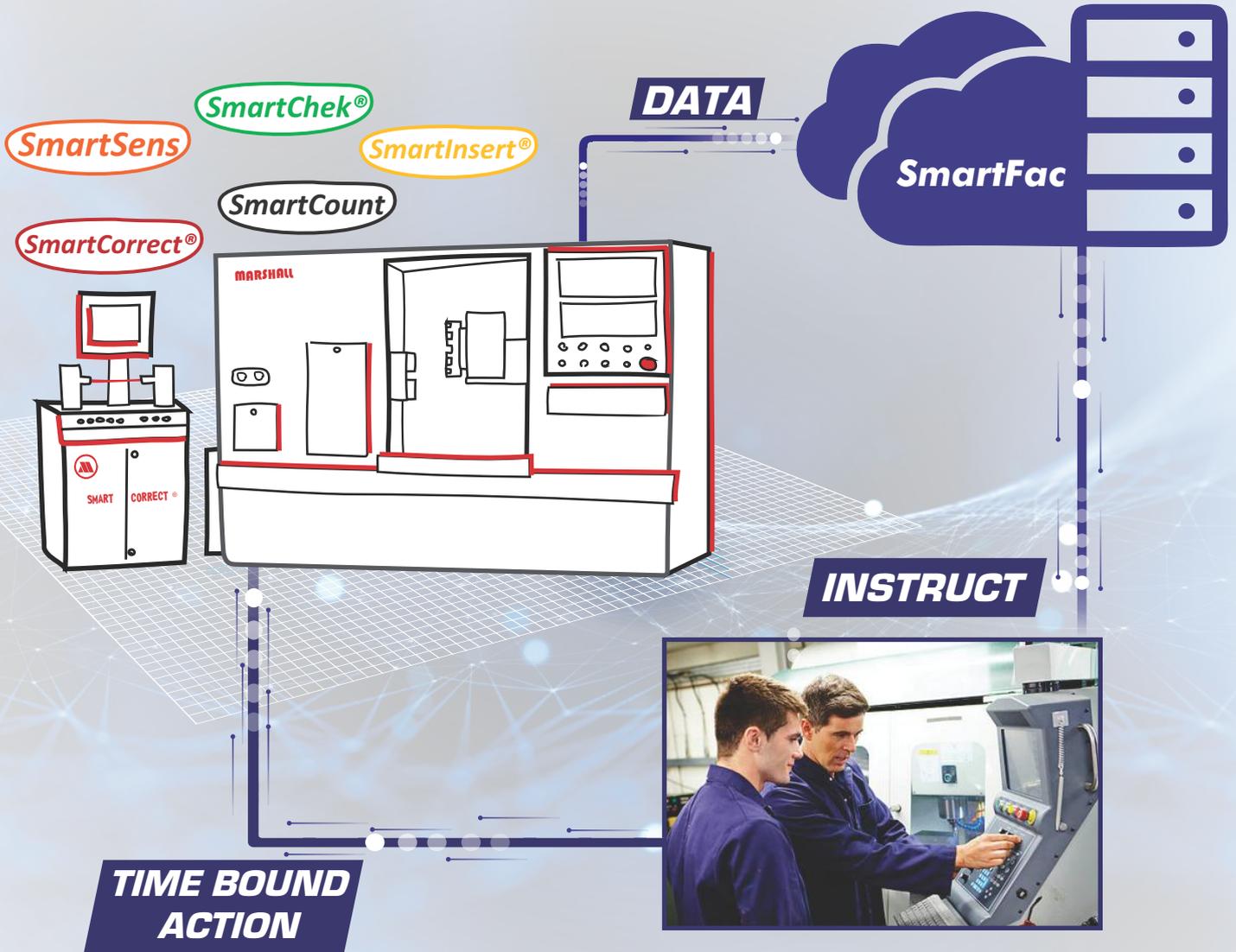




presents

SmartFAC

'Smart' Industry 4.0 Tech for Closed Loop Operation of Machine Shops



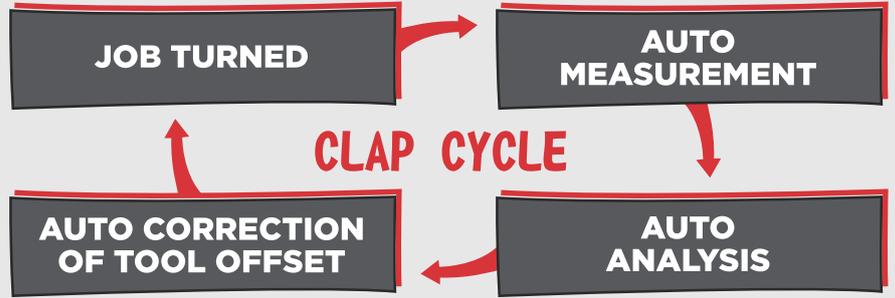
The Smart Solution for '3 Pain Points' of every Machine Shop

- #1 Decline in Aptitude & Attitude of Skilled Operators
- #2 Exponential Jump in Quality demanded by Customers.
- #3 Poor Productivity (OEE) of machines, unplanned stoppages & frequent breakdowns

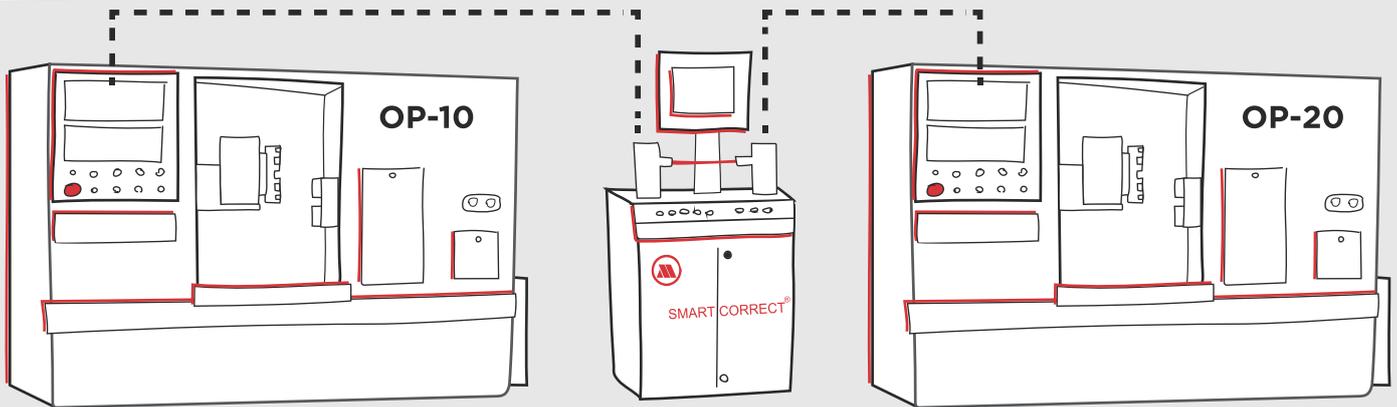
SmartFAC consists of **5 Smart Patent Filed Technologies** that function as a **Closed loop system for managing machine shops.**

#1 SmartCorrect®

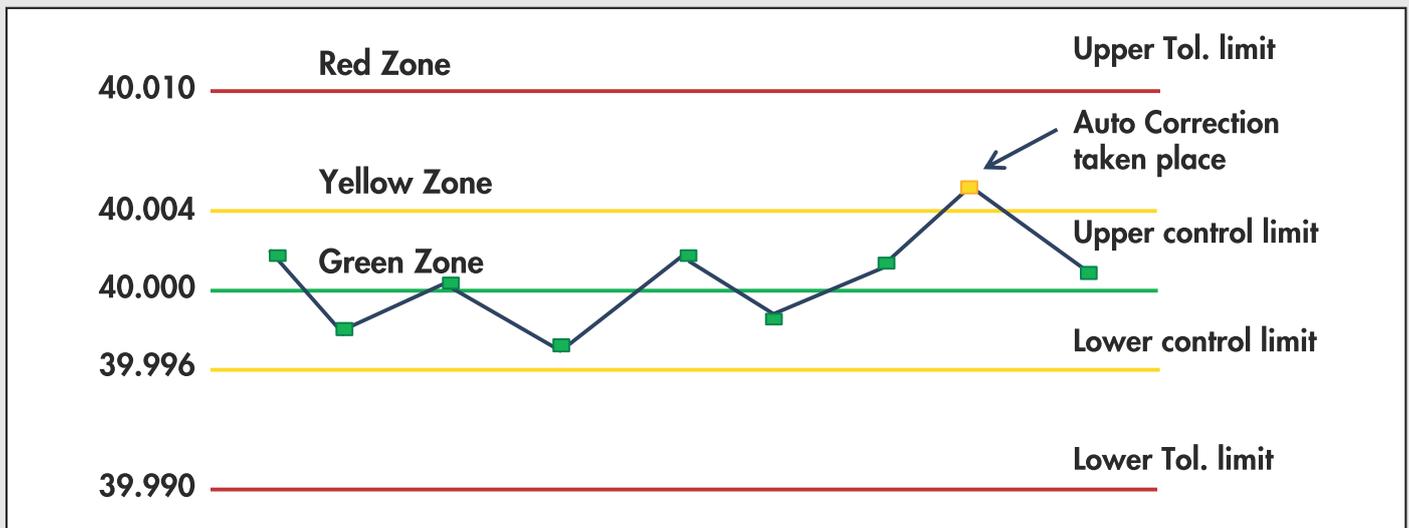
Auto-Correction of tool offsets to ensure Zero Defect Production



One SmartCorrect® connects with Two CNC Lathes



The advanced ALGORITHMS in CLAP software calculate Process Mean and automatically correct wear offsets to match the Mean of tolerance limit



SmartCorrect® Magic MANTRA for ZERO DEFECT PRODUCTION

Cpk > 0.9 x Cp.

#2 SmartInsert®

Patent Applied technology for Optimization of tool Insert life.

BENEFITS

- Upto 30% extra Insert life.
- Lower tooling cost/component
- Higher machine O.E.E because of lesser stoppages.
- Drastic reduction in accident due to tool insert breakage



#3 SmartChek®

Patent Applied technology for Automated **15 second** daily health check of machine

BENEFITS

- Predictive Maintenance ensures much longer life
- Immediate remote detection of Accidents & corrective action initiation & automatic transmission of required information to concerned person
- No Risk of sudden breakdown of machine causing disruption of entire line.



#4 SmartSens

Technology for Electrical & Electronic Health Care of Machine

SmartSens collects and analyses (monitors) data from various Sensors in the machine as well as Drives & Servo Motors to autonomously initiate appropriate corrective actions to ensure that the monitored elements in the machine do not suffer from malfunction or breakdown.



Vibrations



Temperature



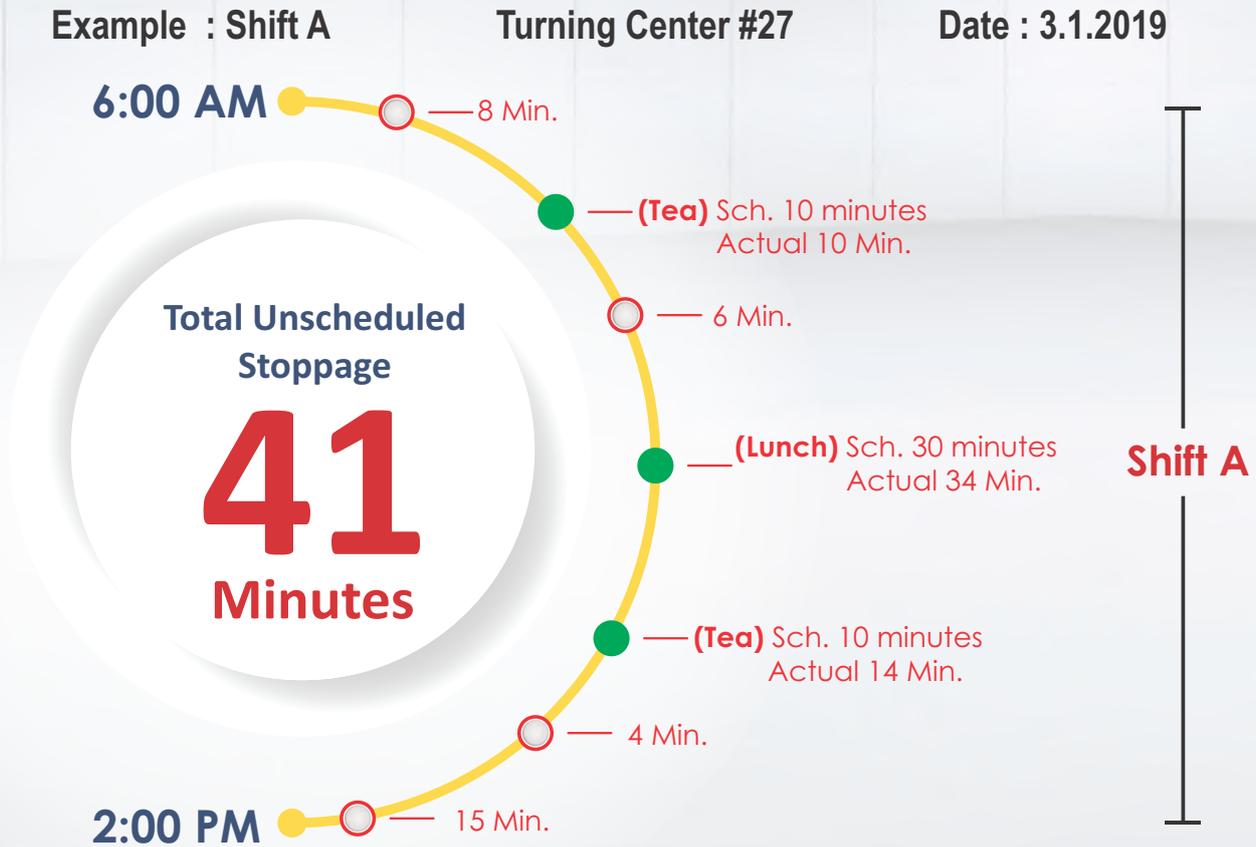
Flow Rate



#5 SmartCount

Technology for Productivity Monitoring & Optimization

SmartCount collects and analyses (monitors) data related to the working behaviour of the machine i.e. In any time period, it counts cycles completed, number & duration of unscheduled stoppages, total stoppage time, etc. It also presents the collated data in the form of Tables & Charts showing OEE in specified time period.



Green Dots indicate scheduled stoppages & the actual stoppages.
Red Dots indicate un-scheduled stoppages & the time of stoppage.

5 Benefits of SmartFAC

- Near Zero-Defect Quality with 'Semi-Skilled' Operators.
- Insert Life Optimization
- Issues in mechanical elements are promptly attended & breakdowns are prevented.
- Issues in Electrical & Electronic systems are promptly attended & failures are prevented.
- Higher OEE achieved by identification of issues and prompt action.



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