



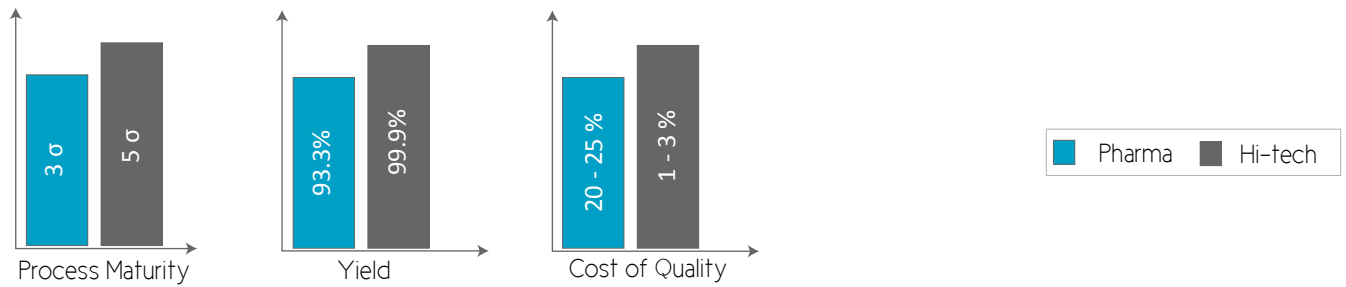
MANUFACTURING QUALITY ANALYSIS FOR PHARMACEUTICAL INDUSTRY

Achieving operational excellence through Integrated data management, performance management & analytics



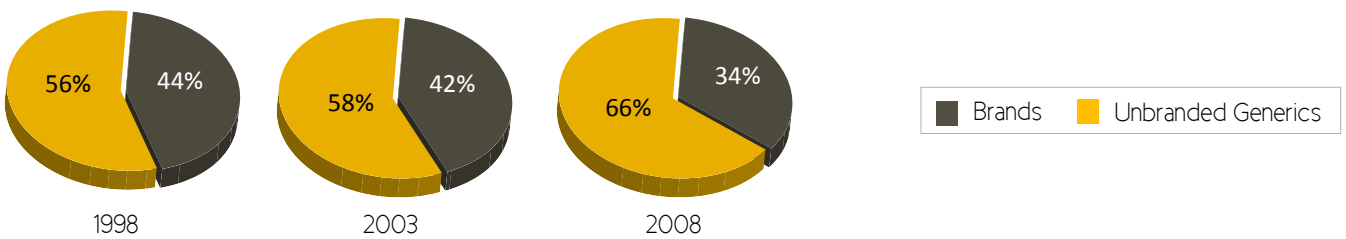
Motivation for Quality Excellence in Pharmaceutical Industry

☀ Generally, it takes 1 Billion USD for Pharmaceutical companies to develop any new drug. 1 - 2 % yield improvements can bring in savings that can fund a new drug



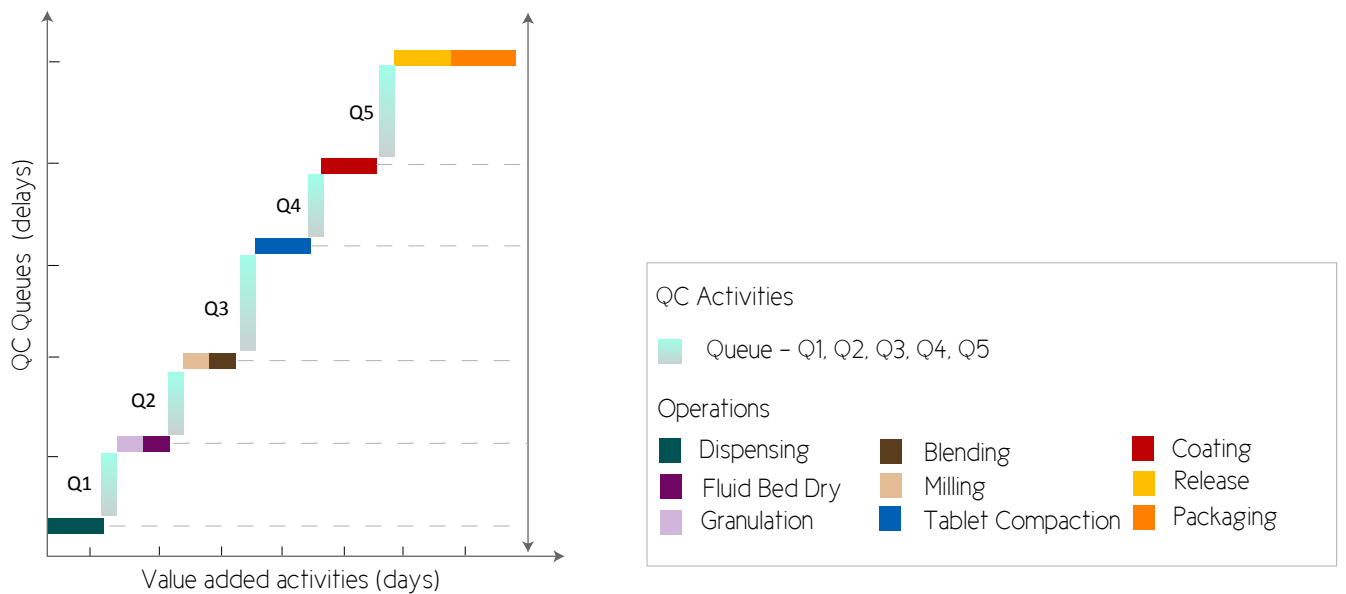
Source - International society for Pharmaceutical Engineering

☀ Decline in number of blockbuster brands creating impetus on operational efficiency



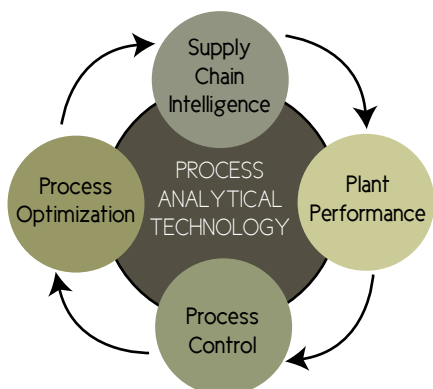
Source- IMS Health

☀ Non-value added activities contributes to almost 48% of the overall manufacturing cycle time



Source - International society for Pharmaceutical Engineering

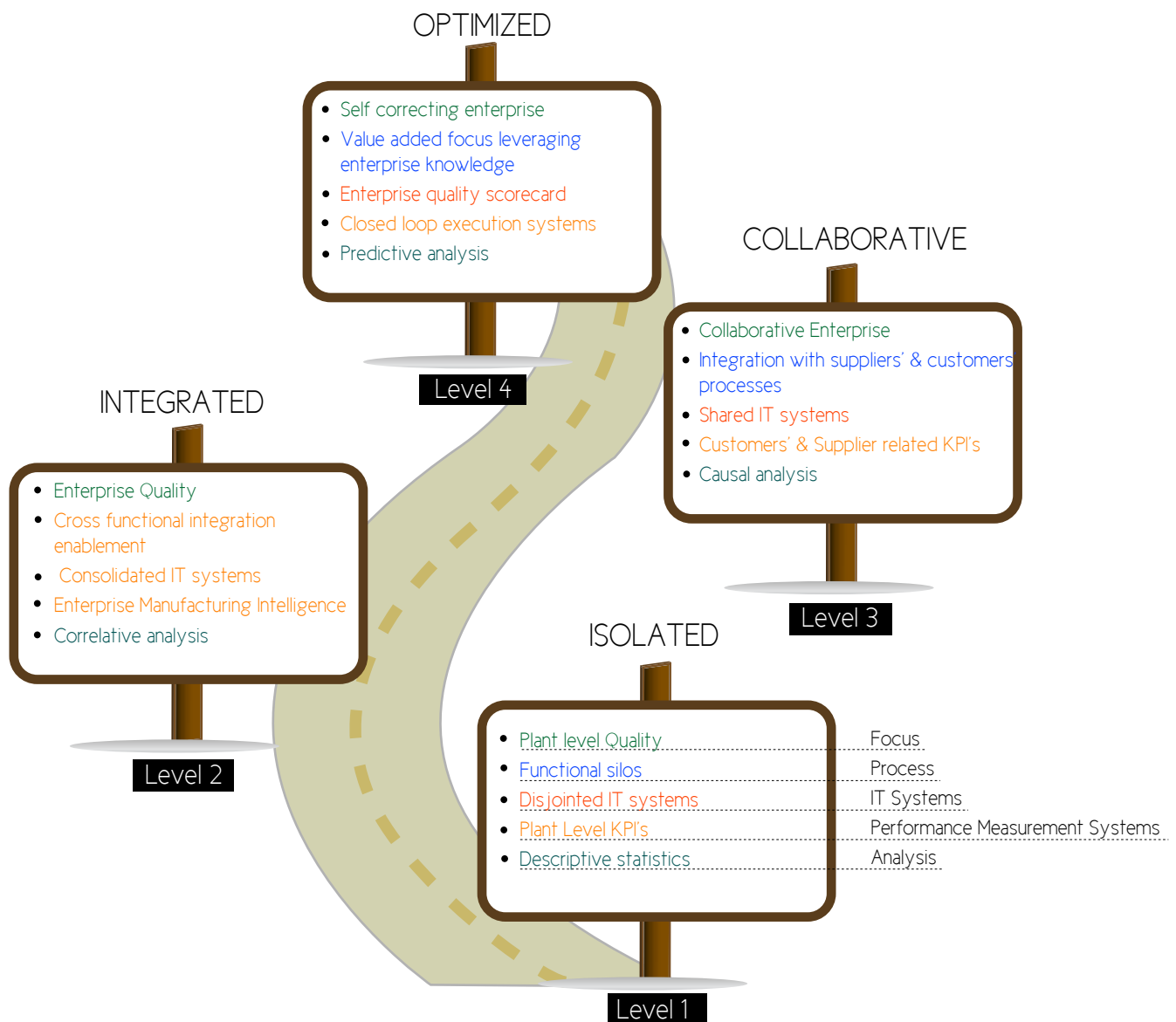
☀ Lastly, FDA penalties are driving a need for comprehensive process tracking



Organizations realizing the need for improving operational efficiencies are embracing "Process Analytical Technology" and "Quality by Design" as opposed to the practice of "Quality by test"

Wipro's Manufacturing Quality Information Maturity Model

Following illustrated maturity model is leveraged at Wipro to guide Manufacturing enterprises focused on improving Manufacturing Quality Excellence. This framework encompasses Process Analytical Technology guidelines laid down by FDA

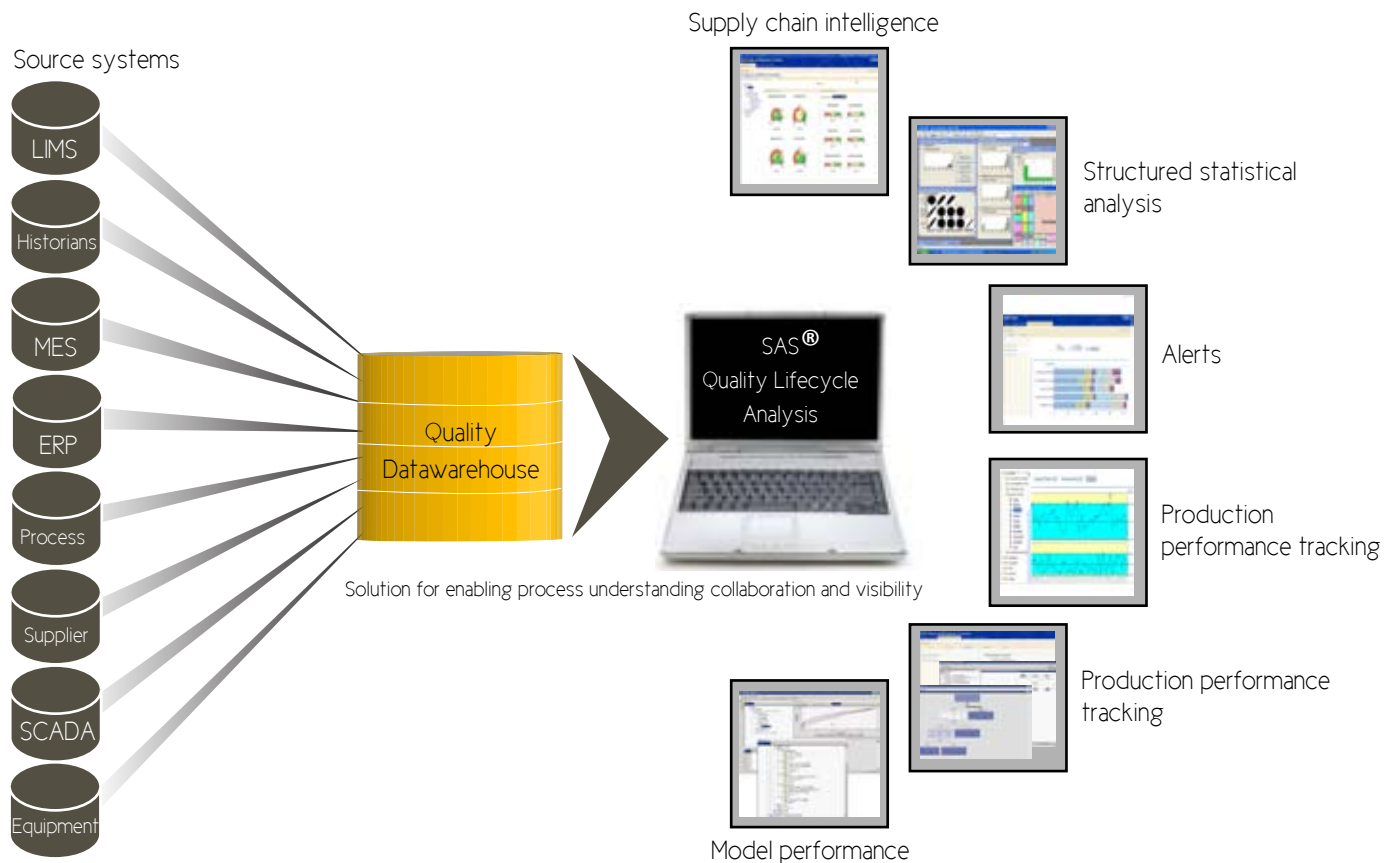


Wipro's Manufacturing Quality Services / Solutions:

Wipro maturity model suggests modifying existing business process / systems to enable collaboration, visibility, automation, process understanding and processes to drive changes quickly. Wipro has expertise in executing specific solutions / services which are enablers of driving manufacturing quality excellence

- Information strategy, BI strategy formulation and roadmap
- Data Integration, Data migration & data management
- Master data management and Data quality assessments and cleansing
- Enterprise Quality datawarehouses
- Enterprise Quality scorecard
- Supplier quality & spend analytics dashboard
- Failure analysis addressing CAPA requirements
- SI partners for SAS[®] Quality lifecycle analysis intended for enabling PAT
- Sales & Operations planning

Wipro – SAS® Offers Quality Lifecycle Analysis Solution



Manufacturing quality lifecycle analysis

Powered by SAS

Benefits to your organizations

- Improved yields
- Increased regulatory compliance
- Lower cost of quality
- Lower inventory carrying cost
- Better capacity utilization
- Quicker change requests implementation
- Fewer inspections
- Faster batch release decisions
- Lower total cost of ownership
- A single consolidated platform for enabling enterprise quality analytics

About Wipro

Wipro Technologies, a division of Wipro Limited (NYSE:WIT) is the first PCMM Level 5 and SEI CMM Level 5 certified global IT services organization. Wipro is one of the largest product engineering and support service providers worldwide. Wipro provides comprehensive research and development services, IT solutions and services, including systems integration, information systems outsourcing, package implementation, software application development, and maintenance services to corporations globally.

About SAS

SAS is the leader in business analytics software and services and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 45,000 sites improve performance and deliver value by making better decisions faster. Since 1976 SAS has been giving customers around the world THE POWER TO KNOW®.

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