

Editorial

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It is fortunate that the papers for this special issue are now in the process of being typeset. Many obstacles have had to be overcome in past years. Due to the SARS in many countries in Asia last year we had to slow down our work. Originally the topic for the issue was defined as 'how to develop and operate the distributed knowledge and knowledge acquirement resources for innovative design under internet condition'. Since there are only a few works in this field much difficulty occurred in collecting papers. The situation improved after we accepted a suggestion from Professor Feng Pei-En, a member of the editorial panel of the issue. The suggestion was to extend the scope of the issue to 'theories, methods, tactics and application of distributed collaborative design based on internet'.

It is believed that the original topic is very important for the future of manufacturing engineering. At present the competition in manufacturing is the competition of product development and the competition focuses on three points: inserting newest technique in the product to be developed, shortest developing period, and lowest developing cost. The first point makes the establishment of a principle of design: 'new knowledge acquirement is the focus of design activities'. Since knowledge acquirement is resources dependent the other two

points compel the structure of intelligent resources for design from a vertical one in each manufacturing enterprise to a horizontal one in the world, such as a distributed intelligent design resources. The life cycle design requirement strengthens the trend.

Distributed intelligent design resources growth existed spontaneously in a long period around many large manufacturing enterprises. The question is, how to form a distributed resource environment, which is called 'an advanced engineering environment' in some documents? To have a rational environment, which can grow on a scientific base and operate with high efficiency, study around the original topic is unavoidable. A very wide research space can be expected in the field of what we called modern design theory and methodology. It includes at least the following branches: the complicated topologic structure of design process due to distributed resources, the principle of knowledge flow between the design entities and the related distributed resources, the driving force of the design progress and the collaboration between design stakeholders.

It is expected that more papers around the original topic will be submitted to the *International Journal of Computer Applications and Technology* in the future.