

# AUTOBAHN CONSULTANTS

PRESENTS



## THE GOAL

A PROCESS OF  
ONGOING IMPROVEMENT

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& JEFF COX

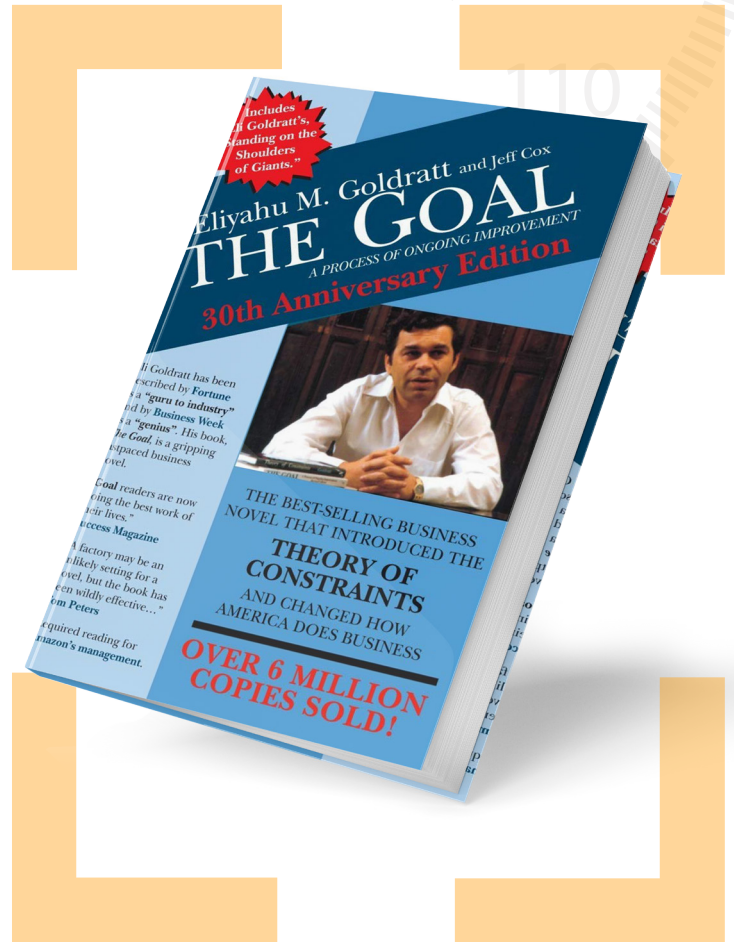
*"THE GOAL: A Process of Ongoing Improvement"*

*When I read The Goal, I knew I had to share a copy with you! So many of the concepts resonated with me that I had to share it with you. I hope you'll take the time to read this copy, listen on Audible, or download to your favorite device. If you're not a "reader" you can share this copy with another team member and read my notes below. I've tried to extract my favorite nuggets from the book along with a few comments.*

Best,



Jonathan Slain



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**JS** This is a thick book but the way chapter 13 explains continuous improvement in a business is worth the effort.

## CHAPTER 13

**JS** This section starting on page 101 illustrates the main tenets of LEAN production using a nature hike as a metaphor for manufacturing.

**PAGE**  
**101**

*"Looking ahead, I can see that how much distance each of us has to make up tends to be a matter of where we are in the line. Davey only has to make up for his own slower than average fluctuations relative to Ron—that twenty feet or so which is the gap in front of him. But for Herbie to keep the length of the line from growing, he would have to make up for his own fluctuations plus those of all the kids in front of him. And here I am at the end of the line. To make the total length of the line contract, I have to move faster than average for a distance equal to all the excess space between all the boys. I have to make up for the accumulation of all their slowness.*

*Then I start to wonder what this could mean to me on the job. In the plant, we've definitely got both dependent events and statistical fluctuations. And here on the trail we've got both of them. What if I were to say that this troop of boys is analogous to a manufacturing system . . . sort of a model. In fact, the troop does produce a product; we produce "walk trail." Ron begins production by consuming the un-walked trail before him, which is the equivalent of raw materials. So Ron processes the trail first by walking over it, then Davey has to process it next, followed by the boy behind him, and so on back to Herbie and the others and on to me."*



**PAGES**  
**94 - 102**

*"Don't be Herbie"*

## CHAPTER 14

**JS** The author uses matches to demonstrate the principles of LEAN. Simple. Elegant. Brilliant.

**PAGES**  
**103 - 112**

*"Playing with Matches"*

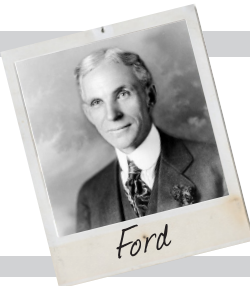


*“The system I’ve set up is intended to “process” matches. It does this by moving a quantity of match sticks out of their box, and through each of the bowls in succession. The dice determine how many matches can be moved from one bowl to the next. The dice represent the capacity of each resource, each bowl; the set of bowls are my dependent events, my stages of production. Each has exactly the same capacity as the others, but its actual yield will fluctuate somewhat.*

*Throughput in this system is the speed at which matches come out of the last bowl.”*

## CHAPTER 37

*“Now let’s introduce Murphy into the picture,” Ralph responds calmly.  
“Suppose that Murphy hits directly on the bottleneck.”*



*“. . . in order to achieve flow, Ford had to abolish local efficiencies. In other words, flow lines are flying in the face of conventional wisdom; the convention that, to be effective, every worker and every work center have to be busy 100% of the time.”*

*“Unfortunately, the improvement efforts of other companies are misguided since they are aimed at achieving cost savings rather than being totally focused on improving the flow.”*

*“In summary, both Ford and Ohno followed four concepts (from now on we’ll refer to them as the concepts of flow):*

- 1. Improving flow (or equivalently lead time) is a primary objective of operations.*
- 2. This primary objective should be translated into a practical mechanism that guides the operation when not to produce (prevents over production). Ford used space; Ohno used inventory.*
- 3. Local efficiencies must be abolished.*
- 4. A focusing process to balance flow must be in place. Ford used direct observation. Ohno used the gradual reduction of the number of containers and then gradual reduction of parts per container.”*



**PAGES**  
348 - 349

*"Hitachi Tool Engineering is producing cutting tools, a relatively stable type of product, but fierce competition forces this company to launch new cutting tools, that require new technology, every six months. It is a Sisyphean task to implement Lean in such an environment."*

**HITACHI**

**PAGE**  
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*"...striving to constantly activate all resources all the time is not a recipe for effective operations. On the contrary, the exact opposite is true; to reach effective operations, local efficiencies must be abolished."*

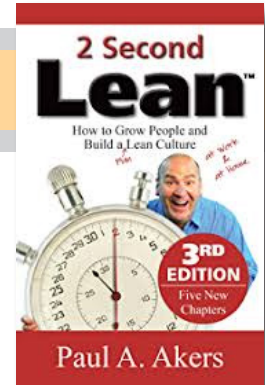
## **FIVE FOCUSING STEPS**

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### *"Five Focusing Steps*

1. IDENTIFY the system's constraint.
2. Decide how to EXPLOIT the system's constraint.
3. SUBORDINATE everything else to the above decisions.
4. ELEVATE the system's constraint.
5. If in the previous steps a constraint has been broken, go back to step 1, but do not allow inertia to cause a system constraint."

*For more on continuous improvement, I also love the book 2 Second Lean by Paul Akers.*



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