



MANUFUTURE – a vision for 2020

Assuring the future of manufacturing in Europe

**MANUfuture: Which Technology Platform
For Manufacturing,
Milano, 20th of October 2004**

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**Starting point: the
MANUFUTURE 2003
Convention**

Where: Milano, ITALY
When: December 2003
Who: DG RTD Industrial Technologies, ITIA-CNR,
Eureka

Main conclusion: EU Manufacturing matters !!!

**The manufacturing sector is critical to wealth generation
and job-creation, thus "a healthy & wealthy Europe
needs a healthy & wealthy manufacturing sector"!**

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MANUFUTURE 2003 follow-up

- **Public consultation of the ManuFuture 2003 Working document;**
- **Political Commitment from Commissioner Busquin;**
- **Political Commitment from the Italian/Irish/Dutch Presidencies: Council Decision on Competitiveness;**
- **Creation of the High Level Group (HLG);**
- **Preparation of the ManuFuture 2020 vision document & Strategic Research Agenda have started.**

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Looking forward to the future

- **Consensus-based process**
- **High Level Group** representing all stakeholders:
people with strong standing, influence and commitment to make things happen

The mission: propose a strategy based on Research and Innovation

- **Speeding up industrial transformation**
- **Securing high added value employment**
- **Securing a major share of world manufacturing output**


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Main findings thus far

**Jobs moving from industry to the service sector is a general trend.
The service content of products is increasing.**
BUT
Economy based on service industries alone can not survive in the longer term.
No statistical evidence of absolute deindustrialisation.
BUT
A number of sectors are suffering.
AND
The productivity gap between Europe and the US is widening.
AND
Europe is also lagging in innovation performance.
AND
New competitors (e.g. China and India) increase pressure to relocate production to other parts of the globe.

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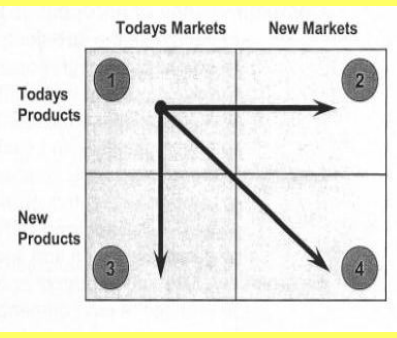
Main recommendations thus far

**GREAT POTENTIAL BUT
TRANSFORMATION IS A MUST !**

Strategies for MANUFUTURE

- ① Centralised, local production
- ② Distributed production, global market
- ③ Leadership in technologies
- ④ New technologies for strategic technology platforms

	Todays Markets	New Markets
Todays Products	1	2
New Products	3	4



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Main recommendations continued

Innovating production !

- 1. From resource-based to knowledge-based manufacture**
- 2. From linearity to complexity**
- 3. From individual to system competition**
- 4. From mono-disciplinarity to multi-disciplinarity**
- 5. From macro- to micro- to nano-scale**
- 6. From top-down to bottom-up production**


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Main recommendations continued

Innovating the system of research

Creating the climate for success

- Fiscality
- Finance
- Patents, IPRs
- Norms/regulations
- Administrative rules
- Demand




A competitive R&D system


- Ethics, health & safety
- Information + dialogue
- Acceptance

- Industries
- Universities
- Research institutes
- Finance
- Policymakers

- Interdisciplinarity
- Entrepreneurship


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Implementation of Manufuture

Approach:

- **Multiperspective**
- **Multisectoral**
- **Multidisciplinary**

- **Technology Platform**
to enable the delivery of
manufacturing resources
needed
for industrial transformation


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Next steps

- **The work of the HLG & support group is continuing; consultation on the draft vision; document will be completed end of October 2004**
- **The Vision document will be discussed the 10th of November;**
- **The Vision document will be presented in the Manufuture 2004 event in Enschede, NL, 6 & 7 December 2004;**
- **Announcements for follow-up activities in MANUfuture at Enschede.**

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Manufuture Platform VISION

**Develop future manufacturing resources
for world class production capability and technology leadership**

	FROM	TO
DRIVER 1	Resource-intensive systems	Knowledge-based production
	Highest efficiency and reliability of existing resources	Shortest possible response by related manufacturing product-service assets
OBJECTIVE 1	<u>Deliver:</u> future, knowledge-based, critical manufacturing resources, such as equipment, facilities, operating and organisational systems, personnel <u>Assure:</u> their trouble-free utilisation and rapid deployment	
EXPECTED RESULT	<u>Establish:</u> the capability to control the greatest possible share of manufacturing output based on manufacturing excellence	

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Manufuture Platform VISION

**Develop future manufacturing resources
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	FROM	TO
DRIVER 2	Competition investment costs	Life-cycle investment and management of associated costs
	Unitary and isolated product-process development strategies	Parallel development of complex products and processes
	System and product incremental improvements	value added benefits in the form of knowledge-based resource services
OBJECTIVE 2	<u>Deliver:</u> knowledge-based manufacturing processes capable for the development of high added value products and product-related services	
EXPECTED RESULT	Parallel development of new processes and new products based on complementary and mutually supporting arrangements	

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Manufuture Platform VISION

**Develop future manufacturing resources
for world class production capability and technology leadership**

	FROM	TO
DRIVER 3	Single-competence process innovation	Multi-disciplinary and multi-skill innovations
	Incremental improvements of established technologies	Rapid and simultaneous deployment of new technologies
OBJECTIVE 3	Deliver: the newest manufacturing process capability based on the deployment of knowledge emanating from various disciplines which are capable of meeting competitive-driven process requirements	
EXPECTED RESULT	Enable: continuous delivery of customer-required processes based on the applications of the newest scientific and technological developments	

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Manufuture Platform VISION

**Develop future manufacturing resources
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	FROM	TO
DRIVER 4	Traditional labour-intensive single skill employment	Knowledge-based high value adding jobs
	One-off education and skill acquisition	Life-long learning and continuous skilling
OBJECTIVE 4	Develop: the most knowledgeable human resource capability to operate and manage the new manufacturing resources	
EXPECTED RESULT	Create: high-added employment environment for Europe that would replace the one lost in labour-intensive industries	

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 <p>Workshop The MANUFUTURE Platform Milan, October 20th, 2004</p>			<h2 style="color: #A52A2A;">Manufuture Platform VISION</h2>	
<p>Develop future manufacturing resources for world class production capability and technology leadership</p>				
DRIVER 5	FROM		TO	
		Supply and export of manufacturing resources		Protected process know-how and engineering services
		Centralisation for the purpose of rationalisation		Decentralisation for the purpose of improving service performance and global reach
OBJECTIVE 5	<u>Development</u> of the most advanced production capability to deliver future manufacturing processes to the world			
EXPECTED RESULT	<u>Establish:</u> world productive capability in supplying the most advanced manufacturing resources			
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<h3 style="color: #A52A2A;">M-F platform objectives-Summary</h3>	
OBJECTIVE 1 Supply Strategic Resources	<u>Deliver:</u> future, knowledge-based, critical manufacturing resources, such as equipment, facilities, operating and organisational systems, personnel <u>Assure:</u> their trouble-free utilisation and rapid deployment
OBJECTIVE 2 Capability for High AV P&S	<u>Deliver:</u> knowledge-based manufacturing processes capable for the development of high added value products and product-related services
OBJECTIVE 3 Rapid deployment of Breakthrough technologies	<u>Deliver:</u> the newest manufacturing process capability based on the deployment of knowledge emanating from various disciplines which are capable of meeting competitive-driven process requirements
OBJECTIVE 4 HAvemployment	<u>Develop:</u> the most knowledgeable human resource capability to operate and manage the new manufacturing resources
OBJECTIVE 5 Global manufacturing	<u>Development</u> of the most advanced production capability to deliver future manufacturing processes to the world