

**Dutch Association of Manufacturers of  
Food Processing, Packaging and Bio-Based Systems**

**Integrated Solutions for  
Food Security Challenges**

**Jan Hak, President**

**President NAFTC-India, CEO QuaTerNes  
Vice President, Head Emerging Markets Metropolitan Food Security**

**Mumbai, 16 January 2013**

*Members cover a high percentage of total machinery production in all sectors of the industry: fruit, vegetables, feed, meat, fish, dairy, bio-based products, etc.*

**Member in:**

- **FPME (Food Processing Machinery Europe)**
- **Europama (European Committee of the National Associations of Packaging Machinery Manufacturers)**
- **Copama (International Confederation of Packaging Machinery Associations)**



## The Netherlands:

### High-Tech in Agriculture, Food, Horticulture and Water'

#### *World Leading Technology Companies*

Turn-over 2012: EUR 11,4 billion in high tech systems, 42% outside the EU  
(80% poultry, 70% cheese and > 50% potato processing systems)

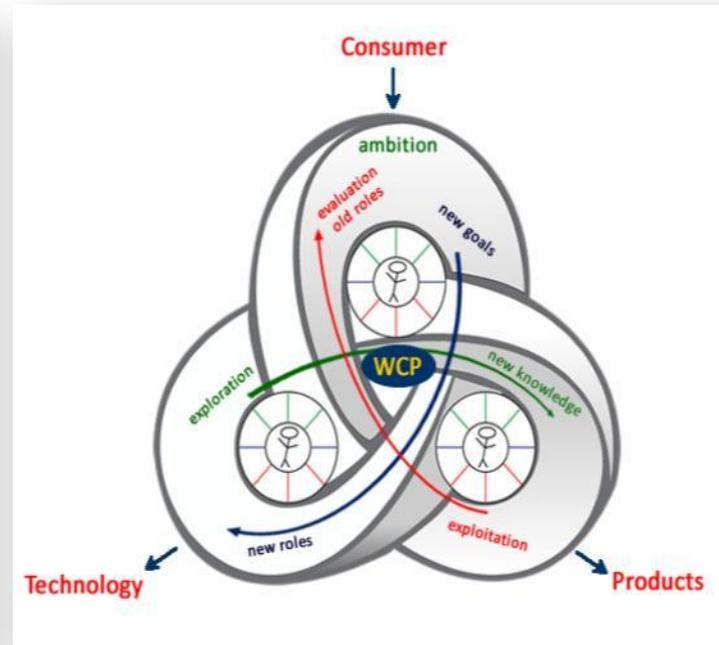
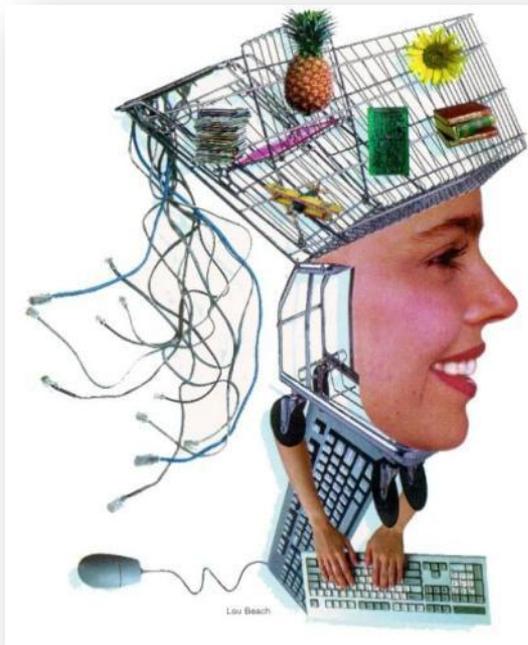
### Food Valley

#### *World Leading Food Companies*

Turnover 2011: EUR 70 billion in agri-food products;  
Staff 2011: 10% of labour force is dedicated to the Agro & Food Section

*(2<sup>nd</sup> Largest world exporter)*

## Market-led Approach



## Function of Food

- **WHAT**
- **WHEN**
- **WHERE**
- **WITH WHOM**
- **HOW PREPARED**

**Calories → "experience" → nutrition & health, variety**

**Regular → grazing and snacking**

**In-home → out-of-home**

**Social → individual**

**From scratch → ready-to-eat, heat and eat**



## Diversification of demand in Metropolises: from food to fashion to pharmaceuticals



### Pharmaceuticals

*Functional foods,  
Pharmaceuticals*



### Fashion

*Flowers, Flavors,  
Fragrances*

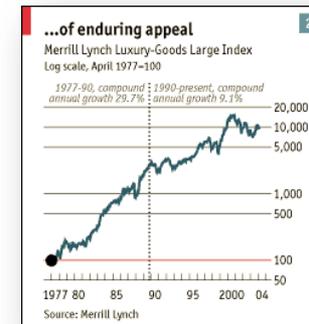


### Food

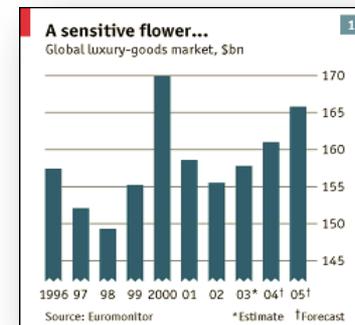
*Fodder, Food Crops,  
Vegetables, Fruits*

### Energy

*Fuel, Fibers*



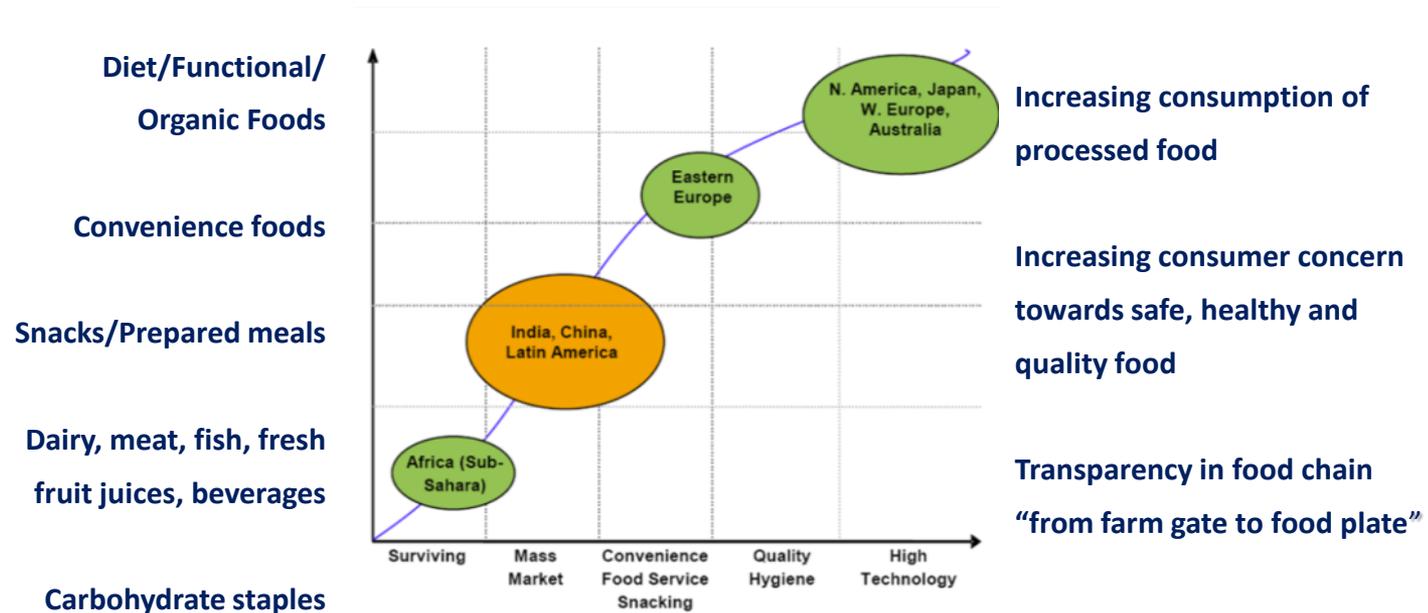
*Which is a 100-fold increase  
between 1977 and 2005*



*World spending on luxury goods  
in 2005: US\$ 165 bln*

## Shift in Consumption Basket

Urban people have more purchasing power



## Strategic Outlook



### Society:

- Ageing population
- Growing high(er) income population
- Wealth of choice
- Increasing incidence of chronic non-communicable diseases like:  
*Obesity, Cardiovascular diseases, Hypertension, Diabetes mellitus and various cancers*

## Trends in European society

(According to Wim Lageweg, MVO -2011)

### Needing social cohesion (and safety)

- Especially older generation
- In more individualistic world



### Increasing suspicion (decreasing authority)

- Especially young generation
- Towards: institutions, banks, large corporations



## Needing “Roots and Wings” (and origin)

- Especially cultural “creatives”, self determination
- Regional identify, interest in origin and process

## Stressing sustainability

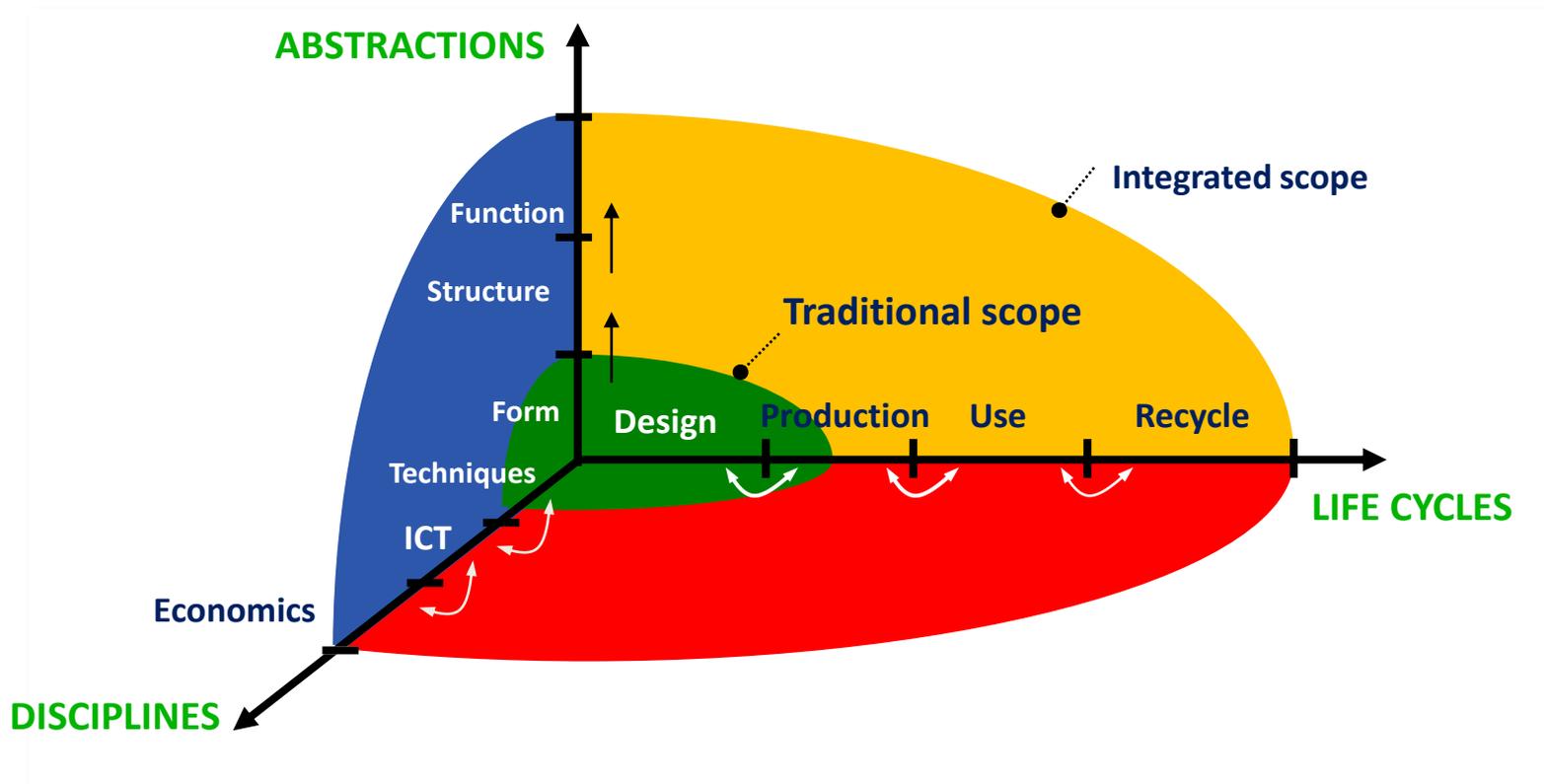
- Especially awareness of scarcity

## Increasing transparency

- Especially sharing knowledge
- Pressure on media, social media



## Integrated Approach Product and Process development



## Benefits of Processing and Packaging

- Protection
- Freshness
- Sensory appeal
- Portability
- Convenience
- Differentiation
- Performance
- Time saving
- Channel growth
- Communication
- Relevance
- Esteem
- Equity enhancement



## Key trends enabled by Processing and Packaging:

- Nutrition / Health
- Flavor
- Convenience
- Value
- Variety
- Fun
- Time
- Affordable luxury
- Security and Authenticity
- Quality
- Sustainability and Environment



## Examples in Dutch Potato Centres

Orange Potato Projects, supported by GMV and Dutch Government



## Points for “Innovation” from The Netherlands in R&D and Training

- Economically and efficiently production of sufficient, safe and nutritious food
- Sustain and enhance natural resources
- Maintain viable farming enterprises and contribute to sustainable communities
- Meet cultural and social demands of society



## “Chain” Innovations from The Netherlands

**Seed Potatoes, genomics**  
Clean room systems, gen technology



**Cultivating**  
Drip irrigation, crop rotation, management



**Harvesting**  
Low damage lifting and handling



## “Chain” Innovations from The Netherlands

### Storage

Storage climate control, conditioning



### Processing

Energy, efficiency, by-products, waste



### Packaging, distribution

CO<sup>2</sup> footprint, cross docking, MFS



## Improving supply



**WAL★MART**



**Carrefour** 



**Shift of power to retailers and food service sectors:**

**Closest to the consumer, Multi-channel strategy, Vital marketing information, 70 - 80% Buying decisions at P.O.P., Co-marketing**

## Improving supply



## Supply management

**Continuous Replenishment / Flow Through, Changing Logistics Systems, Cross Docking,  
Bar Coding, Consumer Focused P.R., Business To Business, Biggest Opportunity ,  
Cutting Out Middle-man, Market Led Approaches, Food Supply Chain, Intelligent Automation**

## Focus in the Potato Value Chain:

### Create more added value

- Healthier, convenience

### Distinguish yourself

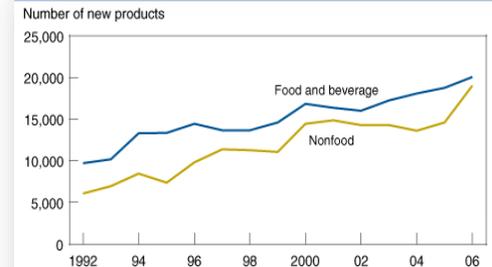
- More variations  
*(functional, organic, exceptional)*
- Competition  
*(new packaging ideas, developments on shop floor)*

### Reach new customers

- Consumer groups



Food and beverage introductions up 106 percent in 1992-2006



Note: Nonfood items include health and beauty aids, household products, pet products, and miscellaneous items (e.g., tobacco, car care, lighters).  
Source: Datamonitor, Productscan Online.

## Health and Nutrition

Less fat and calories

- **French fries**  
Smaller portions, focus on preparation other than frying, new frying technologies
- **Potato chips**  
Smaller packages, baked, reduced in fat, light



## Health and Nutrition

### Sodium and Acrylamide

- **Sodium**  
Less, offer sachets
- **Acrylamide**  
Lighter fries, changes in frying process, less potato ingredients (extruded snacks), enzymes



## Energy and Environment

- **Supply chain integration**
- **Low carbon footprint**
- **Local sourcing of potatoes**
- **“Controlled” potato cultivation**
- **Reduction in use of pesticides**
- **Organic potato products**
- **New varieties (resistance)**



## Trends to watch in Packaging

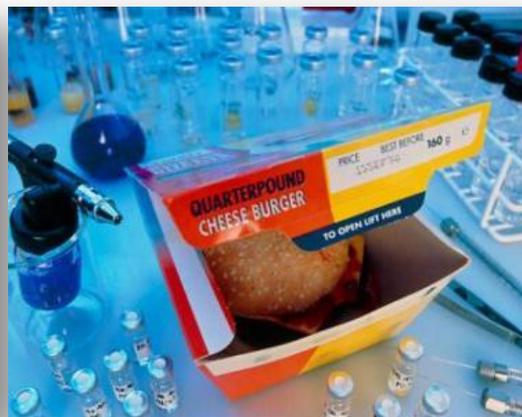
- |  |   |
|--|---|
| <b>1. Functionality and Sustainability</b> | <b>Finding the balance</b>                              |
| <b>2. Sustainable Packaging</b>            | <b>Focus on recyclability</b>                           |
| <b>3. Paper-based Packaging</b>            | <b>Keep the Molecule in Play</b>                        |
| <b>4. Stand-up Pouches</b>                 | <b>Maximum Flexibility, Sustainability, Convenience</b> |
| <b>5. Development of Bio-plastics</b>      | <b>A viable eco-friendly solution?</b>                  |



## Final Remarks

Freshness

New Technologies



## Freshness

- Packaging differentiation by "Green" aspects
- Innovator: Best practices in fresh produce
- Freshness Phobia
- (Organic) Freshness
- Intelligent and active packaging



## New Technologies

- **Pulse Electric Field (PEF)**  
*For liquid products like juice, milk, soup  
High voltage pulses, lengthens storage life*
- **High Pressure Conservation  
Ultra High Pressure (UHP)**  
*For products that has to be sterilized or pasteurized  
Pressure up to 1,000 MPa  
Disables micro-organisms and enzymes*
- **Cold Plasma**  
*Cold gases with electrical charge disinfect  
the surface of packaging*



## Goals Centres of Excellence:

- **India – Dutch Cooperation Businesses and Academia**
- **New Business Opportunities**
- **Stimulating Entrepreneurship**
- **Jointly Securing Food for Urbanized Areas**
- **Spin-off: Innovations in Science, Technology, Education, Training and Know-how Transfer**



**METROPOLITAN  
FOOD SECURITY**

## Strategy to Success - 7 P's:



1. **People**
2. **Professionals**
3. **Plan**
4. **Pro-active**
5. **Performance**
6. **Planet**
7. **Prosperity**

# Thank you !

**More information:**

[www.naftc-india.com](http://www.naftc-india.com)

[www.metropolitanfoodsecurity.nl](http://www.metropolitanfoodsecurity.nl)

[www.gmv-fme.nl](http://www.gmv-fme.nl)



*Vibrant India*