

# Preface

2012 International Conference on Manufacturing (Manufacturing 2012) will be held on November 14-15, Macau, China.

Manufacturing is the production of goods for use or sale using labor and machines, tools, chemical and biological processing, or formulation. The term may refer to a range of human activity, from handicraft to high tech, but is most commonly applied to industrial production, in which raw materials are transformed into finished goods on a large scale. Such finished goods may be used for manufacturing other, more complex products, such as aircraft, household appliances or automobiles, or sold to wholesalers, who in turn sell them to retailers, who then sell them to end users – the "consumers".

Manufacturing takes turns under all types of economic systems. In a free market economy, manufacturing is usually directed toward the mass production of products for sale to consumers at a profit. In a collectivist economy, manufacturing is more frequently directed by the state to supply a centrally planned economy. In mixed market economies, manufacturing occurs under some degree of government regulation.

Modern manufacturing includes all intermediate processes required for the production and integration of a product's components. Some industries, such as semiconductor and steel manufacturers use the term fabrication instead.

The manufacturing sector is closely connected with engineering and industrial design. Examples of major manufacturers in North America include General Motors Corporation, General Electric, and Pfizer. Examples in Europe include Volkswagen Group, Siemens, and Michelin. Examples in Asia include Toyota, Samsung, and Bridgestone.

Manufacturing 2012 will be the most comprehensive conference focused on the various aspects of advances in Manufacturing and Materials Science. This Conference provides a chance for academic and industry professionals to discuss recent progress in the area of Manufacturing and Materials Science. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject.

I am thankful to colleagues for their contributions to Manufacturing2012. I should also like to thank the members of the Organizing Committee, IERI, and the corporate sponsors for their efforts and contributions towards making the conference a success.

Finally, we hope the contents of the proceedings will prove useful for all researchers in Manufacturing fields.

We look forward to meeting you next year.

Dayun Xu

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