

SMART TURNAROUND MANAGEMENT SOLUTION

Ramp up production after **COVID** lockdown

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World is under lockdown and majority of manufacturers related to non-essential commodities have stopped their production. This lockdown may continue for few weeks post which manufacturers will be eager to ramp-up their production at the earliest. But to make any production facility operational after long outage, plant managers have to carry out certain inspection & maintenance activities to avoid any catastrophic failures. This process is similar to turnaround/shutdown/outage management process, which manufacturers carry out at regular intervals in normal course to maintain their critical assets. But according to current situation, making the production facility COVID proof is an add-on requirement.

Manufacturers will face following challenges to make plant operational post pandemic recovery:

- Availability of workforce (both inhouse & contract workers) and their health status. Manufacturers have to ensure that no person having tested COVID positive has entered the plant premises.
- Ensuring the mandated social distancing rules at workplace and also ensuring the safety of the workforce from work hazards like heat exposure, confined space & gas emissions etc.
- Completion of Turnaround tasks for making plant ready as per schedule. This activity will consume substantial management bandwidth. Turnaround projects run the risk of time over-runs, thus increasing zero-production days beyond the budgeted days.

Any delay in turnaround has a huge impact on production plan there by, causing delay in fulfilling the customer orders or even loss of orders. For example- One day loss of production in 4000 tpd cement plant amounts approx. 350 K USD. In case of automobile plant having capacity of 480 vehicles/day, the estimated losses are upto 410K USD.

Tech Mahindra's Smart Turnaround Management solution can help manufacturers in addressing the above mentioned challenges. The solution features include:

1. Solution to plan & schedule the mandatory tasks for making production facilities ready like disinfection of buildings, shop floor, inspection of equipment, lubrication, cleaning activities and mandatory overhauls of critical equipment etc.
And also track each employee's health status based on which employee will be allowed to work in plant
2. **CCPM** : Critical chain project management technique based on Theory of constraints (TOC) principle for optimizing the turnaround schedule.
3. **Connected worker solution** : for screening the employees at plant entrance gate as well as monitoring at shop floor for their safety & productivity and enforcing the social distancing norms while working . This solution will also help to monitor proximity between man to man (for social distancing), man to machine (to prevent accidents in machine running condition) and analyze the worker's productivity while on job.

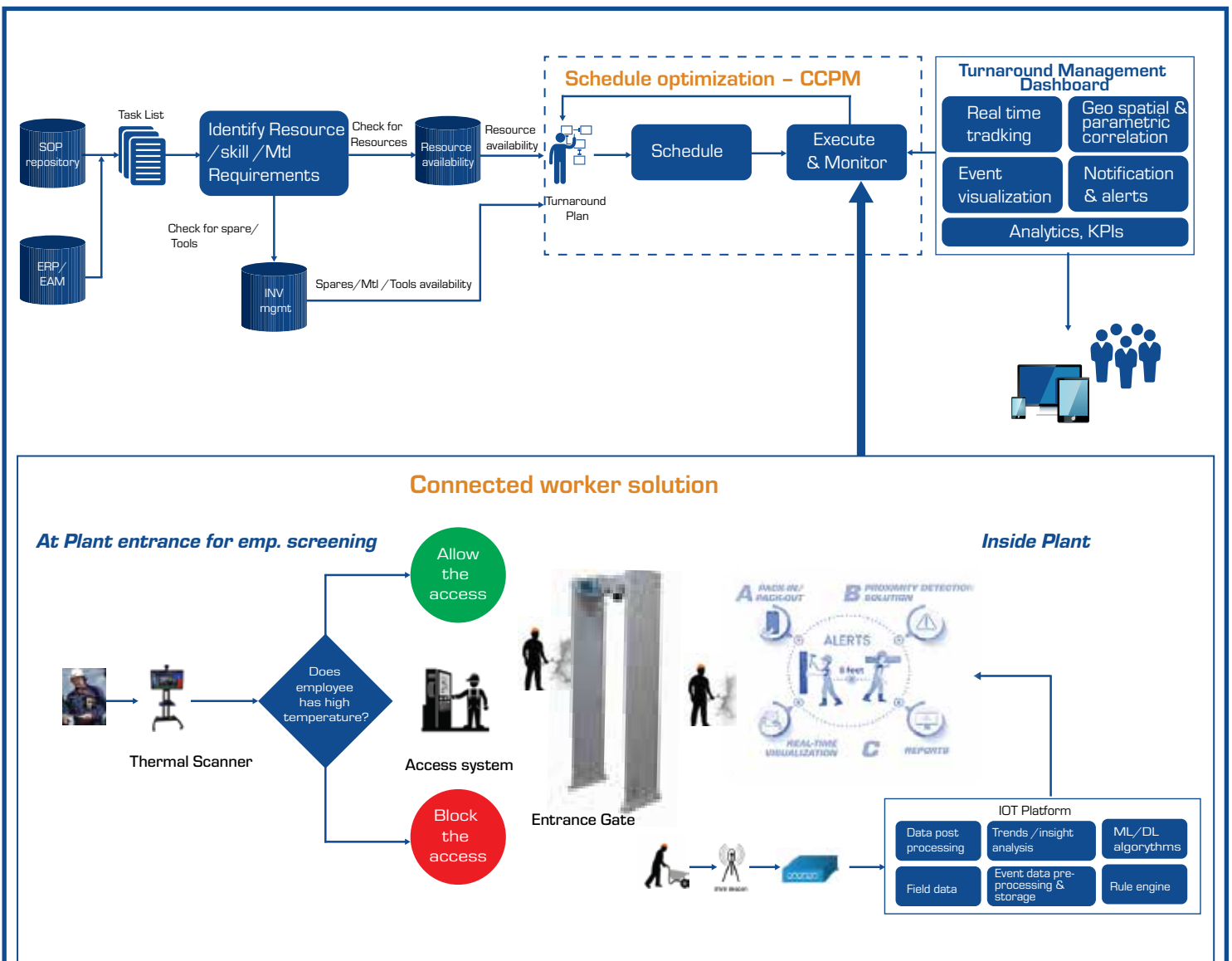


Figure 1: Smart Turnaround Solution

Benefits of solution include shorter turnaround cycle, faster ramping of production facilities, enhanced worker safety from both COVID pandemic & Occupational hazard perspective and productivity improvement. Tech Mahindra has worked with multiple asset intensive industries for turnaround schedule optimization and experienced the savings in the range of 10-20% through schedule optimization thru CCPM technique alone.

About the Author:

Rajesh is Industry 4.0 solution architect and lead consultant with hands on experience in designing and implementing manufacturing industry specific solutions leveraging domain expertise and digital technologies. Worked with Accenture, IBM, TCS, SKF & Lafarge in various capacities as COE lead, practice head, program manager & solution architect. Currently working as industry solution architect –Manufacturing in Tech Mahindra