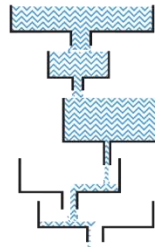


Theory Of Constraints + Lean A winning cocktail

Webinar

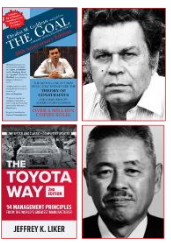
**Marris
Consulting**



Paris, Thursday 4th of April 2024

Version 1.0





Agenda

■ Introduction

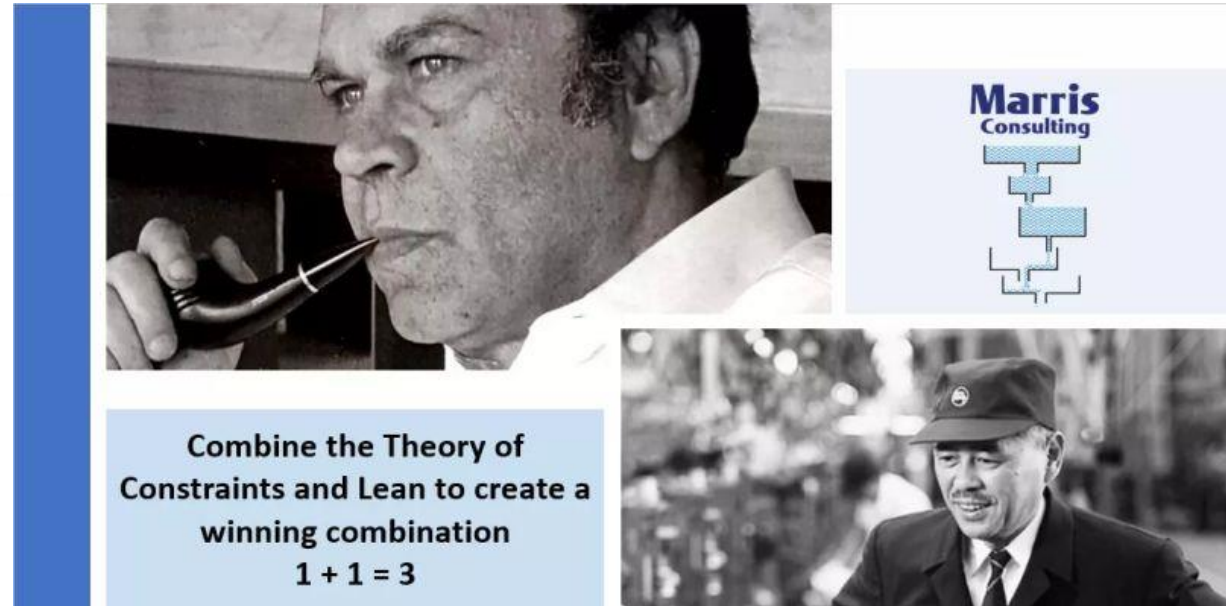
- Summary of the Theory of Constraints and Lean
- TOC + Lean: a winning combination
- Implementation examples
- Conclusion

■ Appendices

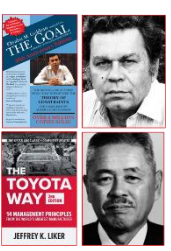
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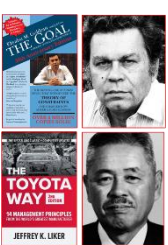
Combine the Theory of Constraints and Lean to create a winning combination
 $1 + 1 = 3$



Organization of the webinar

- Presentation : 45 minutes
- Followed by a Questions & Answers session: 15 minutes
- You can ask questions and make written comments throughout the webinar using the "Q. and A." feature.
- The presentation material will be available on our website at the end of this webinar.
- There will be surveys during the webinar.
- The webinar is managed by 2 people:
 - **Philip Marris the "speaker"**
 - **And a webinar manager whose role is:**
 - To read the written questions as the webinar progresses
 - To manage the questions and answers session (choice of questions, etc...)

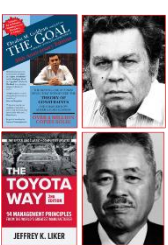




Philip Marris: CEO, Marris Consulting

- English...and European, bilingual & bicultural English/French.
- Consultant (sorry).
- Started using Lean in industry in 1984 and still learning.
- Has been implementing ToC since 1986, when he worked with Eli Goldratt, the founder of Theory of Constraints/ToC.
- Implementation of ToC and Lean (sometimes also Six Sigma) in more than 300 companies around the world.
- Author of the French reference book on ToC in production:
Le Management Par les Contraintes.
- Founder in 2005 of Marris Consulting.



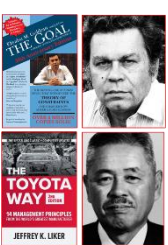


Marris Consulting, a consulting firm specialized in operational excellence and project management

- Founded in 2005 by Philip Marris and based in Paris.
- 15 consultants and its network of partners.
- More than 300 implementations of ToC (usually combined with Lean).
- Over 400 videos of customer testimonials, educational presentations, expert interviews, etc.
- >50% of our activity outside France: USA, Mexico, UK, Poland, South Africa, Vietnam, Romania, Ireland, Burkina Faso, Spain, etc...

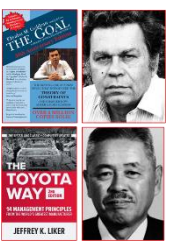
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We are honoured to have been able to help...

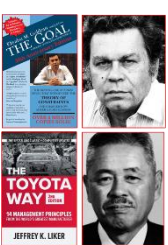
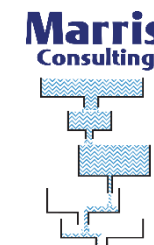




Agenda

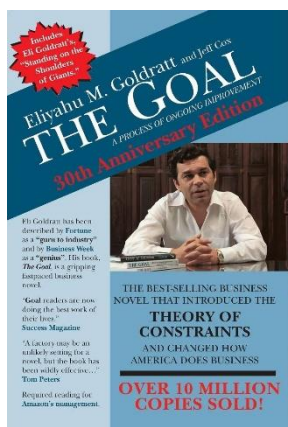
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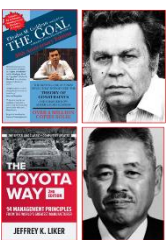




The Theory Of Constraints gained its global recognition because of the success of the best-selling “business thriller”: *The Goal* by Eliyahu Goldratt

- First published in 1984.
- Over 10 million copies sold in 32 languages. Mandatory reading in most universities/MBAs/...
- The first book of its kind: a novel to explain a new approach to management.
- Chosen as one of the 25 most influential business books by Time magazine in September 2011.
- New graphic edition in 2017.

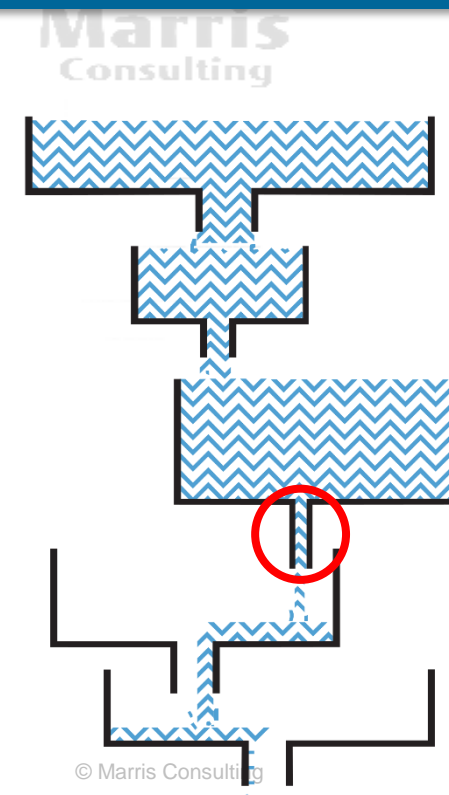




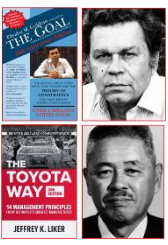
Focus on improving the system constraints that determine the overall performance

It is no longer possible to distribute work equitably: organizations are necessarily unbalanced

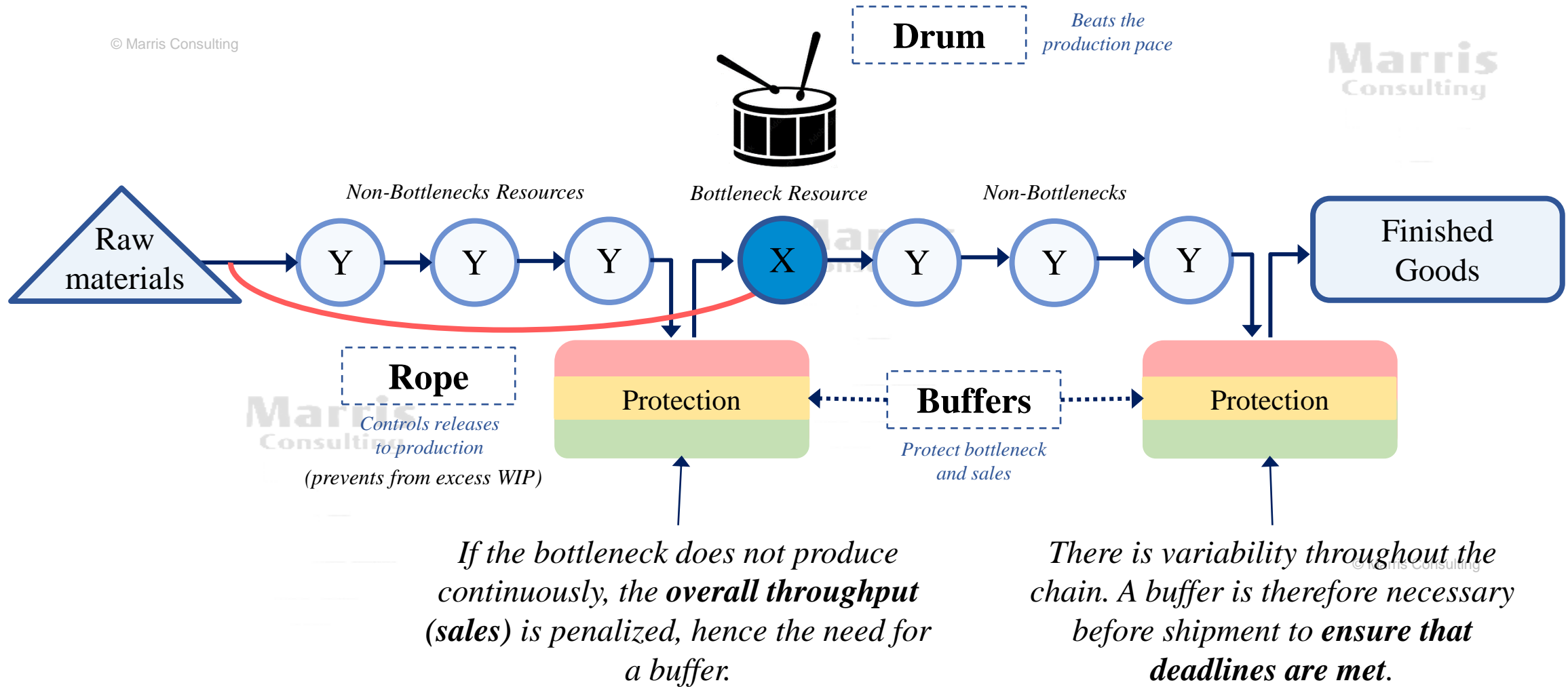
- Companies (factories, engineering departments ...) and other organizations (hospitals, ...) inevitably have unbalanced capacities.
- Annual budgets pretend to balance organizations, but they don't succeed.
- There is always a constraint, a bottleneck somewhere in the system.
- Someone somewhere has drawn the short straw.
- One hour lost on the bottleneck = one hour lost for the system = one hour of lost sales.
- One hour gained on a non-bottleneck is an illusion... so be careful with local objectives such as OEE. A non-constraint must only work according to the constraint's requirements.
- A dual view is mandatory: different rules for constraints and non-constraints.

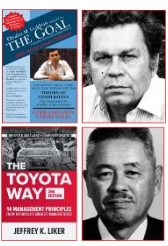


The sum of local optimums is not equal to the global optimum – Eliyahu Goldratt



ToC controls the production flow with the Drum Buffer Rope (DBR) mechanism





The 5 focusing steps of the Theory of Constraints' continuous improvement process

© Marris Consulting

1. IDENTIFY the system's constraint(s).
2. Decide how to EXPLOIT the system's constraint.
3. SUBORDINATE everything else to the above decision.
4. ELEVATE the system's constraint.
5. WARNING!!!!
If in the previous steps a constraint has been eliminated, go back to step 1, but do not allow INERTIA to become the system's constraint.

Easy to do in production
but not in projects

Without investments
in \$ or in time

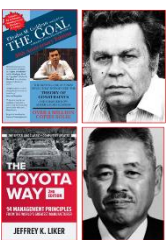
The most
difficult step

With investments
in \$ or in time

Or choose the "best"
constraint of the system

Note: Often called *The 5 Focusing Steps*
or TOC's *Process Of On-Going Improvement* (POOGI).

Official version!



"Goldrattism": Theory Of Constraints & Logical Thinking

Eliyahu Goldratt's ideas (the Goldrattism)

© Marris Consulting

Theory Of Constraints (ToC)

Systemic view (global optimum). Inevitable imbalance. Presence of constraints. Dual view. 5 Focusing Steps. Buffers to absorb variability and uncertainty. Growth.

Logical Thinking

"To teach the world to think"

Drum-Buffer-Rope Production Management

The importance of constraints, Focused approach, DBR or S-DBR, 5 Focusing steps in operations, etc.

Critical Chain (CCPM) Project Management

Project Buffer, Fever Chart, Critical Chain sequence, Preventing bad multitasking, project staggering, etc.

Replenishment (?) Supply Chain

High frequency periodic replenishment, centralized stocks (not too distributed), buffers, etc. [DDMRP]

Thinking Processes or Logical Thinking Process

Goal tree, current reality tree, future reality tree. Conflict cloud. Strategy & Tactics. Categories of legitimate reservations.

Marketing & Sales Marketing & Sales

Mafia (Unrefusable) Offer, Decisive Competitive Edge. Sales Force constraints. Delta T-Selling.

Throughput Accounting Business decision making

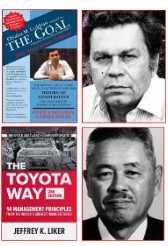
Throughput World. Throughput, Inventory & Operating Expense. T/cu, Dollar x Days, TBDM. Throughput Economics. Etc.

ToC in Services Services

Control points instead of constraints, quantity of excess capacity. Choice or combination of Ops or project solutions.

Other elements (partial)

6 pillars of ToC, change matrix, 6 questions about technologies, Innovation process, Management Skills, etc.



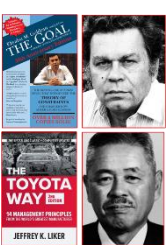
Strengths and weaknesses of the Theory of Constraints

Strengths of **Good** ToC

- Focus and leverage or 1% - 99%.
- The speed of TOC based improvements
- Critical Chain Project Management: It has the best market share of the TOC "engines" + very little competition + the market is huge
- TOC is maybe the best of the 3 in terms of systemic thinking (but this is disputed by some).
- Visibility: The worldwide best-selling novel *The Goal* (10 million copies!)
- More and more relevant: a world that is evolving more and more quickly (VUCA) but an almost constant inertia of organizations.
- It is more generic. Its origins are not in a specific industry (Toyota / Car manufacturing).

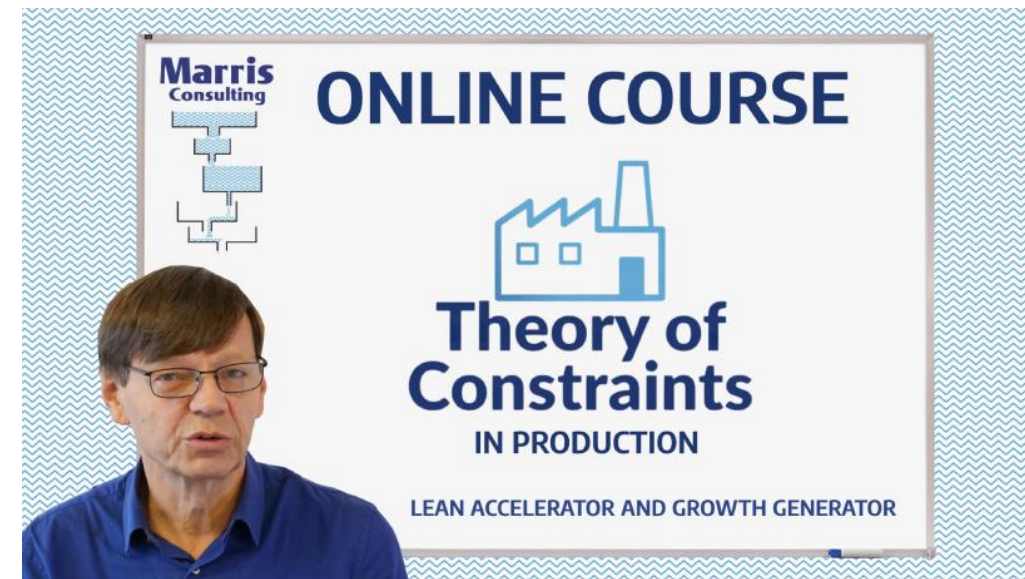
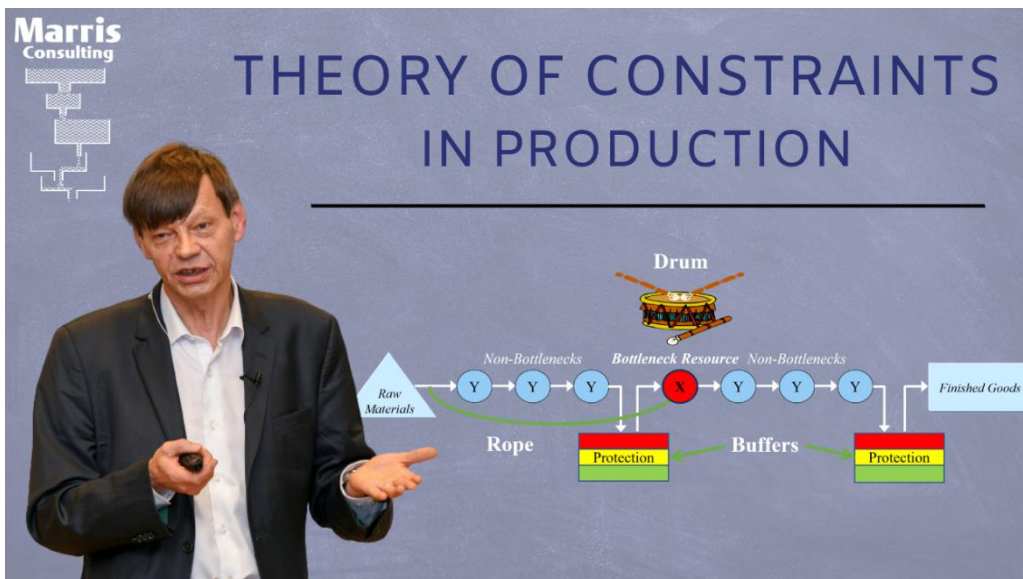
Weaknesses of TOC

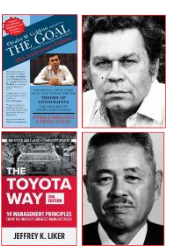
- Does not cover general company culture like the "Toyota Way" does.
- No big, long-lasting successes after 40 years of existence. No flagship company.
- The name "Theory Of..."
- No mature system for identifying the system constraint when it is not in production.
- No commonly accepted point of view for choosing (aiming for) the best constraint
- The subject of quality is almost totally ignored.
- A community comprised of many consultants and not many doers
- Confusion concerning: "Policy constraints", "Management Attention Constraints", Internal versus External Constraints.
- Closed TOC does not understand Good Lean



Marris Consulting has launched in 2023 its online Theory of Constraints course

- During this course you will :
 - Learn how to improve rapidly, significantly, and sustainably the operational and bottom-line performance of your company
 - Understand the principles of the Theory of Constraints / Constraints Management approach applied to production
 - Know how to boost your Lean Manufacturing program by focusing actions on critical leverage points
- You can access course materials at your convenience for 12 months, allowing you to learn at your own pace.





Agenda

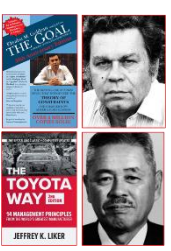
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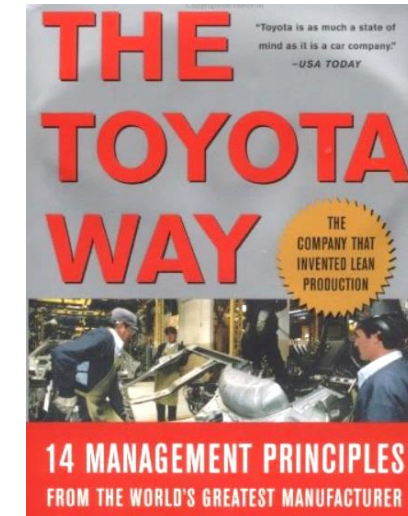
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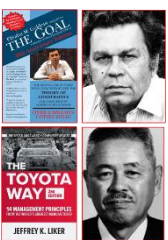




Lean and the Toyota Production System

- “Lean” comes from the Toyota Production System.
- Lean has become the standard applied in almost all industries, and even in other spheres: hospitals, start-ups, administration, etc.
- During this webinar we will describe only 3 of the elements of Lean:
 - Just In Time
 - Jidoka & Autonomation
 - Respect for people
- But other elements are also important, including:
 - Visual management
 - The Standards
 - Long-term partnership with suppliers
 - Lean Engineering (Toyota Product & Process Development System)





The Toyota Production System is based on the 5 values of the “Toyota Way”

© Marris Co

Continuous Improvement

Challenge

- Spirit of challenge
- Long term perspective

Kaizen

- Kaizen spirit and innovative approach
- Establish Lean systems and structure
- Promote the learning organization

Genchi Genbutsu

- Reaching consensus
- Commitment to achievement
- Confirm complete success

Respect for People

Respect

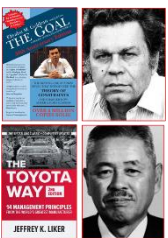
- Respect for partners
- Mutual trust and mutual responsibility
- Sincere communication

Team work

- Commitment to education and development
- Respect for everyone: maximize team strength

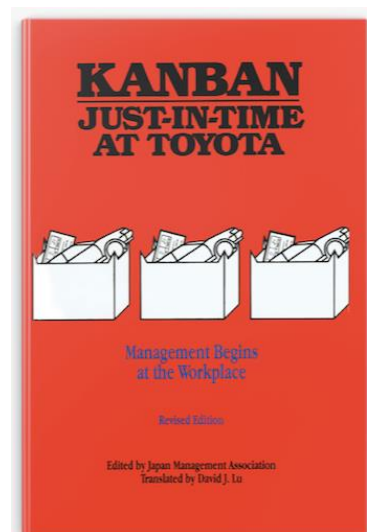
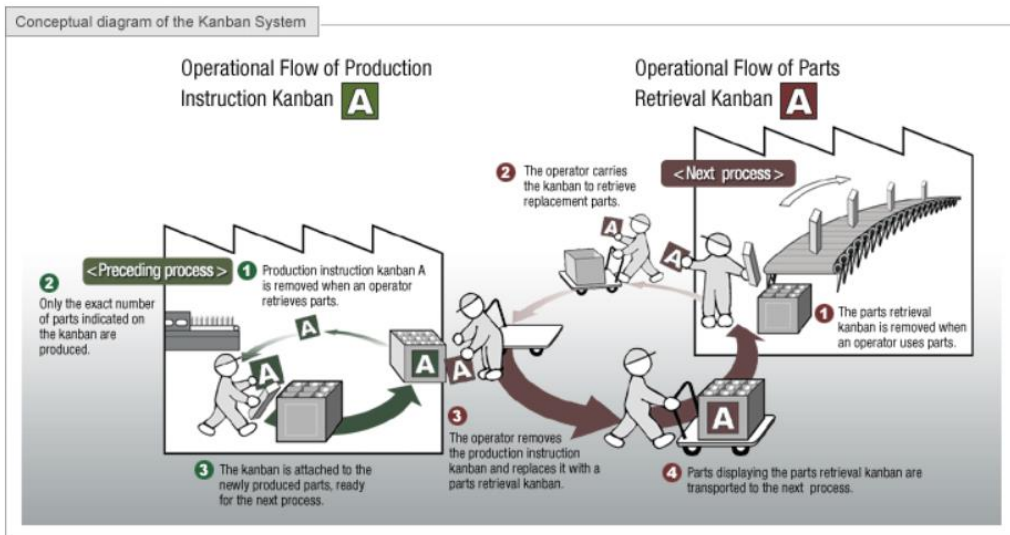
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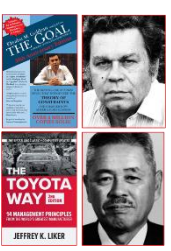


The pillars of Lean: Just In Time

- Pull flow and Kanban: a production system in which the downstream process draws from the previous process the right part, in the right quantity, at the right time.
- Kanban a signal (originally a cardboard card) that triggers production or delivery of the product.
- Heijunka: distributed workloads and equally distributed product mixes (avoid waves).
- Takt Time: the rhythm of the market demand reproduced in the factory (example: one unit every 60 seconds).



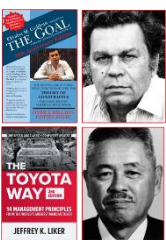
Time of Delivery 10:30	Storage Area A 1-1	Toyota Motors Headquarters
Ohashi Iron Works Store Shell No. 1 - BOTTOM	Item No. 53018-60011	Identification Used in F7 Car Type (L)
	Item Name RAD 5/ANY RADIATOR PRESS LH	Box Type SPECIAL Box Capacity 30
21 Parts-ordering Kanban		50



The pillars of Lean: Automation (Jidoka)

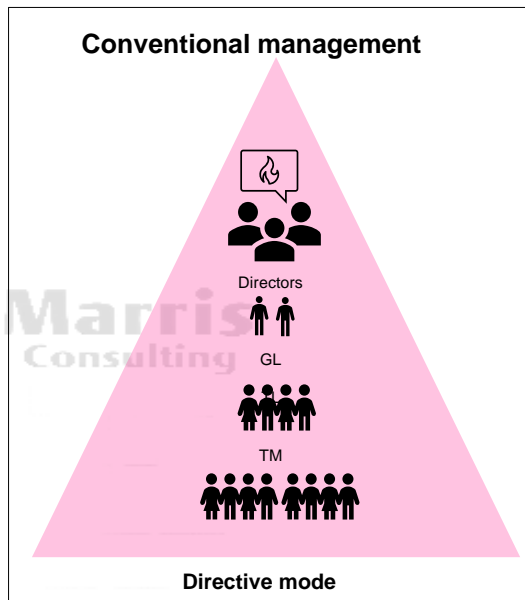
- Automation: make the machine autonomous through automation.
- Remove or improve the operator's difficult tasks.
- This progressive automation requires the assistance of operators.
- The Jidoka is a key part of the Toyota / Toyoda DNA.
- *It's about thinking about the workplace as if you were working there.*
Akio Toyoda, 2020.



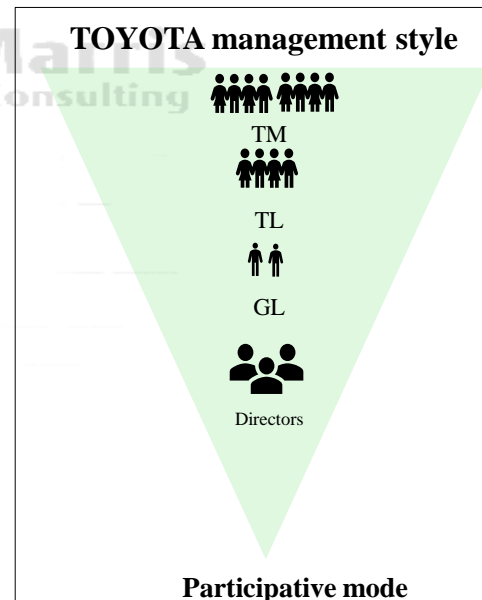


The pillars of Lean: Respect for people

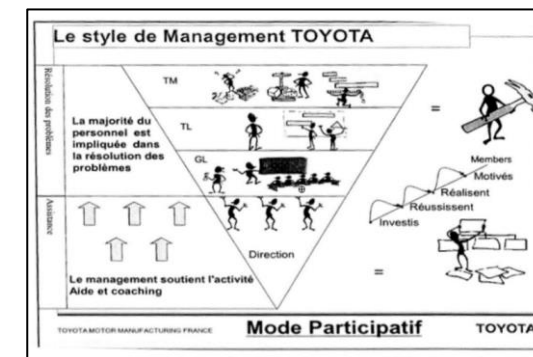
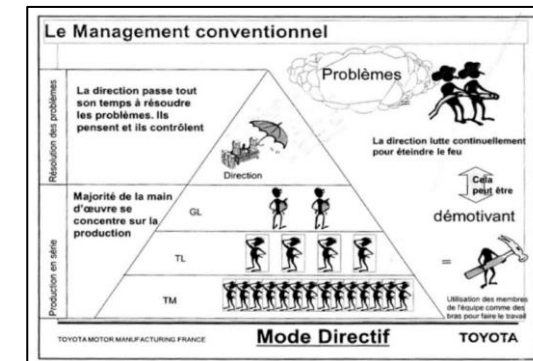
- Toyota advocates an inverted pyramid organization.
- *Improving productivity is not the main goal. By improving security and simplifying things, productivity improves. Akio Toyoda*
- The TPS aims first to reduce Non-Value Added and arduousness.

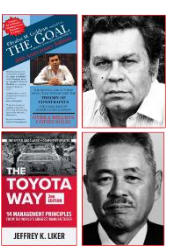


- Managers spend their time solving problems.
- Majority of the workforce is focused on production.



- Most members involved in problem solving.
- The management supports, helps and coaches.





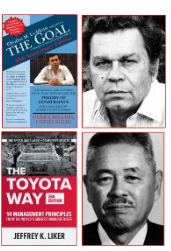
Strengths and weaknesses of Lean

Strengths of **Good** Lean

- The results and the longevity of the approach of the firms using Lean (it can no longer be called a fashion)
- “Respect for people” etc... Lean is integrated into the corporate culture.
- Lean Engineering: How to develop products that are easy to produce, easy to use and reliable (this is rarely implemented outside Toyota)
- Unrivalled quality results.
- Today a Body Of Knowledge (BOK) that is detailed, fairly exhaustive and fairly coherent
- Supplier partnership (but rarely applied outside of Toyota)
- A community where the practitioners outnumber the consultants & experts 10:1
- The search for growth to avoid layoffs (Good Lean).

Weaknesses of Lean

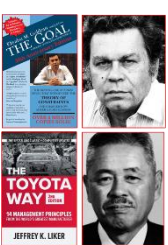
- In >95% of cases, it is “Bad Lean”: a process of continuous layoffs using Japanese words.
- Too many companies wrongly think that they are already doing Lean.
- Its origins (Toyota cars) makes it difficult to adapt in some cases: Project or non very repetitive operations, inherent variability in process times (MRO), Process industries (especially continuous ones), ...
- Results take a long time to obtain. You have to know how to be very patient.
- Opinions differ on where to start: 5S? VSMS? Respect for people?
- Lean purists are closed to other methodologies.
- The Lean community does not understand Good TOC.



France is lucky to have an excellent example of Good Lean: Toyota Onnaing, north of France

- Factory built 20 years ago in Onnaing in the north of France.
- Production of the Yaris.
- 5,000 employees and continues to recruit.
- The factory makes 30 % of cars produced in France.
- The only factory producing small cars (segment B) in France with tight profit margins. All other manufacturers say this is impossible.
- The Yaris was named 2021 Car of the Year.
- Excellent partnerships with suppliers established in less than 10 years.
- Etc. Etc. Etc.



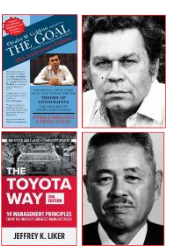


Marris Consulting has launched its online Lean Management course In partnership with the ex-VP of TMMF: Reynald Debaut-Henocque

- The goal of this training is to help organizations improve their performance by understanding the keys to “Good Lean” and avoiding the pitfalls of “Bad Lean” so that they can adjust, build or rebuild their Lean efforts and get closer to the results obtained by Toyota whatever their business.
- You can access course materials at your convenience for 12 months, allowing you to learn at your own pace.



Our Lean training is also available in Paris, in person and in French. Next Session 23rd of May 2024

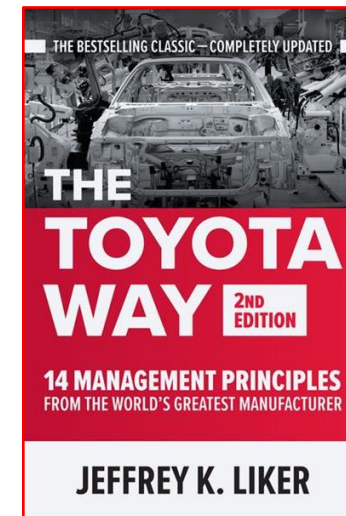
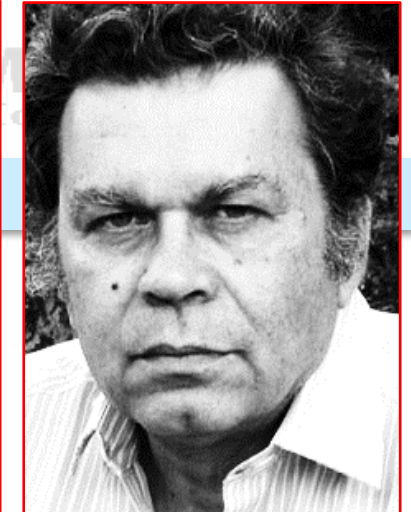
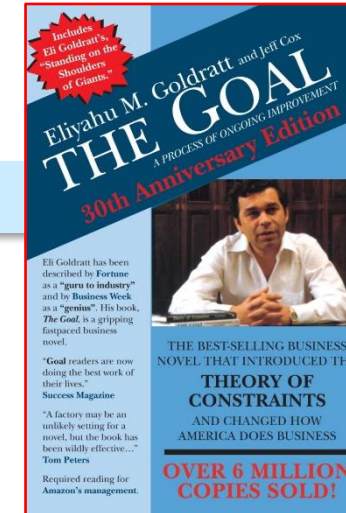


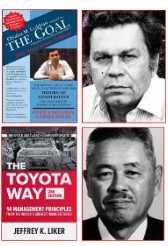
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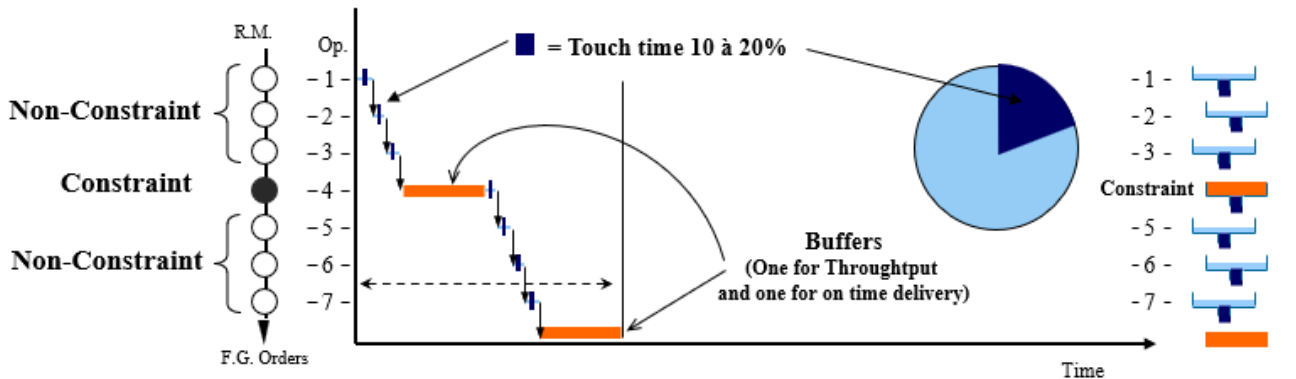
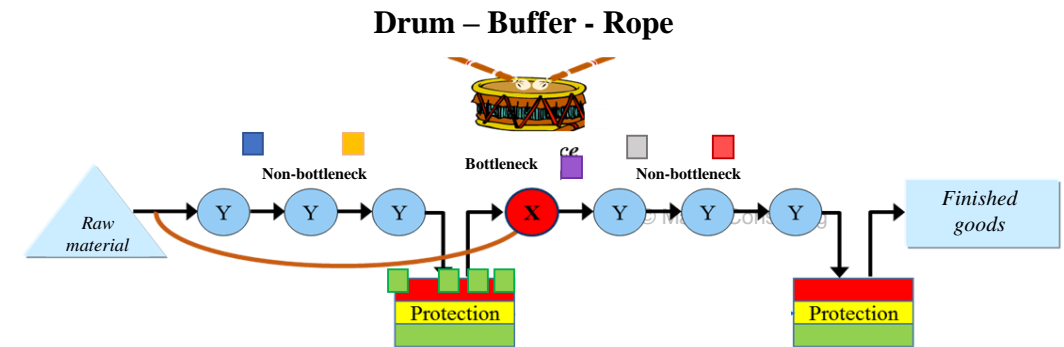
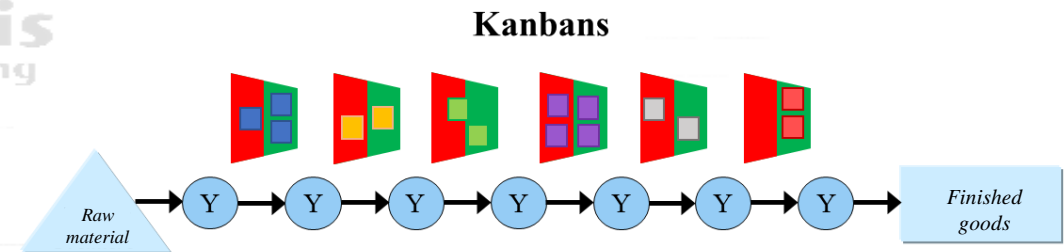
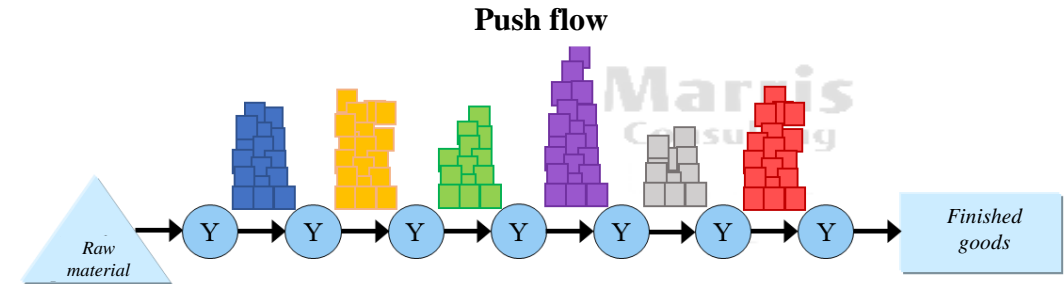
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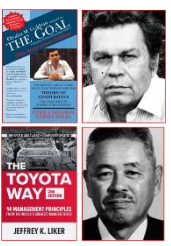




Very often the ideas are exactly the same, but this is hidden by different vocabularies

- Both approaches are obsessed with speeding up flow and reducing production lead times.
 - The complementarity between the approaches is often masked by a certain confusion over the concepts of push flow / pull flow.
- Different words for the same ideas:
 - “avoid overproduction” = “the rope”
 - Scientific Thinking = Logical Thinking
 - Etc.

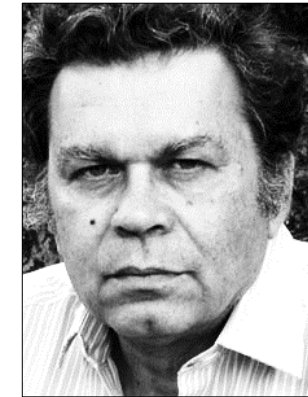




TOC and (Good) Lean both seek to increase sales while reducing lead times and reducing expenses

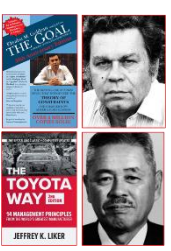
- TOC can help determine what to change and where to act: focus and leverage.
- Lean tools can then be used to improve the performance of the constraints. Team members can be focused on this until there is standing room only. The rest of the people can work on eliminating waste.
- We can draw inspiration from Lean to improve the corporate culture.
- TOC can stimulate increases in turnover (the Throughput World).
- Lean can help reduce inventory and operating expenses (hunting for waste).

A blackboard with the handwritten equation $1 + 1 = 3$ in white chalk.



*So this is the goal:
to increase Throughput
while simultaneously reducing both Inventory and Operating Expense.*

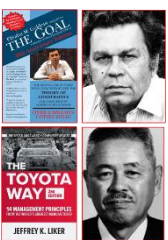
Eliyahu Goldratt, *The Goal*



Take inspiration from Lean to develop long term partnerships with suppliers

- Suppliers have more to fear from Toyota's production people than from the Purchasing Department.
- An almost perfect level of quality is expected, less than 30 PPM.
- In addition, suppliers must not be a source of crises. The "Bad News First" is for everyone.
- Example of Toyota France: During the first 10 years some of the suppliers were too disappointing and were replaced by others. Now there are no longer any blacklisted suppliers. No major supplier changes in the past 10 years.



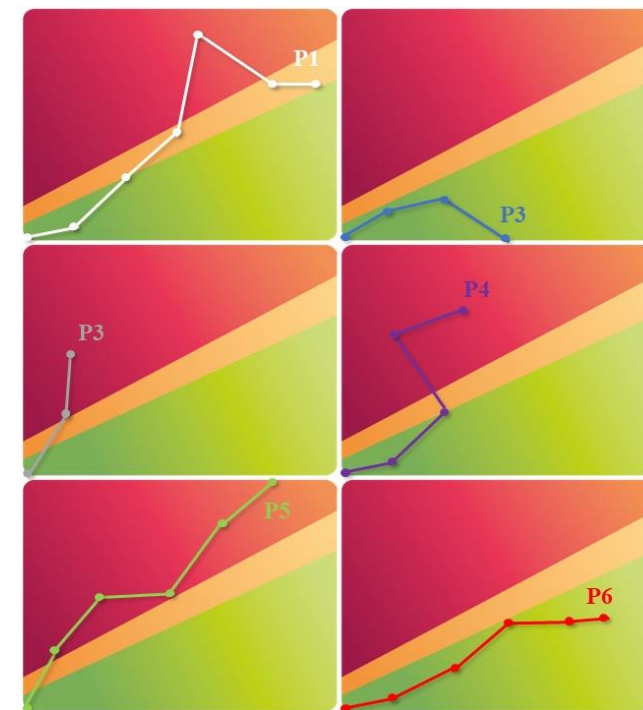
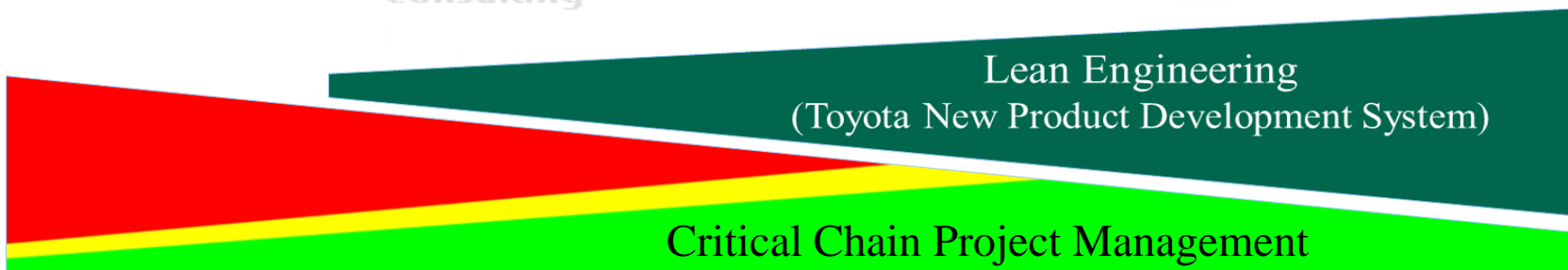


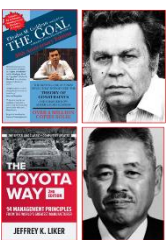
Lean for quality & TOC to manage projects...with Lean Engineering

- Take inspiration from Lean to improve quality (ppm)
- Use TOC Critical Chain Project Management to complete projects faster and on time, and Lean Engineering to produce good products that are easy to produce.

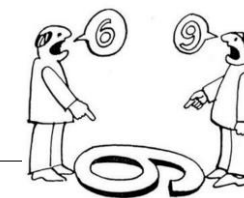


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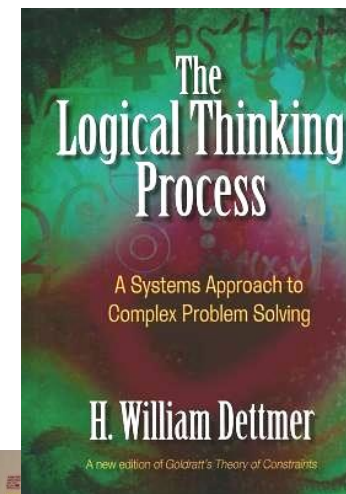
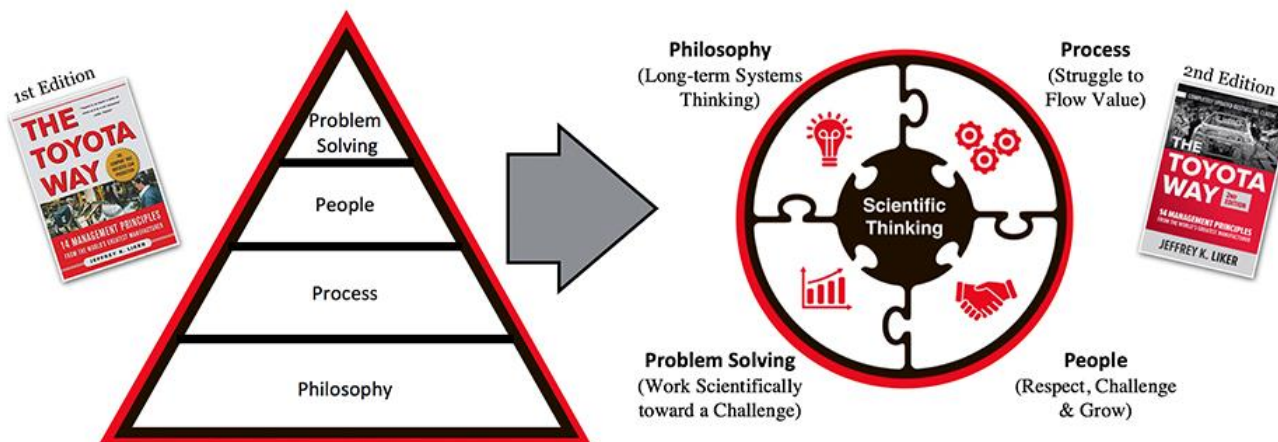
Both approaches encourage thinking logically or scientifically

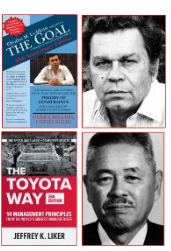


- The “Goal Tree” and more broadly the Logical Thinking Processes can be used to better define the strategic objectives and the transformation plan. No more ambitions. Growth.
- Both approaches, Lean & TOC, deal with how to think better. Lean with “scientific thinking”, and TOC with “Thinking Processes”. The vocabulary is different but the objective is the same.



Scientific Thinking & the Toyota Way as a system





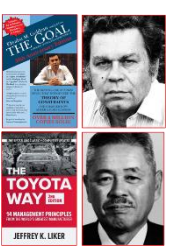
The two methods only differ on one point: is variability inevitable?

- Lean considers that we can eliminate all variability.
- TOC considers that we cannot completely eliminate variability and that we must protect ourselves accordingly.
- The conflict is: the “zero inventory” of Lean versus the buffer stocks of the Theory of Constraints.
- But if you accept that buffers are dangerous and that you must always be working on how to reduce them then Lean and TOC are very similar.
- Don't fall asleep on your buffers!



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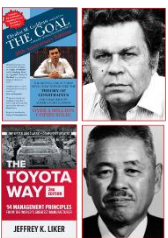
To buffer or not to buffer, that is the question!



Agenda

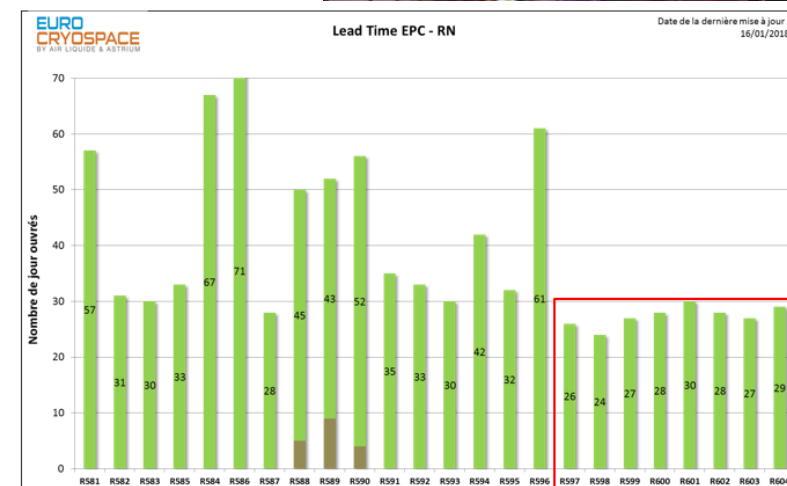
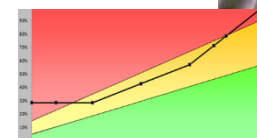
- Introduction
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- Summary of the Theory of Constraints and Lean
- TOC + Lean: a winning combination
- **Implementation examples**
- Conclusion
- Appendices

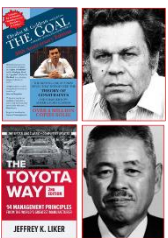




Increase of >30% in the production capacity of Ariane 5 rocket tanks

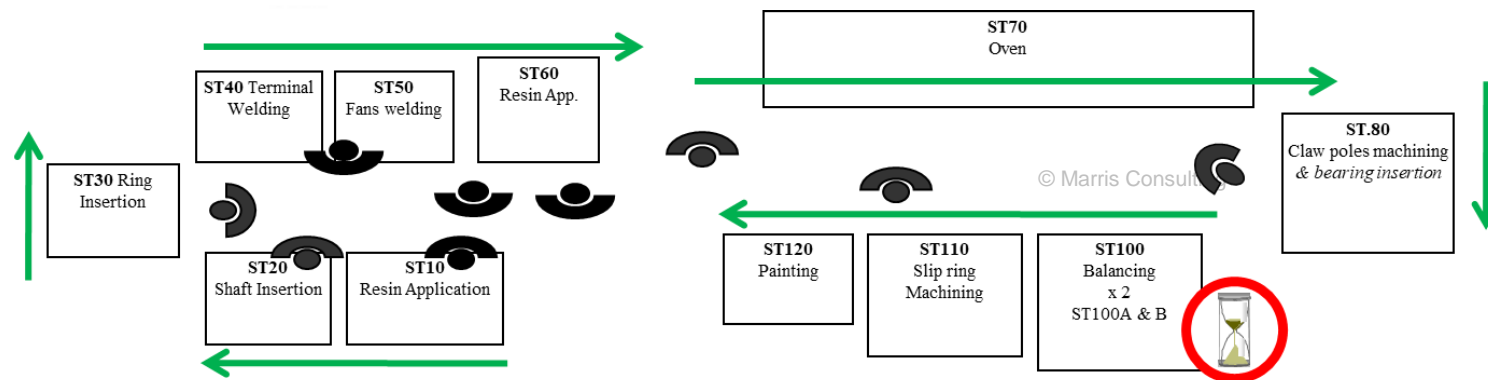
- The Ariane 5 rocket tank production site had to increase its production capacity from 6 to 8 tanks per year.
- The actions implemented are those recommended by the Theory of Constraints and Lean:
 - Identification of the production bottleneck: the welding machine.
 - Implementation of Critical Chain principles on the welding process and use of a mascot to follow this Critical Chain.
 - Numerous “Lean” actions to improve performance.
 - Identification of the next bottleneck and debottlenecking.
- These actions made it possible to quickly achieve the objective and produce 8 tanks per year while moving from a 3x8 shift organization to 2x8 shifts. So, an over 60% increase in productivity.

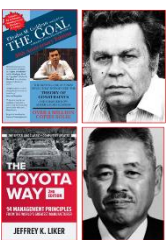




One of the Leanest organisations in the world

- One of the 10 largest automotive OEM suppliers in the world. Was one of the first to begin its Lean journey after Toyota in the 1970s. Its xPS (Toyota Production System equivalent) is over 50 years old. Known as one of the “Leanest” western organisations in the world.
- Following an excellent positioning of their products, their factory in Mexico was hopelessly overloaded. Due date performance became a big issue, they risked stopping the assembly lines of their customers throughout the continent.
- The bottleneck was already formally and correctly identified (which is rare).
- A buffer initially of about 12 parts was implemented just in front of the bottleneck operation. “One piece flow” has therefore been excluded for this machine. **This immediately increased the Throughput by 17%.**



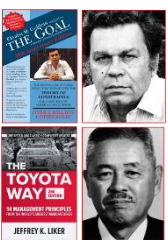


We very frequently see cases of « Dogmatic Lean » Another recent example

- A recent example from March 2024 in the USA. Medical devices production. Over 1,000 people
- High volume production: over 100 million units per year.
- Factory not meeting demand. Delivery backlog significant and increasing.
- The bottlenecks were the assembly lines. Takt time on assembly lines: about 5 seconds.
- Number of « pallets » (WIP) in the assembly line insufficient (and target unknown and several being repaired).
- Once again, buffering of the line's bottleneck operation significantly increased the O.E.E. of that operation, and therefore the output of the line, and the output of the 1,000 person factory.

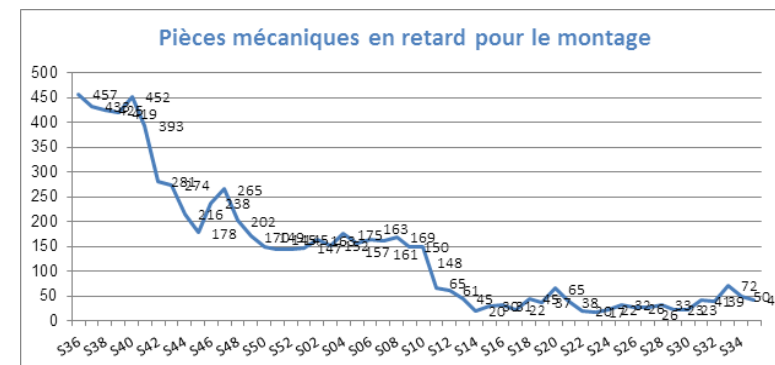


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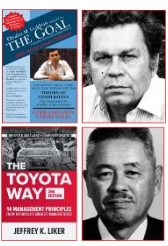


Reduction of Inventory and lead times by over 70% at an aeronautical equipment manufacturer

- With due date performance chronically below 50%. The managers did not have a credible plan to remedy the situation.
- The factory manager had read *The Goal* and decides to apply a combination of TOC and Lean :
 - Increase the flow rate of the bottleneck: quality control
 - SMED on machining equipment to reduce batch size and dozens of other Lean inspired improvements.
 - Reduce the level of Work In Progress with the “2 to 1 rule” (neither Lean nor TOC).
- In less than 3 months results were obtained:
 - 30% increase in output from mechanical workshops and reduction of more than 90% in assembly delays due to the availability of these parts,
 - Reduction in lead time for manufactured parts went from 9 to less than 3 months.
 - Work In progress was reduced by €1.2 million.
 - The service rate increased from 50% to 85%.



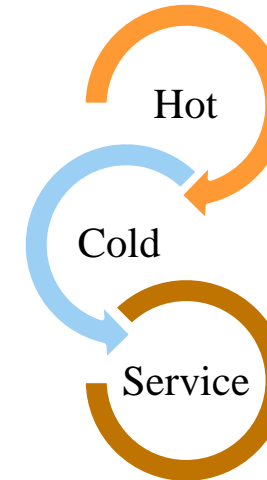
See the client testimonial videos on YouTube



Reduce the service times of the world leader in fast food by 60%

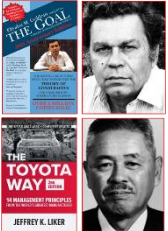
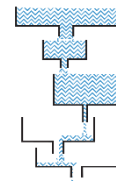
- After a one-day diagnostic, identification of the "bad" bottleneck of the new restaurant model deployed throughout France: the "assembly" of the different elements of a customer order.
- Implementation of complete compliance in order to keep the order complete from customer request to delivery.
 - Grouping and identification of orders (customer tray in the kitchen).
 - Abandoning local performance indicators and focusing on measuring global performance.
- Numerous "Lean" actions:
 - Implementation of pull flow (from the kitchen).
 - Development of new operating standards.
 - Elimination of unnecessary gestures.
 - Improved visual management.
 - Etc.

Push or pull flows ?



Results

- **60% reduction in service time**
- **Customer returns divided by 7**
- **Material losses divided by 10**
- **Increased profitability**

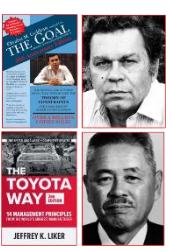


You can see dozens of other examples on the Marris Consulting website or on our YouTube Channel



Conference 15 Examples of Theory Of Constraints



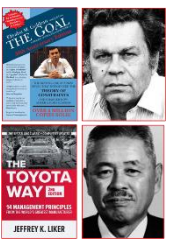


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A blackboard with the handwritten equation $1 + 1 = 3$ in white chalk.

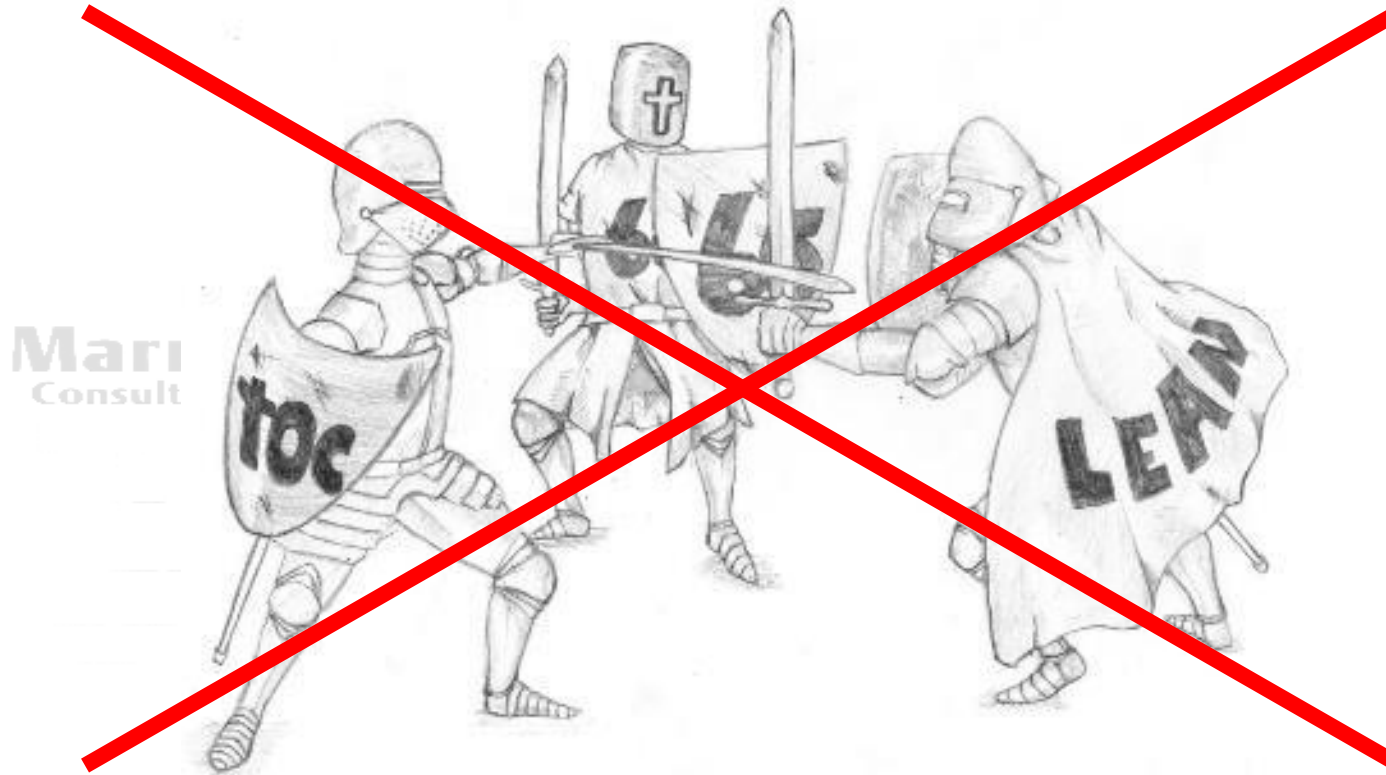


TOC + Lean: 1 + 1 = 3

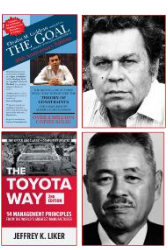
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Good Lean and Good Theory of Constraints

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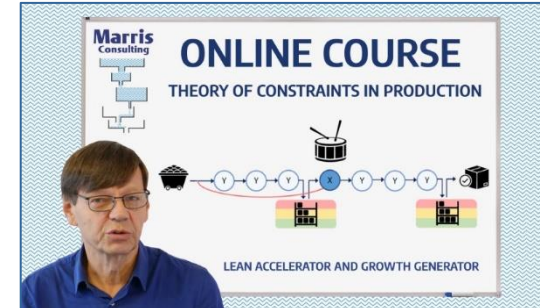


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You can boost your improvement process now

- Register for one of our online training courses in English: Marris Consulting
 - Theory of Constraints applied to production
 - Good Lean, Bad Lean
 - Critical Chain Project Management
 - Logical Thinking Process
- Or come to our in-person courses in French in Paris.
- We offer all our training in-house in-person worldwide
- You can also ask for our **2-day flash diagnostic** during which we help you find your bottleneck and the main issues preventing you from improving your performance.
- The combination of the 2-day flash diagnostic and one day of training is very popular.



Theory Of Constraints

Training to understand the key principles of this approach and get some practical advice to implement it.

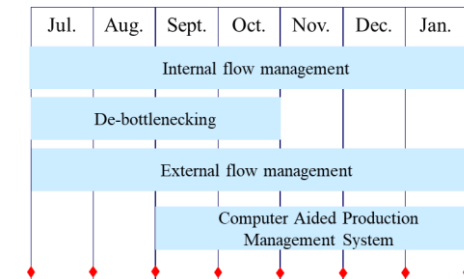
The Theory Of Constraints was developed by Eliyahu Goldratt and popularised thanks to the global best-seller *The Goal*, the first business novel.



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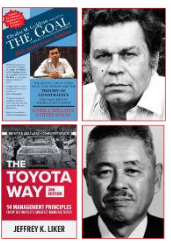


TOC + Lean

A winning cocktail

Questions
& Answers



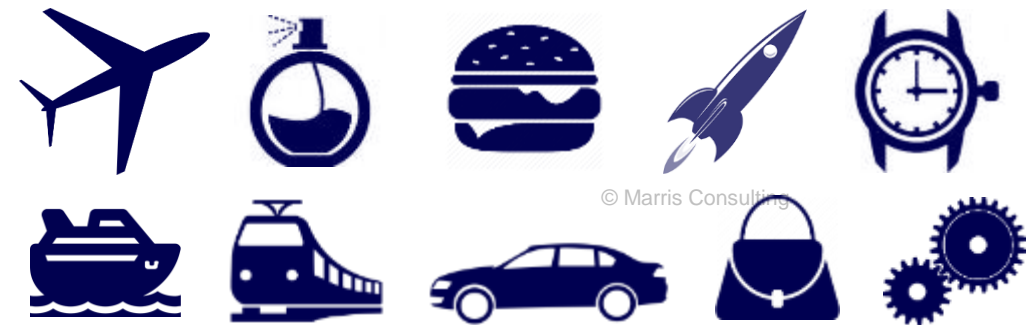


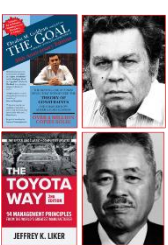
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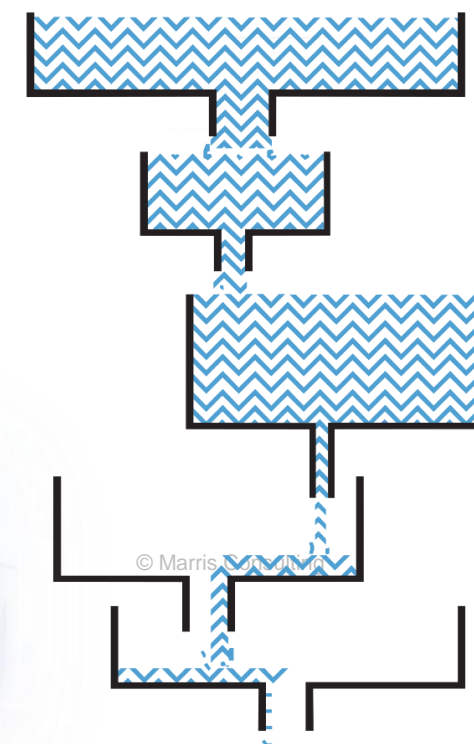


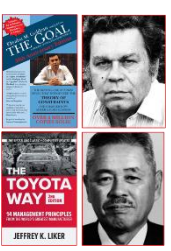


What we do

- Marris Consulting has a reputation for its capacity to be pertinent in nearly all kinds of industry. We have worked in over 300 companies helping in designing, making, selling and distributing:
 - cars, hamburgers, aeroplanes, perfume, trains, rockets, industrial equipment, pharmaceuticals, home delivery services, computer chips, chips (food), maintenance / repair / overhaul (MRO) of planes and trains, luxury handbags, corrugated cardboard production, the defence industry, Swiss watches, steel manufacturing, plastics, bank notes, satellites, gold mines ...
- We are committed, viscerally, to producing results. Results that are well beyond our clients' expectations. And results that last. Better still we incessantly seek to strengthen the process of on-going improvement; we want to see our ex-clients getting better and better many years after we intervened.

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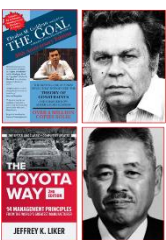
Some facts about us

- The company was founded in 2005 in Paris.
- 20% of our projects are in France, 50% in the rest of Europe and 30% in the rest of the world.
- We have a very high client retention rate. Many of them have worked with us since the company was founded.
- We have an exceptionally low staff turnover.
- We increased the productivity of one of the best automotive factories in the world by 17% in 15 minutes.
- We reduced the client delivery times of the world's leading fast food company by over 50% and product waste by over 80%.
- We reduced the time to completely modify the layout of a factory from 8 weeks to 6,5 days.
- We are obsessed with producing exceptional long-lasting results.



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To find out more: our customers' testimonials

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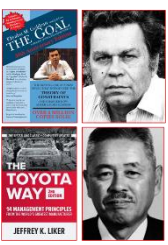
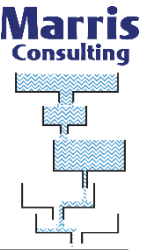
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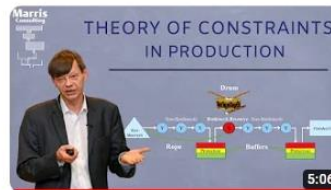
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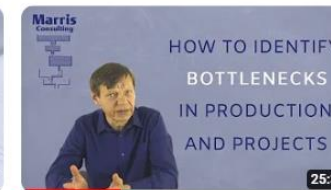
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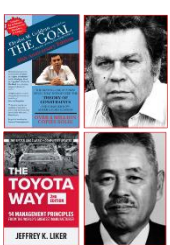
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Overview

Factories, People & Results...

Marris Consulting is a consulting firm focused on industrial operations, with over 20 years of experience in designing and implementing projects in France, in Europe and in the rest of the world. It assists its clients in exploring new ways to improve their performance, with extensive expertise in production and product development. Marris Consulting brings to industrial organizations sustainable transformations that affect all components of their performance:

- Manufacturing (machine productivity and flexibility, shop floor management ...),
- Supply Chain (planning, scheduling, distribution ...),
- Projects (R&D and product development, non-repetitive manufacturing ...)
- Marketing and Sales.

Marris Consulting was founded in Paris, France by Philip Marris in 2005. He and his company are recognized Theory Of Constraints (TOC) experts. Philip is the author of the reference book in French on the subject. The company is also a recognized as very proficient in Lean (Manufacturing and Engineering) and works with some of the leanest organizations in the world. It implements DDMRP / Demand Driven MRP.

Affiliated pages

- Theory Of Constraints TOC**
Business Consulting and Services
Paris, Ile-de-France
- TOC+Lean+Six Sigma**
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Factory flow management is strikingly similar to urban traffic management.

Take the example of a journey from Lyon to Marseille, which generally takes 3 hours when the roads are clear.

During the summer season, the same journey can take twice as long, while the distance remains unchanged.

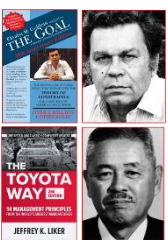
The only difference lies in the way we manage the flows... 🤖

The higher the WIP levels on the shop floor, the longer the lead times.

[#FlowManagement](#) [#Optimization](#) [#Productivity](#) [#LittlesLaw](#)

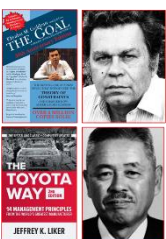


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Marris Consulting hosts over 30 training sessions per year both intra-company and dedicated in-house





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Critical Chain

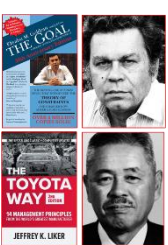
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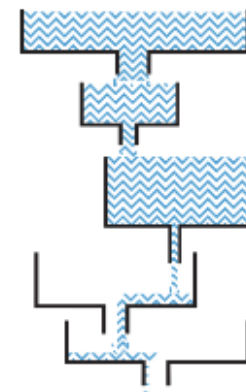


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Tour Maine Montparnasse
27^{ème} étage
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