L'efficienza energetica: un aspetto chiave per la competitività e la sostenibilità del settore manifatturiero in Europa

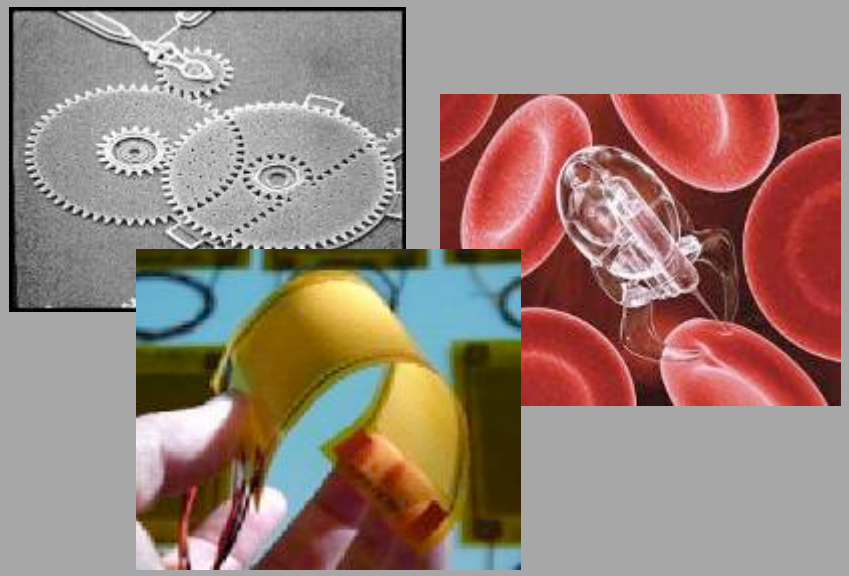
**Dalla ricerca al mercato per la competitività e sostenibilità del settore manifatturiero**

Francesco Jovane

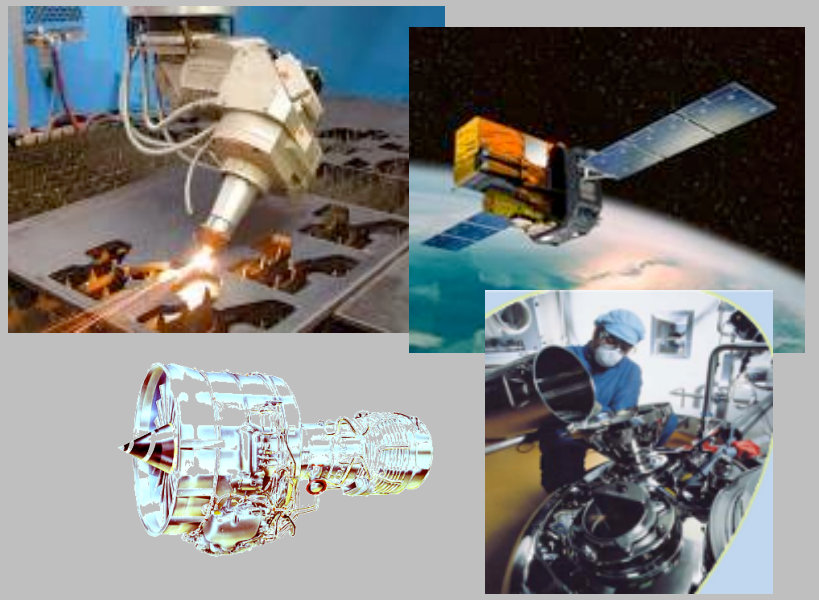
Istituto di Tecnologie Industriali e Automazione


EFFICIENZA ENERGETICA
IN
FABBRICA

## Science Based Industry



## Specialized Supplier Industry

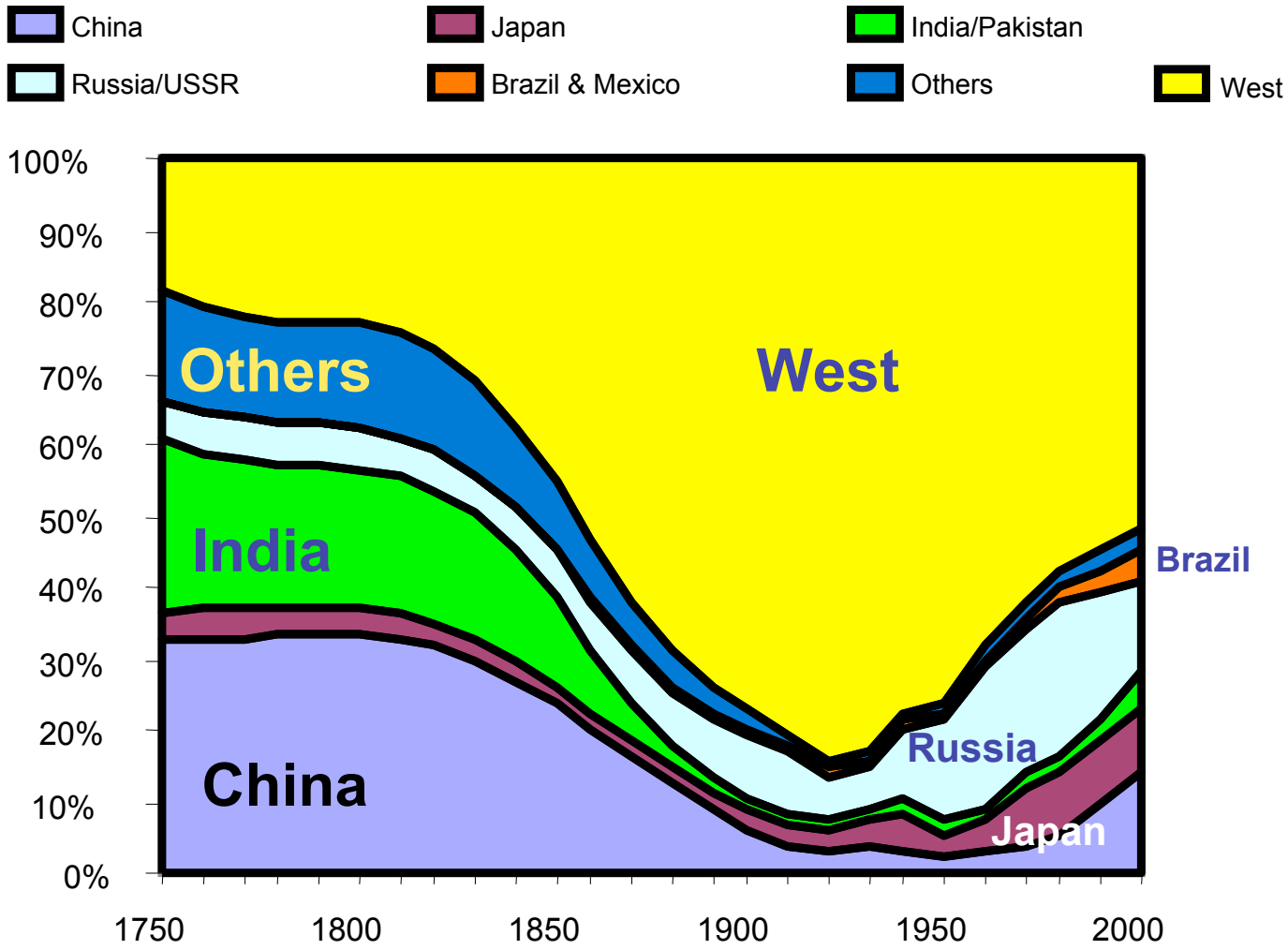


## Scale Intensive Industry

## Traditional Industry

# Contribution to Global Output

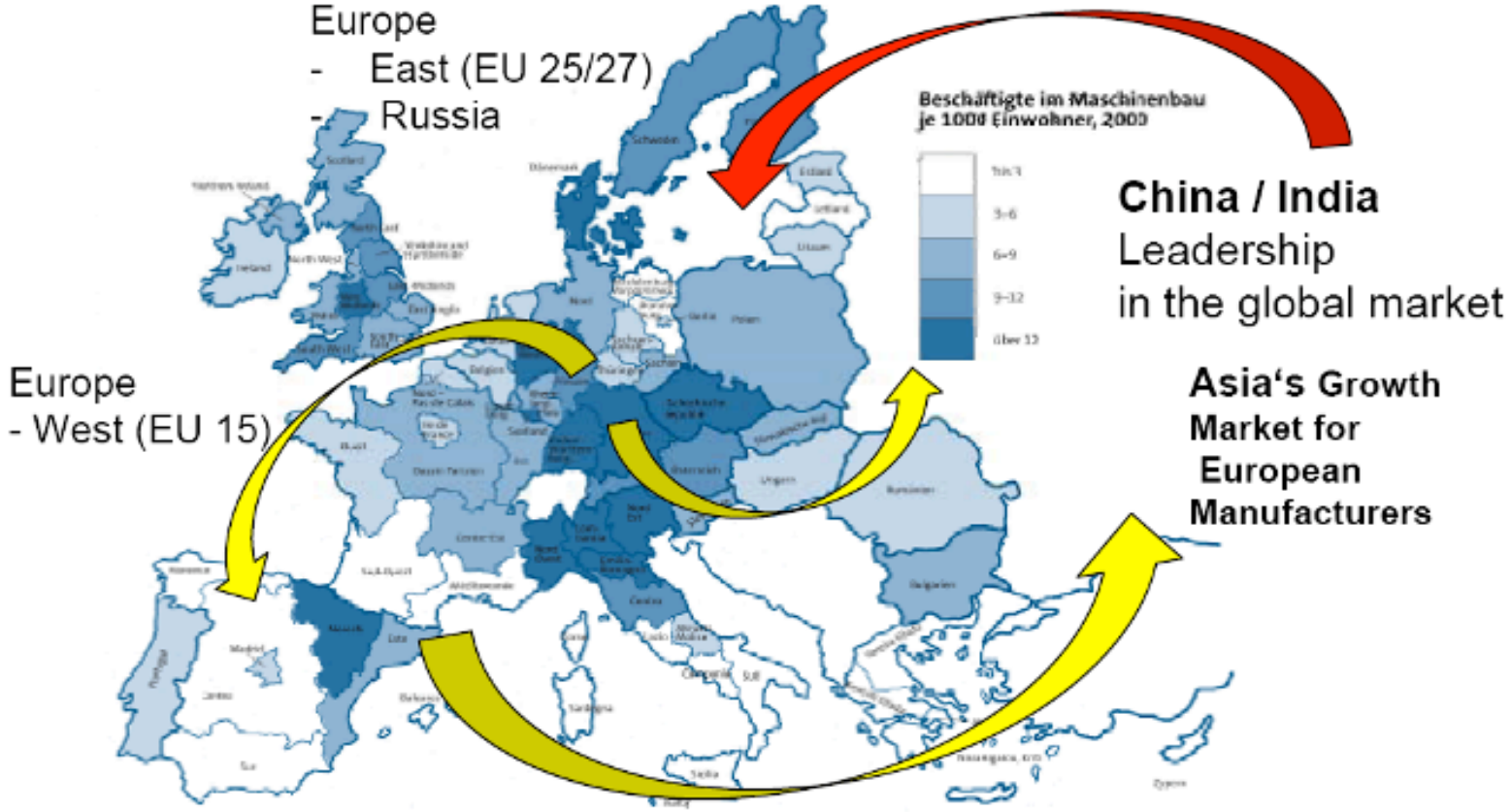
## Shares of World Manufacturing Output by Civilization or Country, 1750-2000 (in percentages. World=100%)



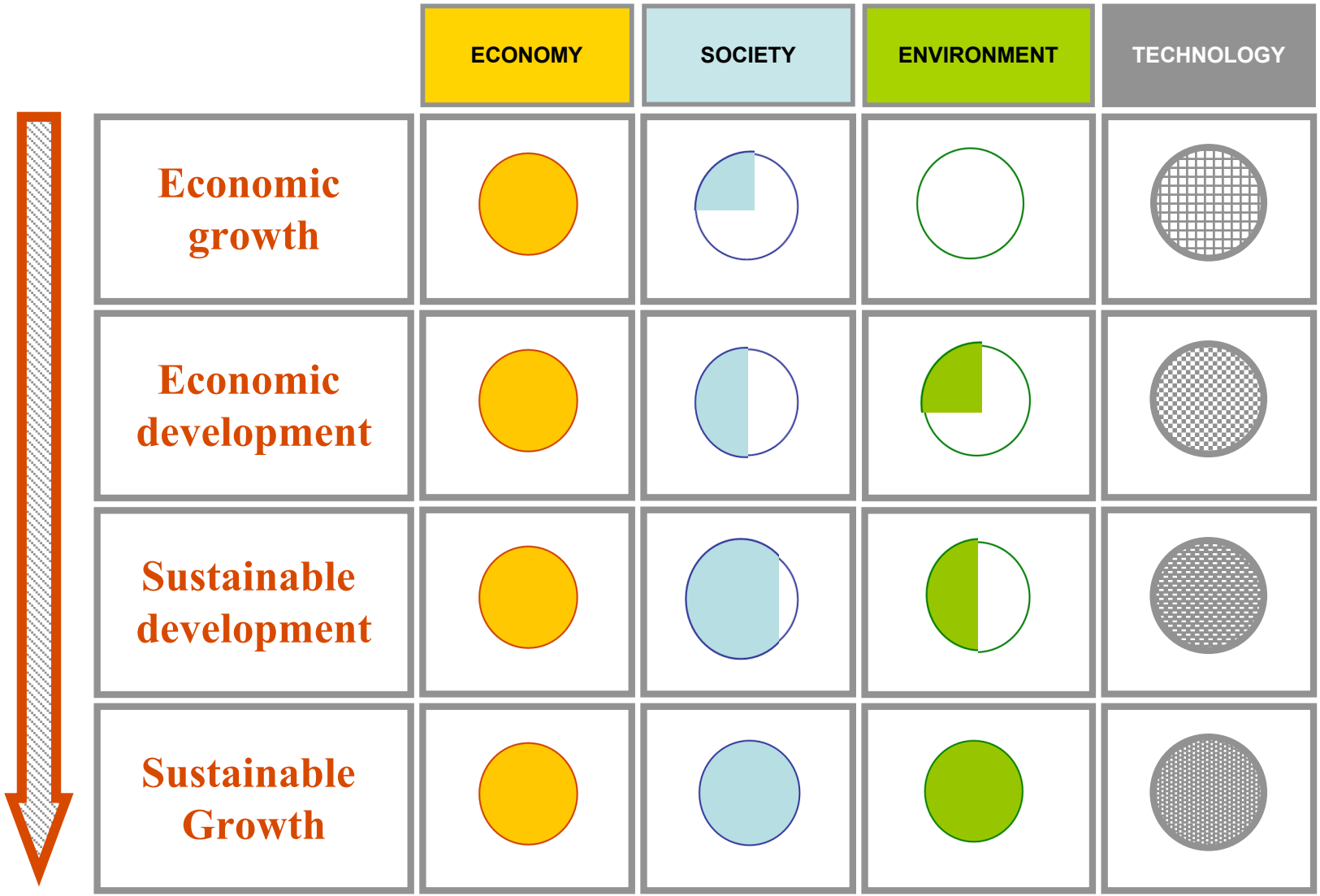

Source:
Mitchell Tseng, CIRP

# Migration of Production

## Consumption of Energy and Material out of Balance ?



# Development Paradigm Matrix



# Relevance of European Manufacturing

## Manufacturing enterprises: over 230.000 (employees > 20)

**Jobs**: 30 MI directly by Manufacturing
and 60 MI through related Services
25 sectors

**Turnover** 6.553 BEURO
**Value Added** 1.760 BEURO

70% from six main areas:

- Automotive Engineering
- Electrical and Optical Equipment
- Foodstuffs
- Chemicals
- Basic and Fabricated Metal Products
- Mechanical Engineering

Total global Manufacturing trade:

- EU 18%
- USA 12%
- JAPAN 8%

European key sectors accounting for highly competitive EU companies and 42% of total Manufacturing exports:

- Automotive,
- Mechanical Engineering,
- Agricultural Engineering,
- some categories of Telecommunications Equipment.

Mechanical Engineering and Chemicals alone account for 31%

# *THE* MANU*FUTURE* INITIATIVE

MANU*FUTURE*©-EU

***Stakeholders:***

***contributors & potential users***

- Government Institutions (EU …. Local)
- Research and Education Institutions
- Industrial Enterprises
- Financial Institutions

***Results***

- Manu*future* Platform
- Manu*future* Vision 2020
- Manu*future* SRA
- Roadmaps & Implementation Plans

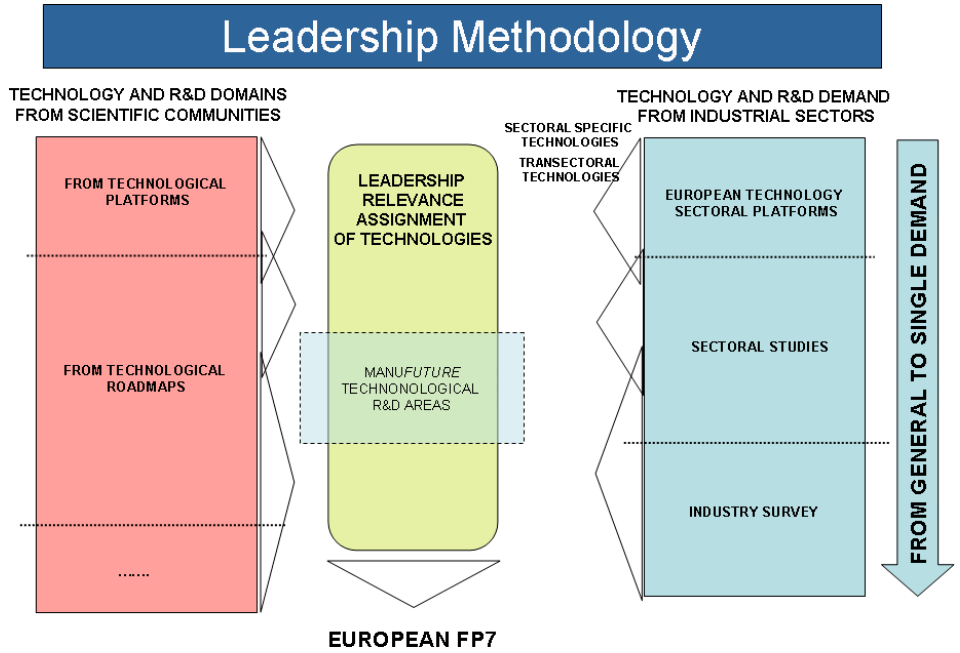
# A new HVA European meta-product: the factory

Past and current *world industrialisation* is based on *European Technology*.

For Europe to have the *leadership* at global level in the future, it is necessary:

- to move from selling *just* Machinery and Systems
- to developing, selling, maintaining a new *HVA complex meta-product:* the *factory*.

# Approccio strategico per la competitività del Manifatturiero in Europa: il join tra domanda e offerta



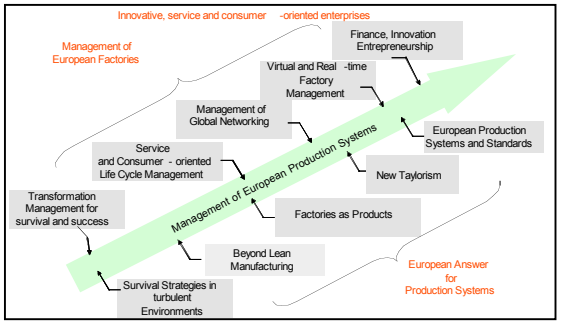

Francesco Jovane, Status of sectoral analysis and industrial interview, *8 May 2006 – Dortmund* LEADERSHIP WP2 MEETING

The Manufuture Road
to High Adding Value
and
Sustainable Manufacturing

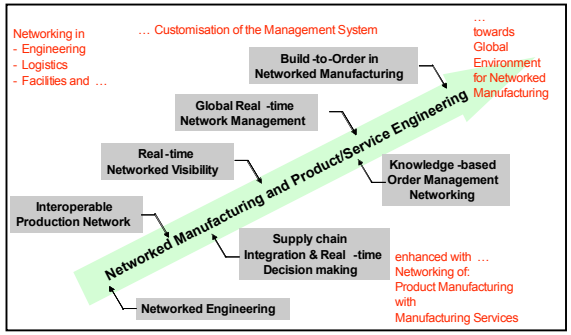
Part II
Manufuture
Workprogramme and
Research Topics.
Development of
Transsectorial Roadmaps

**Engelbert Westkamper, FhG-IPA, ManufutureTransectoral Roadmap, 2007**

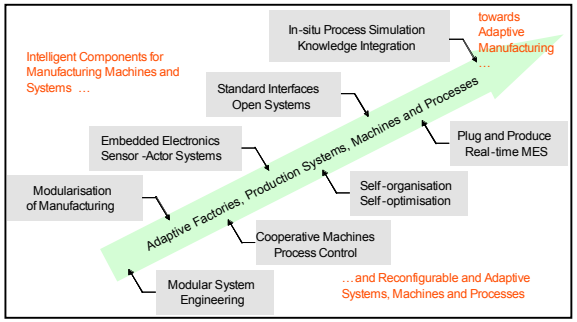
# Manufuture Roadmaps



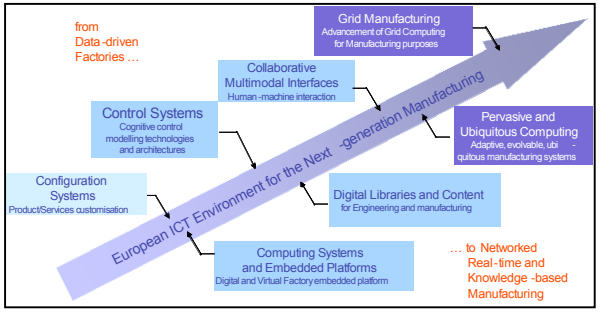

Business Model Roadmap



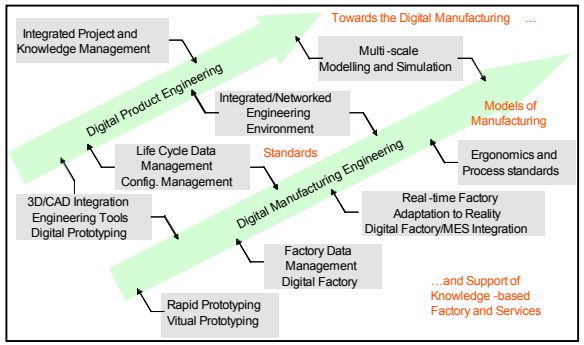

Networking in Manufacturing



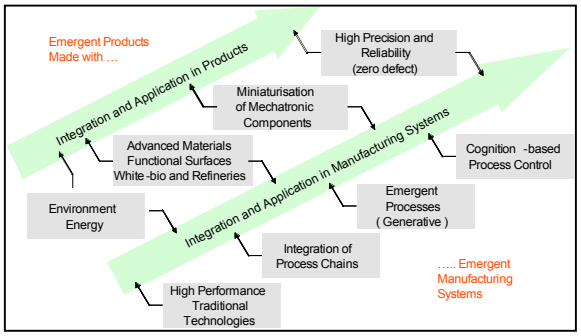

Adaptive manufacturing Roadmap




ICT for manufacturing Roadmap




Digital, Knowledge-based engineering Roadmap




Emergent technologies Roadmap


www.manufuture.org

# Italian Manufuture Platform
## Strategic activities

- Define medium and long term sectoral and transectoral R&I industrial needs
- Identify strategic  objectives of the Italian manufacturing industry and develop a Strategic Research Agenda with Implementation Plans
- Help the integration of European, national, regional RTD strategies: SRA with Implementation Plans


www.manufuture.it

# MSE- Industria 2015
# (www.industria2015.ipi.it)

## Obiettivo

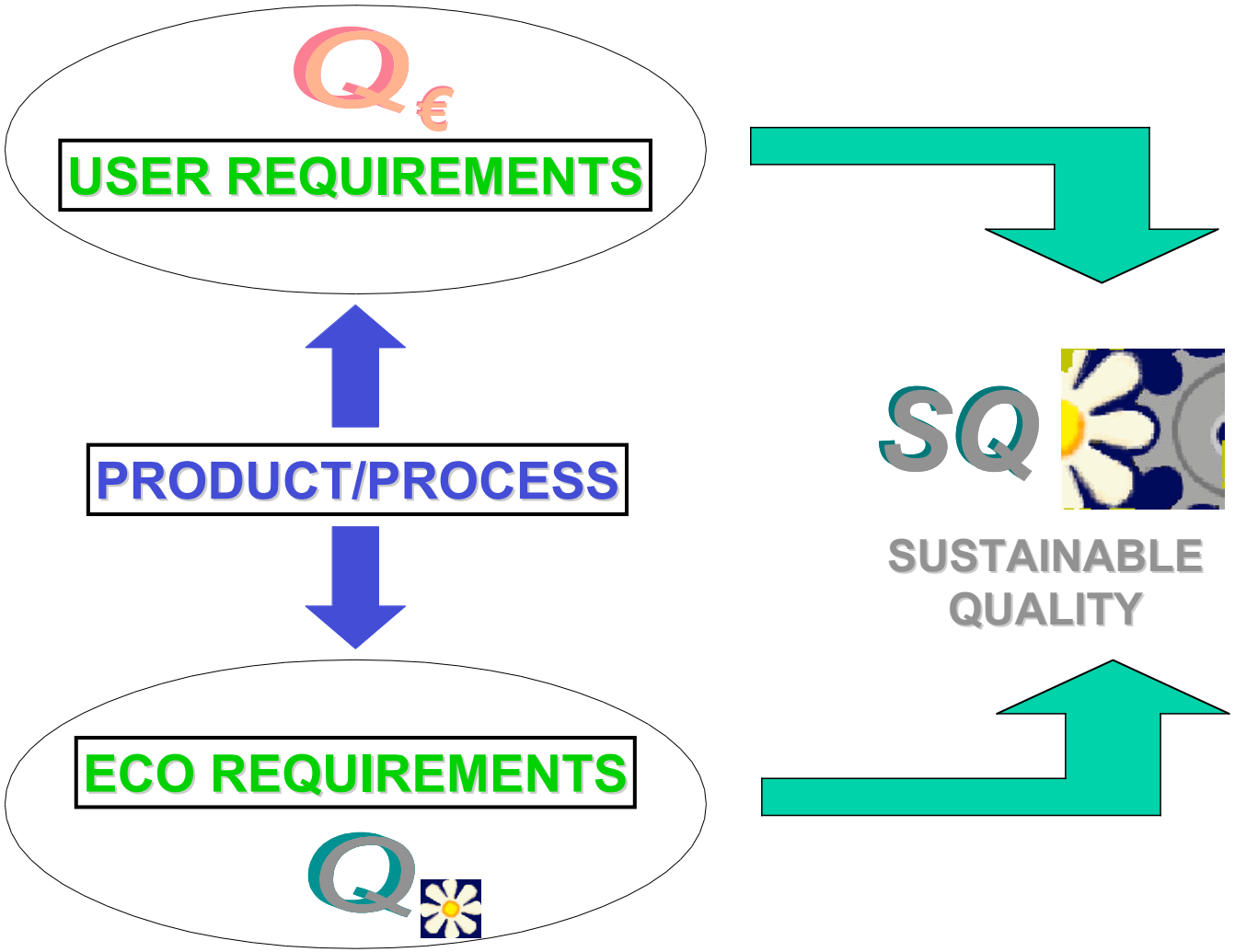
**rilanciare la competitività dell'industria italiana attraverso lo sviluppo di prodotti e servizi ad alto contenuto di innovazione in 5 aree strategiche per il Paese:**

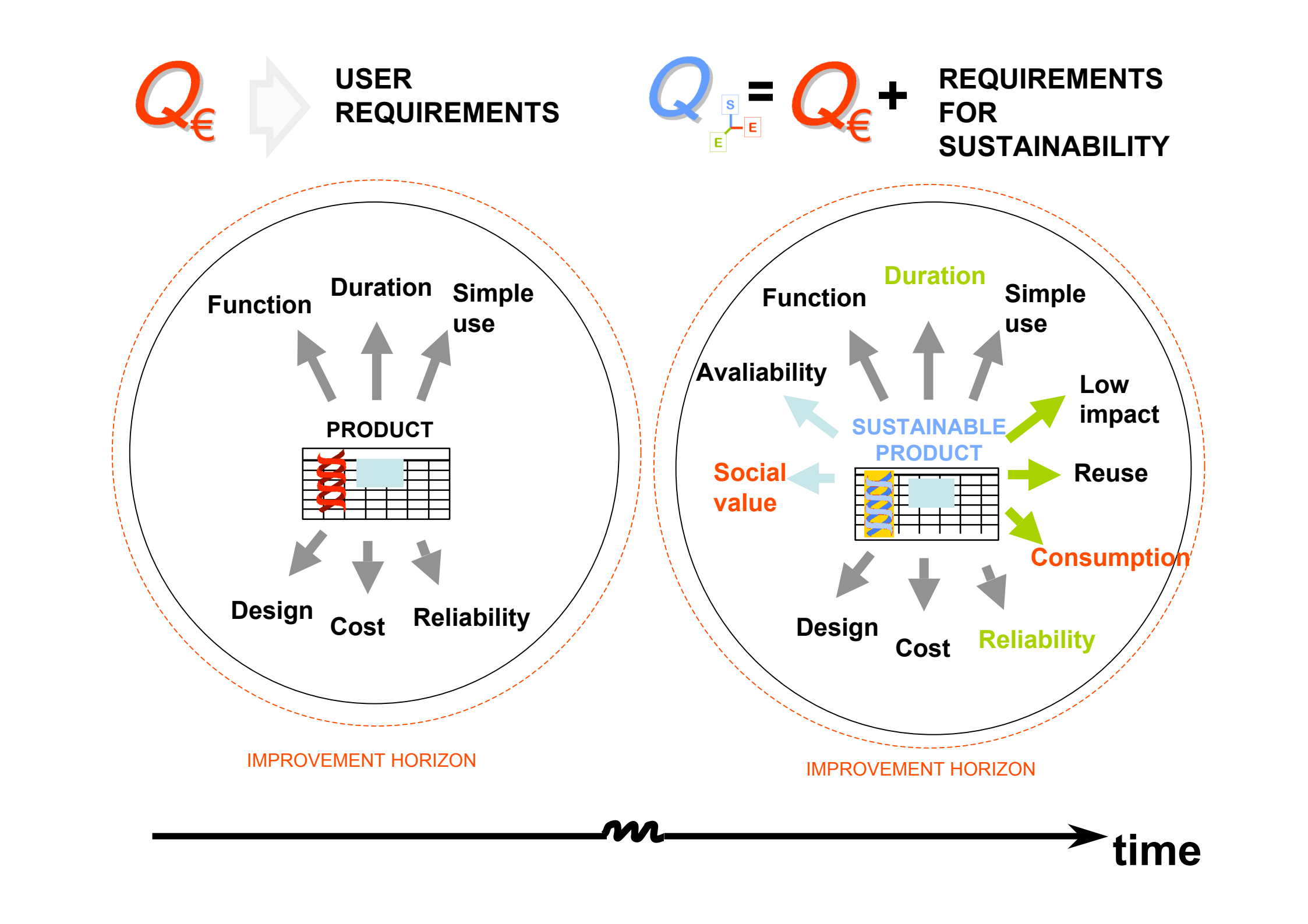
- **Efficienza Energetica**
- **Mobilità Sostenibile**
- **Nuove Tecnologie per il Made in Italy**
- **Nuove Tecnologie per la Vita** (in via di attivazione)
- **Tecnologie Innovative per i Beni Culturali** (in via di attivazione)

**RISULTATI ATTESI:**

Nuovi prodotti e servizi integrati ( "prototipi di filiera"), caratterizzati da una significativa innovazione tecnologica e dalla capacità di avviare attività sistemiche tra imprese e con organismi di ricerca e di essere applicati a molti ambiti

# Product/Processes Sustainable Quality (SQ): responding to Market and Environment




Q€
USER REQUIREMENTS
Q S E E = Q€ +
REQUIREMENTS FOR SUSTAINABILITY
Function
Duration
Simple use
PRODUCT
Design
Cost
Reliability
IMPROVEMENT HORIZON
Function
Duration
Simple use
Avaliability
Low impact
SUSTAINABLE PRODUCT
Social value
Reuse
Consumption
Design
Cost
Reliability
IMPROVEMENT HORIZON
time