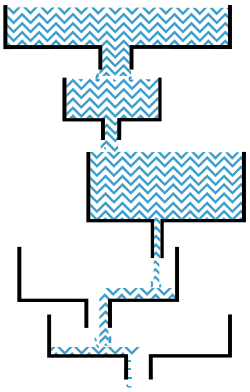
Marris Consulting



# **Marris Consulting** accelerates IT projects with the Critical Chain Project Management method.

# Our Program

# Editorial

In the era of digitalization and «all digital,» IT development projects are increasingly under pressure to deliver quality results quickly. By combining widely used Agile methods with Critical Chain Project Management, Marris Consulting strengthens and improves the productivity of IT teams, allowing them to reduce delays without compromising on quality or content.

Marris Consulting is a consulting firm specializing in performance improvement and implementing methods from the Theory of Constraints (ToC) and Critical Chain Project Management (CCPM). The Theory of Constraints helps identify bottlenecks in a system and eliminate them to improve the overall efficiency and productivity. Applied to projects, the Critical Chain ensures that projects are completed on time.

You will discover the impact of combining Agile and Critical Chain to successfully complete IT projects through two implementation examples.

## Discover how Marris Consulting' experts boost your projects!

**Philip Marris** — Founder and CEO of Marris Consulting

# The Founder's Message

*I created Marris Consulting in 2005 to differentiate my company from other consulting firms on one point: guarantee the achievement of lasting results for my clients in the area of operational excellence. While most of our clients are internationally renowned manufacturers: Safran, Embraer, McDonalds, SKF, Ipsen... Marris Consulting also supports many SMEs and SMIs, and in recent years more and more companies in the digital world. I have thus been able to observe the changes in the IT sector over the last decade, notably with the rise of Agile methods and artificial intelligence.*

*Today, with 15 consultants and a network of partners, Marris Consulting positions itself as a key player in the implementation of the Theory of Constraints and Critical Chain Project Management, with more than 300 implementations.*

*We would like, through this memo, to explain how these methods can boost your IT projects.*

**2005**
Year of creation

**15**
Collaborators

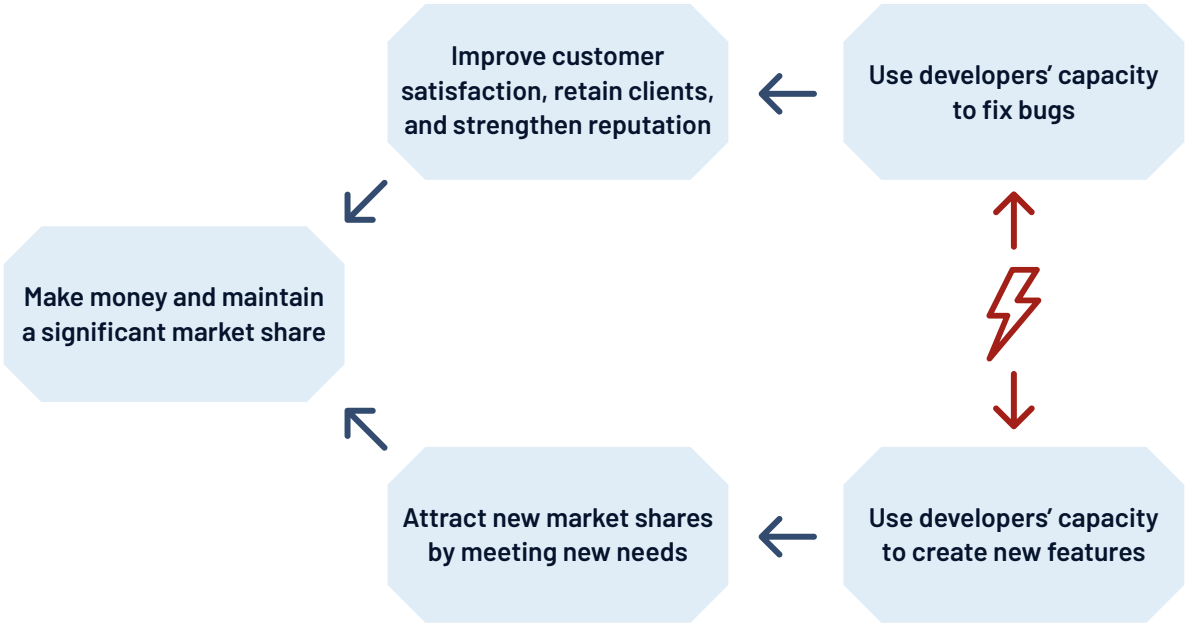
**300**
Boosted projects

OUR CUSTOMERS

# Context: IT Projects, Unavoidable Delays?

Today, digital technology is integrated into all aspects of our daily lives, and the race for innovation in increasingly advanced technologies is accelerating. In this context, IT developments must be agile and controlled to ensure the quality and security of the products.

The cycle of software product development involves several iterations before reaching the final code delivery. During these developments, a dilemma arises between fixing existing bugs and developing new features. Project managers and developers can then quickly stray from their goal, losing sight of the ultimate objective: customer demand.



Our consultants have observed within the organizations that objectives are often achieved partially or with delays. For what? Because planning lacks precision, portfolio management ignores capacity limits, uncertainties are not properly managed despite margins, and visibility into progress and delays is insufficient.

Various recent studies have been conducted to assess project performance, revealing disappointing results (see table below). Did you know that only 50% of projects finish on time?

These findings apply to all types of projects, including IT.

## COMPARATIVE STUDY – PROJECTS' PERFORMANCE*

| | % ON TIME | % SCOPE | % ON BUDGET |
|---|---|---|---|
| AVERAGE | 50% | 55% | 53% |
| CONCLUSION | Approximately 45% of projects are delayed, over budget, or fail to meet initial specifications | | |

It is becoming essential for these stakeholders to rethink their project management approach and opt for more robust strategies. This awareness represents a crucial step in overcoming current challenges and positioning IT projects on the path to sustainable success.

* Sources :
Wellington Study - The state of project management survey 2021
PMI – Pulse of the Professions 2021
P2 Consulting – Industry trends project managment survey 2015

# Methods Deployed by Marris Consulting to Boost IT Projects

The teams at Marris Consulting apply the Theory of Constraints and Critical Chain Project Management to assist IT companies.

## WHAT ARE WE TALKING ABOUT?

Often, when project management is mentioned in the IT field, it refers to the Agile method. This method allows for flexible and modular development but does not necessarily guarantee good control over global schedule dependencies or the workload/capacity balance of teams.

The two approaches complement each other perfectly for digital projects. Agile enables reactivity and autonomy for project teams, while Critical Chain allows for a global view of development by considering interdependencies and the limited capacities of human resources.

> Marris Consulting combines Agile with Critical Chain Project Management to enable project execution under the best conditions and to master the cost-quality-time triptych.

## AGILE

### BENEFITS

Reactivity and autonomy of project teams.

### DISADVANTAGES

The long-term vision of the project is unclear. The (costly) need to conduct tests throughout the project can cause budget overruns.

### WHEN USE IT?

On projects where an interative process is possible.

## CRITICAL CHAIN

### BENEFITS

Achieving project deadlines, overall project vision - Considering the company's capacity constraints.

### DISADVANTAGES

The Critical Chain requires an investment in planning. The project buffer must be understood and accepted by management.

### WHEN USE IT?

For all types of projects where the implementation steps are defined.

To control IT project portfolios and reduce delays, Marris Consulting focuses on three main pillars during its interventions:

**1/ Project buffer planning and management**

**2/ Operational execution with full kit and visual management**

**3/ Project portfolio management**

These three pillars will later be illustrated through two implementation cases with the support of Marris Consulting:

**EXAMPLE A :** A company that is developing a decentralized IT infrastructure on a global scale. It has decided to implement the Critical Chain on this project.

**EXAMPLE B :** A software publisher of ERP (Enterprise Resource Planning) and CRM (Customer Relationship Management). The company's activities cover both the development of their flagship product and the integration of their solution at the client's site. It is in the area of integration that the company decided to deploy the Critical Chain.

# Marris Consulting puts planning back at the center of IT projects

Marris Consulting emphasizes planning, which is often neglected in IT projects managed with a 100% Agile approach. Planning takes place in two stages:

### STEP 1

The work is broken down and organized into tasks to be completed, linked together according to a logical sequence

### STEP 2

Time and resource requirements are then estimated for each task to be completed. The goal is to have ambitious deadlines by distinguishing the times when the employee truly adds value from the times when this is not the case. The teams are consulted to define these so-called 'focused' durations, meaning without a safety margin.

**The Critical Chain is then highlighted: it is the longest path between tasks, taking into account logical dependencies and resource dependencies.**

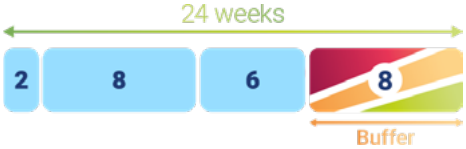
But this is not enough to meet the overall project deadline. To protect the project end date from uncertainties, the CCPM method (Critical Chain Project Management) adds a safety margin at the end of the project, a 'buffer.' This involves adding time at the end of the project.

This project buffer is then proactively managed to ensure it is not consumed too quickly. The buffer is used when a task exceeds its focused duration or when new tasks are added to the initial plan. This approach allows for better management of resources and constraints while maintaining visibility on the project's critical deadlines with the help of the Fever Chart.

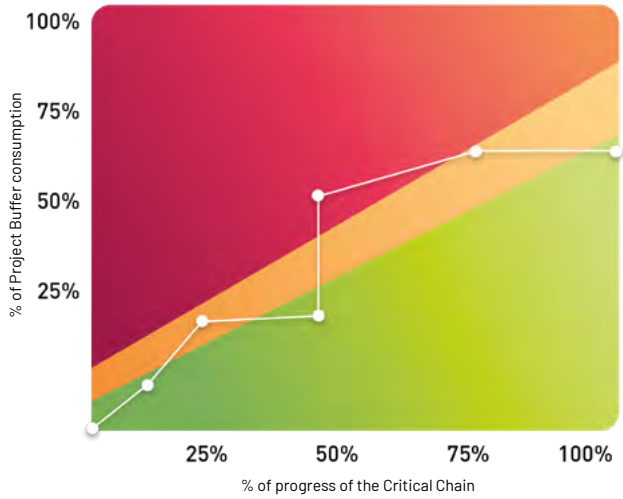
In traditional planning...


... each task incorporates its own margin.


**In Critical Chain, margins are pooled, and cycle times are challenged**




**FEVER CHART**



## EXAMPLE A :

In Case A, the team comprises 30 collaborators from different parts of the world. They work in an agile way, using Gitlab and a schedule built on Gantt. All actions are listed on Gitlab and filtered on a Kanban board (a Lean method for visualizing the work to be done). Work in progress is discussed at a weekly meeting. Despite this organization, the team had several difficulties managing the project:

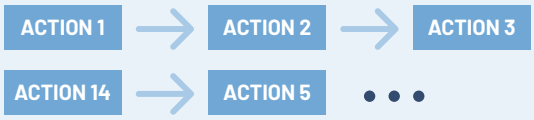
- Many iterations and actions are created daily.
- There are too many details in the Gantt schedule, making updating too difficult.
- Technical dependencies are not taken into account in the schedule.
- Workload not visible and not managed.
- No visibility of project progress.
- Impossible to commit to a delivery date.

Marris Consulting proposed a two-stage solution:

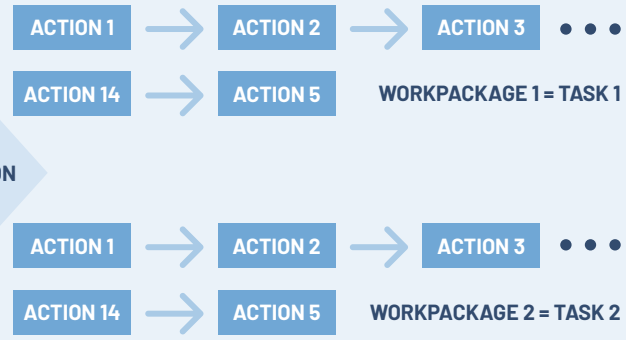
### STEP 1 - NEW ACTIONS ORGANIZATION AND ASSIGNMENT:

Marris Consulting recommended grouping actions with the same technical problem and requiring the same resources, into work packages. On Gitlab, work packages were specified for each action. A manager was assigned to each work package.

**State of the art: all actions integrated as a task in the schedule**




**Proposition: only work packages are integrated as task in the schedule**




- ✗ Less flexibility
- ✗ Additional actions will impact the schedule definition
- ✗ Traceability of the critical chain update not possible

- ✓ Schedule more flexible
- ✓ The team can add actions without impacting the schedule
- ✓ Better management of the schedule

### STEP 2 - CRITICAL CHAIN SCHEDULING:

All work packages were defined as tasks in the new Gantt schedule. They have been linked respecting the technical dependencies between them. For each, resources have been assigned. The team has defined the focused and pessimistic duration for each work package. Then, the Critical Chain and the project buffer were generated on a specific critical chain software.

# Prepare, visualize, and pace the work: our guaranty for smoother projects

To monitor the buffer consumption, it is important to create ideal working conditions to guarantee the respect of focused durations of the tasks.

**Our consultants, in contact with developers, frequently note that they don't have all the information they need to do their job.**

**Here are some examples:**

**— Specifications from the customer are not clear**

**— All required inputs are not available when needed**

**— The work is waiting for an expert or manager who is not available**

This generates a lot of back and forth and is a major contributor to developers' multitasking. When a task is interrupted, it can take weeks before the blocking point is resolved; the problem is only resolved when the subject becomes a priority again, unfortunately too late. Add to this the excess of parallel projects which disperses efforts and causes confusion and delay.

**The implementation of a visual management tool (Kanban board type) makes it possible to:**

**— Visualize the work,**

**— Distribute and follow the status of the work,**

**— Give rhythm to work,**

**— Highlight blocking points.**

## EXAMPLE A :

### FULL KIT MANAGEMENT:

In case A, a new organization was implemented to guarantee the full kit (all inputs needed are available and without errors).

Each action assigner must be in contact with the person responsible for the work package. If the developer expects contributions from other developers, he/she must inform the responsible.

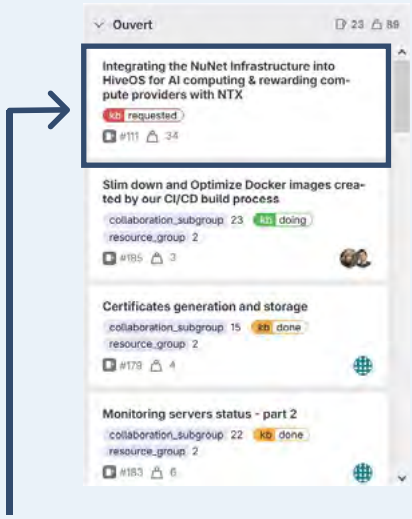
The work package manager is responsible for preparing the full kit and ensuring that the different parties involved will have completed their deliverables before the start of the following activities.

If some inputs needed are related to actions from other work packages, the information is shared with the Product Owner and the Scrum Master who have an overview of all work packages. Both of them have regular meetings with all work package managers to align priorities and needs.

### VISUAL MANAGEMENT IMPLEMENTATION:

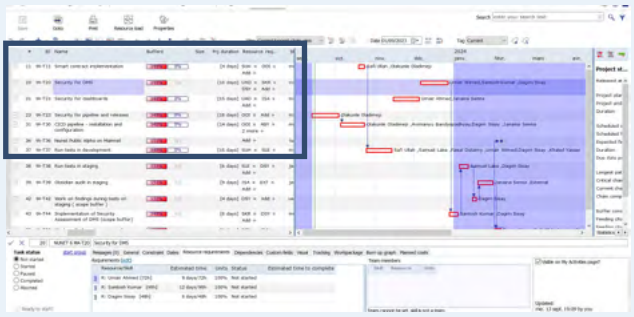
With the new management organization, it is important to have fluid communication and strong alignment between teams. To achieve this, a digital visual management system has been put in place and routines have been organized. A daily meeting is organized to manage ongoing actions. All actions are ordered in a Kanban board in Gitlab. The technical aspects and remaining duration of each action are updated at the daily meeting. Actions that are part of critical work packages (work packages on the critical chain) are marked in red and examined as a priority during the meeting. A weekly meeting is also organized, devoted to update the schedule and the Fever Chart. If progress is in the red zone of the Fever Chart, measures are taken to identify the root cause and reduce the delay. See below:

**DAILY ROUTINE**

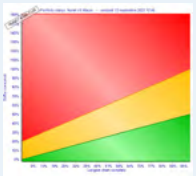



**Actions part of the critical work packages were prioritized**

**WEEKLY ROUTINE**



**Updating the remaining duration for each work package**



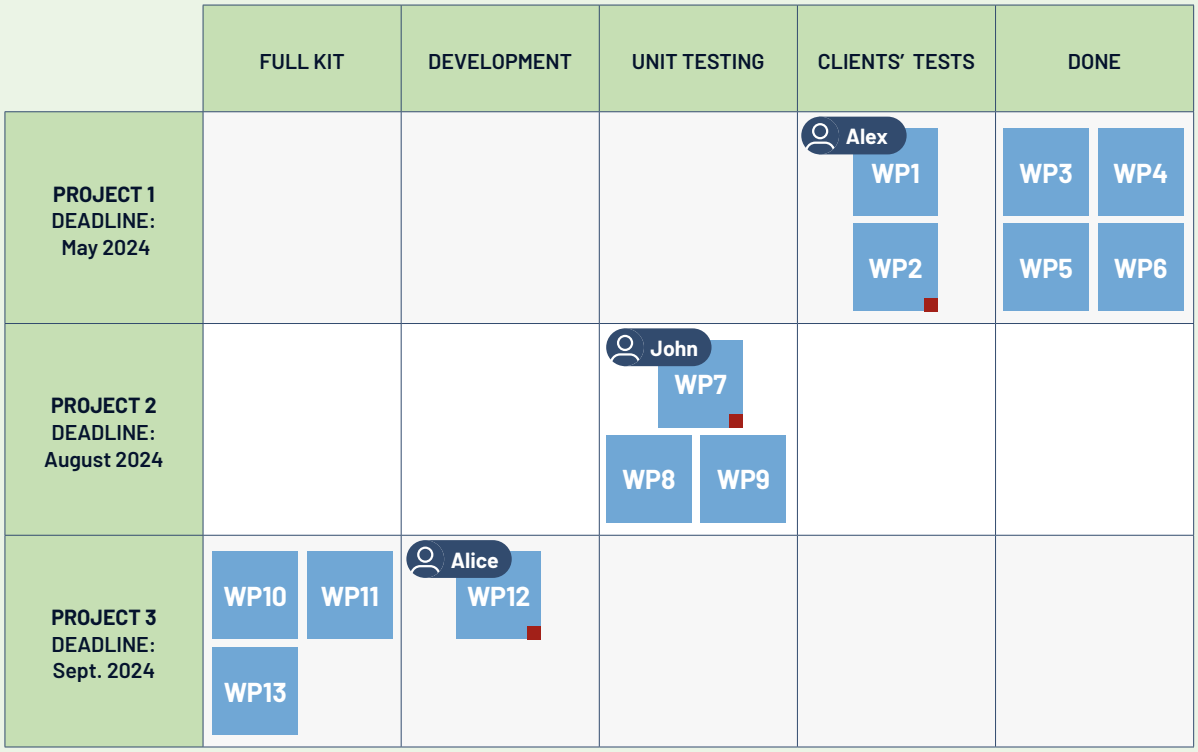
**Fever chart update**

**This visual management and new routines allowed an alignement between the team and better visibility on the blocking points**

## EXAMPLE B :

In case B, Marris Consulting has also defined a Kanban board as visual management to complete the Critical Chain implementation.

The objective of visual managment is to have visbility on the workload, blocking points, and to pace the work. The Visual Management board could  be similar to the following example:




## SEVERAL ADVANTAGES OF THIS BOARD:

- **Be focused:** talk only about prioritized projects and blocking points.
  A developer cannot work on 2 actions simultaneously.
- **Highlight the blocking points:** they are tagged with a red label. The meeting needs to be quick. Solutions don't need to be found during this meeting but the blocking points have to be identified.
- **Ensure the Full Kit:** an action can be started only if it is put on the column "Full Kit" meaning that all inputs are available to start the work.
- **Make the bottleneck visible:** Queues and accumulations of work help guide the improvement action plan and optimize the efficiency of the system as a whole by working on the bottleneck.

# Our simple rules for better management of your projects' portfolio

One of the fundamental principles of the Theory of Constraints is the limitation of Work In Progress to facilitate flows.
To better manage a project's portfolio, Marris Consulting recommends having simple rules to limit the work in progress.

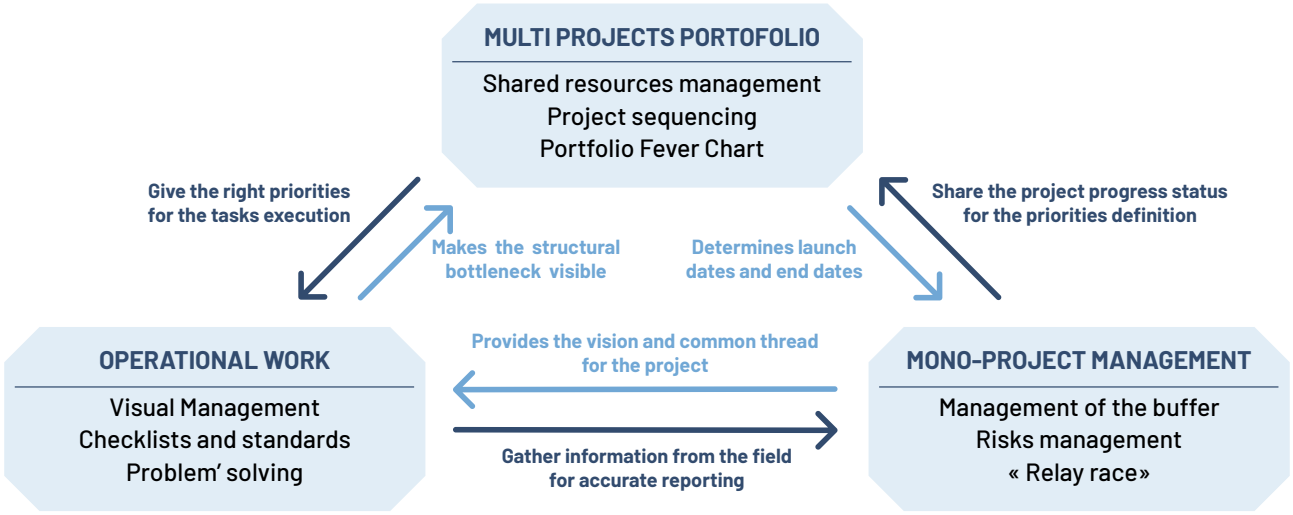
The more the number of parallel projects decreases, the more resources can be focused and the more the system manages to accelerate delivery times for each project.

To put this principle into practice, the projects to be launched need to be sequenced according to resource capacity. This involves defining in advance the number of projects that the bottleneck resources can manage in parallel under optimum working conditions, without generating multitasking.

Once this number has been defined, the '1 for 1' rule is applied: a new project is only started once the bottleneck has completed one of its current projects.

**To ensure proper control of the level of work in progress and to encourage resources to work on the right priorities, a management pyramid needs to be put in place:**

**To do that, we have to adopt the « Stop starting, start finishing ! »** *philosophy*




Together with the heads of department, the PMO (Project Management Officer) defines the priorities among the projects in the portfolio. This high-level organization also enables a load-capacity analysis to be carried out to decide on the sequencing of current and future projects.

Planning and monitoring in execution enable the construction of individual Fever Charts, which will give rise to the Fever Chart portfolio. This will help to focus managerial attention on projects identified as being 'in the red' while freeing up resource capacity for projects 'in the green'.

Priorities are decided according to each project's progression.

Finally, at the operational level: the visual management and the checklist enable a smooth execution of the activities.

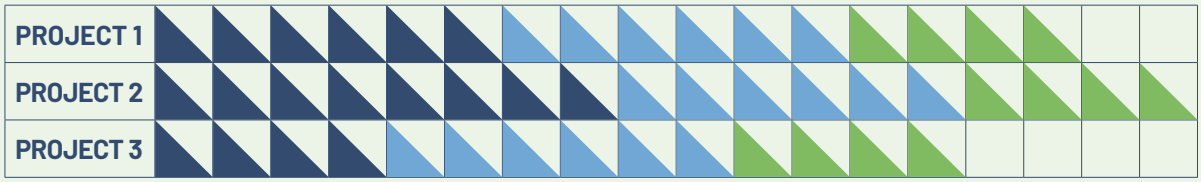
Heads of department ensure the right allocation of resources based on priorities at the portfolio level.

Department heads ensure that resources are allocated to the right places (according to the priorities defined by the portfolio vision), and that completeness is maintained. The work in progress by certain members of the team will make the portfolio's structural bottleneck visible.

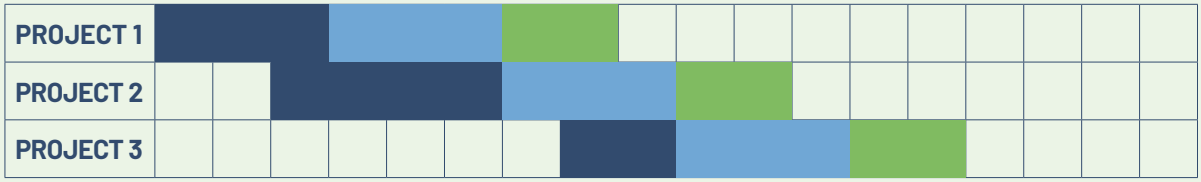
## EXAMPLE B :

Each resource was working on 6-7 projects in parallel in a fragmented way. The five phases of each project were taking too long, despite everyone's best efforts. Having identified the auditors as the bottleneck resource, the focus of managerial efforts made it possible to smooth out the load on this resource: 'an auditor cannot have two phases 2 of two projects running in parallel'. This has resulted in the condensation of the phases of each project, with some projects being delayed by several weeks.

### WITH MULTITASKING:



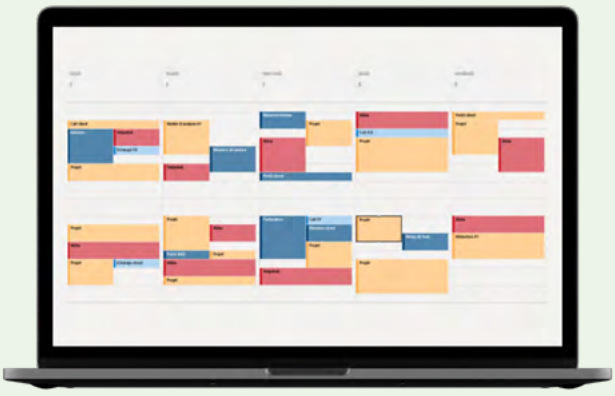

### WITHOUT MULTITASKING:





Sequencing frees up time to prepare the next phases as effectively as possible. To ensure that subsequent phases can be carried out within the focused timescales, it is necessary to ensure that the project is fully compliant upstream: specifications, availability of people, documentation, etc. In this way, with an unchanged amount of work, teams can work on a single task and the mix of effort per project per resource is increased.

**From this calendar:**



**To this kind of calendar:**

# Our implementation of the Critical Chain: Impactful Results & Rapidly Visible Benefits

## EXAMPLE A :

**The implementation of the Critical Chain and the change in work organization were very well received by the team, who were able to make the following observations:**

- The project end date is impossible to determine
- No overview of the project
- Difficulty in identifying the blocking points
- Lack of visibility of the team workload/capacity balance
- Unflexible schedule not adapted to the company's way of working

**CCPM IMPLEMENTATION**

- Better visibility of project progress and a more realistic development schedule
- Better visibility of technical and resource constraints
- The framework in place helps think more precisely and identify blocking points.
- Improve team focus on tasks

## EXAMPLE B :

**The transformation of the organization has also been fruitful:**

- On average 20 to 24 months for complete ERP integration at a customer site
- Work is fragmented, with a high degree of multitasking
- Inefficient back-and-forth between developers, other resources, and customer
- Resources suffer from overload
- An Excel schedule defined at the start of the project that is not updated during execution

**CCPM IMPLEMENTATION**

- Significantly reduced lead times, from 30% to 50%.
- Phases are condensed, execution times are shortened
- Developers are more efficient with the full kit.
- The organization manages its workload better, which contributes to the quality of life of its teams.
- Portfolios and projects are planned according to Critical Chain rules. Schedules are more robust, realistic, and regularly updated.
- Customers impressed by our methodology
- ERP deployment process greatly enhanced

Generally speaking, projects that adopt this method, whether IT or other, finish on time in 90% of cases, with some companies achieving a 100% on-time project completion rate.

Thanks to the method used by our consultants, the companies we work with can reduce their backlogs through better planning. By working alongside developers and project managers, we can quickly identify critical tasks. By concentrating resources on them, Critical Chain helps to reduce delays and meet project deadlines: this is its major benefit. This also translates into lower project costs.

By eliminating multitasking and avoiding resource overload, the Critical Chain method optimizes resource utilization, improves productivity, and reduces stress levels.

Critical Chain emphasizes regular communication and transparency regarding project constraints and risks, fostering greater collaboration between team members and more informed decision-making.

# Marris Consulting helps customers combine Critical Chain and Agile to boost IT projects

All our customers are different, which is why all our interventions start with a two-day flash diagnostic, followed by an action plan to improve project performance.


**Implementation of the action plan regularly includes the introduction of Critical Chain Project Management. At the end of the diagnostic, you are free to deploy our recommendations with or without our help, depending on the time and resources at your disposal. Marris Consulting is renowned for delivering fast, lasting results.**

Not sure what to do to improve your performance?

**Contact-us.**

# They Talk about us

## PRESS QUOTES

*Critical Chain guarantees better results and optimal operational efficiency. This is particularly the case on CAPEX projects, where the examples speak for themselves: we have helped Safran group plants to relocate a machine shop to simplify production flows in 6 days instead of the 4 weeks initially planned, or to refit 75% of a machine pool in just 6.5 days instead of 8 weeks.*

**L'Usine Nouvelle, 9 th June 2023** – See l'article

*Specializing in improving the operational performance of companies in the industrial sector, Marris Consulting draws on over 30 years of experience to provide innovative, practical solutions. With rapidly achievable objectives and visible results, it helps its customers to achieve and maintain ambitious performance levels..*

**La Tribune, 31 st May 2018** – See l'article

## CLIENT TESTIMONIALS

*This has enabled us to increase our production regarding the plant's overall throughput.*

**Jean-Sébastien Fromont,**
Factory Supply Chain Manager, SKF Valenciennes

*It's not easy to carry out a diagnostic, and in this case, it's done in a very sympathetic way, and I think that's why it's been so well received by the teams.*

**Mickael Benmoussa,**
Engineering Director, Circor Aerospace & Defense

*We always know where we are in the project, and how much safety margin we've used up (editor's note: thanks to the Marris method).*

**Sébastien Albouy,**
Centre Director, Embraer, Bourget

*What's remarkable is the results we've been able to achieve in development and industrialization: we've cut our development cycles by at least half.*

**Stéphane Vitrac,**
Plant Manager, Safran


Watch the video


Watch the video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## EXPERTS TESTIMONY


Watch the video


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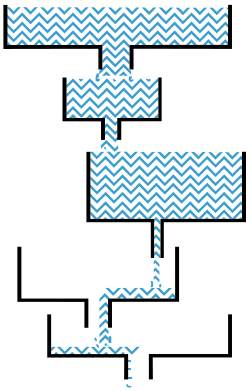

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