NEXT Generation Production Systems

As a 4-year project with 25 partners, 80 institutions involved, a team of 60 experts and a budget of 24 million EUR, ***NEXT Generation Production Systems*** has taken shape as **the biggest initiative ever undergone in Europe in the production systems area**. NEXT integrates the complete "value-chain" for the European production machinery sector.

NEXT's activities aim at determining the **machines of the future** and the sector's new business models contributing to the transformation the manufacturing industry is demanding.

NEXT is structured in **5 objective-tracks**: 3 technical tracks, 1 track for economic research and 1 track for education and dissemination.

TRACK 1 - The Green Machines

The main objective of Track 1 is to get real **environmental breakthrough for machine tools**, i.e. eliminating or drastically reducing the environmental impact of machines at the entire life cycle: conception, use and dismantling. For instance, use of recycled material for machine elements, reduction of energy consumption at machine use, zero waste produced, dismantling and recycling of 100% machines and non-pollutant alternative processes.

TRACK 2 - User centric autonomous machine tool

The main objective of Track 2 is to fix the basis for a **new generation of autonomous and "user-friendly" machines** that will support a much more efficient and comfortable way of working for the users of production equipment. The machines will help the operator in all tasks in providing a complete set of features (added applications, ergonomic aspects, improved maintenance aspects, etc) which support the users' need to recognize automatically manufacturing tasks and process conditions.

TRACK 3 - Manufacturing breakthrough

The objective of Track 3 is to design and build **the best process-controlled production machines in terms of performance, productivity and achievable quality**. The aim is to get between 2X and 5X improvement in the machine-tool productivity depending on the process, as well as up to an order of magnitude improvement in accuracy, compared to current available production machines. Production machines' availability and reliability will as well be addressed.

TRACK 4 - New Business Concepts

Machine tool users are increasingly demanding *a **full life cycle service*** from their suppliers. This Track will provide powerful new business models to support a **full collaboration service between End Users and Machine Tool Builders** characterised by:

- Innovative value propositions
- Organisational changes
- Payment and financing methods related to output and availability
- Customised machine system configurations

Companies aiming to improve significantly their **global competitiveness** will have available to them a set of customised tools and methods to develop and support their strategic business relationships.

TRACK 5 - New training and dissemination methods

The project has defined activities to **transfer the results of the research work to interested industrial partners**, both users and producers of machine tools, where training and skill development will be provided. From the research results, new innovative methods and content will be developed for training and dissemination of both academic and professional engineers targeted at machine tool users and builders in SMEs, throughout Europe.

For more information, please visit the NEXT website:

http://www.nextproject.eu