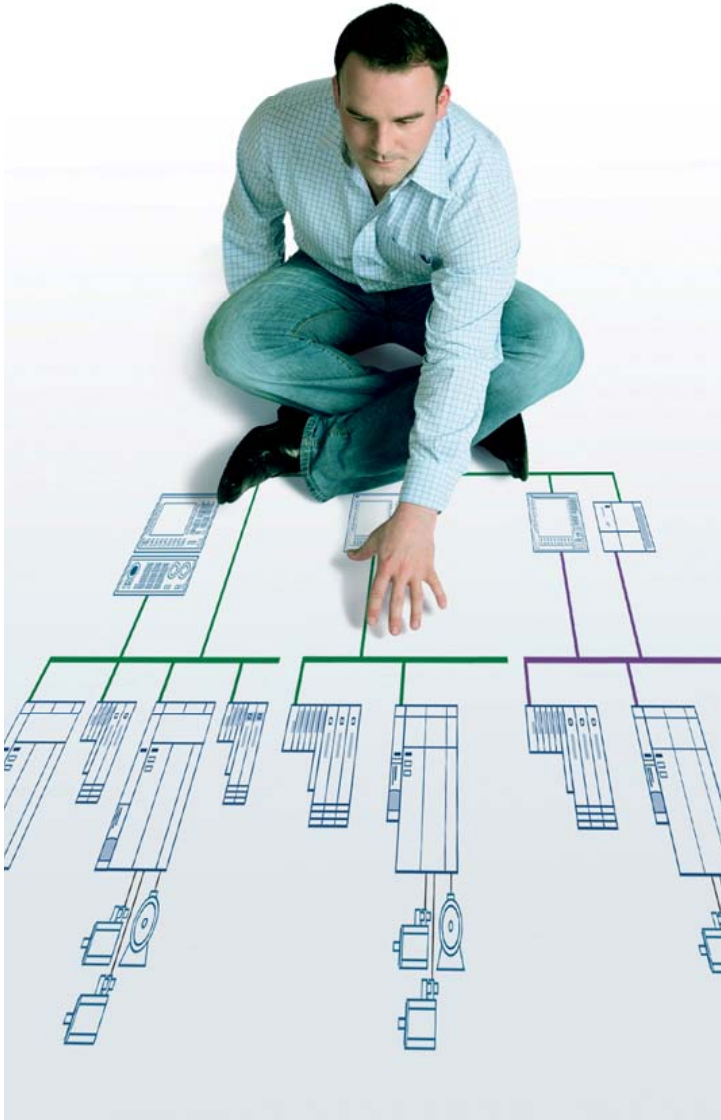


**SIEMENS**

# Siemens Solutions for CNC Training

Together we are strong!



## Overview – Indian Manufacturing Industry

- **India is witnessing fast-paced growth in the manufacturing sector**
- **Automobile majors such as GM, Hyundai, Renault, Nissan, VW, Suzuki, TATA, Ashok Leyland, Mahindra are all establishing new manufacturing units or expanding existing set ups**
- **India has one of the fastest growing middle class population & hence is a lucrative destination for FMCG companies. Increased demand for consumer durables is driving the growth in the Die-Mold sector**

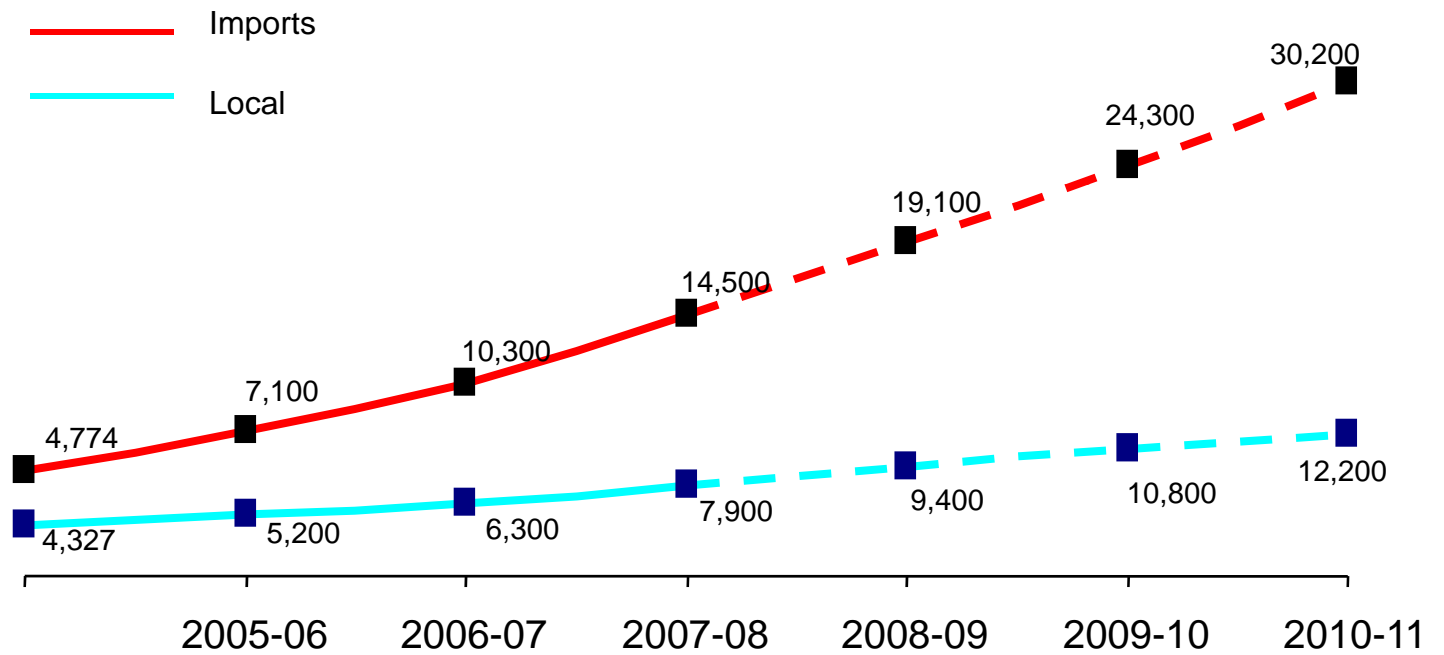


Siemens Solutions for CNC Training  
Slide 2/17



Industry Sector

# Overview – Indian Machine Tool Market



Source: IMTMA, OEM production statistics

# Training – A necessity in the Indian Machine Tool Industry



20,000 machines

I shift

II shift

III shift

2 - 3 shifts/machine



approx  
30,000 - 50,000  
operators



**Huge requirement for CNC training**



## End-Users' Training Requirements

- **Regionally available**
- **Technology-specific (turning, milling)**
- **Flexible timing (also classes on weekends or evenings)**
- **Practical training with real machines**
- **Locally known training provider**



- **Excellent training material**
- **Experienced trainers**
- **Up-to-date contents**
- **Efficient trainings concepts**
- **Up-to-date equipment**



## Siemens Answer for Training Requirements - *Partnering with Training Institutes*

- **Large number of End Users are in need of CNC training for their operators**
- **These End Users approach Siemens for help with training**
- **Siemens holds training courses at our own training centres in Bangalore & Mumbai**
- **OR Siemens partners with industrial training institutes, vocational centers etc. such as Don Bosco, providing documentation and technology support.**
- **End Users can take advantage of the training courses held at these institutes**



## Siemens Solutions for Machine Tool Training

- *What we can offer*

- **Sinutrain – PC based CNC training software**
- **Training Kits – specially designed for classroom hands on training**
- **Training for Trainers**
- **Training documents**
- **Support for retrofitting of old machines**
- **Promotion material for training rooms such as posters, stand-up displays**
- **Possibility of Joint Certification**



## Sinutrain – CNC Training Software

- Control-identical field-oriented, PC-based CNC training software
- Programming and operation in training and production
- Basis:  
Standard CNC control interface  
SINUMERIK  
802D/810D/840D/840Di/840Dsl/840Di sl
- Programming: DIN/ISO Programming & Graphical programming (ShopMill/ShopTurn)
- Graphical 2D and 3D Simulation
- CAD Reader



Siemens Solutions for CNC Training  
Slide 8/17



WKS	Position	Poswert	Maßwert	S1
X	-17.000 mm	0.000	Ist	0.000 U/min
Y	250.000 mm	0.000	Soll	0.000 U/min
Z	320.000 mm	0.000	Pos	0 grad
A	0.000 grad	0.000	Leistung	100.0 %
C	0.000 grad	0.000		

Aktueller Satz: WKS/BELLOFRANK/BELLOFRANK MFF		Vorschub (mm/min)	
N1000 T="SF14" - Schaftbohrer Ø14mm		Ist	2500.000 100.0 %
N1010 MB		Soll	0.000
Werkzeug		verlangertes Werkzeug:	
		- SF14	
		G01	

Industry Sector

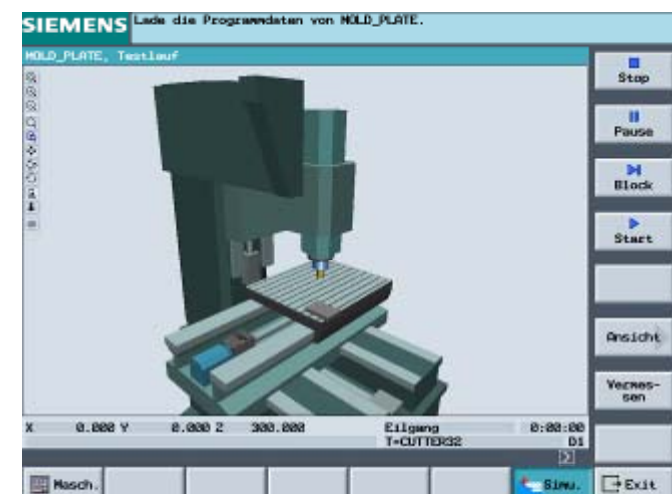
© Siemens AG 2009 - Subject to modifications

## Virtual Machine – 3D dynamic simulation

- The virtual training machine is a supplement to a real training machine
- Close to real “production” of workpieces on a PC via 3D visualization of the machining process
- Machine Area View, Tools, Collision Visualization, Final workpiece measurement



Siemens Solutions for CNC Training  
Slide 9/17



# Additional Multimedia Software for CNC Basics

## Learning basics of CNC technology

Machine Familiarization



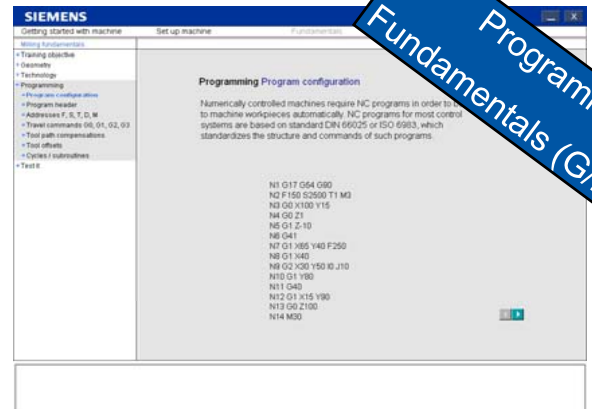
Basics of CNC Operating



Technology Fundamentals



Programming Fundamentals (G/M code)



## USB Keyboard

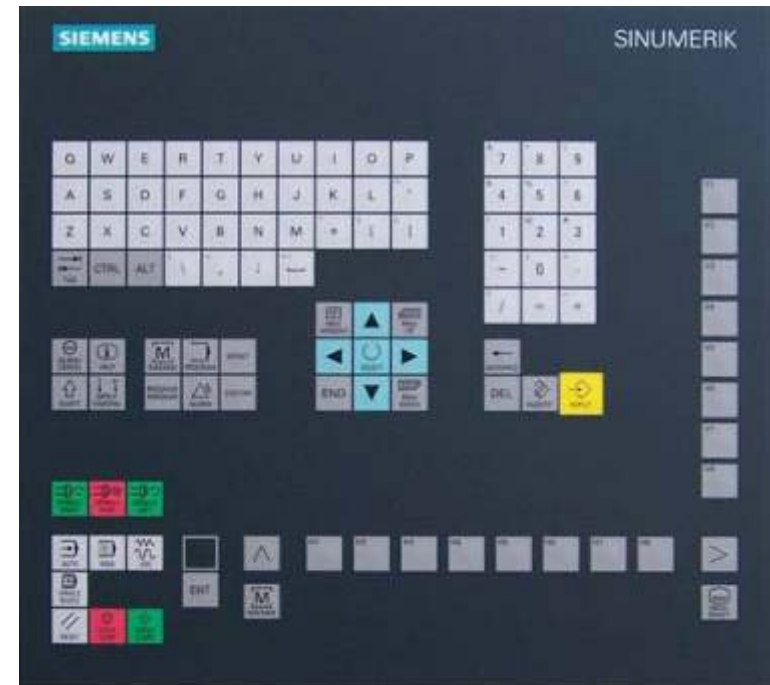
### USB training keyboard :

Realistic training with a training keyboard **identical to the one on the machine**

Easy connection to PC via USB interface

***No external power supply***

***No additional plug-in card***



## CNC Training Kits

- **Complete Training Stand / Racks wired for realistic practice of operation, programming, startup & service tasks**
- **Enhance practical skills in Industries, training institute's and colleges**
- **Diagnostic setup / tool for Maintenance task leading to reduction in breakdown time**
- **Useful for development & testing offline projects**
- **Can be Supplied as per Customized designs with any type of Siemens SINUMERIK control & features.**



# “Train the Trainer” Initiative & Training Documentation



## Update to the Latest CNC Technology

- End Users require training on up to date equipment which is present in the industry
- Retrofit to update to the latest CNC technology



**OLD: with System 3**



**NEW! with SINUMERIK 810D control**



## Don Bosco – Siemens Partnership for CNC Training

**DON BOSCO - SIEMENS**

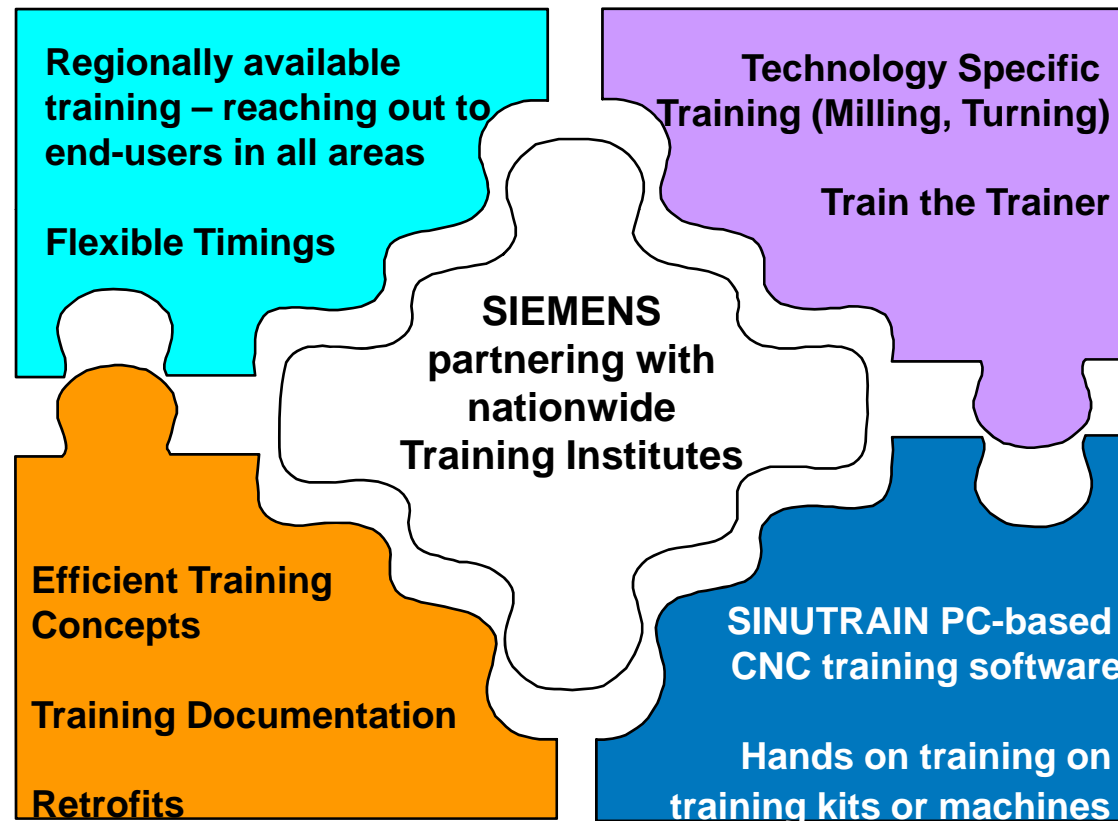
JOINT TRAINING VENTURE

CNC APPLICATION & PROGRAMMING

- CNC Operating & Programming Training
- Training the Trainers
- Training Documentation
- Sinutrain
- Retrofits



## Fulfilling Industry's Need for Trained CNC Operators

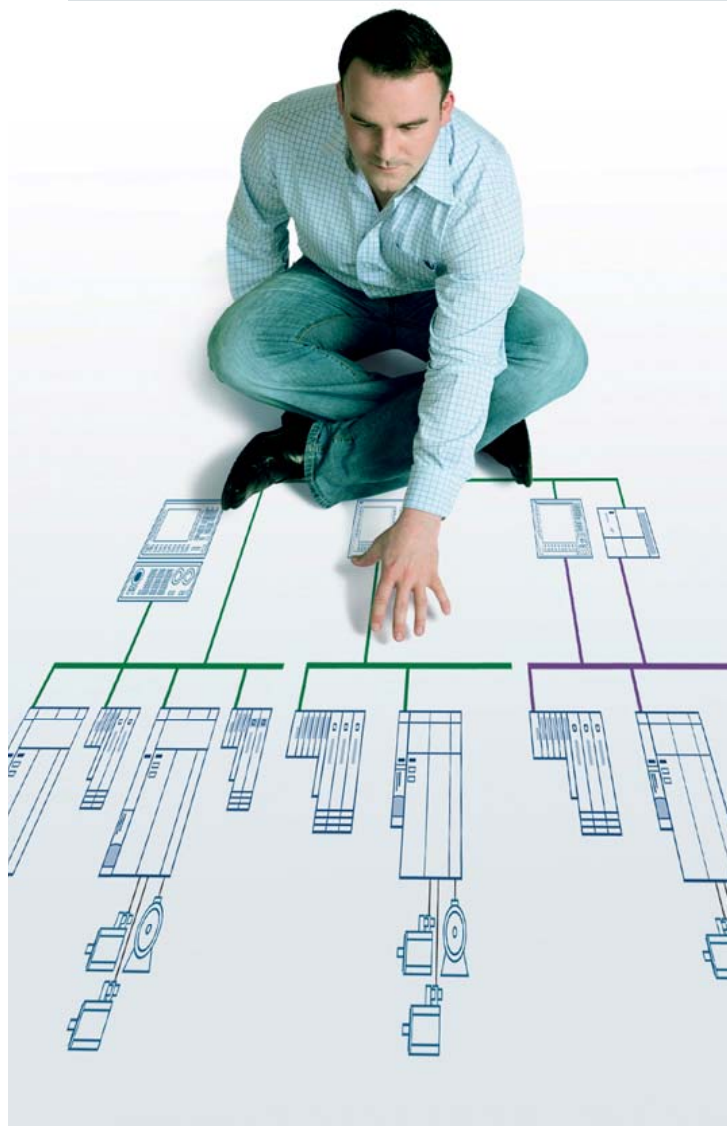


**Holistic Solution for CNC training!**



**SIEMENS**

**Thank you**



Department: I DT MCMT