MSU Food Processing and Innovation Center (FPIC)

Food Processing and Innovation Center (FPIC) Team

- **Chris Peterson** – Director MSU Product Center & Professor of Agricultural, Food and Resource Economics
- **Bruce Harte** - Professor and Director emeritus of the School of Packaging
- **Matt Birbeck** – Manager MSU Product Center, High Impact Venture Action Team (HI-VAT)
- **John Melcher** – Associate Director, MSU Center for Community and Economic Development
- **Randy Bell** – Extension Educator for Community Food Systems Ingham County
- **Mollie Woods** - Product Marketing Economist, MSU Product Center
How did we get to this point?

- Almost 5 years ago, John Czarnecki, then of the Clinton County Economic Alliance, started a dialogue about the feasibility of starting a food business incubator in the region.
- Eaton, Clinton, Ingham, Ionia and Shiawassee Counties were represented by their local economic developers.
- The MSU Product Center, MSU Extension, Prima Civitas and others joined in the discussion.
- While other locations were investigated, the focus became an unused food-grade building owned by MSU.
- Funding was investigated and a promising funder emerged; The Economic Development Administration of the U.S. Department of Commerce.
- For several reasons E.D.A. wasn’t interested in funding incubators.
- After a brief pause, the project was revived as an “accelerator” with the MSU Product Center taking the lead in the development of the Food Processing & Innovation Center.

Three Key Ingredients to differentiate the FPIC

The FPIC is to be Michigan’s leading independent food processing facility targeting ‘Stage 2’ businesses looking to create new products, product line extensions and process configurations.

1. A fully functioning state of the art facility that is USDA/FDA certified and fully compliant to food industry standards.

2. A ‘Real Time’ fully operational facility where clients can create new products and sell into the retail supply chain.

3. Access to MSU resources and expertise
Five Strategies of the FPIC

1. Commercial Product Innovation Space with State-of-Art Food Processing Equipment and Facilities

2. Food Innovation Research and Development

3. Food Product and Business Training Services

4. Instructional Facilities for Traditional and Non-Traditional Instruction and Professional Development Training Employing Onsite as well as Distance Education Technology

5. Hub for Incubator Kitchens throughout the State

Target Business Client

• The FPIC will primarily target those firms that are at the early to mid-phase of **Stage 2** development.

• Firms at this stage typically generate $5-20 million in sales and employ 10-50 employees.

• In 2007, **631** Michigan food-manufacturing firms met these criteria.
Example of Client Expansion Projects

<table>
<thead>
<tr>
<th></th>
<th>Butter Ball Farms (Grand Rapids MI) 189 Full Time Staff $20 Million in Sales</th>
<th>Woody’s Oasis Ltd (Lansing MI) 20 Full Time Staff $5 Million in Sales</th>
<th>Achatz Handmade Pie Company (Armada MI) 50 Full Time Staff $5 Million in Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing operation</td>
<td>Single Serving Butter Portions for Food Service Industry</td>
<td>Food Service- Middle Eastern Restaurant Chain</td>
<td>Fresh Pie Operation with eight company owned stores in Metro Detroit area</td>
</tr>
<tr>
<td>Project Details</td>
<td>Enter retail market with own Branded product Value Added Butter</td>
<td>Introduce Frozen ‘Ready To Eat’ Meal For Retail ‘Woody's To Go’ (Meijer)</td>
<td>New Frozen Branded Pie Line “Hello good Pie” for Publix Florida</td>
</tr>
<tr>
<td>Production Requirements</td>
<td>• Explore Processing • Packaging Equipment • Shelf Life Extension</td>
<td>• USDA Processing facilities • Spiral Freezer/ Chilling • Operations and Process Line Design</td>
<td>• Spiral Freezer production • Shelf Life Extension Development • Production Packing Equipment</td>
</tr>
<tr>
<td>Impacts</td>
<td>$3 Million in Sales 10 New Jobs</td>
<td>$1 Million in Sales 3 New Jobs</td>
<td>$1.5 Million in Sales 4 New Jobs</td>
</tr>
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The Hulett Road Existing Facility

- **Property Name:** Hulett Road Engineering Research Facility
  - **Location:** 3361 Hulett Road, Okemos, Mi
  - **Zoning Ft²:** B-1, Commercial

- **Total (available)**
  - **Building Ft²:** 7,756
  - **Floor Ft²:** 5129
  - **Office Ft²:** 2627
  - **Acres:** 5.690
  - **Other:** Freestanding, 2 docks, 10’ - 14’ ceiling ht, Power-3 Phase 440V
The FPIC using the Hulett Road Facility

The FPIC will be a “State of the Art” facility designed to meet the modern requirements of a production unit with all the flexibility necessary to produce a wide variety of products, from ingredients to production to storage.
FPIC Production Zone Components

- Zone 1 – Spiral Freezer (IQF Products)
- Zone 2 – Steam Kettles
- Zone 3 – Retorting (canning)
- Zone 4 – Pasteurization
- Zone 5 – Ovens & fryers
- Zone 6 – Production Floor
- Zone 7 - Refrigerated storage
- Zone 8 - Freezers
Food Process Capability

- FPIC Production Zones 1-5 incorporate 90% of the most used industry processing applications required for value-added food production.
- Zones 6-8 are designed to give the FPIC all critical manufacturing and storage flexibility.
- The modular approach used by the FPIC is made possible by the high level of standardization available in quick attachment fittings between machines in the production line.
- The modular approach also allows ‘click and operate’ versatility and quick attachment of fittings to all production utilities.
  - Steam
  - Water
  - Air
  - Electrical
  - CIP (Clean in Place equipment)

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Food Process Capabilities to Develop New Food Products at the FPIC

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<tr>
<th>Heat processing of foods</th>
<th>Blanching, pasteurization, hot filling of acid foods and thermal (canning) processing of low acid foods; cooking of sauces, soups, jams, jellies, pastes and concentrates under controlled conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing and blending</td>
<td>Ingredients, forming of candy, confectionaries, and bars</td>
</tr>
<tr>
<td>Extrusion</td>
<td>Snacks, meat and vegetable products</td>
</tr>
<tr>
<td>Preparation and cooking/proofing/baking</td>
<td>Meal components, entrees, bakery and dessert type products</td>
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<tr>
<td>Fry</td>
<td>Bakery products (donuts, pastries), vegetables, fries, cheese snacks</td>
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<tr>
<td>Fresh Cut</td>
<td>Vegetables and fruit, dice and slice</td>
</tr>
<tr>
<td>Enrobe</td>
<td>Candy, confectionary, nuts, fruit and vegetables</td>
</tr>
<tr>
<td>Drying (including preparation)</td>
<td>Snacks, bars, granola, chips, grains, vegetables/fruit snacks, confectionary, meat snacks</td>
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Training Programs

- Industry training courses (2-5 days)
- Processing & packaging, refrigeration and mechanical systems
- Workforce development

Experimentation & Learning

- Assemble, Test & Reassemble lines; Visualize what the product, package, machinery and line are and can be
- State of the Art experimentation, explore what’s new in product development, processing & packaging
- Interact with University experts, partner with MSU faculty in R & D
A Food Innovation District is…..

….. a geographic concentration of food sector businesses that co-locate to share resources, infrastructure, collaborate and network, and generally advance food innovation and markets.
What’s next?

- Funding the FPIC
  - Total Capital Costs of $5.25 Million
    - $3.4 million for building
    - $1.6 million for equipment
    - $250,000 first year operating cost
  - Annual operating costs covered by fees.
  - EDA can fund 50% or $2.5 million
  - We need local (non-federal) match to cover the remainder.

- FPIC is part of a bigger vision at MSU for Michigan
  - Food processing workforce development program including major update of Fruit and Vegetable Lab at MSU
  - Working in Detroit
    - Strengthening entrepreneurial programs
    - Developing advanced food processing and export capability
  - Working broadly with partners to create a statewide system

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