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Netherlands Agro, Food & Technology Centre

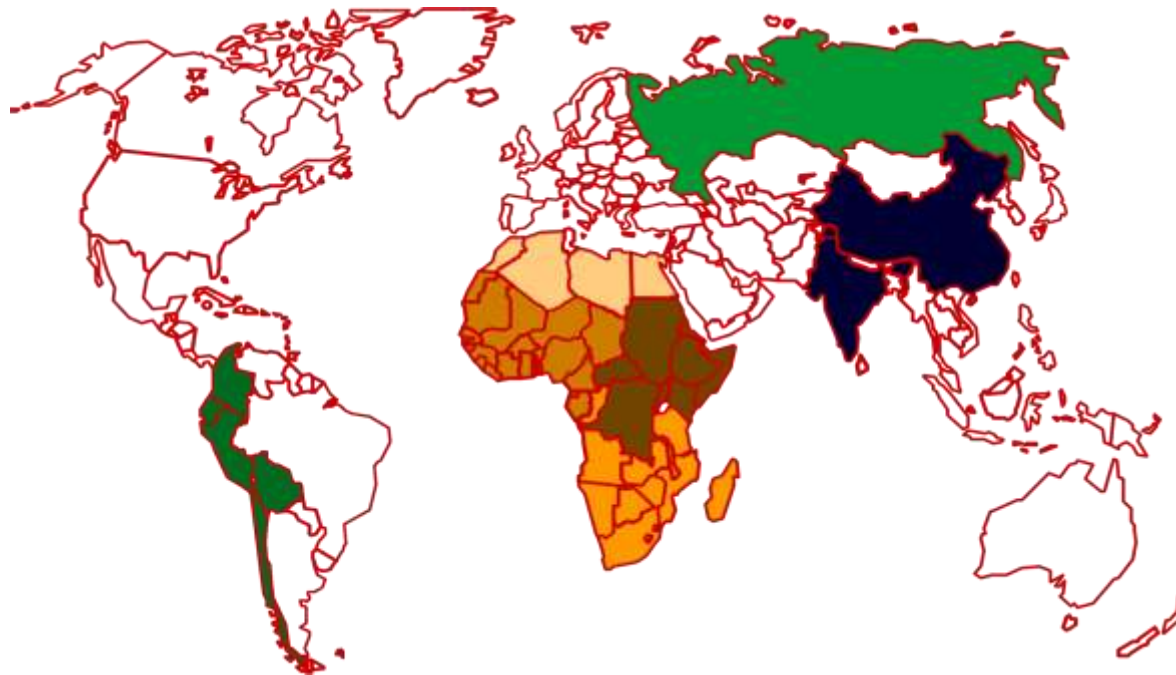
Jan Hak

**CEO Hak&Partners, President GMV,
Vice President, Head Emerging Markets Metropolitan Food Security**

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NAFTC worldwide Supported by GMV and MFS



- China, India
- Russia, West South America
- Northern, Eastern, Southern and Western Africa



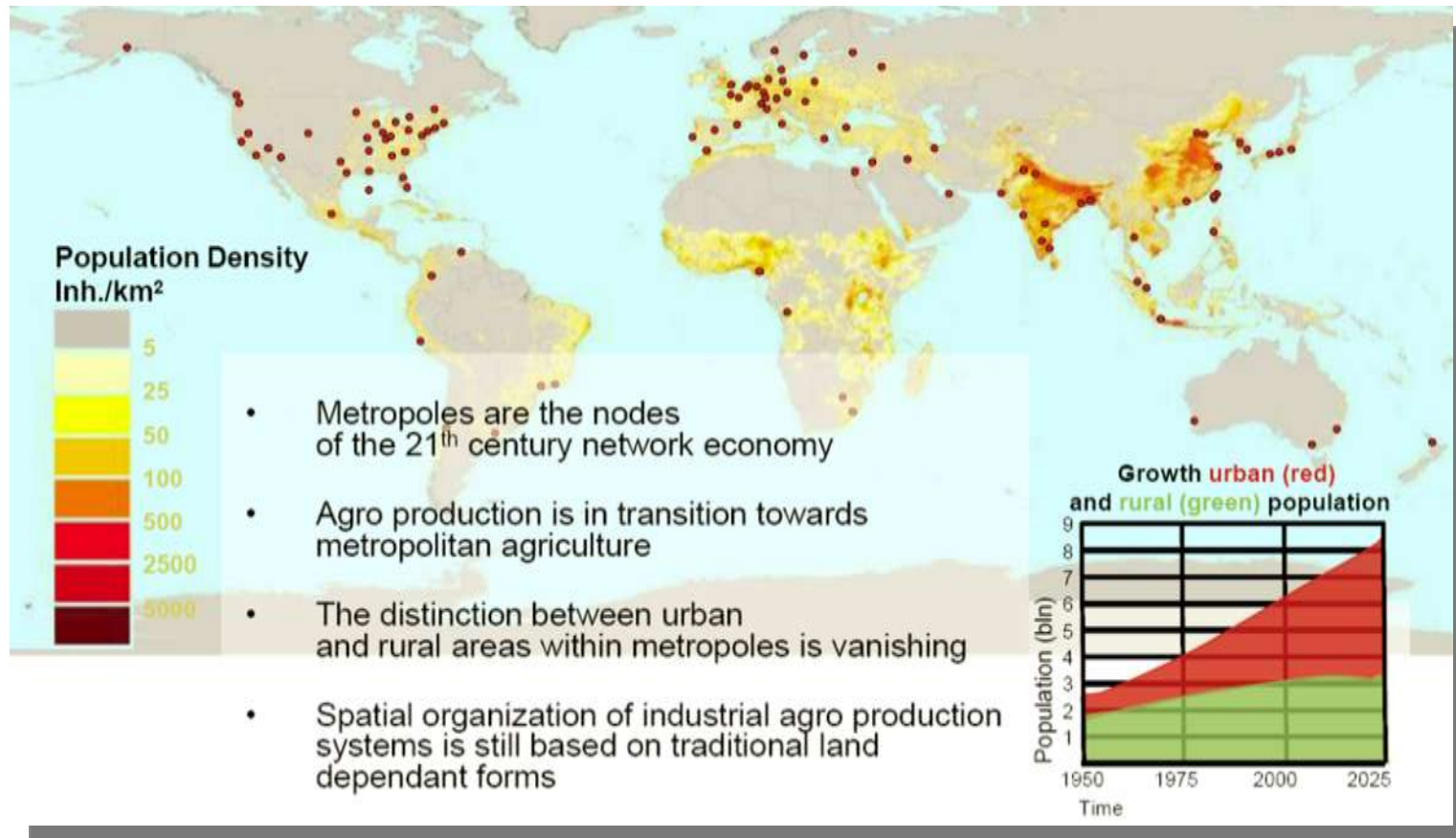
NAFTC worldwide

- **BackOffice: Netherlands (EU as home market)**
- **Innovative markets: US/Canada, Israel**
- **Emerging markets: BRIC - China, India, Russia, Brasil**
- **Frontier markets: Southern, Western and Eastern Africa, Western South America, South East Asia**

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The World is globalizing

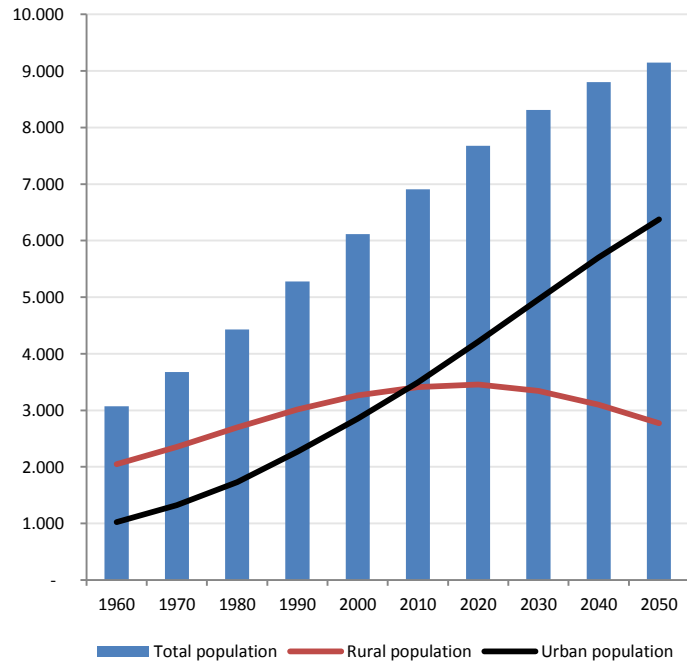


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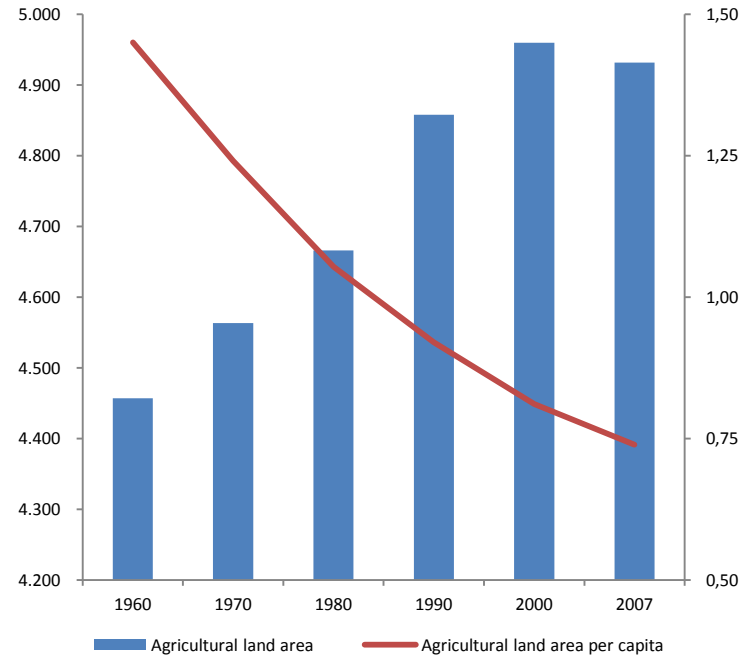


More people, Less land

Global population (in millions)



Agricultural land (1,000 ha)

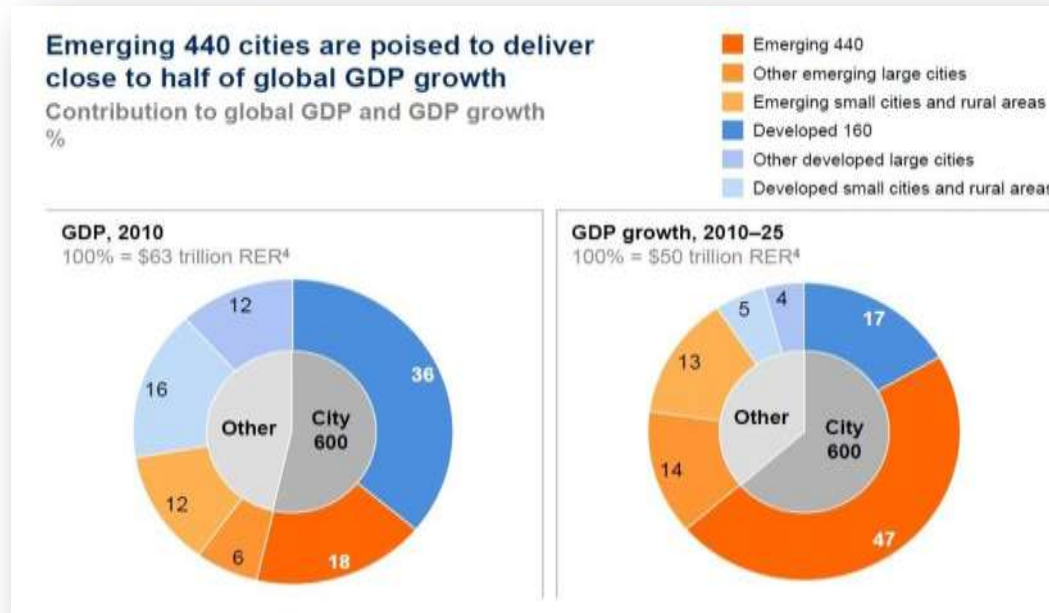


Source: FAO Stat, Rabobank

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Economic growth (2010-2025) for 75% comes from emerging economies
Economic growth (2010-2025) comes for 82% of large cities

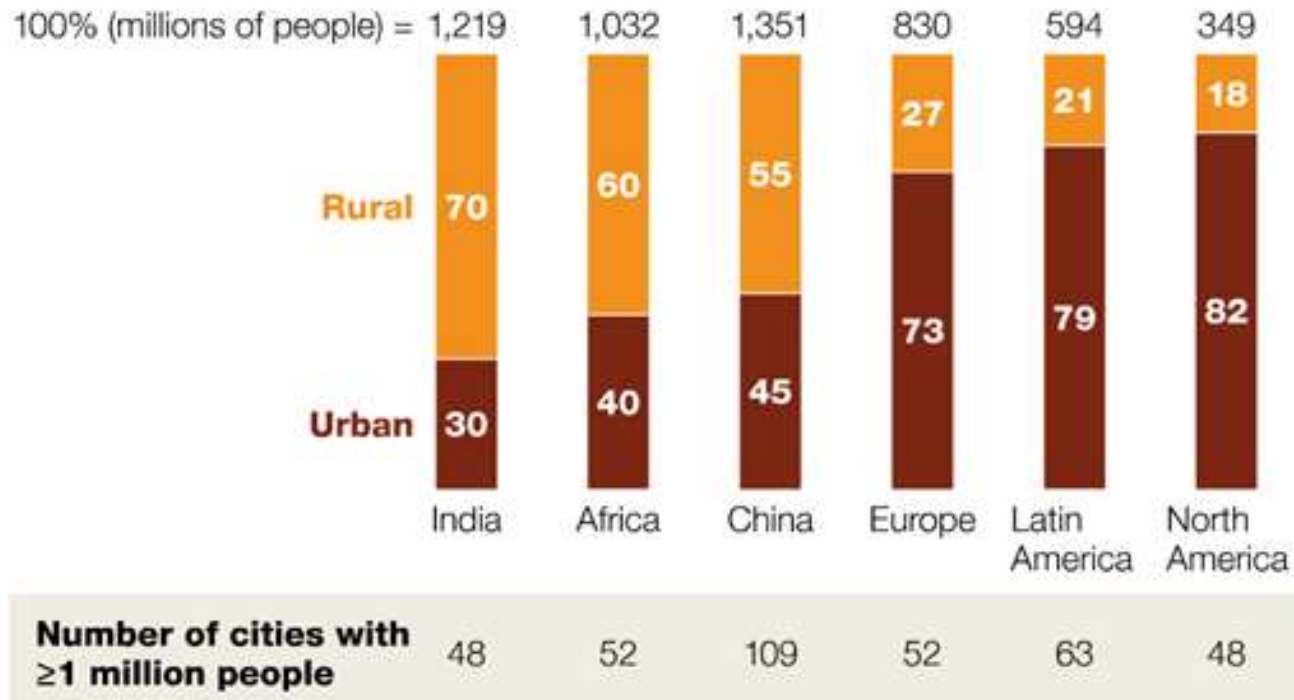


Source: MC Kinsey Global Institute, June 2012

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Share of population by region, 2010, %



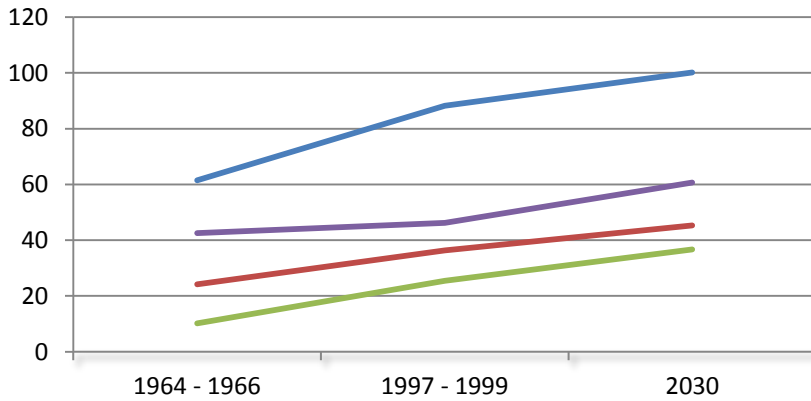
Source: United Nations; McKinsey Global Institute analysis

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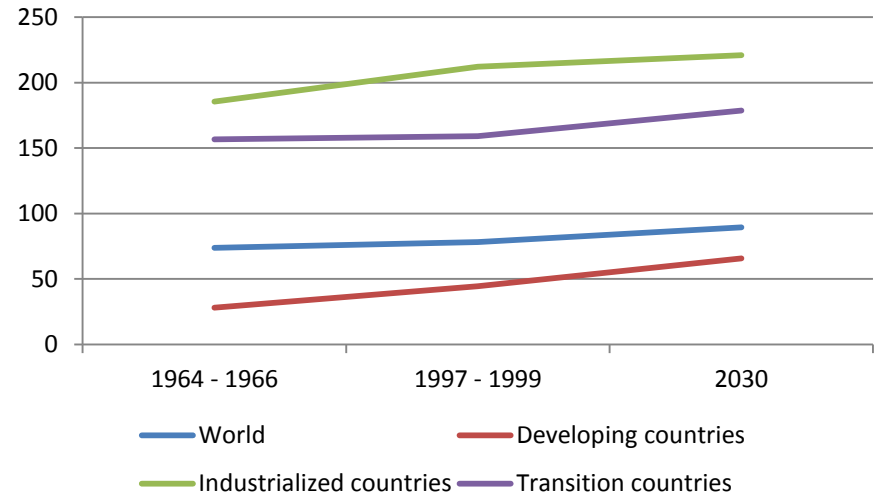


Changing Consumption

Per capita meat consumption
(kg/year)



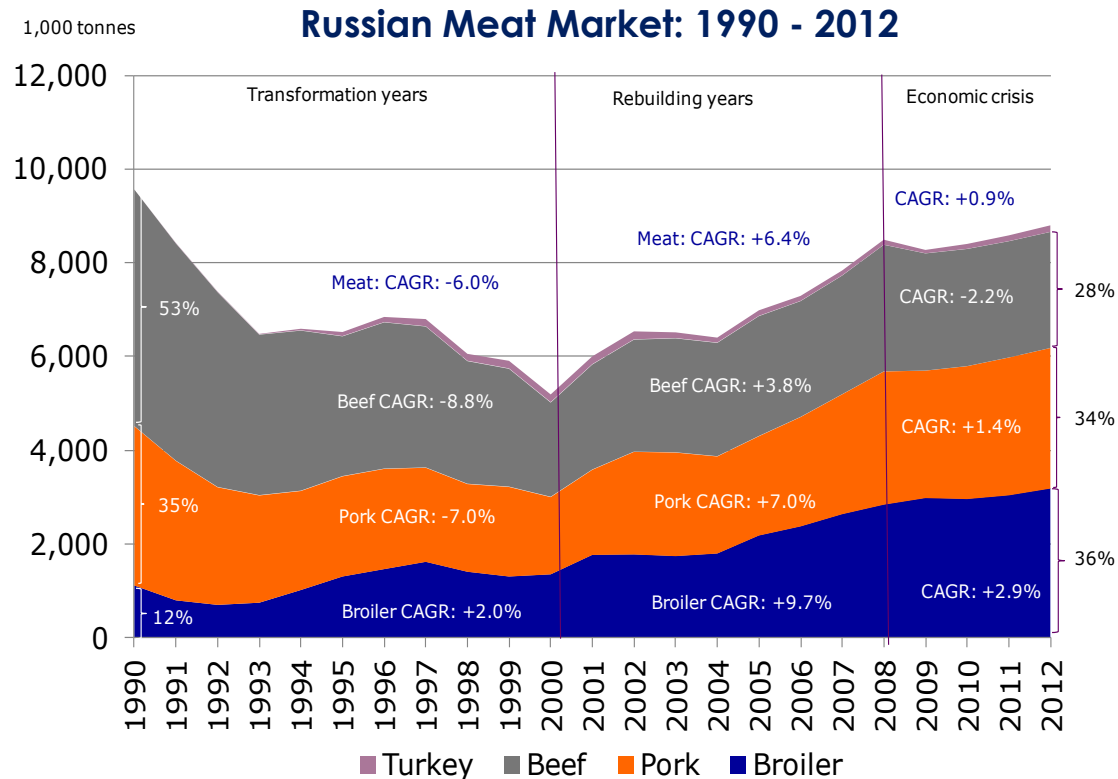
Per capita milk consumption
(kg/year)



Source: World Health Organization



Growing meat demand, move to poultry



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GMV

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

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 of:

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



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GMV

The Netherlands: 'Food Technology Valley'

Home country of world leading companies in food technology

Turn-over 2011: EUR 3,5 billion in food processing and packaging systems and research of which 42% outside the EU

(80% poultry, 70% cheese and > 50% potato processing systems)



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The Netherlands as 'Food Valley'

Home country of world leading food companies

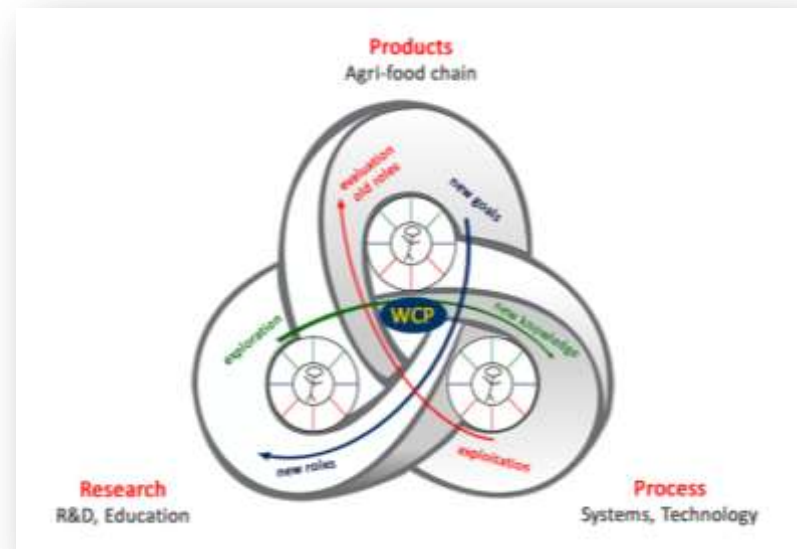
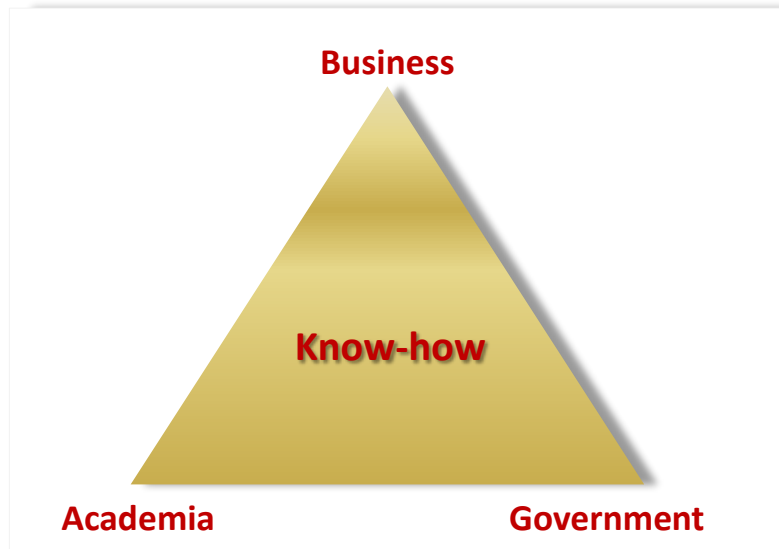
Turnover 2011: EUR 70 billion in agri-food products;
Staff 2011: 10% of labour force is dedicated to the Agro & Food Section



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World-Class Performance (WCP)



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Function of food

- **WHAT** Calories → "experience" → nutrition & health, variety
- **WHEN** Regular → grazing and snacking
- **WHERE** In-home → out-of-home
- **WITH WHOM** Social → individual
- **HOW PREPARED** From scratch → ready-to-eat, heat and eat



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Market/Chain

Pressure

- Purchasing power of retailers
- Very short lead times
- High service levels
- 7 day supply
- Quality / food standards
- Competition

Requirements

- Increased use of EDI
- Support wide range of products
- Shorter shelf life products
- Reduction in additives
- Bio & Green
- Product traceability

Operations/Packaging

Pressure

- Integrated systems structure
- Variable batch sizes
- Effluent / waste reduction
- Lowest cost production
- Just in time operation

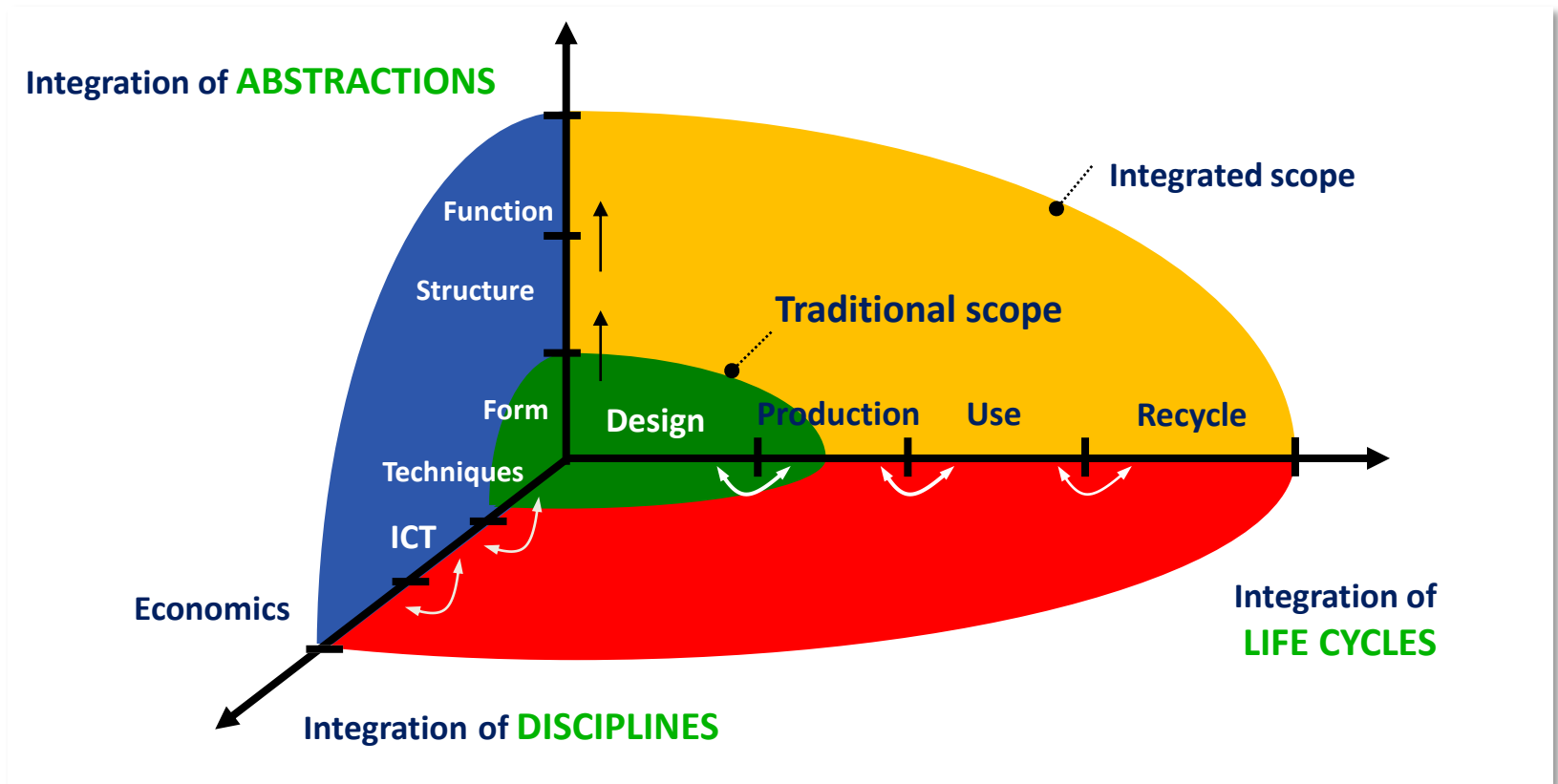
Requirements

- Forecasts of requirements
- Reduced dependency on people
- Plant flexibility
- High speed changeovers
- Scheduling production and maintenance
- Product recovery systems
- Detailed records of operations

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Integrated approach to product and process development



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Supply Chain Approach



AAPT: Applied Animal Protein Technology



AVPT: Applied Vegetable Protein Technology



AWT: Applied Water Technology



ACT: Applied Carbohydrate Technology



AVT: Applied Vitamine Technology



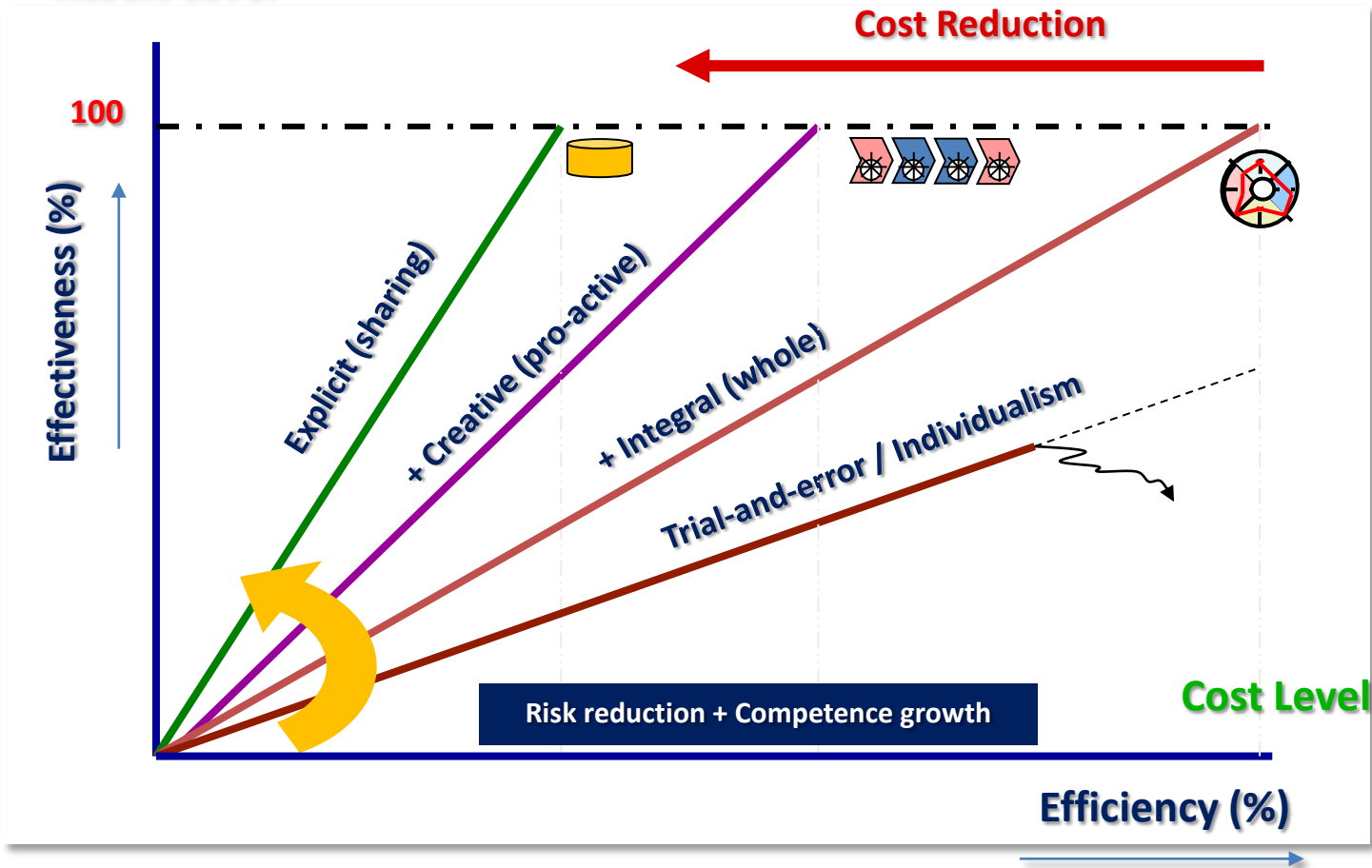
AIT: Applied Ingredient Technology

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Result Orientation

Result Level



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Hardware	Orgware	Software
Contextual relationships	Implementation and operation	Knowledge management
Infrastructure	Business planning	R&D
Demo facilities	Investment in infrastructure	Team development
Trade facilities	Types of consortia	Management of emotions
Production facilities	Stakeholder network	Communication
Processing facilities	External relations	Marketing
Industrial ecology	Policy and Politics	Branding
Energy management	Procedures and protocols	Quality management
Landscape and nature	Licences and approval	HRM
Routing	Supply chain management	Education
Design	Project management	Capacity building
What can be held	What can be organised	What can be thought and felt

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Strength – Weakness Matrix

Flow Know-how	Input	Production	Processing	Logistics	Trade	Consumer
Hardware						
Software						
Org. ware						

SA = South Africa (Partner Country)/ NL = Netherlands

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3 Examples:



Hardware



Orgware



Software

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China - Hardware: green houses, fields, processing



中国北京农业生态谷概念性规划设计
AGRICULTURAL ECO-VALLEY, BEIJING CHINA

Gateway to Quality of Life



WAGENINGENUR
For quality of life





Chile - Orgware: organization, amplification

- IceFood
- Make the Chilean food industry more competitive
- Build human capacity for innovation in food industry in Chile
- Improve links between science and industry
- Establish Chile as innovation hub in LA Region





Africa - Software: training, education, people Africa Agribusiness Academy

- **Entrepreneurship is key to development and food security**
- **Learning from own experience, building a knowledge base**
- **African private sector in the lead**
- **Trust in power of African entrepreneurs**
- **Impact on small holders**



Focus NAFTA – Southern Africa:

- Water, genetics and primary sector development ("2x more, with 2x less")
- Hi-Tech Systems, Remote Sensing - Crop Management
- Post Harvest Handling, Processing and Logistics
- Integrated Solutions for Food Security in Rapidly Growing Urban Areas

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Strategy to Success - 7 P's:



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

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MoU NAFTA – Southern Africa

More information:

www.gmv-fme.nl | example: www.naftc-india.com