

SmartFabs Corporation

SmartImplantTM

SmartImplant is a scheduling software that increases move and reduces cycle time for implant machines. Based on state-of-art AI techniques and novel optimization algorithms, SmartImplant can be used with any dispatcher to deliver significant benefits over rule-based scheduling policies.



Benefits

- Maximize move, and minimize cycle time & WIP.
- Customers see 3-4% move increase compare to sophisticated RTD rules.
- Additional cycle time reduction of 10-20%.



Features

- Load balancing, maximize machine utilization.
- Explore usability & WPH differences among machines to increase throughput.
- Reduce setup time due to change of source/energy/angle/tilt.
- Consider lot priority and waiting time.
- Fast computation, next 24 hour of schedule finished in 5 minutes
- Robust to unexpected events.
- Fall back policy.



Interfaces

- Safe interface with your MES.
- Seamless interface to your dispatcher.



Risk-Free Adoption

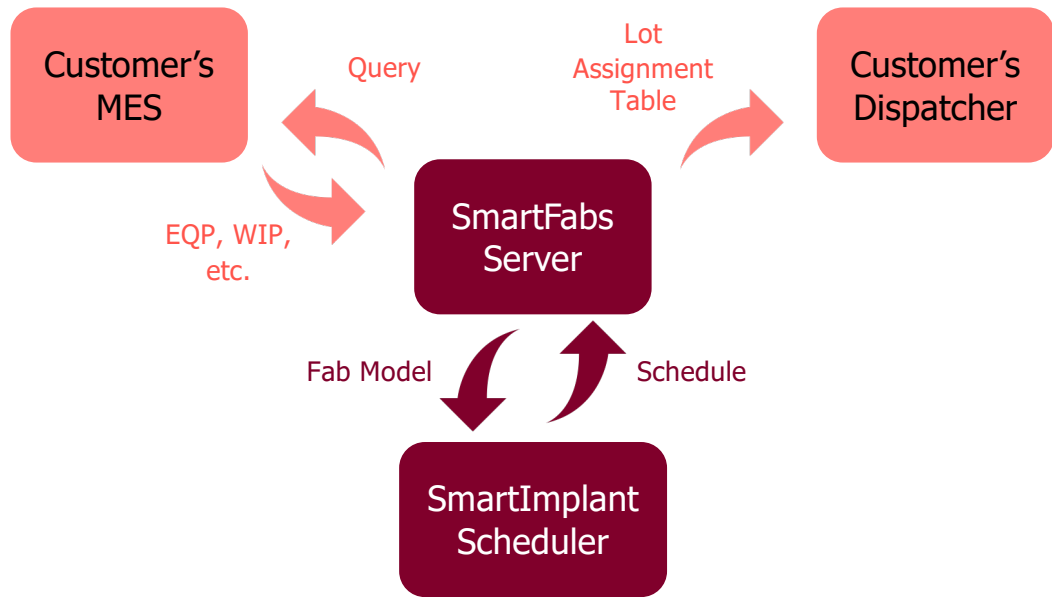
- Performance validated and ROI quantified before payment.
- Up to 12-month free trial.



Support & Service

- Customer support hotline 24/7 world-wide.
- Patches and upgrades within 48 hours of customer report.
- Consultation provided by world leading experts.
- Customization available.

System Architecture and Interface



A Case Study

- A medium-current implant group of 16 machines in a 300mm fab.
- Machine utilization of the group is at 100%, WIP 6,000pc to 12,000pc.
- Machines have different usability and WPH, even for same recipe.
- Different setup times for different source/energy/angle/tile change.
- Previously, the fab used complex RTD rules developed over a decade.
- To increase security, a mirror MES is used to provide fab info EQP, WIP, etc.
- The fab has been using SmartImplant since 2019.

Compared Items	RTD rules	SmartImplant	Improve
Pure process time (min/lot)	12.9	12.5	3.1%
Daily total setup time (hour)	33.8	33.1	2.1%
Same recipe ratio	74%	76%	2.7%
Hot lot waiting time (hour)	3.0	2.6	15.4%
Daily total group move	38,560	39,832	3.3%

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3206 Longmire Drive, Suite A78, College Station, Texas 77845, USA
 Web: www.smartfabs.com Email: sales@smartfabs.com
 US Tel: 979-587-1877 Japan Tel: 080-4125-8455