Enter or Expand in Global Markets**
 - Develop a vetted international growth plan
 - Obtain and apply expert knowledge specific to their needs
 - Reduce risk and increase chance of success

Program Timeline



GENEDGE

alliance

?

a NIST | Network
MEP | Affiliate

