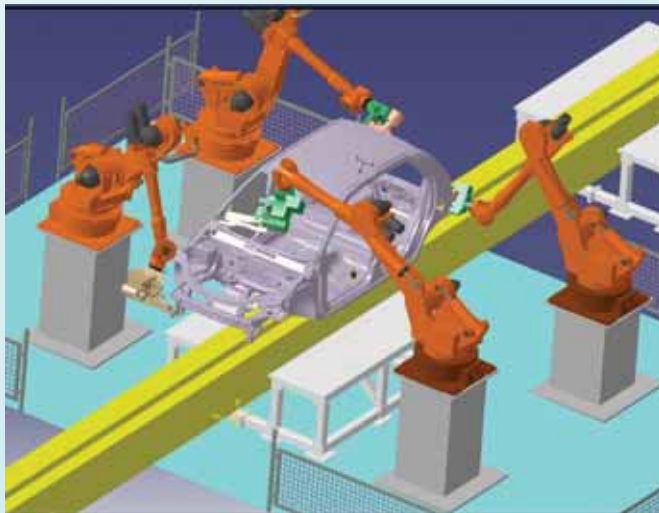
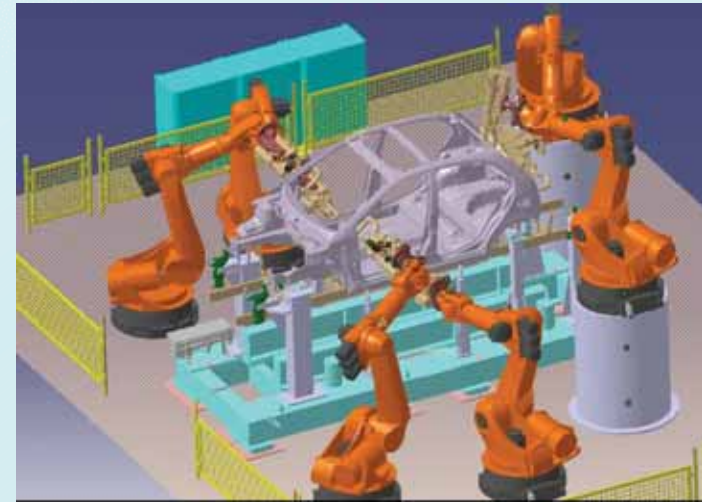


Robotics and Automation

An Indian perspective



Presenter:

**Nitin P Rajurkar, General Manager
Tata Motors Ltd. , Pune**

Tata Motors Ltd, Car plant

Capacity to make 1000 cars
per day with @ a minute cycle
time

- @ 500 robots in various shops running,
- @ 40 gantries operational
- @ 40 pick and place system operational



- **India is among the low cost Car producing country.**
- **Tata Motors have a track record of producing low cost cars.**

Why a low cost country like India should go for automation?



Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

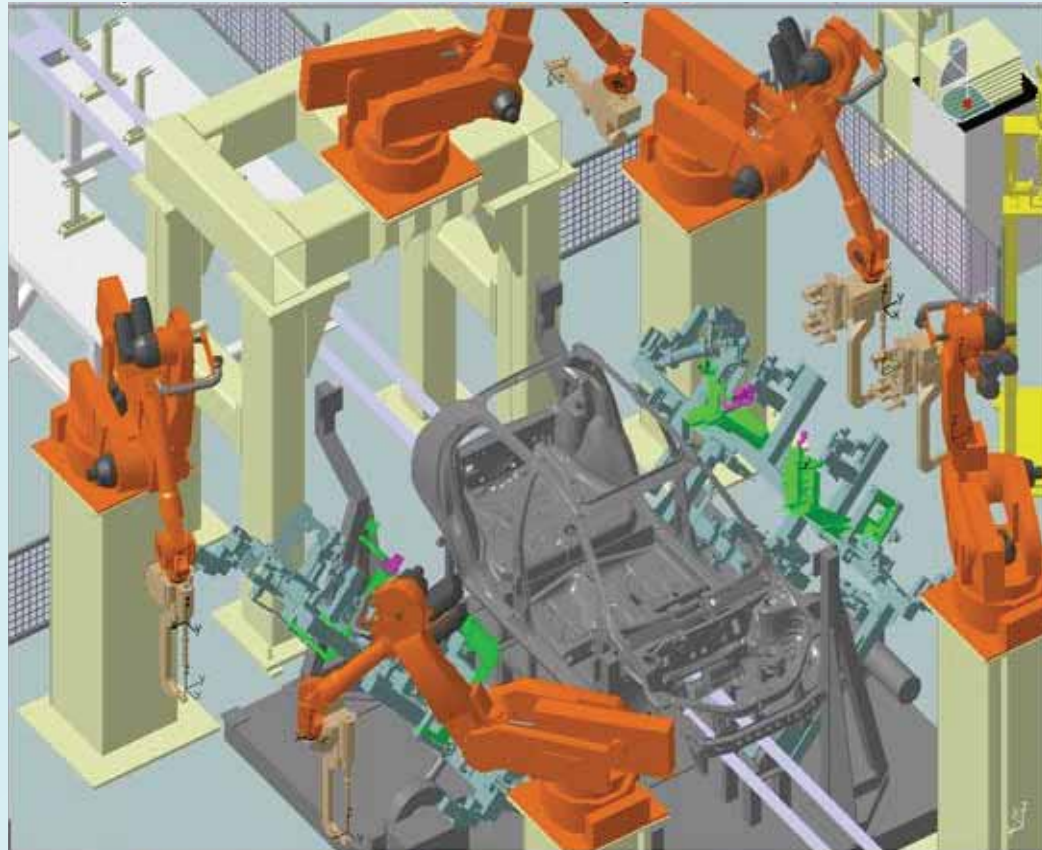
Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

- **Productivity**
- **Cost saving**
- **Quality**
- **Ergonomics**
- **Flexibility**
- **Tracking**





Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

AUTOMATION FOR PRODUCTIVITY



PRESS LINE - PANEL LOADING / UNLOADING



Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

AUTOMATION FOR COST SAVINGS



PAINT SHOP - ROBOTIC TOP COAT PAINTING

Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

AUTOMATION FOR QUALITY



WELD SHOP - INLINE CHECKING OF BIW (VISTA)



Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

AUTOMATION FOR ERGONOMICS



TCF SHOP - SEAT HANDLING SYSTEM



Automation deployment

Why Automation?

Automation for productivity

Automation for Cost saving

Automation for Quality

Automation for Ergonomics

Automation for Flexibility

Automation for Tracking

AUTOMATION FOR FLEXIBILITY



WELD LINE - GEO GRIPPER WITH FIXED GUNS

- **Manufacturing Engineering System**
 - **Production tracking**
 - **Broadcasting**
 - **Real time information**
- **Component traceability**
- **Poka yoke**
- **Pick to light stations**
- **Tracking welding of coated and non coated sheets**



Automation
deployment

Why
Automation?

Automation
for productivity

Conclusion

Automation
for cost saving

Automation
for quality

Automation
for Ergonomics

Automation
for Flexibility

Automation
for Tracking

By deploying automation and robotics the key achievements are

- **Increased Productivity, reduced cost per piece**
- **Process robustness**
- **Improved Safety, minimized risk**
- **Flexibility to meet future market demand**
- **Improved control of operations**

Lean manufacturing system



Thank You