



NC | RESEARCH
CAMPUS

Human Health & Well-Being

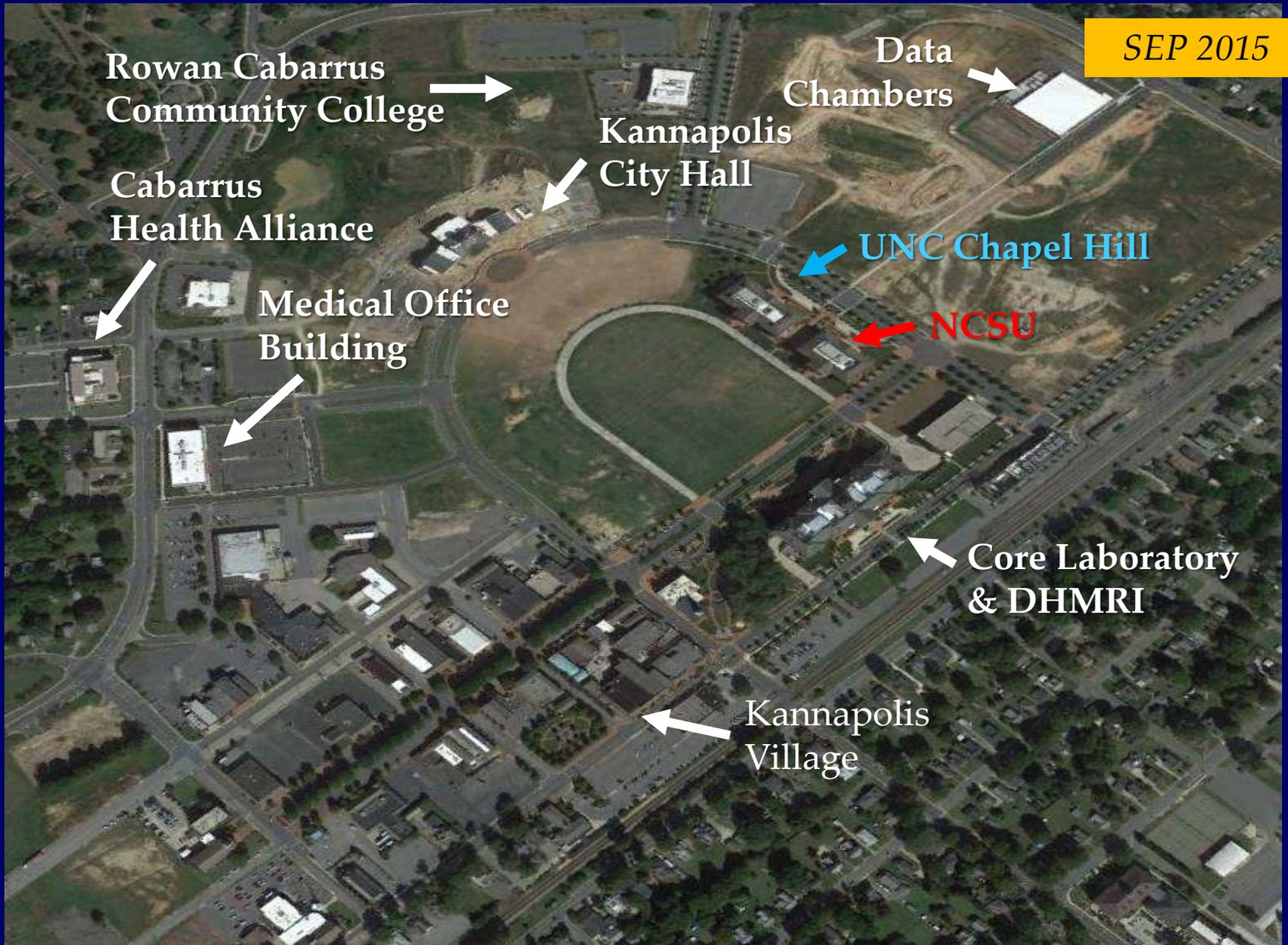
** Nutrition * Agriculture*

** Human Performance*

Naturally !

Circa 1985





SEP 2015

Rowan Cabarrus
Community College

Cabarrus
Health Alliance

Medical Office
Building

Kannapolis
City Hall

Data
Chambers

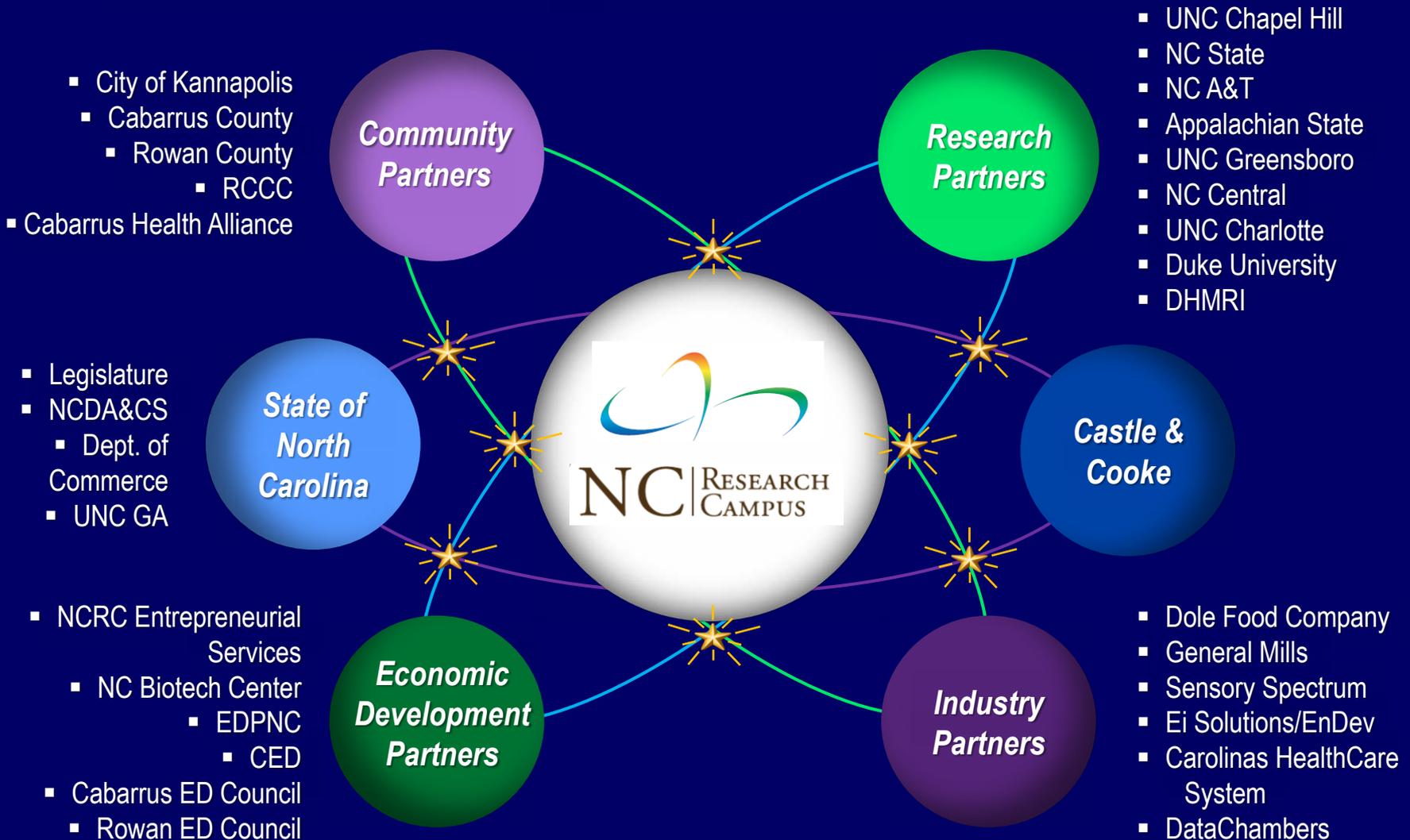
UNC Chapel Hill

NCSU

Core Laboratory
& DHMRI

Kannapolis
Village

Cutting-edge research and innovation discovering pathways to human health & well-being through nutrition & exercise



NCRC Research Partners

Appalachian State University

Nutrition and exercise immunology

Duke University

Longitudinal health, MURDOCK Study

NC A&T State University

Food safety, functional foods, nutraceuticals

NC Central University

Metabolomic and nutrigenomic approaches
to prevent and treat chronic disease

NC State University

Health-enhancing properties for improved
crops and functional foods

UNC Chapel Hill

Targeted nutrition and personalized medicine

UNC Charlotte

Bioinformatics

UNC Greensboro

Alcohol-induced fatty liver disease,
lipodomics, Type 1 diabetes

David H Murdock Research
Research Institute

Genomics, Metabolomics, Proteomics
NMR and microscopy

Campus Research Partners

UNC - CHAPEL HILL

NCSU

UNC CHARLOTTE

APPALACHIAN STATE

NC CENTRAL

NC AGRICULTURE & TECHNOLOGY

UNC GREENSBORO

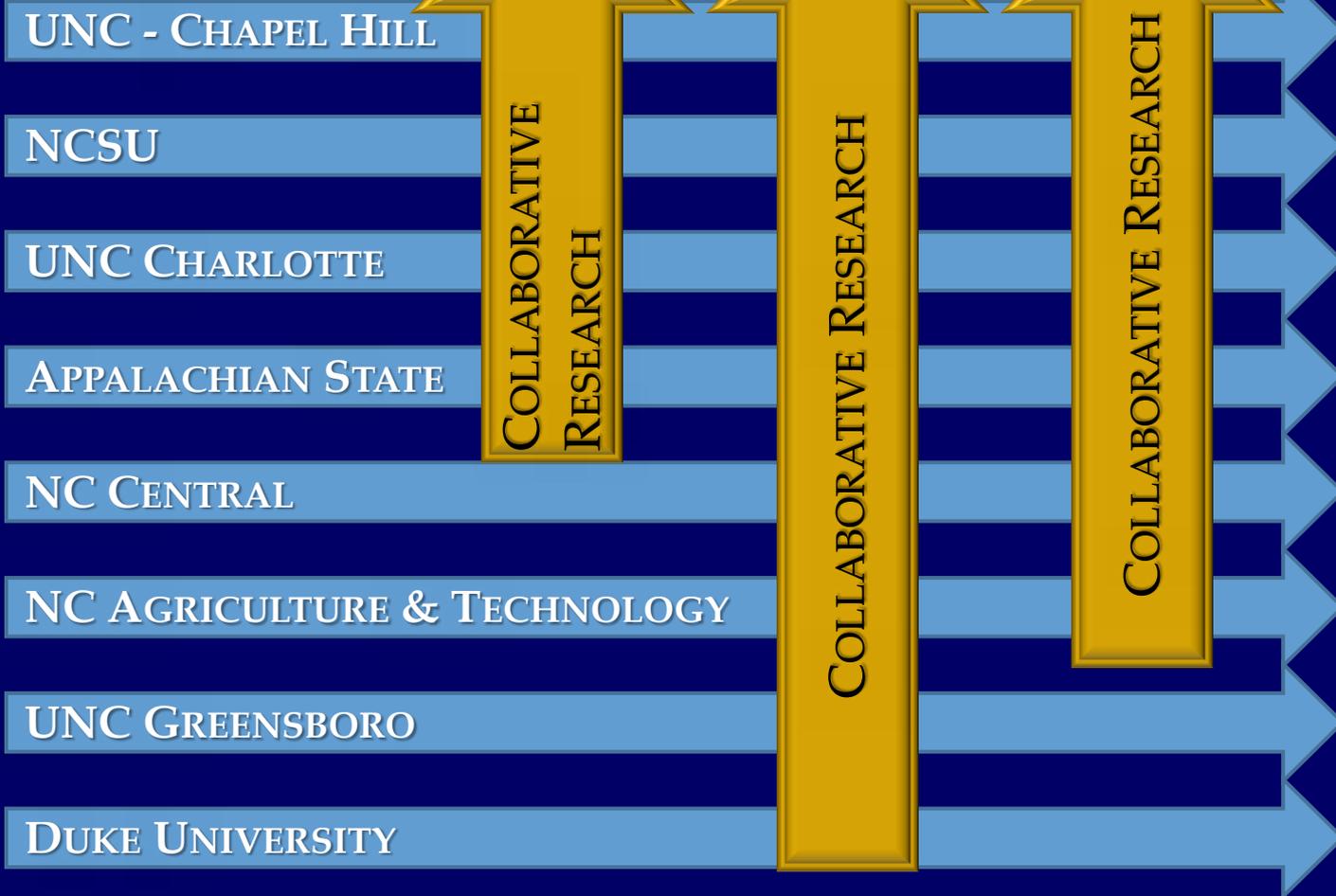
DUKE UNIVERSITY

Scientifically Significant

Societally Significant

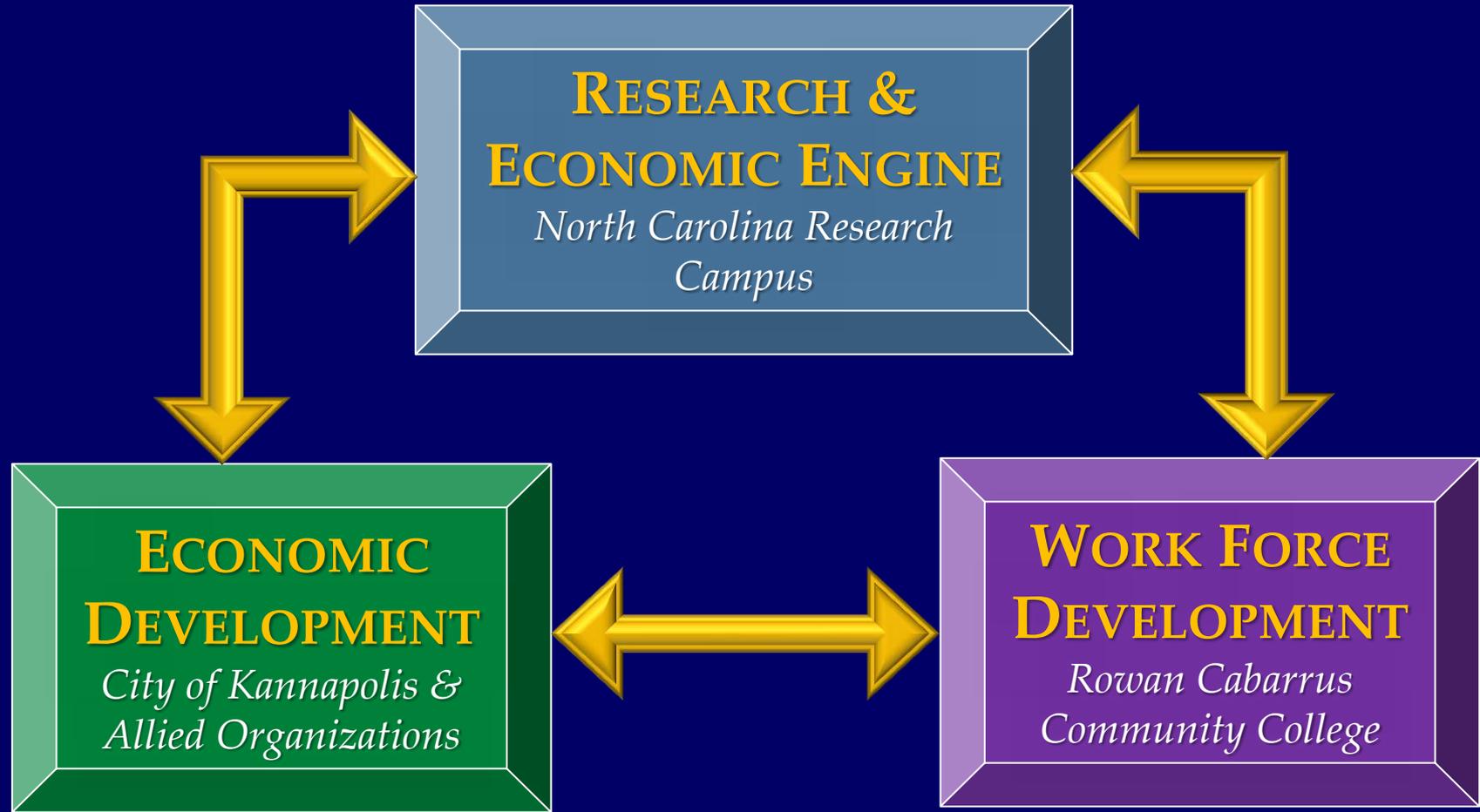
Pathways to human health & disease avoidance through nutrition, lifestyle & exercise

Campus Research Partners



Scientifically Significant

NORTH CAROLINA RESEARCH CAMPUS *SUSTAINABLE ECO SYSTEM*





NC | RESEARCH
CAMPUS

www.transforming-science.com



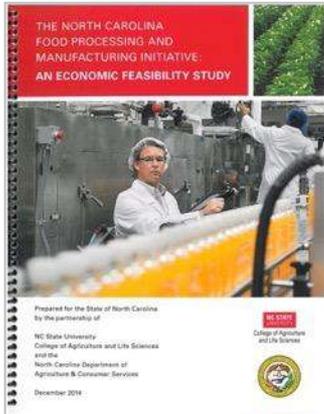
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NORTH CAROLINA FOOD PROCESSING INNOVATION CENTER AND PILOT PLANT INITIATIVE

*The potential to transform lives and communities through
development and application of food technology*



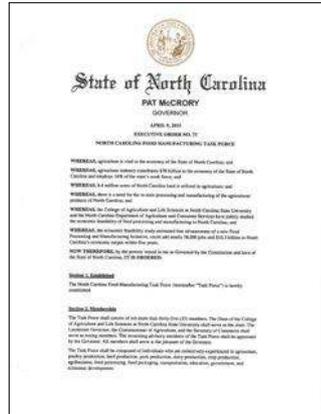
From Economic Feasibility to Partnerships and Action



2014

NC Economic Feasibility Study

38,000 jobs created
\$10.3 billion annually

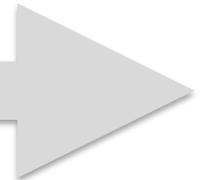


2015 - 2016

FM Task Force Recommendations

NCGA Support for EDPNC Position

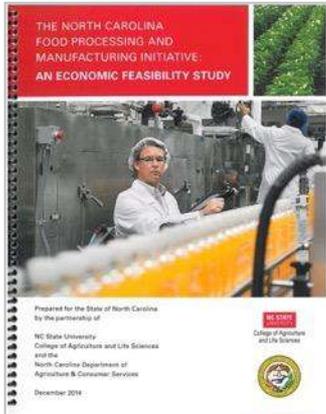
Partnership Development with Industry, Government, Academia



KEY RECOMMENDATIONS FROM FM TASKFORCE

- NC Food Manufacturing Leadership Team
- Food Manufacturing Industry Advisory Group
- Investment in Statewide Leadership Positions
 - Position 1: Science, Technology & Policy Director (NCSU)
 - Position 2: Business Development Manager for FMI (EDPNC)
 - Position 3: Marketing Support for FMI (NCDA&CS)
- Creation of an **innovation center** that would enable development of entrepreneurship and attract broader food manufacturing industry to NC

From Economic Feasibility to Partnerships and Action



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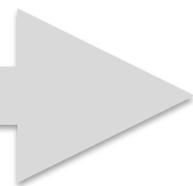


2017

NCGA Support for Food Innovation Center

Food Processing Innovation Center Committee

Partnership Development with Industry, Government, Academia



A Partnership At Work

Agriculture and Food
Research & Innovation

Economic Development
Coordination

Food Entrepreneur
Development

Marketing

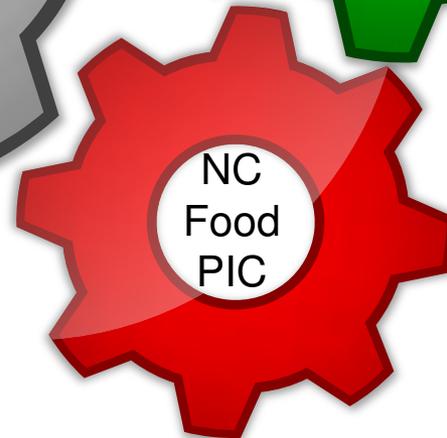


NC Food PIC
Director & Staff

Communications

Industry
Recruitment

Buyer-Grower
Engagement

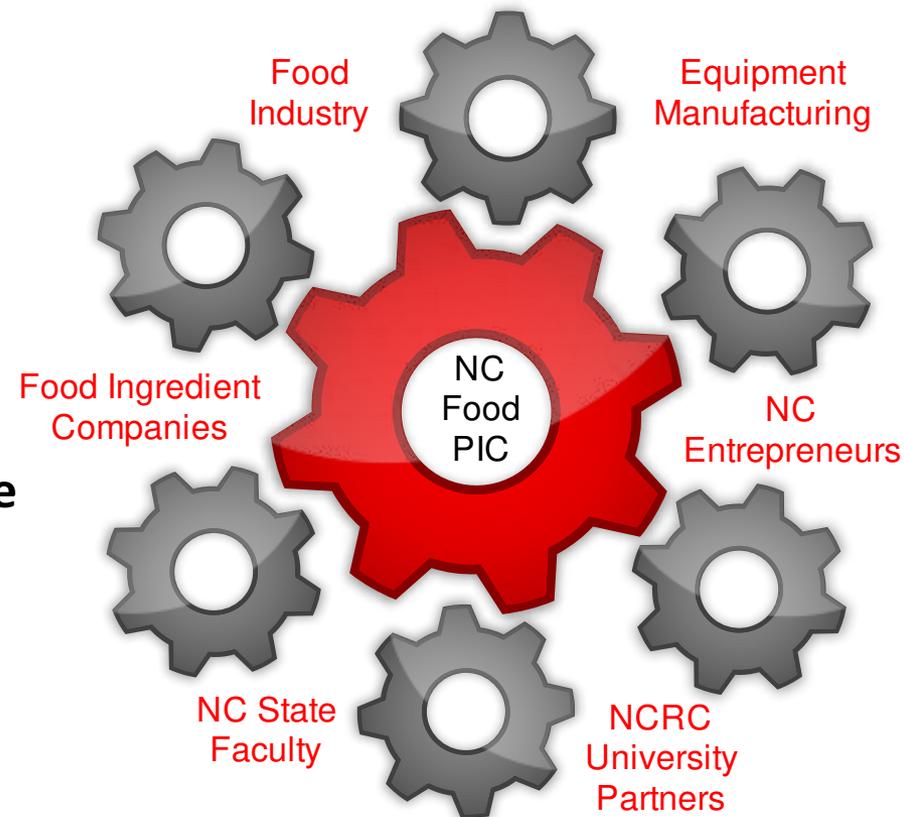


- > Creating Jobs
- > Growing Economies
- > **Manufacturing Rural Opportunities**

NC Food PIC

A Catalyst for Plant Sciences and NC Food Manufacturing

- Provide state of the art facilities to promote new **plant-based product** and technology development, validation and commercialization
- Engage in **applied research and development** that translates to consumers and markets
- Deliver unique and relevant **plant science and food science training** to promote workforce development, entrepreneurial growth and industry engagement

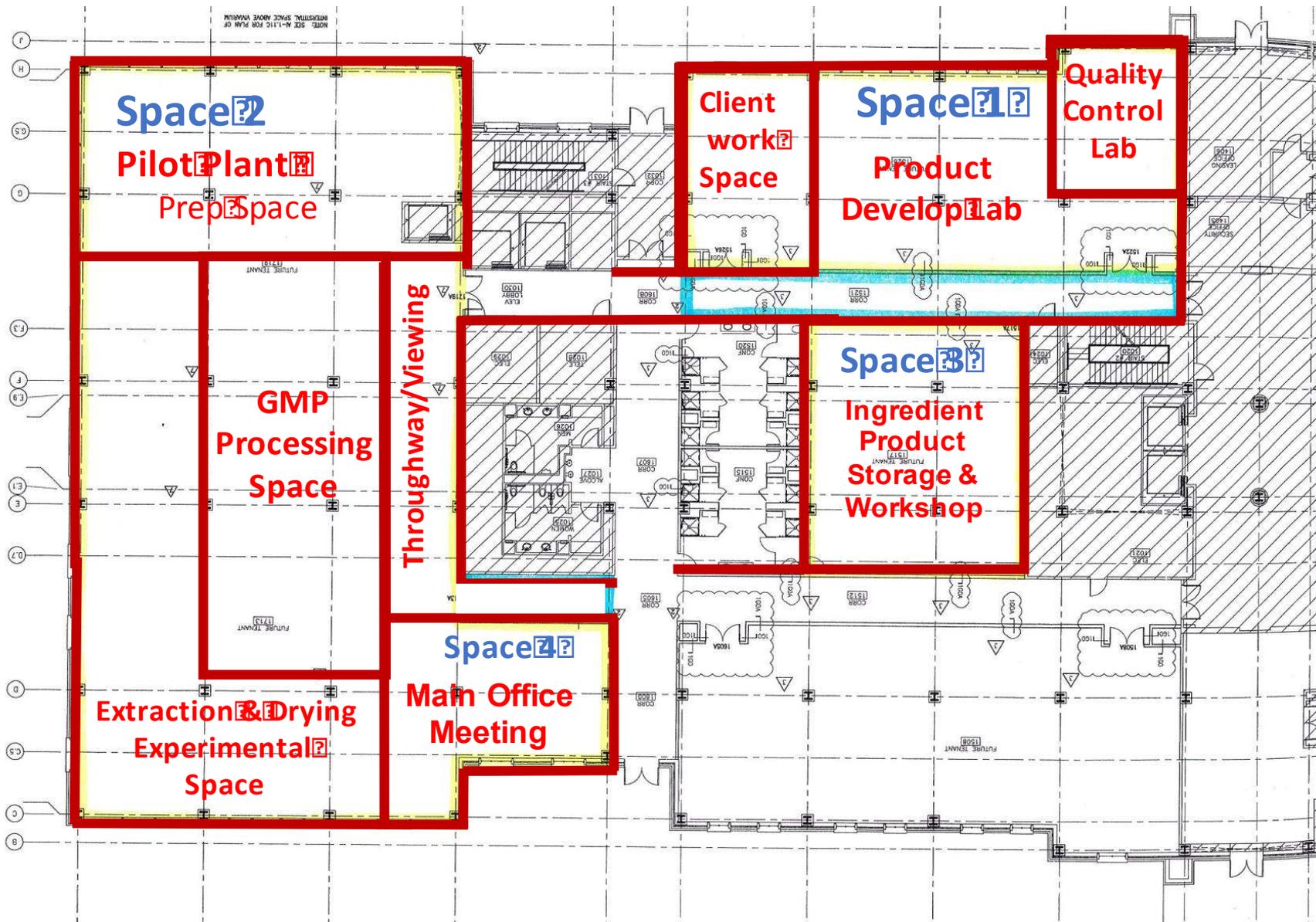


FOOD PIC CONCEPT: NCRC CORE LABORATORY



~15,000 sqf on 1st floor for NCRC Core Laboratory
Private Entrance
Access to Loading Dock
Access to existing shower/locker room
Flexibility for build out

BASIC CONCEPT: NCRC CORE LABORATORY SPACE



PROPOSED FOOD PIC CAPABILITIES

Product Development & QC Laboratory

- Product Ideation and Analytical Space



PROPOSED FOOD PIC CAPABILITIES

■ Plant Food Fruit, Vegetable and Cereal Processing

- Prepping, Juicing, Batching
- Grain milling and Extrusion
- Continuous Evaporation
- Vacuum and Spray Drying



■ Thermal and Non-Thermal Processing

- Retort, HTST thermal processing systems
- Continuous Microwave
- UV – Sterilization
- Multiple fillers



■ Plant Extraction & Fractionation

- Expeller/Extrusion
- Subcritical systems
- Ultra/Nanofiltration
- Column technologies



PROPOSED FOOD PIC ACTIVITIES

Access/Rental

Facilities

Equipment

Tech
Services

Applied R&D

Industry

Federal

State

Commodity

Technical Training

Technical
Training

Workshops

Short
courses

Industry Engagement

Advisory
Council

Technical
Meetings

Technical
Marketing

Moving NC Food PIC Forward

October 2017:

- October 30 – Approval of business plan and submission to GA

December 2017:

- Funds released by the state of NC
- Communications Plan Development Initiated
- Marketing Plan Initiated

Early/Mid 2018:

- Lease finalization
- Begin design and construction of NC Food PIC
- Search initiated for
 - NC Food PIC Director and staff
 - Faculty Member – Food Process Engineer
- Refinement of FPIC vision and Mission with Stakeholder

Early/Mid 2019:

- Construction completed
- NC Food PIC opens



Thank you!

Empowering human
health through nutrition.

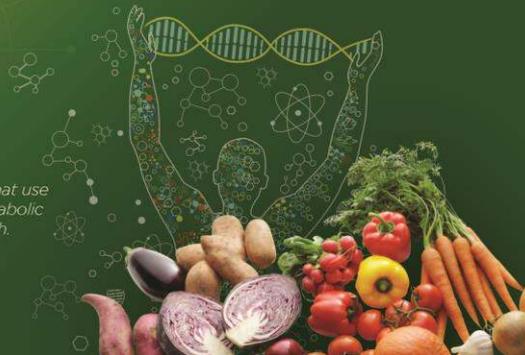
Naturally!

*Reducing food allergens with
plant-based compounds*



*Formulating energy beverages
from North Carolina crops*

*Producing medical foods that use
a person's genetic and metabolic
uniqueness to restore health.*



Our Evolving Ecosystem

