



**SOMMACT**



## **Self-Optimising Measuring MACHine Tools**

**Dissemination:  
EMO 2009**



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Solbiate Olona (VA) Italy, 2009-10-27

**WP6 Leader**

# WP6 Dissemination



EMO 2009 5-10 October:

The “machine tool world exhibition” promoted by CECIMO, European Committee for the Co-operation among Machine Tool Industries, was hosted in Milan,

Visitors Statistics:

- **124,660 visitors - 99 countries** from five continents.
- **377 journalists**
- The impressive **foreign** attendance, representing **41% of the total**
- The top place in this ranking was taken by **Germany with 12.8%** followed by America, the Czech Republic, Finland, France, Japan, India, Poland, Russia and Switzerland.



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Visitors Statistics:

- **Non-European visitors, 40.1% of the total international attendance.**
- Figures detailing attendance by **international delegations** are also interesting, with independent groups and others invited within the scope of the initiative **organised by ICE** (Italian Institute for Foreign Trade) and **UCIMU-SISTEMI PER PRODURRE** from Albania, Argentina, Brazil, China, Croatia, Korea, Japan, India, Morocco, Russia, Serbia, Slovenia, South Africa and Vietnam.



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Exhibitor Statistics:

- **1,400 companies,**
- over a net stand area of **100,000 square metres**
- **39 countries**



WP6 Outline

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# WP6 Dissemination



EMO 2009 5-10 October:

SOMMACT:

- Dedicated area within Alesamonti stand
- Contact:
  - Dr. Eng. Castelli (Vice Minister Infrastructure and Transport)
  - Delegation of UNIONMECCANICA Varese Board
  - 40 visitors asked for information about project



# WP6 Dissemination



EMO 2009 5-10 October:

SOMMACT Dissemination material:

- Roll-on
- Leaflets Ita - En



 NMP theme:  
**HAI TECHNIQUES, NANOTECHNOLOGIES,  
 MATERIALS AND  
 NEW PRODUCTION TECHNOLOGIES**

Progetto (acronimo):  
**SOMMACT**  
 Self Optimising Measuring Machine Tools

Numero di Contratto:  
**NMP2-SL-2009-229112**

Coordinato da: 

## SOMMACT: L'INNOVAZIONE INIZIA QUI

La macchina utensile presenta errori geometrici che influenzano la qualità del pezzo prodotto.

Partendo dall'esperienza di precedenti progetti europei sulla valutazione e correzione degli errori geometrici (MT-CHECK), SOMMACT vuole sviluppare e validare un innovativo sistema di controllo software ed hardware, basato sulla misura di tali errori (tramite nuovi sensori integrati nella macchina) e sulla compensazione (con capacità adattive e di self-learning) degli effetti geometrici dovuti alle variazioni di grandezze fisiche come la temperatura ambiente e la massa del pezzo.

Questo consente di migliorare l'efficienza nella produzione di pezzi complessi (singoli o in piccole serie), ottenendo i seguenti vantaggi:

- aumento della qualità dei prodotti grazie a continue compensazioni degli effetti geometrici;
- riduzione dei tempi totali di produzione grazie alla integrazione delle attività di misurazione e lavorazione in macchina;
- acquisizione di conoscenze approfondite sulle deformazioni termo-meccaniche della macchina, utili per l'ottimizzazione della produzione e della manutenzione.

|              | Nome                  | Logo | Attività                                |
|--------------|-----------------------|------|---|
| INDUSTRIE    | BETA                  |      | Self learning software                  |
|              | Università di BRESCIA |      | Area analysis, Workpiece Compensation   |
|              | ALESAMONTI            |      | MTs builder (CNC)                       |
|              | ISE-IR                |      | Sensors, Self learning control hardware |
|              | Geo-3D                |      | Reference Analysis, Virtual metrology   |
| SERVIZI      | ITI                   |      | Reference metrology, V&M software       |
|              | WEG                   |      | MTs user, Production system             |
|              | FEISA                 |      | MTs builder (CNC), CNC manufacturer     |
|              | MASLAT                |      | MTs user, Production system             |
| Legge Italia | ROMBERT               |      | MTs builder (CNC)                       |
|              | API Varese            |      | Documentation, Specification            |

[www.sommact.eu](http://www.sommact.eu)



 NMP theme:  
**HAI TECHNIQUES, NANOTECHNOLOGIES,  
 MATERIALS AND  
 NEW PRODUCTION TECHNOLOGIES**

Project (acronym):  
**SOMMACT**  
 Self Optimising Measuring Machine Tools

Grant Agreement N°:  
**NMP2-SL-2009-229112**

Project Coordinator: 

## SOMMACT: INNOVATION STARTS HERE

Machine tool's geometric errors adversely reflect on the finished workpiece quality.

Significant R&D efforts have been devoted to this subject: the MT-CHECK system, composed of a self-learning probe and a ball beam, that can be oriented in different positions within the machine tool working volume, allow to evaluate the 19 error functions and 6 parameters, that completely define the machine tool geometric errors. The MT-CHECK system was developed with relevant financial support from the EC.

Advanced, state-of-the-art systems can compensate errors measured with the machine tool being in its unloaded state, at a given ambient temperature but, on large machines, the combination of workpiece mass variations (several tons) and ambient temperature variations, can lead to additional geometric errors that could be close to ± 0.5 mm.

SOMMACT will tackle these issues by developing:

- new metrologic concepts;
  - innovative sensors;
  - stable reference artifacts;
  - ad hoc self-learning systems.
- True factoring:
- quasi real-time compensation for workpiece load and ambient temperature variations;
  - significant better quality for small and even single batch production;
  - higher efficiency in production systems, by integrating machining and traceable measuring capabilities on the machine tool itself.

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# WP6 Dissemination



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Direct promotion of sommacct concepts and partners  
with:

AMT Association for Manufacturing  
Technology (USA)

Association of Turkish Machine Manufacturers (TR)

Manufacturing Technologies Association (UK)

FVM Swedish Machine Association (SE)

STANKOINSTRUMENT Russian association of  
machine tool (RU)

Federation Product Technology (NL)



# WP6 Dissemination

EMO 2009 5-10 October – some pictures



WP6 Outline

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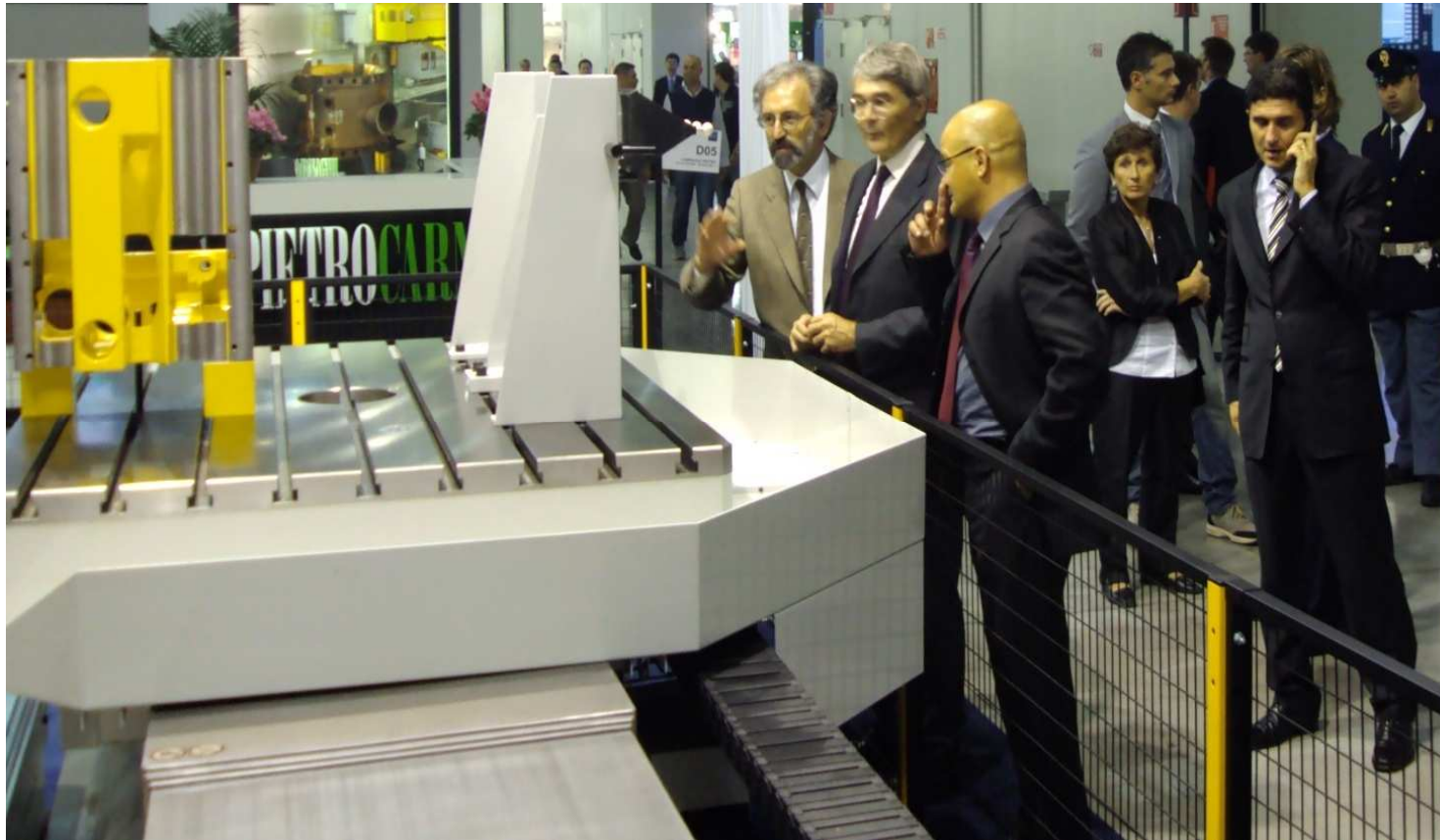
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