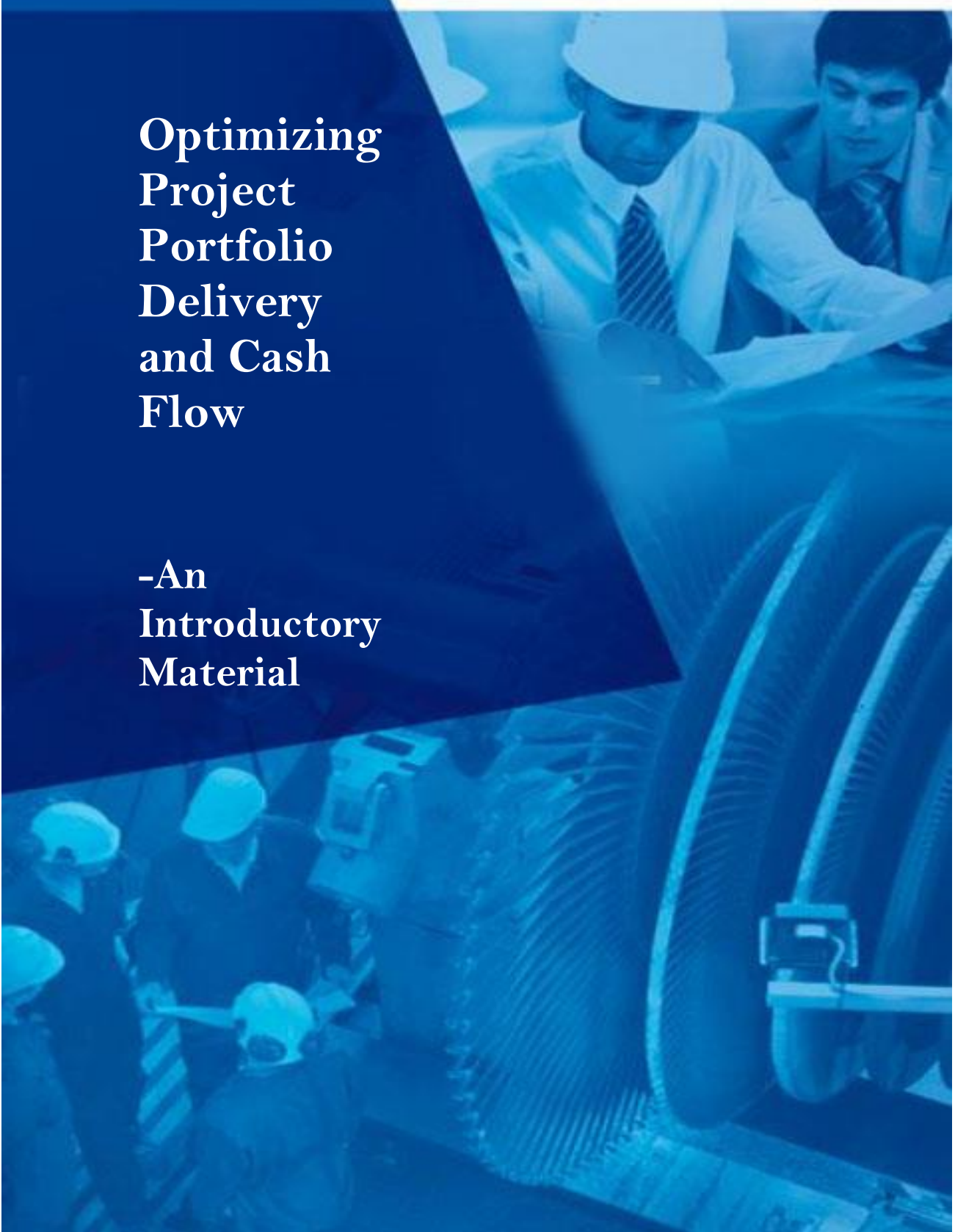


Optimizing ETO Delivery:
The Power of Focus & Finish

Optimizing Project Portfolio Delivery and Cash Flow

-An
Introductory
Material



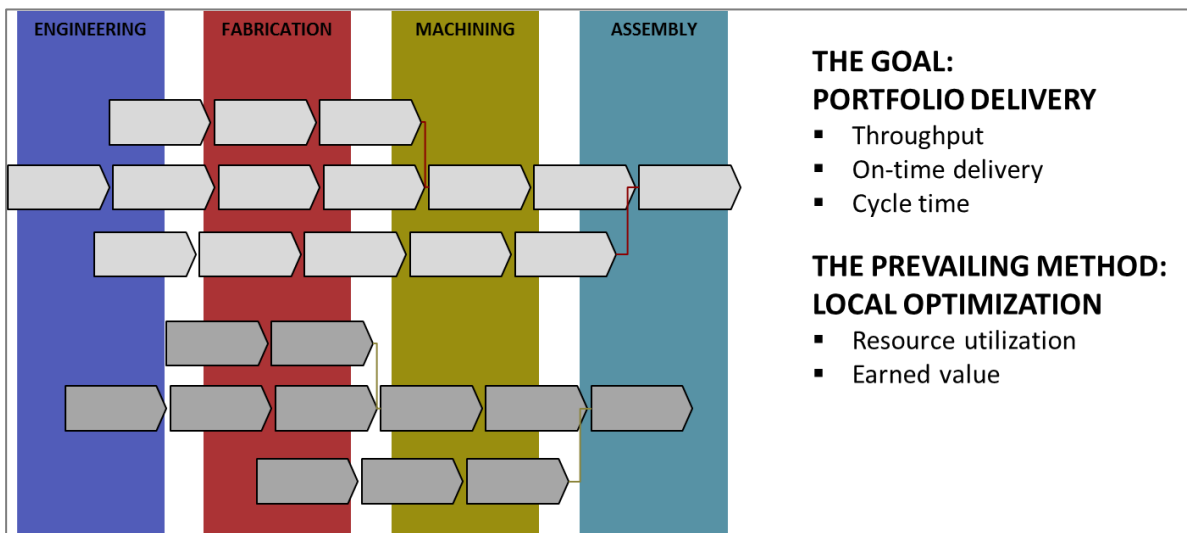
REALIZATION™

A Change In Perspective Could Recharge Your Delivery Process

In the ETO world, we all need to maximize output while offering the fastest delivery of orders the customers want. What if you could increase your throughput by 10% to 30%? What if you could reduce project durations by 20% to 50%?

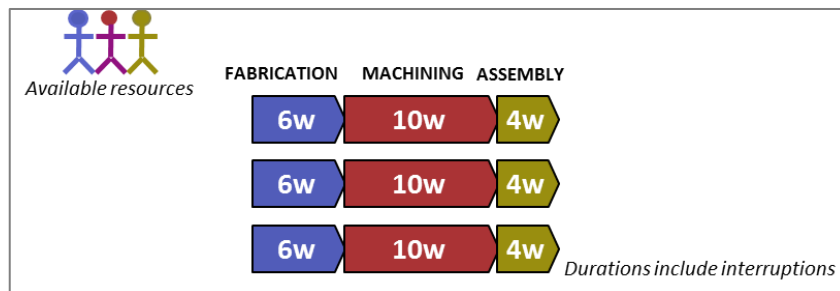
These numbers are not elusive ideals, but an achievable reality. More than 50 ETO projects, with turnaround times ranging from 3 months to 1 year, have discovered the secret to greater throughput and faster turnaround times: **Focus & Finish** optimization.

In this paper, you'll discover that Focus & Finish optimization is neither complicated nor difficult. But it does demand something: *you have to let go of your assumptions about resource efficiency and measuring project progress.* And embrace a new perspective that replaces local optima with global throughput.



How To “Lose” Efficiency But Gain Throughput

Consider this thought experiment: Imagine three crews responsible for three projects. Each project has three tasks that must be addressed in sequence: fabrication, machining and assembly. In our experiment, the Blue crew performs fabrication, the Red crew machining, and the Gold crew does the assembly.



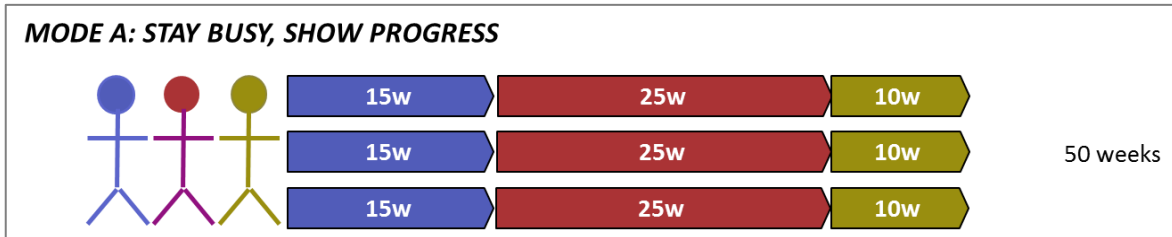
Now let's imagine these crews embracing two very different models of delivery.

Mode A: The conventional “stay busy, show progress” approach

Mode A is the conventional approach most ETOs take. With an emphasis on local optima, the Mode A approach is driven by *resource utilization*, ensuring that artisans are always busy and never idle, and

measured by “work started”: managers assume that the earlier a project is **started**, the earlier it will be finished.

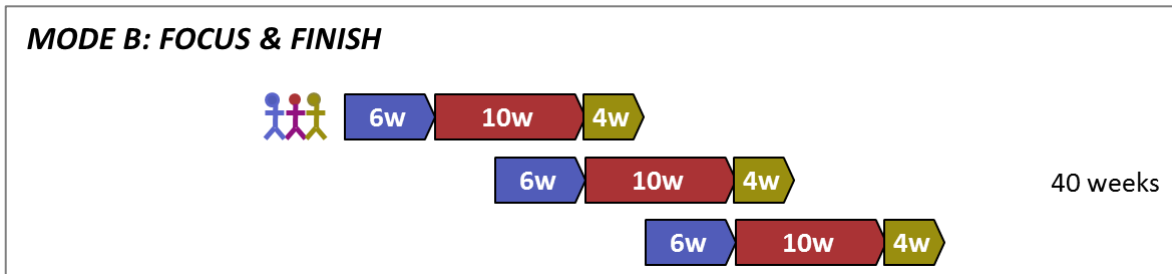
In Mode A, the Blue, Red, and Gold teams tackle all three work streams simultaneously, constantly shifting crew among the three projects. In this “Stay Busy” approach, the Blue crew can complete all three fabrication tasks in 15 weeks, the Red crew completes all three machining tasks in 25 weeks, and the Gold crew can finish all three assembly tasks in 10 weeks.



Mode B: The counterintuitive “Focus & Finish” approach

In Mode B, managers reject the need to show progress as early as possible, and stagger each of the three work streams. In fact, they do not allow their crew to be split across multiple tasks. Everyone **focuses** on one task at a time, and does not start on new tasks until their current tasks are **finished**.

Completion times in Mode B look like this: 6 weeks for Blue to complete each fabrication task, 10 weeks for Red to complete each machining task, and 4 weeks for Gold to complete each assembly task.



Mode A looks more efficient...

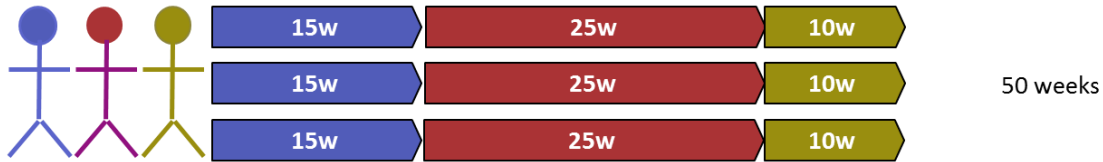
Let’s compare the effort in both the modes. To complete all three streams, it looks like this:

	Mode A: Stay Busy	Mode B: Focus & Finish
Fabrication	15 weeks	18 weeks
Machining	25 weeks	30 weeks
Assembly	10 weeks	12 weeks

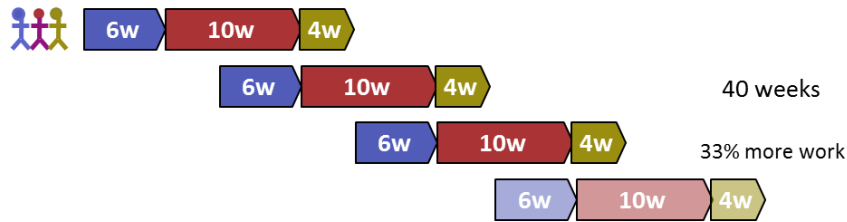
So the conventional, “stay busy” mode is more efficient, right? Not so fast.

...Yet Mode B delivers faster turnaround and higher throughput!

MODE A: STAY BUSY, SHOW PROGRESS



MODE B: FOCUS & FINISH



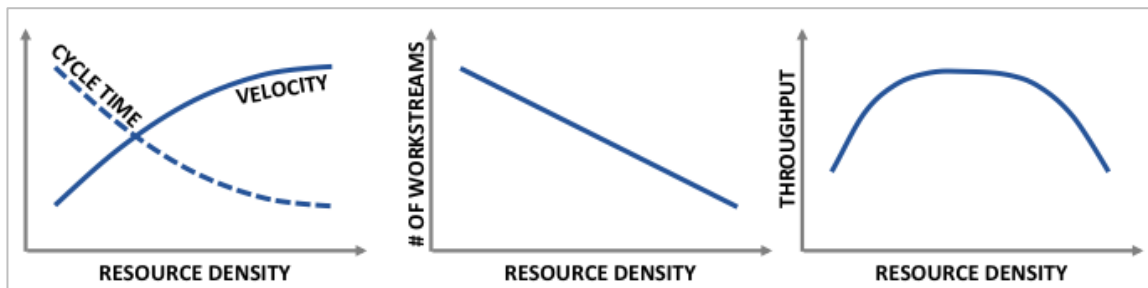
By local optima, the Stay Busy mode is more efficient, with each team completing the sum of its duties faster. But when we look at global throughput, which is the measure that counts, **the Focus & Finish mode delivers all three work-streams in ten fewer weeks**, forty versus fifty, exposing additional time to accomplish 33% more work!

Why Is Focus & Finish Mode So Much Better?

The “magic” is in the reduced waiting times for each downstream task, moving projects to the finish, faster.

Management becomes simpler too. In the Stay Busy mode, three active work streams must be managed simultaneously; in the Focus & Finish mode, that volume is reduced to two. Simplification for department managers is even greater: the number of active tasks to be managed comes down from three to one in every team.

Of course, just adding more resources to a task does not always mean it will get done faster. Sooner or later you reach the point of diminishing returns; task duration will not reduce no matter how many more people you put on a task beyond that point.



Implementing “Focus and Finish” requires balance. Allocating more resources to a work stream accelerates its cycle time (and the faster the cycle time, the higher the throughput), but also reduces the number of work streams that can be active at a time (and the fewer the work streams active at a time, the lower the throughput).

To get the maximum throughput possible, we must *right-size* the number of active work streams. Think of it as a formula: we can keep increasing the focus as long as the percentage reduction in cycle time is greater than the percentage reduction in the number of active work streams.

More Resources per Task \Rightarrow Fewer Active Work-Streams but also Faster Cycle Time
Throughput = Number of Active Work-Streams \div Cycle Time of Each Work-Stream

While there's a tradeoff between cycle times and active streams, our experience is that most organizations operate so far from the breakeven point that they can **increase focus by a factor of three or more** and still reduce cycle times AND increase throughput.



Regardless, a *systematic analysis* can tell you how much improvement in cycle time and throughput you can get with Focus & Finish optimization.

How Can You Make The Magic Of Focus & Finish Work For You?

If Focus & Finish is so great, why are so many ETO organizations stuck with local optima?

One reason is perspective – while managing by local optima might sound logical, it greatly hurts project delivery performance. “Focus and Finish,” on the other hand, might sound illogical from local optima perspective but actually enhances performance all around. As in supply chains and manufacturing, to affect organizational perspective and behavior (culture), management processes and metrics that are currently based on local optima have to be upgraded.

The other reason is software: most of the available Project Management systems are built for creating and tracking detailed task details, not for optimizing delivery. Many organizations have unsuccessfully applied project management softwares to portfolio delivery, but have found that it has been designed for a one-time or a periodic analysis of a project's critical path, not for managing projects on a day-to-day basis in a dynamic world, and certainly not for managing multiple projects with shared resources.

To achieve Focus & Finish optimization, you need software that can:

1. Apply Focus & Finish logic to optimize project and resource plans,
2. Retain the Focus & Finish optimization even as real-life disruptions emerge, and
3. Provide Focus & Finish measurements for all managers.

Fortunately, there are now software options that can help you leverage the Focus & Finish logic.

Client Results:

Sector	Client	Before	After
Power	Kalpataru Power-Transmission Line Projects	Average cash flow was in the range of 80% to 90% of management targets	Average cash flow was in the range 130% - 160% of management targets in a portfolio of 3 international and 2 domestic projects
	ReNew Energy-Wind Power Projects	No system of managing land issues and execution	Full Kitting processes set up to increase project throughput by 20%
	NTPC-Thermal Power Project	Over 30 contractors/ vendors per project De-synchronized L1, L2 and L3 schedules 20, 000+ tasks	Single Integrated plan for synchronization 2-Tier plan of 1200 tasks
Delhi Metro	JMC Projects - Overhead metro rail expansion	- Cash flows were much lower than management targets - Other contractors in other expansions were ahead in terms of schedule - Lot of external pressure from customer	- Cash flows increased by 30-40% - Moved ahead of all other contractors in terms of schedule
Textile	Vardhman Fabrics-Cotton Yarn Expansion Project	Similar expansion project had taken 18 months	Completion achieved in 13 months with 20% additional scope
	Trident Group-Cotton Yarn Projects	Spinning project - Planned for 16 months, achieved 21 months	2 Spinning projects completed in 16 months
	Welspun India Limited - Textile projects	Brownfield and Greenfield expansion projects - New project team - Aggressive business targets	Rs. 2000 crore worth of projects delivered in 2.5 years
Shipbuilding	L&T Shipbuilding-Shipyard, Shiplift & Multiple Shops projects	Benchmark set by Rolls-Royce (90% market share) was of 25 months. Additional risks were: - Indigenous technology - Rough sea conditions - 25% more scope to be delivered	Project (Rs. 1900 crores of investment) completed in 27.5 months
Steel	Vardhman Special Steels-Hot Strip Mill Expansion Project	Industry standard of 12 months for a similar project - 2 shutdowns planned	Project completed 1.5 month ahead of management target - Shutdowns completed on-time with added scope
	Tata Steel-Multiple shutdown/expansion projects (Over 250 projects)	Shutdown and expansion projects took longer than planned duration.Non-availability of a synchronized project execution system providing priorities to all stakeholders.	Completed 250+ shutdown and expansion projects, in the last 6 years, ahead of industry standards, saving billions of Rupees. Imbibed this system as the standard across the enterprise for executing projects.
Education	VIBGYOR Schools-Multiple New School Projects	New school projects were delayed and took more than 12 months - Full scope was never achieved - Achieved only 70% of admissions target	Complete scope finished within 8 months (33% improvement) - Admission numbers were 10% higher than the planned target

Hospitality	Hyatt Hotels -New Hotel Project	Execution rate was 40% of planned rate '- No end date visibility	Execution rate was doubled through synchronization between 60 execution contractors, vendors and consultants.
	Westin -New Hotel Project	Execution rate was 40% of planned rate '- No end date visibility	- Execution rate was doubled - Project speed aligned to cash inflow
Government	Bihar Urban Infrastructure Development Corporation - Portfolio of 19 Sewerage, Water Treatment, Roads & Drainage Projects	- 22 Land Zones cleared for construction (in preceding 2 years). - Zero zones cleared with designs for construction (in preceding 2 years). - Delays in projects were ranging from 10 months to 45 months. (Bureaucratic bottlenecks hampered approvals, contracting and project execution)	- 68 Land Zones cleared for construction in 6 months (1000+ % increase) - 33 zones cleared with designs for construction in 6 months. - Delays in projects were brought down to 4 months (average)
Information Technology	Vardhman Special Steels -SAP Implementation Project	IT projects were delayed by 30 to 40% and consumed management bandwidth	Project finished on time with minimal firefighting
	Amdocs -Resource optimization	- Resource demand outstripped supply - No bench policy - Local prioritization	- Robust resource sharing solution by managing across Peaks and valleys - Uniform prioritization mechanism established
Manufacturing	ABB Transformers (world-wide) - Multiple Engineer-to-Order Projects	Engineering cycle time was 8 months.On-time delivery was 85%.	Engineering cycle time reduced to 3 months.On-time delivery improved to 95%.16% increase in manufacturing throughput (revenues).
	Siemens Generators (World wide) -Design Projects	2.4 projects produced per week. Project on-time delivery was 38%.	2.9 projects produced per week in first year (38% increase) and 3.8 projects produced per week in subsequent year (61% increase). Project on-time delivery increased to 85%
	Steel Strips and Wheels Ltd -Automobile Wheel Rim Design & Development Projects	- Order backlog of 6 months - Poor on-time delivery performance - No visibility to marketing and sales teams - Engineering and machining were constraints	- Backlog cleared in 6 months - On-time performance at 90% - Transparent system aligning all groups - Constraint shifted to sales
	Everest Industries - New Plant Project	Previous projects of similar nature took 7 months for completion with compromised scope.	Project finished within a record time of 5 months inspite of challenges due to bad weather and contractor mobilization issues (30% faster execution)



About Sanjeev Gupta:

*Sanjeev Gupta is founder and CEO of Realization Technologies, the largest provider of global optimization based solution and services for projects. Under his leadership, Realization has delivered more than \$6B of documented bottom line results to organizations like the US Air Force, US Navy, Boeing, Airbus, Larsen & Toubro, Areva, ABB, Siemens, Medtronic, Tata Steel, Dr. Reddy's Labs and Alcatel-Lucent. The company and its customers have won numerous industry awards like the Franz Edelman award for excellence in operations research, Shingo Gold and the Air Force Chief of Staff excellence award. Sanjeev began his career at Xerox, quickly rising from business analyst to manager of production planning and control. He is a graduate of IIT-Delhi; he also has an MS in Mechanical Engineering from Virginia Tech and an MS in Management and Public Policy from Carnegie Mellon University. Sanjeev is a recognized expert in Theory of Constraints, past chairman of Theory of Constraints International Certification Organization, a frequent keynote speaker at various conferences and author of articles in HBR Review and many trade publications. In 2016, the international body of Theory of Constraints honored him with **Lifetime Achievement** award.*