

TRAINING ON INNOVATION

NOVEMBER 25TH- 27TH 2015, NAPLES - ITALY

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Technological, Economic and Ethical Issues in R&I

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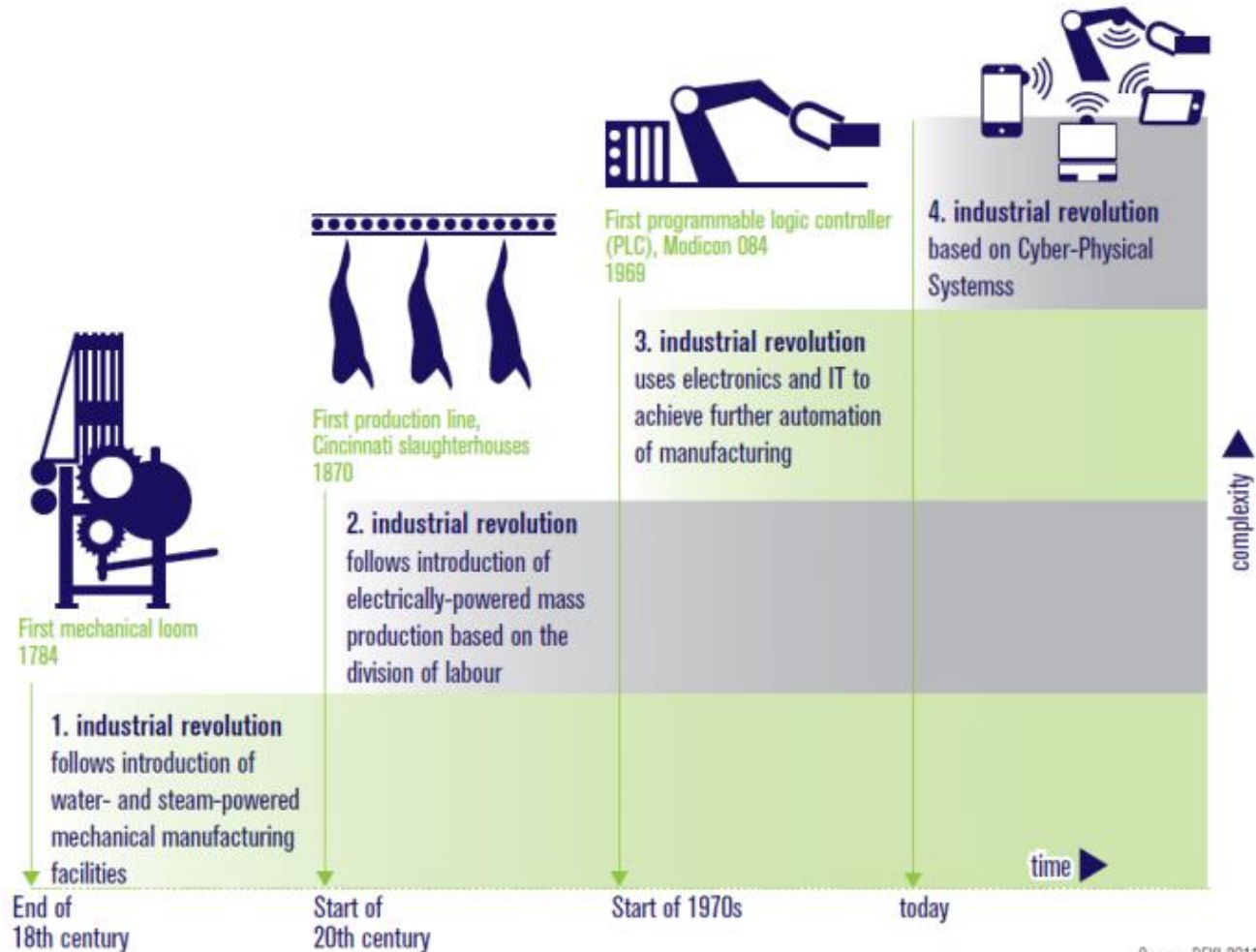
The 4th Industrial Revolution

The Fourth Industrial Revolution is a collective terms embracing the developments in manufacturing and production which are resulting from technology developments such as cyber-physical systems and the Internet of Things.

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- Higher flexibility and productivity
 - Resource efficiency
 - Sustainability: clean, safe and smart goods and services

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A Paradigm Shift

Change in the industrial system because of the growing linking of the physical and digital worlds

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- Consumers will have a higher stake in determining the new products
 - Change in the relationship between the citizens/consumers and the industrial sector



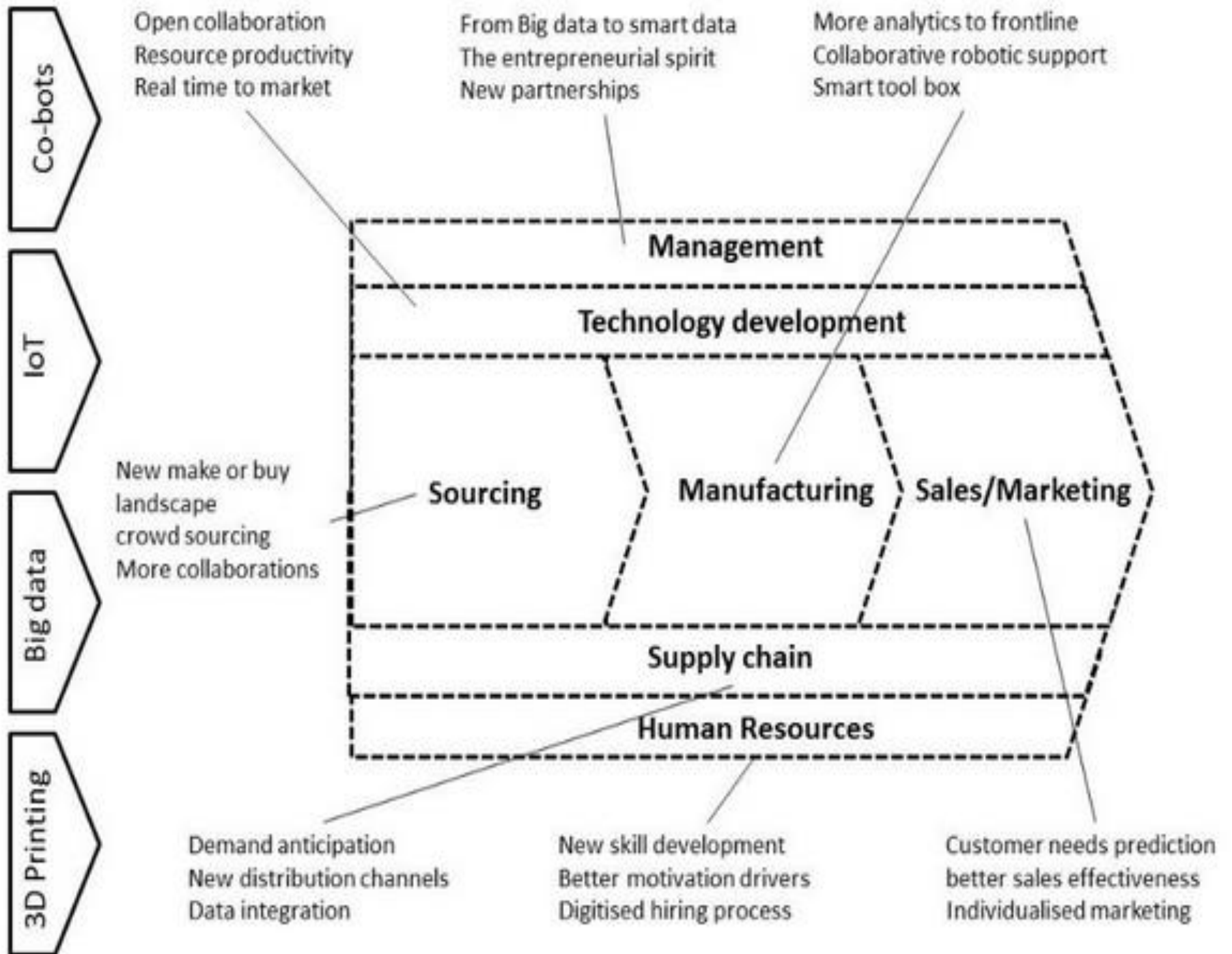
Key Concepts

- Internet of Things
- Cyber Physical Systems
- Additive manufacturing (3D Printing)
- Smart Robots
- Big Data/Smart Data
- Cyber security
- Cloud computing
- Energy Efficiency



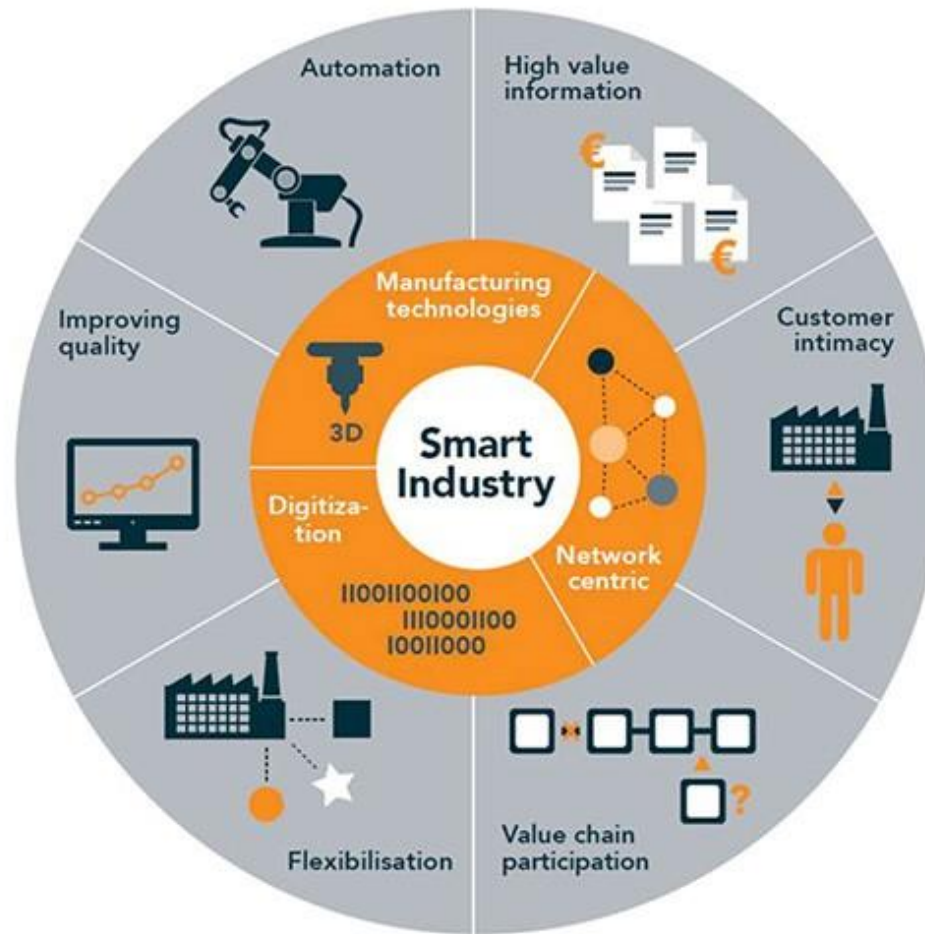
Consequences

- Personalized, local production and mass customization
- Decentralized/distributed manufacturing
- New business models
- New skills: a multidisciplinary approach
- A new role for clusters in a globalized world



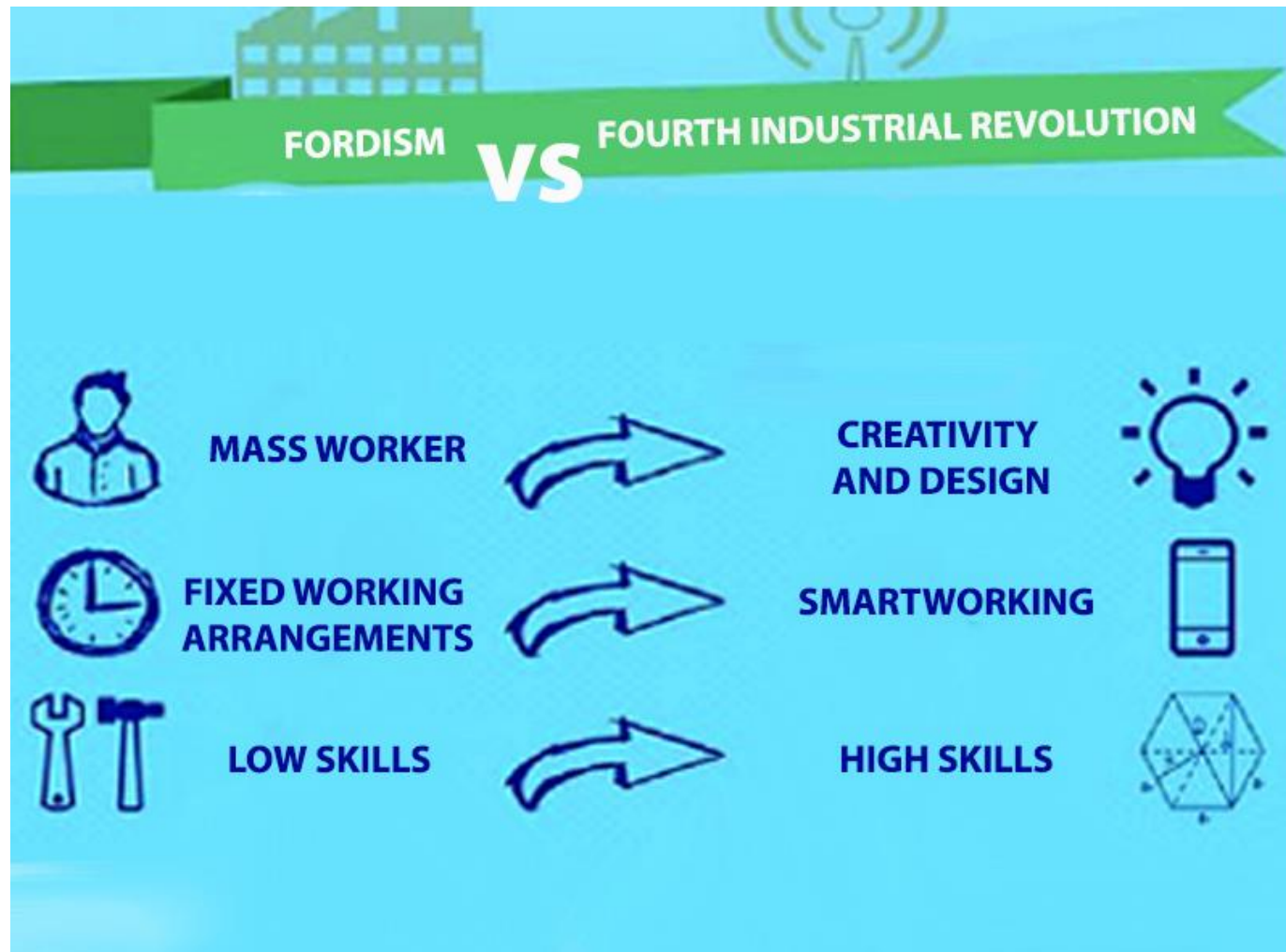


The Smart Industry





Where will the jobs go?





The EC Objectives

Enterprises must turn to innovation, productivity, resource efficiency and high added value



Importance of **ethical** dimension in the changes triggered by the new technologies.



Boost the new dynamics

- Investments in R&I (PPP, collaborative networks, innovation clusters)
- Development of technology strategy
- Establishment of a digital and secure environment



The Importance of Digitalization

The new work programmes aim at:

- facilitating the creation of **new infrastructures** and platforms to experiment, pilot and demonstrate new ways of doing things with consumers and users based on their needs and behaviour
- **creating secure networks** after the integration of physical systems with the internet
- determining **common platforms and languages** to allow machines to speak across corporate boundaries
- addressing the concerns of citizens in areas such as **cyber security and trust**.
- boost **digital skills** and **learning** across society, including the development and use of language technologies

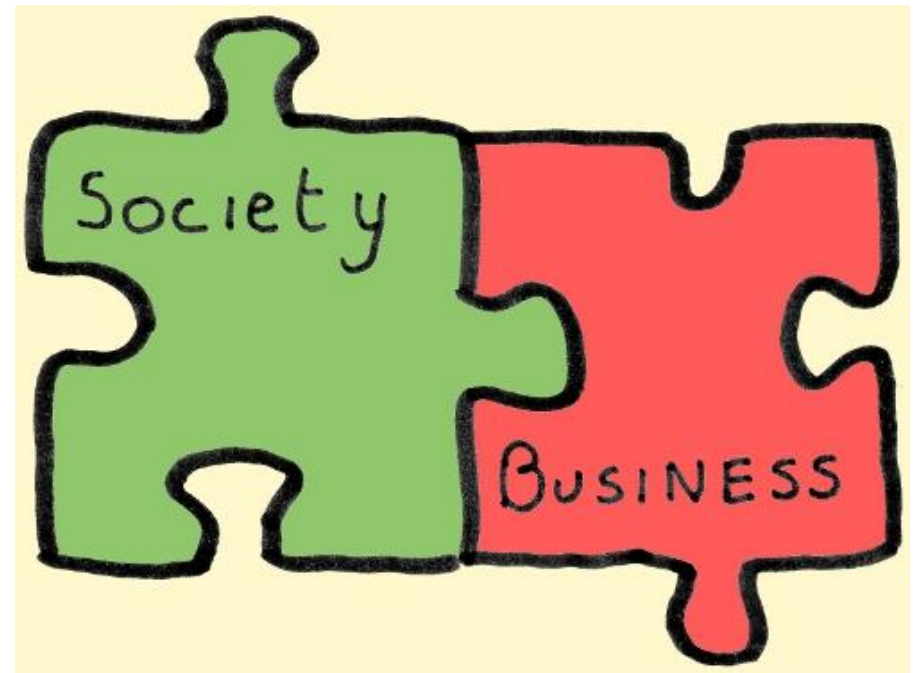


A Convergence of Interests

- The consumer's **attention for environmental, social and ethical issues coupled with their growing participation in the production processes** pushes the **industry** to quickly **adapt to the new sustainable standards**
- In return, **enterprises are willing to adopt measures for clean industry and sustainability** thus accommodating the end-users' growing attention to sustainability and ethical values while enhancing their **competitiveness** at the same time.

Reconciling business and society

The current a repositioning of industry inside society favours the creation of shared values, thus benefitting society as a whole.





Creating Shared Value

Shared value = policies and practices that enhance competitiveness while simultaneously advancing social conditions in its communities

- Corporate Social Responsibility (CSR) has limited connection to the business activity, for this reason is difficult to justify and maintain it in the long term.
- Corporate Shared Value (CSV) is an essential part of the profitability and competitiveness of a company.



CSR → CSV

- › Value: doing good
- › Citizenship, philanthropy, sustainability
- › Discretionary or in response to external pressure
- › Separate from profit maximization
- › Agenda is determined by external reporting and personal preferences
- › Impact limited by corporate footprint and CSR budget

Example: Fair trade purchasing

- › Value: economic and societal benefits relative to cost
- › Joint company and community value creation
- › Integral to competing
- › Integral to profit maximization
- › Agenda is company specific and internally generated
- › Realigns the entire company budget

Example: Transforming procurement to increase quality and yield



Shared Value & Competitive Advantage



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- Social deficits and environmental impact create economic costs for companies
 - Community weaknesses affect company productivity
 - Social needs represent the largest unserved market opportunity
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Shared Value: stakeholders



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The three levels of CSV

ENABLE LOCAL CLUSTER DEVELOPMENT

Activate supply chain to enable growth and productivity



REDEFINE PRODUCTIVITY IN THE VALUE CHAIN

Improve resource efficiency and reduce cost of operations and its impacts

RECREATE PRODUCTS AND MARKETS

Grow revenue through new or improved products and services to address social issues



A New Cluster Dynamics

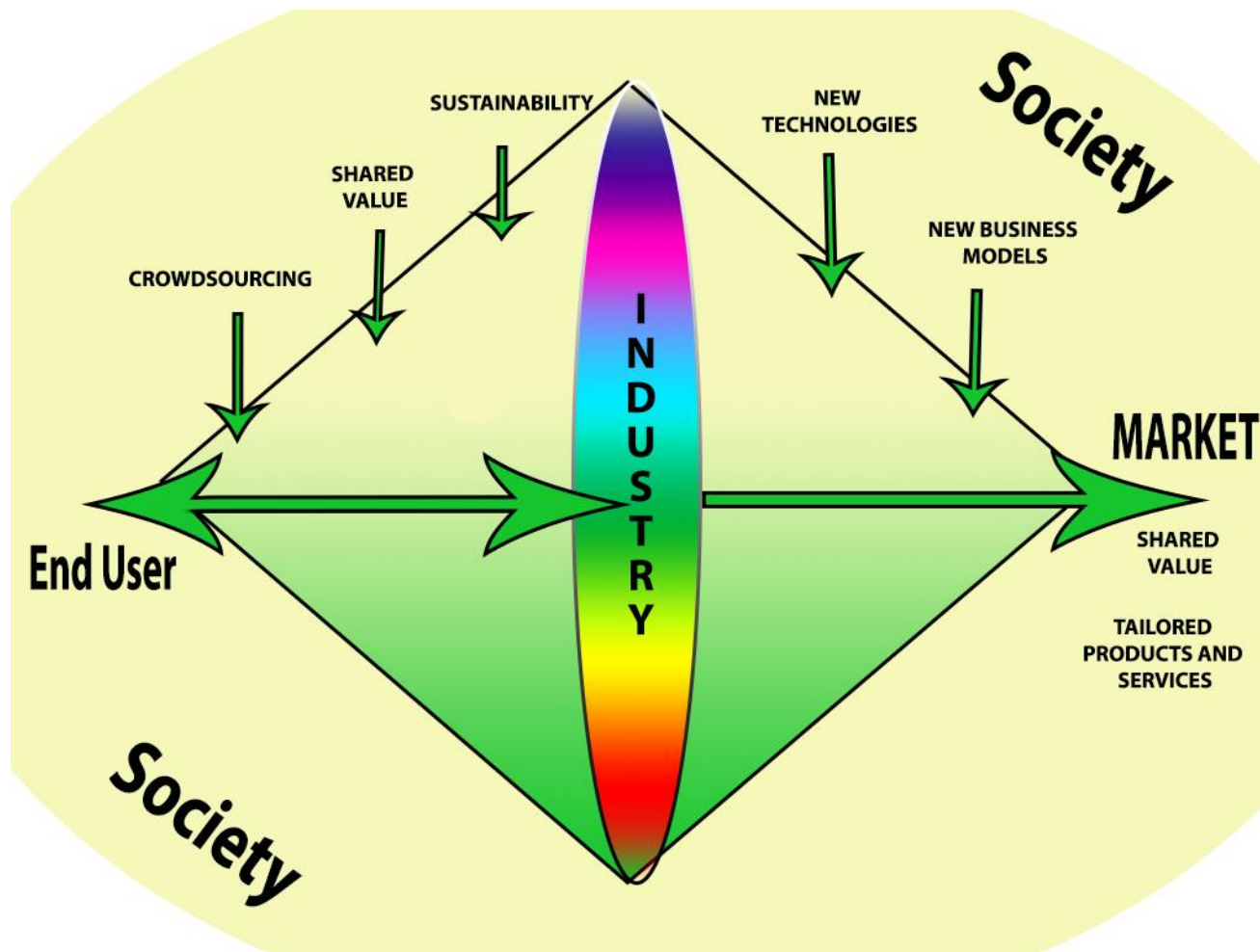
The presence of a network of companies in the value chain (e.g. suppliers, services suppliers, logistic infrastructures) positively influence productivity, innovation and competitiveness of the whole ecosystem.

The “cluster” is the optimal ecosystem for development

- Both local and international firms get closer to the citizens/end-users by accommodating their growing demand for sustainability;
- This way, firms can improve their productivity and enhance their competitiveness while addressing gaps and/or failures in the framework conditions surrounding the ecosystem.



A New Cluster Dynamics (cont.)






Conclusions

Technological innovation significantly impact society

In order to increase effectiveness, technological and economic innovation must go hand in hand with social innovation

Companies can play a key role in promoting not only economic and technological innovation, but also social innovation



The new work programmes reflect the need to boost research on new business models that include the ethical aspects aimed at creating shared value in the community.

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*Thank
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